

CITY OF MURFREESBORO PLANNING COMMISSION AGENDA

City Hall, 111 W. Vine Street, Council Chambers

**MAY 5, 2021
6:00 PM**

**Kathy Jones
Chair**

- 1. Call to order**
- 2. Determination of a quorum.**
- 3. Public Hearings:**
 - a.** Zoning application [2021-407] for approximately 17.25 acres located along the north side of Ashers Fork Drive to be rezoned from CF to RS-6, O'Brien Loyd, LLC applicant. (Project Planner: Marina Rush)
 - b.** Zoning application [2021-403] for approximately 78 acres located along Medical Center Parkway, Robert Rose Drive, Wilkinson Pike and Willowoak Trail to be rezoned from MU, GDO-1 and GDO-2 to PUD, CH, GDO-1 and GDO-2 (Clari Park), Hines Acquisitions LLC applicant. (Project Planner: Margaret Ann Green)
 - c.** Street renaming [2021-902] to rename an approximately two-mile long segment of Mercury Boulevard (west of South Rutherford Boulevard) to Dr Martin Luther King Jr Boulevard, City of Murfreesboro Planning Department applicant. (Project Planner: Matthew Blomeley)
 - d.** Street renaming [2021-903] to rename an approximately 600'-long segment of Mercury Boulevard (east of South Rutherford Boulevard) to John Bragg Highway, City of Murfreesboro Planning Department applicant. (Project Planner: Matthew Blomeley)

MURFREESBORO PLANNING COMMISSION AGENDA

PAGE 2

May 5, 2021

- e. Proposed amendments to the Zoning Ordinance [2020-807] regarding townhouses, the RS-A zone, and other miscellaneous topics and pertaining to the following sections:
- Section 2: Interpretation and Definitions;
 - Section 19: Residential Districts;
 - Section 26: Off-Street Parking, Queuing, and Loading;
 - Chart 1: Uses Permitted by Zoning District (including Chart 1 Endnotes);
 - Chart 2: Minimum Lot Requirements, Minimum Yard Requirements, and Land Use Intensity Ratios (including Chart 2 Endnotes); and
 - Chart 4: Required Off-Street Parking and Queuing Spaces by Use.

City of Murfreesboro Planning Department applicant. (Project Planner: Matthew Blomeley)

4. Staff Reports and Other Business:

5. Adjourn.

**MURFREESBORO PLANNING COMMISSION
STAFF COMMENTS, PAGE 1
MAY 5, 2021
PROJECT PLANNER: MARINA RUSH**

- 3.a. Zoning application [2021-407] for approximately 17.25 acres located along the north side of Ashers Fork Drive to be rezoned from CF to RS-6, O'Brien Loyd, LLC applicant.**

The subject property consists of 17.25 acres identified as Tax Map 114 and a portion of Parcel 14.00. The subject property is along the north side of Ashers Fork Drive and east of Cason Lane. The property is contiguous to the north of the Waites Creek Crossing subdivision. The applicant requests to rezone this property from Commercial Fringe (CF) to Single Family Residential 6,000 square foot minimum lot size (RS-6).

The property is currently vacant. In the northern portion of the property, Spence Creek traverses the parcel east to southwest. The applicant stated in his application that he wishes to develop the property with 43 single family lots, at a density of 2.49 dwelling units per acre.

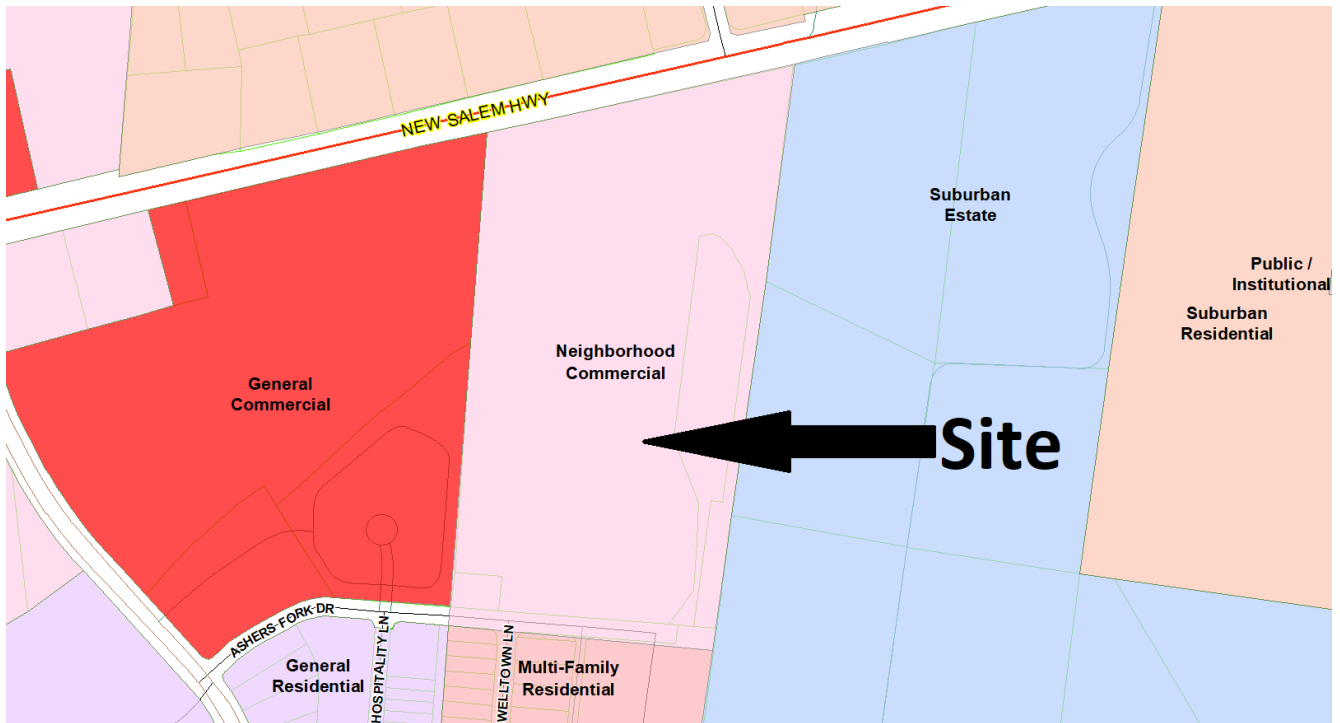
Adjacent Zoning and Land Uses

The adjacent zoning to the west is Planned Commercial District (PCD) and is developed with Creekside at Three Rivers Assisted Living nursing home. To the south is zoned RS-A1 and has an approved plat for the Waites Creek Crossing single-family subdivision. To the east is unincorporated land in Rutherford County zoned RM and developed with single family residences, and to the north is Spence Creek the remainder of this Tax Parcel and will remain zoned CF.

Future Land Use Map

The future land use map of the Murfreesboro 2035 Comprehensive Plan Future Land Use Map indicates that Neighborhood Commercial is the most appropriate land use for the project area. Neighborhood Commercial supports automobile oriented but designed as neighborhood scale commercial to cater to adjacent residential neighborhoods. Typically, a smaller footprint and uses such as convenience stores, professional services and small retail uses.

The proposed RS-6 zoning district is not consistent with the Future Land Use Map designation of Neighborhood Commercial because it is a residential use. Staff feels this is an appropriate change to the FLUM due to the bisection of the property from Spence Creek. The Planning Commission should discuss if this rezoning is an appropriate deviation from the FLUM. For reference, an excerpt from the future land use map can be found on the following page.



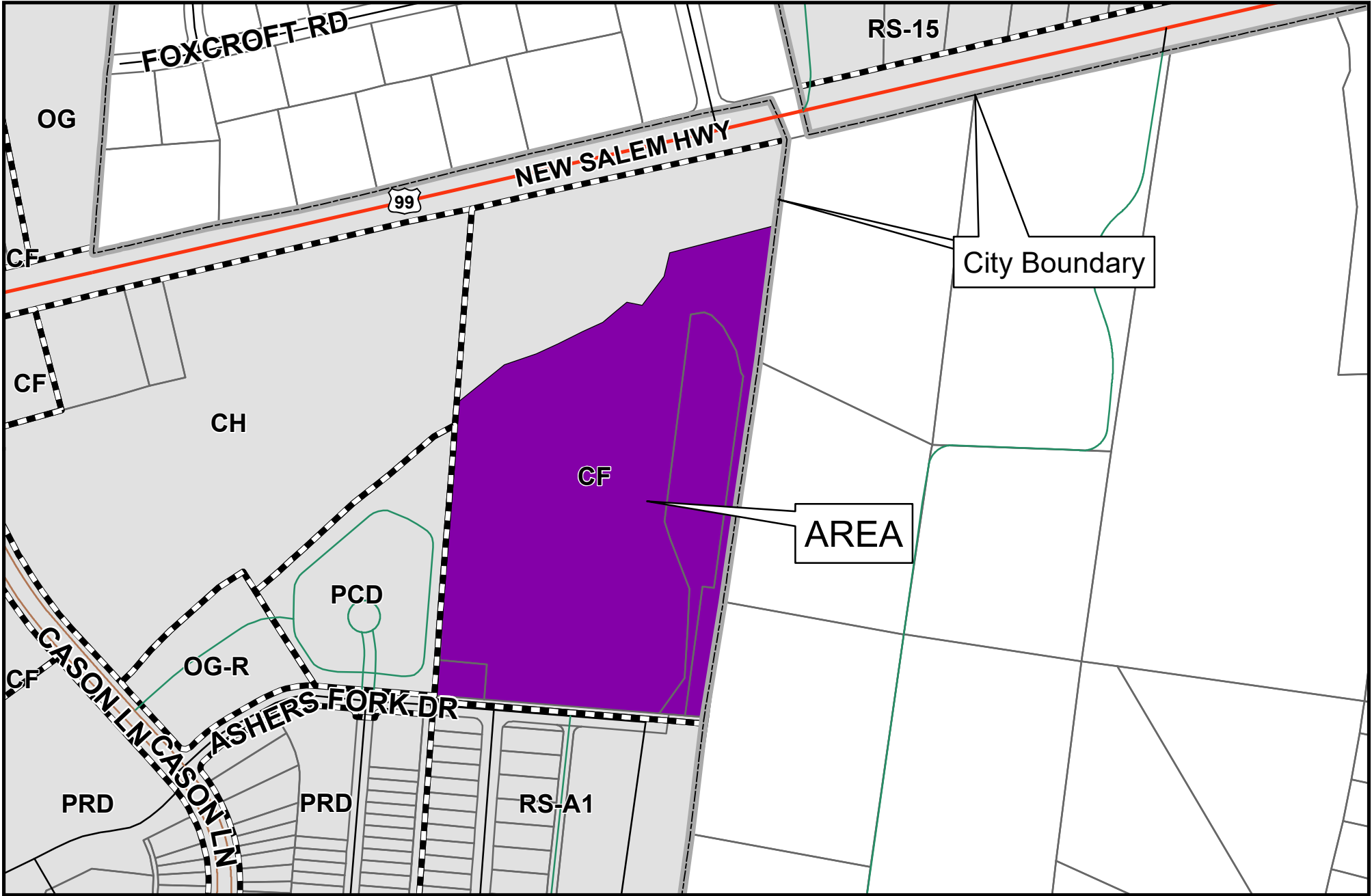
Recommendation:

Staff supports the rezoning request from CF to RS-6, including the deviation from the future land use map, for the following reasons:

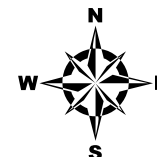
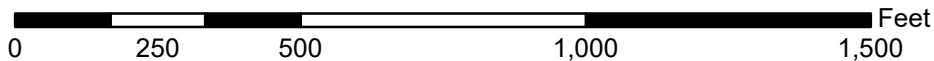
- 1) Proposed RS-6 zone will be developed with single family detached residential land use will be compatible with the surrounding residential land uses.
- 2) The northern portion of the subject property fronting along New Salem Highway will remain commercially zoned (CF).
- 3) Spence Creek divides the property from east to west resulting in challenges for developing commercial along the southern half due to crossing the creek.

Action needed

The applicant will be available at the Planning Commission meeting to discuss the proposed rezoning request. The Planning Commission should discuss the matter after which it will need to discuss this matter and then formulate a recommendation for the City Council.



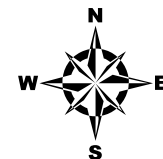
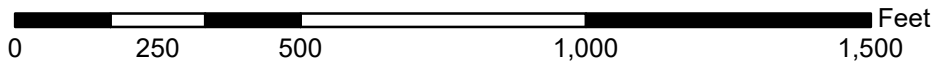
Rezoning Request for Property Along Ashers Fork Drive
CF to RS-6



Planning Department
City of Murfreesboro
11 W Vine St
Murfreesboro, TN 37130
www.murfreesborotn.gov



Rezoning Request for Property Along Ashers Fork Drive
CF to RS-6



Planning Department
City of Murfreesboro
11 W Vine St
Murfreesboro, TN 37130
www.murfreesborotn.gov



City of Murfreesboro
Planning and Engineering Department
 111 W. Vine Street, P.O. Box 1139
 Murfreesboro, TN 37133-1139
 (615) 893-6441 Fax (615) 849-2606
 www.murfreesborotn.gov

Creating a better quality of life

Zoning & Rezoning Applications – other than rezoning to planned unit development	\$700.00
Zoning & Rezoning Applications – Planned Unit Development, initial or amended	\$950.00

Procedure for applicant:

The applicant must submit the following information to initiate a rezoning:

1. A completed rezoning application (below).
2. A plot plan, property tax map, survey, and/or a legal description of the property proposed for rezoning. (Please attach to application.)
3. A non-refundable application fee (prices listed above).

For assistance or questions, please contact a planner at 615-893-6441.

To be completed by applicant:

APPLICANT: O'BRIEN LLOYD, LLC

Address: 1980 OLD FORT PARKWAY City/State/Zip: MURFREESBORO, TN 37129

Phone: 615.394.6901 E-mail address: Chip.Loyd@yahoo.com

PROPERTY OWNER: CAROLINE WHITE

Street Address or property description: 2329 NEW SALEM HWY

and/or Tax map #: 114 Group: _____ Parcel (s): PART OF PARCEL 14

Existing zoning classification: CF

Proposed zoning classification: PS-CO Acreage: 17.25 AC.

Contact name & phone number for publication and notifications to the public (if different from the applicant): Clyde Rountree (Huddleston - Steele Engineering)

E-mail: rountree.associates@yahoo.com

X APPLICANT'S SIGNATURE (required): [Signature]
 DATE: 3/14/21

*****For Office Use Only*****

Date received: _____ MPC YR.: _____ MPC #: _____

Amount paid: _____ Receipt #: _____

3.17.2021

Mr. Greg McKnight
Planning Director
City of Murfreesboro
111 W. Vine Street
Murfreesboro, TN 37130

Re: Rezoning Request
Described as a portion of Tax Map 114, Parcels 14 in Murfreesboro, Tennessee

Dear Mr. McKnight:

On behalf of our client, O'Brien Lloyd, LLC., we hereby request to rezone a portion of tax map 114, Parcel 14 consisting of 17.25 acres, currently zoned CF to the new zoning of RS-6. The developer plans to construct 43 single family lots. Thank you for your assistance with this request.

Sincerely,



Clyde Rountree, RLA

HUDDLESTON-STEELE ENG., INC.

This instrument was prepared by:
Murfree & Goodman, PLLC
805 S. Church Street, Suite 21
Murfreesboro, TN 37130
Upon information provided by the parties

SCRIVENER'S AFFIDAVIT

(Correction of Quitclaim Deed of record in Book 318, Page 431, in the Register's Office of Rutherford County, Tennessee; and

The undersigned swears and avers as follows:

I, Thomas J. Haynes, Attorney, prepared a Quitclaim Deed from William A. Waite and wife Carolyn A. Waite, to Thomas J. Haynes, Trustee, dated March 3, 1983, of record in Book 318, Page 431, Register's Office for Rutherford County, Tennessee, and do hereby certify that the following correction should be made to the above referenced instrument:


THAT WHEREAS, by inadvertence and mistake, the hereinabove said deed containing the following scrivener's error in that the GRANTORS NAMES on the Quitclaim Deed was mistyped.

NOW, THEREFORE, for and in consideration of the desire to correct the scrivener's error hereinabove recited, the GRANTORS NAMES on the Quitclaim Deed should read:

WILLIAM A. WAITE and wife, CAROLINE A. WAITE

WITNESS MY HAND on this 26th day of August, 2016.

AFFIANT

By: 
Thomas J. Haynes, Attorney

STATE OF TENNESSEE

COUNTY OF RUTHERFORD

Personally appeared before me, the undersigned, a Notary Public in and for said county and state, Thomas J. Haynes, with whom I am personally acquainted (or who proved to me her identity on the basis of satisfactory evidence), and who, upon oath, acknowledge that she executed the within instrument for purposes therein contained.

WITNESS MY HAND and official seal at my office on this the 26th day of August, 2016.


Notary Public

My commission expires: 5-20-17

Heather Dawbarn, Register
Rutherford County Tennessee
Rec #: 880576 Instrument #: 2039588
Rec'd: 10.00
State: 0.00
Clerk: 0.00 Recorded
Other: 2.00 8/30/2016 at 2:10 PM
Total: 12.00 in
Record Book 1498 Pgs 3410-3410



Send Tax Bills To:

William A. Waite
2217 Tomahawk Trace
Murfreesboro, Tennessee 37130

This Instrument Prepared By

Thomas J. Haynes, Attorney
Murfreesboro, Tennessee

QUITCLAIM DEED

FOR AND IN CONSIDERATION of love and affection (and no monetary consideration) and for the express purpose of making a re-conveyance to create the estate of tenancy by the entirety between William A. Waite and wife Carolyn A. Waite. We, William A. Waite and wife Carolyn A. Waite by these presents do hereby quitclaim and convey unto THOMAS J. HAYNES, Trustee, his successors and assigns, the following described tract or parcel of land in the 12th Civil District of Rutherford County, Tennessee, and being described as follows, to wit:

BEGINNING in the center of the Salem Turnpike at the northeast corner of the Carter tract, the northwest corner of this tract, and running thence with the east line of the Carter tract (the fence line) S 1/2° W 256.1 poles to a cedar post, an elbow corner in the Jennings tract thence with a fence S 87° E 49 poles to a cedar post between an elm on the south and a walnut tree on the north side thereof; thence N 1/2° E 78.4 poles to a burnt walnut stump at the northwest corner of the Parsley tract; thence N 87-3/4° W 11.8 poles to a set stone; thence N 3° E 194 poles to the center of the Salem Turnpike; thence with center of same S 74° W 50.4 poles to the point of beginning, containing 75.76 acres, more or less.

BEING the total of that property conveyed to William A. Waite as follows: fifteen and 76/100 (15.76) acres by Deed of Record in Deed Book 303 page 219; twenty (20) acres by Deed of Record in Deed Book 303 page 221; forty (40) acres by Deed of Record in Deed Book 303 page 227, of the Register's Office of Rutherford County, Tennessee.

Said property is conveyed subject to such limitations, restrictions, and encumbrances as may affect the premises.

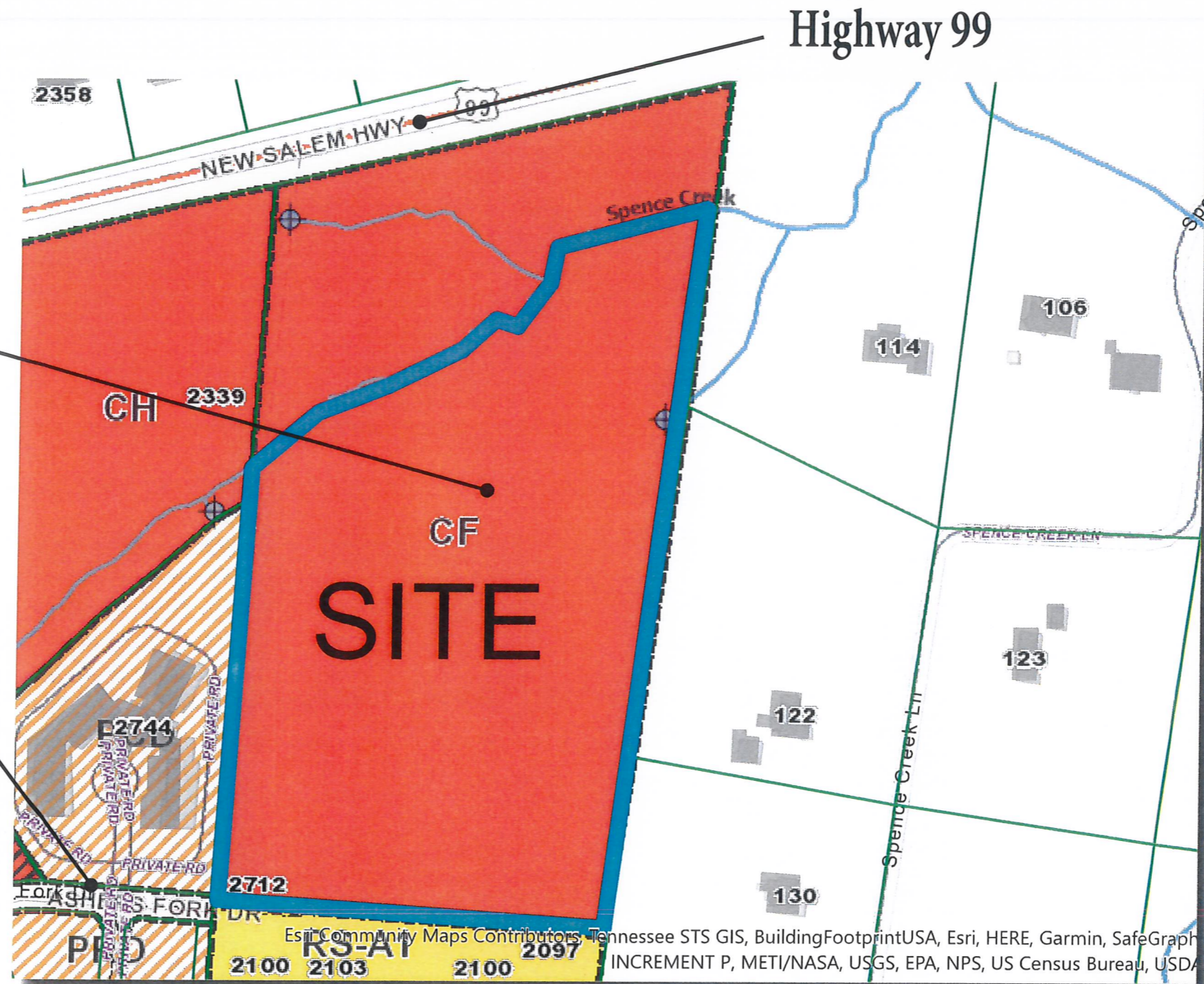
This is improved property, on Salem Road, Rutherford County, Tennessee.

And now, I, the said THOMAS J. HAYNES, Trustee, for the express purpose of carrying out the intent of this conveyance, as above set out, do hereby quitclaim and convey unto WILLIAM A. WAITE and wife, CAROLYN A. WAITE, as tenants by the entirety, their heirs and assigns, the same property hereinabove described and set forth, to which reference is here made, and said property is conveyed subject to the same limitations, restrictions and encumbrances as may affect the premises, as above set forth. 431

Waite Property Rezoning Exhibit

17.25+/- Ac.
Property to
be rezoned to RS-6

Ashers Fork Drive



Esri, Community Maps Contributors, Tennessee STS GIS, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

100-YEAR FLOOD LINE (ELEV. 602)

#	DATE	REVISION DESCRIPTION
1	03/02/21	ORIGINAL ISSUE

MINIMUM 30' WIDE TREE PRESERVATION EASEMENT (REC.BK.1529/1629)

MINIMUM 30' WIDE TREE PRESERVATION EASEMENT (REC.BK.1529/1629)

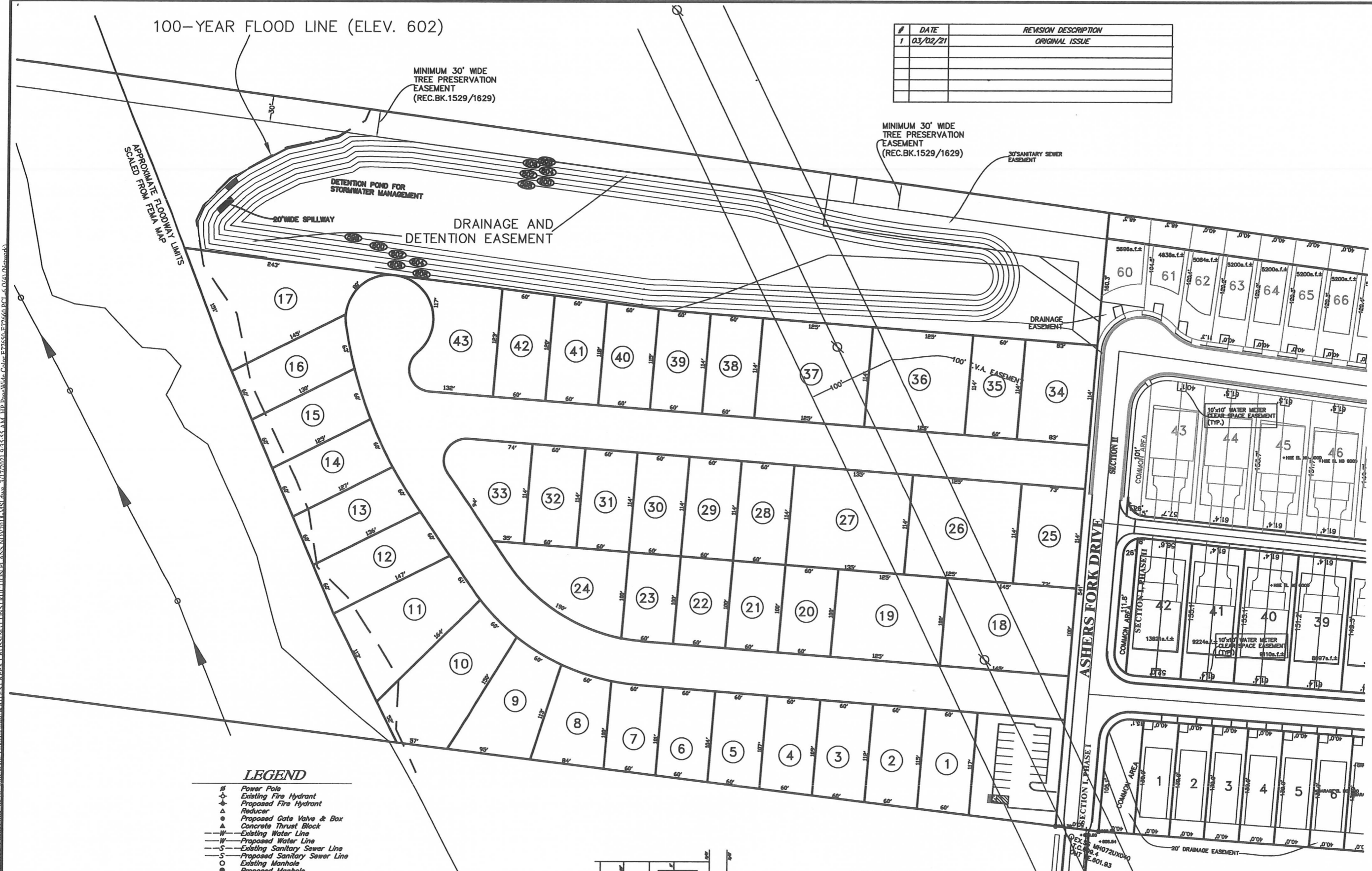
30'SANITARY SEWER EASEMENT

DETENTION POND FOR STORMWATER MANAGEMENT

DRAINAGE AND DETENTION EASEMENT

20'WIDE SPILLWAY

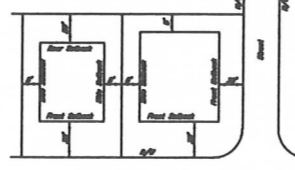
APPROXIMATE FLOODWAY LIMITS SCALED FROM FEMA MAP



LEGEND

- ⊕ Power Pole
- ⊕ Existing Fire Hydrant
- ⊕ Proposed Fire Hydrant
- ⊕ Reducer
- ⊕ Proposed Gate Valve & Box
- ⊕ Concrete Thrust Block
- W— Existing Water Line
- W— Proposed Water Line
- S— Existing Sanitary Sewer Line
- S— Proposed Sanitary Sewer Line
- Existing Manhole
- ⊕ Proposed Manhole
- S— Sewer Line Check Dam
- S— Existing Contours
- S— Proposed Contours
- ⊕ Existing Spot Elevations
- ⊕ Proposed Spot Elevations
- S— Siltation Fence
- (to be installed before grading and left in place until a good stand of grass is established over all disturbed areas.)
- S— Siltation Fence (Initial Measure)
- S— Siltation Fence (Once Constructed)
- Turf Reinforcement Mat
- S— Stone Check Dam

Under the current adopted plumbing code, the City of Murfreesboro requires the minimum floor elevation (M.F.E.) to be set at or above the top of casting elevation of the nearest manhole that is upstream of the sewer service connection. As an alternative, the homeowner shall install a backwater valve per the plumbing code and execute and record a release of indemnification against the City of Murfreesboro with regards to the sanitary sewer connection. The builder and/or homeowner shall be responsible for compliance with this requirement.



TYPICAL BUILDING SETBACK DETAIL
M.T.S.

- LEGEND FOR MONUMENTS**
- ⊕ IRON PIN SET
 - ⊕ IRON PIN FID.
 - ⊕ RAILROAD SPIKE
 - S— FENCE
 - ⊕ SURVEY POINT
 - ⊕ NAIL
 - ⊕ CONC. MARKER FID.

DEVELOPER: O'BRIEN LOYD, LLC
 ADDRESS: 1980 OLD FORT PARKWAY
 MURFREESBORO, TN 37129
 TAX MAP: 114 PART OF PARCEL: 14
 FLOOD MAP PANEL: 470168 0255 & 0265 H ZONE: AE & X
 FLOOD MAP DATED: JANUARY 5, 2007
 NOTE: THIS PARCEL IS SUBJECT TO ALL EASEMENTS AS SHOWN AND ANY OTHER EASEMENTS AND/OR RESTRICTIONS EITHER RECORDED OR BY PRESCRIPTION THAT A COMPLETE TITLE SEARCH MAY REVEAL.

HUDDLESTON-STEELE
 2115 N.W. BROAD STREET, MURFREESBORO, TN 37129
 TELEPHONE: (615)893-4084, FAX: (615)893-0080

CONCEPT
WAITE PROPERTY

12TH CIVIL DISTRICT - RUTHERFORD COUNTY - TN.

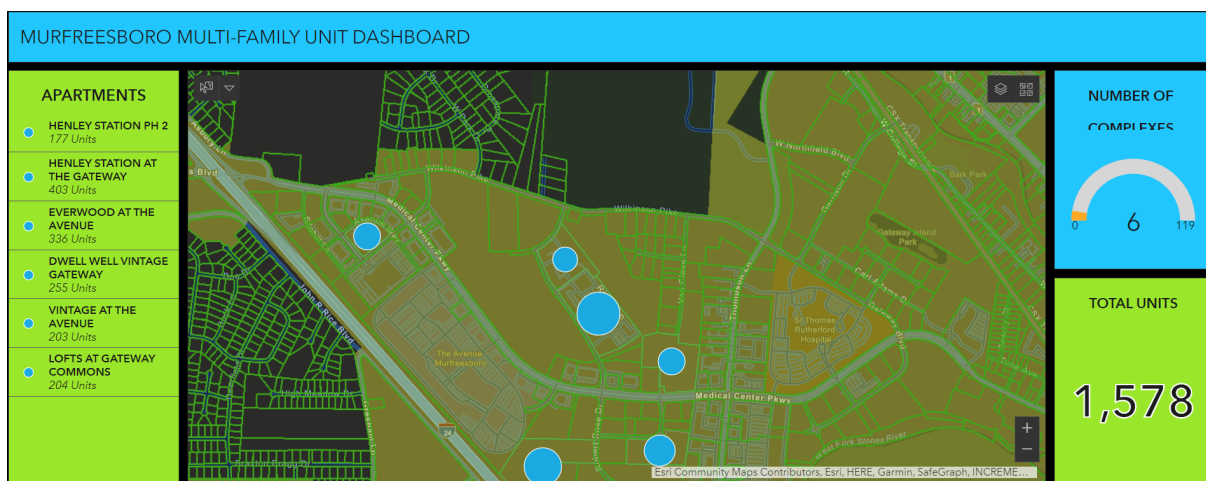
**MURFREESBORO PLANNING COMMISSION
STAFF COMMENTS, PAGE 1
MAY 5, 2021**

PRINCIPAL PLANNER: MARGARET ANN GREEN

- 3.b. Zoning application [2021-403] for approximately 78 acres located along Medical Center Parkway, Robert Rose Drive, Wilkinson Pike and Willowoak Trail to be rezoned from MU, GDO-1 and GDO-2 to PUD, CH, GDO-1 and GDO-2 (Clari Park), Hines Acquisitions LLC applicant.**

Introduction

The subject property is located along the north side of Medical Center Parkway, south of Wilkinson Pike, east of Greshampark Drive and west of Robert Rose Drive (Tax Map 079 Group 094.00). The property consist of 77.8 acres and is zoned MU (Mixed Use District), GDO-1 and GDO-2. The properties to the north are in the unincorporated area of Rutherford County and are mostly developed, single-family lots. The Stones River National Battlefield is to the northeast of the subject property. Properties to the west and south are developed, commercial properties and include the Chamber of Commerce, the convention center and the Avenue Lifestyle center. Henley Station apartments and The Villages of Murfreesboro retirement and assisted living facility are contiguous to the subject area. The Villas at Indian Creek and Manson Pike Crossing are two large townhome developments located in the GDO. Gateway Village located on North Thompson Lane is a mixed-use development that includes residential condominiums. The GDO currently has 2,806 apartments units available or under construction with 1,578 of those units on the east side of I-24, as shown on the following map.



Background

Reapplication when denied

An application to rezone this property from MU, GDO-1 and GDO-2 to PUD, CH, GDO-1 and GDO-2 was made last year (file 2020-409 Clari Park). After review, deferral and then a recommendation of approval from the Planning Commission, the application went before the City Council. After considering the zoning map amendment, the City Council denied the requested rezoning. The Murfreesboro Zoning Ordinance states that:

(G) Reapplication when denied. If an application for an amendment to the zoning ordinance or zoning map is denied by the Council or is withdrawn by the applicant after a first reading of the proposed ordinance by the Council, a reapplication pertaining to the same property and requesting the same amendment may not be filed within eighteen months of the date final action was taken on the previous application or the date it was withdrawn unless such reapplication is initiated by the Department, Commission or authorized by the Council. An applicant may not withdraw the application after the notice of public hearing before the Council has been published in the local newspaper, without the permission of the Mayor and Council. [excerpted from Zoning Ordinance Sec. 6(G)]

It is the Development Services Director and the Planning Director's opinion that the differences between the overall plan in this application and the plan contained in the application rejected by City Council on October 22, 2020, are sufficient to exempt this plan from the 18-month limitation in Zoning Ordinance Sec. 6(G), and asks that the Planning Commission concur. In the alternative, Staff asks that the Planning Commission recommend that City Council authorize the consideration of this plan in accord with the provisions of Section 6(G).

Zoning:

In December of 2013 the City initiated rezoning of the subject property from OG (General Office District) and RS-15 (Single-family, Residential District) to the newly created MU district. A portion of the properties along Wilkinson Pike remained zoned RS-15. In 2017, the City Council approved a request made by the property owner to rezone the remaining segment of RS-15 property to MU and to remove the Wilkinson Pike buffer from the property.

Wilkinson Pike Buffer/ Landscape Berm

The Wilkinson Pike buffer is a 100-foot wide area that extends along the south side of Wilkinson Pike and was placed on this property when the Gateway Design Overlay District was established in 2004. It serves as a transition point between residents across the street and the national park by restricting development and by increasing the minimum building setback to 100-feet or more. In an effort to alleviate concerns with the removal of the Wilkinson Pike Buffer in this area, the property owner volunteered to place restrictive covenants on the property which required a landscaped berm along

Wilkinson Pike to be completed during the next growing season (fall 2017). These restrictive covenants were recorded and presented to the City Council prior to the final reading of the ordinance.

During the public hearing on October 22, 2020, City Council expressed concern that the landscaped berm along Wilkinson Pike had not been installed despite assurances made by the property owner’s representatives in 2017. The Planning Commission approved plans for the landscaped berm on September 20, 2017, and again on March 3, 2021. The City Council recently approved an *Amended Agreement for Landscape Buffer and Easement (Wilkinson Pike)* which must be signed by the Mayor and recorded in the Deed Records. The contractor has begun work on the berm.

Mixed Use district

The Mixed Use district permits various types of commercial, office and institutional uses and incorporates some multi-family. A few years after the creation of the MU district in 2013, the Murfreesboro City Council became aware that it was becoming consumed by multi-family uses, the only type of residential use permitted in the MU district. City Council asked staff to draft a Zoning Ordinance amendment that protected the mixed-use vision for this area and requires it to develop with primarily commercial, office and institutional uses. The following was adopted:

In developments consisting of 10 or more acres in the MU zoning district, the use “dwellings, multiple-family” shall constitute no more than 25% of developable land area. In developments consisting of fewer than 10 acres in the MU zoning district, the use “dwellings, multiple-family shall constitute no more than 50% of developable land area.

The Clari Park PUD proposes to utilize approximately 39% of the land for commercial purposes, approximately 30% as townhomes and single-family detached and approximately 25% as apartments with 8,000 square feet first floor commercial space.

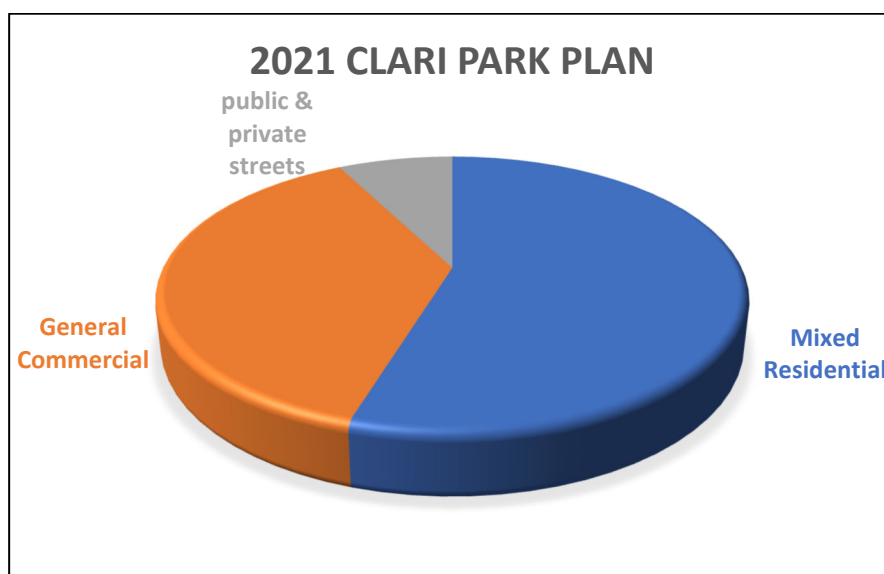


CHART 1- GRAPHIC COMPARISON OF LAND-USE CATEGORIES

Clari Park PUD & CH- 2021 version

Clari Park Planned Unit District- 47.3 acres and CH- 29.3 acres

The Clari Park PUD is a 77.8 acre development, consisting of single-family attached (townhomes), single-family detached, multi-family apartments and commercial outparcels. The project is divided into 7 distinct areas. In total, the plan proposes a 708 residential units which is broken down to a maximum of 488 multi-family dwelling units, 182 townhomes, and 38 single-family detached lots. If the property were to remain zoned MU, then approximately 488 dwelling units would be permitted (25 du/acre on 25% of 77.8 acres). Approval of this zoning plan would also necessitate an amendment to the approved Master Plan for these properties.

To understand the 2021 version of the Clari Park PUD, it is helpful to understand what has changed from the 2020 version. Below are a few charts and graphs to help illustrate the similarities and differences between plans. Essentially, the 2021 version has 182 less dwelling units, leading to a decrease in density, it introduces single-family detached homes as an option, redistributes the amount of acreage devoted to particular uses, and changes the phasing of Area 4 from phase three to phase two. The 2021 version of the plan also eliminates the “stacked flats” or condominium options previously available.

	2020 Clari Park	2021 Clari Park	Difference
Apartment units	600	488	112
Townhome units	290	182	108
Single-Family units	0	38	-38
Total d.u.	890	708	182

TABLE 1- DIFFERENCES BETWEEN NUMBER OF DWELLING UNITS

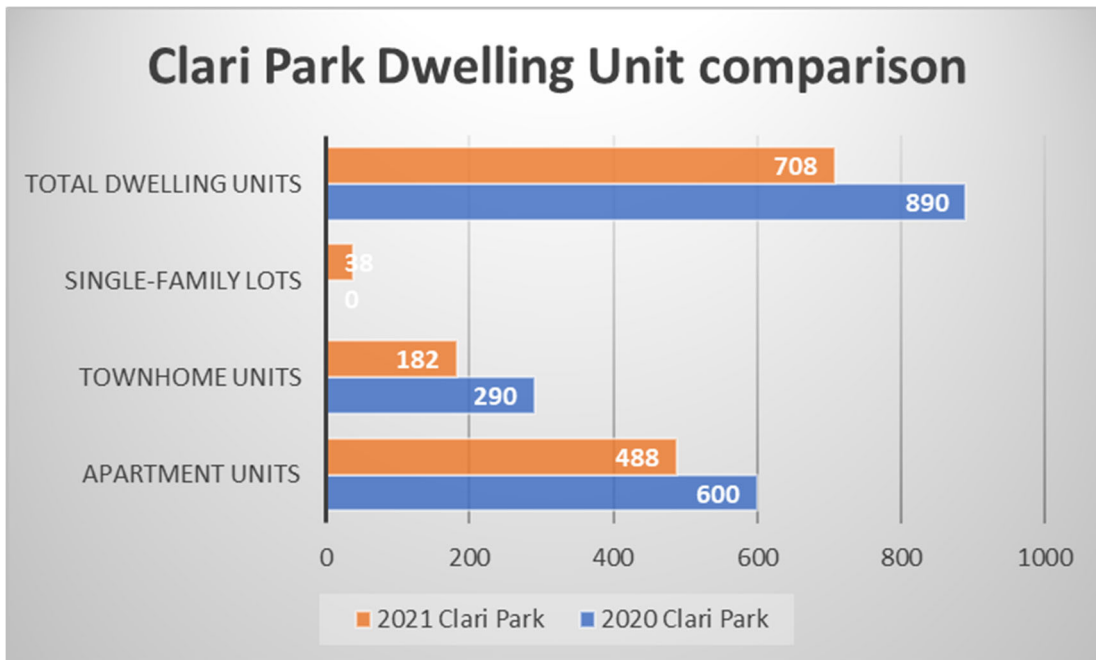


CHART 2- COMPARISON OF CHANGES IN DWELLING UNIT COUNT

2021 Clari Park		Acres	Dwelling Units	Density DU/acre	Phase
Area 1	CH	5.5	0	N/A	PHASE 1
Area 2	Townhomes & Single-family detached (PUD)	17	155	9.1	
Area 3	CH	15.8	0	N/A	
Area 4	CH	8	0	N/A	PHASE 2
Area 5	Multi-family apartments & commercial (PUD)	10.9	280	25.7	
Area 6	Townhomes & Single-family detached (PUD)	6.4	65	10.2	PHASE 3
Area 7	Multi-family apartments OR commercial (PUD)	8.5	208	24.5	

TABLE 2- 2021 CLARI PARK DATA

2020 Clari Park		Acres	Dwelling Units	Density DU/acre	Phase
Area 1	CH	8	0	0	PHASE 1
Area 2	Townhomes (PUD)	15.8	165	10.4	
Area 3	CH	15.8	0	0	
Area 5	Multi-family apartments & commercial (PUD)	9.3	305	32.8	PHASE 2
Area 4	CH	6.7	0	0	PHASE 3
Area 6	Townhomes or multi-family condominiums (PUD)	8.3	125	15.1	
Area 7	Multi-family apartments & commercial (PUD)	10.1	295	29.2	

TABLE 3- 2020 CLARI PARK DATA

The commercial portions of this plan are unknown at this time, therefore the application is to rezone these properties from MU to CH, while remaining within the GDO-1 and GDO-2 overlays. Although they could develop under the existing MU district, the applicants want to demonstrate they do not wish to allow any additional residential uses on these properties- MU district allows multi-family by right while CH prohibits residential uses altogether. Approximately 29.3 acres is proposed to be zoned CH, which potentially may result in 8 commercial outparcels along Medical Center Parkway, 7 lots along Clari Lane and 1 along Silohill.

Transportation & Drainage:

Staff from the Public Infrastructure Department have requested the applicants provide an updated Traffic Study in order to provide comments and feedback regarding the project. Similar to the initial plan, the applicants are requesting to phase the public infrastructure work, utilities extensions, and rights-of-way extension. Staff also met with the design team to discuss opportunities for street improvements that can improve the traffic operations of the streets. Some of these improvements include turn-lane improvements, additional turn lanes and pedestrian connections.

The development team is currently working with City Engineering to evaluate the best storm drainage solutions for the site. Any on site or off-site storm drainage solutions proposed will be reviewed and approved by city staff.

Exceptions

The ordinance approving the planned development may provide for such exceptions from the non-overlay district zoning regulations governing use, density, area, bulk, parking, and such Subdivision Regulations as may be necessary or desirable to achieve the objectives of the proposed planned development, provided such exceptions are consistent with the standards and criteria contained in this section and have been specifically identified and requested in the application for a planned development. Unless the ordinance approving a planned development contains a clear statement of exceptions to them, the standards and criteria of the district zoning regulations (non-overlay) will apply to all planned developments. The only exceptions to overlay district regulations permitted in a planned development are exceptions, in the Battlefield Protection District zone and the Gateway Design Overlay District zone, to a building height, a setback, or a landscaping requirement.

The PUD program book requests several exceptions and is found on page 16 of the pattern book.

Exception

1. Requesting "Single Family Attached" Residential and "Single Family Detached" Residential Use be permitted (Not currently permitted in underlying MU zoning).
2. Requesting exception to maximum 25.6 units per acre density requirement for area 5. The average residential density allowed for the overall master plan for residential parcels in Clari Park is approximately 16.6 units per-acre.

3. Request adjustment to parking ratio requirement for 1-bedroom residential multifamily units of 1.5 spaces per bedroom to 1.1 per bedroom and removal of parking requirement for up to 10,000 sf of office space on first floor of each Multifamily project.
4. An exception to allow outdoor sales and the sale of food and beverage in park space and public open space for temporary special events.
5. Porches, stoops, and bay windows may extend into setbacks.

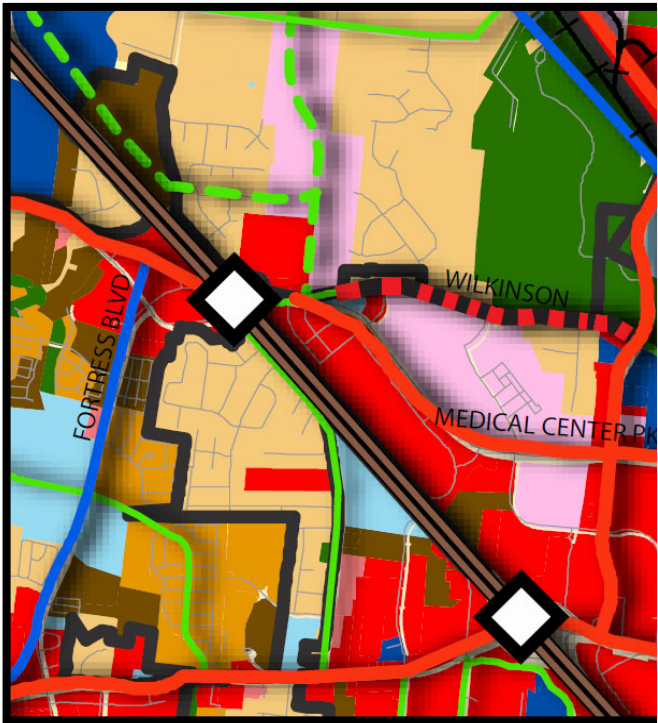
Future Land Use Map

The *Murfreesboro 2035 Future Land Use Map* indicates that Urban Commercial/ Mixed-Use Character (UC) is most appropriate for the subject property.

This designation allows a broad range of commercial, office and high density residential uses and public spaces serving surrounding neighborhoods, commercial / professional business parks and visitors from nearby communities.

If the property develops as a mixed-use development, it will be consistent with the UC character.

Future Land Use Map



Future Land Use Map

LAND USES

Proposed Land Uses

- Undeveloped
- Parks
- Suburban Estate
- Suburban Residential
- Auto Urban Residential
- Multi Family Residential
- General Commercial
- Neighborhood Commercial
- Urban Commercial / Mixed Use
- Central Business District
- Business Park
- Light Industrial
- Heavy Industrial
- Public / Institutional

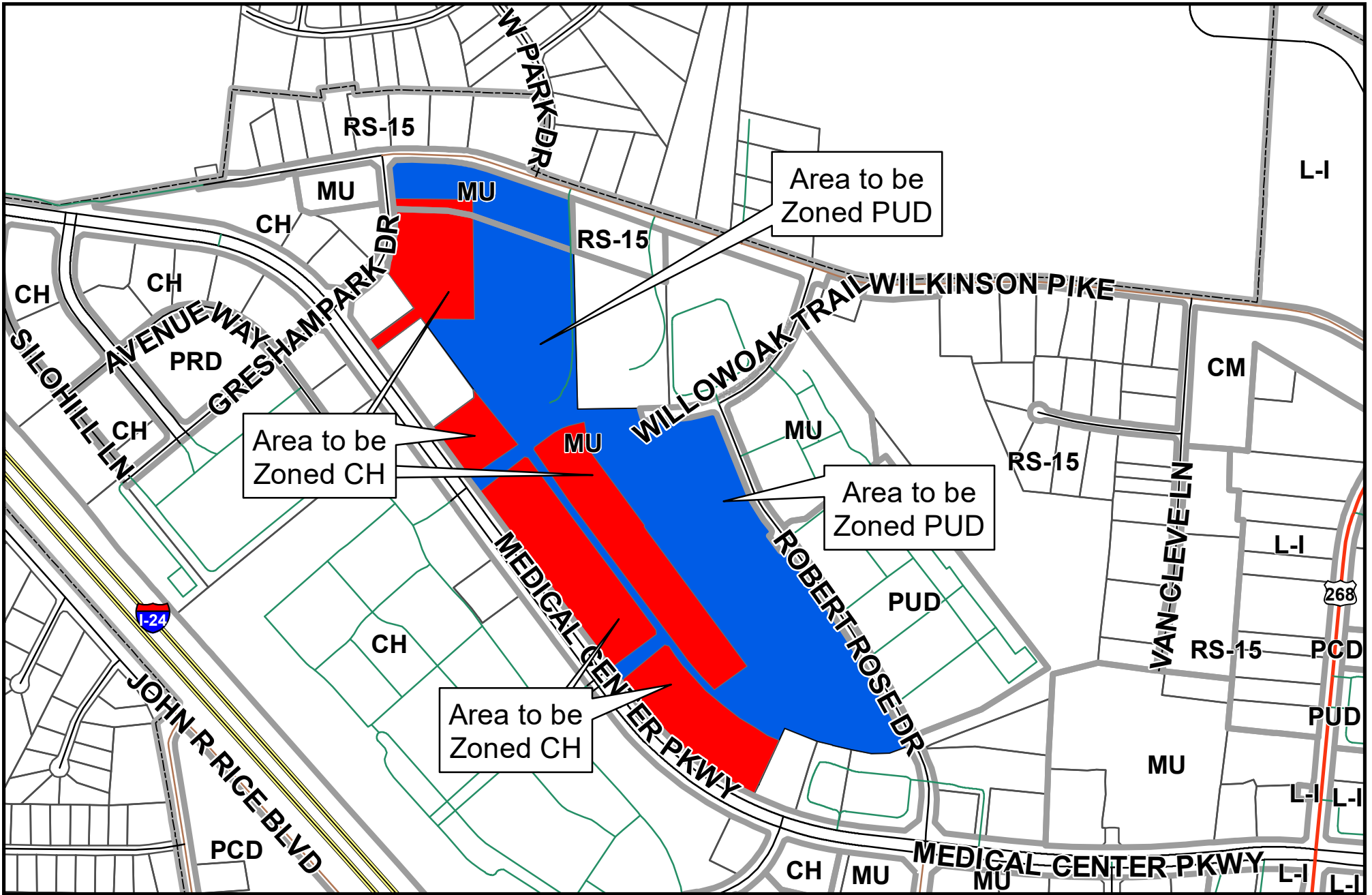
Recommendation:

The applicant held a public hearing at Murfreesboro Fire Station #4 on Tuesday, April 6, 2021.

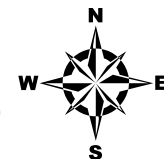
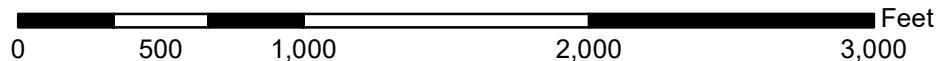
Staff is generally supportive of this rezoning request for the following reasons:

1. the proposed land use will be compatible with the surrounding land uses and will create a balance of mixed uses with a strong management regime;
2. the proposed development will contribute to the vitality of the area by adding home ownership options within the Gateway Design Overlay District,
3. the development quality is generally in conformance with the GDO district standards in the *Murfreesboro Zoning Ordinance* as well as with the standards of the *Murfreesboro Design Guidelines*,
4. the zoning request is generally consistent with the recommendations of the *Future Land Use Map*

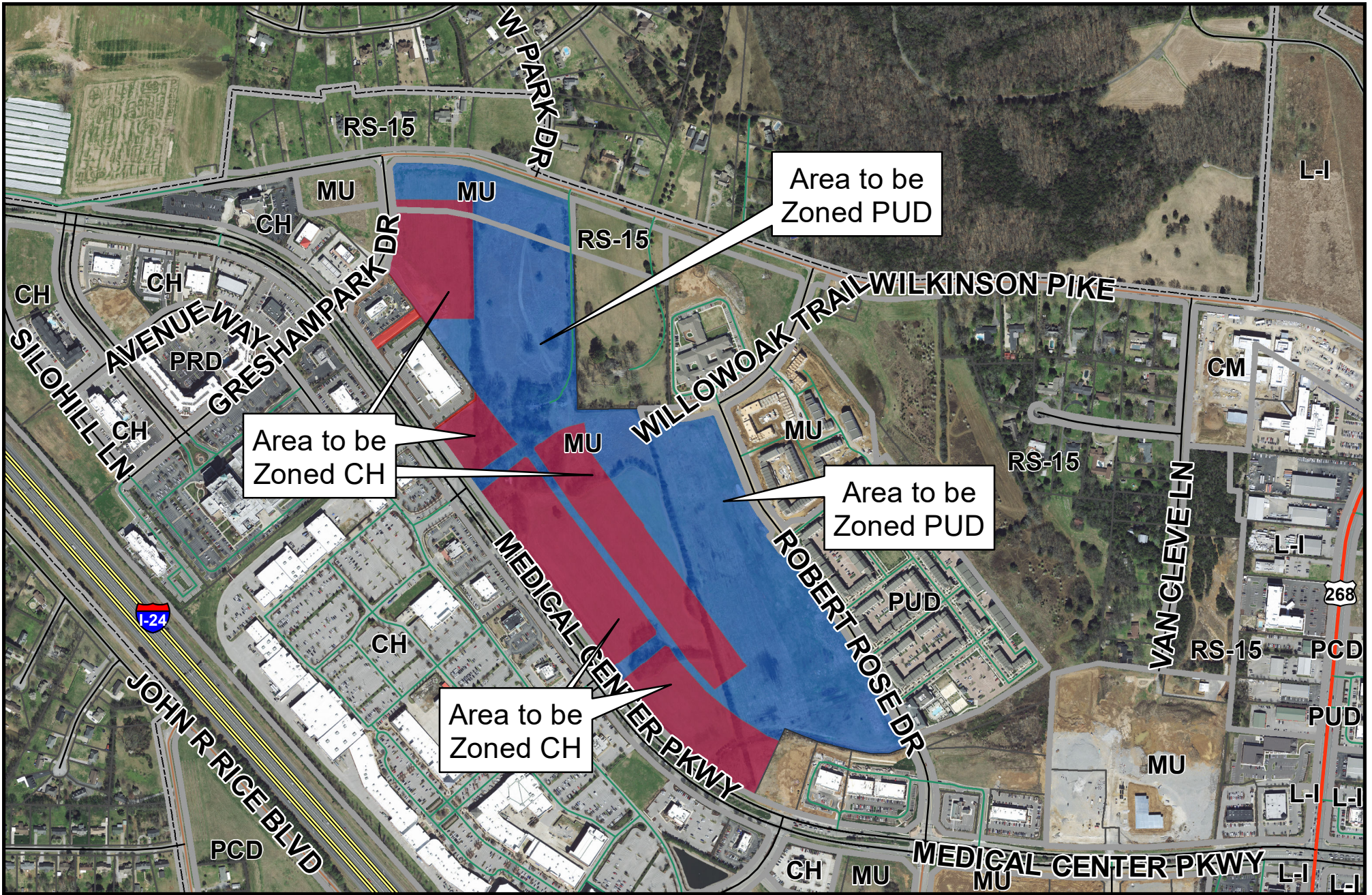
The Planning Commission will need to conduct a public hearing prior to making a recommendation to the City Council. A copy of the revised Clari Park pattern book and Traffic Impact Study have been included with the staff report.



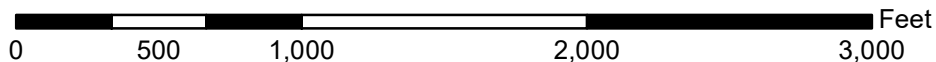
Rezoning Request for Property Along Medical Center Parkway,
 Robert Rose Drive and Wilkinson Pike
 MU to CH and MU to PUD (Clari Park PUD)
 (The existing GDO-1 and GDO-2 boundaries are not affected by this zoning request)



Planning Department
 City of Murfreesboro
 11 W Vine St
 Murfreesboro, TN 37130
www.murfreesborotn.gov



Rezoning Request for Property Along Medical Center Parkway,
 Robert Rose Drive and Wilkinson Pike
 MU to CH and MU to PUD (Clari Park PUD)
 (The existing GDO-1 and GDO-2 boundaries are not affected by this zoning request)



Planning Department
 City of Murfreesboro
 11 W Vine St
 Murfreesboro, TN 37130
www.murfreesborotn.gov

WILKINSON PIKE
(PUBLIC R/W VARIES)

GRESHAM PARK DRIVE
(PUBLIC R/W VARIES)

MAP 83 PARCEL 7301
GRESHAM PARK
RECORD BOOK 1200 PAGE 1214
R.D.D.C.T.

MAP 83 PARCEL 7301
GRESHAM PARK
RECORD BOOK 1200 PAGE 1214
R.D.D.C.T.

WILLOWOAK TRAIL
(PUBLIC R/W)

SECTION 4 PHASE II
NORTH CHURCH LLC
PLAT COUNTY 98 PAGE 91
R.D.D.C.T.

SECTION 4 PHASE III
NORTH CHURCH LLC
PLAT COUNTY 98 PAGE 90
R.D.D.C.T.

APPLICANT

Hines
Walter O'Shea & Kevin Jund
11512 Lake Mead Avenue, Suite 603
Jacksonville FL, 32256
(904) 599-9004
walter.oshea@hines.com

LANDSCAPE ARCHITECT / PLANNING

Ragan Smith
Planning / Landscape Architecture/ Engineering
Kevin Guenther
100 East Vine Street, Suite 402
Murfreesboro, TN 37130
(615) 546-6050
KGuenther@ragansmith.com

ENGINEERING

SEC
Matt Taylor
850 Middle Tennessee Blvd
Murfreesboro, TN 37129
(615) 890-7901
mtaylor@sec-civil.com

~
CLARI PARK

MURFREESBORO

A Planned Unit Development / Master Plan

Planning Commission Application February 11, 2021
Revised: April 9, 2021
Revised: April 28, 2021

a	PROJECT INTRODUCTION <ul style="list-style-type: none">▪ Introduction▪ Historical Cultural Context	1-2	d	GREEN SPACE & LINEAR PARKS <ul style="list-style-type: none">▪ Green Space Connections Master Plan▪ Clari Lane Linear Park▪ Connection of Open Space▪ The Grand Lawn / Honey Locust Lane / Clari Lane▪ The Grand Lawn Concept▪ The Commercial Lawn Concept	25-30
b	SITE INVENTORY/ANALYSIS <ul style="list-style-type: none">▪ Location Map▪ Surrounding Land Use & Zoning▪ Existing Site Conditions▪ Existing Utilities Map▪ Overlays & Flood Zones▪ Future Long Range Plan	4-9	e	COMMERCIAL HIGHWAY (AREAS 1 & 4) <ul style="list-style-type: none">▪ General Description▪ Photographic Examples	31-32
c	THE MASTER PLAN <ul style="list-style-type: none">▪ Master Plan - Option A▪ Master Plan - Option B▪ Proposed Land Use Map - Option A▪ Proposed Land Use Map - Option B▪ Land-Use Table▪ Land Use Parameters, Requested Exceptions▪ Community Management & Operations▪ Vehicular Transportation Network▪ Pedestrian Circulation Plan▪ Roadway Sections▪ Phasing - General Master Plan▪ Public Improvements▪ Public Improvements Phasing	10-24	f	SINGLE FAMILY ATTACHED & SINGLE FAMILY DETACHED (AREAS 2 & 6) <ul style="list-style-type: none">▪ General Description▪ Single Family Attached & Single Family Detached - Conceptual Layout▪ Townhome Elevations and Materials (Areas 2 & 6)▪ Greenspace/Amenity & Berm Enlargements (Area 2)▪ Single Family Detached Amenity and Berm Enlargement▪ Greenspace Enlargement (Area 6)▪ Single Family Attached Private Street Network / Utilities▪ Parking Diagrams Single Family Attached (Areas 2 & 6)▪ Architectural Guidelines (Areas 2 & 6)▪ Architectural Examples - Single Family Detached (Areas 2 & 6)▪ Parking Layout▪ Typical Lot Diagrams	33-51
			g	MULTI-FAMILY RESIDENTIAL / OFFICE (AREAS 5 & 7) <ul style="list-style-type: none">▪ General Description▪ Office / Townhome Layout Options▪ Office Architectural Examples▪ Multi-Family Architectural Examples▪ Multi-Family Architectural Perspective▪ Multi-Family Ground Floor Office▪ Photographic Amenity Examples▪ Grand Lawn Images	52-60
			h	COMMERCIAL (AREA 3) <ul style="list-style-type: none">▪ General Description / Conceptual Layouts▪ Photographic Examples	61-62

Introduction

Project General Description

Hines, Ragan Smith, and SEC envision creating a community that offers its residents a memorable sense of place through emphasis on parks and greenspace and a true sense of belonging through social programs that weave a fabric of community. Clari Park will be the realization of this vision.

Clari Park is a key property within the Gateway District. It is approximately 78 acres in size and will complete the majority of undeveloped land remaining along Medical Center Parkway. The master plan has been thoughtfully developed to blend into and respect the context of land uses and transportation networks that surround it.

Creation of an overall Master Plan for this parcel allows for the consideration of a mixture of uses that relate strongly to each other as well as the surrounding land uses. Program elements with higher occupancy densities and greater traffic generation are proposed at the core of the project and in relationship to Medical Center Parkway. Lower density uses proposed along the northern periphery of the site respect the adjacent residential uses on Wilkinson Pike.

Circulation within the Master plan is heavily focused on the pedestrian with the development of green spaces, linear parks, and amenities that facilitate connectivity and promote a walkable lifestyle. Clari Park aims to serve the residents and visitors of Murfreesboro with a quality of life experience that provides opportunities to live, shop, work, and enjoy all that Murfreesboro and The Avenue has to offer in one convenient and walkable location. Given these attributes, the project will appeal to a wide range of homeowners, business owners, and office and apartment tenants which will include young urban professionals, young couples just starting a family, and mature couples with children that have reached independence.



Hines Development Firm Overview

Hines is a privately owned, global real estate investment, development and management firm with a presence in 205 cities in 24 countries and \$133.3 billion of assets under management. The most valuable assets within Hines are the 4,500+ professionals that strive daily to deliver exceptional service to the communities within which we reside, the tenants whom we serve, and the partners who trust Hines with their capital. Hines' project teams strive to set the standards for quality of execution and management in their respective markets and product types. Over and above financial returns, they improve cities and pioneer new sustainable practices. Combining insights from local teams, central resources that act as the depository of decades of experience, and a commitment to long-term value creation, Hines has mastered the art of building places for people and endeavors to leave a positive legacy on the built environment in every city in which it operates.

"Hines began as a one-man operation in 1957 with the sole focus of delivering better quality services and products to tenants and investors. More than half a century later, with more than 4,500 professionals working on five continents, our philosophy has not wavered and our commitment to excellence in the built environment is stronger than ever." – Gerald D. Hines

For the past 30 years, the Hines Southeast Region team has specialized in the creation of innovative and successful mixed-use communities and buildings including several in Middle Tennessee.

- **222 2nd Avenue** – Nashville, TN - Class A Office and Retail – 98% leased and sold in 2020 for record price (\$730 psf – 2.5x higher than Pinnacle Building sale at \$294 psf in 2013)
- **Cool Springs** – Franklin TN – 1,000-acre community integrating apartments, retail, office and hospitality uses that is the benchmark for suburban core development in the region
- **Deerfield** – Alpharetta, GA – 500-acre mixed-use community integrating apartments, retail and office uses is a walkable campus. Successfully attracted corporate office users to a pioneering location.
- **Palencia** – St. Augustine, FL – 2,500-acre master planned community that blended innovative land planning, a unique architectural theme and exceptional community management to create the premier mixed-use community in Northeast Florida.

158 years ago, not far from Clari Park, a historic battle was set to begin...

“Just before ‘tattoo’ the military bands on each side began their evening music. The still winter night carried their strains to great distance. At every pause on our side, far away could be heard the military bands of the other. Finally one of them struck up ‘Home Sweet Home.’ As if by common consent, all other airs ceased, and the bands of both armies as far as the ear could reach, joined in the refrain. Who knows how many hearts were bold next day by reason of that air?”

- Sam Seay, First Tennessee Infantry



The quote above describes an event which took place on the eve of the Civil War Battle of Stones River in late December 1862. It is a reminder that, despite political, economic, or philosophical differences, all people find common ground in the warmth of their memories of home.

Through thoughtful design, execution quality, and community programs, Clari Park aims to embody that notion of people coming together, in harmony.

The song played by both opposing armies, “Home Sweet Home”, on that night originated in the 1828 opera “Clari”. It is with a nod to the memory of this moving moment in time that Clari Park has been named.

There is an opportunity in Clari Park to recognize the history of the site with historic markers placed strategically in open space and public intersections

This page has been intentionally left blank

b Clari Park

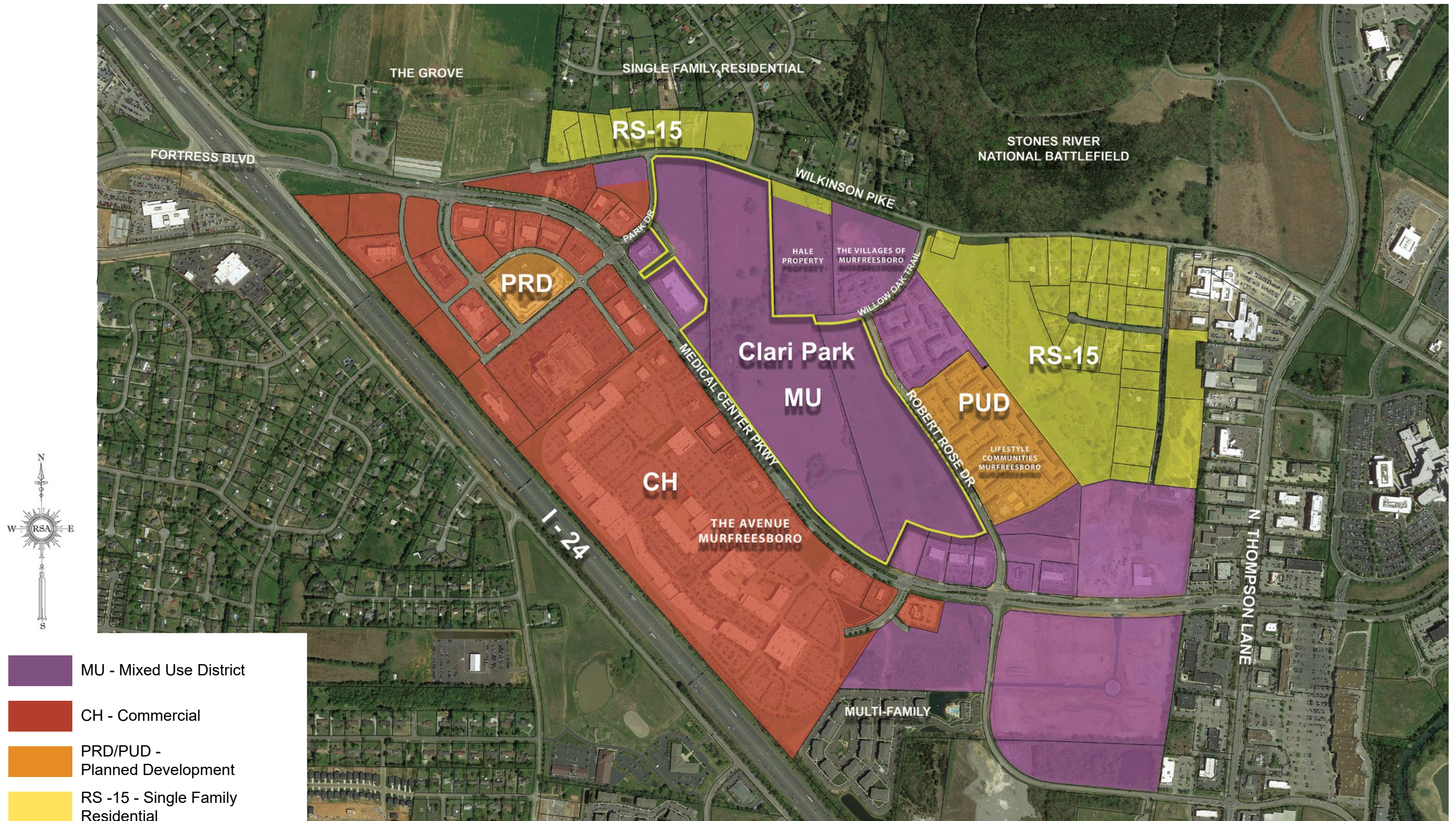
Location Map

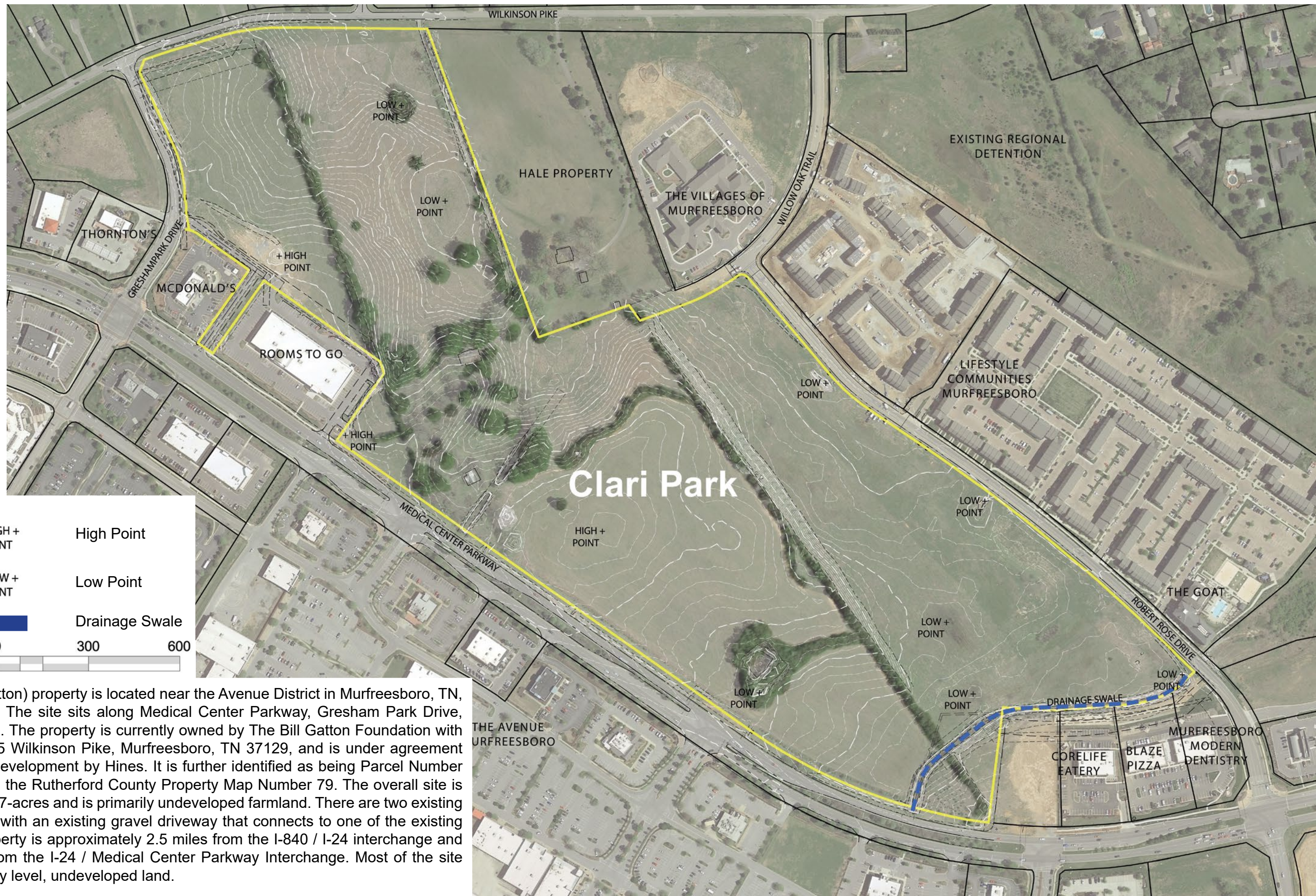
The site for Clari Park is located in the heart of the Murfreesboro Gateway in close proximity to the Medical Center Parkway / I-24 interchange. It is surrounded by an interesting and rich mixture of existing land use with the Avenue Lifestyle mall to the south-west, high density lifestyle apartments to the east (Henley Station) and the historic Stones River Battlefield and residential neighborhoods to the north-east.



Surrounding Zoning & Land Use

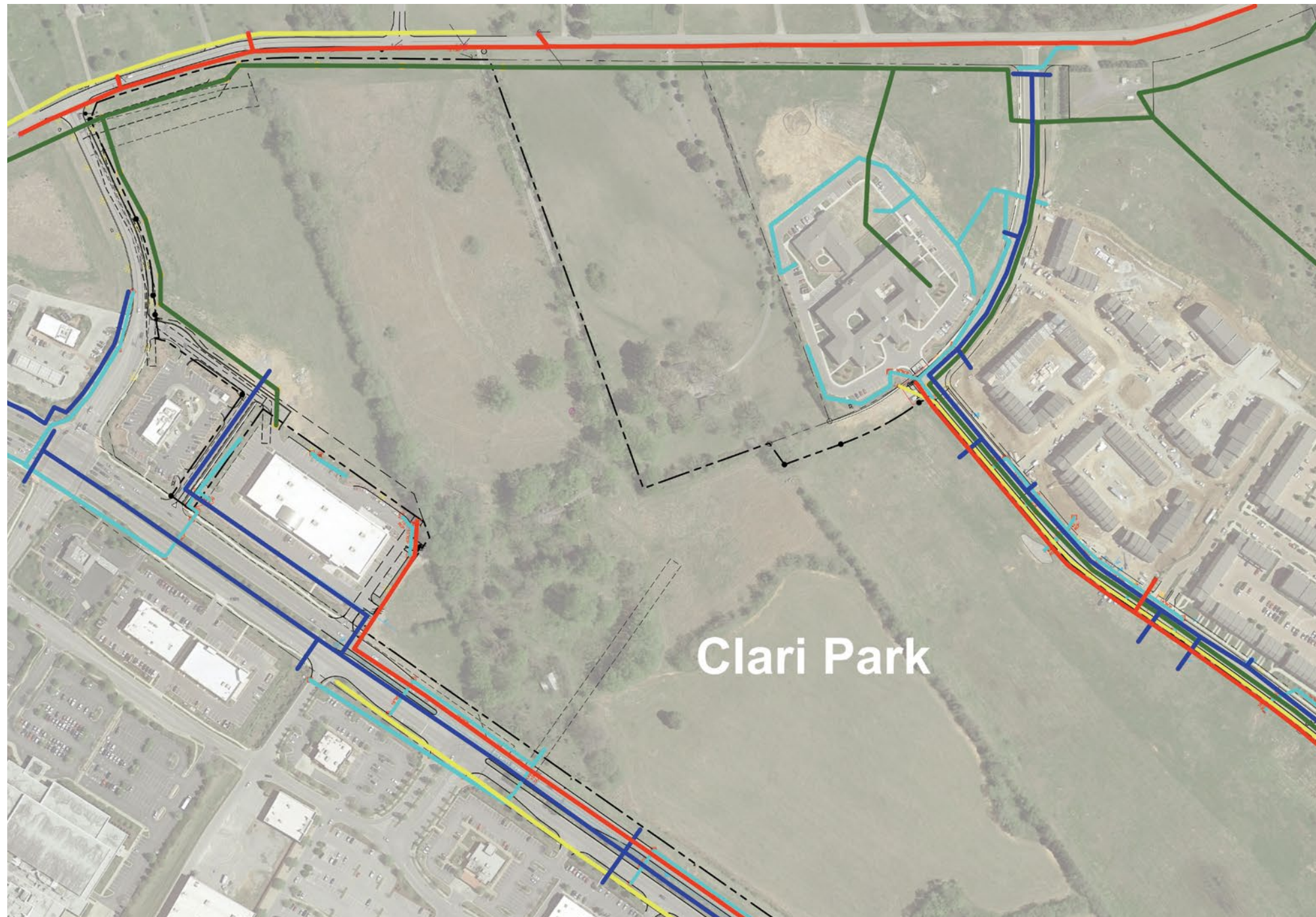
Existing zoning for the site is Mixed Use (MU) with surrounding zoning to the south, east, and west comprised of Mixed Use (MU), Commercial Highway (CH), and Planned Unit Development (PUD). RS-15 zoning is adjacent to the north side of the site.





HIGH + POINT	High Point
LOW + POINT	Low Point
	Drainage Swale
0	300

The Clari Park (Gatton) property is located near the Avenue District in Murfreesboro, TN, Rutherford County. The site sits along Medical Center Parkway, Gresham Park Drive, and Wilkinson Pike. The property is currently owned by The Bill Gatton Foundation with an address of 2685 Wilkinson Pike, Murfreesboro, TN 37129, and is under agreement for purchase and development by Hines. It is further identified as being Parcel Number 94.00 as shown on the Rutherford County Property Map Number 79. The overall site is approximately 77.77-acres and is primarily undeveloped farmland. There are two existing building structures with an existing gravel driveway that connects to one of the existing buildings. The property is approximately 2.5 miles from the I-840 / I-24 interchange and less than 1 mile from the I-24 / Medical Center Parkway Interchange. Most of the site consists of relatively level, undeveloped land.



Water (Consolidated Utility District of Rutherford County)

Consolidated Utility District of Rutherford County (CUDRC) maintains the water lines for this area of the City. CUDRC has an existing 6-inch water main along Wilkinson Pike, an existing 16-inch water main along both Willow Oak Trail and Robert Rose Drive, and an existing 20-inch water main along Medical Center Parkway.

Sanitary Sewer (City of Murfreesboro Water Resources Department)

The City of Murfreesboro Water Resources Department (MWRD) maintains the sanitary sewer in this area. The City's allocation ordinance does not limit density in the Gateway Design Overlay District. Currently, the MWRD anticipates the capacity to handle the proposed development.

Repurified Water (City of Murfreesboro Water Resources Department)

The City of Murfreesboro Water Resources Department (MWRD) maintains the Repurified water in this area. An existing 8-inch stub is located at the end of Willowoak Trail, 4-inch to 6-inch stubs along Robert Rose Road, and 8-inch to 12-inch stubs along Medical Center Parkway.

Electric (Middle Tennessee Electric Membership Corporation)

Middle Tennessee Electric Membership Corporation (MTEMC) maintains the electric lines for this area of the city. MTEMC has existing underground electrical lines running along Medical Center Parkway, Gresham Park Drive, and Robert Rose Drive.

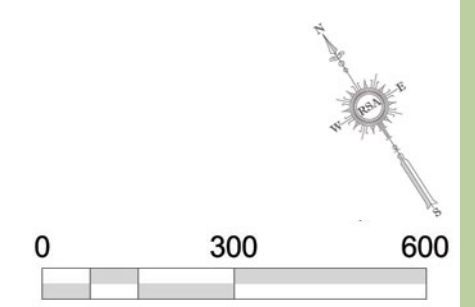
Natural Gas (ATMOS Energy)

ATMOS Energy maintains the natural gas lines in this area of the city. ATMOS has an existing gas line along the site's eastern property line within the Robert Rose Drive right-of-way.

Sanitary Sewer Ordinance (Clari Park)

All property in the 77.8 acre master plan is an integral part of the PUD, has a clearly determinable sewer demand from the Option A and Option B Master Plan and Land Use Map, and shall be exempt from the sanitary sewer allocation ordinance.

- Water Consolidated Utility District
- Gas Atmos Energy
- Sewer - Murfreesboro Water & Sewer Department
- Electric MTEC
- Re Purified Water





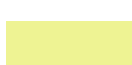


Flood zone information taken from FIRM maps

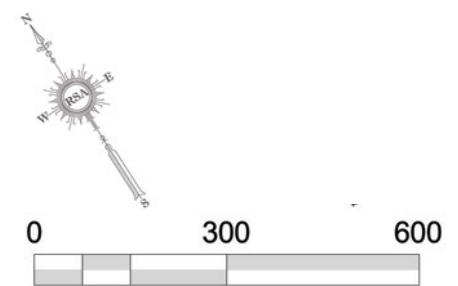
Panel 255 of 479 map number 47147C0255H

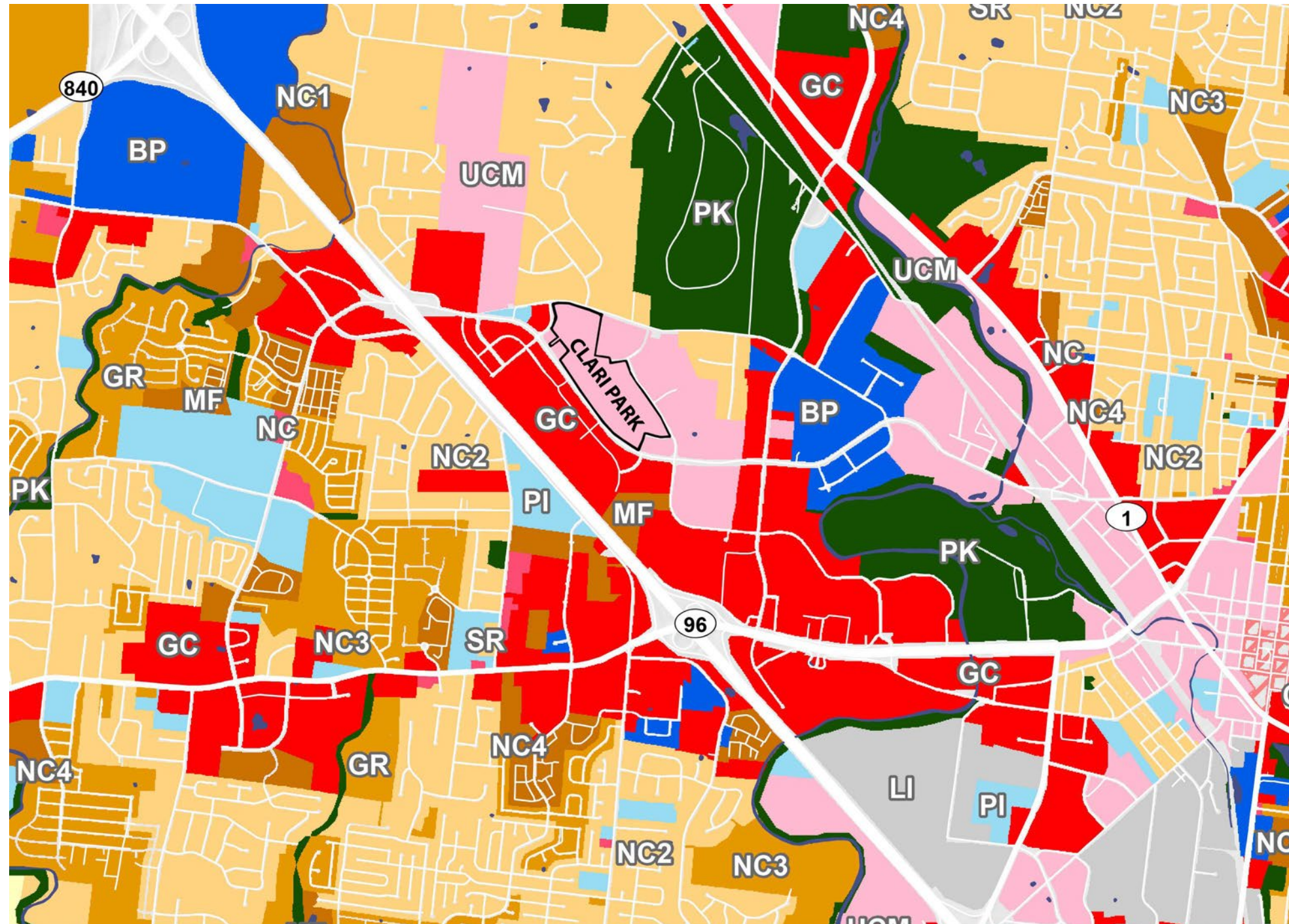
Panel 260 of 457 map number 47149C0260H

As provided by FEMA



-  GDO - 1
-  GDO - 2
-  Planned Development Overlay Zones
-  ZONE AE - 1% Annual Flood Chance
-  ZONE X - Moderate to Low Risk Flood Hazard





The Future Land Use Map designates the area of Clari Park as a Mixed-Use Corridor with urban, commercial, and mixed use character.

Mixed Use Corridor defined:

Allows a broad range of commercial, office and high-density residential uses and public spaces serving surrounding neighborhoods, commercial / professional business parks and visitors from nearby communities.

Suggested intensity / height guidelines for mixed use corridor in the future long range plan include:

1.85 FAR (approximately 60 DU/AC or 50-130 residents/acre), of which up to 0.50 FAR can be office or commercial / up to four stories.

City zoning districts suggested to match the mixed use corridor include:

- Central Business District (CBD)
- Mixed Use District (MU)
- Planned Unit Development (PUD)

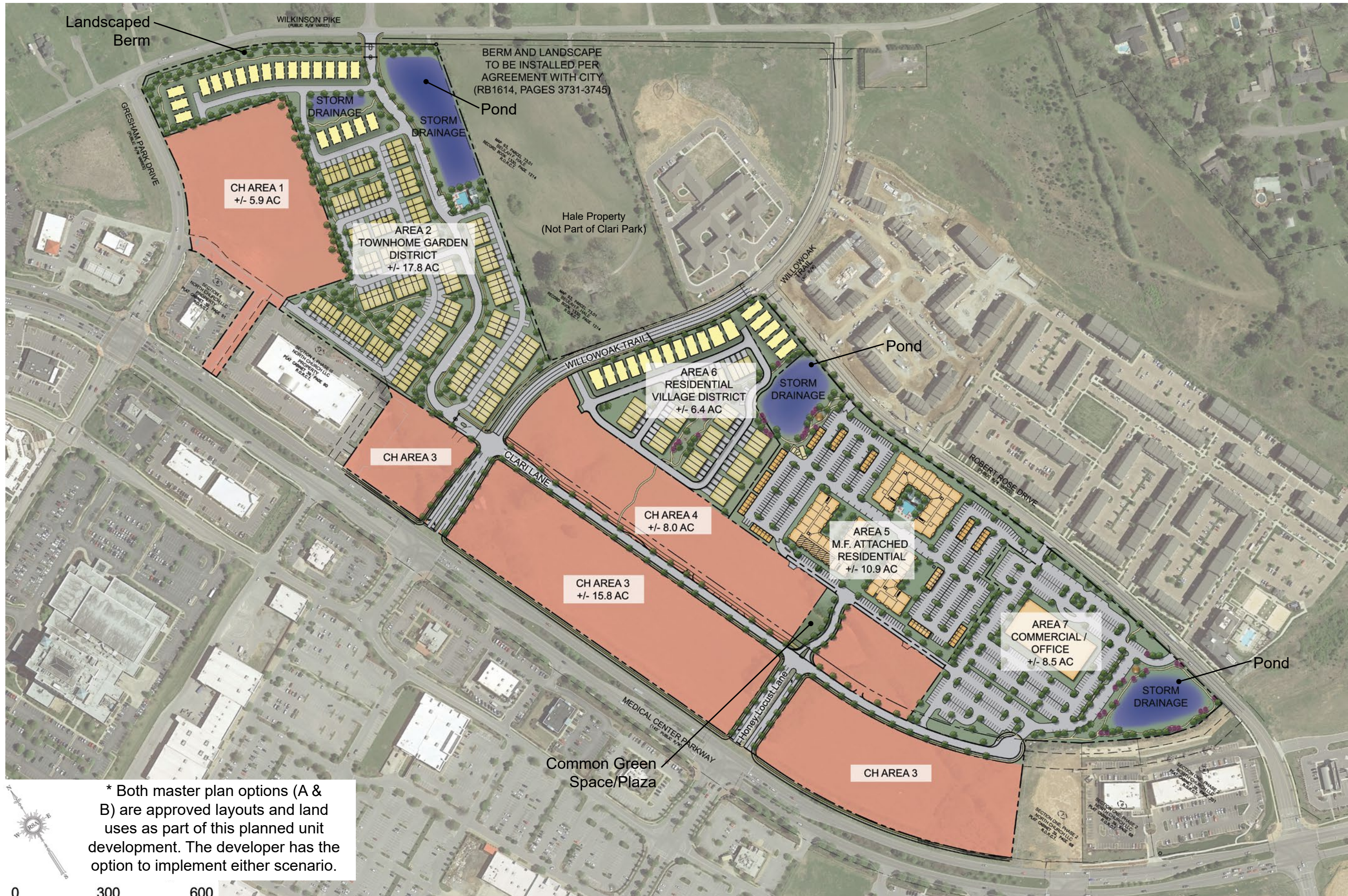
The proposed master plan for Clari Park is in keeping with the Future Long Range Land Use Map and its associated objectives as a Mixed Use Corridor. It speaks to the high level of infrastructure and quality of design that has been invested into the Murfreesboro Gateway. This location is very well suited for a mixture of high density uses and a mixture of residential options to feed into the growth and commerce of the gateway.

Legend

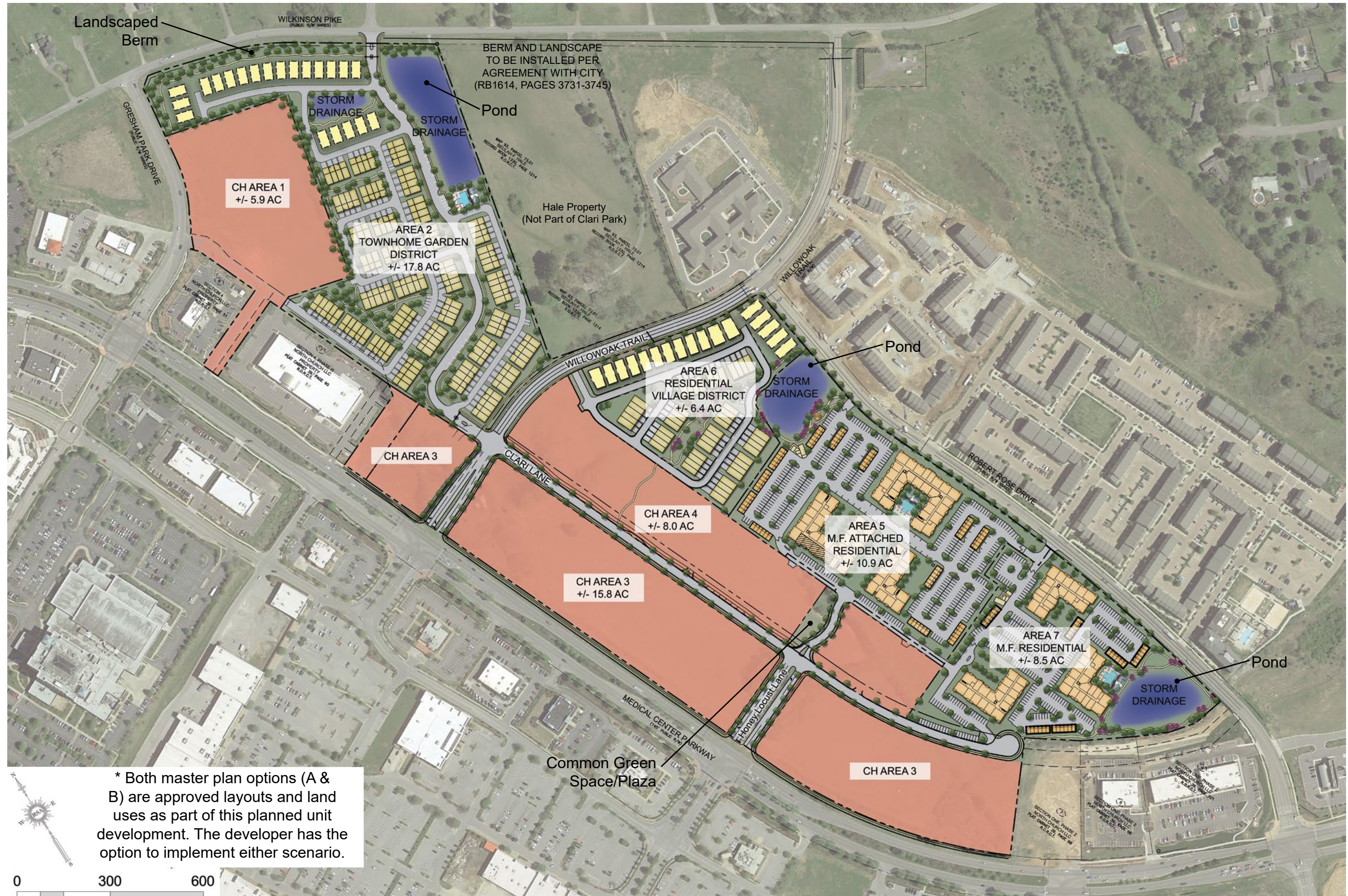
Future Land Use

Business Park	Light Industrial	Suburban Estate
Central Business District	Multi-Family Residential	Suburban Residential
General Commercial	Neighborhood Commercial	Urban Commercial / Mixed-Use
Auto Urban Residential	Public / Institutional	Undeveloped
Heavy Industrial	Parks	

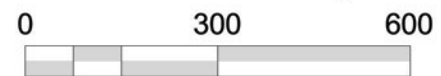


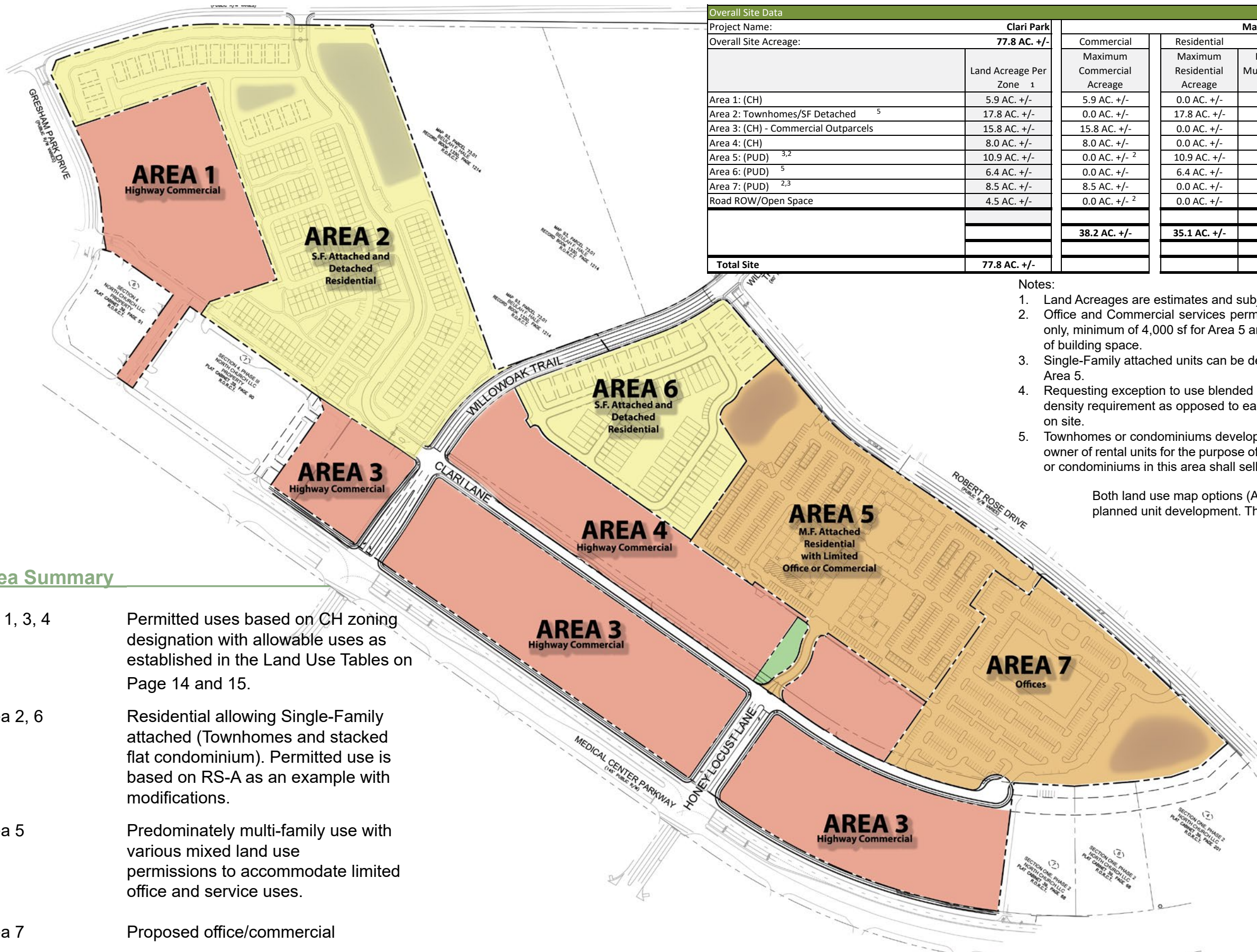


* Both master plan options (A & B) are approved layouts and land uses as part of this planned unit development. The developer has the option to implement either scenario.



* Both master plan options (A & B) are approved layouts and land uses as part of this planned unit development. The developer has the option to implement either scenario.





Overall Site Data		Maximum Acreages and Densities				
Project Name: Clari Park		Commercial Maximum Commercial Acreage	Residential			Residential Density ⁴
Overall Site Acreage: 77.8 AC. +/-			Maximum Residential Acreage	Maximum Multiple-Family Units	Maximum SF Attached	
Area 1: (CH)	5.9 AC. +/-	5.9 AC. +/-	0.0 AC. +/-			0.0/AC
Area 2: Townhomes/SF Detached ⁵	17.8 AC. +/-	0.0 AC. +/-	17.8 AC. +/-	134	21	8.7/AC
Area 3: (CH) - Commercial Outparcels	15.8 AC. +/-	15.8 AC. +/-	0.0 AC. +/-			0.0/AC
Area 4: (CH)	8.0 AC. +/-	8.0 AC. +/-	0.0 AC. +/-			0.0/AC
Area 5: (PUD) ^{3,2}	10.9 AC. +/-	0.0 AC. +/- ²	10.9 AC. +/-	280		25.7/AC
Area 6: (PUD) ⁵	6.4 AC. +/-	0.0 AC. +/-	6.4 AC. +/-	48	17	10.2/AC
Area 7: (PUD) ^{2,3}	8.5 AC. +/-	8.5 AC. +/-	0.0 AC. +/-			0.0/AC
Road ROW/Open Space	4.5 AC. +/-	0.0 AC. +/- ²	0.0 AC. +/-			0.0 AC. +/-
		38.2 AC. +/-	35.1 AC. +/-	280	182	14.2/AC
			280		220	
Total Site	77.8 AC. +/-			500		6.4/AC

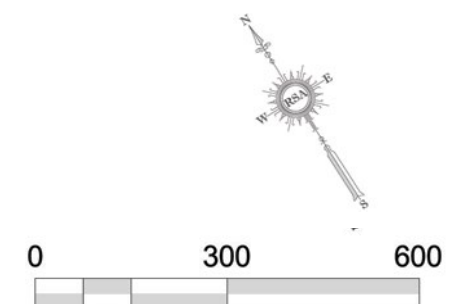
Notes:

1. Land Acreages are estimates and subject to refinement.
2. Office and Commercial services permitted as part of apartment development on ground level only, minimum of 4,000 sf for Area 5 and 2,500 sf for Area 7, and up to a maximum of 10,000 sf of building space.
3. Single-Family attached units can be developed in lieu of developing Multiple-Family product for Area 5.
4. Requesting exception to use blended density (14.6 units/acre) to meet maximum 25 units/acre density requirement as opposed to each zone meeting requirement given size and mix of uses on site.
5. Townhomes or condominiums developed in this area shall not be sold in bulk to a developer or owner of rental units for the purpose of operating a rental community. The builder of townhomes or condominiums in this area shall sell finished units to individual buyers.

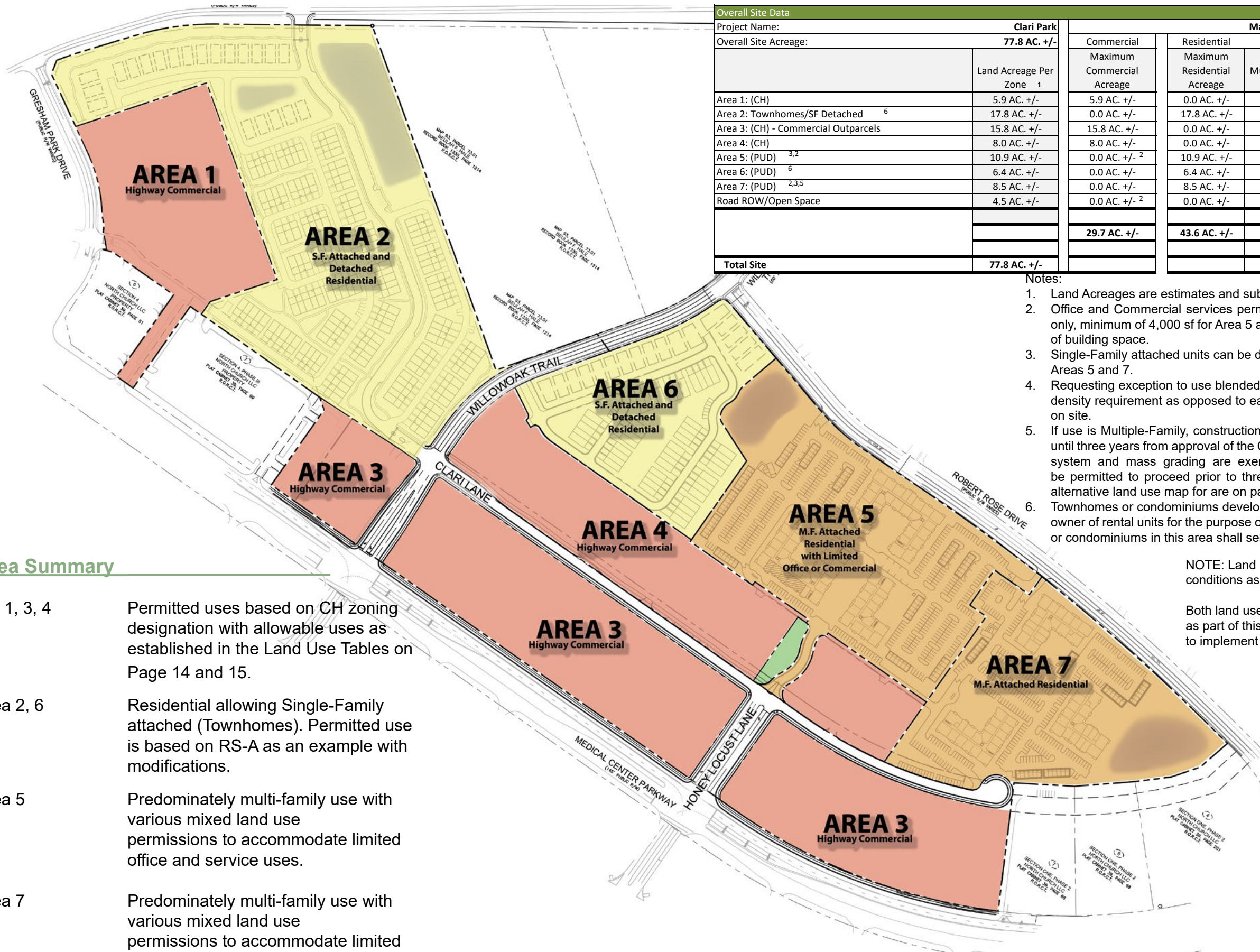
Both land use map options (A & B) are approved layouts and land uses as part of this planned unit development. The developer has the option to implement either scenario.

Area Summary

- CH 1, 3, 4 Permitted uses based on CH zoning designation with allowable uses as established in the Land Use Tables on Page 14 and 15.
- Area 2, 6 Residential allowing Single-Family attached (Townhomes and stacked flat condominium). Permitted use is based on RS-A as an example with modifications.
- Area 5 Predominately multi-family use with various mixed land use permissions to accommodate limited office and service uses.
- Area 7 Proposed office/commercial



Proposed Land Use Map Option B (Multi Family Use in Area 7) Clari Park



Overall Site Data		Maximum Acreages and Densities				
Project Name: Clari Park		Commercial Maximum Commercial Acreage	Residential			Residential Density ⁴
Overall Site Acreage: 77.8 AC. +/-			Maximum Residential Acreage	Maximum Multiple-Family Units	Maximum SF Attached	
Area 1: (CH)	5.9 AC. +/-	5.9 AC. +/-	0.0 AC. +/-			0.0/AC
Area 2: Townhomes/SF Detached ⁶	17.8 AC. +/-	0.0 AC. +/-	17.8 AC. +/-	134	21	8.7/AC
Area 3: (CH) - Commercial Outparcels	15.8 AC. +/-	15.8 AC. +/-	0.0 AC. +/-			0.0/AC
Area 4: (CH)	8.0 AC. +/-	8.0 AC. +/-	0.0 AC. +/-			0.0/AC
Area 5: (PUD) ^{3,2}	10.9 AC. +/-	0.0 AC. +/- ²	10.9 AC. +/-	280		25.7/AC
Area 6: (PUD) ⁶	6.4 AC. +/-	0.0 AC. +/-	6.4 AC. +/-	48	17	10.2/AC
Area 7: (PUD) ^{2,3,5}	8.5 AC. +/-	0.0 AC. +/-	8.5 AC. +/-	208		24.5/AC
Road ROW/Open Space	4.5 AC. +/-	0.0 AC. +/- ²	0.0 AC. +/-			0.0 AC. +/-
		29.7 AC. +/-	43.6 AC. +/-	488	182	16.2/AC
			488	708	220	
Total Site	77.8 AC. +/-					9.1/AC

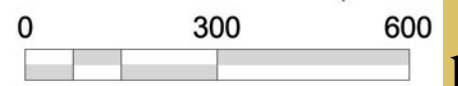
- Notes:
1. Land Acreages are estimates and subject to refinement.
 2. Office and Commercial services permitted as part of apartment development on ground level only, minimum of 4,000 sf for Area 5 and 2,500 sf for Area 7, and up to a maximum of 10,000 sf of building space.
 3. Single-Family attached units can be developed in lieu of developing Multiple-Family product for Areas 5 and 7.
 4. Requesting exception to use blended density (16.5 units/acre) to meet maximum 25 units/acre density requirement as opposed to each zone meeting requirement given size and mix of uses on site.
 5. If use is Multiple-Family, construction of site work and building in Area 7 shall not commence until three years from approval of the Clari Park Master Plan (master utilities, master stormwater system and mass grading are exempt from construction start provision). Permitting shall be permitted to proceed prior to three years from the Clari Park Master Plan approval, see alternative land use map for are on page 42).
 6. Townhomes or condominiums developed in this area shall not be sold in bulk to a developer or owner of rental units for the purpose of operating a rental community. The builder of townhomes or condominiums in this area shall sell finished units to individual buyers.

NOTE: Land Use Map Option B will be permitted based on the timing conditions as described in note 5

Both land use map options (A & B) are approved layouts and land uses as part of this planned unit development. The developer has the option to implement either scenario.

Area Summary

- CH 1, 3, 4 Permitted uses based on CH zoning designation with allowable uses as established in the Land Use Tables on Page 14 and 15.
- Area 2, 6 Residential allowing Single-Family attached (Townhomes). Permitted use is based on RS-A as an example with modifications.
- Area 5 Predominately multi-family use with various mixed land use permissions to accommodate limited office and service uses.
- Area 7 Predominately multi-family use with various mixed land use permissions to accommodate limited office and service uses.



USES PERMITTED	LAND USE AREA ¹						
	Area 1 (CH)	Area 2 (PUD)	Area 3 (CH)	Area 4 (CH)	Area 5 (PUD)	Area 6 (PUD)	Area 7 (PUD)
DWELLINGS (RESIDENTIAL)							
Single-Family attached ²		X			X	X	X
Multiple-Family					X		X
OTHER HOUSING							
Assisted-Care Living Facility	X			X	X		X
Class III Home for the Aged	X			X	X		X
Hotel	X			X	X		X
INSTITUTIONS							
Adult Day Care Center	X			X			X
Church	X			X			X
College, University	X			X			X
Day-Care Center	X		X	X			X
Family Day-Care Home	X		X	X			X
Group Day-Care Home	X		X	X			X
Hospital	X		X	X			X
Museum	X			X			X
Nursing Home	X			X			X
Nursery School	X			X			X
Park	X	X		X	X	X	X
Philanthropic Institution	X			X			X
COMMERCIAL							
Amusements, Commercial Indoor	X			X			X
Amusements, Commercial Outdoor excluding Motorized	X			X			X
Animal Grooming Facility	X		X	X			X
Art or Photo Studio or Gallery	X		X	X	X		X
Bakery, Retail	X		X	X			X
Bank, Branch Office	X		X	X			X
Bank, Drive-Up Electronic Teller	X		X	X			X
Bank, Main Office	X		X	X			X
Barber or Beauty Shop	X		X	X			X
Book or Card Shop	X		X	X	X		X
Business and Communication Service	X		X	X			X
Catering Establishment	X		X	X			X
Clothing Store	X		X	X	X		X
Coffee, Food, or Beverage Kiosk ⁶	X			X	X		X
Commercial Center	X		X	X			X
Convenience Sales and Service, maximum 5,000 sq. ft. floor area	X		X	X			X
Delicatessen	X		X	X			X
Department or Discount Store	X			X			X
Dry Cleaning	X		X	X			X
Dry Cleaning Pick-Up Station	X		X	X	X		X
Financial Service ⁴	X		X	X	X		X
Flower or Plant Store	X		X	X			X
Garden Lawn Supplies and Hardware (Only in Area 3 adjacent to Area 4 ⁵)			X	X			X

Notes

1. Area 7 is generally based off Mixed-Use Zoning designation from 2020 Zoning Ordinance with minor modifications.
2. Single-Family attached generally refers to townhome and stacked flat condominium uses.
3. Restaurants that primarily promote food consumption within motor vehicles on the premises will not be permitted.
4. Financial services permitted include banks, financial advisors, investment management services, tax-preparation services and other similar type financial services. "Pay-day loan" services and cash advance facilities will not be permitted.
5. Garden and lawn supply operations shall display merchandise indoors. No outdoor storage shall be permitted.
6. Kiosk use will be restricted to "walk-up" style kiosk operations in open space or park settings. Vehicular drive-up use is prohibited.
7. Allowable land uses in CH Areas, 1, 3, and 4 are limited to those noted in this Land Use Table. These restrictions will also be recorded in public records via covenants & restrictions.
8. Gas stations and Convenience Sales will only be permitted in Area 3 for lots with frontage on Clari Lane and adjacent to Area 4 on the Master Plan.

Land Use Table

USES PERMITTED	LAND USE AREA ¹						
	Area 1 (CH)	Area 2 (PUD)	Area 3 (CH)	Area 4 (CH)	Area 5 (PUD)	Area 6 (PUD)	Area 7 (PUD)
Gas Station	X		X				
Health Club	X		X	X			X
Interior Decorator	X		X	X	X		X
Karate, Instruction	X		X	X			X
Keys, Locksmith	X		X	X			X
Laboratories, Medical - Exclude Plasma Donation Center	X		X	X			X
Laboratories, Testing	X		X	X			X
Liquor Store (No Drive-Thru)	X		X	X			X
Movie Theater	X			X			X
Music or Dancing Academy	X		X	X			X
Offices	X		X	X	X		X
Optical Dispensaries	X		X	X			X
Personal Service Establishment (Hair, Nails)	X		X	X	X		X
Pet Shops	X		X	X			X
Pharmacies	X		X	X			X
Reducing and Weight Control Service	X		X	X			X
Restaurant and Carry-Out Restaurant	X		X	X			X
Restaurant, Drive-In ³	X		X	X			X
Restaurant, Specialty	X		X	X			X
Restaurant, Specialty -Limited	X		X	X			X
Retail Shop, other than enumerated elsewhere	X		X	X			X
Shopping Center, Community	X		X	X			X
Shopping Center, Neighborhood	X		X	X			X
Veterinary Office	X		X	X			X
Veterinary Clinic	X		X	X			X
OTHER							
Home Occupations	X	X		X		X	X

Notes

1. Area 7 is generally based off Mixed-Use Zoning designation from 2020 Zoning Ordinance with minor modifications.
2. Single-Family attached generally refers to townhome and stacked flat condominium uses.
3. Restaurants that primarily promote food consumption within motor vehicles on the premises will not be permitted.
4. Financial services permitted include banks, financial advisors, investment management services, tax-preparation services and other similar type financial services. "Pay-day loan" services and cash advance facilities will not be permitted.
5. Garden and lawn supply operations shall display merchandise indoors. No outdoor storage shall be permitted.
6. Kiosk use will be restricted to "walk-up" style kiosk operations in open space or park settings. Vehicular drive-up use is prohibited.
7. Allowable land uses in CH Areas, 1, 3, and 4 are limited to those noted in this Land Use Table. These restrictions will also be recorded in public records via covenants & restrictions.
8. Gas stations and Convenience Sales will only be permitted in Area 3 for lots with frontage on Clari Lane and adjacent to Area 4 on the Master Plan.

Land-Use Parameters	Area 1 (CH)	Area 2 (PUD)	Area 3 (CH)	Area 4 (CH)	Area 5 (PUD)	Area 6 (PUD)	Area 7 (PUD)
RESIDENTIAL DENSITY							
Maximum Dwelling Units Multiple-Family	0		0	0	280		208
Maximum Dwelling Units Single-Family attached	0	134	0	0	0	48	0
Maximum Dwelling Units Single-Family detached	0	21	0	0	0	17	0
Minimum Lot Area	none	N/A - Units will have Horizontal Property Regime (HPR)	none	none	5 acres for multiple-family N/A for all other uses	N/A - Units will have Horizontal Property Regime (HPR)	5 acres for multiple-family N/A for all other uses
Minimum Lot Width	N/A for all other uses	N/A - Units will have Horizontal Property Regime (HPR)	50' min. lot width on Medical Center Pkwy.	N/A	N/A	N/A - Units will have Horizontal Property Regime (HPR)	N/A
MINIMUM YARD REQUIREMENTS							
Minimum Front Yard <i>Porches, stoops, and bay windows may extend into setbacks. Min. front yard shall be measured from all public roads on corner lots</i>	42'	15'	42'	42'	15'	15'	15'
Minimum Side Yard <i>Porches, stoops, and bay windows may extend into setbacks</i>	10'	5'	10'	10'	10'	5'	5' for townhomes 10' for all other uses
Minimum Rear Yard	20'	20'	20'	20'	20'	20'	20'
LAND-USE INTENSITY RATIOS							
Max FAR	None	None	None	None	None	None	None
Minimum Livable Space Ratio	None	None	None	None	None	None	None
Minimum Open Space Requirement	20%	20%	20%	20%	20%	20%	20%
Minimum Formal Open Space Requirement	3-5% based on site acreage and use as determined in 2020 Zoning Ordinance						
Min Lot Coverage	None	None	None	None	None	None	None
Max Height	45'	35'	75' 150' for Office, Hotel, and Hospital	75' 150' for Office, Hotel, and Hospital	45' for S.F. 75' for multiple-family uses 150' for commercial/office uses	35'	45' for S.F. 75' for multiple-family uses 150' for commercial/office uses
Parking Ratio	<u>Single-Family Attached and Multiple-Family Uses</u> 1.1 space per bedroom <u>Single-Family Detached Uses</u> 4 spaces per unit (includes garage spaces) <u>All Other Uses:</u> Per "Chart 4" of 2020 Zoning Ordinance.				Parking spaces within garages for Single Family Attached Residential and Multi-Family Residential will be considered as meeting parking count requirements. They will not be used for the parking or storage of boats, recreational vehicles, trailers, or equipment.		

Requested Exceptions

Exception

1. Requesting "Single Family Attached" Residential and "Single Family Detached" Residential Use be permitted (Not currently permitted in underlying MU zoning)
2. Requesting exception to maximum 25.6 units per-acre density requirement for area 5. The average residential density allowed for the overall master plan for residential parcels in Clari Park is approximately 16.6 units per-acre
3. Request adjustment to parking ratio requirement for 1-bedroom residential multifamily units of 1.5 spaces per bedroom to 1.1 per bedroom and removal of parking requirement for up to 10,000 sf of office space on first floor of each Multifamily project.
4. An exception to allow outdoor sales and the sale of food and beverage in park space and public open space for temporary special events
5. Porches, stoops, and bay windows may extend into setbacks

Landscape Yard Minimums and Building Setbacks			
Roadway	Minimum Landscape Yard	Building Setback	Notes
Medical Center Parkway	25'	50'	Arterial Road
Robert Rose Drive	15'	15'	Local Road
Wilkinson Pike	30'	30'	Berm shall be constructed within 30' buffer per Agreement with City (RB1614, pgs 3731-3745) prior to or as part of initial phase of construction No building exceeding 3 stories in height shall be erected within 100 feet of the South right of way. No apartment development shall be placed on Property (within 100' of Wilkinson Pike) unless approved by the Planning Commission and the City Council as a Planned Development.
Willow Oak	15'	15'	Local Road
Clari Lane (to be named) (Road behind outparcels)	15'	15'	Local Road

As the Master Developer of Clari Park, the Hines development management team will implement development management and operations controls to ensure that the community is developed and managed in accordance with the approved Mixed Use and Commercial Highway Zoning Master Plan and to implement the vision of the Master Developer and design team. Elements of the management and operations are:

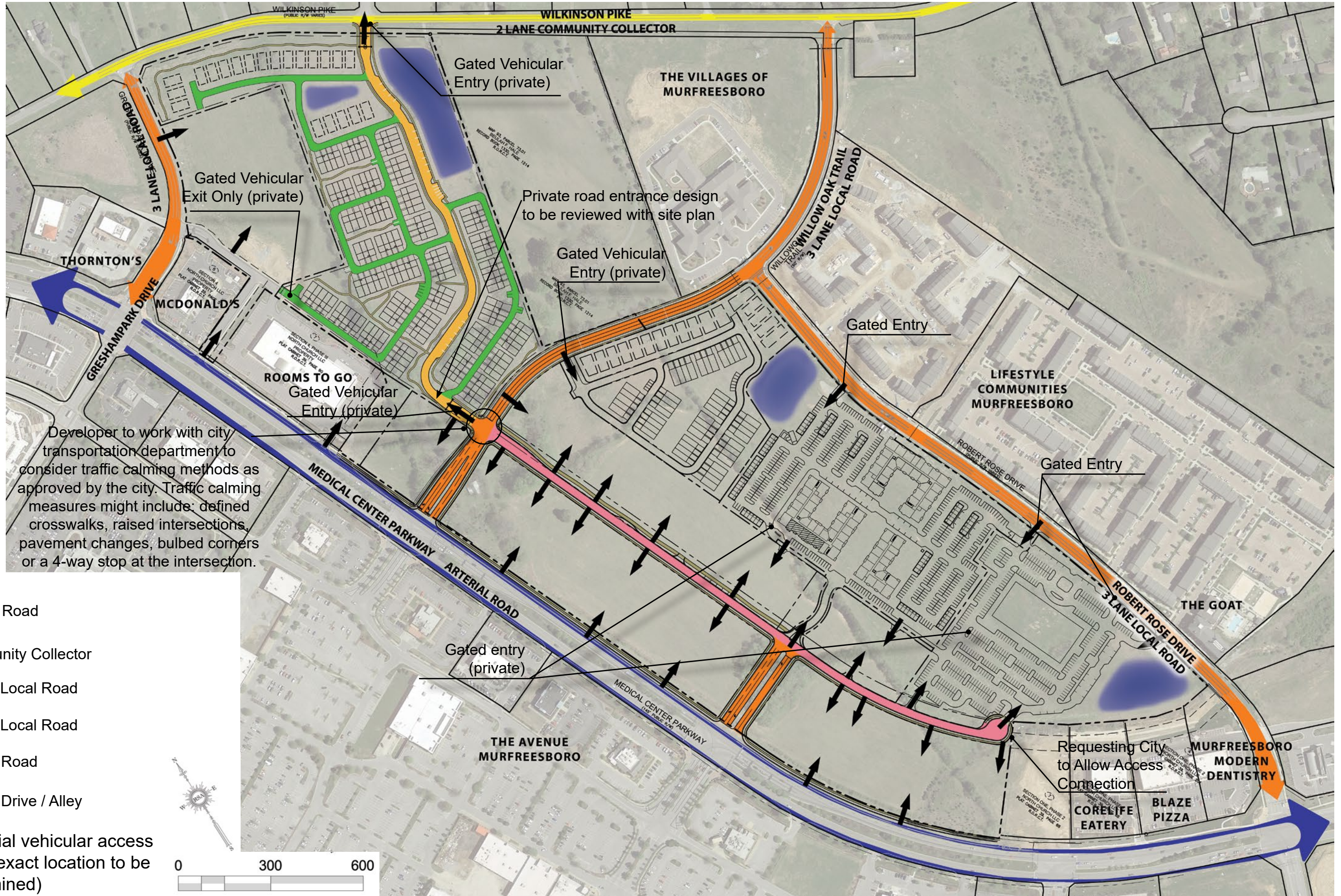
Development Management - The Master Developer will manage the design, permitting, construction and close-out of the horizontal infrastructure within Clari Park including mass grading, utilities, stormwater management and roadways. Development management by the Master Developer will be performed directly for the Hines development venture and on behalf of the town home builder.

Commercial Land Sales - Hines will directly negotiate and transact all commercial land sales and incorporate provisions that require compliance with the zoning regulations within such sale contracts. Purchase agreements will obligate commercial properties to be subject to architectural review and compliance with the Clari Park Covenants and Restrictions

Site Plan Reviews - The Master Developer will work through an iterative site plan design process with the commercial parcel and town home parcel owners to ensure that all site plans are consistent with the overall site planning and landscape themes of Clari Park including strong pedestrian connectivity.

Architectural and Landscape Design Review - The Master Developer will create and coordinate the activities of an architectural review committee that will review the building plans for all commercial parcel owners within Clari Park. Commercial owners will be encouraged to submit preliminary design concepts for an initial review prior to formalizing purchase contracts with the formal review taking place thereafter. The Committee will include a registered architect and landscape architect in addition to Hines team members.

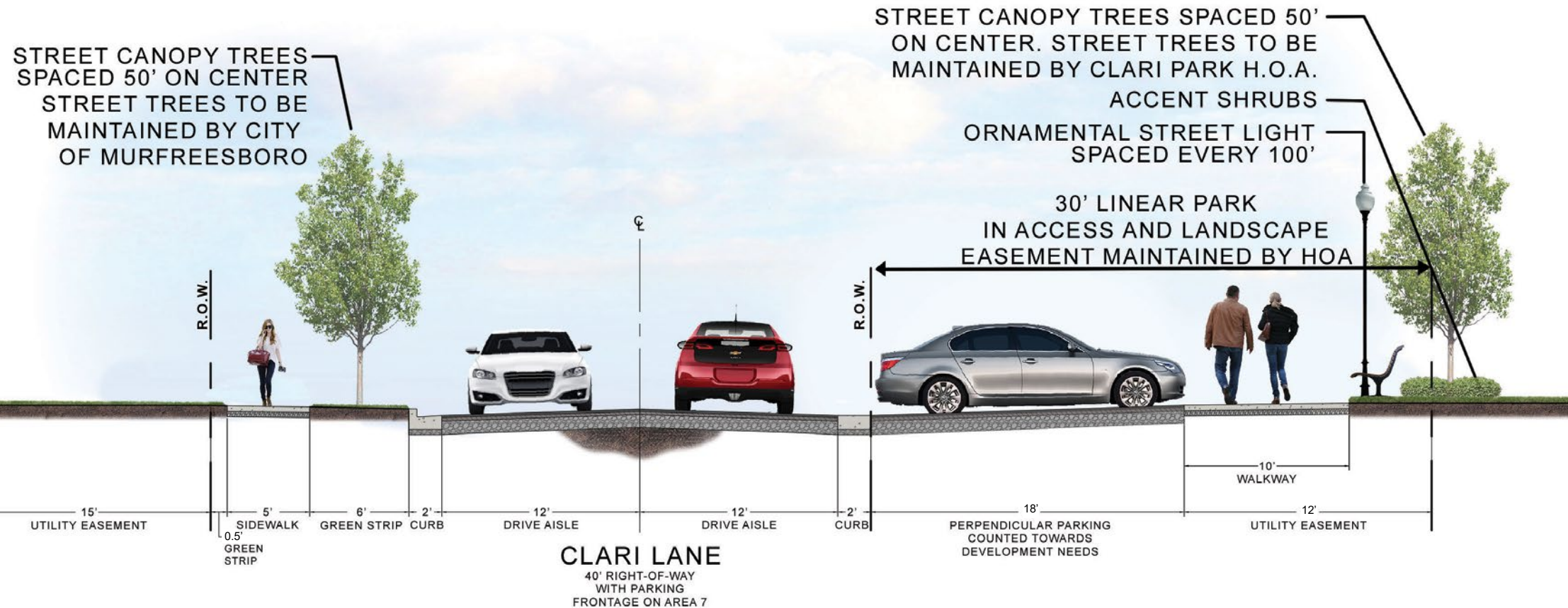
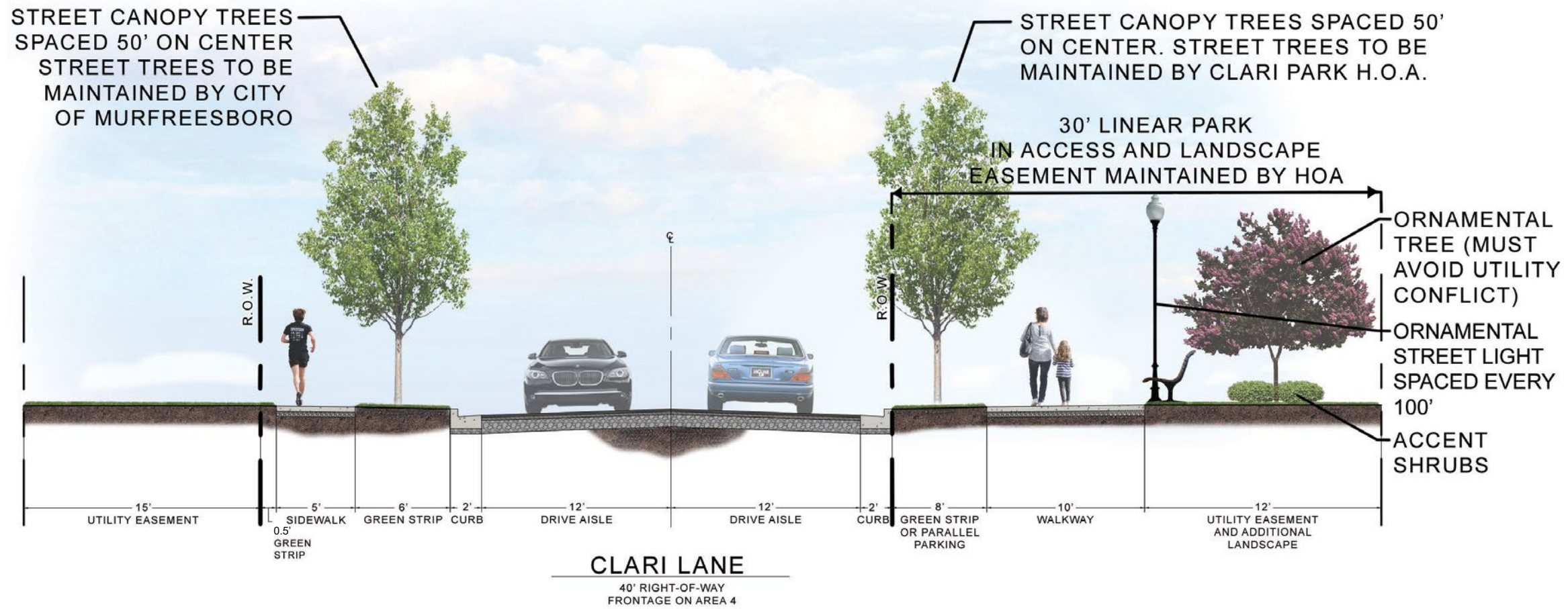
Property Management / Covenants and Restrictions - Property management associations will be created for the commercial and residential properties within Clari Park with covenants and restrictions that are enforceable by these associations. Standards for the maintenance of common area and private properties will be established in the covenants and enforced by the associations with Master Developer providing oversight and coordination throughout the development period. The covenants and restrictions shall expressly provide the right for the property management company to tow vehicles that are not parked in legal common area or private spaces and shall further obligate to the property management company exercise this right when notified by residents or by the city.

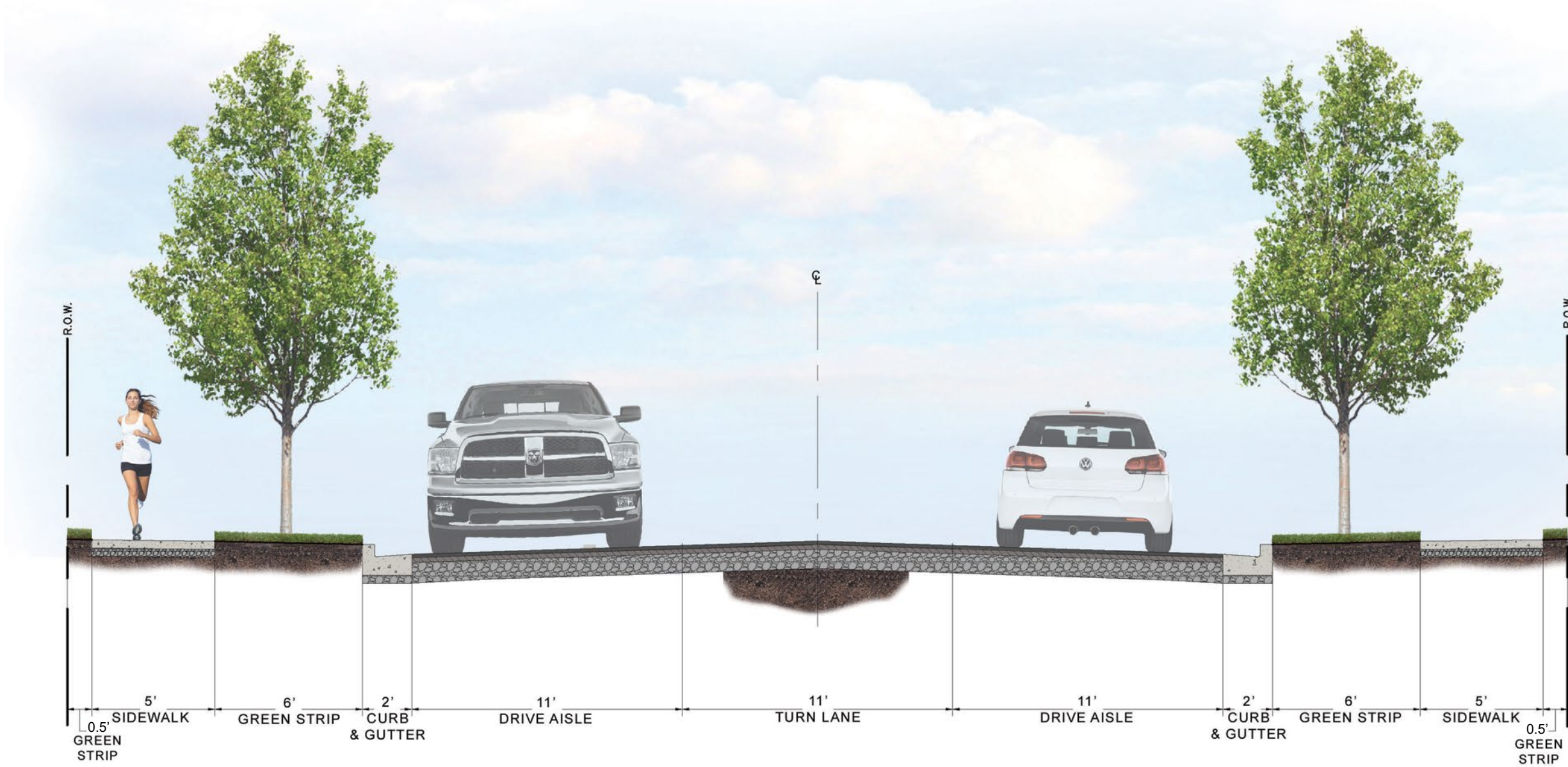


Developer to work with city transportation department to consider traffic calming methods as approved by the city. Traffic calming measures might include: defined crosswalks, raised intersections, pavement changes, bulbed corners or a 4-way stop at the intersection.

- ▬ Arterial Road
- ▬ Community Collector
- ▬ 3 Lane Local Road
- ▬ 2 Lane Local Road
- ▬ Private Road
- ▬ Private Drive / Alley
- ➔ Potential vehicular access point (exact location to be determined)







WILLOW OAK TRAIL

60' RIGHT-OF-WAY

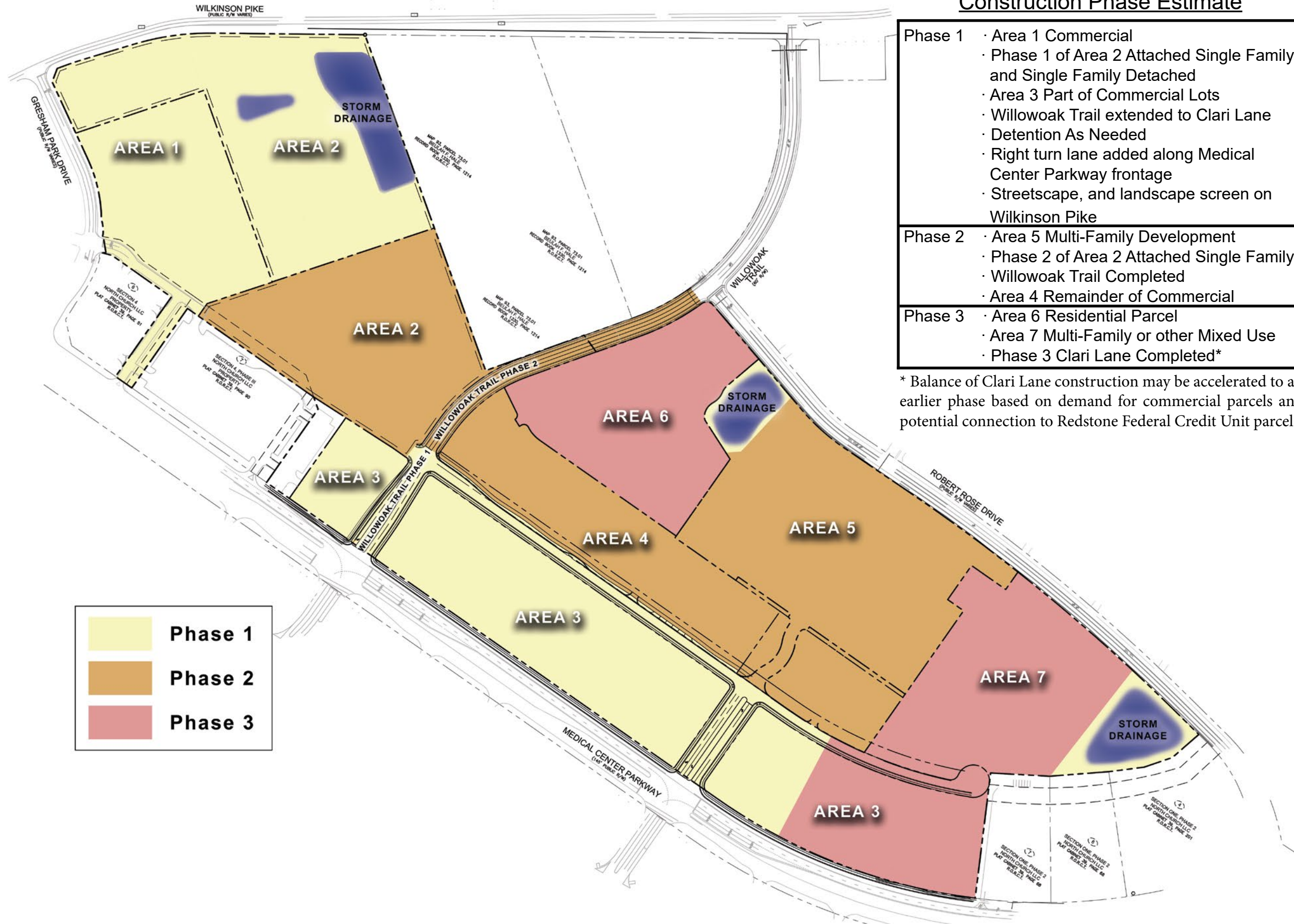
Right of way will vary at intersections with Medical Center Parkway based on turn lane requirements

Construction Phase Estimate

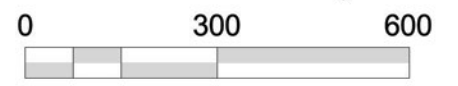
Approximate Time Frame

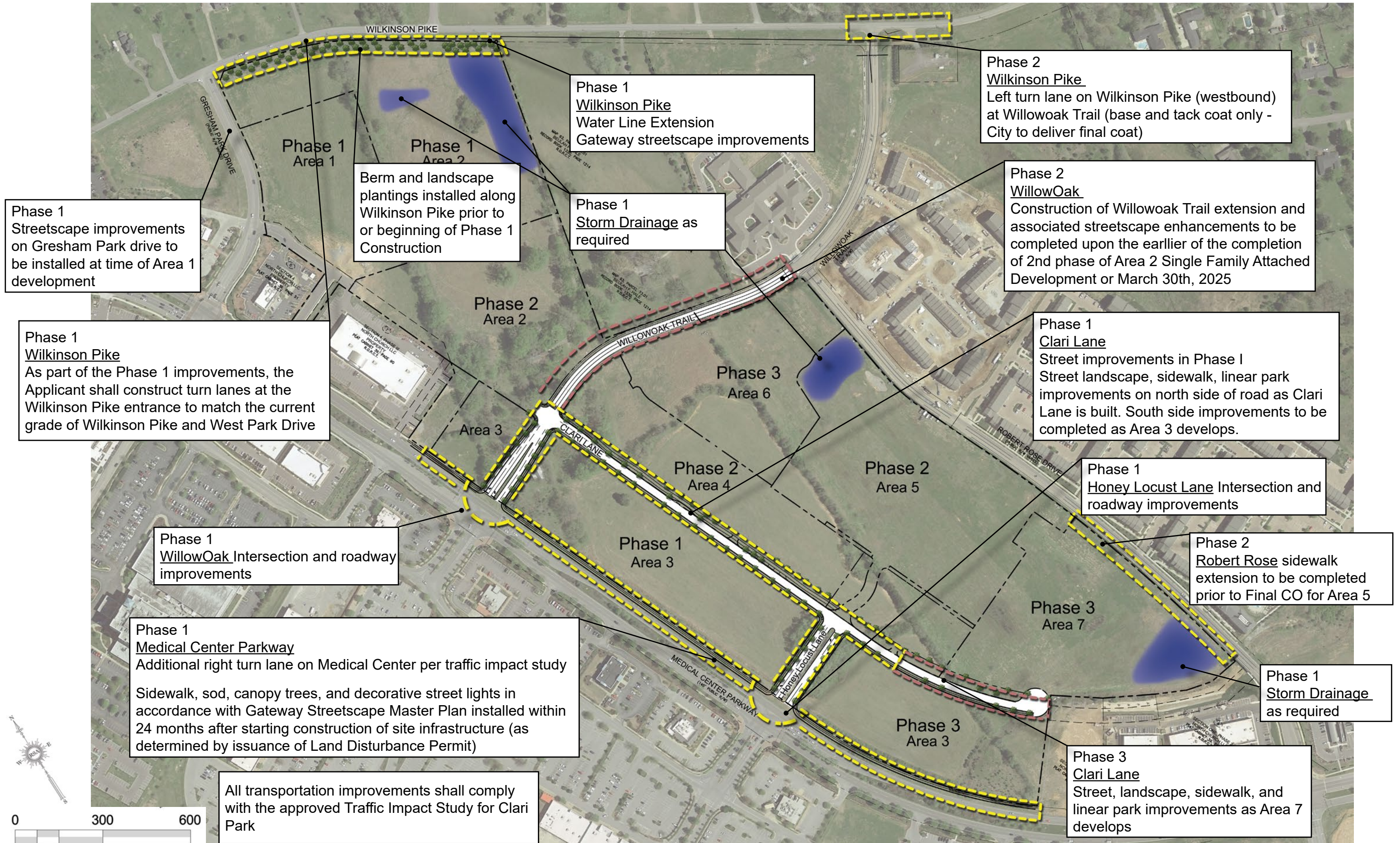
Phase 1	<ul style="list-style-type: none"> Area 1 Commercial Phase 1 of Area 2 Attached Single Family and Single Family Detached Area 3 Part of Commercial Lots Willowoak Trail extended to Clari Lane Detention As Needed Right turn lane added along Medical Center Parkway frontage Streetscape, and landscape screen on Wilkinson Pike 	Phase 1 2021- 2026
Phase 2	<ul style="list-style-type: none"> Area 5 Multi-Family Development Phase 2 of Area 2 Attached Single Family Willowoak Trail Completed Area 4 Remainder of Commercial 	Phase 2 2022- 2027
Phase 3	<ul style="list-style-type: none"> Area 6 Residential Parcel Area 7 Multi-Family or other Mixed Use Phase 3 Clari Lane Completed* 	Phase 3 2023- 2030

* Balance of Clari Lane construction may be accelerated to an earlier phase based on demand for commercial parcels and potential connection to Redstone Federal Credit Unit parcel.



	Phase 1
	Phase 2
	Phase 3





Phase 1

WillowOak Trail

- WillowOak Trail at MCP intersection improved with egress lanes / turn lanes as shown on public improvements plan.
- WillowOak Trail street improvements from Medical Center Parkway to Clari Lane intersection. Landscape and sidewalk improvements from Medical Center Parkway to Clari Lane intersection.
- WillowOak Trail and Medical Center Parkway intersection improvements in accordance with gateway streetscape master plan. (Seat wall, pedestrian plaza, and crosswalk)

Phase 2 or 3

- WillowOak Trail street improvements and public streetscape enhancement from Clari Lane to Robert Rose Drive. Construction of Willowoak Trail extension and associated streetscape enhancements to be completed upon the completion of 2nd phase of Area 2 Single Family Development or March 30th, 2025, whichever is earlier.
- Applicant will commit to connect southern end of Clari Lane with adjacent bank parcel should a legally and commercially feasible solution be presented to do so. Applicant will work with City and adjacent landowner to explore viability of such a solution.

Wilkinson Pike

Phase 1

- As part of the Phase 1 improvements, the Applicant shall construct turn lanes at the Wilkinson Pike entrance to match the current grade of Wilkinson Pike and West Park Drive and a left turn lane from Wilkinson Pike onto Willowoak Trail

Honey Locust Lane

Phase 1

- Honey Locust Lane at MCP intersection improvements with egress lanes / turn lanes as shown on public improvement plan.
- Honey Locust Lane street improvements from Medical Center Parkway to Clari Lane intersection. Landscape ornamental lighting and sidewalk improvements from Medical Center Parkway to Clari Lane intersection.
- Honey Locust Lane and Medical Center Parkway intersection improvements in accordance with gateway streetscape master plan. (Seat wall, pedestrian plaza, and crosswalk)

Clari Lane

Phase 1 and 2

- Clari Lane street improvements from Willow Oak Trail to end of phase 2. (Frontage on Area 4)
- Streetscape and Linear Park improvements fronting Area 4 to be completed with initial construction of Clari Lane. South side improvements to be completed as Area 3 develops.

Phase 3

- Clari Lane street improvements, streetscape and linear park improvements fronting Area 7 and phase 3 commercial lots.

Medical Center Parkway / Robert Rose Drive

Phase 1

- Additional right turn lane along all lots fronting Medical Center Parkway

Phase 1, 2, 3

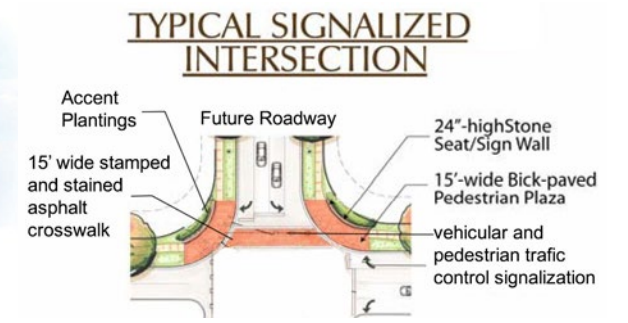
- Sidewalk, sod, canopy trees, and decorative street lights in accordance with the Gateway Streetscape Master Plan installed within 24 months after starting construction of site infrastructure (as determined by issuance of Land Disturbance Permit)

Phase 2

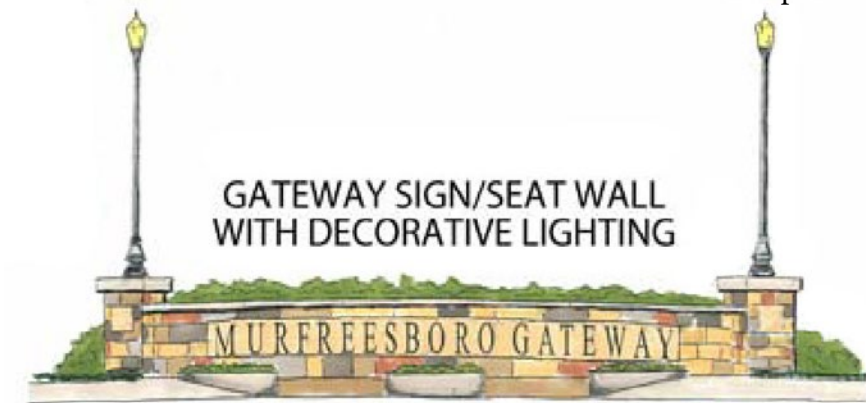
- Robert Rose sidewalk extension to be completed prior to Final CO for Area 5



WillowOak Trail street improvements
Gateway Seat wall(s) at intersection
See page 22

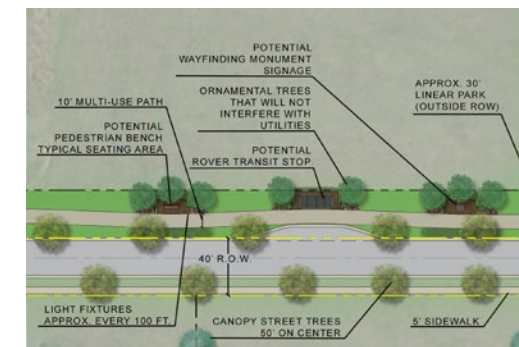


Gateway intersection at Willow Oak and Medical Center Parkway and Honey Locust Lane and Medical Center Parkway
See page 13 of the Murfreesboro Gateway Streetscape Masterplan

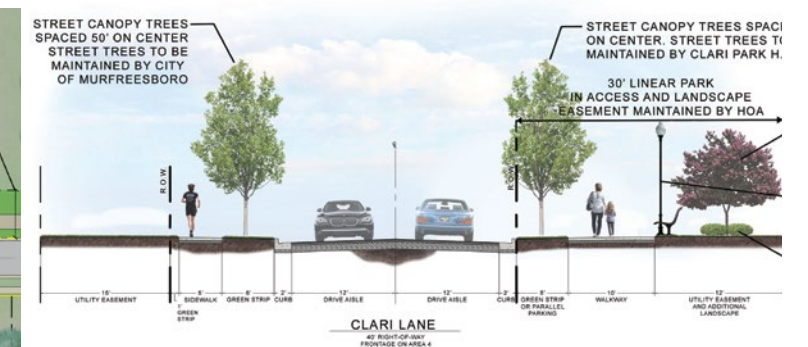


Phase 1

- Honey Locust Lane at MCP intersection improvements with egress lanes / turn lanes as shown on public improvement plan.
- Honey Locust Lane street improvements from Medical Center Parkway to Clari Lane intersection. Landscape ornamental lighting and sidewalk improvements from Medical Center Parkway to Clari Lane intersection.
- Honey Locust Lane and Medical Center Parkway intersection improvements in accordance with gateway streetscape master plan. (Seat wall, pedestrian plaza, and crosswalk)

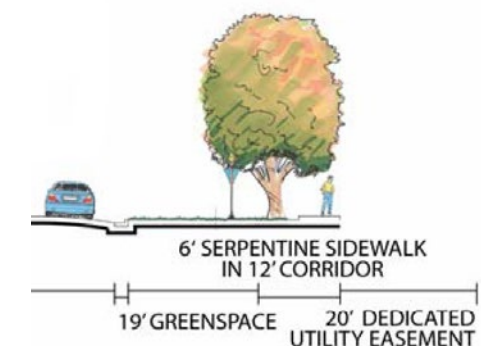


Clari Lane Linear Park
Improvements
See page 27



Clari Lane Street Improvements
See page 21

Gateway landscaping, ornamental lights, and sidewalk improvements.
See page 13 of the Murfreesboro Gateway Streetscape Master Plan



Public pedestrian and bicycle access will be provided at entrances. Sidewalks will be available for public use

Connection of open space with linear parks in Garden Townhome District Phase 1



Linear Park along east side of Clari Lane (see page 28) Phase 1



Grand Lawn and Linear Park at Area 5 (see page 29)



Phase 2 Commercial Lawn (see page 30)

Green space in front of townhome units (See Page 41)

Phase 1

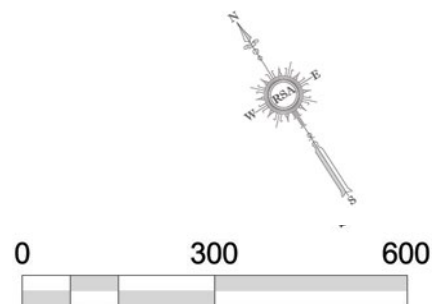


Note: All areas within Clari Park will meet the minimum formal and informal open space requirements associated with each site at the time of development.

Public pedestrian and bicycle access will be provided at entrances. Sidewalks will be available for public use

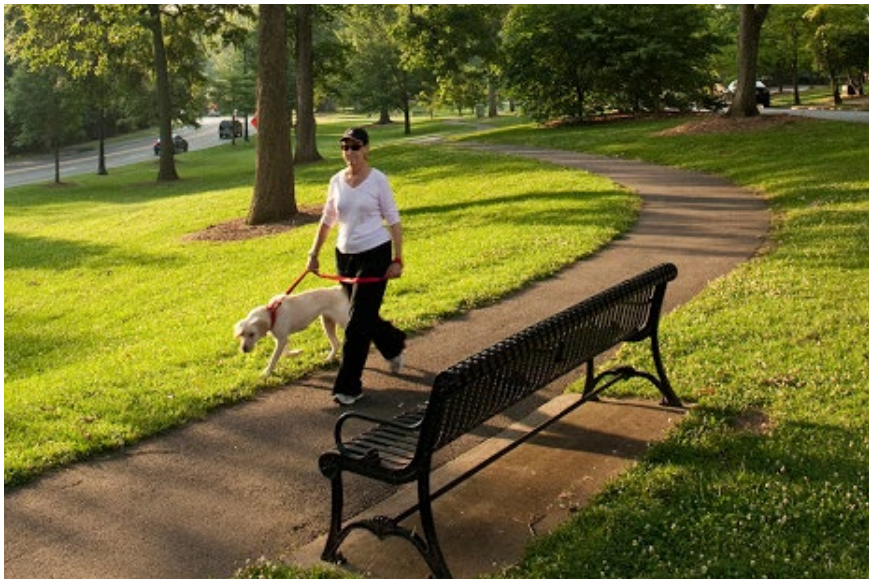
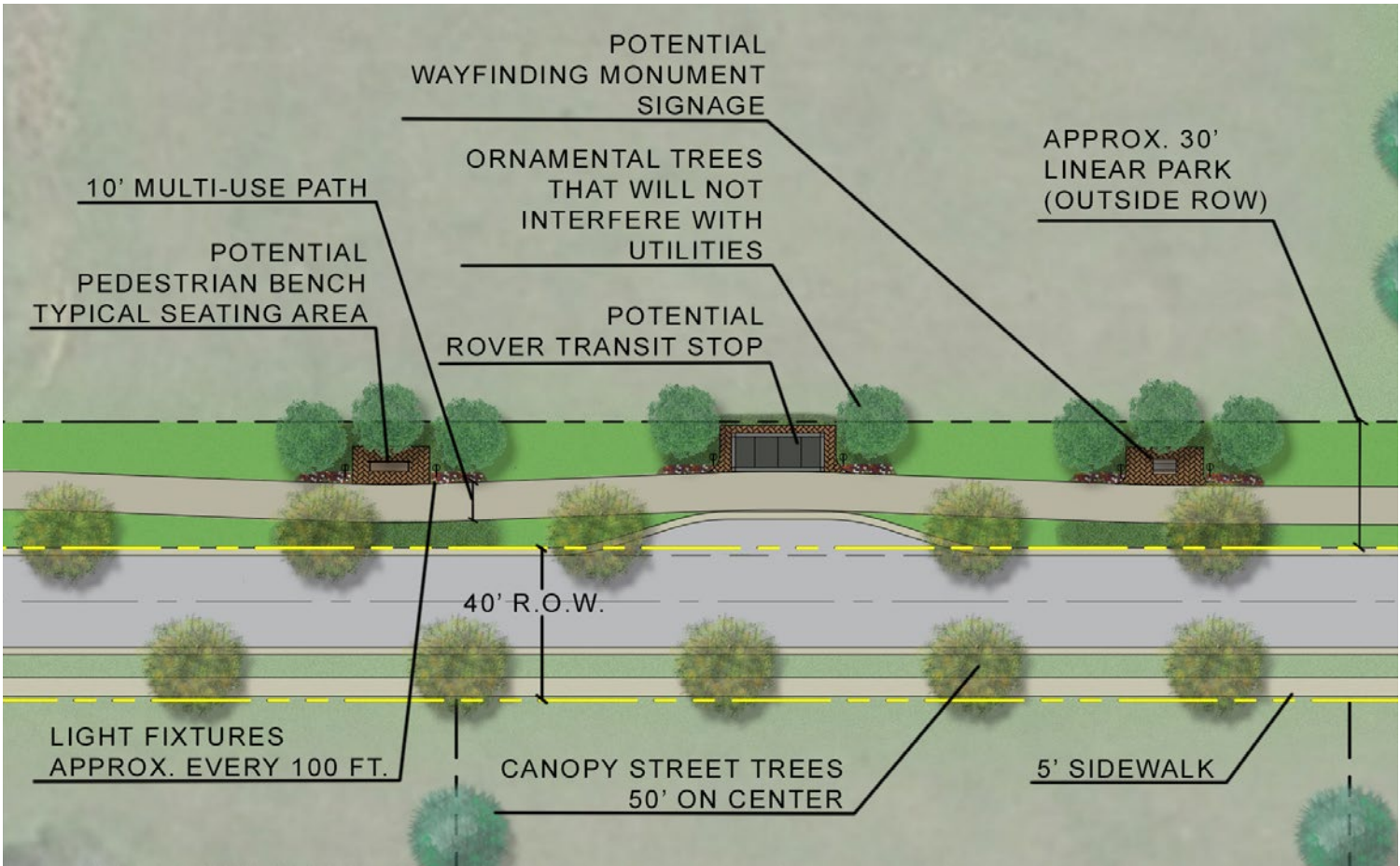
Historic Markers and locations for potential public art along Clari Lane Corridor - Specific design to be determined.

Pedestrian connections to Robert Rose Drive and Commercial areas



Clari Lane Linear Park

Clari Lane will function as the main street of Clari Park by connecting the different land use areas. Through the provision of green space running parallel to the street. Included in this green space will be a 10' wide multi-use path on the east side of the street, ornamental, pedestrian scaled streetlights, pocket parks with benches and site furniture. The landscape will include street canopy trees and ornamental trees. The concept design depicted for the linear park on Clari Lane is to confirm the streetscape elements and amenities that are part of the master plan. Specific layout and detailed design will occur when site plan and street improvement plans are developed.



Connection of Open Space

Open spaces and pedestrian networks will extend from the linear park along Clari Lane to other areas within the project and adjacent properties. This will facilitate pedestrian circulation within the site, to the commercial district along Medical Center Parkway, and the Avenue beyond. The pedestrian walkway between Area 5 and 6 provide a pedestrian and green space connection through the higher density portion of Clari Park. It also functions as part of the pedestrian network between Clari Lane and Robert Rose Drive, which will provide a connection to the Avenue through the project for Henley Station residents.

The connections in Area 2 (the Townhome Garden District) will include the incorporation of existing mature trees, proposed for preservation between Area 1 and Area 2. It will also connection pedestrian pathways to the front greenspace between residential buildings. This will link the front door residential homes to a comfortable pathway that leads to surrounding amenities and places of commerce.









Area 1 (Commercial Highway)

This area is reserved for mixed use related to commercial, and office. It has primary frontage on Gresham Park Drive as well as egress from Medical Center Pkwy. A larger commercial user can be accommodated on this parcel given the site's size and its visibility from the Gresham Park Drive and Medical Center Pkwy intersection and benefits from a large area for dedicated parking spaces. Residential uses are not permitted in area 1.

Area 4 (Commercial Highway)

This commercial development area provides flexibility in space and response to market conditions. The design form for this area could allow for integrated, shared parking, vertical development, and a mixture of commercial and office use. Area 4 has a strong relationship to the central spine of the project along Clari Lane and is well connected to the residential components of Clari Park. Residential uses are not permitted in area 4. This area could be well suited for the development of a hotel, community grocery, corporate office or entertainment type of development.

Commercial Uses Materials Palette (Per Murfreesboro Design Guidelines)

- Primary material
 - Brick (full thickness or thin-set)
 - Cast stone
 - Natural or synthetic stone
- Secondary materials
 - Exterior Insulation Finish System (EIFS)
 - Split-face or ground-face, or polished-face concrete masonry (integrally colored)
 - Architectural metal panels with durable finish and defined profile
 - Composite panels
 - Cementitious siding or panels
 - Wood siding may be used on small scale buildings
 - Fabric Awnings
- Tertiary materials:
 - Metal copings, flashings, and trim
 - Wood or cementitious trim
- Prohibited materials
 - Smooth-face concrete masonry
 - Corrugated metal "R" panels



These photographic examples depict general concepts of building architectural character in Areas 1 and 4. They are not intended to depict final architecture or site design and they do not capture every use or scenario permitted in these areas.

e Clari Park Commercial Highway (CH) - Photographic Examples (Areas 1 & 4)

Architectural standards set forth in the Murfreesboro Design Guidelines and GDO standards referencing general character, heights and setbacks, building mass, scale and proportion, building composition and rhythm, transparency, articulation and expression, materials, color, and roof design will be taken into account with the design of this project.



Area 2 (Attached & Detached Single Family Residential Garden District)

Area 2 is the residential Garden District of Clari Park. It has ingress & egress from Wilkinson Pike and an extension of the local street network off Willow Oak Trail and both access points are permitted to be gated. It provides good opportunity for a mixture of residential housing options that include attached and detached single family. Single family homes in this district will have horizontal property regimes with side by side units sharing a common lot area. Some residential units are designed to front on green spaces and parks with vehicular access through an alley network in the rear. Buildings are limited to 3 story (35') to respect the context of Wilkinson Pike and the single family residential to the north. Attached and detached single family is part of the Clari Park Master Plan to help meet the market demand for homes that integrate into the local commerce and invested infrastructure of The Gateway. This form of homes appeals to residents who want to be part of a walkable community close to the surrounding retail and restaurant amenities. Attention is given to architectural details to relate to a residential and pedestrian scale and buildings are arranged to connect to common open space and linear parkways. Street networks in area 2 have the potential for being public or private and parking is predominantly designed to be at the rear of residential units.

Area 6 (Attached & Detached Single Family Residential Village District)

Area 6 is the Residential Village District with access points at Robert Rose Drive and Willow Oak Trail that are permitted to be gated. It serves as a transition zone from the commercial core to the surrounding land use north and east of Clari Park. Like Area 2 the attached and detached single family in Area 6 helps meet the market demand for homes that integrate into the local commerce and invested infrastructure of The Gateway. Attached and detached single family homes will have horizontal property regimes units sharing a common lot area. Townhomes will be designed with arrangements that have a strong relationship to the street and green space. Streets are designed to have strong landscape elements and pedestrian space and may be public or private. This form of home appeals to residents who want to be part of a walkable community close to the surrounding retail and restaurant amenities and provides homeownership options for young urban professionals and “empty nesters”.

All single family detached and attached residential units in Clari Park are proposed to be established with Horizontal Property Regimes



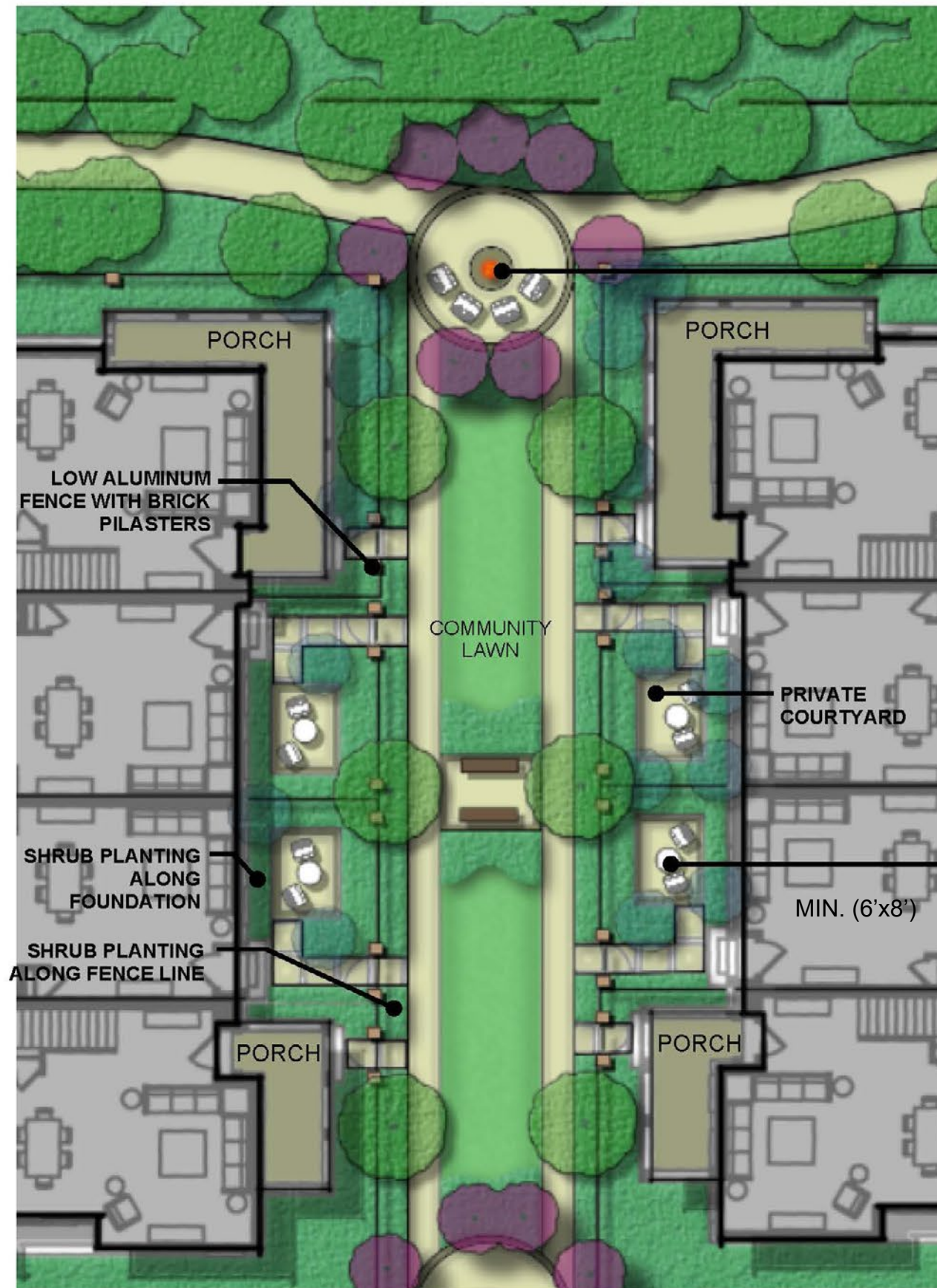
Residential Garden District



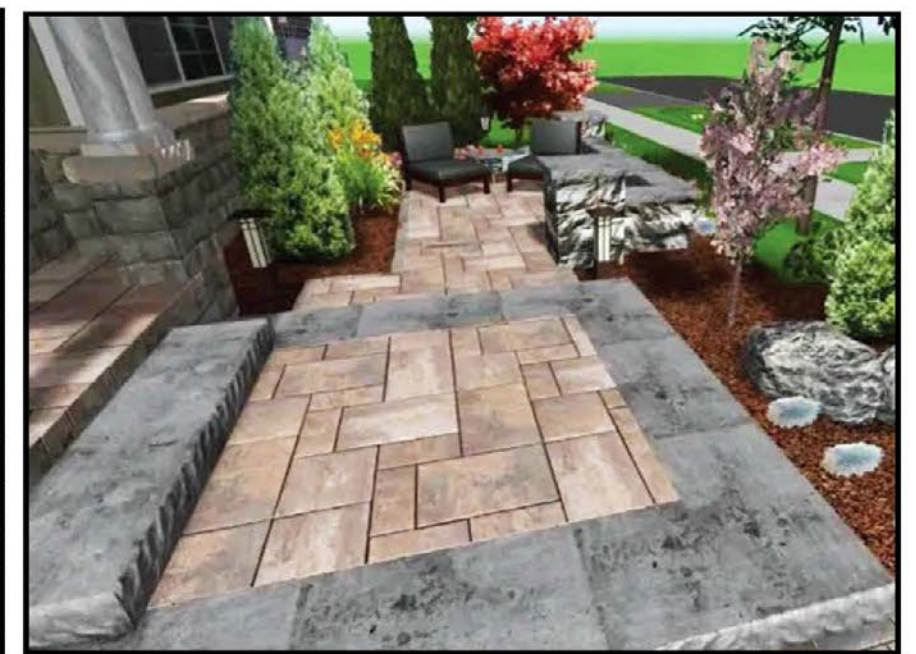
Area 2 - Residential Garden District of Clari Park

The Garden District shall include an amenity program for the residents. Elements of this amenity program shall include:

- Exterior resort pool with colored concrete or paver deck area designed with open air and shaded seating areas;
- A pool cabana with shaded seating areas and restrooms; and
- Exterior gathering areas that incorporate fire pits, grills and outdoor games.



COMMUNITY FIRE-PIT / GATHERING SPACES

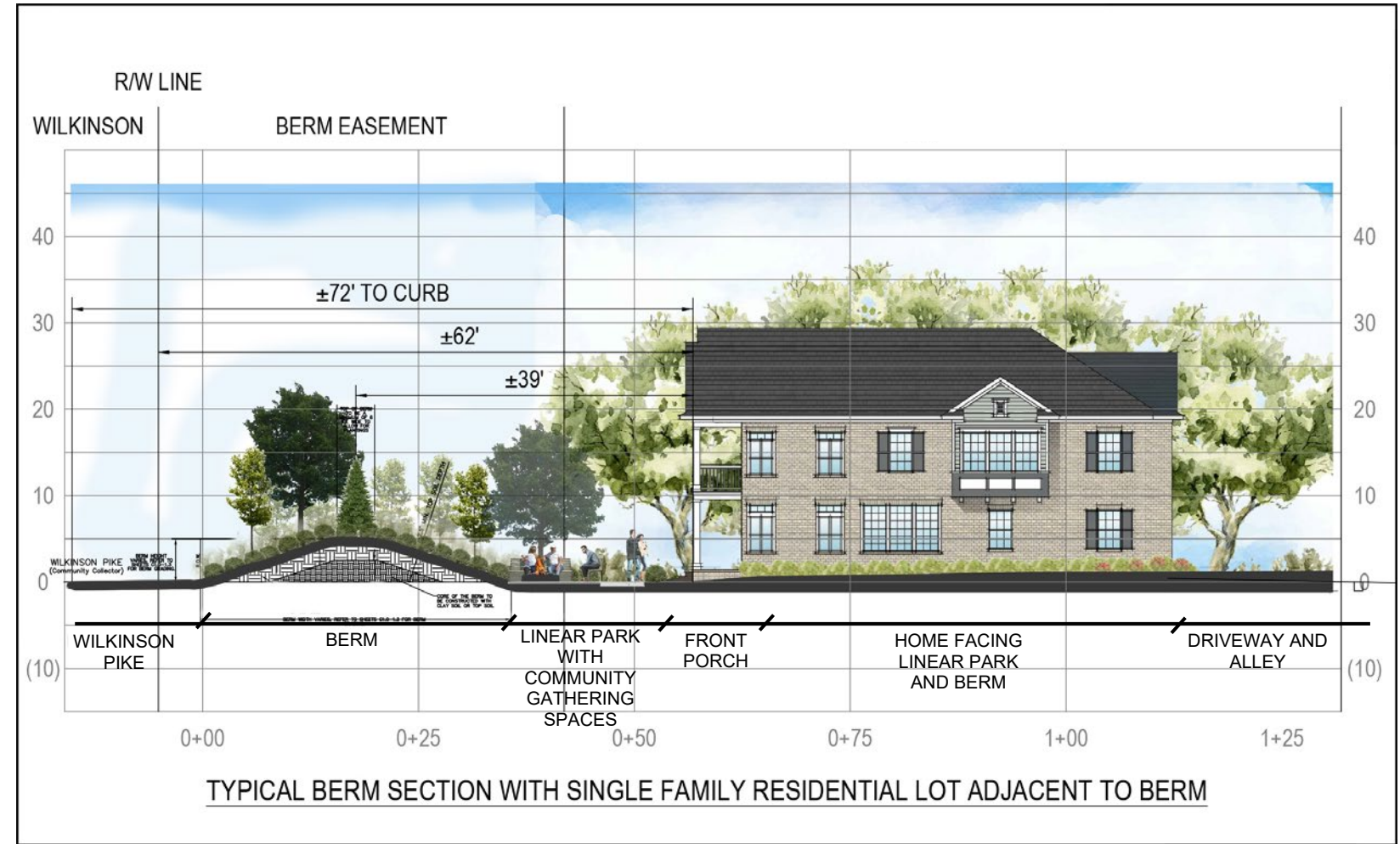


PRIVATE FENCED FRONT YARD WITH ON-GRADE PATIO

Landscape & walkway design to be finalized during Site Plan Review

Note: All on-grade front patios shall be 8' wide and 6' deep and have a decorative fence

(Area 2 Residential Garden District)





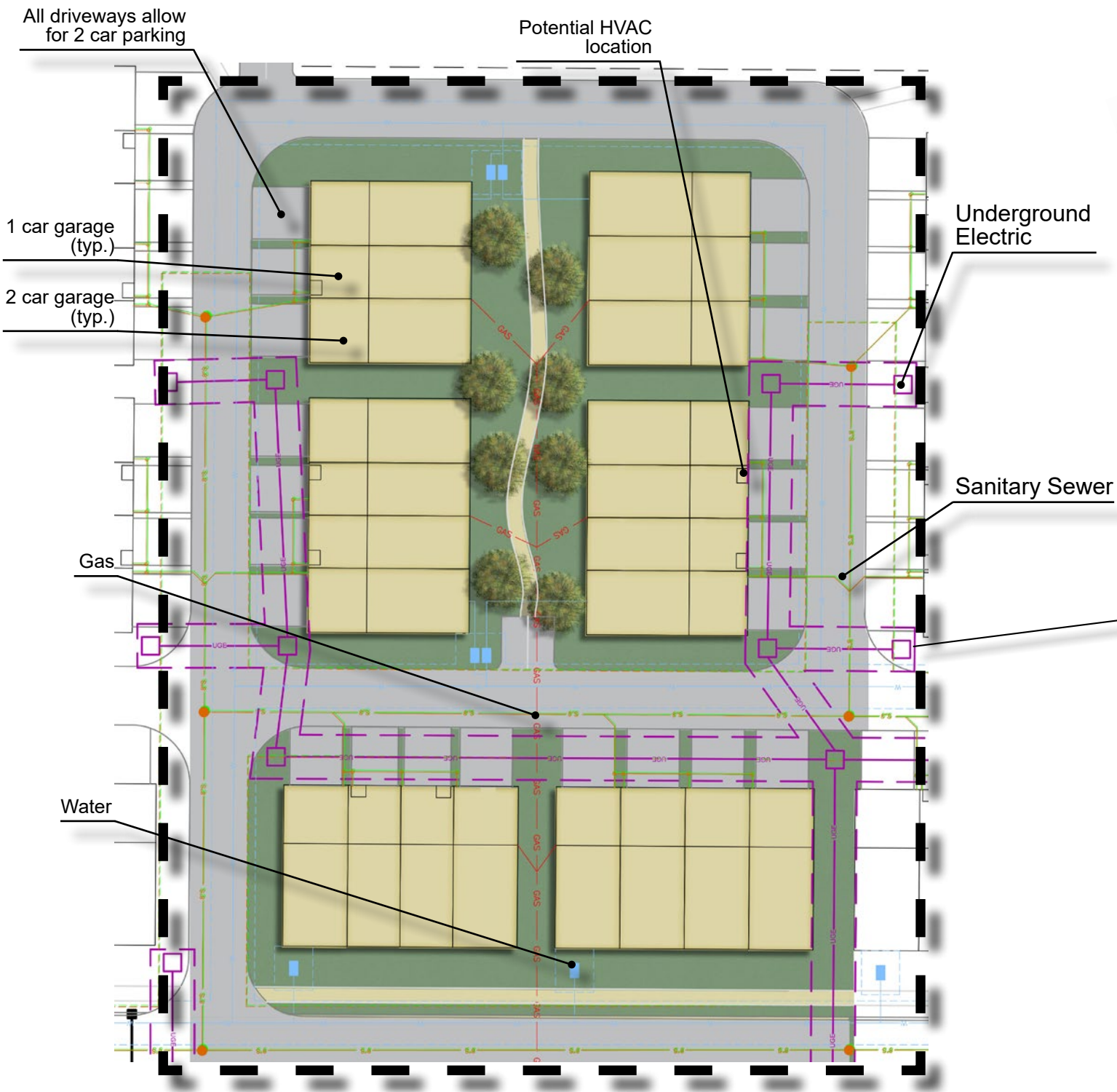
Seating Areas in Common Green



Pedestrian Trail



Example Utility Design for Single Family Attached Townhomes in Area 2





Note: All single family detached units will have 2 car garages



Garage Mix Parameters: 3 unit buildings shall have no more than 1 single car garage and 4 & 5 unit buildings shall have no more than 2 single car garages. Actual building mix may vary

<i>Legend</i>	
■ 2 CAR GARAGE SINGLE FAMILY ATTACHED	99 SPACES
■ 1 CAR GARAGE SINGLE FAMILY ATTACHED	84 SPACES
■ GUEST PARKING	10 SPACES
● WRAP AROUND PORCH	
TOTAL SPACES: 193	

Note: All single family detached units will have 2 car garages

Single Family Attached and Detached Specifications:

Building Construction and Design

- Single family homes shall be a minimum of 1,800 square feet (heated/cooled) and have a minimum of three bedrooms. (Based on heated space and excluding garage)
- Townhomes dwelling units shall be a minimum of 1,400 square feet (heated/cooled) and have a minimum of two bedrooms. (Based on heated space and excluding garage)
- Buildings shall avoid long uninterrupted facades. Variations in the roof line including dormers and gables or wall plane shall be used to break up the mass of the building.
- Exterior details such as shutters, wall lanterns, louvers, dormers as appropriate to the architectural style shall be incorporated to add interest and richness to the front facades.
- Foundation planting landscape materials shall be provided along all four elevations as required by GDO and Murfreesboro design guidelines and front lawn areas shall be sodded per city design guidelines and GPO requirements
- Garages shall not be used for the storage of boats, recreational vehicles, trailers or equipment.
- All dwelling units with attached garages shall locate access to the garage at the rear or side of the building with a maximum percent of 1-car units in Area 2 of 33%.
- Driveways for single family homes shall be a minimum of 16' wide to accommodate two cars
- Driveways for townhome dwelling units shall be a minimum of 16' wide to accommodate two cars and 8' wide to accommodate one car. Driveways shall be a minimum depth of 20 from access drive
- The incorporation of front patios, porches, bay windows and stoops shall be encouraged and shall be permitted to extend into the front yard and side yard setback.
- The finished floor of dwellings shall be designed such that the elevation is a minimum of 18" above the adjacent exterior grade at the front of the dwelling.
- Mechanical systems and above-grade utility elements shall be located in the rear or side of dwellings whenever possible with the exception of electrical and telecommunications equipment that will be placed in designated easements.
- Any on-grade front patios must be 8' long by 6' deep with decorative fencing
- Detached single family homes shall have a minimum 2 car garage
- Attached single family homes shall have a minimum of 1 car garage
- There shall be a maximum of 38% one car garage units for single family attached units in areas 2 and 6 at Clari Park

Exterior Building Materials

- The following exterior materials shall be permitted on the exterior façade:
 1. Brick veneer – natural color or painted
 2. Cementitious and fiber cement composition siding (i.e. Hardie, Certainteed)
 3. Stone – natural or manufactured stacked stone
 4. Wood siding in limited locations or trim elements may be used if appropriate in context to the architectural style.
 5. Windows may be constructed of pre-finished aluminum, vinyl, or vinyl clad wood. Window mullions shall be provided appropriate to the architectural style.
 6. The use exposed concrete block, split-faced block, vinyl siding or corrugated metal siding shall be prohibited. Glass block is prohibited on the front elevation of dwellings. (Note: Vinyl may be used for exterior soffits and miscellaneous trim).
- The following exterior materials shall be permitted as roofing materials:
 1. Dimensional Composition Roof Shingles
 2. Metal roof in limited accent applications such as porches and bay windows if appropriate in context to the architectural style.
 3. Garage doors shall be carriage style or decorative
- All single family attached and detached units in Areas 2 and 6 will be established with a horizontal property regime

f Clari Park Architectural Examples - Townhomes Single Family Attached (Areas 2 & 6)



Architectural Examples - Townhomes Single Family Attached (Areas 2 & 6) Clari Park f



f Clari Park Architectural Examples - Townhomes Single Family Attached (Areas 2 & 6)

Example Side and Rear Elevations







Example Side and Rear Elevations



Cementitious Siding

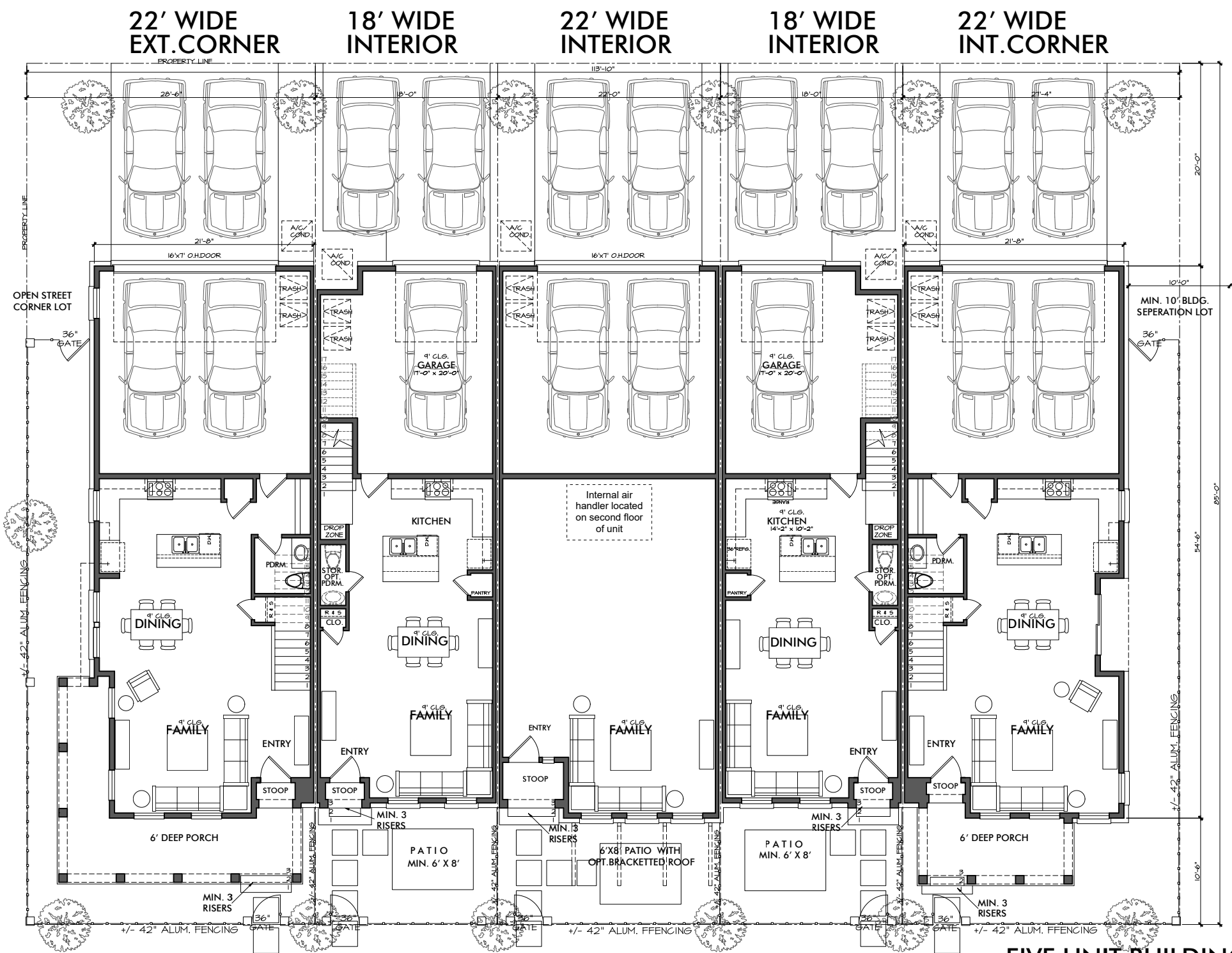
Brick



Cementitious Siding

Decorative Garage Door

f Clari Park Single Family Attached Typical 5 Lot Building - Parking Layout



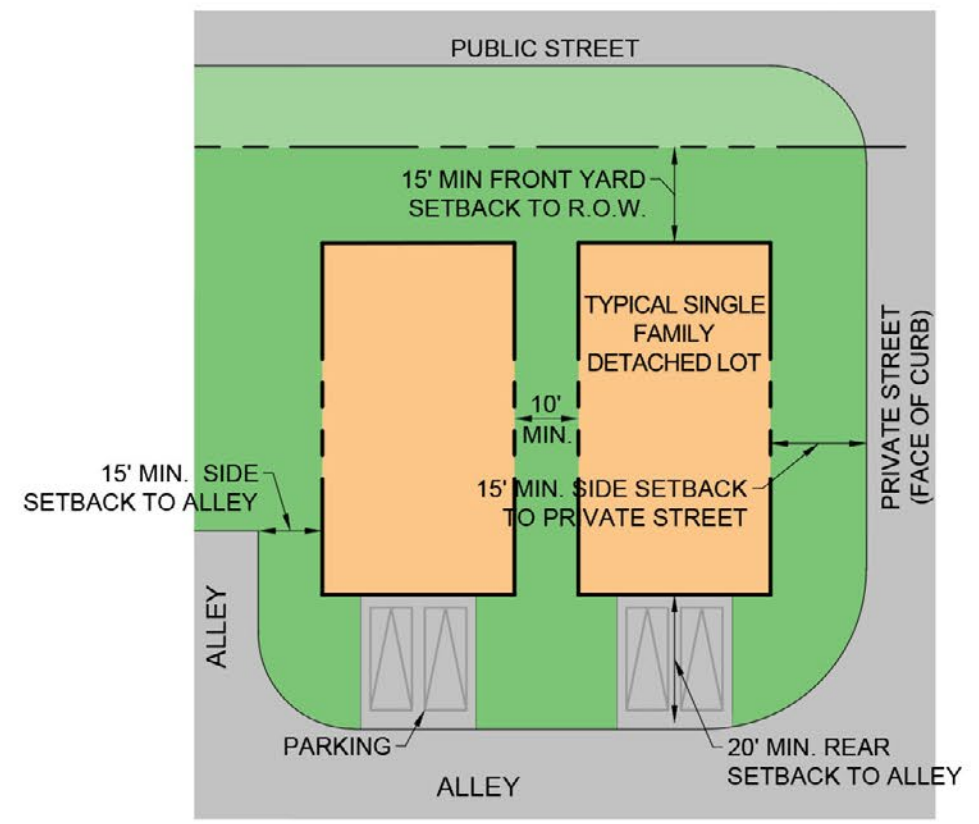
MURFREESBORO, TENNESSEE

FIVE UNIT BUILDING FIRST FLOOR

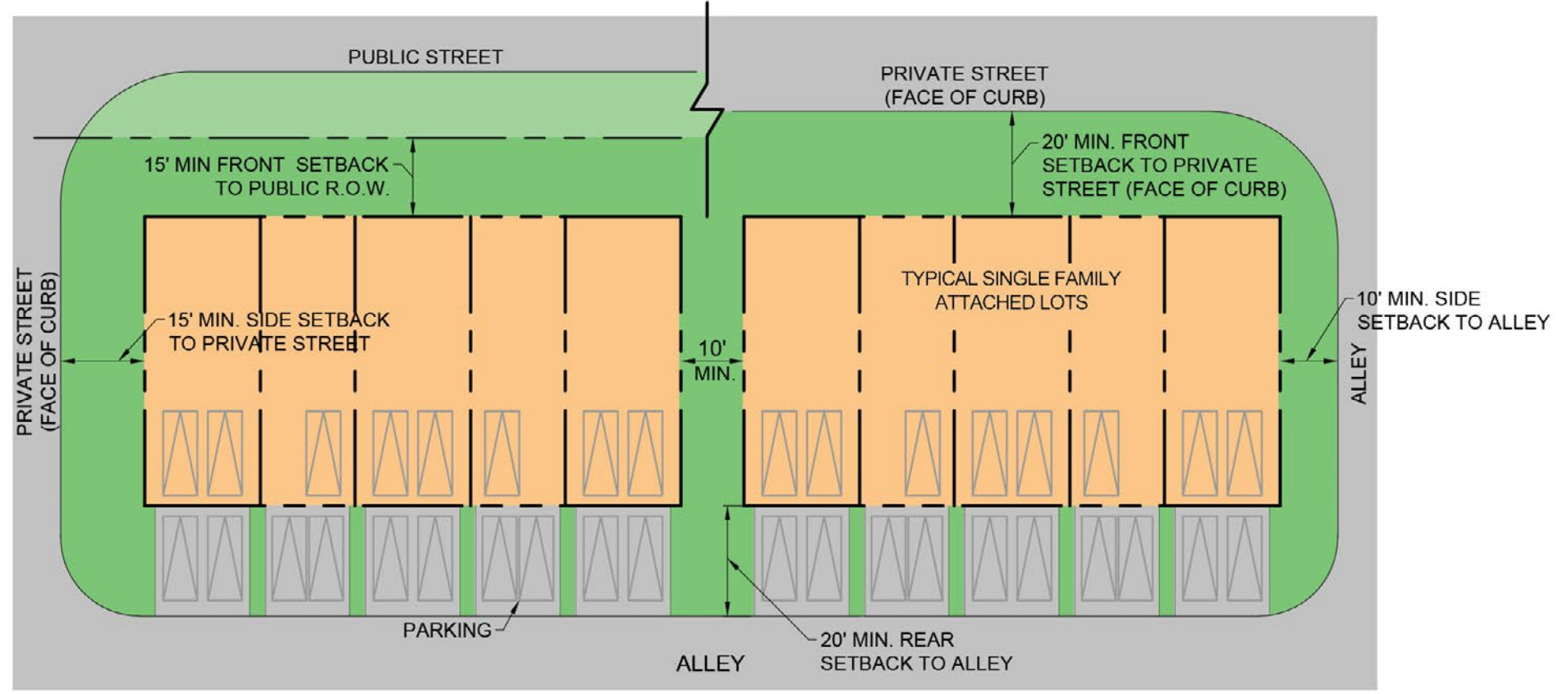
SCALE: 0'-1" = 10'-0"

David Weekley Homes

S.F. Attached / S.F. Detached Areas 2 & 6
(Front, Side, and Rear Setbacks)



Typical Single Family Detached Homes



Typical Single Family Attached Homes

THIS PAGE HAS BEEN
INTENTIONALLY LEFT BLANK

Area 5 (Multi Family Residential - Mixed Use)

Area 5 is at the center of the Clari Park Master Plan and is appropriate for a high density use that takes full advantage of the surrounding Gateway infrastructure and promotes a highly valued development. Standards for architectural height and mass allow for large signature buildings. Buildings in Area 5 are arranged to create centralized open space with social programming, recreational opportunities and leisure amenities. These spaces are designed to become the heart of social activity for the residential multi family component of Clari Park. Area 5 has good opportunities to consider shared use parking for a mixture of uses and adjoining areas. Area 5 is proposed as predominantly multi-family use with a vertically integrated mixture of limited office and service use.

Area 7 (Office or Multi Family Residential)

Area 7 is located at the south west portion of Clari Park and is adjacent to existing commercial and high density residential land use. This mixed use development area provides flexibility in space and response to market conditions for office or high density residential with commercial or office use. Area 7 has a strong relationship to Robert Rose Drive and Clari Lane. Its location provides opportunity for higher densities and taller buildings. Multi family residential is permitted, which would include a mix of office/commercial uses, and this area could be a strong extension of the proposed high density residential proposed for Area 5.



Area 5 Enlargement



Stand-alone Garages

Parking lots with more than 200 spaces will be separated by 20' landscape strips per GDO and design guidelines

This conceptual layout and photographic examples for the potential multi-family development for Area 5 also apply to the potential multi-family for Area 7 as it relates to mixed use, multi-family opportunities.

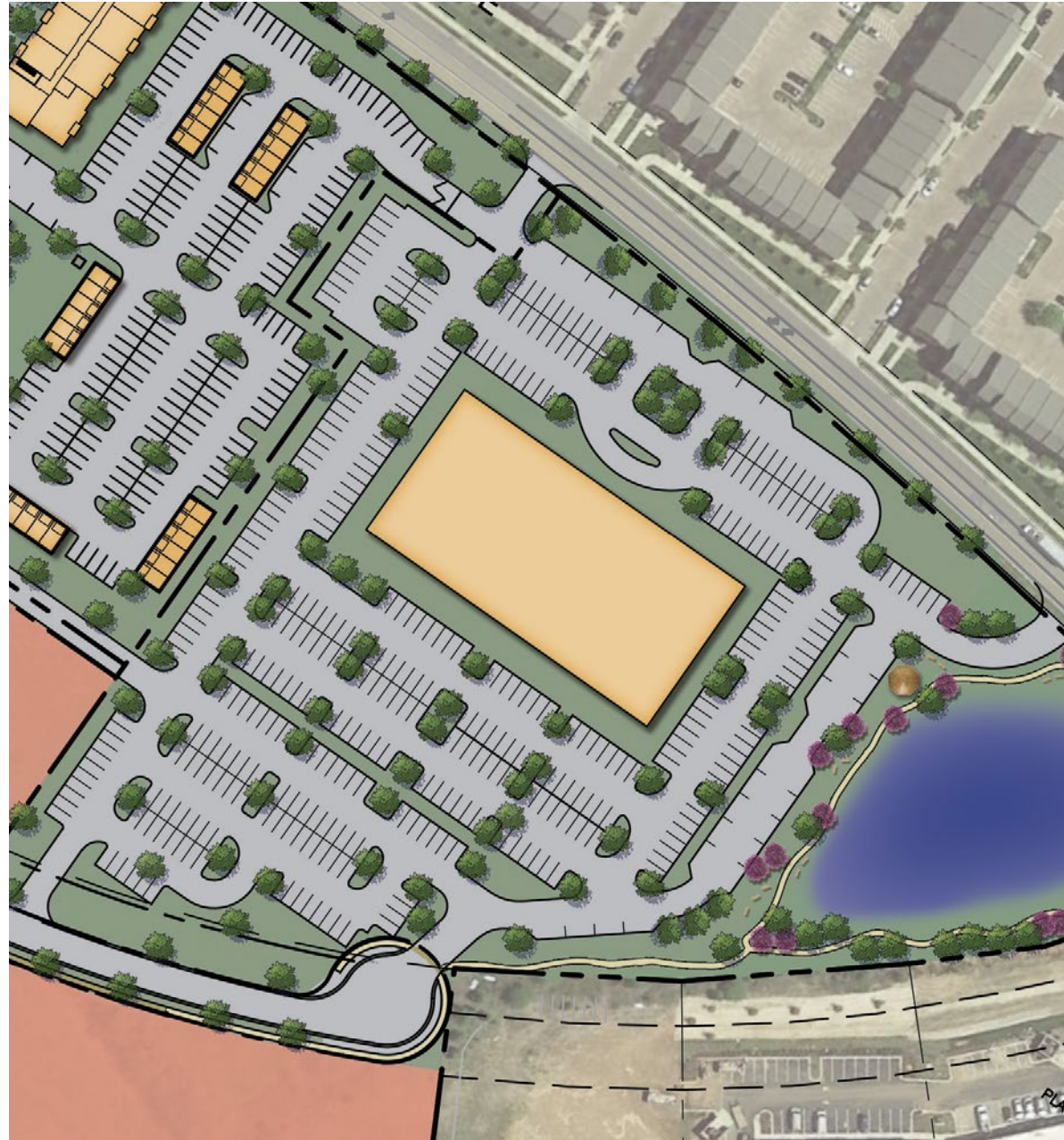
Minimum of 4,000 S.F. of office and service uses on ground floor of multi-family along Clari Lane for Area 5 Multi Family

See Grand Lawn Concepts

Gated Entry

ROBERT ROSE DRIVE
(PUBLIC R/W VARIES)

Pool & Amenities Area



Option 1: Office Layout



Option 2: Multi Family Residential

Minimum 2,500 S.F. for office space for Multi-Family Option in Area 7

Pool and Amenities Area

Parking lots more than 200 spaces shall be separated by a 20' landscape strip per GDO and design guidelines

*Note: Office shall be the promoted use for Area 7, after 3 years from the final approval of the Clari Park planned unit development / master plan if no user / developer has been approved for this area, then multi family residential shall be a permitted use for Area 7. If use is Multiple-Family, construction of site work and building in Area 7 shall not commence until three years from approval of the Clari Park Master Plan (master utilities, master stormwater system and mass grading are exempt from construction start provision). Permitting shall be permitted to proceed prior to three years from the Clari Park Master Plan approval).



*Note: Commercial uses material palette referenced on page 29 and 52 should be applied to office use.



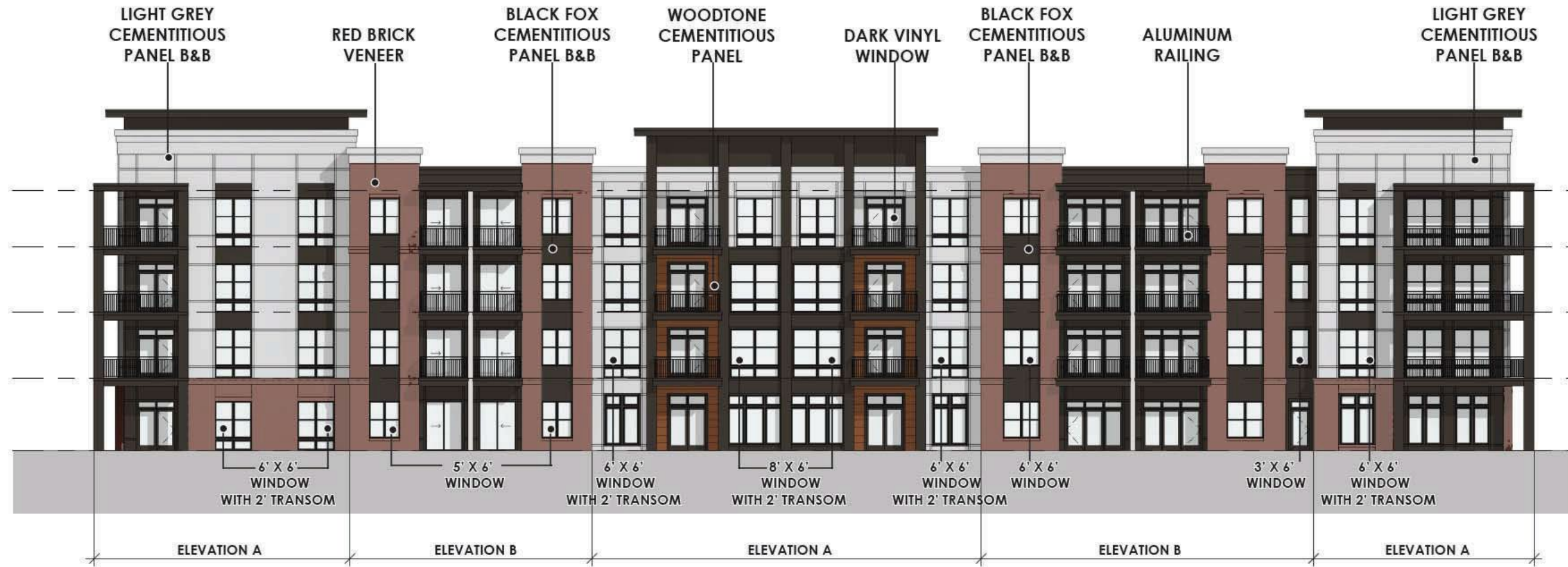
Multi-Family Attached Specifications:

Building Construction and Design

- Buildings shall avoid long uninterrupted facades. Variations in the roof line or wall plane shall be used to break up the mass of the building.
- Detached garages shall be permitted and shall count toward meeting the required parking per the Zoning Code. The architecture of the detached garages shall reflect the architectural style of the primary structure.
- The incorporation of exterior balconies shall be encouraged. Balcony railings shall be aluminum, metal or stainless steel cable-stayed construction.
- Metal and canvas awnings shall be permitted to extend in to the front and side building setback.
- Foundation planting landscape materials shall be required on all four sides and all lawn areas shall be sodded.
- Mechanical systems and above-grade utility elements shall be located on the rooftop or in the rear or side of dwellings whenever possible with the exception of electrical and telecommunications equipment that will be placed in designated easements.
- Roof top mechanical equipment shall be screened by parapet walls.

Exterior Building Materials

- The following exterior materials shall be permitted on the exterior façade:
 1. Brick – natural color or painted
 2. Cementitious composition siding
 3. Stone – natural or manufactured stacked stone
 4. Wood siding in limited locations or trim elements may be used if appropriate in context to the architectural style.
 5. The use exposed concrete block, split-faced block, vinyl siding or corrugated metal siding shall be prohibited. (Note: Vinyl may be used for exterior soffits and miscellaneous trim).
- The following exterior materials shall be permitted as roofing materials:
 1. TPO single-ply roofing membrane
 2. Dimensional composition roof shingles
 3. Metal roof in limited accent applications such as porches and bay windows if appropriate in context to the architectural style.



Multi-Family Attached Specifications:

It is recognized that new materials and new uses for materials will continue to be developed. Materials not specifically approved herein may be considered for use on buildings if samples and supporting information are provided to the Planning Staff and the Planning Commission for consideration

Architectural standards set forth in the Murfreesboro Design Guidelines and GDO requirements referencing general character, heights and setbacks, building mass, scale and proportion, building composition and rhythm, transparency, articulation and expression, materials, color, and roof design will be taken into account and the project will meet GDO and Murfreesboro design guidelines.





Minimum of 4,000 square feet of office space on ground floor of apartments for multi-family in Area 5 will integrate with residential uses to create a mix of uses along Clari Lane. Minimum of 2,500 square feet of office space on ground floor of apartments for multi-family option in Area 7.

Photographic Amenity Examples - Multi Family (Area 5 & 7) Clari Park g



These photographic examples depict general concepts of building architectural character in Area 5 and the multi-family option for Area 7. They are not intended to depict final architecture or site design and they do not capture every use or scenario permitted in these areas.

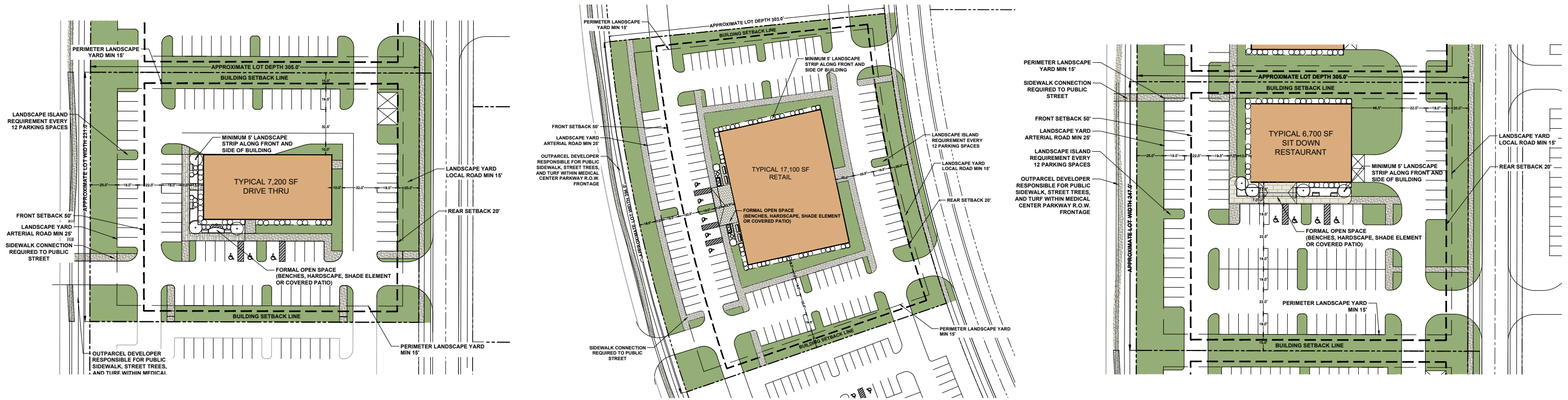
Each phase of the Multi-Family For-Rent Residential at Clari Park (Area 5 and multi-family option for Area 7) shall include a comprehensive amenity program for the residents. Elements of the amenity program for each phase shall include:

- Exterior resort pool with a large colored concrete or paver deck area designed with open air and shaded seating areas;
- Exterior gathering areas that incorporate fire pits, grills, and outdoor games;
- A dog park with a water and wash down station;
- Over 6,500 square feet of interior amenity areas in Area 5 and 5,000 S.F. of interior amenity areas in Area 7 will be provided. They will include a resident lounge that connects directly to the pool area, fitness facility with full complement of aerobic and strength equipment, a spin and yoga studio, a dog care room, conference rooms, and work spaces.



Commercial General Description - (CH Commercial Area 3) Clari Park h

- Commercial parcels in Area 3 range in size from approximately 1 to 3 acres and parcel boundaries are subject to change
- Commercial parcels in Area 3 will relate to existing commercial land patterns established along Medical Center Parkway.
- Commercial establishments in Area 3 will connect to the proposed residential and mixed use components of Clari Park and encourage a local, walkable lifestyle to occur in the gateway.
- Proposed residential densities that are part of the Clari Park plan, contribute to the commercial value and viability of Area 3.



- These typical outparcel layouts depict possible scenarios to illustrate how commercial developments may fit into Clari Park.
- Layouts are conceptual in nature. Final site design for each specific parcel will be provided at the time of actual development.
- Street improvements on Medical Center Parkway will follow the Gateway Streetscape Master Plan and City of Murfreesboro Design Guidelines including a 12' landscape area with a minimum 6' wide serpentine sidewalk

Clari Park Commercial Photographic Examples (Area 3 & Area 4)



Architectural standards set forth in the Murfreesboro Design Guidelines and GDO requirements referencing general character, heights and setbacks, building mass, scale and proportion, building composition and rhythm, transparency, articulation and expression, materials, color, and roof design will be taken into account with the design of this project.

Commercial Uses Materials Palette (Per Murfreesboro Design Guidelines)

- Primary material
 - Brick (full thickness or thin-set)
 - Cast stone
 - Natural or synthetic stone
- Secondary materials
 - Exterior Insulation Finish System (EIFS)
 - Split-face or ground-face, or polished-face concrete masonry (integrally colored)
 - Architectural metal panels with durable finish and defined profile
 - Composite panels
 - Cementitious siding or panels
 - Wood siding may be used on small scale buildings
 - Fabric Awnings
- Tertiary materials:
 - Metal copings, flashings, and trim
 - Wood or cementitious trim
- Prohibited materials
 - Smooth-face concrete masonry
 - Corrugated metal "R" panels

TRAFFIC IMPACT STUDY

for

Clari Park Development

City of Murfreesboro, Tennessee

March 25, 2020

Updated March 29, 2021

Updated April 28, 2021

Prepared for:

**Hines
5 Ravinia Drive NE
Atlanta, Georgia 30346**



Prepared by:



**RAGAN-SMITH ASSOCIATES, INC.
315 Woodland Street, P.O. Box 60070
Nashville, Tennessee 37206-0070
(615) 244-8591**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
EXECUTIVE SUMMARY	- ES-1 -
I. <u>INTRODUCTION</u>	- 1 -
II. <u>PROJECT DESCRIPTION</u>	- 2 -
A. <u>Proposed Development</u>	- 2 -
B. <u>Site Access</u>	- 2 -
C. <u>Development Buildout Timeline</u>	- 3 -
III. <u>EXISTING CONDITIONS</u>	- 8 -
A. <u>Transportation System</u>	- 8 -
B. <u>Traffic Volumes</u>	- 8 -
IV. <u>FORECASTED BACKGROUND TRAFFIC</u>	- 10 -
A. <u>Introduction</u>	- 10 -
B. <u>Specific Development Growth</u>	- 10 -
C. <u>Annual Growth</u>	- 10 -
D. <u>Background Traffic</u>	- 10 -
V. <u>PROPOSED SITE TRAFFIC</u>	- 12 -
A. <u>Trip Generation</u>	- 12 -
B. <u>Site Trip Distribution</u>	- 14 -
C. <u>Willowoak Trail Extension</u>	- 14 -
VI. <u>TRANSPORTATION ANALYSIS</u>	- 18 -
A. <u>Intersection Capacity Analysis</u>	- 18 -
B. <u>Queue Length Review</u>	- 24 -
VII. <u>CONCLUSIONS AND RECOMMENDATIONS</u>	- 26 -
A. <u>Medical Center Parkway at Greshampark Drive</u>	- 26 -
B. <u>Medical Center Parkway at Willowoak Trail</u>	- 26 -
C. <u>Medical Center Parkway at Honeylocust Lane</u>	- 26 -
D. <u>Medical Center Parkway at Maplegrove Drive</u>	- 27 -
E. <u>Medical Center Parkway at Robert Rose Drive</u>	- 27 -
F. <u>Wilkinson Pike at Greshampark Drive</u>	- 28 -
G. <u>Wilkinson Pike at West Park Drive / Clari Park Access #2</u>	- 28 -
H. <u>Wilkinson Pike at Willowoak Trail</u>	- 28 -
I. <u>Willowoak Trail at Robert Rose Drive</u>	- 28 -
J. <u>Robert Rose Drive at Clari Park Access #7</u>	- 29 -
K. <u>Robert Rose Drive at Marylebone Street / Clari Park Access #8</u>	- 29 -
L. <u>Robert Rose Drive at Sculling Street / Clari Park Access #9</u>	- 29 -
M. <u>Greshampark Drive at Clari Park Access #1</u>	- 29 -
N. <u>Willowoak Trail at Clari Park Access #3 and #4</u>	- 29 -
O. <u>Honeylocust Lane at Clari Park Access #5 and #6</u>	- 30 -
P. <u>Willowoak Trail at Clari Park Access #10</u>	- 30 -

APPENDIX

LIST OF FIGURES

<u>FIGURE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1	LOCATION MAP	4
2A	CLARI PARK MASTER PLAN.....	5
2B	CLARI PARK MASTER PLAN.....	6
2C	CLARI PARK ACCESS LOCATIONS	7
3	2020 EXISTING TRAFFIC VOLUMES	9
4	2027 BACKGROUND TRAFFIC VOLUMES.....	11
5	TRIP DISTRIBUTION	15
6	SITE TRAFFIC VOLUMES.....	16
7	2027 TOTAL TRAFFIC VOLUMES	17

LIST OF TABLES

<u>TABLE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1	ACCESS LOCATION SUMMARY.....	2
2	EXISTING ROADWAY CHARACTERISTICS	8
3	CLARI PARK TRIP GENERATION	12
4	PREVIOUS MASTER PLAN TRIP GENERATION	13
5	TRIP GENERATION COMPARISON.....	13
6	LEVEL OF SERVICE DESCRIPTIONS FOR SIGNALIZED INTERSECTIONS.....	18
7	LEVEL OF SERVICE DESCRIPTIONS FOR UNSIGNALIZED INTERSECTIONS.....	18
8	INTERSECTION CAPACITY ANALYSIS RESULTS – A.M. PEAK HOUR	19
9	INTERSECTION CAPACITY ANALYSIS RESULTS – P.M. PEAK HOUR	21
10	QUEUE ANALYSIS RESULTS.....	24

EXECUTIVE SUMMARY

INTRODUCTION

The Clari Park development site is located to the east of Medical Center Parkway between Greshampark Drive and Robert Rose Drive in the City of Murfreesboro, Tennessee. The site will consist of a mix of residential, office, retail, hotel, and other commercial uses. The study area of this report is bound by Medical Center Parkway, Greshampark Drive, Wilkinson Pike, and Robert Rose Drive.

SITE TRAFFIC

CLARI PARK								
TRIP GENERATION SUMMARY								
Land Use	Total Units	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Single Family Detached Housing	36 homes	406	7	23	30	24	14	38
Townhomes (Low-Rise)	186 units	1,622	23	78	101	75	44	119
Apartments (Mid-Rise)	280 units	1,524	24	70	94	73	46	119
Hotel	240 rooms	2,283	68	47	115	79	75	154
Bowling Alley	49,000 sf	-	38	2	40	35	19	54
General Office	100,000 GSF	1,061	103	17	120	18	96	114
Medical Office	15,000 sf	489	32	9	41	15	38	53
Convenience Market w/Gas Pumps	4,700 GSF (Pass-By Trip %)	2,934	95	96	191	116	116	232
		60%	63%	63%	63%	66%	66%	66%
Furniture Store	10,000 GSF	98	2	1	3	3	3	6
Drive-in Bank	14,000 sf	1,277	77	56	133	143	143	286
Fast Casual Restaurant	11,667 GSF	3,677	14	10	24	91	74	165
Quality Restaurant	11,667 GSF	978	5	4	9	54	37	91
High-Turnover (Sit-Down) Restaurant	11,666 GSF	1,309	64	52	116	71	43	114
Unadjusted Total Trip Generation		17,658	552	465	1,017	797	748	1,545
Internal Trip Reduction %		15%	15%			20%		
Internal Trips		2,649	83	70	153	159	150	309
Adjusted Total Trip Generation		15,009	469	395	864	638	598	1,236
Pass-By Trips (from Convenience Store) (Trip Generation x Pass-By Trip % x Internal Trip Reduction %)		1,496	51	51	102	61	61	122
Adjusted Total Primary Trip Generation		13,513	418	344	762	577	537	1,114
Source: ITE Trip Generation Manual, 10 th Edition								

CONCLUSIONS AND RECOMMENDATIONS

Medical Center Parkway at Greshampark Drive

- The extension of Willowoak Trail as part of Clari Park provides an additional connection between Medical Center Parkway and Wilkinson Pike that will allow traffic flow at this intersection to continue to be characterized by level of service D during the a.m. and p.m. peak hours. No improvements are recommended at the intersection due to the improvement that is provided by the construction of the Willowoak Trail extension.

Medical Center Parkway at Willowoak Trail

- The new east approach of Willowoak Trail to Medical Center Parkway should include one westbound right turn lane, one westbound through lane, two westbound left turn lanes, and two eastbound lanes to receive the double left turn lanes from Medical Center Parkway. A median should be included so that the through lanes on Willowoak Trail are aligned on each side of the intersection. The minimum length of the westbound left and right turn lanes should be 150 feet with minimum taper lengths of 150 feet.
- The existing pavement provided for the southbound left turn lanes on Medical Center Parkway is appropriate to accommodate the left turn movement needs. The pavement markings should be modified to provide southbound double left turn lanes on Medical Center Parkway with 225 feet of storage and a taper length of 175 feet.
- The existing pavement markings on the west approach of Willowoak Trail should be modified to remove the channelization between the left turn lanes and right turn lane and provide a through lane to the extension of Willowoak Trail.
- A continuous northbound right turn lane should be constructed on Medical Center Parkway along the frontage of Clari Park. To be consistent with similar improvements on Medical Center Parkway, the continuous right turn lane should extend approximately 950 feet and ending prior to the next upstream signalized intersection at Honeylocust Lane.
- Traffic signal modifications will be required as part of the new approach of Willowoak Trail. The signal modifications should include the new pole and mast arm for the westbound approach signal heads and other components required to ensure a fully operational traffic signal. New timings for the intersection will also be required with the traffic signal modification plan.

Medical Center Parkway at Honeylocust Lane

- The new east approach of Honeylocust Lane to Medical Center Parkway should include one westbound right turn lane, one westbound through lane, two westbound left turn lanes, and two eastbound lanes to receive the left turn lanes lane from Medical Center Parkway. A median should be included so that the through lanes on Honeylocust Lane are appropriately aligned on each side of the intersection. The minimum length of the westbound left and right turn lanes should be 150 feet of storage with minimum taper lengths of 150 feet.
- The existing pavement provided for the southbound left turn lanes on Medical Center Parkway is appropriate to accommodate the left turn movement needs. The pavement markings should be

modified to provide southbound double left turn lanes on Medical Center Parkway with 225 feet of storage and a taper length of 175 feet.

- The existing pavement markings on the west approach of Honeylocust Lane should be modified to remove the channelization between the left turn lanes and right turn lane and provide a through lane to the extension of Honeylocust Lane.
- A continuous northbound right turn lane should be constructed on Medical Center Parkway along the frontage of Clari Park. To be consistent with similar improvements on Medical Center Parkway, the continuous right turn lane should extend approximately 890 feet and tie to the existing continuous right turn lane that ends at the Redstone Federal Credit Union access.
- Traffic signal modifications will be required as part of the new approach of Honeylocust Lane. The signal modifications should include the new pole and mast arm for the westbound approach signal heads and other components required to ensure a fully operational traffic signal. New timings for the intersection will also be required with the traffic signal modification plan.
- With the connection provided by the extension of Willowoak Trail to Robert Rose Drive and the expected levels of service along Willowoak Trail and Robert Rose Drive, the extension of Honeylocust Lane is not required to connect through Clari Park to Robert Rose Drive. Appropriate local network connectivity is provided by Willowoak Trail and Robert Rose Drive.

Medical Center Parkway at Maplegrove Drive

- No improvements or traffic control modifications are recommended at the intersection of Medical Center Parkway and Maplegrove Drive.

Medical Center Parkway at Robert Rose Drive

- No improvements or traffic control modifications are recommended at the intersection of Medical Center Parkway and Robert Rose Drive.

Wilkinson Pike at Greshampark Drive

- The City of Murfreesboro's planned reconstruction of Wilkinson Pike to a three-lane roadway with a two-way continuous center turn lane will provide acceptable and appropriate traffic operations at this intersection in the future.

Wilkinson Pike at West Park Drive / Clari Park Access #2

- The City of Murfreesboro's planned reconstruction of Wilkinson Pike to a three-lane roadway with a two-way continuous center turn lane will provide acceptable and appropriate traffic operations at this intersection in the future.
- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

- The access to Clari Park at this location may be a gated access. The Clari Park Master Plan pattern book (page 34) states “Access design subject to review and approval by Murfreesboro Planning Commission during site plan approval” for this location in the residential garden district.
- Based on discussions with City staff, left turn lanes will be constructed on Wilkinson Pike at West Park Drive and the proposed access to Clari Park with the improvements being for a local road section and brought to the top of binder. The City will complete the surface course of asphalt as part of an upcoming resurfacing project on Wilkinson Pike.
- Traffic volumes at this intersection are not forecasted to satisfy traffic signal warrants even after full build-out of Clari Park. However, a 50-ft. easement would be needed on the project access if a signal were to be installed by others in the future.

Wilkinson Pike at Willowoak Trail

- The City of Murfreesboro’s planned reconstruction of Wilkinson Pike to a three-lane roadway with a two-way continuous center turn lane will provide acceptable and appropriate traffic operations at this intersection in the future.
- Based on discussions with City staff, a left turn lane will be constructed on Wilkinson Pike at Willowoak Trail with the improvements being for a local road section and brought to the top of binder. The City will complete the surface course of asphalt as part of an upcoming resurfacing project on Wilkinson Pike.

Willowoak Trail at Robert Rose Drive

- No improvements or traffic control modifications are recommended at the intersection of Willowoak Trail and Robert Rose Drive.

Robert Rose Drive at Grassington Street / Clari Park Access #7

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

Robert Rose Drive at Marylebone Street / Clari Park Access #8

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

Robert Rose Drive at Sculling Street / Clari Park Access #9

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

Greshampark Drive at Clari Park Access #1

- A minimum of one access to Clari Park from Greshampark Drive should be provided south of Wilkinson Pike. Access to the section of Clari Park on the southeast corner of Greshampark Drive and Wilkinson Pike should include two lanes for traffic exiting the site and one lane for traffic entering the site.
- The location of this access will be determined at the site plan level and will be subject to review and approval by the Murfreesboro Planning Commission at that time. Pavement marking modifications on Greshampark Drive that may be necessary due to the location of the access will be provided as part of the site plan.

Willow oak Trail at Clari Park Access #3 and #4

- Clari Park Access #3 to the north side of Willow oak Trail at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.
- Clari Park Access #4 to the south side of Willow oak Trail at this intersection should include two lanes for traffic exiting the site and one lane for traffic entering the site.
- One eastbound lane on Willow oak Trail can be a right turn only lane into Clari Park.
- The approaches of Clari Park Access #3 and #4 will be stop-controlled at this intersection. Stop control will not be placed on the Willow oak Trail approaches to this intersection.

Honeylocust Lane at Clari Park Access #5, #6, and #11

- Honeylocust Lane is proposed to intersect Clari Lane approximately 400 feet east of Medical Center Parkway. The proposed intersection should include a minimum of two lanes on each approach of Clari Lane and Clari Park access drives to provide one lane for traffic entering the intersection and one lane for traffic exiting the intersection. Additional lanes may be provided on the approach of Honeylocust Lane to the intersection to align with the intersection at Medical Center Parkway.
- The approaches of Clari Park Access #5, #6, and #11 will be stop-controlled at this intersection to prioritize the flow of traffic away from the intersection of Medical Center Parkway and Honeylocust Lane. Stop control will not be placed on the Honeylocust Lane approach to this intersection.

Willow oak Trail at Clari Park Access #10

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

I. INTRODUCTION

The purpose of this study is to analyze the transportation related impacts of Clari Park, a mixed-use development along Medical Center Parkway in the City of Murfreesboro, Tennessee. The development will include residential, office, retail, hotel, and other commercial uses. This report has been requested by City of Murfreesboro staff as part of the development process.

In order to evaluate the development, an inventory of the existing transportation system was carried out, along with an assessment of its adequacy. Based on the project schedule, a build-out horizon year was established, and future traffic growth was added to existing traffic volumes. Transportation analyses were performed to assess any site or non-site related impacts on the roadway. Finally, recommendations for roadway improvements and/or transportation system improvements were offered.

II. PROJECT DESCRIPTION

A. Proposed Development

As shown in Figure 1, Clari Park is located to the east of Medical Center Parkway between Greshampark Drive and Robert Rose Drive in the City of Murfreesboro, Tennessee. The study area of this report includes Medical Center Parkway, Greshampark Drive, Wilkinson Pike, and Robert Rose Drive. Clari Park will be a mixed-use development with the planned densities and land uses shown below.

- Single Family Homes – 36 homes
- Townhomes – 186 units
- Apartments – 280 units
- Hotel – 240 rooms
- Office – 100,000 square feet
- Medical Office – 15,000 square feet
- Convenience Store with Gas Pumps – 4,700 square feet
- Furniture Store – 10,000 square feet
- Drive-In Bank – 14,000 square feet
- Restaurant – 35,000 square feet

The Master Plan for Clari Park is shown in Figures 2A and 2B.

B. Site Access

Access to Clari Park is proposed from Medical Center Parkway, Robert Rose Drive, Greshampark Drive, Willowoak Trail, and Wilkinson Pike.

The following existing roadways will be extended to provide access to Clari Park.

- **Willowoak Trail** begins at Avenue Way and ends at Wilkinson Pike with a total planned length of 2,600 feet. Currently, the portion of Willowoak Trail between Medical Center Parkway and Robert Rose Drive, approximately 1,300 linear feet, is not constructed. This portion of Willowoak Trail passes through the Clari Park site and will be constructed as part of the Clari Park development.
- **Honeylocust Lane** begins within the Avenues development, intersects Avenue Way and ends at Medical Center Parkway with a total length of 1,100 feet. Honeylocust Lane will be extended into Clari Park and will end approximately 400 feet east of Medical Center Parkway to provide access to Clari Park.

Table 1 below provides a summary of the Clari Park access locations grouped by the existing road that will be accessed.

TABLE 1					
ACCESS LOCATION SUMMARY					
Access Name	Location	Public or Private	Control	Spacing to Adjacent Driveway/Intersection	Width
Greshampark Drive ⁽¹⁾					
Access #1	South of Wilkinson Pike	Private	Stop	To be determined at site plan phase	
Wilkinson Pike					
Access #2	Existing Intersection	Private	Stop	Aligns with West Park Drive	24 ft.

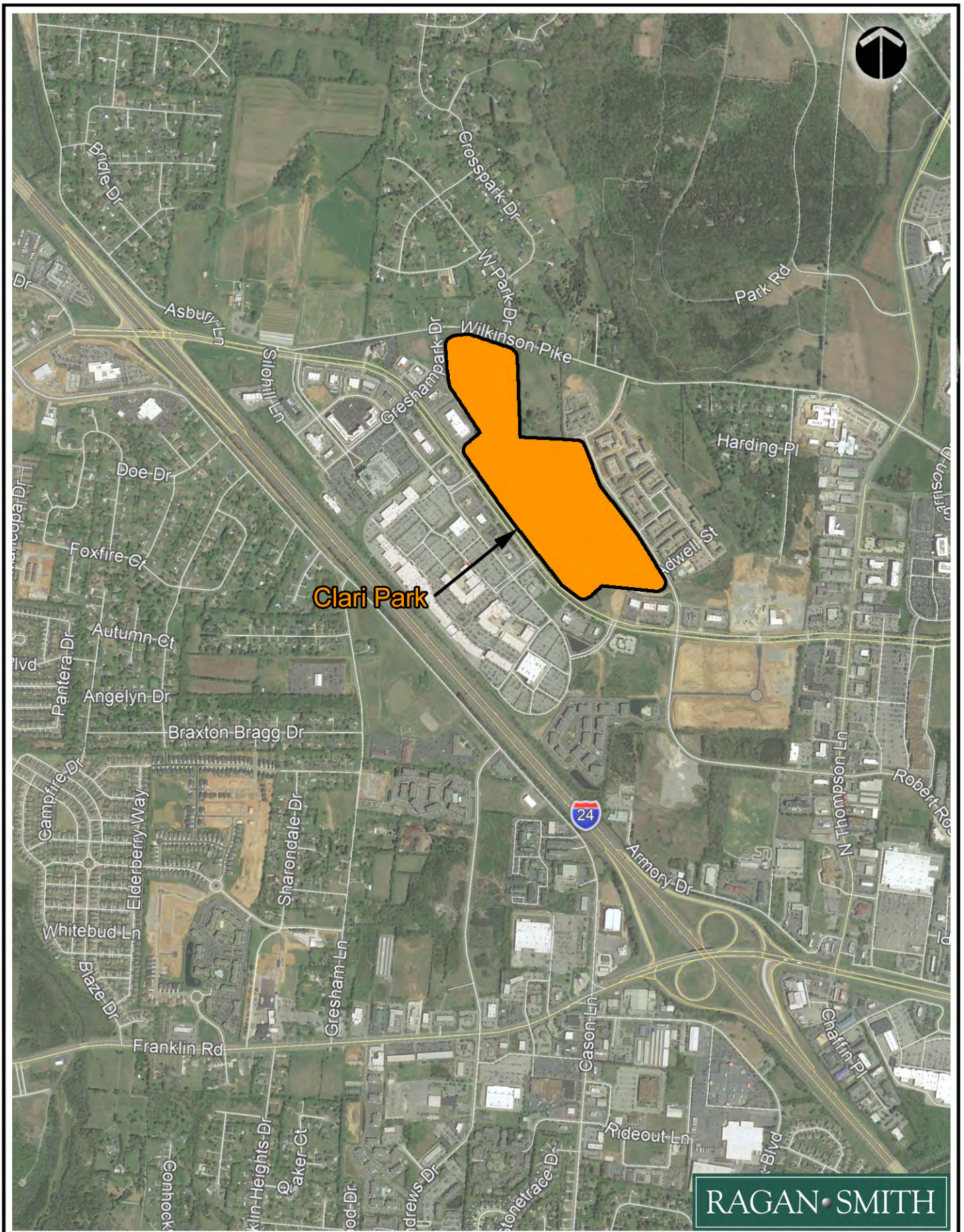
TABLE 1					
ACCESS LOCATION SUMMARY					
Access Name	Location	Public or Private	Control	Spacing to Adjacent Driveway/Intersection	Width
Willowoak Trail					
Access #3	North side, 400 ft. east of Medical Center Pkwy	Private	Stop	400 feet, aligns with Access #4	24 ft.
Access #4	South side, 400 ft. east of Medical Center Pkwy	Public	Stop	400 feet, aligns with Access #3	36 ft.
Access #10	South side, 850 ft. east of Medical Center Pkwy	Private	Stop	450 feet	20 ft.
Honeylocust Lane					
Access #5	North side, 400 ft. east of Medical Center Pkwy	Public	Stop	400 feet, aligns with Access #6	24 ft.
Access #6	South side, 400 ft. east of Medical Center Pkwy	Public	Stop	400 feet, aligns with Access #5	24 ft.
Access #11	400 feet east of Medical Center Parkway	Private	Stop	400 feet, aligns with Honeylocust Lane	24 ft.
Robert Rose Drive					
Access #7	170 ft. south of Willowoak Trail	Private	Stop	150 feet	20 ft.
Access #8	1,175 ft. south of Willowoak Trail	Private	Stop	250 feet, aligns with Marylebone Street	20 ft.
Access #9	1,535 ft. south of Willowoak Trail	Private	Stop	250 feet, aligns with Sculling Street	24 ft.
Medical Center Parkway ⁽²⁾					
n/a	Outparcel Boundaries	Private	Stop	To be determined at site plan phase	
⁽¹⁾ For proposed access on Greshampark Drive, one or more driveways is anticipated to the Commercial/Entertainment section of the development. The precise location of these driveways is not known at this time but will be determined during the site plan phase. ⁽²⁾ The commercial outparcels are anticipated to have right-in/right-out driveways on Medical Center Parkway. The precise location of these driveways is not known at this time but will be determined during the site plan phase for each outparcel.					

The demarcation between public street and private streets/areas will be achieved using concrete driveway ramps, stamped/colored asphalt, use of different curb types, and other design elements that will be addressed and specified as part of the construction plans.

The access locations for Clari Park as designated in this report are shown in Figure 2C.

C. Development Buildout Timeline

The Clari Park Master Plan pattern book (page 22) indicates that the construction phase estimate will begin in 2021 with approximate time frames completing as soon as 2023 or extending to 2030. The analysis of this report will evaluate the full build-out of Clari Park with a horizon year of 2027 that targets the midpoint of the approximate construction phase time frame.



**Clari Park
Location Map**

**Figure
1**



Figure 2A

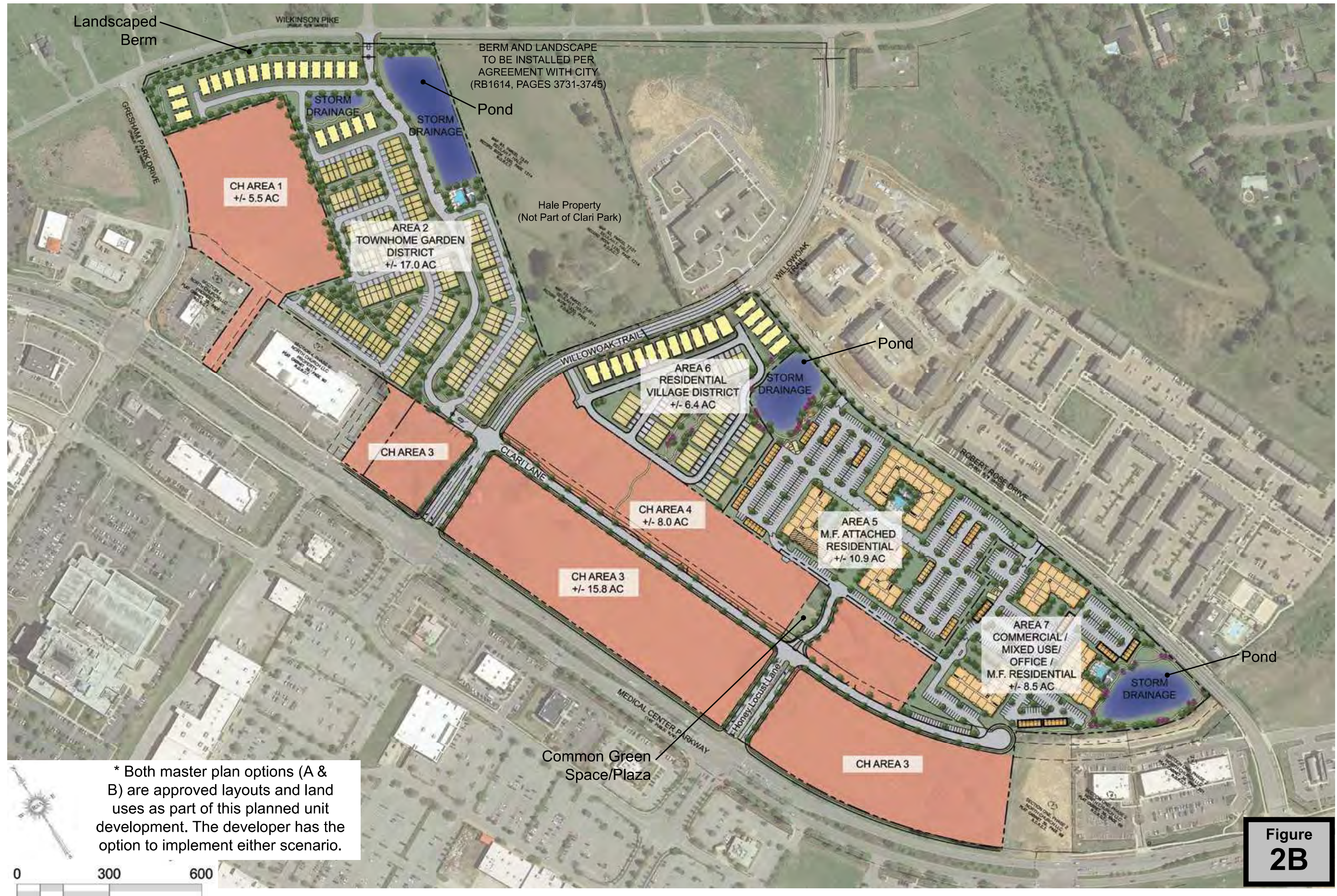
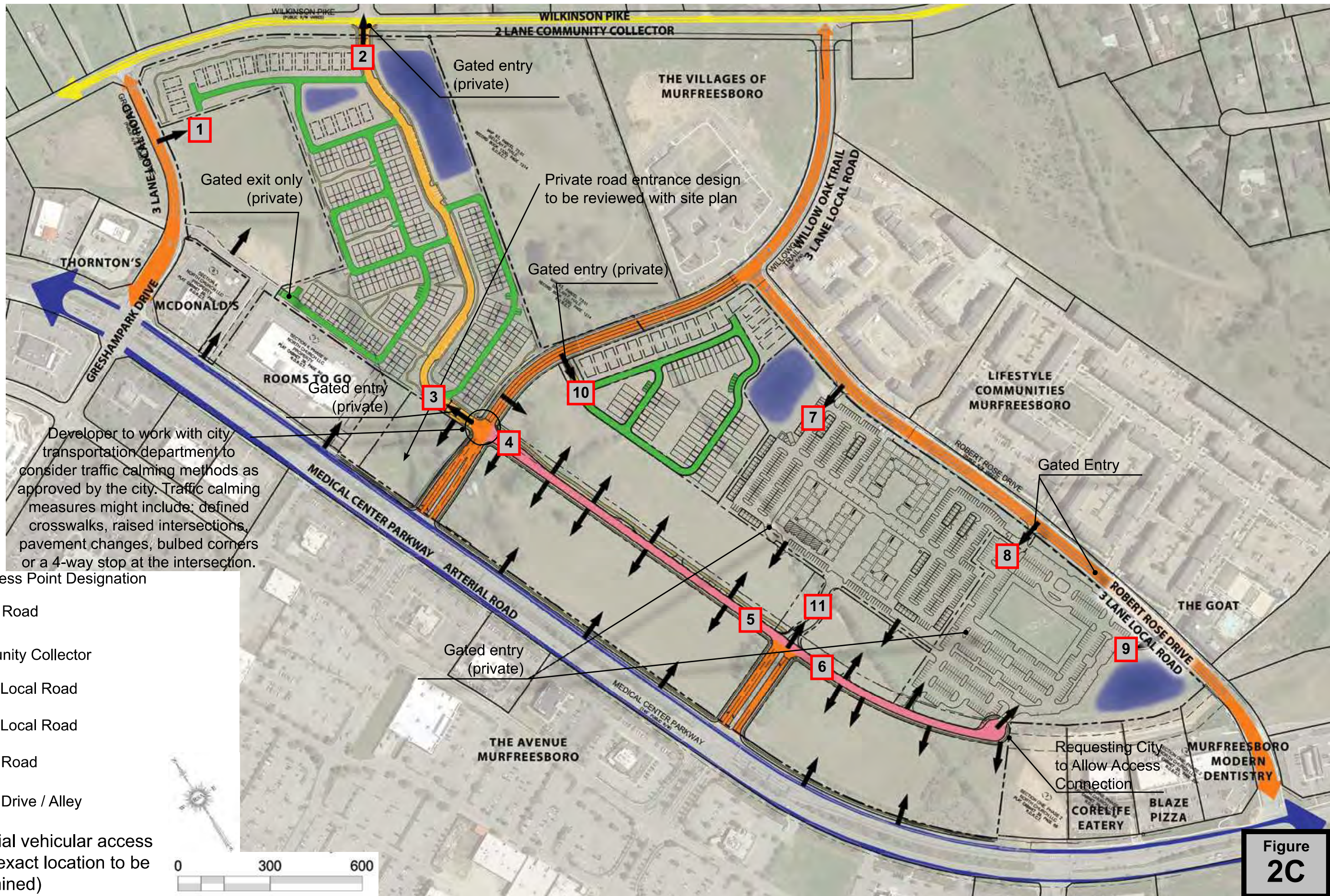


Figure 2B



Developer to work with city transportation department to consider traffic calming methods as approved by the city. Traffic calming measures might include: defined crosswalks, raised intersections, pavement changes, bulbed corners or a 4-way stop at the intersection.

- # TIS Access Point Designation
- Arterial Road
- Community Collector
- 3 Lane Local Road
- 2 Lane Local Road
- Private Road
- Private Drive / Alley
- Potential vehicular access point (exact location to be determined)

Figure 2C

III. EXISTING CONDITIONS

A. Transportation System

The existing transportation system in the area that is scheduled for development consists of major arterials, an expressway and local roadways. The following roadways will comprise the study area in which traffic mitigation measures are being considered based on the impact of the mixed-use development.

TABLE 2					
EXISTING ROADWAY CHARACTERISTICS					
Name	Designation	Classification ⁽¹⁾	Speed Limit	Lanes	Multimodal
Medical Center Parkway	City Street	Major Arterial	40	4	Sidewalks ⁽²⁾
Robert Rose Drive	City Street	Community Collector	35	3	Sidewalks ⁽²⁾
Wilkinson Pike	City Street	Community Collector	40	2	None
Greshampark Drive	City Street	Community Collector	30	3	Sidewalks ⁽²⁾
Willowoak Trail	City Street	Local	30	3	Sidewalks ⁽²⁾
Honeylocust Lane	City Street	Local	30	4	Sidewalks ⁽²⁾
Maplegrove Drive	City Street	Local	30	4	Sidewalks ⁽²⁾
⁽¹⁾ Per City of Murfreesboro 2040 Major Thoroughfare Plan ⁽²⁾ Sidewalks are provided at developed parcels only					

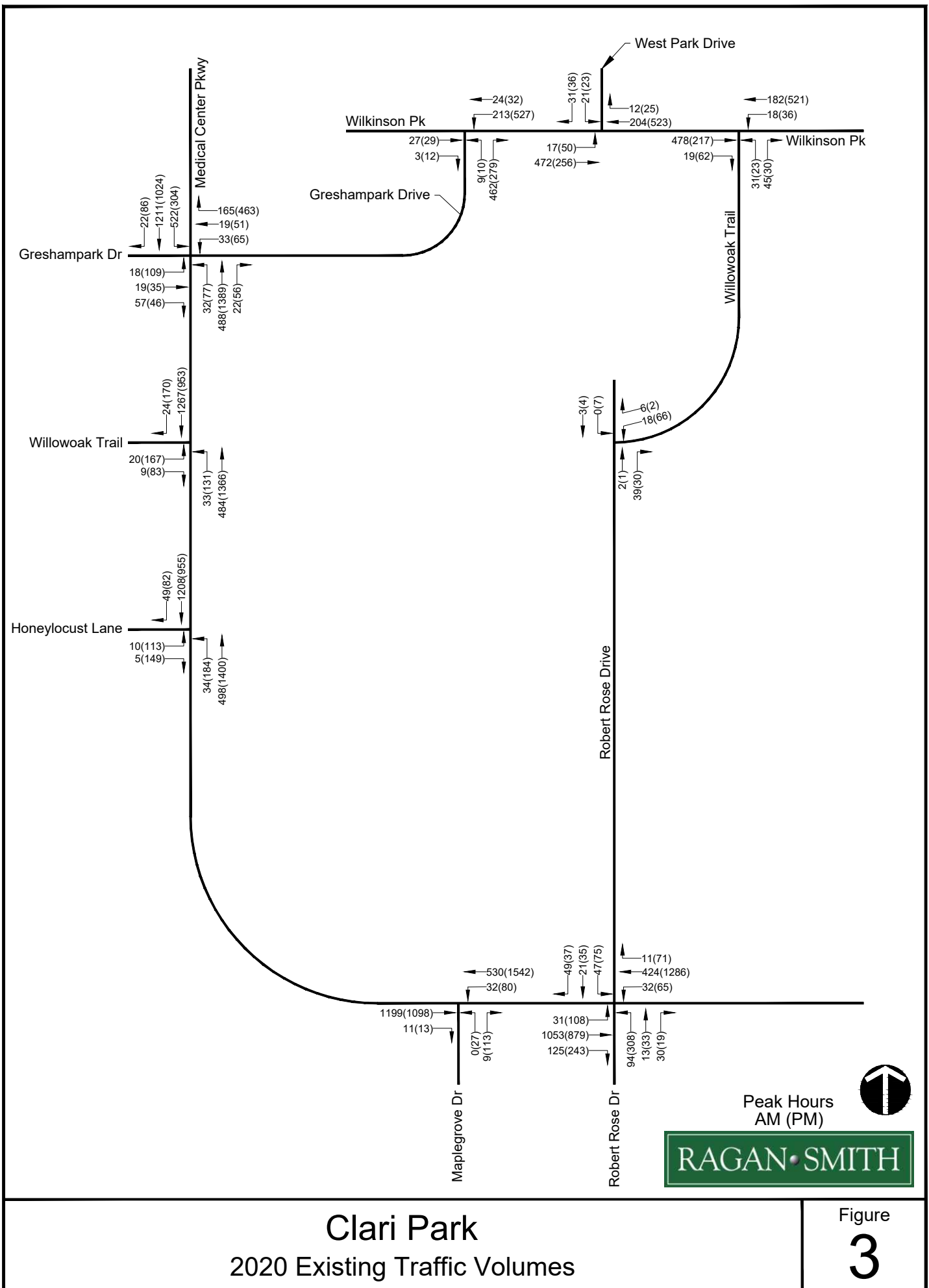
B. Traffic Volumes

In order to assess the adequacy of the local transportation system and establish base traffic conditions for this study, an evaluation of the current operational quality of intersections within the study area was required. The peak hour of the adjacent street traffic was used to determine the impact of Clari Park on the existing transportation system.

The peak periods for analysis were identified by conducting traffic counts in February of 2020 at the following intersections:

- Medical Center Parkway at Greshampark Drive
- Medical Center Parkway at Willowoak Trail
- Medical Center Parkway at Honeylocust Lane
- Medical Center Parkway at Maplegrove Drive
- Medical Center Parkway at Robert Rose Drive
- Wilkinson Pike at Greshampark Drive
- Wilkinson Pike at W Park Drive
- Wilkinson Pike at Willowoak Trail
- Willowoak Trail at Robert Rose Drive
- Robert Rose Drive at Grassington Street
- Robert Rose Drive at Sculling Street

Figure 3 shows the existing peak hour traffic volumes in the study area.



Clari Park
2020 Existing Traffic Volumes

Figure
3

IV. FORECASTED BACKGROUND TRAFFIC

A. Introduction

The year 2027 will be used to analyze the traffic impact within the study area. Before any impacts to the study area could be addressed, some estimate of background traffic volumes for the horizon year 2027 had to be established. Background traffic volumes were established by estimating potential growth due to small scale development and/or general population growth in the area.

B. Specific Development Growth

Based on discussions with City of Murfreesboro staff related to the scope of the traffic impact study, there is one specific development in the study area that is expected to be open prior to the completion of Clari Park. The specific development is a proposed hotel on Greshampark Drive south of Wilkinson Pike. No specific traffic impact study was completed for the proposed hotel so the traffic growth from the hotel has been accounted for as part of the annual growth rate applied to existing traffic volumes as described below.

C. Annual Growth

To establish traffic growth due to population growth or small-scale development, Tennessee Department of Transportation (TDOT) historical traffic count data was obtained at locations within the general project vicinity. The TDOT historical traffic count data includes traffic volume counts conducted annually on Medical Center Parkway, Wilkinson Pike, and Thompson Lane and in the general vicinity of the site. The available historical count data was tabulated for each location and analyzed to identify patterns or growth trends.

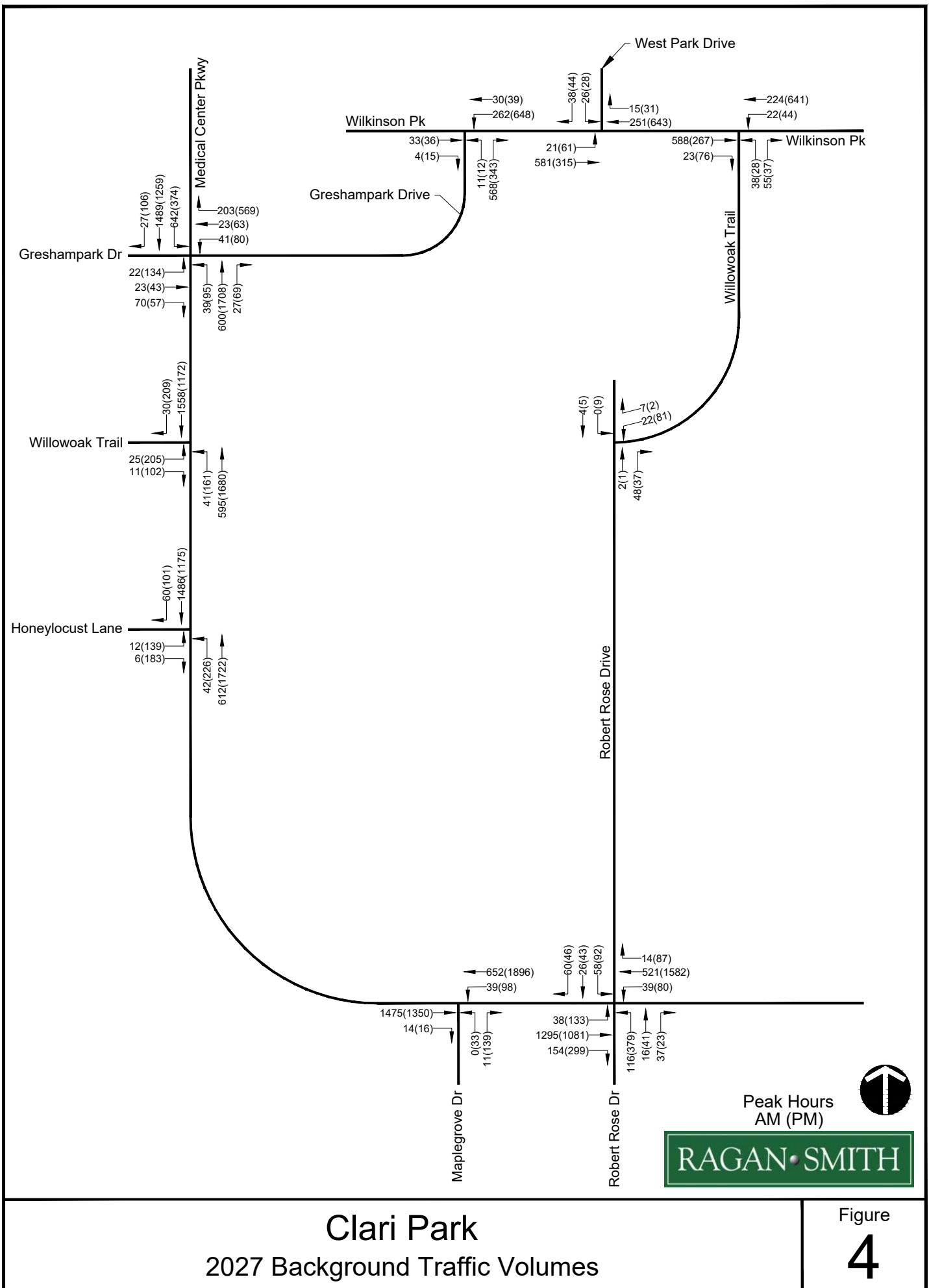
Based upon linear regression analysis of the TDOT historical traffic count data and based upon the growth from specific developments that will be considered, we will use a **3.0 percent annual growth rate** as the base growth for the existing traffic volumes.

D. Background Traffic

Background traffic for the future traffic forecasts was compiled based on the following:

- 2020 existing traffic volumes
- 3.0% annual increase of traffic volumes for the period from 2020 to 2027

Background traffic volumes on the future roadway, representing existing traffic volumes plus background growth, for the year 2027 is shown in Figure 4.



V. PROPOSED SITE TRAFFIC

A. Site Trip Generation

In order to quantify site-related impacts within the study area, estimates of site trip generation and traffic assignment had to be established. Trip generation rates for Clari Park were established using information for the weekday a.m. and p.m. peak hour of the adjacent street as shown in the *ITE Trip Generation Manual, 10th Edition*.

Additionally, the *National Cooperative Highway Research Program Report 684* provides guidance for estimating how many internal trips will be generated in mixed-use developments, for which the origin and destination are within the development. These trips can be subtracted from the total number of trips anticipated to produce a more accurate estimation of the trips that will be entering and exiting the mixed-use development.

Trip generation for Clari Park is shown in Table 3 below.

TABLE 3								
CLARI PARK TRIP GENERATION								
Land Use	Total Units	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Single Family Detached Housing	36 homes	406	7	23	30	24	14	38
Townhomes (Low-Rise)	186 units	1,622	23	78	101	75	44	119
Apartments (Mid-Rise)	280 units	1,524	24	70	94	73	46	119
Hotel	240 rooms	2,283	68	47	115	79	75	154
Bowling Alley	49,000 sf	-	38	2	40	35	19	54
General Office	100,000 GSF	1,061	103	17	120	18	96	114
Medical Office	15,000 sf	489	32	9	41	15	38	53
Convenience Market w/Gas Pumps	4,700 GSF	2,934	95	96	191	116	116	232
	Pass-By Trip %	60%	63%	63%	63%	66%	66%	66%
Furniture Store	10,000 GSF	98	2	1	3	3	3	6
Drive-in Bank	14,000 sf	1,277	77	56	133	143	143	286
Fast Casual Restaurant	11,667 GSF	3,677	14	10	24	91	74	165
Quality Restaurant	11,667 GSF	978	5	4	9	54	37	91
High-Turnover (Sit-Down) Restaurant	11,666 GSF	1,309	64	52	116	71	43	114
Unadjusted Total Trip Generation		17,658	552	465	1,017	797	748	1,545
Internal Trip Reduction %		15%	15%			20%		
Internal Trips		2,649	83	70	153	159	150	309
Adjusted Total Trip Generation		15,009	469	395	864	638	598	1,236
Pass-By Trips (from Convenience Store) <small>(Trip Generation x Pass-By Trip % x Internal Trip Reduction %)</small>		1,496	51	51	102	61	61	122
Adjusted Total Primary Trip Generation		13,513	418	344	762	577	537	1,114

Source: ITE Trip Generation Manual, 10th Edition

A master development plan including a different mix of land uses and densities was previously prepared for the development site. As part of the evaluation of the Clari Park master plan, the estimates of site trip generation for both the previous master plan and current, proposed master plan have been compared.

Trip generation for the previous master plan at the development site is shown in Table 4 below.

TABLE 4								
PREVIOUS MASTER PLAN TRIP GENERATION								
Land Use	Total Units	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Multifamily (Low-Rise)	489 units	3,656	49	166	215	153	90	243
Hotel	193 Rooms	1,752	54	37	91	61	58	119
General Office	297,500 GSF	3,055	263	43	306	51	270	321
Shopping Center	45,600 GSF	3,525	109	66	175	146	158	304
Supermarket	29,500 GSF	3,304	68	45	113	160	154	314
Drive-in Bank	6 Lanes	749	32	21	53	80	83	163
Fast Casual Restaurant	14,081 GSF	4,438	17	12	29	109	90	199
Quality Restaurant	14,080 GSF	1,180	n/a	n/a	10	65	45	110
High-Turnover (Sit-Down) Restaurant	14,080 GSF	1,579	77	63	140	86	52	138
Unadjusted Total Trip Generation		23,238	669	453	1,132	911	1,000	1,911
Internal Trip Reduction %		15%	15%			20%		
Internal Trips		3,486	100	68	168	182	200	382
Adjusted Total Trip Generation		19,752	569	385	964	729	800	1,529
<i>Source: ITE Trip Generation Manual, 10th Edition</i>								

A comparison of the proposed Clari Park trip generation and the previous master plan trip generation is provided below in Table 5.

TABLE 5							
TRIP GENERATION COMPARISON							
Development Scenario	Daily	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Clari Park Master Plan	13,513	418	344	762	577	537	1,114
Previous Master Plan	19,752	569	385	964	729	800	1,529
Net Change	- 6,239	- 151	- 41	- 202	- 152	- 263	- 415
% Change	- 32%	- 27%	- 11%	- 21%	- 21%	- 33%	- 27%

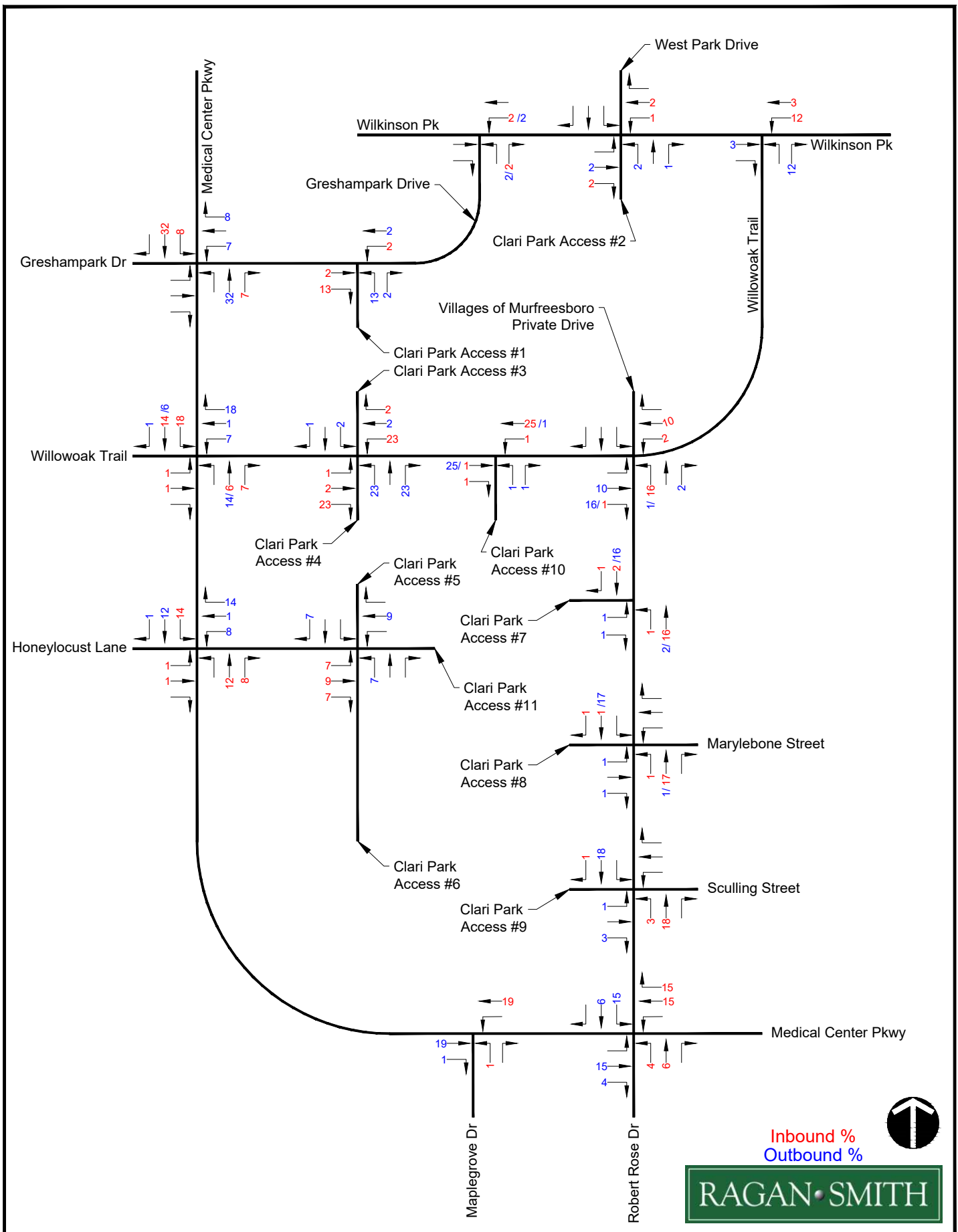
As presented in Table 5, the Clari Park master plan is expected to generate fewer trips than the previously proposed master plan for the development site.

B. Site Trip Distribution

The distribution of the site generated trips for Clari Park is shown in Figure 5. Site generated traffic volumes are shown in Figure 6. Total traffic volumes representing the accumulation of existing, background, and site generated traffic on the external roadway network in the horizon year 2027 are shown in Figure 7.

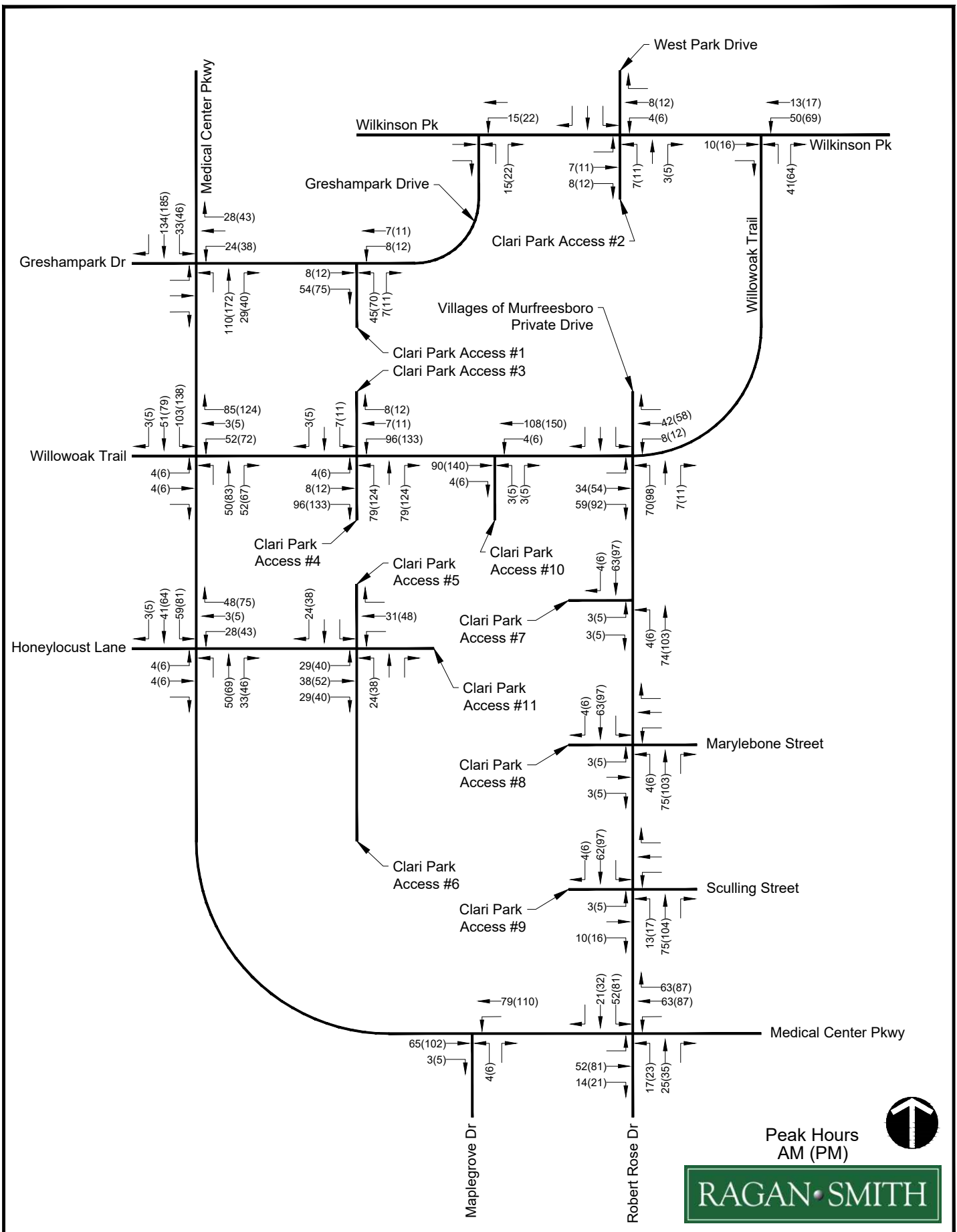
C. Willowoak Trail Extension

As part of Clari Park, Willowoak Trail will be extended to provide a direct connection between Medical Center Parkway and Robert Rose Drive and a link to Wilkinson Pike from Medical Center Parkway. The proposed route between Medical Center Parkway and Wilkinson Pike is a viable alternative route to Greshampark Drive between Medical Center Parkway and Wilkinson Pike. Based on a review of the existing daily and peak hour traffic volumes on Medical Center Parkway, Wilkinson Pike, and Greshampark Drive as well as the capacity analysis of this report, the reassignment of approximately 3,500 trips per day from Greshampark Drive to Willowoak Trail is anticipated after the Willowoak Trail extension is complete. The future conditions analysis of this report includes the reassignment of traffic to the Willowoak Trail extension and the expected reduction in traffic on Wilkinson Pike and Greshampark Drive near Medical Center Parkway.



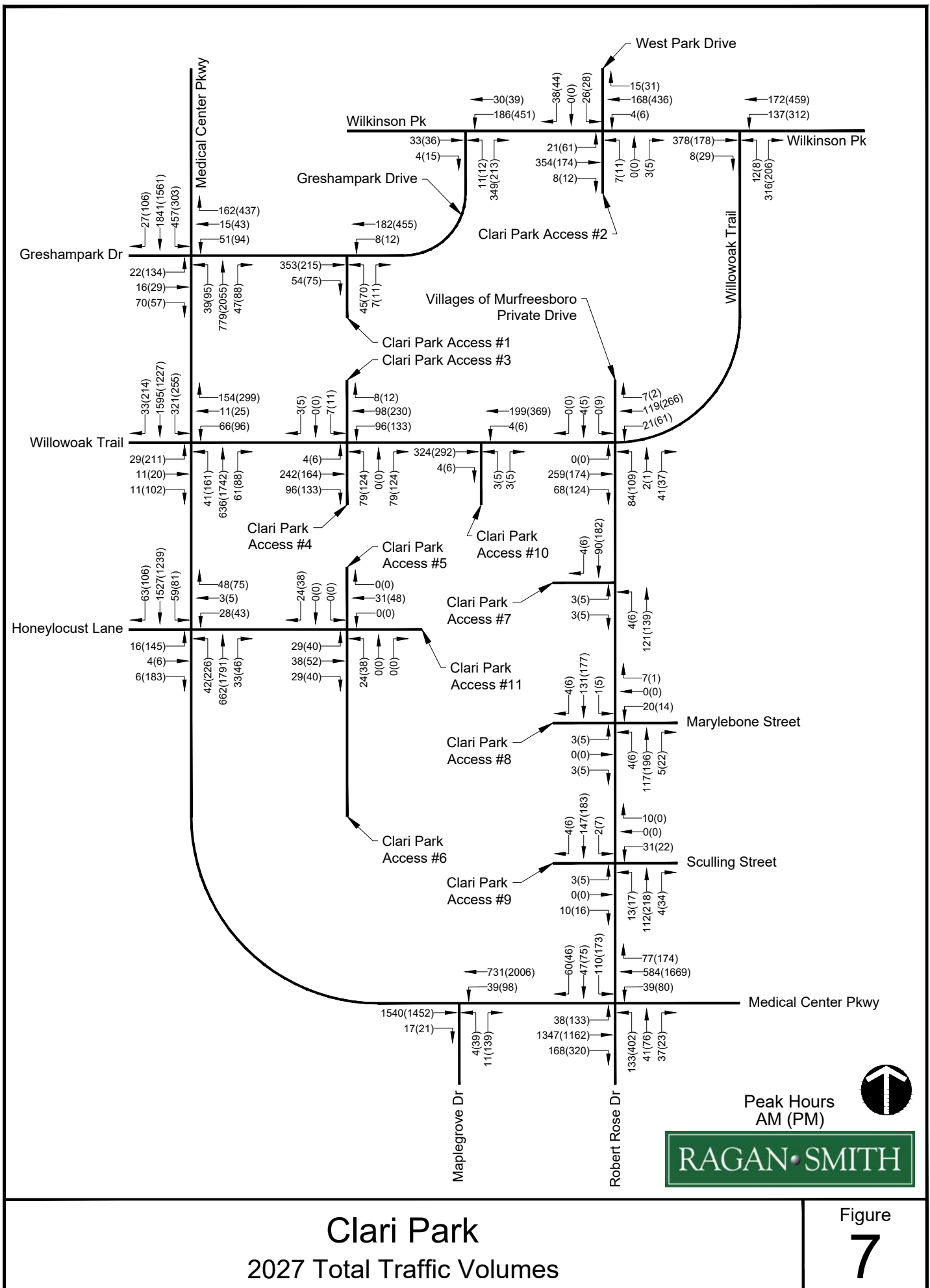
Clari Park
Site Trip Distribution

Figure
5



Clari Park
Site Trip Volumes

Figure
6



VI. TRANSPORTATION ANALYSIS

A. Intersection Capacity Analysis

In order to gauge the site impact and identify capacity deficient locations, capacity analyses were conducted at intersections within the area of Clari Park as well as the proposed access points. Capacity analyses were conducted according to the methodology and procedures outlined in the *Highway Capacity Manual, 2010*, published by the Transportation Research Board.

Level of service (LOS) criteria for signalized intersections is shown in Table 6.

TABLE 6		
LEVEL OF SERVICE DESCRIPTIONS FOR SIGNALIZED INTERSECTIONS		
Level of Service	Description	Control Delay (sec. /veh.)
A	Free Flow	≤10
B	Stable Flow (slight delays)	> 10 - 20
C	Stable Flow (acceptable delays)	> 20 - 35
D	Approaching unstable flow (tolerable delay)	> 35 - 55
E	Unstable flow (intolerable delay)	> 55 - 80
F	Forced flow (congested and queues fail to clear)	> 80
<i>Source: Highway Capacity Manual, 2010 Edition</i>		

Level of service (LOS) criteria for unsignalized intersections is shown in Table 7.

TABLE 7		
LEVEL OF SERVICE DESCRIPTIONS FOR UNSIGNALIZED INTERSECTIONS		
Level of Service	Description	Control Delay (sec. /veh.)
A	Usually no conflicting traffic	0 - 10
B	Occasionally some delay due to conflicting traffic	> 10 - 15
C	Delay is noticeable but not inconveniencing	> 15 - 25
D	Delay is noticeable and irritating, increased risk taking	> 25 - 35
E	Delay approaches tolerance level, risk taking likely	> 35 - 50
F	Delay exceeds tolerance level, high likelihood of risk taking	> 50
<i>Source: Highway Capacity Manual, 2010 Edition</i>		

Intersection capacity analysis results for the a.m. peak hour are shown in Table 8.

TABLE 8			
INTERSECTION CAPACITY ANALYSIS RESULTS – A.M. PEAK HOUR			
Turning Movement ⁽¹⁾	Level of Service (Avg. Delay per Vehicle – sec.)		
	2020 Existing	2027 Background	2027 Total
Medical Center Parkway at Greshampark Drive			
Overall Signalized Intersection	B (15.7)	D (37.2)	D (35.9)
Medical Center Parkway at Willowoak Trail			
Overall Signalized Intersection	A (2.6)	A (2.9)	C (27.1)
Medical Center Parkway at Honeylocust Lane			
Overall Signalized Intersection	A (5.9)	A (2.7)	A (8.2)
Medical Center Parkway at Maplegrove Drive			
Overall Signalized Intersection	A (5.1)	A (6.0)	A (6.2)
Medical Center Parkway at Robert Rose Drive			
Overall Signalized Intersection	B (11.5)	B (12.3)	B (15.0)
Wilkinson Pike at Greshampark Drive			
WB Left	A (7.7)	A (7.9)	A (7.7)
TWSC NB Left	B (14.2)	C (16.7)	B (13.4) <i>B (12.8) with improvements</i>
TWSC NB Right	B (12.3)	B (14.9)	B (10.8)
Wilkinson Pike at West Park Drive / Clari Park Access #2			
EB Left	A (7.8)	A (8.0)	A (7.7)
WB Left	-	-	A (8.2)
TWSC NB	-	-	B (14.9) <i>B (14.9) with improvements</i>
TWSC SB	B (13.2)	C (16.0)	B (12.9) <i>B (12.9) with improvements</i>
Wilkinson Pike at Willowoak Trail			
WB Left	A (8.7)	A (9.1)	A (8.8)
TWSC NB Left	C (16.8)	C (21.5)	C (20.8) <i>C (15.0) with improvements</i>
TWSC NB Right	B (12.6)	B (14.4)	C (18.8)

TABLE 8			
INTERSECTION CAPACITY ANALYSIS RESULTS – A.M. PEAK HOUR			
Turning Movement ⁽¹⁾	Level of Service (Avg. Delay per Vehicle – sec.)		
	2020 Existing	2027 Background	2027 Total
Willowoak Trail at Robert Rose Drive			
WB Left	A (7.2)	A (7.3)	A (8.1)
EB Left	-	-	A (0.0)
TWSC NB Left	-	-	B (14.9)
TWSC NB Thru/Right	A (8.5)	A (8.6)	B (10.6)
TWSC SB	A (9.3)	A (9.4)	B (13.4)
Robert Rose Drive at Clari Park Access #7			
NB Left	-	-	A (7.5)
TWSC EB	-	-	A (9.6)
Robert Rose Drive at Marylebone Street / Clari Park Access #8			
NB Left	-	-	A (7.5)
SB Left	-	-	A (7.5)
TWSC EB	-	-	A (9.8)
TWSC WB	-	-	B (10.3)
Robert Rose Drive at Sculling Street / Clari Park Access #9			
NB Left	-	-	A (7.6)
SB Left	-	-	A (7.5)
TWSC EB	-	-	A (9.6)
TWSC WB	-	-	B (10.7)
Greshampark Drive at Clari Park Access #1			
SB Left	-	-	A (8.2)
TWSC WB	-	-	B (12.3)
Willowoak Trail at Clari Park Access #3 / #4			
EB Left	-	-	A (7.5)
WB Left	-	-	A (8.3)
TWSC NB (Access #4)	-	-	B (13.6)
TWSC SB (Access #3)	-	-	B (14.8)

TABLE 8			
INTERSECTION CAPACITY ANALYSIS RESULTS – A.M. PEAK HOUR			
Turning Movement ⁽¹⁾	Level of Service (Avg. Delay per Vehicle – sec.)		
	2020 Existing	2027 Background	2027 Total
WillowOak Trail at Clari Park Access #10			
WB Left	-	-	A (8.01)
TWSC NB	-	-	B (10.9)
Honeylocust Lane at Clari Park Access #5 / #6			
EB Approach	-	-	A (2.2)
NB Approach	-	-	A (9.9)
SB Approach	-	-	A (8.6)
⁽¹⁾ TWSC = Two-Way Stop Control			

Intersection capacity analysis results for the p.m. peak hour are shown in Table 9.

TABLE 9			
INTERSECTION CAPACITY ANALYSIS RESULTS – P.M. PEAK HOUR			
Turning Movement ⁽¹⁾	Level of Service (Avg. Delay per Vehicle – sec.)		
	2020 Existing	2027 Background	2027 Total
Medical Center Parkway at Greshampark Drive			
Overall Signalized Intersection	D (52.7)	E (78.0)	D (53.8)
Medical Center Parkway at WillowOak Trail			
Overall Signalized Intersection	B (10.2)	B (10.4)	D (53.9)
Medical Center Parkway at Honeylocust Lane			
Overall Signalized Intersection	B (11.8)	B (12.2)	D (39.6)
Medical Center Parkway at Maplegrove Drive			
Overall Signalized Intersection	A (9.3)	B (10.7)	C (33.2)
Medical Center Parkway at Robert Rose Drive			
Overall Signalized Intersection	C (21.8)	C (27.4)	C (31.5)
Wilkinson Pike at Greshampark Drive			
WB Left	A (8.6)	A (9.1)	A (8.3)
TWSC NB Left	D (34.1)	F (59.1)	D (27.0) C (23.9) <i>with improvements</i>
TWSC NB Right	A (9.9)	B (10.4)	A (9.5)

TABLE 9			
INTERSECTION CAPACITY ANALYSIS RESULTS – P.M. PEAK HOUR			
Turning Movement ⁽¹⁾	Level of Service (Avg. Delay per Vehicle – sec.)		
	2020 Existing	2027 Background	2027 Total
Wilkinson Pike at West Park Drive / Clari Park Access #2			
EB Left	A (8.8)	A (9.4)	A (8.6)
WB Left	-	-	A (7.6)
TWSC NB	-	-	C (17.0) <i>C (16.8) with improvements</i>
TWSC SB	C (16.2)	C (21.4)	C (15.9) <i>C (15.8) with improvements</i>
Wilkinson Pike at Willowoak Trail			
WB Left	A (7.9)	A (8.1)	A (8.5)
TWSC NB Left	C (23.1)	C (23.5)	E (39.7) <i>C (23.9) with improvements</i>
TWSC NB Right	B (10.0)	B (10.3)	B (10.8)
Willowoak Trail at Robert Rose Drive			
WB Left	A (7.3)	A (7.4)	A (8.2)
EB Left	-	-	A (0.0)
TWSC NB Left	-	-	D (26.9)
TWSC NB Thru/Right	A (8.5)	A (8.5)	B (10.3)
TWSC SB	B (10.2)	B (10.6)	C (19.0)
Robert Rose Drive at Clari Park Access #7			
NB Left	-	-	A (7.6)
TWSC EB	-	-	A (9.9)
Robert Rose Drive at Marylebone Street / Clari Park Access #8			
NB Left	-	-	A (7.6)
SB Left	-	-	A (7.7)
TWSC EB	-	-	B (10.7)
TWSC WB	-	-	B (12.0)
Robert Rose Drive at Sculling Street / Clari Park Access #9			
NB Left	-	-	A (7.7)
SB Left	-	-	A (7.8)
TWSC EB	-	-	B (10.3)
TWSC WB	-	-	B (13.4)
Greshampark Drive at Clari Park Access #1			
SB Left	-	-	A (7.9)
TWSC WB	-	-	B (13.8)

TABLE 9			
INTERSECTION CAPACITY ANALYSIS RESULTS – P.M. PEAK HOUR			
Turning Movement ⁽¹⁾	Level of Service (Avg. Delay per Vehicle – sec.)		
	2020 Existing	2027 Background	2027 Total
Willow oak Trail at Clari Park Access #3 / #4			
EB Left	-	-	A (7.8)
WB Left	-	-	A (8.3)
TWSC NB (Access #4)	-	-	C (18.3)
TWSC SB (Access #3)	-	-	C (19.5)
Willow oak Trail at Clari Park Access #10			
WB Left	-	-	A (8.0)
TWSC NB	-	-	B (11.6)
Honeylocust Lane at Clari Park Access #5 / #6			
EB Approach	-	-	A (2.2)
NB Approach	-	-	B (10.7)
SB Approach	-	-	A (8.7)
⁽¹⁾ TWSC = Two-Way Stop Control			

B. Queue Length Review

The intersection capacity analysis also included the calculation of 95th percentile queue lengths at the signalized intersections in the study area. Results of the queue analysis for the a.m. and p.m. peak hours and the length of existing and/or proposed turn lanes are shown in Table 10.

TABLE 10							
QUEUE ANALYSIS RESULTS							
Turning Movement	Turn Lane Storage Length (ft)	95 th Percentile Queue Length (ft)					
		2020 Existing		2027 Background		2027 Total Traffic	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Medical Center Parkway at Greshampark Drive							
NB Left	80	< 25	< 25	< 25	34	< 25	58
NB Right	820	< 25	< 25	< 25	< 25	< 25	< 25
SB Left	365	488	566	1006	785	502	617
SB Right	1000	< 25	< 25	< 25	< 25	< 25	< 25
EB Left	65	< 25	93	25	111	25	111
EB Right	65	< 25	< 25	< 25	< 25	< 25	< 25
WB Left	110	34	62	39	73	46	84
WB Right	110	69	372	75	545	68	346
Medical Center Parkway at Willowoak Trail							
NB Left	225	36	111	30	137	44	132
NB Right	-	-	-	-	-	< 25	< 25
SB Left	-	-	-	-	-	220	229
SB Right	100	< 25	28	< 25	< 25	< 25	60
EB Left	165	< 25	130	27	154	34	239
EB Right	165	< 25	55	< 25	60	< 25	< 25
WB Left	-	-	-	-	-	62	84
WB Right	-	-	-	-	-	< 25	131
Medical Center Parkway at Honeylocust Lane							
NB Left	210	34	132	40	170	44	168
NB Right	-	-	-	-	-	< 25	< 25
SB Left	-	-	-	-	-	38	74
SB Right	850	< 25	83	< 25	< 25	< 25	< 25
EB Left	190	< 25	61	< 25	112	< 25	153
EB Right	190	< 25	< 25	< 25	80	< 25	90
WB Left	-	-	-	-	-	32	47
WB Right	-	-	-	-	-	< 25	< 25

TABLE 10							
QUEUE ANALYSIS RESULTS							
Turning Movement	Turn Lane Storage Length (ft)	95 th Percentile Queue Length (ft)					
		2020 Existing		2027 Background		2027 Total Traffic	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Medical Center Parkway at Maplegrove Drive							
NB Left	140	< 25	31	< 25	36	< 25	40
NB Right	350	< 25	64	< 25	70	< 25	82
EB Right	850	< 25	< 25	< 25	< 25	< 25	< 25
WB Left	205	30	63	39	61	40	62
Medical Center Parkway at Robert Rose Drive							
NB Left	85	72	216	88	310	98	303
NB Right	85	< 25	< 25	< 25	< 25	< 25	< 25
SB Left	100	43	69	51	81	85	132
SB Right	100	< 25	< 25	< 25	< 25	< 25	< 25
EB Left	150	< 25	48	< 25	151	< 25	239
EB Right	100	< 25	100	28	52	34	107
WB Left	250	< 25	39	< 25	45	< 25	47
WB Right	350	< 25	< 25	< 25	< 25	< 25	49

VII. CONCLUSIONS AND RECOMMENDATIONS

A. Medical Center Parkway at Greshampark Drive

The construction of the Willowoak Trail extension as part of Clari Park provides an additional connection between Medical Center Parkway and Wilkinson Pike. This new connection provides an alternate route and effectively adds capacity to the intersection of Medical Center Parkway and Greshampark Drive.

- The extension of Willowoak Trail as part of Clari Park provides an additional connection between Medical Center Parkway and Wilkinson Pike that will allow traffic flow at this intersection to continue to be characterized by level of service D during the a.m. and p.m. peak hours. No improvements are recommended at the intersection due to the improvement that is provided by the construction of the Willowoak Trail extension.

B. Medical Center Parkway at Willowoak Trail

The extension of Willowoak Trail will add a fourth leg to this existing three-leg intersection. The addition of the fourth leg and the Clari Park development result in overall traffic flow at this intersection that is characterized by level of service C during the a.m. peak hour and level of service D during the p.m. peak hour.

- The new east approach of Willowoak Trail to Medical Center Parkway should include one westbound right turn lane, one westbound through lane, two westbound left turn lanes, and two eastbound lanes to receive the double left turn lanes from Medical Center Parkway. A median should be included so that the through lanes on Willowoak Trail are aligned on each side of the intersection. The minimum length of the westbound left and right turn lanes should be 150 feet with minimum taper lengths of 150 feet.
- The existing pavement provided for the southbound left turn lanes on Medical Center Parkway is appropriate to accommodate the left turn movement needs. The pavement markings should be modified to provide southbound double left turn lanes on Medical Center Parkway with 225 feet of storage and a taper length of 175 feet.
- The existing pavement markings on the west approach of Willowoak Trail should be modified to remove the channelization between the left turn lanes and right turn lane and provide a through lane to the extension of Willowoak Trail.
- A continuous northbound right turn lane should be constructed on Medical Center Parkway along the frontage of Clari Park. To be consistent with similar improvements on Medical Center Parkway, the continuous right turn lane should extend approximately 950 feet and ending prior to the next upstream signalized intersection at Honeylocust Lane.
- Traffic signal modifications will be required as part of the new approach of Willowoak Trail. The signal modifications should include the new pole and mast arm for the westbound approach signal heads and other components required to ensure a fully operational traffic signal. New timings for the intersection will also be required with the traffic signal modification plan.

C. Medical Center Parkway at Honeylocust Lane

The extension of Honeylocust Lane will add a fourth leg to this existing three-leg intersection. The addition of the fourth leg and the Clari Park development result in overall traffic flow at this intersection that is characterized by level of service A during the a.m. peak hour and level of service D during the p.m. peak hour.

- The new east approach of Honeylocust Lane to Medical Center Parkway should include one westbound right turn lane, one westbound through lane, two westbound left turn lanes, and two eastbound lanes to receive the left turn lanes from Medical Center Parkway. A median should be included so that the through lanes on Honeylocust Lane are appropriately aligned on each side of the intersection. The minimum length of the westbound left and right turn lanes should be 150 feet of storage with minimum taper lengths of 150 feet.
- The existing pavement provided for the southbound left turn lanes on Medical Center Parkway is appropriate to accommodate the left turn movement needs. The pavement markings should be modified to provide southbound double left turn lanes on Medical Center Parkway with 225 feet of storage and a taper length of 175 feet.
- The existing pavement markings on the west approach of Honeylocust Lane should be modified to remove the channelization between the left turn lanes and right turn lane and provide a through lane to the extension of Honeylocust Lane.
- A continuous northbound right turn lane should be constructed on Medical Center Parkway along the frontage of Clari Park. To be consistent with similar improvements on Medical Center Parkway, the continuous right turn lane should extend approximately 890 feet and tie to the existing continuous right turn lane that ends at the Redstone Federal Credit Union access.
- Traffic signal modifications will be required as part of the new approach of Honeylocust Lane. The signal modifications should include the new pole and mast arm for the westbound approach signal heads and other components required to ensure a fully operational traffic signal. New timings for the intersection will also be required with the traffic signal modification plan.
- With the connection provided by the extension of Willowoak Trail to Robert Rose Drive and the expected levels of service along Willowoak Trail and Robert Rose Drive, the extension of Honeylocust Lane is not required to connect through Clari Park to Robert Rose Drive. Appropriate local network connectivity is provided by Willowoak Trail and Robert Rose Drive.

D. Medical Center Parkway at Maplegrove Drive

After Clari Park is complete, traffic flow at the intersection of Medical Center Parkway and Maplegrove Drive will be characterized by level of service A during the a.m. peak hour and level of service C during the p.m. peak hour.

- No improvements or traffic control modifications are recommended at the intersection of Medical Center Parkway and Maplegrove Drive.

E. Medical Center Parkway at Robert Rose Drive

After Clari Park is complete, traffic flow at the intersection of Medical Center Parkway and Robert Rose Drive will be characterized by level of service B during the a.m. peak hour and level of service C during the p.m. peak hour.

- No improvements or traffic control modifications are recommended at the intersection of Medical Center Parkway and Robert Rose Drive.

F. Wilkinson Pike at Greshampark Drive

The findings and recommendations below are offered for this intersection.

- The City of Murfreesboro's planned reconstruction of Wilkinson Pike to a three-lane roadway with a two-way continuous center turn lane will provide acceptable and appropriate traffic operations at this intersection in the future.

G. Wilkinson Pike at West Park Drive / Clari Park Access #2

The findings and recommendations below are offered for this intersection.

- The City of Murfreesboro's planned reconstruction of Wilkinson Pike to a three-lane roadway with a two-way continuous center turn lane will provide acceptable and appropriate traffic operations at this intersection in the future.
- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.
- The access to Clari Park at this location may be a gated access. The Clari Park Master Plan pattern book (page 34) states "Access design subject to review and approval by Murfreesboro Planning Commission during site plan approval" for this location in the residential garden district.
- Based on discussions with City staff, left turn lanes will be constructed on Wilkinson Pike at West Park Drive and the proposed access to Clari Park with the improvements being for a local road section brought to the top of binder. The City will complete the surface course of asphalt as part of an upcoming resurfacing project on Wilkinson Pike.
- Traffic volumes at this intersection are not forecasted to satisfy traffic signal warrants even after full build-out of Clari Park. However, a 50-ft. easement would be needed on the project access if a signal were to be installed by others in the future.

H. Wilkinson Pike at Willowoak Trail

The findings and recommendations below are offered for this intersection.

- The City of Murfreesboro's planned reconstruction of Wilkinson Pike to a three-lane roadway with a two-way continuous center turn lane will provide acceptable and appropriate traffic operations at this intersection in the future.
- Based on discussions with City staff, a left turn lane will be constructed on Wilkinson Pike at Willowoak Trail with the improvements being for a local road section and brought to the top of binder. The City will complete the surface course of asphalt as part of an upcoming resurfacing project on Wilkinson Pike.

I. Willowoak Trail at Robert Rose Drive

The findings and recommendations below are offered for this intersection.

- No improvements or traffic control modifications are recommended at the intersection of Willowoak Trail and Robert Rose Drive.

J. Robert Rose Drive at Grassington Street / Clari Park Access #7

The findings and recommendations below are offered for this intersection.

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

K. Robert Rose Drive at Marylebone Street / Clari Park Access #8

The findings and recommendations below are offered for this intersection.

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

L. Robert Rose Drive at Sculling Street / Clari Park Access #9

The findings and recommendations below are offered for this intersection.

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.

M. Greshampark Drive at Clari Park Access #1

The findings and recommendations below are offered for this intersection.

- A minimum of one access to Clari Park from Greshampark Drive should be provided south of Wilkinson Pike. Access to the section of Clari Park on the southeast corner of Greshampark Drive and Wilkinson Pike should include two lanes for traffic exiting the site and one lane for traffic entering the site.
- The location of this access will be determined at the site plan level and will subject to review and approval by the Murfreesboro Planning Commission at that time. Pavement marking modifications on Greshampark Drive that be necessary due to the location of the access will be provided as part of the site plan.

N. Willowoak Trail at Clari Park Access #3 and #4

The findings and recommendations below are offered for this intersection.

- Clari Park Access #3 to the north side of Willowoak Trail at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.
- Clari Park Access #4 to the south side of Willowoak Trail at this intersection should include two lanes for traffic exiting the site and one lane for traffic entering the site.
- One eastbound lane on Willowoak Trail can be a right turn only lane into Clari Park.
- The approaches of Clari Park Access #3 and #4 will be stop-controlled at this intersection. Stop control will not be placed on the Willowoak Trail approaches to this intersection.

O. Honeylocust Lane at Clari Park Access #5, #6, and #11

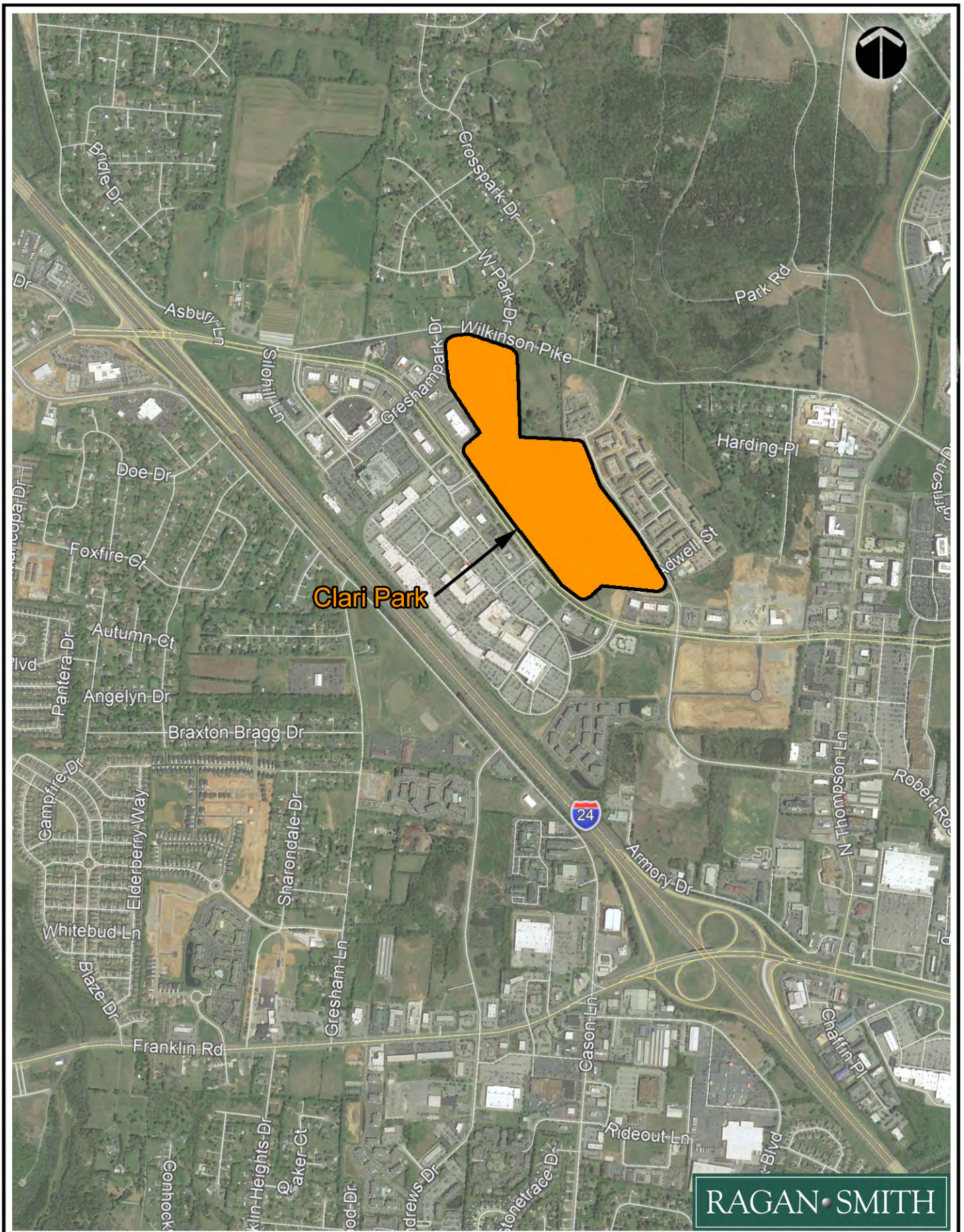
The findings and recommendations below are offered for this intersection.

- Honeylocust Lane is proposed to intersect Clari Lane approximately 400 feet east of Medical Center Parkway. The proposed intersection should include a minimum of two lanes on each approach of Clari Lane and Clari Park access drives to provide one lane for traffic entering the intersection and one lane for traffic exiting the intersection. Additional lanes may be provided on the approach of Honeylocust Lane to the intersection to align with the intersection at Medical Center Parkway.
- The approaches of Clari Park Access #5, #6, and #11 will be stop-controlled at this intersection to prioritize the flow of traffic away from the intersection of Medical Center Parkway and Honeylocust Lane. Stop control will not be placed on the Honeylocust Lane approach to this intersection.

P. Willow oak Trail at Clari Park Access #10

The findings and recommendations below are offered for this intersection.

- The Clari Park access at this intersection should include one lane for traffic exiting the site and one lane for traffic entering the site.



**Clari Park
Location Map**

**Figure
1**

APPENDIX A
TRAFFIC COUNTS

Murfreesboro, TN
Classified Turn Movement Count

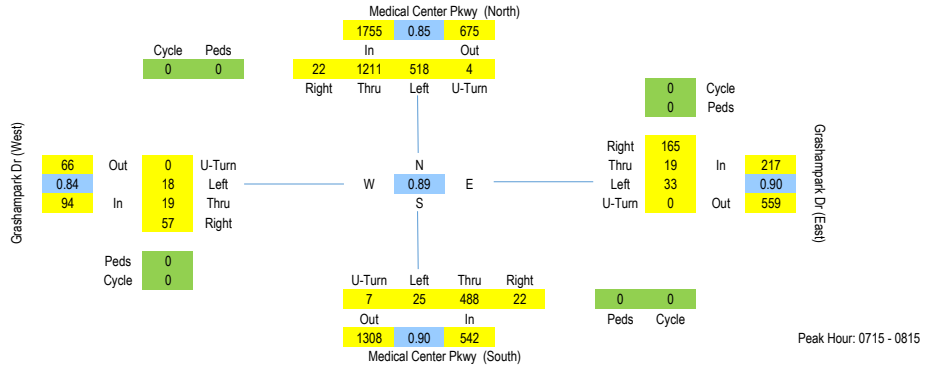
Site 1 of 11
Medical Center Pkwy (North)
Grashampark Dr (East)
Medical Center Pkwy (South)
Grashampark Dr (West)

Lat/Long
35.865444 °, -86.447212 °

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	Southbound Medical Center Pkwy (North)						Westbound Grashampark Dr (East)						Northbound Medical Center Pkwy (South)						Eastbound Grashampark Dr (West)						Int Total	Rolling Hour	
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total			
0600 - 0615	0	47	84	0	0	131	0	5	1	20	0	26	0	1	71	1	0	73	0	2	3	3	0	8	238	1362	
0615 - 0630	0	62	108	1	0	171	0	7	3	28	0	38	0	1	80	5	0	86	0	2	3	6	0	11	306	1622	
0630 - 0645	0	87	149	1	0	237	0	5	3	42	0	50	1	7	84	1	0	93	0	4	1	5	0	10	390	1914	
0645 - 0700	0	111	161	4	0	276	0	6	3	36	0	45	1	8	87	1	0	97	0	3	2	5	0	10	428	2225	
Hourly Total	0	307	502	6	0	815	0	23	10	126	0	159	2	17	322	8	0	349	0	11	9	19	0	39	1362	-	
0700 - 0715	0	102	199	3	0	304	0	7	3	45	0	55	1	4	107	4	0	116	0	8	6	9	0	23	498	2531	
0715 - 0730	1	122	277	2	0	402	0	6	2	39	0	47	1	5	119	4	0	129	0	2	4	14	0	20	598	2608	
0730 - 0745	1	157	323	8	0	489	0	10	5	44	0	59	3	8	111	4	0	126	0	4	6	17	0	27	701	2533	
0745 - 0800	1	137	377	4	0	519	0	8	1	42	0	51	3	3	122	8	0	136	0	3	6	19	0	28	734	2378	
Hourly Total	3	518	1176	17	0	1714	0	31	11	170	0	212	8	20	459	20	0	507	0	17	22	59	0	98	2531	-	
0800 - 0815	1	102	234	8	0	345	0	9	11	40	0	60	0	9	136	6	0	151	0	9	3	7	0	19	575	2171	
0815 - 0830	2	87	227	3	0	319	0	8	4	51	0	63	0	13	110	4	0	127	0	6	1	7	0	14	523	-	
0830 - 0845	2	82	232	9	0	325	0	7	2	34	0	43	2	9	135	8	0	154	0	9	5	10	0	24	546	-	
0845 - 0900	1	67	222	7	0	297	0	14	8	45	0	67	1	7	125	7	0	140	0	10	7	6	0	23	527	-	
Hourly Total	6	338	915	27	0	1286	0	38	25	170	0	233	3	38	506	25	0	572	0	34	16	30	0	80	2171	-	
Grand Total	9	1163	2593	50	0	3815	0	92	46	466	0	604	13	75	1287	53	0	1428	0	62	47	108	0	217	6064	-	
Approach (%)	0.24	30.48	67.97	1.31	0.00	0.00	15.23	7.62	77.15	0.00	0.91	5.25	90.13	3.71	0.00	0.00	28.57	21.66	49.77	0.00	0.00	28.57	21.66	49.77	0.00	3.58	-
Total (%)	0.15	19.18	42.76	0.82	0.00	62.91	0.00	1.52	0.76	7.68	0.00	9.96	0.21	1.24	21.22	0.87	0.00	23.55	0.00	1.02	0.78	1.78	0.00	3.58	-		
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	-		
Cars	9	1153	2568	49	-	3779	0	90	44	462	-	596	13	69	1259	52	-	1393	0	61	46	106	-	213	-		
Truck	0	10	25	1	-	36	0	2	2	4	-	8	0	6	28	1	-	35	0	1	1	2	-	4	-		
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	-		
Cars (%)	100.00	99.14	99.04	98.00	-	99.06	0.00	97.83	95.65	99.14	-	98.68	100.00	92.00	97.82	98.11	-	97.55	0.00	98.39	97.87	98.15	-	98.16	-		
Truck (%)	0.00	0.86	0.96	2.00	-	0.94	0.00	2.17	4.35	0.86	-	1.32	0.00	8.00	2.18	1.89	-	2.45	0.00	1.61	2.13	1.85	-	1.84	-		

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Medical Center Pkwy (North)						Westbound Grashampark Dr (East)						Northbound Medical Center Pkwy (South)						Eastbound Grashampark Dr (West)						Int Total						
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total							
0715 - 0730	1	122	277	2	0	402	0	6	2	39	0	47	1	5	119	4	0	129	0	2	4	14	0	20	598						
0730 - 0745	1	157	323	8	0	489	0	10	5	44	0	59	3	8	111	4	0	126	0	4	6	17	0	27	701						
0745 - 0800	1	137	377	4	0	519	0	8	1	42	0	51	3	3	122	8	0	136	0	3	6	19	0	28	734						
0800 - 0815	1	102	234	8	0	345	0	9	11	40	0	60	0	9	136	6	0	151	0	9	3	7	0	19	575						
Grand Total	4	518	1211	22	0	1755	0	33	19	165	0	217	7	25	488	22	0	542	0	18	19	57	0	94	2608						
Approach (%)	0.23	29.52	69.00	1.25	0.00	0.00	15.21	8.76	76.04	0.00	1.29	4.61	90.04	4.06	0.00	0.00	19.15	20.21	60.64	0.00	0.00	19.15	20.21	60.64	0.00	3.60					
Total (%)	0.15	19.86	46.43	0.84	0.00	67.29	0.00	1.27	0.73	6.33	0.00	8.32	0.27	0.96	18.71	0.84	0.00	20.78	0.00	0.69	0.73	2.19	0.00	3.60							
PHF	85%						90%						90%						84%						89%						
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Cars	4	512	1200	22	-	1738	0	32	17	163	-	212	7	23	480	22	-	532	0	18	18	57	-	93	2575						
Truck	0	6	11	0	-	17	0	1	2	2	-	5	0	2	8	0	-	10	0	0	1	0	-	1	33						
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00						
Cars (%)	100.00	98.84	99.09	100.00	-	99.03	0.00	96.97	89.47	98.79	-	97.70	100.00	92.00	98.36	100.00	-	98.15	0.00	100.00	94.74	100.00	-	98.94	98.73						
Truck (%)	0.00	1.16	0.91	0.00	-	0.97	0.00	3.03	10.53	1.21	-	2.30	0.00	8.00	1.64	0.00	-	1.85	0.00	0.00	5.26	0.00	-	1.06	1.27						

Murfreesboro, TN
Classified Turn Movement Count

Site 2 of 11
Medical Center Pkwy (North)

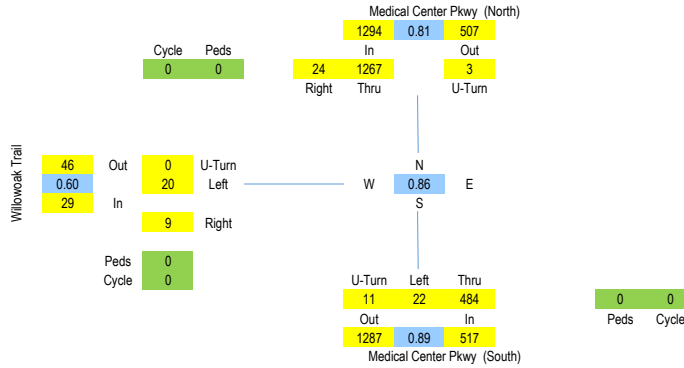
Medical Center Pkwy (South)
Willowoak Trail

Lat/Long
35.862894°, -86.444927°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 0715 - 0815

Southbound					
Medical Center Pkwy (North)					
TIME	U-Turn	Thru	Right	Peds	App Total
0600 - 0615	0	93	0	0	93
0615 - 0630	0	116	2	0	118
0630 - 0645	1	145	2	0	148
0645 - 0700	0	166	7	0	173
Hourly Total	1	520	11	0	532
0700 - 0715	0	213	3	0	216
0715 - 0730	0	268	3	0	271
0730 - 0745	1	362	5	0	368
0745 - 0800	1	389	8	0	398
Hourly Total	2	1232	19	0	1253
0800 - 0815	1	248	8	0	257
0815 - 0830	0	224	6	0	230
0830 - 0845	3	235	9	0	247
0845 - 0900	0	233	9	0	242
Hourly Total	4	940	32	0	976
Grand Total	7	2692	62	0	2761
Approach (%)	0.25	97.50	2.25	0.00	
Total (%)	0.17	64.10	1.48	0.00	65.74
P/Cycle	0	0	0	-	0
Cars	7	2663	62	-	2732
Truck	0	29	0	-	29
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	98.92	100.00	-	98.95
Truck (%)	0.00	1.08	0.00	-	1.05

Northbound						Eastbound						
Medical Center Pkwy (South)						Willowoak Trail						
TIME	U-Turn	Left	Thru	Peds	App Total	U-Turn	Left	Right	Peds	App Total	Int Total	Rolling Hour
0600 - 0615	0	2	60	0	62	0	0	6	0	6	161	868
0615 - 0630	0	4	81	0	85	0	3	0	0	3	206	1038
0630 - 0645	0	3	74	0	77	0	6	0	0	6	231	1238
0645 - 0700	1	4	86	0	91	0	5	1	0	6	270	1490
Hourly Total	1	13	301	0	315	0	20	1	0	21	868	-
0700 - 0715	0	2	107	0	109	0	5	1	0	6	331	1758
0715 - 0730	2	2	130	0	134	0	0	1	0	1	406	1840
0730 - 0745	3	3	104	0	110	0	3	2	0	5	483	1796
0745 - 0800	3	9	116	0	128	0	9	3	0	12	538	1719
Hourly Total	8	16	457	0	481	0	17	7	0	24	1758	-
0800 - 0815	3	8	134	0	145	0	8	3	0	11	413	1574
0815 - 0830	0	7	117	0	124	1	6	1	0	8	362	-
0830 - 0845	2	7	135	0	144	0	9	6	0	15	406	-
0845 - 0900	0	7	134	0	141	0	7	3	0	10	393	-
Hourly Total	5	29	520	0	554	1	30	13	0	44	1574	-
Grand Total	14	58	1278	0	1350	1	67	21	0	89	4200	
Approach (%)	1.04	4.30	94.67	0.00		1.12	75.28	23.60	0.00			
Total (%)	0.33	1.38	30.43	0.00	32.14	0.02	1.60	0.50	0.00	2.12		
P/Cycle	0	0	0	-	0	0	0	0	-	0		
Cars	14	54	1247	-	1315	1	65	17	-	83		
Truck	0	4	31	-	35	0	2	4	-	6		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	100.00	93.10	97.57	-	97.41	100.00	97.01	80.95	-	93.26		
Truck (%)	0.00	6.90	2.43	-	2.59	0.00	2.99	19.05	-	6.74		

Peak Rolling Hour Flow Rates
Classification: ALL

Southbound					
Medical Center Pkwy (North)					
TIME	U-Turn	Thru	Right	Peds	App Total
0715 - 0730	0	268	3	0	271
0730 - 0745	1	362	5	0	368
0745 - 0800	1	389	8	0	398
0800 - 0815	1	248	8	0	257
Grand Total	3	1267	24	0	1294
Approach (%)	0.23	97.91	1.85	0.00	
Total (%)	0.16	68.86	1.30	0.00	70.33
PHF	75%	81%	75%		
P/Cycle	0	0	0	-	0
Cars	3	1255	24	-	1282
Truck	0	12	0	-	12
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	99.05	100.00	-	99.07
Truck (%)	0.00	0.95	0.00	-	0.93

Northbound						Eastbound					
Medical Center Pkwy (South)						Willowoak Trail					
TIME	U-Turn	Left	Thru	Peds	App Total	U-Turn	Left	Right	Peds	App Total	Int Total
0715 - 0730	2	2	130	0	134	0	0	1	0	1	406
0730 - 0745	3	3	104	0	110	0	3	2	0	5	483
0745 - 0800	3	9	116	0	128	0	9	3	0	12	538
0800 - 0815	3	8	134	0	145	0	8	3	0	11	413
Grand Total	11	22	484	0	517	0	20	9	0	29	1840
Approach (%)	2.13	4.26	93.62	0.00		0.00	68.97	31.03	0.00		
Total (%)	0.60	1.20	26.30	0.00	28.10	0.00	1.09	0.49	0.00	1.58	
PHF	92%	61%	90%			0%	56%	75%			86%
P/Cycle	0	0	0	-	0	0	0	0	-	0	
Cars	11	20	475	-	506	0	19	8	-	27	1815
Truck	0	2	9	-	11	0	1	1	-	2	25
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	100.00	90.91	98.14	-	97.87	0.00	95.00	88.89	-	93.10	98.64
Truck (%)	0.00	9.09	1.86	-	2.13	0.00	5.00	11.11	-	6.90	1.36

Murfreesboro, TN
Classified Turn Movement Count

Site 3 of 11
Medical Center Pkwy (North)

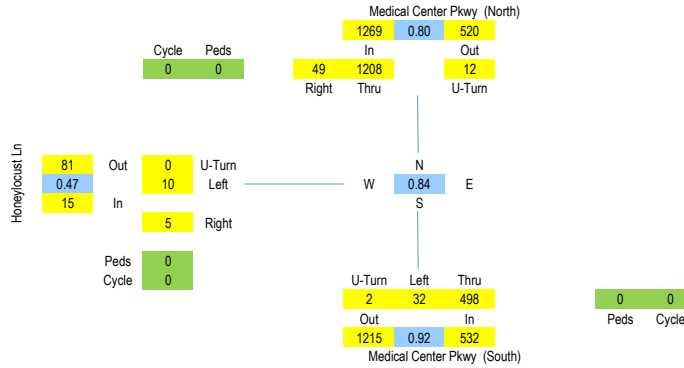
Medical Center Pkwy (South)
Honeylocust Ln

Lat/Long
35.860246°, -86.442494°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 0715 - 0815

TIME	Southbound Medical Center Pkwy (North)				
	U-Turn	Thru	Right	Peds 3a	App Total
0600 - 0615	0	88	2	0	90
0615 - 0630	0	112	0	0	112
0630 - 0645	0	138	5	0	143
0645 - 0700	1	159	5	0	165
Hourly Total	1	497	12	0	510
0700 - 0715	2	208	6	0	216
0715 - 0730	3	258	4	0	265
0730 - 0745	4	340	9	0	353
0745 - 0800	1	372	22	0	395
Hourly Total	10	1178	41	0	1229
0800 - 0815	4	238	14	0	256
0815 - 0830	2	216	9	0	227
0830 - 0845	1	222	6	0	229
0845 - 0900	3	225	12	0	240
Hourly Total	10	901	41	0	952
Grand Total	21	2576	94	0	2691
Approach (%)	0.78	95.73	3.49	0.00	
Total (%)	0.51	62.55	2.28	0.00	65.35
P/Cycle	0	0	0	-	0
Cars	21	2543	94	-	2658
Truck	0	33	0	-	33
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	98.72	100.00	-	98.77
Truck (%)	0.00	1.28	0.00	-	1.23

TIME	Northbound Medical Center Pkwy (South)				Eastbound Honeylocust Ln					Int Total	Rolling Hour	
	U-Turn	Left	Thru	Peds 3c	App Total	U-Turn	Left	Right	Peds 3d			App Total
0600 - 0615	0	0	58	0	58	0	8	0	0	8	156	845
0615 - 0630	0	2	83	0	85	0	1	1	0	2	199	1012
0630 - 0645	0	5	79	0	84	0	0	2	0	2	229	1216
0645 - 0700	1	2	91	0	94	0	1	1	0	2	261	1452
Hourly Total	1	9	311	0	321	0	10	4	0	14	845	-
0700 - 0715	0	1	100	0	101	0	5	1	0	6	323	1734
0715 - 0730	2	6	128	0	136	0	2	0	0	2	403	1816
0730 - 0745	0	6	105	0	111	0	1	0	0	1	465	1778
0745 - 0800	0	11	133	0	144	0	2	2	0	4	543	1692
Hourly Total	2	24	466	0	492	0	10	3	0	13	1734	-
0800 - 0815	0	9	132	0	141	0	5	3	0	8	405	1539
0815 - 0830	0	14	120	0	134	0	1	3	0	4	365	-
0830 - 0845	1	6	139	0	146	0	2	2	0	4	379	-
0845 - 0900	1	8	135	0	144	0	1	5	0	6	390	-
Hourly Total	2	37	526	0	565	0	9	13	0	22	1539	-
Grand Total	5	70	1303	0	1378	0	29	20	0	49	4118	-
Approach (%)	0.36	5.08	94.56	0.00	0.00	0.00	59.18	40.82	0.00			
Total (%)	0.12	1.70	31.64	0.00	33.46	0.00	0.70	0.49	0.00	1.19		
P/Cycle	0	0	0	-	0	0	0	0	-	0		
Cars	5	69	1268	-	1342	0	29	14	-	43		
Truck	0	1	35	-	36	0	0	6	-	6		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	100.00	98.57	97.31	-	97.39	0.00	100.00	70.00	-	87.76		
Truck (%)	0.00	1.43	2.69	-	2.61	0.00	0.00	30.00	-	12.24		

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Medical Center Pkwy (North)				
	U-Turn	Thru	Right	Peds 3a	App Total
0715 - 0730	3	258	4	0	265
0730 - 0745	4	340	9	0	353
0745 - 0800	1	372	22	0	395
0800 - 0815	4	238	14	0	256
Grand Total	12	1208	49	0	1269
Approach (%)	0.95	95.19	3.86	0.00	
Total (%)	0.66	66.52	2.70	0.00	69.88
PHF	75%	81%	56%		
P/Cycle	0	0	0	-	0
Cars	12	1195	49	-	1256
Truck	0	13	0	-	13
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	98.92	100.00	-	98.98
Truck (%)	0.00	1.08	0.00	-	1.02

TIME	Northbound Medical Center Pkwy (South)				Eastbound Honeylocust Ln					Int Total	
	U-Turn	Left	Thru	Peds 3c	App Total	U-Turn	Left	Right	Peds 3d		App Total
0715 - 0730	2	6	128	0	136	0	2	0	0	2	403
0730 - 0745	0	6	105	0	111	0	1	0	0	1	465
0745 - 0800	0	11	133	0	144	0	2	2	0	4	543
0800 - 0815	0	9	132	0	141	0	5	3	0	8	405
Grand Total	2	32	498	0	532	0	10	5	0	15	1816
Approach (%)	0.38	6.02	93.61	0.00	0.00	0.00	66.67	33.33	0.00		
Total (%)	0.11	1.76	27.42	0.00	29.30	0.00	0.55	0.28	0.00	0.83	
PHF	25%	73%	94%			0%	50%	42%		84%	
P/Cycle	0	0	0	-	0	0	0	0	-	0	
Cars	2	31	487	-	520	0	10	4	-	14	1790
Truck	0	1	11	-	12	0	0	1	-	1	26
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	100.00	96.88	97.79	-	97.74	0.00	100.00	80.00	-	93.33	98.57
Truck (%)	0.00	3.13	2.21	-	2.26	0.00	0.00	20.00	-	6.67	1.43

Murfreesboro, TN
Classified Turn Movement Count

Site 4 of 11

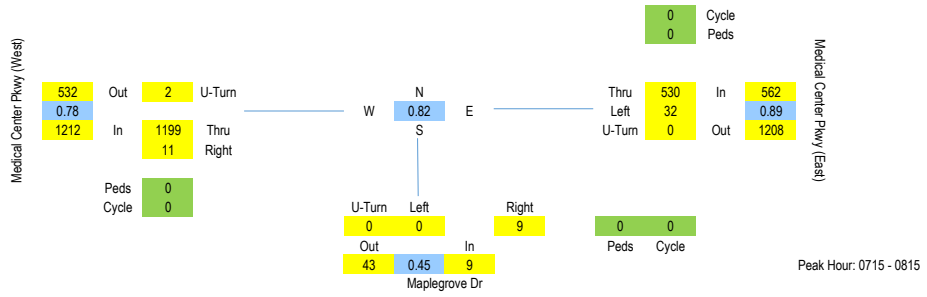
Medical Center Pkwy (East)
Maplegrove Dr
Medical Center Pkwy (West)

Lat/Long
35.858245 °, -86.439332°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
0600 - 0615	0	4	59	0	63	0	0	8	0	8	0	0	0	0	0	81	0	0	81	152	852
0615 - 0630	0	3	84	0	87	0	0	1	0	1	0	0	0	0	0	112	0	0	112	200	1009
0630 - 0645	0	6	86	0	92	0	0	0	0	0	0	0	0	0	0	144	0	0	144	237	1208
0645 - 0700	0	6	91	0	97	0	0	1	0	1	0	0	0	0	0	164	1	0	165	263	1414
Hourly Total	0	19	320	0	339	0	0	10	0	10	1	0	0	0	0	501	1	0	503	852	-
0700 - 0715	0	1	106	0	107	0	0	2	0	2	1	0	0	0	0	197	2	0	200	309	1697
0715 - 0730	0	0	129	0	129	0	0	2	0	2	0	0	0	0	0	265	3	0	268	399	1783
0730 - 0745	0	6	113	0	119	0	0	1	0	1	1	0	0	0	0	321	1	0	323	443	1754
0745 - 0800	0	12	144	0	156	0	0	1	0	1	1	0	0	0	0	382	6	0	389	546	1681
Hourly Total	0	19	492	0	511	0	0	6	0	6	3	0	0	0	0	1165	12	0	1180	1697	-
0800 - 0815	0	14	144	0	158	0	0	5	0	5	0	0	0	0	0	231	1	0	232	395	1525
0815 - 0830	1	6	131	0	138	0	0	1	0	1	4	0	0	0	0	224	3	0	231	370	-
0830 - 0845	0	6	146	0	152	0	0	1	0	1	0	0	0	0	0	214	3	0	217	370	-
0845 - 0900	0	8	136	0	144	0	2	3	0	5	1	0	0	0	0	237	3	0	241	390	-
Hourly Total	1	34	557	0	592	0	2	10	0	12	5	0	0	0	0	906	10	0	921	1525	-
Grand Total	1	72	1369	0	1442	0	2	26	0	28	9	0	0	0	0	2572	23	0	2604	4074	-
Approach (%)	0.07	4.99	94.94	0.00	0.00	0.00	7.14	92.86	0.00	0.35	0.00	0.00	0.00	0.00	0.00	98.77	0.88	0.00	0.00	0.00	0.00
Total (%)	0.02	1.77	33.60	0.00	35.40	0.00	0.05	0.64	0.00	0.69	0.22	0.00	0.00	0.00	0.00	63.13	0.56	0.00	63.92	0.00	0.00
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	-	0	0	0	0	-	0	0	0
Cars	1	65	1334	-	1400	0	2	25	-	27	8	-	-	2536	21	-	2565	-	-	2565	1681
Truck	0	7	35	-	42	0	0	1	-	1	1	-	-	36	2	-	39	-	-	39	-
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	-	-	0.00	0.00	-	0.00	-	-	0.00	0.00
Cars (%)	100.00	90.28	97.44	-	97.09	0.00	100.00	96.15	-	96.43	88.89	-	-	98.60	91.30	-	98.50	-	-	98.50	98.49
Truck (%)	0.00	9.72	2.56	-	2.91	0.00	0.00	3.85	-	3.57	11.11	-	-	1.40	8.70	-	1.50	-	-	1.50	-

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
0715 - 0730	0	0	129	0	129	0	0	2	0	2	0	0	0	0	0	265	3	0	268	399	-
0730 - 0745	0	6	113	0	119	0	0	1	0	1	1	0	0	0	0	321	1	0	323	443	-
0745 - 0800	0	12	144	0	156	0	0	1	0	1	1	0	0	0	0	382	6	0	389	546	-
0800 - 0815	0	14	144	0	158	0	0	5	0	5	0	0	0	0	0	231	1	0	232	395	-
Grand Total	0	32	530	0	562	0	0	9	0	9	2	0	0	0	0	1199	11	0	1212	1783	-
Approach (%)	0.00	5.69	94.31	0.00	0.00	0.00	0.00	100.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	98.93	0.91	0.00	0.00	0.00	0.00
Total (%)	0.00	1.79	29.73	0.00	31.52	0.00	0.00	0.50	0.00	0.50	0.11	0.00	0.00	0.00	0.00	67.25	0.62	0.00	67.98	0.00	0.00
PHF	0%	57%	92%	-	0%	0%	45%	45%	-	50%	78%	46%	-	82%	0%	0%	0%	0%	0%	0%	0%
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	-	-	0	0	0	0	-	0	0	0
Cars	0	30	520	-	550	0	0	8	-	8	2	-	-	1187	9	-	1198	-	-	1198	1756
Truck	0	2	10	-	12	0	0	1	-	1	0	-	-	12	2	-	14	-	-	14	27
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	-	-	0.00	0.00	-	0.00	-	-	0.00	0.00
Cars (%)	0.00	93.75	98.11	-	97.86	0.00	0.00	88.89	-	88.89	100.00	-	-	99.00	81.82	-	98.84	-	-	98.84	98.49
Truck (%)	0.00	6.25	1.89	-	2.14	0.00	0.00	11.11	-	11.11	0.00	-	-	1.00	18.18	-	1.16	-	-	1.16	1.51

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
0715 - 0730	0	0	129	0	129	0	0	2	0	2	0	0	0	0	0	265	3	0	268	399	-
0730 - 0745	0	6	113	0	119	0	0	1	0	1	1	0	0	0	0	321	1	0	323	443	-
0745 - 0800	0	12	144	0	156	0	0	1	0	1	1	0	0	0	0	382	6	0	389	546	-
0800 - 0815	0	14	144	0	158	0	0	5	0	5	0	0	0	0	0	231	1	0	232	395	-
Grand Total	0	32	530	0	562	0	0	9	0	9	2	0	0	0	0	1199	11	0	1212	1783	-
Approach (%)	0.00	5.69	94.31	0.00	0.00	0.00	0.00	100.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	98.93	0.91	0.00	0.00	0.00	0.00
Total (%)	0.00	1.79	29.73	0.00	31.52	0.00	0.00	0.50	0.00	0.50	0.11	0.00	0.00	0.00	0.00	67.25	0.62	0.00	67.98	0.00	0.00
PHF	0%	57%	92%	-	0%	0%	45%	45%	-	50%	78%	46%	-	82%	0%	0%	0%	0%	0%	0%	0%
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	-	-	0	0	0	0	-	0	0	0
Cars	0	30	520	-	550	0	0	8	-	8	2	-	-	1187	9	-	1198	-	-	1198	1756
Truck	0	2	10	-	12	0	0	1	-	1	0	-	-	12	2	-	14	-	-	14	27
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	-	-	0.00	0.00	-	0.00	-	-	0.00	0.00
Cars (%)	0.00	93.75	98.11	-	97.86	0.00	0.00	88.89	-	88.89	100.00	-	-	99.00	81.82	-	98.84	-	-	98.84	98.49
Truck (%)	0.00	6.25	1.89	-	2.14	0.00	0.00	11.11	-	11.11	0.00	-	-	1.00	18.18	-	1.16	-	-	1.16	1.51

Murfreesboro, TN
Classified Turn Movement Count

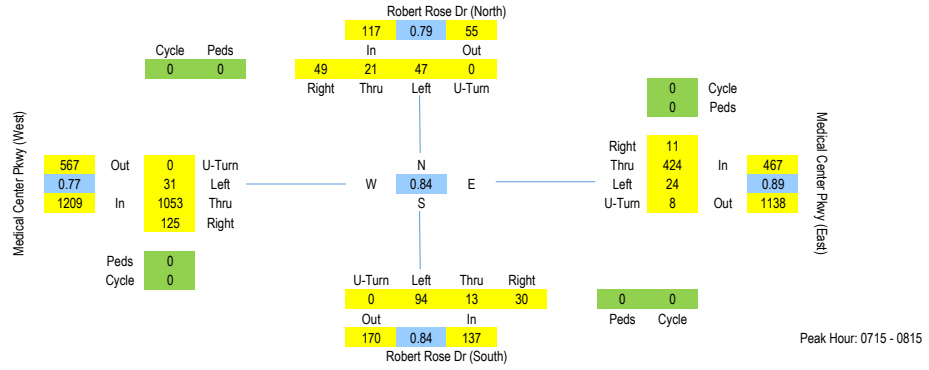
Site 5 of 11
Robert Rose Dr (North)
Medical Center Pkwy (East)
Robert Rose Dr (South)
Medical Center Pkwy (West)

Lat/Long
35.857916°, -86.436850°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 0715 - 0815

TIME	Southbound Robert Rose Dr (North)						Westbound Medical Center Pkwy (East)						Northbound Robert Rose Dr (South)						Eastbound Medical Center Pkwy (West)						Int Total	Rolling Hour		
	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds 5a	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds 5b	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds 5c	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds 5d	App Total				
0600 - 0615	0	5	3	17	0	25	3	0	37	0	0	40	0	10	0	4	0	14	0	2	79	13	0	94	0	173	935	
0615 - 0630	0	2	4	19	0	25	2	2	55	4	0	63	0	15	2	5	0	22	0	4	91	11	0	106	216	1091		
0630 - 0645	0	7	2	23	0	32	0	2	56	3	0	61	0	12	1	7	0	20	0	2	134	10	0	146	259	1319		
0645 - 0700	0	2	5	16	0	23	0	2	68	2	0	72	0	13	2	7	0	22	0	5	141	24	0	170	287	1541		
Hourly Total	0	16	14	75	0	105	5	6	216	9	0	236	0	50	5	23	0	78	0	13	445	58	0	516	935	-		
0700 - 0715	0	7	5	14	0	26	1	2	75	4	0	82	0	20	2	7	0	29	0	3	164	25	0	192	329	1830		
0715 - 0730	0	16	6	15	0	37	1	6	99	1	0	107	0	16	3	7	0	26	0	4	233	37	0	274	444	1930		
0730 - 0745	0	7	9	11	0	27	3	5	89	3	0	100	0	27	4	10	0	41	0	8	277	28	0	313	481	1886		
0745 - 0800	0	13	2	7	0	22	3	4	120	2	0	129	0	22	3	8	0	33	0	14	335	43	0	392	576	1797		
Hourly Total	0	43	22	47	0	112	8	17	383	10	0	418	0	85	12	32	0	129	0	29	1009	133	0	1171	1830	-		
0800 - 0815	0	11	4	16	0	31	1	9	116	5	0	131	0	29	3	5	0	37	0	5	208	17	0	230	429	1637		
0815 - 0830	0	4	5	13	0	22	1	4	109	2	0	116	0	15	3	10	0	28	2	4	201	27	0	234	400	-		
0830 - 0845	0	5	2	8	0	15	1	3	126	1	0	131	0	22	4	9	0	35	0	3	183	25	0	211	392	-		
0845 - 0900	0	8	3	3	0	14	0	7	122	7	0	136	0	16	4	3	0	23	0	10	194	39	0	243	416	-		
Hourly Total	0	28	14	40	0	82	3	23	473	15	0	514	0	82	14	27	0	123	2	22	786	108	0	918	1637	-		
Grand Total	0	87	50	162	0	299	16	46	1072	34	0	1168	0	217	31	82	0	330	2	64	2240	299	0	2605	4402	-		
Approach (%)	0.00	29.10	16.72	54.18	0.00		1.37	3.94	91.78	2.91	0.00		0.00	65.76	9.39	24.85	0.00		0.08	2.46	85.99	11.48	0.00					
Total (%)	0.00	1.98	1.14	3.68	0.00	6.79	0.36	1.04	24.35	0.77	0.00	26.53	0.00	4.93	0.70	1.86	0.00	7.50	0.05	1.45	50.89	6.79	0.00	59.18				
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
Cars	0	87	49	160	-	296	16	45	1035	33	-	1129	0	214	30	81	-	325	2	61	2211	294	-	2568				
Truck	0	0	1	2	-	3	0	1	37	1	-	39	0	3	1	1	-	5	0	3	29	5	-	37				
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	0.00	100.00	98.00	98.77	-	99.00	100.00	97.83	96.55	97.06	-	96.66	0.00	98.62	96.77	98.78	-	98.48	100.00	95.31	98.71	98.33	-	98.58				
Truck (%)	0.00	0.00	2.00	1.23	-	1.00	0.00	2.17	3.45	2.94	-	3.34	0.00	1.38	3.23	1.22	-	1.52	0.00	4.69	1.29	1.67	-	1.42				

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Robert Rose Dr (North)						Westbound Medical Center Pkwy (East)						Northbound Robert Rose Dr (South)						Eastbound Medical Center Pkwy (West)						Int Total			
	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds 5a	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds 5b	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds 5c	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds 5d	App Total				
0715 - 0730	0	16	6	15	0	37	1	6	99	1	0	107	0	16	3	7	0	26	0	4	233	37	0	274	444			
0730 - 0745	0	7	9	11	0	27	3	5	89	3	0	100	0	27	4	10	0	41	0	8	277	28	0	313	481			
0745 - 0800	0	13	2	7	0	22	3	4	120	2	0	129	0	22	3	8	0	33	0	14	335	43	0	392	576			
0800 - 0815	0	11	4	16	0	31	1	9	116	5	0	131	0	29	3	5	0	37	0	5	208	17	0	230	429			
Grand Total	0	47	21	49	0	117	8	24	424	11	0	467	0	94	13	30	0	137	0	31	1053	125	0	1209	1930			
Approach (%)	0.00	40.17	17.95	41.88	0.00		1.71	5.14	90.79	2.36	0.00		0.00	68.61	9.49	21.90	0.00		0.00	2.56	87.10	10.34	0.00					
Total (%)	0.00	2.44	1.09	2.54	0.00	6.06	0.41	1.24	21.97	0.57	0.00	24.20	0.00	4.87	0.67	1.55	0.00	7.10	0.00	1.61	54.56	6.48	0.00	62.64				
PHF	79%						89%						84%						84%									
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
Cars	0	47	20	48	-	115	8	24	412	11	-	455	0	94	13	30	-	137	0	30	1043	124	-	1197	1904			
Truck	0	0	1	1	-	2	0	0	12	0	-	12	0	0	0	0	-	0	0	1	10	1	-	12	26			
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	0.00	100.00	95.24	97.96	-	98.29	100.00	100.00	97.17	100.00	-	97.43	0.00	100.00	100.00	100.00	-	100.00	0.00	96.77	99.05	99.20	-	99.01	98.65			
Truck (%)	0.00	0.00	4.76	2.04	-	1.71	0.00	0.00	2.83	0.00	-	2.57	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	3.23	0.95	0.80	-	0.99	1.35		

Murfreesboro, TN
Classified Turn Movement Count

Site 6 of 11

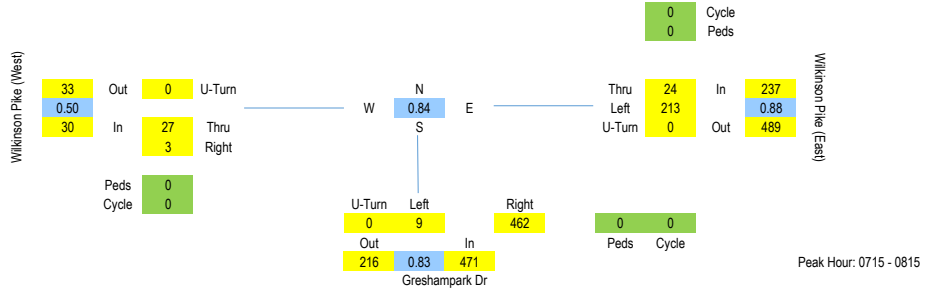
Wilkinson Pike (East)
Greshampark Dr
Wilkinson Pike (West)

Lat/Long
35.867615°, -86.446294°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
0600 - 0615	0	24	0	0	0	0	24	0	0	0	0	34	0	34	0	0	0	2	0	0	2	60	412
0615 - 0630	0	33	0	0	0	0	33	0	0	0	0	50	0	50	0	0	0	0	0	0	0	83	491
0630 - 0645	0	48	1	0	0	0	49	0	0	0	0	77	0	77	0	0	0	0	0	0	0	126	578
0645 - 0700	0	42	1	0	0	0	43	0	0	0	0	99	0	99	0	0	0	1	0	0	1	143	671
Hourly Total	0	147	2	0	0	0	149	0	0	0	0	260	0	260	0	0	0	3	0	0	3	412	-
0700 - 0715	0	54	1	0	0	0	55	0	0	0	0	82	0	82	0	0	0	2	0	0	2	139	733
0715 - 0730	0	49	5	0	0	0	54	0	4	0	0	106	0	110	0	0	0	6	0	0	6	170	738
0730 - 0745	0	54	8	0	0	0	62	0	1	0	0	141	0	142	0	0	0	14	1	0	15	219	715
0745 - 0800	0	59	8	0	0	0	67	0	3	0	0	129	0	132	0	0	0	6	0	0	6	205	613
Hourly Total	0	216	22	0	0	0	238	0	8	0	0	458	0	466	0	0	0	28	1	0	29	733	-
0800 - 0815	0	51	3	0	0	0	54	0	1	0	0	86	0	87	0	0	0	1	2	0	3	144	520
0815 - 0830	0	62	2	0	0	0	64	0	0	0	0	79	0	79	0	0	0	2	2	0	4	147	
0830 - 0845	0	46	2	0	0	0	48	0	0	0	0	68	0	68	0	0	0	0	1	0	1	117	
0845 - 0900	0	54	3	0	0	0	57	0	0	0	0	52	0	52	0	0	0	1	2	0	3	112	
Hourly Total	0	213	10	0	0	0	223	0	1	0	0	285	0	286	0	0	0	4	7	0	11	520	
Grand Total	0	576	34	0	0	0	610	0	9	0	0	1003	0	1012	0	0	0	35	8	0	43	1665	
Approach (%)	0.00	94.43	5.57	0.00		0.00		0.00	0.89			99.11	0.00		0.00			81.40	18.60	0.00			
Total (%)	0.00	34.59	2.04	0.00		0.00	36.64	0.00	0.54			60.24	0.00	60.78	0.00			2.10	0.48	0.00	2.58		
P/Cycle	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0		
Cars	0	569	32	-	601	0	9	996	-	1005	0	35	7	-	42			35	7	-	42		
Truck	0	7	2	-	9	0	0	7	-	7	0	0	1	-	1			0	1	-	1		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00			0.00	0.00	-	0.00		
Cars (%)	0.00	98.78	94.12	-	98.52	0.00	100.00	99.30	-	99.31	0.00	100.00	87.50	-	97.67			100.00	100.00	-	100.00	98.78	
Truck (%)	0.00	1.22	5.88	-	1.48	0.00	0.00	0.70	-	0.69	0.00	0.00	12.50	-	2.33			0.00	0.00	-	0.00	1.22	

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling	
0715 - 0730	0	49	5	0	0	0	54	0	4	0	0	106	0	110	0	0	0	6	0	0	6	170		
0730 - 0745	0	54	8	0	0	0	62	0	1	0	0	141	0	142	0	0	0	14	1	0	15	219		
0745 - 0800	0	59	8	0	0	0	67	0	3	0	0	129	0	132	0	0	0	6	0	0	6	205		
0800 - 0815	0	51	3	0	0	0	54	0	1	0	0	86	0	87	0	0	0	1	2	0	3	144		
Grand Total	0	213	24	0	0	0	237	0	9	0	0	462	0	471	0	0	0	27	3	0	30	738		
Approach (%)	0.00	89.87	10.13	0.00		0.00		0.00	1.91			98.09	0.00		0.00			90.00	10.00	0.00				
Total (%)	0.00	28.86	3.25	0.00		0.00	32.11	0.00	1.22			62.60	0.00	63.82	0.00			3.66	0.41	0.00	4.07			
PHF	88%					83%						50%						84%						
P/Cycle	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0		
Cars	0	209	23	-	232	0	9	458	-	467	0	27	3	-	30	729		27	3	-	30	729		
Truck	0	4	1	-	5	0	0	4	-	4	0	0	0	-	0	9		0	0	-	0	9		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00		0.00	0.00	-	0.00	0.00		
Cars (%)	0.00	98.12	95.83	-	97.89	0.00	100.00	99.13	-	99.15	0.00	100.00	100.00	-	100.00	98.78		100.00	100.00	-	100.00	98.78		
Truck (%)	0.00	1.88	4.17	-	2.11	0.00	0.00	0.87	-	0.85	0.00	0.00	0.00	-	0.00	1.22		0.00	0.00	-	0.00	1.22		

Murfreesboro, TN
Classified Turn Movement Count

Site 8 of 11

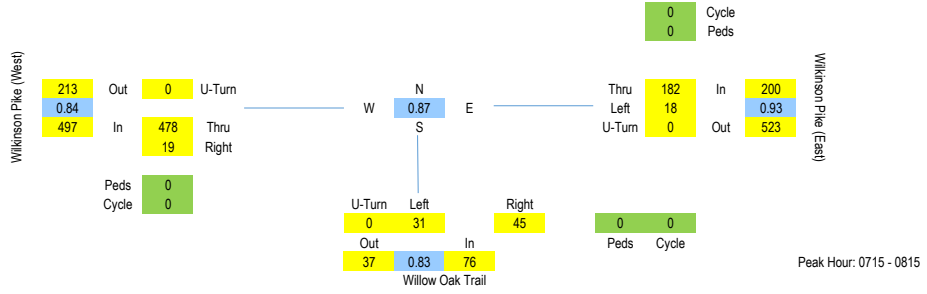
Wilkinson Pike (East)
Willow Oak Trail
Wilkinson Pike (West)

Lat/Long
35.866080°, -86.438822°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
0600 - 0615	0	1	13	0	14	0	6	3	0	9	0	0	0	0	0	34	2	0	36	59	411
0615 - 0630	0	3	15	0	18	0	10	2	0	12	0	0	0	0	0	47	1	0	48	78	490
0630 - 0645	0	2	28	0	30	0	11	3	0	14	0	0	0	0	0	78	7	0	85	129	597
0645 - 0700	0	2	20	0	22	0	11	10	0	21	0	0	0	0	0	99	3	0	102	145	690
Hourly Total	0	8	76	0	84	0	38	18	0	56	0	0	0	0	0	258	13	0	271	411	-
0700 - 0715	0	2	29	0	31	0	14	10	0	24	0	0	0	0	0	81	2	0	83	138	754
0715 - 0730	0	6	40	0	46	0	9	14	0	23	0	0	0	0	0	109	7	0	116	185	773
0730 - 0745	0	2	49	0	51	0	9	14	0	23	0	0	0	0	0	145	3	0	148	222	727
0745 - 0800	0	4	50	0	54	0	4	12	0	16	0	0	0	0	0	135	4	0	139	209	634
Hourly Total	0	14	168	0	182	0	36	50	0	86	0	0	0	0	0	470	16	0	486	754	-
0800 - 0815	0	6	43	0	49	0	9	5	0	14	0	0	0	0	0	89	5	0	94	157	550
0815 - 0830	0	5	51	0	56	0	3	4	0	7	0	0	0	0	0	71	5	0	76	139	-
0830 - 0845	0	2	37	0	39	0	6	5	0	11	0	0	0	0	0	75	4	0	79	129	-
0845 - 0900	0	4	53	0	57	0	5	8	0	13	0	0	0	0	0	55	0	0	55	125	-
Hourly Total	0	17	184	0	201	0	23	22	0	45	0	0	0	0	0	290	14	0	304	550	-
Grand Total	0	39	428	0	467	0	97	90	0	187	0	0	0	0	0	1018	43	0	1061	1715	-
Approach (%)	0.00	8.35	91.65	0.00	0.00	0.00	51.87	48.13	0.00	0.00	0.00	95.95	4.05	0.00	0.00	59.36	2.51	0.00	61.87		
Total (%)	0.00	2.27	24.96	0.00	27.23	0.00	5.66	5.25	0.00	10.90	0.00	95.95	4.05	0.00	0.00	59.36	2.51	0.00	61.87		
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	-	0		
Cars	0	39	420	-	459	0	96	87	-	183	0	1012	42	-	1054						
Truck	0	0	8	-	8	0	1	3	-	4	0	6	1	-	7						
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00						
Cars (%)	0.00	100.00	98.13	-	98.29	0.00	98.97	96.67	-	97.86	0.00	99.41	97.67	-	99.34						
Truck (%)	0.00	0.00	1.87	-	1.71	0.00	1.03	3.33	-	2.14	0.00	0.59	2.33	-	0.66						

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int
0715 - 0730	0	6	40	0	46	0	9	14	0	23	0	0	0	0	0	109	7	0	116	185
0730 - 0745	0	2	49	0	51	0	9	14	0	23	0	0	0	0	0	145	3	0	148	222
0745 - 0800	0	4	50	0	54	0	4	12	0	16	0	0	0	0	0	135	4	0	139	209
0800 - 0815	0	6	43	0	49	0	9	5	0	14	0	0	0	0	0	89	5	0	94	157
Grand Total	0	18	182	0	200	0	31	45	0	76	0	0	0	0	0	478	19	0	497	773
Approach (%)	0.00	9.00	91.00	0.00	0.00	0.00	40.79	59.21	0.00	0.00	0.00	96.18	3.82	0.00	0.00	61.84	2.46	0.00	64.29	
Total (%)	0.00	2.33	23.54	0.00	25.87	0.00	4.01	5.82	0.00	9.83	0.00	96.18	3.82	0.00	0.00	61.84	2.46	0.00	64.29	
PHF	0%	75%	91%	-	0%	86%	80%	80%	-	84%	0%	82%	68%	-	87%					
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	-	0	0
Cars	0	18	178	-	196	0	31	44	-	75	0	474	19	-	493	764				
Truck	0	0	4	-	4	0	0	1	-	1	0	4	0	-	4	9				
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00				
Cars (%)	0.00	100.00	97.80	-	98.00	0.00	100.00	97.78	-	98.68	0.00	99.16	100.00	-	99.20	98.84				
Truck (%)	0.00	0.00	2.20	-	2.00	0.00	0.00	2.22	-	1.32	0.00	0.84	0.00	-	0.80	1.16				

Murfreesboro, TN
Classified Turn Movement Count

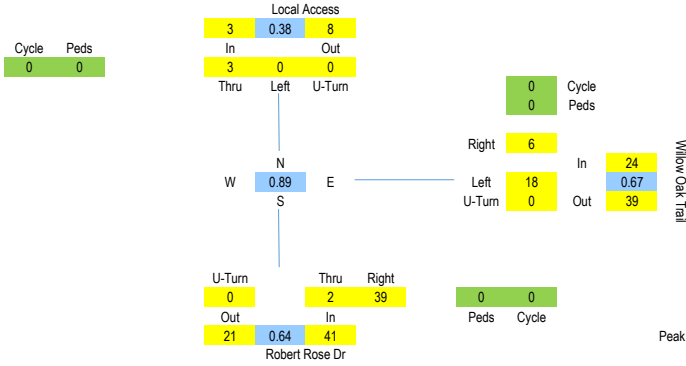
Site 9 of 11
Local Access
Willow Oak Trail
Robert Rose Dr

Lat/Long
35.864176°, -86.440431°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 0715 - 0815

TIME	Southbound Local Access			Peds 9a	App Total	Westbound Willow Oak Trail			Peds 9b	App Total	Northbound Robert Rose Dr				Int Total	Rolling Hour
	U-Turn 9.1	Left 9.2	Thru 9.3			U-Turn 9.4	Left 9.5	Right 9.6			U-Turn 9.7	Thru 9.8	Right 9.9	Peds 9c		
0600 - 0615	0	0	1	0	1	0	0	1	0	0	0	4	0	4	6	43
0615 - 0630	0	0	0	0	0	1	0	3	1	0	4	0	3	3	7	43
0630 - 0645	0	0	0	0	0	0	0	8	0	0	8	0	7	7	15	55
0645 - 0700	0	0	0	0	0	0	0	1	1	0	2	0	12	13	15	58
Hourly Total	0	0	1	0	1	0	0	13	2	0	15	0	26	27	43	-
0700 - 0715	0	0	0	0	0	0	0	0	1	0	1	0	5	5	6	58
0715 - 0730	0	0	0	0	0	0	0	6	3	0	9	0	10	10	19	68
0730 - 0745	0	0	1	0	1	0	0	1	0	0	1	0	16	16	18	61
0745 - 0800	0	0	0	0	0	0	0	4	2	0	6	0	9	9	15	53
Hourly Total	0	0	1	0	1	0	0	11	6	0	17	0	40	40	58	-
0800 - 0815	0	0	2	0	2	0	0	7	1	0	8	0	4	6	16	51
0815 - 0830	0	0	0	0	0	0	0	4	4	0	8	0	3	4	12	-
0830 - 0845	0	1	1	0	2	0	0	2	2	0	4	0	4	4	10	-
0845 - 0900	0	0	2	0	2	0	0	2	1	0	3	0	7	8	13	-
Hourly Total	0	1	5	0	6	0	0	15	8	0	23	0	18	22	51	-
Grand Total	0	1	7	0	8	0	0	39	16	0	55	0	84	89	152	-
Approach (%)	0.00	12.50	87.50	0.00		0.00	70.91		29.09	0.00		0.00	5.62	94.38	0.00	
Total (%)	0.00	0.66	4.61	0.00	5.26	0.00	25.66		10.53	0.00	36.18	0.00	3.29	55.26	0.00	58.55
P/Cycle	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0
Cars	0	1	7	-	8	0	39	0	15	-	54	0	3	83	-	86
Truck	0	0	0	-	0	0	0	0	1	-	1	0	2	1	-	3
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	100.00	0.00	93.75	-	98.18	0.00	60.00	98.81	-	96.63
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	6.25	-	1.82	0.00	40.00	1.19	-	3.37

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Local Access			Peds 9a	App Total	Westbound Willow Oak Trail			Peds 9b	App Total	Northbound Robert Rose Dr				Int Total	
	U-Turn 9.1	Left 9.2	Thru 9.3			U-Turn 9.4	Left 9.5	Right 9.6			U-Turn 9.7	Thru 9.8	Right 9.9	Peds 9c		App Total
0715 - 0730	0	0	0	0	0	0	0	6	3	0	9	0	10	10	19	
0730 - 0745	0	0	1	0	1	0	0	1	0	0	1	0	16	16	18	
0745 - 0800	0	0	0	0	0	0	0	4	2	0	6	0	9	9	15	
0800 - 0815	0	0	2	0	2	0	0	7	1	0	8	0	4	6	16	
Grand Total	0	0	3	0	3	0	0	18	6	0	24	0	39	41	68	
Approach (%)	0.00	0.00	100.00	0.00		0.00	75.00		25.00	0.00		0.00	4.88	95.12	0.00	
Total (%)	0.00	0.00	4.41	0.00	4.41	0.00	26.47		8.82	0.00	35.29	0.00	2.94	57.35	0.00	60.29
PHF	0%	0%	38%			0%	64%		50%			0%	25%	61%		89%
P/Cycle	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0
Cars	0	0	3	-	3	0	18	0	6	-	24	0	1	39	-	40
Truck	0	0	0	-	0	0	0	0	0	-	0	0	1	0	-	1
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00
Cars (%)	0.00	0.00	100.00	-	100.00	0.00	100.00	0.00	100.00	-	100.00	0.00	50.00	100.00	-	97.56
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	50.00	0.00	-	2.44

Murfreesboro, TN
Classified Turn Movement Count

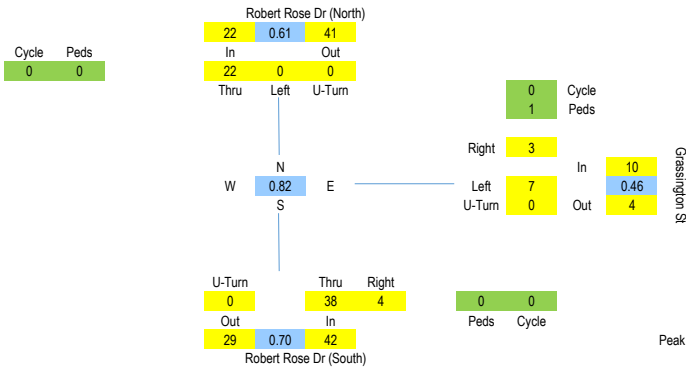
Site 10 of 11
Robert Rose Dr (North)
Grassington St
Robert Rose Dr (South)

Lat/Long
35.863444°, -86.440064°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	Southbound Robert Rose Dr (North)			Peds 10a	App Total	Westbound Grassington St			Peds 10b	App Total	Northbound Robert Rose Dr (South)				Int Total	Rolling Hour	
	U-Turn 10.1	Left 10.2	Thru 10.3			U-Turn 10.4	Left 10.5	Right 10.6			U-Turn 10.7	Thru 10.8	Right 10.9	Peds 10c			App Total
0600 - 0615	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	3	54
0615 - 0630	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3	54
0630 - 0645	0	0	7	1	8	0	0	0	0	0	0	0	0	0	0	6	63
0645 - 0700	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	14	65
Hourly Total	0	0	13	1	14	0	0	0	0	0	0	0	0	0	0	26	-
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	64
0715 - 0730	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	10	74
0730 - 0745	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	15	65
0745 - 0800	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	10	51
Hourly Total	0	0	13	0	13	0	0	0	0	0	0	0	0	0	0	40	-
0800 - 0815	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	7	51
0815 - 0830	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	4	10
0830 - 0845	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	4	8
0845 - 0900	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	7	15
Hourly Total	0	1	19	0	20	0	0	0	0	0	0	0	0	0	0	22	51
Grand Total	0	1	45	1	47	0	25	10	4	39	0	79	9	0	88	174	
Approach (%)	0.00	2.13	95.74	2.13	0.00	64.10	25.64	10.26	0.00	89.77	10.23	0.00	45.40	5.17	0.00	50.57	
Total (%)	0.00	0.57	25.86	0.57	27.01	14.37	5.75	2.30	22.41	0.00	45.40	5.17	0.00	0.00	50.57		
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	0	-	0	
Cars	0	1	45	-	46	0	25	10	-	35	0	76	9	-	85		
Truck	0	0	0	-	0	0	0	0	-	0	0	3	0	-	3		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00	0.00	96.20	100.00	-	96.59		
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	3.80	0.00	-	3.41		

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Robert Rose Dr (North)			Peds 10a	App Total	Westbound Grassington St			Peds 10b	App Total	Northbound Robert Rose Dr (South)				Int Total		
	U-Turn 10.1	Left 10.2	Thru 10.3			U-Turn 10.4	Left 10.5	Right 10.6			U-Turn 10.7	Thru 10.8	Right 10.9	Peds 10c		App Total	
0715 - 0730	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	10	19
0730 - 0745	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	15	23
0745 - 0800	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	10	15
0800 - 0815	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	7	18
Grand Total	0	0	22	0	22	0	7	3	1	11	0	38	4	0	42	75	
Approach (%)	0.00	0.00	100.00	0.00	0.00	63.64	27.27	9.09	0.00	90.48	9.52	0.00	50.67	5.33	0.00	56.00	
Total (%)	0.00	0.00	29.33	0.00	29.33	9.33	4.00	1.33	14.67	0.00	50.67	5.33	0.00	0.00	56.00		
PHF	61%					46%					70%					82%	
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	0	-	0	0
Cars	0	0	22	-	22	0	7	3	-	10	0	38	4	-	42	74	
Truck	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	0.00	0.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00	98.67	
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	

Murfreesboro, TN
Classified Turn Movement Count

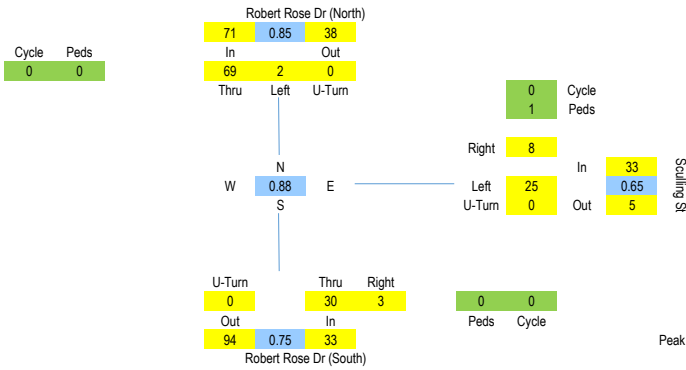
Site 11 of 11
Robert Rose Dr (North)
Sculling St
Robert Rose Dr (South)

Lat/Long
35.860608°, -86.437829°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

0600 - 0900 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	Southbound Robert Rose Dr (North)			Peds 11a	App Total	Westbound Sculling St			Peds 11b	App Total	Northbound Robert Rose Dr (South)				Int Total	Rolling Hour	
	U-Turn 11.1	Left 11.2	Thru 11.3			U-Turn 11.4	Left 11.5	Right 11.6			U-Turn 11.7	Thru 11.8	Right 11.9	Peds 11c			App Total
0600 - 0615	0	0	18	0	18	0	0	5	0	5	0	0	0	0	0	24	114
0615 - 0630	0	0	15	0	15	0	2	0	0	1	3	0	5	3	0	26	117
0630 - 0645	0	0	21	0	21	0	7	0	0	5	12	0	3	0	0	36	131
0645 - 0700	0	0	14	0	14	0	8	0	3	0	11	0	6	3	0	34	130
Hourly Total	0	0	68	0	68	0	22	0	3	6	31	0	15	6	0	120	-
0700 - 0715	0	0	16	0	16	0	4	0	0	1	5	0	3	4	0	28	127
0715 - 0730	0	1	20	0	21	0	10	0	3	0	13	0	3	2	0	39	137
0730 - 0745	0	0	13	0	13	0	4	0	3	1	8	0	10	0	0	31	120
0745 - 0800	0	1	16	0	17	0	3	0	0	0	3	0	10	1	0	31	110
Hourly Total	0	2	65	0	67	0	21	0	6	2	29	0	26	7	0	129	-
0800 - 0815	0	0	20	0	20	0	8	0	2	0	10	0	7	0	0	37	101
0815 - 0830	0	1	13	0	14	0	4	0	1	0	5	0	1	2	0	22	-
0830 - 0845	0	0	11	0	11	0	5	0	0	0	5	0	4	0	0	20	-
0845 - 0900	0	0	10	0	10	0	2	0	0	0	2	0	8	2	0	22	-
Hourly Total	0	1	54	0	55	0	19	0	3	0	22	0	20	4	0	101	-
Grand Total	0	3	187	0	190	0	62	0	12	8	82	0	61	17	0	350	-
Approach (%)	0.00	1.58	98.42	0.00	0.00	75.61	14.63	9.76	0.00	78.21	21.79	0.00	17.43	4.86	0.00	22.29	-
Total (%)	0.00	0.86	53.43	0.00	54.29	17.71	3.43	2.29	23.43	0.00	17.43	4.86	0.00	22.29	-	-	-
P/Cycle	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	-
Cars	0	2	185	-	187	62	12	-	74	0	58	16	-	74	-	74	-
Truck	0	1	2	-	3	0	0	0	0	0	3	1	-	4	-	4	-
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	-
Cars (%)	0.00	66.67	98.93	-	98.42	100.00	100.00	100.00	100.00	0.00	95.08	94.12	-	94.87	-	98.55	-
Truck (%)	0.00	33.33	1.07	-	1.58	0.00	0.00	0.00	0.00	-	4.92	5.88	-	5.13	-	0.72	-

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Robert Rose Dr (North)			Peds 11a	App Total	Westbound Sculling St			Peds 11b	App Total	Northbound Robert Rose Dr (South)				Int Total		
	U-Turn 11.1	Left 11.2	Thru 11.3			U-Turn 11.4	Left 11.5	Right 11.6			U-Turn 11.7	Thru 11.8	Right 11.9	Peds 11c		App Total	
0715 - 0730	0	1	20	0	21	0	10	0	3	0	13	0	3	2	0	5	39
0730 - 0745	0	0	13	0	13	0	4	0	3	1	8	0	10	0	0	10	31
0745 - 0800	0	1	16	0	17	0	3	0	0	0	3	0	10	1	0	11	31
0800 - 0815	0	0	20	0	20	0	8	0	2	0	10	0	7	0	0	7	37
Grand Total	0	2	69	0	71	0	25	0	8	1	34	0	30	3	0	33	138
Approach (%)	0.00	2.82	97.18	0.00	0.00	73.53	23.53	2.94	0.00	90.91	9.09	0.00	21.74	2.17	0.00	23.91	-
Total (%)	0.00	1.45	50.00	0.00	51.45	18.12	5.80	0.72	24.64	0.00	21.74	2.17	0.00	23.91	-	-	-
PHF	85%					65%					75%				88%		
P/Cycle	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	0
Cars	0	2	68	-	70	0	25	0	8	-	33	0	30	3	-	33	136
Truck	0	0	1	-	1	0	0	0	0	-	0	0	0	0	-	0	1
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	-
Cars (%)	0.00	100.00	98.55	-	98.59	100.00	100.00	100.00	100.00	-	100.00	100.00	-	100.00	-	98.55	-
Truck (%)	0.00	0.00	1.45	-	1.41	0.00	0.00	0.00	0.00	-	0.00	0.00	-	0.00	-	0.72	-

Murfreesboro, TN
Classified Turn Movement Count

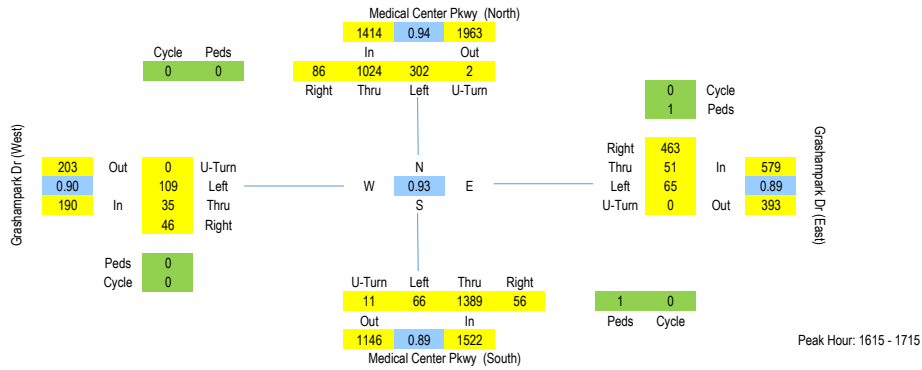
Site 1 of 11
Medical Center Pkwy (North)
Grashampark Dr (East)
Medical Center Pkwy (South)
Grashampark Dr (West)

Lat/Long
35.865444 °, -86.447212°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 1615 - 1715

TIME	Southbound Medical Center Pkwy (North)						Westbound Grashampark Dr (East)					Northbound Medical Center Pkwy (South)					Eastbound Grashampark Dr (West)					Int Total	Rolling Hour				
	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds 1a	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds 1b	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds 1c	App Total	U-Turn 1.13	Left 1.14	Thru 1.15			Right 1.16	Peds 1d	App Total	
1530 - 1545	1	73	204	18	1	297	0	13	4	84	0	101	3	14	300	16	0	333	0	17	4	11	1	33	764	3263	
1545 - 1600	1	58	241	15	1	316	0	17	10	80	0	107	5	12	310	13	0	340	0	15	6	14	0	35	798	3447	
1600 - 1615	4	72	242	17	0	335	0	12	8	80	0	100	0	10	318	22	0	350	0	19	6	13	0	38	823	3535	
1615 - 1630	0	80	231	16	0	327	0	17	18	128	0	163	6	20	303	13	1	343	0	26	9	14	0	49	882	3705	
Hourly Total	6	283	918	66	2	1275	0	59	40	372	0	471	14	56	1231	64	1	1366	0	77	25	52	1	155	3267	-	
1630 - 1645	1	71	283	22	0	377	0	17	11	105	0	133	2	12	366	17	0	397	0	25	6	8	0	39	946	3699	
1645 - 1700	0	81	233	21	0	335	0	15	11	122	0	148	1	12	334	6	0	353	0	25	8	16	0	49	885	3637	
1700 - 1715	1	70	277	27	0	375	0	16	11	108	1	136	2	22	386	20	0	430	0	33	12	8	0	53	994	3504	
1715 - 1730	0	71	239	11	0	321	0	18	7	119	0	144	0	17	337	12	0	366	0	21	12	11	0	44	875	3087	
Hourly Total	2	293	1032	81	0	1408	0	66	40	454	1	561	5	63	1423	55	0	1546	0	104	38	43	0	185	3700	-	
1730 - 1745	1	80	291	17	0	389	0	14	6	81	0	101	5	15	312	16	0	348	0	26	5	15	0	46	884	2864	
1745 - 1800	1	68	206	5	0	280	0	7	4	66	0	77	5	25	323	9	0	362	0	20	7	6	0	33	752	-	
1800 - 1815	1	35	159	6	0	201	0	15	4	42	0	61	2	15	257	11	0	285	0	16	5	8	0	29	576	-	
1815 - 1830	0	53	219	2	0	274	0	12	5	41	0	58	0	10	266	14	0	290	0	15	4	11	0	30	652	-	
Hourly Total	3	236	875	30	0	1144	0	48	19	230	0	297	12	65	1158	50	0	1285	0	77	21	40	0	138	2864	-	
Grand Total	11	812	2825	177	2	3827	0	173	99	1056	1	1329	31	184	3812	169	1	4197	0	258	84	135	1	478	9831	-	
Approach (%)	0.29	21.22	73.82	4.63	0.05		0.00	13.02	7.45	79.46	0.08		0.74	4.38	90.83	4.03	0.02		0.00	53.97	17.57	28.24	0.21				
Total (%)	0.11	8.26	28.74	1.80	0.02	38.93	0.00	1.76	1.01	10.74	0.01	13.52	0.32	1.87	38.78	1.72	0.01	42.69	0.00	2.62	0.85	1.37	0.01	4.86			
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
Cars	11	803	2809	176	-	3799	0	173	99	1049	-	1321	31	183	3788	168	-	4170	0	254	84	135	-	473			
Truck	0	9	16	1	-	26	0	0	0	7	-	7	0	1	24	1	-	26	0	4	0	0	-	4			
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	100.00	98.89	99.43	99.44	-	99.32	0.00	100.00	100.00	99.34	-	99.47	100.00	99.46	99.37	99.41	-	99.38	0.00	98.45	100.00	100.00	-	99.16			
Truck (%)	0.00	1.11	0.57	0.56	-	0.68	0.00	0.00	0.00	0.66	-	0.53	0.00	0.54	0.63	0.59	-	0.62	0.00	1.55	0.00	0.00	-	0.84			

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Medical Center Pkwy (North)						Westbound Grashampark Dr (East)					Northbound Medical Center Pkwy (South)					Eastbound Grashampark Dr (West)					Int Total					
	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds 1a	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds 1b	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds 1c	App Total	U-Turn 1.13	Left 1.14	Thru 1.15		Right 1.16	Peds 1d	App Total		
1615 - 1630	0	80	231	16	0	327	0	17	18	128	0	163	6	20	303	13	1	343	0	26	9	14	0	49	882		
1630 - 1645	1	71	283	22	0	377	0	17	11	105	0	133	2	12	366	17	0	397	0	25	6	8	0	39	946		
1645 - 1700	0	81	233	21	0	335	0	15	11	122	0	148	1	12	334	6	0	353	0	25	8	16	0	49	885		
1700 - 1715	1	70	277	27	0	375	0	16	11	108	1	136	2	22	386	20	0	430	0	33	12	8	0	53	994		
Grand Total	2	302	1024	86	0	1414	0	65	51	463	1	580	11	66	1389	56	1	1523	0	109	35	46	0	190	3707		
Approach (%)	0.14	21.36	72.42	6.08	0.00		0.00	11.21	8.79	79.83	0.17		0.72	4.33	91.20	3.68	0.07		0.00	57.37	18.42	24.21	0.00				
Total (%)	0.05	8.15	27.62	2.32	0.00	38.14	0.00	1.75	1.38	12.49	0.03	15.65	0.30	1.78	37.47	1.51	0.03	41.08	0.00	2.94	0.94	1.24	0.00	5.13			
PHF	94%						89%					89%					90%					93%					
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
Cars	2	298	1019	85	-	1404	0	65	51	460	-	576	11	65	1381	55	-	1512	0	108	35	46	-	189	3681		
Truck	0	4	5	1	-	10	0	0	0	3	-	3	0	1	8	1	-	10	0	1	0	0	-	1	24		
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	100.00	98.68	99.51	98.84	-	99.29	0.00	100.00	100.00	99.35	-	99.48	100.00	98.48	99.42	98.21	-	99.34	0.00	99.08	100.00	100.00	-	99.47	99.30		
Truck (%)	0.00	1.32	0.49	1.16	-	0.71	0.00	0.00	0.00	0.65	-	0.52	0.00	1.52	0.58	1.79	-	0.66	0.00	0.92	0.00	0.00	-	0.53	0.65		

Murfreesboro, TN
Classified Turn Movement Count

Site 2 of 11
Medical Center Pkwy (North)

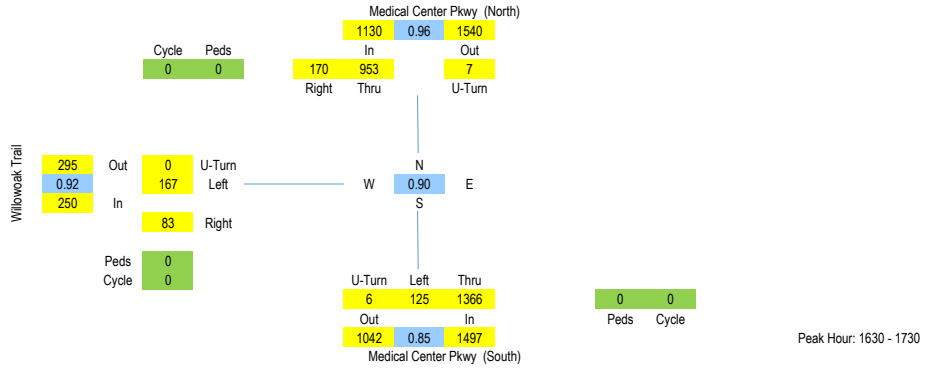
Medical Center Pkwy (South)
Willowoak Trail

Lat/Long
35.862894°, -86.444927°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	Southbound Medical Center Pkwy (North)				
	U-Turn 2.1	Thru 2.2	Right 2.3	Peds 2a	App Total
1530 - 1545	1	191	34	0	226
1545 - 1600	1	236	34	0	271
1600 - 1615	0	249	27	0	276
1615 - 1630	1	230	43	0	274
Hourly Total	3	906	138	0	1047
1630 - 1645	2	246	45	0	293
1645 - 1700	1	229	40	0	270
1700 - 1715	2	250	41	0	293
1715 - 1730	2	228	44	0	274
Hourly Total	7	953	170	0	1130
1730 - 1745	2	290	43	0	335
1745 - 1800	1	202	36	0	239
1800 - 1815	2	169	22	0	193
1815 - 1830	3	225	26	0	254
Hourly Total	8	886	127	0	1021
Grand Total	18	2745	435	0	3198
Approach (%)	0.56	85.83	13.60	0.00	
Total (%)	0.23	34.53	5.47	0.00	40.23
P/Cycle	0	0	0	-	0
Cars	18	2729	434	-	3181
Truck	0	16	1	-	17
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	99.42	99.77	-	99.47
Truck (%)	0.00	0.58	0.23	-	0.53

TIME	Northbound Medical Center Pkwy (South)					Eastbound Willowoak Trail					Int Total	Rolling Hour
	U-Turn 2.4	Left 2.5	Thru 2.6	Peds 2c	App Total	U-Turn 2.7	Left 2.8	Right 2.9	Peds 2d	App Total		
1530 - 1545	0	25	298	0	323	0	50	25	0	75	624	2621
1545 - 1600	2	36	284	0	322	0	45	16	0	61	654	2737
1600 - 1615	0	23	307	0	330	0	41	23	0	64	670	2742
1615 - 1630	0	22	312	0	334	0	46	19	0	65	673	2871
Hourly Total	2	106	1201	0	1309	0	182	83	0	265	2621	-
1630 - 1645	0	26	358	0	384	0	40	23	0	63	740	2877
1645 - 1700	0	29	292	0	321	0	54	14	0	68	659	2859
1700 - 1715	4	46	390	0	440	0	41	25	0	66	799	2825
1715 - 1730	2	24	326	0	352	0	32	21	0	53	679	2564
Hourly Total	6	125	1366	0	1497	0	167	83	0	250	2877	-
1730 - 1745	0	25	309	0	334	0	35	18	0	53	722	2451
1745 - 1800	1	18	301	0	320	0	50	16	0	66	625	-
1800 - 1815	0	14	259	0	273	0	54	18	0	72	538	-
1815 - 1830	3	14	256	0	273	0	23	16	0	39	566	-
Hourly Total	4	71	1125	0	1200	0	162	68	0	230	2451	-
Grand Total	12	302	3692	0	4006	0	511	234	0	745	7949	-
Approach (%)	0.30	7.54	92.16	0.00		0.00	68.59	31.41	0.00			
Total (%)	0.15	3.80	46.45	0.00	50.40	0.00	6.43	2.94	0.00	9.37		
P/Cycle	0	0	0	-	0	0	0	0	-	0		
Cars	12	298	3669	-	3979	0	508	233	-	741		
Truck	0	4	23	-	27	0	3	1	-	4		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	100.00	98.68	99.38	-	99.33	0.00	99.41	99.57	-	99.46		
Truck (%)	0.00	1.32	0.62	-	0.67	0.00	0.59	0.43	-	0.54		

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Medical Center Pkwy (North)				
	U-Turn 2.1	Thru 2.2	Right 2.3	Peds 2a	App Total
1630 - 1645	2	246	45	0	293
1645 - 1700	1	229	40	0	270
1700 - 1715	2	250	41	0	293
1715 - 1730	2	228	44	0	274
Grand Total	7	953	170	0	1130
Approach (%)	0.62	84.34	15.04	0.00	
Total (%)	0.24	33.12	5.91	0.00	39.28
PHF	88%	96%	94%		
P/Cycle	0	0	0	-	0
Cars	7	950	169	-	1126
Truck	0	3	1	-	4
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	99.69	99.41	-	99.65
Truck (%)	0.00	0.31	0.59	-	0.35

TIME	Northbound Medical Center Pkwy (South)					Eastbound Willowoak Trail					Int Total
	U-Turn 2.4	Left 2.5	Thru 2.6	Peds 2c	App Total	U-Turn 2.7	Left 2.8	Right 2.9	Peds 2d	App Total	
1630 - 1645	0	26	358	0	384	0	40	23	0	63	740
1645 - 1700	0	29	292	0	321	0	54	14	0	68	659
1700 - 1715	4	46	390	0	440	0	41	25	0	66	799
1715 - 1730	2	24	326	0	352	0	32	21	0	53	679
Grand Total	6	125	1366	0	1497	0	167	83	0	250	2877
Approach (%)	0.40	8.35	91.25	0.00		0.00	66.80	33.20	0.00		
Total (%)	0.21	4.34	47.48	0.00	52.03	0.00	5.80	2.88	0.00	8.69	
PHF	38%	68%	88%			0%	77%	92%		90%	
P/Cycle	0	0	0	-	0	0	0	0	-	0	
Cars	6	125	1359	-	1490	0	165	82	-	247	2863
Truck	0	0	7	-	7	0	2	1	-	3	14
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	100.00	100.00	99.49	-	99.53	0.00	98.80	98.80	-	98.80	99.51
Truck (%)	0.00	0.00	0.51	-	0.47	0.00	1.20	1.20	-	1.20	0.49

Murfreesboro, TN
Classified Turn Movement Count

Site 3 of 11
Medical Center Pkwy (North)

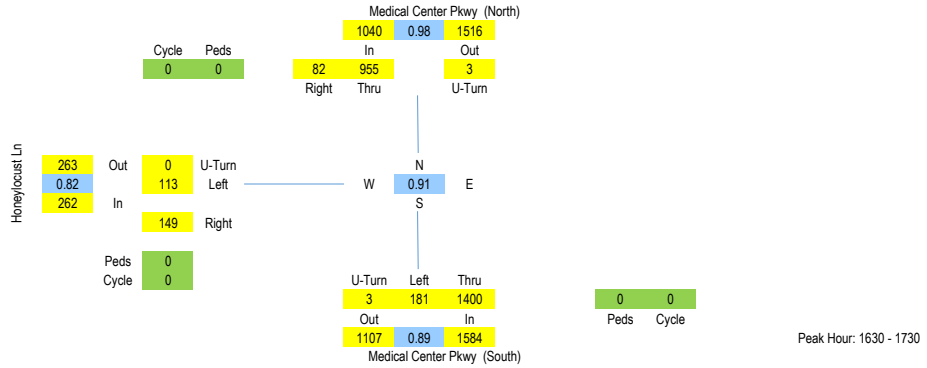
Medical Center Pkwy (South)
Honeylocust Ln

Lat/Long
35.860246°, -86.442494°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	Southbound Medical Center Pkwy (North)				
	U-Turn	Thru	Right	Peds 3a	App Total
1530 - 1545	0	198	19	0	217
1545 - 1600	2	228	18	0	248
1600 - 1615	2	255	25	0	282
1615 - 1630	1	232	19	0	252
Hourly Total	5	913	81	0	999
1630 - 1645	0	239	18	0	257
1645 - 1700	1	229	28	0	258
1700 - 1715	0	246	20	0	266
1715 - 1730	2	241	16	0	259
Hourly Total	3	955	82	0	1040
1730 - 1745	2	290	17	0	309
1745 - 1800	0	203	18	0	221
1800 - 1815	2	156	9	0	167
1815 - 1830	0	217	6	0	223
Hourly Total	4	866	50	0	920
Grand Total	12	2734	213	0	2959
Approach (%)	0.41	92.40	7.20	0.00	
Total (%)	0.15	34.44	2.68	0.00	37.27
P/Cycle	0	0	0	-	0
Cars	12	2720	211	-	2943
Truck	0	14	2	-	16
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	99.49	99.06	-	99.46
Truck (%)	0.00	0.51	0.94	-	0.54

TIME	Northbound Medical Center Pkwy (South)					Eastbound Honeylocust Ln					Int Total	Rolling Hour
	U-Turn	Left	Thru	Peds 3c	App Total	U-Turn	Left	Right	Peds 3d	App Total		
1530 - 1545	0	43	299	0	343	0	28	54	0	82	642	2711
1545 - 1600	1	55	288	0	344	0	33	44	0	77	669	2790
1600 - 1615	1	61	298	0	360	0	26	39	0	65	707	2800
1615 - 1630	1	62	298	0	361	0	40	40	0	80	693	2882
Hourly Total	4	221	1183	0	1408	0	127	177	0	304	2711	-
1630 - 1645	1	47	359	0	407	0	24	33	0	57	721	2886
1645 - 1700	1	44	320	0	365	0	18	38	0	56	679	2876
1700 - 1715	0	44	399	0	443	0	37	43	0	80	789	2802
1715 - 1730	1	46	322	0	369	0	34	35	0	69	697	2510
Hourly Total	3	181	1400	0	1584	0	113	149	0	262	2886	-
1730 - 1745	1	37	272	0	310	0	57	35	0	92	711	2342
1745 - 1800	1	44	268	0	313	0	37	34	0	71	605	-
1800 - 1815	1	20	238	0	259	0	35	36	0	71	497	-
1815 - 1830	0	20	237	0	257	0	24	25	0	49	529	-
Hourly Total	3	121	1015	0	1139	0	153	130	0	283	2342	-
Grand Total	10	523	3598	0	4131	0	393	456	0	849	7939	-
Approach (%)	0.24	12.66	87.10	0.00	0.00	0.00	46.29	53.71	0.00	0.00	0.00	0.00
Total (%)	0.13	6.59	45.32	0.00	0.00	0.00	4.95	5.74	0.00	10.69	0.00	0.00
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0
Cars	10	522	3572	-	4104	0	393	451	-	844	0	0
Truck	0	1	26	-	27	0	0	5	-	5	0	0
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
Cars (%)	100.00	99.81	99.28	-	99.35	0.00	100.00	98.90	-	99.41	0.00	0.00
Truck (%)	0.00	0.19	0.72	-	0.65	0.00	0.00	1.10	-	0.59	0.00	0.00

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Medical Center Pkwy (North)				
	U-Turn	Thru	Right	Peds 3a	App Total
1630 - 1645	0	239	18	0	257
1645 - 1700	1	229	28	0	258
1700 - 1715	0	246	20	0	266
1715 - 1730	2	241	16	0	259
Grand Total	3	955	82	0	1040
Approach (%)	0.29	91.83	7.88	0.00	
Total (%)	0.10	33.09	2.84	0.00	36.04
PHF	38%	98%	97%	73%	
P/Cycle	0	0	0	-	0
Cars	3	951	82	-	1036
Truck	0	4	0	-	4
P/Cycle (%)	0.00	0.00	0.00	-	0.00
Cars (%)	100.00	99.58	100.00	-	99.62
Truck (%)	0.00	0.42	0.00	-	0.38

TIME	Northbound Medical Center Pkwy (South)					Eastbound Honeylocust Ln					Int Total
	U-Turn	Left	Thru	Peds 3c	App Total	U-Turn	Left	Right	Peds 3d	App Total	
1630 - 1645	0	47	359	0	407	0	24	33	0	57	721
1645 - 1700	1	44	320	0	365	0	18	38	0	56	679
1700 - 1715	0	44	399	0	443	0	37	43	0	80	789
1715 - 1730	1	46	322	0	369	0	34	35	0	69	697
Grand Total	3	181	1400	0	1584	0	113	149	0	262	2886
Approach (%)	0.19	11.43	88.38	0.00	0.00	0.00	43.13	56.87	0.00	0.00	0.00
Total (%)	0.10	6.27	48.51	0.00	0.00	0.00	3.92	5.16	0.00	9.08	0.00
PHF	75%	96%	88%	0%	82%	87%	0%	87%	0%	91%	0%
P/Cycle	0	0	0	-	0	0	0	0	-	0	0
Cars	3	180	1393	-	1576	0	113	146	-	259	2871
Truck	0	1	7	-	8	0	0	3	-	3	15
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00
Cars (%)	100.00	99.45	99.50	-	99.49	0.00	100.00	97.99	-	98.85	99.48
Truck (%)	0.00	0.55	0.50	-	0.51	0.00	0.00	2.01	-	1.15	0.52

Murfreesboro, TN
Classified Turn Movement Count

Site 4 of 11

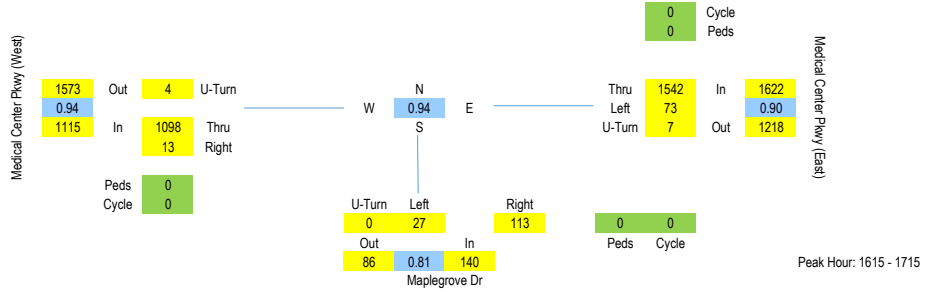
Medical Center Pkwy (East)
Maplegrove Dr
Medical Center Pkwy (West)

Lat/Long
35.858245 °, -86.439332°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
1530 - 1545	1	22	344	0	367	0	5	21	0	26	1	261	4	0	266	659	2717					
1545 - 1600	1	12	323	0	336	0	2	31	0	33	1	274	7	0	282	651	2769					
1600 - 1615	2	25	358	0	385	0	8	16	0	24	1	284	5	0	290	699	2809					
1615 - 1630	2	19	360	0	381	0	6	24	0	30	1	293	3	0	297	708	2877					
Hourly Total	6	78	1385	0	1469	0	21	92	0	113	4	1112	19	0	1135	2717	-					
1630 - 1645	2	19	399	0	420	0	9	19	0	28	1	258	4	0	263	711	2850					
1645 - 1700	1	20	348	0	369	0	5	34	0	39	2	279	2	0	283	691	2841					
1700 - 1715	2	15	435	0	452	0	7	36	0	43	0	268	4	0	272	767	2765					
1715 - 1730	1	20	359	0	380	0	5	19	0	24	0	273	4	0	277	681	2520					
Hourly Total	6	74	1541	0	1621	0	26	108	0	134	3	1078	14	0	1095	2850	-					
1730 - 1745	1	34	303	0	338	0	4	36	0	40	1	318	5	0	324	702	2383					
1745 - 1800	3	19	315	0	337	0	8	31	0	39	2	230	7	0	239	615						
1800 - 1815	1	12	248	0	261	0	12	16	0	28	1	228	4	0	233	522						
1815 - 1830	0	15	256	0	271	0	6	19	0	25	0	245	3	0	248	544						
Hourly Total	5	80	1122	0	1207	0	30	102	0	132	4	1021	19	0	1044	2383						
Grand Total	17	232	4048	0	4297	0	77	302	0	379	11	3211	52	0	3274	7950						
Approach (%)	0.40	5.40	94.21	0.00		0.00	20.32	79.68	0.00		0.34	98.08	1.59	0.00		41.18						
Total (%)	0.21	2.92	50.92	0.00	54.05	0.00	0.97	3.80	0.00	4.77	0.14	40.39	0.65	0.00								
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0							
Cars	17	227	4026	-	4270	0	72	300	-	372	11	3191	51	-	3253							
Truck	0	5	22	-	27	0	5	2	-	7	0	20	1	-	21							
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00							
Cars (%)	100.00	97.84	99.46	-	99.37	0.00	93.51	99.34	-	98.15	100.00	99.38	98.08	-	99.36							
Truck (%)	0.00	2.16	0.54	-	0.63	0.00	6.49	0.66	-	1.85	0.00	0.62	1.92	-	0.64							

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
1615 - 1630	2	19	360	0	381	0	6	24	0	30	1	293	3	0	297	708						
1630 - 1645	2	19	399	0	420	0	9	19	0	28	1	258	4	0	263	711						
1645 - 1700	1	20	348	0	369	0	5	34	0	39	2	279	2	0	283	691						
1700 - 1715	2	15	435	0	452	0	7	36	0	43	0	268	4	0	272	767						
Grand Total	7	73	1542	0	1622	0	27	113	0	140	4	1098	13	0	1115	2877						
Approach (%)	0.43	4.50	95.07	0.00		0.00	19.29	80.71	0.00		0.36	98.48	1.17	0.00		38.76						
Total (%)	0.24	2.54	53.60	0.00	56.38	0.00	0.94	3.93	0.00	4.87	0.14	38.16	0.45	0.00								
PHF	88%	91%	89%			0%	75%	78%			50%	94%	81%			94%						
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0						
Cars	7	72	1533	-	1612	0	26	112	-	138	4	1089	13	-	1106	2856						
Truck	0	1	9	-	10	0	1	1	-	2	0	9	0	-	9	21						
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00						
Cars (%)	100.00	98.63	99.42	-	99.38	0.00	96.30	99.12	-	98.57	100.00	99.18	100.00	-	99.19	99.27						
Truck (%)	0.00	1.37	0.58	-	0.62	0.00	3.70	0.88	-	1.43	0.00	0.82	0.00	-	0.81	0.73						

Westbound Medical Center Pkwy (East)				Northbound Maplegrove Dr				Eastbound Medical Center Pkwy (West)				Int	Rolling									
U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling	
4.1	4.2	4.3	4b	Total	4.4	4.5	4.6	4c	Total	4.7	4.8	4.9	4d	Total	4.7	4.8	4.9	4d	Total	Total	Hour	
2	19	360	0	381	0	6	24	0	30	1	293	3	0	297	708							
2	19	399	0	420	0	9	19	0	28	1	258	4	0	263	711							
1	20	348	0	369	0	5	34	0	39	2	279	2	0	283	691							
2	15	435	0	452	0	7	36	0	43	0	268	4	0	272	767							
Grand Total	7	73	1542	0	1622	0	27	113	0	140	4	1098	13	0	1115	2877						
Approach (%)	0.43	4.50	95.07	0.00		0.00	19.29	80.71	0.00		0.36	98.48	1.17	0.00		38.76						
Total (%)	0.24	2.54	53.60	0.00	56.38	0.00	0.94	3.93	0.00	4.87	0.14	38.16	0.45	0.00								
PHF	88%	91%	89%			0%	75%	78%			50%	94%	81%			94%						
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0						
Cars	7	72	1533	-	1612	0	26	112	-	138	4	1089	13	-	1106	2856						
Truck	0	1	9	-	10	0	1	1	-	2	0	9	0	-	9	21						
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00						
Cars (%)	100.00	98.63	99.42	-	99.38	0.00	96.30	99.12	-	98.57	100.00	99.18	100.00	-	99.19	99.27						
Truck (%)	0.00	1.37	0.58	-	0.62	0.00	3.70	0.88	-	1.43	0.00	0.82	0.00	-	0.81	0.73						

Murfreesboro, TN
Classified Turn Movement Count

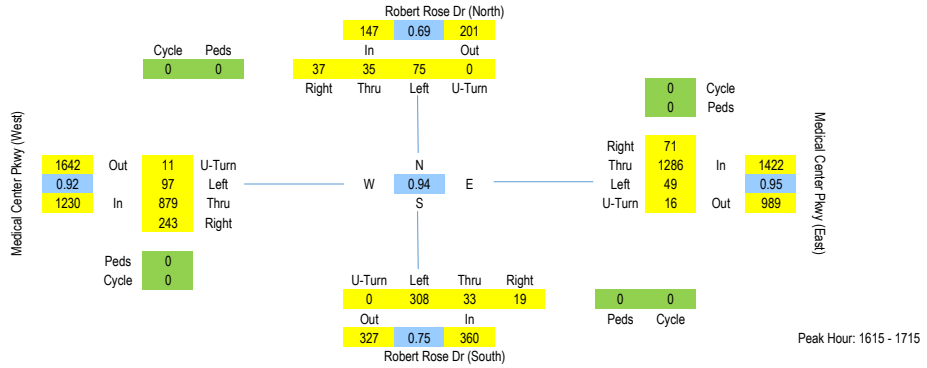
Site 5 of 11
Robert Rose Dr (North)
Medical Center Pkwy (East)
Robert Rose Dr (South)
Medical Center Pkwy (West)

Lat/Long
35.857916°, -86.436850°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	Southbound Robert Rose Dr (North)						Westbound Medical Center Pkwy (East)						Northbound Robert Rose Dr (South)						Eastbound Medical Center Pkwy (West)						Int Total	Rolling Hour		
	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds 5a	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds 5b	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds 5c	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds 5d	App Total				
1530 - 1545	0	16	14	12	0	42	7	11	274	13	0	305	0	80	13	15	0	108	1	16	207	58	0	282	737	2990		
1545 - 1600	0	16	4	16	0	36	1	13	264	14	0	292	0	59	15	5	0	79	3	10	229	72	0	314	721	3018		
1600 - 1615	0	16	7	17	0	40	7	7	291	25	0	330	0	65	13	7	0	85	3	9	216	59	0	287	742	3064		
1615 - 1630	0	16	6	3	0	25	6	12	318	22	0	358	0	63	6	4	0	73	3	24	253	54	0	334	790	3159		
Hourly Total	0	64	31	48	0	143	21	43	1147	74	0	1285	0	267	47	31	0	345	10	59	905	243	0	1217	2990	-		
1630 - 1645	0	29	10	14	0	53	2	12	311	18	0	343	0	83	9	6	0	98	4	22	184	61	0	271	765	3099		
1645 - 1700	0	17	8	9	0	34	6	10	318	14	0	348	0	57	8	4	0	69	2	29	225	60	0	316	767	3098		
1700 - 1715	0	13	11	11	0	35	2	15	339	17	0	373	0	105	10	5	0	120	2	22	217	68	0	309	837	2991		
1715 - 1730	0	10	10	16	0	36	3	18	285	16	0	322	0	67	7	11	0	85	0	24	199	64	0	287	730	2732		
Hourly Total	0	69	39	50	0	158	13	55	1253	65	0	1386	0	312	34	26	0	372	8	97	825	253	0	1183	3099	-		
1730 - 1745	0	15	12	5	0	32	0	16	242	11	0	269	0	78	13	5	0	96	3	38	264	62	0	367	764	2573		
1745 - 1800	0	11	13	14	0	38	5	9	235	13	0	262	0	85	11	3	1	100	3	30	178	50	0	261	661	-		
1800 - 1815	0	14	13	16	0	43	6	4	205	19	0	234	0	43	10	4	0	57	0	16	197	31	0	244	578	-		
1815 - 1830	0	13	6	12	0	31	1	2	184	9	0	196	0	62	20	3	0	85	4	21	188	46	0	259	571	-		
Hourly Total	0	53	44	47	0	144	12	31	866	52	0	961	0	268	54	15	1	338	10	105	827	189	0	1131	2574	-		
Grand Total	0	186	114	145	0	445	46	129	3266	191	0	3632	0	847	135	72	1	1055	28	261	2557	685	0	3531	8663	-		
Approach (%)	0.00	41.80	25.62	32.58	0.00	5.14	1.27	3.55	89.92	5.26	0.00	41.93	0.00	80.28	12.80	6.82	0.09	12.18	0.79	7.39	72.42	19.40	0.00	40.76				
Total (%)	0.00	2.15	1.32	1.67	0.00	5.14	0.53	1.49	37.70	2.20	0.00	41.93	0.00	9.78	1.56	0.83	0.01	12.18	0.32	3.01	29.52	7.91	0.00	40.76				
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
Cars	0	184	113	145	-	442	46	127	3245	186	-	3604	0	841	132	71	-	1044	28	260	2545	676	-	3509				
Truck	0	2	1	0	-	3	0	2	21	5	-	28	0	6	3	1	-	10	0	1	12	9	-	22				
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	0.00	98.92	99.12	100.00	-	99.33	100.00	98.45	99.36	97.38	-	99.23	0.00	99.29	97.78	98.61	-	99.05	100.00	99.62	99.53	98.69	-	99.38				
Truck (%)	0.00	1.08	0.88	0.00	-	0.67	0.00	1.55	0.64	2.62	-	0.77	0.00	0.71	2.22	1.39	-	0.95	0.00	0.38	0.47	1.31	-	0.62				

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Robert Rose Dr (North)						Westbound Medical Center Pkwy (East)						Northbound Robert Rose Dr (South)						Eastbound Medical Center Pkwy (West)						Int Total		
	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds 5a	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds 5b	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds 5c	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds 5d	App Total			
1615 - 1630	0	16	6	3	0	25	6	12	318	22	0	358	0	63	6	4	0	73	3	24	253	54	0	334	790		
1630 - 1645	0	29	10	14	0	53	2	12	311	18	0	343	0	83	9	6	0	98	4	22	184	61	0	271	765		
1645 - 1700	0	17	8	9	0	34	6	10	318	14	0	348	0	57	8	4	0	69	2	29	225	60	0	316	767		
1700 - 1715	0	13	11	11	0	35	2	15	339	17	0	373	0	105	10	5	0	120	2	22	217	68	0	309	837		
Grand Total	0	75	35	37	0	147	16	49	1286	71	0	1422	0	308	33	19	0	360	11	97	879	243	0	1230	3159		
Approach (%)	0.00	51.02	23.81	25.17	0.00	4.65	1.13	3.45	90.44	4.99	0.00	45.01	0.00	85.56	9.17	5.28	0.00	11.40	0.89	7.89	71.46	19.76	0.00	38.94			
Total (%)	0.00	2.37	1.11	1.17	0.00	4.65	0.51	1.55	40.71	2.25	0.00	45.01	0.00	9.75	1.04	0.60	0.00	11.40	0.35	3.07	27.83	7.69	0.00	38.94			
PHF	69%						95%						75%						92%						94%		
P/Cycle	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	
Cars	0	75	34	37	-	146	16	48	1278	70	-	1412	0	305	32	19	-	356	11	96	874	238	-	1219	3133		
Truck	0	0	1	0	-	1	0	1	8	1	-	10	0	3	1	0	-	4	0	1	5	5	-	11	26		
P/Cycle (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	0.00	100.00	97.14	100.00	-	99.32	100.00	97.96	99.38	98.59	-	99.30	0.00	99.03	96.97	100.00	-	98.89	100.00	98.97	99.43	97.94	-	99.11	99.18		
Truck (%)	0.00	0.00	2.86	0.00	-	0.68	0.00	2.04	0.62	1.41	-	0.70	0.00	0.97	3.03	0.00	-	1.11	0.00	1.03	0.57	2.06	-	0.89	0.82		

Murfreesboro, TN
Classified Turn Movement Count

Site 6 of 11

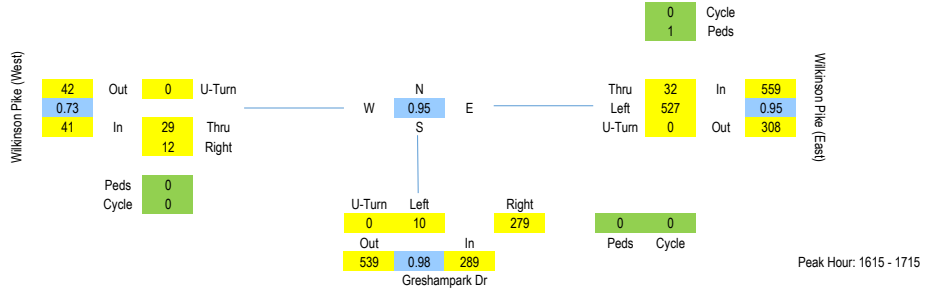
Wilkinson Pike (East)
Greshampark Dr
Wilkinson Pike (West)

Lat/Long
35.867615°, -86.446294°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
1530 - 1545	0	98	3	0	101	0	0	64	0	64	0	2	3	0	5	170	757						
1545 - 1600	0	94	5	0	99	0	0	62	0	62	0	4	1	0	5	166	809						
1600 - 1615	0	110	3	0	113	0	1	69	0	70	0	3	1	0	4	187	856						
1615 - 1630	0	138	9	0	147	0	0	74	0	74	0	8	5	0	13	234	889						
Hourly Total	0	440	20	0	460	0	1	269	0	270	0	17	10	0	27	757	-						
1630 - 1645	0	130	6	1	137	0	1	71	0	72	0	11	3	0	14	223	862						
1645 - 1700	0	128	4	0	132	0	4	68	0	72	0	6	3	0	9	213	820						
1700 - 1715	0	131	13	0	144	0	5	66	0	71	0	4	1	0	5	220	746						
1715 - 1730	0	127	7	0	134	0	1	67	0	68	0	2	3	0	5	207	603						
Hourly Total	0	516	30	1	547	0	11	272	0	283	0	23	10	0	33	863	-						
1730 - 1745	0	95	3	0	98	0	2	76	0	78	0	2	2	0	4	180	503						
1745 - 1800	0	64	3	0	67	0	4	63	0	67	0	2	3	0	5	139	-						
1800 - 1815	0	49	1	0	50	0	0	24	0	24	0	3	0	0	3	77	-						
1815 - 1830	0	43	5	0	48	0	11	44	0	55	0	4	0	0	4	107	-						
Hourly Total	0	251	12	0	263	0	17	207	0	224	0	11	5	0	16	503	-						
Grand Total	0	1207	62	1	1270	0	29	748	0	777	0	51	25	0	76	2123	-						
Approach (%)	0.00	95.04	4.88	0.08		0.00	3.73	96.27	0.00	0.00		67.11	32.89	0.00									
Total (%)	0.00	56.85	2.92	0.05	59.82	0.00	1.37	35.23	0.00	36.60	0.00	2.40	1.18	0.00	3.58								
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0								
Cars	0	1202	61	-	1263	0	29	744	-	773	0	51	25	-	76								
Truck	0	5	1	-	6	0	0	4	-	4	0	0	0	-	0								
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00								
Cars (%)	0.00	99.59	98.39	-	99.53	0.00	100.00	99.47	-	99.49	0.00	100.00	100.00	-	100.00								
Truck (%)	0.00	0.41	1.61	-	0.47	0.00	0.00	0.53	-	0.51	0.00	0.00	0.00	-	0.00								

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Thru	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
1615 - 1630	0	138	9	0	147	0	0	74	0	74	0	8	5	0	13	234							
1630 - 1645	0	130	6	1	137	0	1	71	0	72	0	11	3	0	14	223							
1645 - 1700	0	128	4	0	132	0	4	68	0	72	0	6	3	0	9	213							
1700 - 1715	0	131	13	0	144	0	5	66	0	71	0	4	1	0	5	220							
Grand Total	0	527	32	1	560	0	10	279	0	289	0	29	12	0	41	890							
Approach (%)	0.00	94.11	5.71	0.18		0.00	3.46	96.54	0.00	0.00		70.73	29.27	0.00									
Total (%)	0.00	59.21	3.60	0.11	62.92	0.00	1.12	31.35	0.00	32.47	0.00	3.26	1.35	0.00	4.61								
PHF	0%	95%	62%			0%	50%	94%			0%	73%	66%	60%		95%							
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0							
Cars	0	525	32	-	557	0	10	278	-	288	0	29	12	-	41	886							
Truck	0	2	0	-	2	0	0	1	-	1	0	0	0	-	0	3							
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00							
Cars (%)	0.00	99.62	100.00	-	99.64	0.00	100.00	99.64	-	99.65	0.00	100.00	100.00	-	100.00	99.55							
Truck (%)	0.00	0.38	0.00	-	0.36	0.00	0.00	0.36	-	0.35	0.00	0.00	0.00	-	0.00	0.34							

Murfreesboro, TN
Classified Turn Movement Count

Site 7 of 11
W Park Dr
Wilkinson Pike (East)

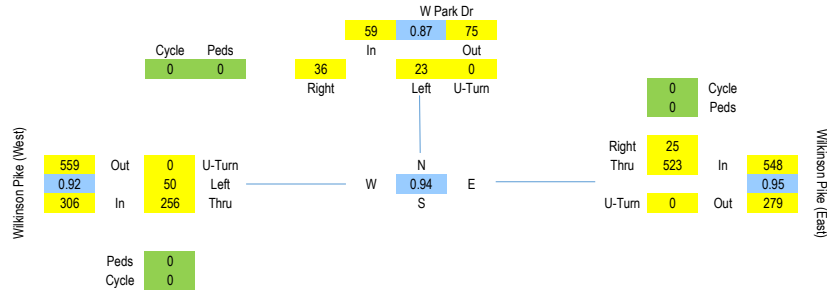
Wilkinson Pike (West)

Lat/Long
35.867391°, -86.443637°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 1615 - 1715

TIME	Southbound W Park Dr				Westbound Wilkinson Pike (East)					
	U-Turn 7.1	Left 7.2	Right 7.3	Peds 7a	App Total	U-Turn 7.4	Thru 7.5	Right 7.6	Peds 7b	App Total
1530 - 1545	0	4	7	0	11	0	98	3	0	101
1545 - 1600	0	3	3	0	6	0	95	9	0	104
1600 - 1615	0	4	4	0	8	0	109	6	0	115
1615 - 1630	0	5	11	0	16	0	138	6	0	144
Hourly Total	0	16	25	0	41	0	440	24	0	464
1630 - 1645	0	2	9	0	11	0	124	9	0	133
1645 - 1700	0	9	6	0	15	0	131	3	0	134
1700 - 1715	0	7	10	0	17	0	130	7	0	137
1715 - 1730	0	3	8	0	11	0	128	6	0	134
Hourly Total	0	21	33	0	54	0	513	25	0	538
1730 - 1745	0	3	4	0	7	0	94	6	0	100
1745 - 1800	0	4	1	0	5	0	62	3	0	65
1800 - 1815	0	2	4	0	6	0	46	3	0	49
1815 - 1830	0	2	7	0	9	0	39	5	0	44
Hourly Total	0	11	16	0	27	0	241	17	0	258
Grand Total	0	48	74	0	122	0	1194	66	0	1260
Approach (%)	0.00	39.34	60.66	0.00	0.00	94.76	5.24	0.00	0.00	0.00
Total (%)	0.00	2.20	3.40	0.00	5.60	0.00	54.82	3.03	0.00	57.85
P/Cycle	0	0	0	-	0	0	0	0	-	0
Cars	0	48	74	-	122	0	1188	66	-	1254
Truck	0	0	0	-	0	0	6	0	-	6
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	99.50	100.00	-	99.52
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.50	0.00	-	0.48

TIME	Eastbound Wilkinson Pike (West)					Int Total	Rolling Hour
	U-Turn 7.7	Left 7.8	Thru 7.9	Peds 7d	App Total		
1530 - 1545	0	6	57	0	63	175	793
1545 - 1600	0	10	61	0	71	181	841
1600 - 1615	0	9	62	0	71	194	887
1615 - 1630	0	9	74	0	83	243	913
Hourly Total	0	34	254	0	288	793	-
1630 - 1645	0	10	69	0	79	223	891
1645 - 1700	0	15	63	0	78	227	849
1700 - 1715	0	16	50	0	66	220	757
1715 - 1730	0	11	65	0	76	221	615
Hourly Total	0	52	247	0	299	891	-
1730 - 1745	0	12	62	0	74	181	494
1745 - 1800	0	10	55	0	65	135	-
1800 - 1815	0	7	16	0	23	78	-
1815 - 1830	0	15	32	0	47	100	-
Hourly Total	0	44	165	0	209	494	-
Grand Total	0	130	666	0	796	2178	-
Approach (%)	0.00	16.33	83.67	0.00	0.00	36.55	-
Total (%)	0.00	5.97	30.58	0.00	36.55	-	-
P/Cycle	0	0	0	-	0	0	-
Cars	0	130	662	-	792	4	-
Truck	0	0	4	-	4	-	-
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	-
Cars (%)	0.00	100.00	99.40	-	99.50	0.50	-
Truck (%)	0.00	0.00	0.60	-	0.50	0.50	-

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound W Park Dr				Westbound Wilkinson Pike (East)					
	U-Turn 7.1	Left 7.2	Right 7.3	Peds 7a	App Total	U-Turn 7.4	Thru 7.5	Right 7.6	Peds 7b	App Total
1615 - 1630	0	5	11	0	16	0	138	6	0	144
1630 - 1645	0	2	9	0	11	0	124	9	0	133
1645 - 1700	0	9	6	0	15	0	131	3	0	134
1700 - 1715	0	7	10	0	17	0	130	7	0	137
Grand Total	0	23	36	0	59	0	523	25	0	548
Approach (%)	0.00	38.98	61.02	0.00	0.00	95.44	4.56	0.00	0.00	0.00
Total (%)	0.00	2.52	3.94	0.00	6.46	0.00	57.28	2.74	0.00	60.02
PHF	0%	64%	87%	0%	0%	95%	69%	0%	0%	0%
P/Cycle	0	0	0	-	0	0	0	0	-	0
Cars	0	23	36	-	59	0	521	25	-	546
Truck	0	0	0	-	0	0	2	0	-	2
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	99.62	100.00	-	99.64
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.38	0.00	-	0.36

TIME	Eastbound Wilkinson Pike (West)					Int Total
	U-Turn 7.7	Left 7.8	Thru 7.9	Peds 7d	App Total	
1615 - 1630	0	9	74	0	83	243
1630 - 1645	0	10	69	0	79	223
1645 - 1700	0	15	63	0	78	227
1700 - 1715	0	16	50	0	66	220
Grand Total	0	50	256	0	306	913
Approach (%)	0.00	16.34	83.66	0.00	0.00	33.52
Total (%)	0.00	5.48	28.04	0.00	33.52	-
PHF	0%	78%	86%	0%	0%	94%
P/Cycle	0	0	0	-	0	0
Cars	0	50	255	-	305	910
Truck	0	0	1	-	1	3
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00
Cars (%)	0.00	100.00	99.61	-	99.67	99.67
Truck (%)	0.00	0.00	0.39	-	0.33	0.33

Murfreesboro, TN
Classified Turn Movement Count

Site 8 of 11

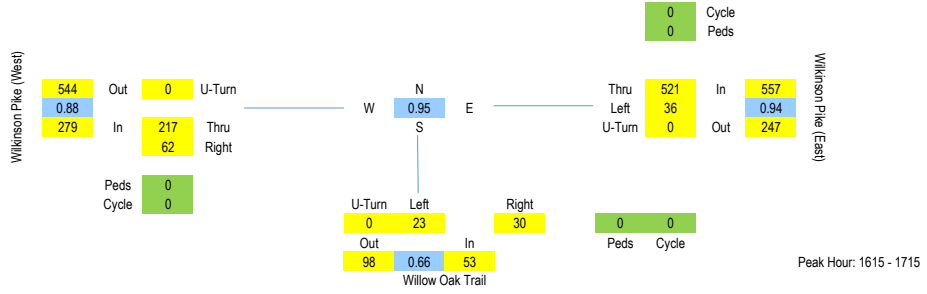
Wilkinson Pike (East)
Willow Oak Trail
Wilkinson Pike (West)

Lat/Long
35.866080°, -86.438822°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
1530 - 1545	0	8	101	0	109	0	3	9	0	12	0	56	8	0	64	185	783				
1545 - 1600	0	8	94	0	102	0	5	6	0	11	0	59	4	0	63	176	815				
1600 - 1615	0	4	112	0	116	0	5	7	0	12	0	51	9	0	60	188	869				
1615 - 1630	0	6	137	0	143	0	6	6	0	12	0	63	16	0	79	234	889				
Hourly Total	0	26	444	0	470	0	19	28	0	47	0	229	37	0	266	783	-				
1630 - 1645	0	6	121	0	127	0	10	10	0	20	0	54	16	0	70	217	875				
1645 - 1700	0	9	130	0	139	0	5	9	0	14	0	58	19	0	77	230	854				
1700 - 1715	0	15	133	0	148	0	2	5	0	7	0	42	11	0	53	208	759				
1715 - 1730	0	15	128	0	143	0	5	5	0	10	0	54	13	0	67	220	635				
Hourly Total	0	45	512	0	557	0	22	29	0	51	0	208	59	0	267	875	-				
1730 - 1745	0	13	98	0	111	0	2	17	0	19	0	58	8	0	66	196	513				
1745 - 1800	0	10	60	0	70	0	5	4	0	9	0	50	6	0	56	135					
1800 - 1815	0	7	43	0	50	0	4	8	0	12	0	14	8	0	22	84					
1815 - 1830	0	8	43	0	51	0	6	7	0	13	0	24	10	0	34	98					
Hourly Total	0	38	244	0	282	0	17	36	0	53	0	146	32	0	178	513					
Grand Total	0	109	1200	0	1309	0	58	93	0	151	0	583	128	0	711	2171					
Approach (%)	0.00	8.33	91.67	0.00		0.00	38.41	61.59	0.00	0.00		82.00	18.00	0.00							
Total (%)	0.00	5.02	55.27	0.00	60.29	0.00	2.67	4.28	0.00	6.96	0.00	26.85	5.90	0.00	32.75						
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0						
Cars	0	106	1194	-	1300	0	58	93	-	151	0	579	128	-	707						
Truck	0	3	6	-	9	0	0	0	-	0	0	4	0	-	4						
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00						
Cars (%)	0.00	97.25	99.50	-	99.31	0.00	100.00	100.00	-	100.00	0.00	99.31	100.00	-	99.44						
Truck (%)	0.00	2.75	0.50	-	0.69	0.00	0.00	0.00	-	0.00	0.00	0.69	0.00	-	0.56						

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	U-Turn	Left	Thru	Peds	App	U-Turn	Left	Right	Peds	App	U-Turn	Right	Peds	App	U-Turn	Thru	Right	Peds	App	Int	Rolling
1615 - 1630	0	6	137	0	143	0	6	6	0	12	0	63	16	0	79	234					
1630 - 1645	0	6	121	0	127	0	10	10	0	20	0	54	16	0	70	217					
1645 - 1700	0	9	130	0	139	0	5	9	0	14	0	58	19	0	77	230					
1700 - 1715	0	15	133	0	148	0	2	5	0	7	0	42	11	0	53	208					
Grand Total	0	36	521	0	557	0	23	30	0	53	0	217	62	0	279	889					
Approach (%)	0.00	6.46	93.54	0.00		0.00	43.40	56.60	0.00	0.00		77.78	22.22	0.00							
Total (%)	0.00	4.05	58.61	0.00	62.65	0.00	2.59	3.37	0.00	5.96	0.00	24.41	6.97	0.00	31.38						
PHF	0%	60%	95%			0%	58%	75%			0%	86%	82%								95%
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0					
Cars	0	35	518	-	553	0	23	30	-	53	0	216	62	-	278	884					
Truck	0	1	3	-	4	0	0	0	-	0	0	1	0	-	1	5					
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00					
Cars (%)	0.00	97.22	99.42	-	99.28	0.00	100.00	100.00	-	100.00	0.00	99.54	100.00	-	99.64	99.44					
Truck (%)	0.00	2.78	0.58	-	0.72	0.00	0.00	0.00	-	0.00	0.00	0.46	0.00	-	0.36	0.56					

Murfreesboro, TN
Classified Turn Movement Count

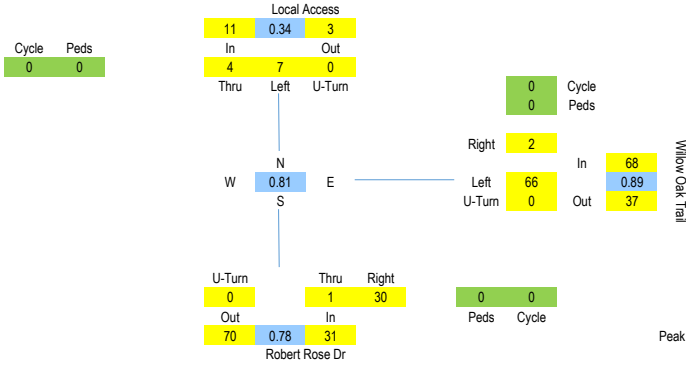
Site 9 of 11
Local Access
Willow Oak Trail
Robert Rose Dr

Lat/Long
35.864176°, -86.440431°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 1630 - 1730

TIME	Southbound Local Access			Peds 9a	App Total	Westbound Willow Oak Trail			Peds 9b	App Total	Northbound Robert Rose Dr				Int Total	Rolling Hour	
	U-Turn 9.1	Left 9.2	Thru 9.3			U-Turn 9.4	Left 9.5	Right 9.6			U-Turn 9.7	Thru 9.8	Right 9.9	Peds 9c			App Total
1530 - 1545	0	2	3	0	5	0	8	2	0	10	0	0	5	0	5	20	79
1545 - 1600	0	2	1	0	3	0	5	1	0	6	0	1	6	0	7	16	93
1600 - 1615	0	2	1	0	3	0	9	0	0	9	0	2	7	0	9	21	103
1615 - 1630	0	0	0	0	0	0	12	0	0	12	0	0	10	0	10	22	103
Hourly Total	0	6	5	0	11	0	34	3	0	37	0	3	28	0	31	79	-
1630 - 1645	0	5	3	0	8	0	15	1	0	16	0	0	10	0	10	34	110
1645 - 1700	0	1	0	0	1	0	16	1	0	17	0	0	8	0	8	26	106
1700 - 1715	0	1	0	0	1	0	16	0	0	16	0	0	4	0	4	21	97
1715 - 1730	0	0	1	0	1	0	19	0	0	19	0	1	8	0	9	29	93
Hourly Total	0	7	4	0	11	0	66	2	0	68	0	1	30	0	31	110	-
1730 - 1745	0	1	0	0	1	0	15	0	0	15	0	0	14	0	14	30	83
1745 - 1800	0	0	1	0	1	0	7	1	0	8	0	0	8	0	8	17	-
1800 - 1815	0	1	0	0	1	0	7	1	0	8	0	0	8	0	8	17	-
1815 - 1830	0	0	0	0	0	0	9	0	0	9	0	0	10	0	10	19	-
Hourly Total	0	2	1	0	3	0	38	2	0	40	0	0	40	0	40	83	-
Grand Total	0	15	10	0	25	0	138	7	0	145	0	4	98	0	102	272	-
Approach (%)	0.00	60.00	40.00	0.00		0.00	95.17	4.83	0.00		0.00	3.92	96.08	0.00			
Total (%)	0.00	5.51	3.68	0.00	9.19	0.00	50.74	2.57	0.00	53.31	0.00	1.47	36.03	0.00	37.50		
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0		
Cars	0	15	10	-	25	0	138	7	-	145	0	4	98	-	102		
Truck	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0		
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00		
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00		
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00		

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Local Access			Peds 9a	App Total	Westbound Willow Oak Trail			Peds 9b	App Total	Northbound Robert Rose Dr				Int Total		
	U-Turn 9.1	Left 9.2	Thru 9.3			U-Turn 9.4	Left 9.5	Right 9.6			U-Turn 9.7	Thru 9.8	Right 9.9	Peds 9c		App Total	
1630 - 1645	0	5	3	0	8	0	15	1	0	16	0	0	10	0	10	34	
1645 - 1700	0	1	0	0	1	0	16	1	0	17	0	0	8	0	8	26	
1700 - 1715	0	1	0	0	1	0	16	0	0	16	0	0	4	0	4	21	
1715 - 1730	0	0	1	0	1	0	19	0	0	19	0	1	8	0	9	29	
Grand Total	0	7	4	0	11	0	66	2	0	68	0	1	30	0	31	110	
Approach (%)	0.00	63.64	36.36	0.00		0.00	97.06	2.94	0.00		0.00	3.23	96.77	0.00			
Total (%)	0.00	6.36	3.64	0.00	10.00	0.00	60.00	1.82	0.00	61.82	0.00	0.91	27.27	0.00	28.18		
PHF	0%	35%	33%			0%	87%	50%			0%	25%	75%			81%	
P/Cycle	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	
Cars	0	7	4	-	11	0	66	2	-	68	0	1	30	-	31	110	
Truck	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00	0.00	100.00	100.00	-	100.00	100.00	
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	

Murfreesboro, TN
Classified Turn Movement Count

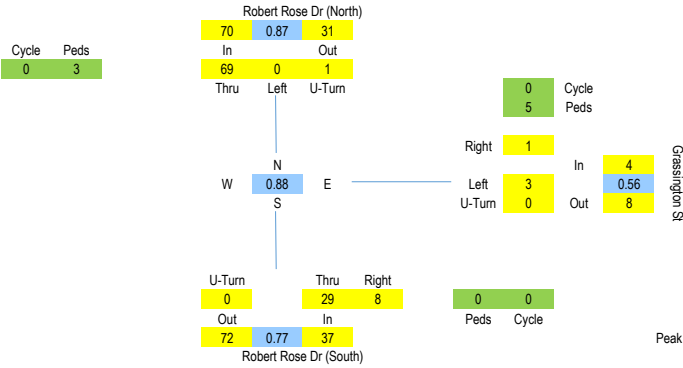
Site 10 of 11
Robert Rose Dr (North)
Grassington St
Robert Rose Dr (South)

Lat/Long
35.863444°, -86.440064°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 1630 - 1730

TIME	Southbound Robert Rose Dr (North)			Peds 10a	App Total	Westbound Grassington St			Peds 10b	App Total	Northbound Robert Rose Dr (South)				Int Total	Rolling Hour	
	U-Turn 10.1	Left 10.2	Thru 10.3			U-Turn 10.4	Left 10.5	Right 10.6			U-Turn 10.7	Thru 10.8	Right 10.9	Peds 10c			App Total
1530 - 1545	0	1	10	0	11	0	0	0	0	0	0	5	4	0	9	23	78
1545 - 1600	0	0	5	0	5	1	0	1	0	0	0	6	0	0	6	12	91
1600 - 1615	0	0	11	0	11	0	0	1	0	0	0	9	2	0	11	23	103
1615 - 1630	0	0	12	0	12	0	0	0	0	0	0	10	0	0	10	22	102
Hourly Total	0	1	38	0	39	0	2	2	0	0	0	30	6	0	36	80	-
1630 - 1645	0	0	18	0	18	1	0	4	0	0	0	9	3	0	12	34	111
1645 - 1700	1	0	15	2	18	0	0	0	0	0	0	7	1	0	8	29	110
1700 - 1715	0	0	16	0	16	0	0	0	0	0	0	4	2	0	6	22	107
1715 - 1730	0	0	20	1	21	0	0	0	0	0	0	9	2	0	11	34	105
Hourly Total	1	0	69	3	73	0	3	3	0	0	0	29	8	0	37	119	97
1730 - 1745	0	0	15	1	16	0	2	2	1	1	1	13	1	0	15	37	97
1745 - 1800	0	0	8	0	8	0	3	3	0	0	0	8	2	0	10	21	-
1800 - 1815	0	0	7	0	7	0	1	1	0	0	0	8	4	0	12	20	-
1815 - 1830	0	0	10	0	10	0	0	0	0	0	0	11	2	0	13	23	-
Hourly Total	0	0	40	1	41	0	6	6	1	1	1	40	9	0	50	101	-
Grand Total	1	1	147	4	153	0	11	11	1	1	1	99	23	0	123	300	-
Approach (%)	0.65	0.65	96.08	2.61		0.00	45.83		12.50	41.67	0.81	80.49	18.70	0.00			
Total (%)	0.33	0.33	49.00	1.33	51.00	0.00	3.67		1.00	3.33	8.00	0.33	33.00	7.67	0.00	41.00	
P/Cycle	0	0	0	-	0	0	0	0	0	-	0	0	0	-	0		
Cars	1	1	147	-	149	0	11	11	3	-	14	1	99	23	-	123	
Truck	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	
Cars (%)	100.00	100.00	100.00	-	100.00	0.00	100.00	100.00	100.00	-	100.00	100.00	100.00	100.00	-	100.00	
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Robert Rose Dr (North)			Peds 10a	App Total	Westbound Grassington St			Peds 10b	App Total	Northbound Robert Rose Dr (South)				Int Total		
	U-Turn 10.1	Left 10.2	Thru 10.3			U-Turn 10.4	Left 10.5	Right 10.6			U-Turn 10.7	Thru 10.8	Right 10.9	Peds 10c		App Total	
1630 - 1645	0	0	18	0	18	1	0	4	0	0	0	9	3	0	12	34	
1645 - 1700	1	0	15	2	18	0	0	3	0	0	0	7	1	0	8	29	
1700 - 1715	0	0	16	0	16	0	0	0	0	0	0	4	2	0	6	22	
1715 - 1730	0	0	20	1	21	0	0	2	0	0	0	9	2	0	11	34	
Grand Total	1	0	69	3	73	0	3	9	0	0	0	29	8	0	37	119	
Approach (%)	1.37	0.00	94.52	4.11		0.00	33.33		11.11	55.56	0.00	78.38	21.62	0.00			
Total (%)	0.84	0.00	57.98	2.52	61.34	0.00	2.52		0.84	4.20	7.56	0.00	24.37	6.72	0.00	31.09	
PHF	87%					56%					77%						88%
P/Cycle	0	0	0	-	0	0	0	0	0	-	0	0	0	-	0	0	
Cars	1	0	69	-	70	0	3	3	0	0	0	29	8	-	37	111	
Truck	0	0	0	-	0	0	0	0	0	-	0	0	0	-	0	0	
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	
Cars (%)	100.00	0.00	100.00	-	100.00	0.00	100.00	100.00	100.00	-	100.00	100.00	100.00	100.00	-	93.28	
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	

Murfreesboro, TN
Classified Turn Movement Count

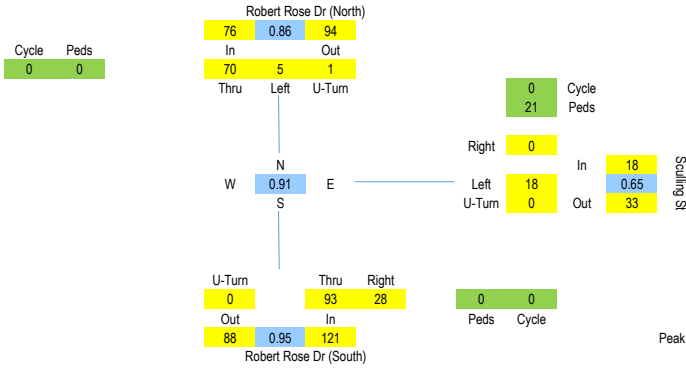
Site 11 of 11
Robert Rose Dr (North)
Sculling St
Robert Rose Dr (South)

Lat/Long
35.860608°, -86.437829°

Date
Wednesday, February 12, 2020

Weather
Light Rain Shower
47°F

1530 - 1830 (Weekday 3h Session) (12-02-2020)
Classification: ALL



Peak Hour: 1715 - 1815

TIME	Southbound Robert Rose Dr (North)			Peds 11a	App Total	Westbound Sculling St			Peds 11b	App Total	Northbound Robert Rose Dr (South)				Int Total	Rolling Hour
	U-Turn 11.1	Left 11.2	Thru 11.3			U-Turn 11.4	Left 11.5	Right 11.6			U-Turn 11.7	Thru 11.8	Right 11.9	Peds 11c		
1530 - 1545	0	2	18	0	20	0	1	4	0	0	18	2	0	20	44	171
1545 - 1600	0	1	13	0	14	0	0	1	0	0	13	3	0	16	31	180
1600 - 1615	0	3	16	0	19	0	0	3	0	0	25	1	0	26	48	190
1615 - 1630	0	2	10	0	12	0	6	11	0	0	20	11	0	31	54	192
Hourly Total	0	8	57	0	65	0	13	19	0	0	76	17	0	93	177	-
1630 - 1645	0	3	20	0	23	0	5	5	0	0	21	3	0	24	52	201
1645 - 1700	0	4	16	0	20	0	2	2	0	0	14	5	0	19	41	201
1700 - 1715	0	5	17	0	22	0	3	7	0	0	21	4	0	25	54	214
1715 - 1730	0	2	20	0	22	0	7	12	0	0	23	6	0	29	63	215
Hourly Total	0	14	73	0	87	0	17	26	0	0	79	18	0	97	210	-
1730 - 1745	1	1	19	0	21	0	2	15	0	0	23	6	0	29	65	206
1745 - 1800	0	1	18	0	19	0	3	6	0	0	22	10	0	32	57	-
1800 - 1815	0	1	13	0	14	0	6	6	0	0	25	6	0	31	51	-
1815 - 1830	0	2	12	0	14	0	6	0	0	0	18	9	0	27	49	-
Hourly Total	1	5	62	0	68	0	17	35	0	0	88	31	0	119	222	-
Grand Total	1	27	192	0	220	0	47	80	0	0	243	66	0	309	609	-
Approach (%)	0.45	12.27	87.27	0.00	0.00	2.50	38.75	0.00	0.00	78.64	21.36	0.00	0.00	0.00	0.00	0.00
Total (%)	0.16	4.43	31.53	0.00	36.12	0.33	5.09	13.14	0.00	39.90	10.84	0.00	0.00	50.74	210	-
P/Cycle	0	0	0	-	0	0	0	0	0	0	0	0	-	0	0	0
Cars	1	26	192	-	219	0	47	49	0	0	240	66	-	306	210	-
Truck	0	1	0	-	1	0	0	0	0	0	3	0	-	3	65	206
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
Cars (%)	100.00	96.30	100.00	-	99.55	0.00	100.00	100.00	0.00	0.00	98.77	100.00	-	99.03	210	-
Truck (%)	0.00	3.70	0.00	-	0.45	0.00	0.00	0.00	0.00	0.00	1.23	0.00	-	0.97	65	206

Peak Rolling Hour Flow Rates
Classification: ALL

TIME	Southbound Robert Rose Dr (North)			Peds 11a	App Total	Westbound Sculling St			Peds 11b	App Total	Northbound Robert Rose Dr (South)				Int Total	
	U-Turn 11.1	Left 11.2	Thru 11.3			U-Turn 11.4	Left 11.5	Right 11.6			U-Turn 11.7	Thru 11.8	Right 11.9	Peds 11c		App Total
1715 - 1730	0	2	20	0	22	0	7	12	0	0	23	6	0	29	63	-
1730 - 1745	1	1	19	0	21	0	2	15	0	0	23	6	0	29	65	-
1745 - 1800	0	1	18	0	19	0	3	6	0	0	22	10	0	32	57	-
1800 - 1815	0	1	13	0	14	0	6	6	0	0	25	6	0	31	51	-
Grand Total	1	5	70	0	76	0	18	39	0	0	93	28	0	121	236	-
Approach (%)	1.32	6.58	92.11	0.00	0.00	0.00	53.85	0.00	0.00	76.86	23.14	0.00	0.00	0.00	0.00	0.00
Total (%)	0.42	2.12	29.66	0.00	32.20	0.00	7.63	16.53	0.00	39.41	11.86	0.00	0.00	51.27	213	-
PHF	86%					65%					95%				91%	
P/Cycle	0	0	0	-	0	0	0	0	0	0	0	0	-	0	0	0
Cars	1	5	70	-	76	0	18	18	0	0	91	28	-	119	213	-
Truck	0	0	0	-	0	0	0	0	0	0	2	0	-	2	2	-
P/Cycle (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
Cars (%)	100.00	100.00	100.00	-	100.00	0.00	100.00	100.00	0.00	0.00	97.85	100.00	-	98.35	213	-
Truck (%)	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	2.15	0.00	-	1.65	2	-

APPENDIX B

TRIP GENERATION WORKSHEETS

TRIP GENERATION SUMMARY - Proposed Clari Park Master Plan

Trip Generation Manual, 10th Edition, Institute of Transportation Engineers

Land Use	ITE Code	Total Units	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Single Family	210	36 homes	406	7	23	30	24	14	38
Townhomes (Low-Rise)	220	186 units	1,622	23	78	101	75	44	119
Apartments (Mid-Rise)	221	280 units	1,524	24	70	94	73	46	119
Hotel	310	240 Rooms	2,283	68	47	115	79	75	154
Bowling Alley	437	49,000 sf	-	38	2	40	35	19	54
General Office	710	100,000 sf	1,061	103	17	120	18	96	114
Medical Office	720	15,000 sf	489	32	9	41	15	38	53
Convenience Market w/Gas Pumps	853	4,700 sf (Pass-By Trip %)	2,934	95	96	191	116	116	232
			60%	63%	63%	63%	66%	66%	66%
Furniture Store	890	10,000 sf	98	2	1	3	3	3	6
Drive-in Bank	912	14,000 sf	1,277	77	56	133	143	143	286
Fast Casual	930	11,667 GSF	3,677	14	10	24	91	74	165
Quality Restaurant	931	11,667 GSF	978	5	4	9	54	37	91
High-Turnover (Sit-Down) Restaurant	932	11,666 GSF	1,309	64	52	116	71	43	114
Unadjusted Total Trip Generation			17,658	552	465	1,017	797	748	1,545
Internal Trip Reduction %			15%	15%			20%		
Internal Trips			2,649	83	70	153	159	150	309
Adjusted Total Trip Generation			15,009	469	395	864	638	598	1236
Pass-By Trips (from Convenience Market w/Gas Pumps) (Trip Generation x Pass-By Trip % x Internal Trip Reduction %)			1,496	51	51	102	61	61	122
Adjusted Total Primary Trip Generation			13,513	418	344	762	577	537	1,114

TRIP GENERATION (10th Edition)

Single-Family Detached Housing - 36 Dwelling Units

Use ITE Land Use Code 210 (Single-Family Detached Housing) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$\ln(T) = 0.92 \ln(X) + 2.71$$

$$\ln(T) = 0.92 \ln(36) + 2.71$$

$$T = 406$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 0.71(X) + 4.80$$

$$T = 0.71(36) + 4.80$$

$$T = 30$$

$$\text{Enter} = 0.25(30) = 8$$

$$\text{Exit} = 0.75(30) = 22$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.96 \ln(X) + 0.20$$

$$\ln(T) = 0.96 \ln(36) + 0.20$$

$$T = 38$$

$$\text{Enter} = 0.63(38) = 24$$

$$\text{Exit} = 0.37(38) = 14$$

TRIP GENERATION (10th Edition)

Multifamily (Low-Rise) - 186 Dwelling Units

Use ITE Land Use Code 220 (Multifamily (Low-Rise)) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 7.56(X) - 40.86$$

$$T = 7.56(186) - 40.86$$

$$T = 1365$$

A.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.95 \ln(X) - 0.51$$

$$\ln(T) = 0.95 \ln(186) - 0.51$$

$$T = 86$$

$$\text{Enter} = 0.23(86) = 20$$

$$\text{Exit} = 0.77(86) = 66$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.89 \ln(X) - 0.02$$

$$\ln(T) = 0.89 \ln(186) - 0.02$$

$$T = 103$$

$$\text{Enter} = 0.63(103) = 65$$

$$\text{Exit} = 0.37(103) = 38$$

TRIP GENERATION (10th Edition)

Multifamily (Mid-Rise) - 280 Dwelling Units

Use ITE Land Use Code 221 (Multifamily (Mid-Rise)) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 5.45(X) - 1.75$$

$$T = 5.45(280) - 1.75$$

$$T = 1524$$

A.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.98 \ln(X) - 0.98$$

$$\ln(T) = 0.98 \ln(280) - 0.98$$

$$T = 94$$

$$\text{Enter} = 0.26(94) = 24$$

$$\text{Exit} = 0.74(94) = 70$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.96 \ln(X) - 0.63$$

$$\ln(T) = 0.96 \ln(280) - 0.63$$

$$T = 119$$

$$\text{Enter} = 0.61(119) = 73$$

$$\text{Exit} = 0.39(119) = 46$$

TRIP GENERATION (10th Edition)

Hotel - 240 Rooms

Use ITE Land Use Code 310 (Hotel) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 11.29(X) - 426.97$$

$$T = 11.29(240) - 426.97$$

$$T = 2283$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 0.50(X) - 5.34$$

$$T = 0.50(240) - 5.34$$

$$T = 115$$

$$\text{Enter} = 0.59(115) = 68$$

$$\text{Exit} = 0.41(115) = 47$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 0.75(X) - 26.02$$

$$T = 0.75(240) - 26.02$$

$$T = 154$$

$$\text{Enter} = 0.51(154) = 79$$

$$\text{Exit} = 0.49(154) = 75$$

TRIP GENERATION (10th Edition)

Bowling Alley - 49,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 437 (Bowling Alley) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

No Data Provided

A.M. Peak Hour of Adjacent Street Traffic

$$T = 0.81(X)$$

$$T = 0.81(49)$$

$$T = 40$$

$$\text{Enter} = 0.95(40) = 38$$

$$\text{Exit} = 0.05(40) = 2$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 1.01(X) + 4.92$$

$$T = 1.01(49) + 4.92$$

$$T = 54$$

$$\text{Enter} = 0.65(54) = 35$$

$$\text{Exit} = 0.35(54) = 19$$

TRIP GENERATION (10th Edition)

General Office Building - 100,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 710 (General Office Building) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$\begin{aligned}\ln(T) &= 0.97 \ln(X) + 2.50 \\ \ln(T) &= 0.97 \ln(100) + 2.50 \\ T &= 1061\end{aligned}$$

A.M. Peak Hour

$$\begin{aligned}T &= 0.94 (X) + 26.49 \\ T &= 0.94 (100) + 26.49 \\ T &= 120\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.86(120) = 103 \\ \text{Exit} &= 0.14(120) = 17\end{aligned}$$

P.M. Peak Hour

$$\begin{aligned}\ln(T) &= 0.95 \ln(X) + 0.36 \\ \ln(T) &= 0.95 \ln(100) + 0.36 \\ T &= 114\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.16(114) = 18 \\ \text{Exit} &= 0.84(114) = 96\end{aligned}$$

TRIP GENERATION (10th Edition)

Medical-Dental Office Building - 15,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 720 (Medical Office Building) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 38.42(X) - 87.62$$

$$T = 38.42(15) - 87.62$$

$$T = 489$$

A.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.89 \ln(X) + 1.31$$

$$\ln(T) = 0.89 \ln(15) + 1.31$$

$$T = 41$$

$$\text{Enter} = 0.78(41) = 32$$

$$\text{Exit} = 0.22(41) = 9$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 3.39(X) + 2.02$$

$$T = 3.39(15) + 2.02$$

$$T = 53$$

$$\text{Enter} = 0.28(53) = 15$$

$$\text{Exit} = 0.72(53) = 38$$

TRIP GENERATION

Convenience Market with Gasoline Pumps - 4,700 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 853 (Convenience Market with Gas Pumps) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 624.20(X)$$

$$T = 624.20(4.7)$$

$$T = 2934$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 40.59(X)$$

$$T = 40.59(4.7)$$

$$T = 191$$

$$\text{Enter} = 0.50(191) = 95$$

$$\text{Exit} = 0.50(191) = 96$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 49.29(X)$$

$$T = 49.29(4.7)$$

$$T = 232$$

$$\text{Enter} = 0.50(232) = 116$$

$$\text{Exit} = 0.50(232) = 116$$

TRIP GENERATION

Furniture Store - 10,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 890 (Furniture Store) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 5.17(X) + 46.56$$

$$T = 5.17(10) + 46.56$$

$$T = 98$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 0.24(X) + 0.94$$

$$T = 0.24(10) + 0.94$$

$$T = 3$$

$$\text{Enter} = 0.71(3) = 2$$

$$\text{Exit} = 0.29(3) = 1$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.85 \ln(X) - 0.18$$

$$\ln(T) = 0.85 \ln(10) - 0.18$$

$$T = 6$$

$$\text{Enter} = 0.47(6) = 3$$

$$\text{Exit} = 0.53(6) = 3$$

TRIP GENERATION (10th Edition)

Drive-in Bank - 14,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 912 (Drive-in Bank) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 82.87(X) + 117.10$$

$$T = 82.87(14) + 117.10$$

$$T = 1277$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 9.50(X)$$

$$T = 9.50(14)$$

$$T = 133$$

$$\text{Enter} = 0.58(133) = 77$$

$$\text{Exit} = 0.42(133) = 56$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 20.45(X)$$

$$T = 20.45(14)$$

$$T = 286$$

$$\text{Enter} = 0.50(286) = 143$$

$$\text{Exit} = 0.50(286) = 143$$

TRIP GENERATION (10th Edition)

Fast Casual Restaurant - 11,667 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 931 (Quality Restaurant) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 315.17(X)$$

$$T = 315.17(11.667)$$

$$T = 3677$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 2.07(X)$$

$$T = 2.07(11.667)$$

$$T = 24$$

$$\text{Enter} = 0.67(165) = 14$$

$$\text{Exit} = 0.33(165) = 10$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 14.13(X)$$

$$T = 14.13(11.667)$$

$$T = 165$$

$$\text{Enter} = 0.55(165) = 91$$

$$\text{Exit} = 0.45(165) = 74$$

TRIP GENERATION (10th Edition)

Quality Restaurant - 11,667 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 931 (Quality Restaurant) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 83.84(X)$$

$$T = 83.84(11.667)$$

$$T = 978$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 0.73(X)$$

$$T = 0.73(11.667)$$

$$T = 9$$

Directional Distribution
Not Available

P.M. Peak Hour of Adjacent Street Traffic

$$T = 7.80(X)$$

$$T = 7.80(11.667)$$

$$T = 91$$

$$\text{Enter} = 0.67(91) = 54$$

$$\text{Exit} = 0.33(91) = 37$$

TRIP GENERATION (10th Edition)

High-Turnover (Sit-Down) Restaurant - 11,666 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 932 (High-Turnover (Sit-Down) Restaurant) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 112.18(X)$$

$$T = 112.18(11.666)$$

$$T = 1309$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 9.94(X)$$

$$T = 9.94(11.666)$$

$$T = 116$$

$$\text{Enter} = 0.55(116) = 64$$

$$\text{Exit} = 0.45(116) = 52$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 9.77(X)$$

$$T = 9.77(11.666)$$

$$T = 114$$

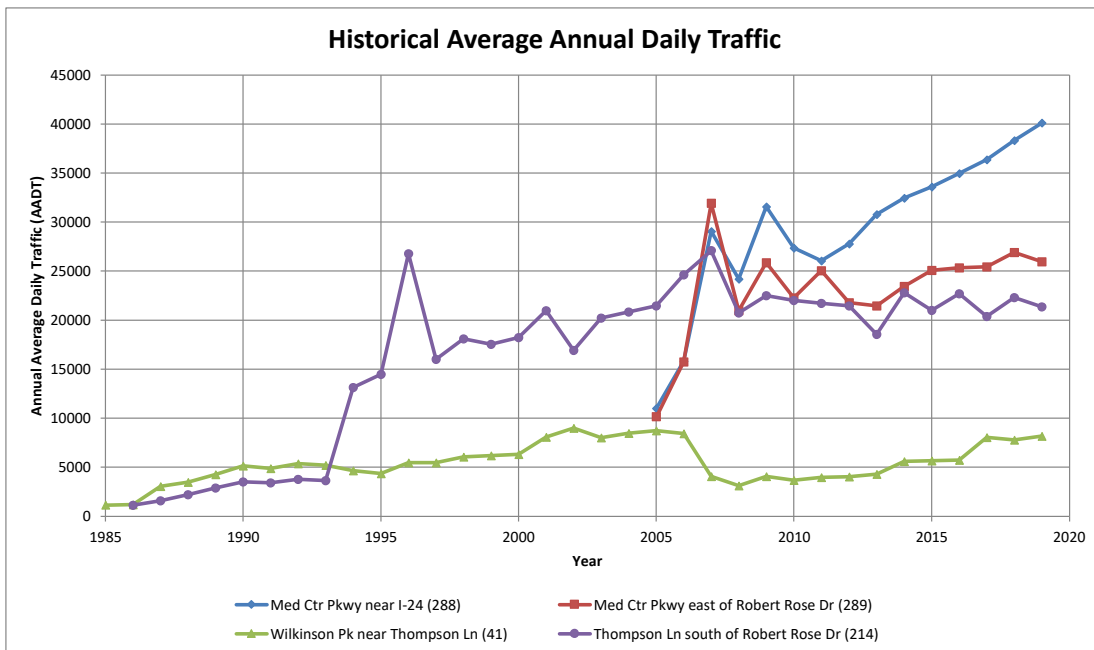
$$\text{Enter} = 0.62(114) = 71$$

$$\text{Exit} = 0.38(114) = 43$$

APPENDIX C

TRAFFIC ASSIGNMENT WORKSHEETS

HISTORICAL TRAFFIC COUNT DATA				
Year	Med Ctr Pkwy near I-24 (288)	Med Ctr Pkwy east of Robert Rose Dr (289)	Wilkinson Pk near Thompson Ln (41)	Thompson Ln south of Robert Rose Dr (214)
1985			1153	
1986			1200	1124
1987			3058	1574
1988			3469	2215
1989			4272	2884
1990			5135	3495
1991			4888	3412
1992			5375	3770
1993			5200	3650
1994			4659	13126
1995			4348	14464
1996			5459	26788
1997			5457	16008
1998			6043	18096
1999			6197	17545
2000			6302	18213
2001			8069	20975
2002			8990	16933
2003			8011	20223
2004			8461	20830
2005	11022	10157	8715	21455
2006	15809	15731	8431	24639
2007	29059	31927	4064	27097
2008	24194	20958	3122	20740
2009	31564	25870	4056	22515
2010	27378	22277	3663	22011
2011	26072	25051	3968	21702
2012	27780	21789	4039	21448
2013	30803	21466	4293	18560
2014	32443	23455	5601	22789
2015	33598	25081	5657	20985
2016	34983	25331	5713	22687
2017	36380	25426	8056	20390
2018	38334	26902	7787	22306
2019	40120	25950	8170	21360



		Med Ctr Pkwy near I-24 (288)	Med Ctr Pkwy east of Robert Rose Dr (289)	Wilkinson Pk near Thompson Ln (41)	Thompson Ln south of Robert Rose Dr (214)
Analysis Period	Begin	2011	2012	2007	1994
	End	2019	2019	2019	2019
Future Year		2030	2030	2030	2030
Forecasted Traffic Volume		58777	35209	12256	25197
Annual Growth Rate		3.53%	2.81%	3.76%	1.51%
Growth Factor		1.465	1.357	1.500	1.180

TRAFFIC VOLUME WORKSHEET
 SPECIFIC NON-SITE TRIP GENERATION &
 PROPOSED DEVELOPMENT TRIP GENERATION



PROPOSED SITE DEVELOPMENT TRIP GENERATION							
Development	Daily	A.M. Peak Hour			P.M. Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Clari Park Primary Trips	13,513	418	344	762	577	537	1,114
Clari Park Pass-By Trips	1,496	51	51	102	61	61	122
TOTAL	15,009	469	395	864	638	598	1,236

PROPOSED WILLOWOAK REASSIGNMENT							
Description	AADT	A.M. Peak Hour (9.3%)			P.M. Peak Hour (10.6%)		
		EB	WB	Total	EB	WB	Total
Willowoak Reassignment	3,500	234	91	325	152	219	371
TOTAL	3,500	234	91	325	152	219	371

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT GRESHAMPARK DRIVE
 A.M. PEAK HOUR



Description	Northbound Medical Center Pkwy			Southbound Medical Center Pkwy			Eastbound Greshampark Dr			Westbound Greshampark Dr		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	32	488	22	522	1211	22	18	19	57	33	19	165
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Growth Factor	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Annual Background Growth Trips	7	112	5	120	278	5	4	4	13	8	4	38
2027 Background Traffic Volumes	39	600	27	642	1489	27	22	23	70	41	23	203
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips			7	8	32					7		8
% In Trips	0	32	29	33	134	0	0	0	0	24	0	28
% Out Trips	0	110	29	33	134	0	0	0	0	24	0	28
2027 Site Traffic Volumes	0	110	29	33	134	0	0	0	0	24	0	28
Willow oak Dr Extension Adjustment %			4%	93%				3%		15%	9%	76%
Willow oak Dr Extension Adjustment Trips		69	-9	-218	218			-7		-14	-8	-69
2027 TOTAL TRAFFIC VOLUMES	39	779	47	457	1841	27	22	16	70	51	15	162

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT GRESHAMPARK DRIVE
 P.M. PEAK HOUR



Description	Northbound Medical Center Pkwy			Southbound Medical Center Pkwy			Eastbound Greshampark Dr			Westbound Greshampark Dr		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	77	1389	56	304	1024	86	109	35	46	65	51	463
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Growth Factor	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Annual Background Growth Trips	18	319	13	70	235	20	25	8	11	15	12	106
2027 Background Traffic Volumes	95	1708	69	374	1259	106	134	43	57	80	63	569
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips			7	8	32					7		8
% In Trips	0	32	40	46	185	0	0	0	0	38	0	43
2027 Site Traffic Volumes	0	172	40	46	185	0	0	0	0	38	0	43
Willow oak Dr Extension Adjustment %			14%	77%			9%			11%	9%	80%
Willow oak Dr Extension Adjustment Trips		175	-21	-117	117		-14			-24	-20	-175
2027 TOTAL TRAFFIC VOLUMES	95	2055	88	303	1561	106	134	29	57	94	43	437

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT WILLOWOAK TRAIL
 A.M. PEAK HOUR



Description	Northbound Medical Center Pkwy			Southbound Medical Center Pkwy			Eastbound Willowoak Trail			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	33	484		1267	24		20		9			
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0		3.0	3.0		3.0		3.0			
Growth Factor	1.23	1.23	1.00	1.00	1.23	1.23	1.23	1.00	1.23	1.00	1.00	1.00
Annual Background Growth Trips	8	111	0	0	291	6	5	0	2	0	0	0
2027 Background Traffic Volumes	41	595	0	0	1558	30	25	0	11	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	6	7	18	14		1	1				
	% Out	14		6	1					7	1	18
Trips	0	73	29	75	79	3	4	4	0	24	3	62
Clari Park Pass-By Trips	% In	-45	45	-55	55							
	% Out									55		45
Trips	0	-23	23	0	-28	28	0	0	0	28	0	23
2027 Site Traffic Volumes	0	50	52	75	51	31	4	4	0	52	3	85
Willowoak Dr Extension Adjustment Trips		-9	9	218	-14			7		14	8	69
2027 TOTAL TRAFFIC VOLUMES	41	636	61	293	1595	61	29	11	11	66	11	154

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT WILLOWOAK TRAIL
 P.M. PEAK HOUR



Description	Northbound Medical Center Pkwy			Southbound Medical Center Pkwy			Eastbound Willowoak Trail			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	131	1366		953	170		167	83				
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0			3.0	3.0	3.0	3.0				
Growth Factor	1.23	1.23	1.00	1.00	1.23	1.23	1.23	1.00	1.23	1.00	1.00	1.00
Annual Background Growth Trips	30	314	0	0	219	39	38	0	19	0	0	0
2027 Background Traffic Volumes	161	1680	0	0	1172	209	205	0	102	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	6	7	18	14		1	1				
	% Out	14		6	1					7	1	18
Trips	0	110	40	104	113	5	6	6	0	38	5	97
Clari Park Pass-By Trips	% In	-45	45		-55	55						
	% Out									55		45
Trips	0	-27	27	0	-34	34	0	0	0	34	0	27
2027 Site Traffic Volumes	0	83	67	104	79	39	6	6	0	72	5	124
Willowoak Dr Extension Adjustment Trips		-21	21	117	-24			14		24	20	175
2027 TOTAL TRAFFIC VOLUMES	161	1742	88	221	1227	248	211	20	102	96	25	299

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT HONEYLOCUST LANE
 A.M. PEAK HOUR



Description	Northbound Medical Center Pkwy			Southbound Medical Center Pkwy			Eastbound Honeylocust Lane			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	34	498		1208	49		10		5			
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0			3.0	3.0	3.0		3.0			
Growth Factor	1.23	1.23	1.00	1.00	1.23	1.23	1.23	1.00	1.23	1.00	1.00	1.00
Annual Background Growth Trips	8	114	0	0	278	11	2	0	1	0	0	0
2027 Background Traffic Volumes	42	612	0	0	1486	60	12	0	6	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	12	8	14			1	1		8	1	14
	% Out Trips	0	50	33	59	41	3	4	4	0	28	3
2027 Site Traffic Volumes	0	50	33	59	41	3	4	4	0	28	3	48
2027 TOTAL TRAFFIC VOLUMES	42	662	33	59	1527	63	16	4	6	28	3	48

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT HONEYLOCUST LANE
 P.M. PEAK HOUR



Description	Northbound Medical Center Pkwy			Southbound Medical Center Pkwy			Eastbound Honeylocust Lane			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	184	1400		955	82		113	149				
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0			3.0	3.0	3.0	3.0				
Growth Factor	1.23	1.23	1.00	1.00	1.23	1.23	1.23	1.00	1.23	1.00	1.00	1.00
Annual Background Growth Trips	42	322	0	0	220	19	26	0	34	0	0	0
2027 Background Traffic Volumes	226	1722	0	0	1175	101	139	0	183	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips												
% In		12	8	14			1	1				
% Out					12	1				8	1	14
Trips	0	69	46	81	64	5	6	6	0	43	5	75
2027 Site Traffic Volumes	0	69	46	81	64	5	6	6	0	43	5	75
2027 TOTAL TRAFFIC VOLUMES	226	1791	46	81	1239	106	145	6	183	43	5	75

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT MAPLEGROVE DRIVE
 A.M. PEAK HOUR



Description	Northbound Maplegrove Drive			Southbound			Eastbound Medical Center Pkwy			Westbound Medical Center Pkwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	0		9				1199	11		32	530	
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0		3.0					3.0	3.0	3.0	3.0	
Growth Factor	1.23	1.00	1.23	1.00	1.00	1.00	1.00	1.23	1.23	1.23	1.23	1.00
Annual Background Growth Trips	0	0	2	0	0	0	0	276	3	7	122	0
2027 Background Traffic Volumes	0	0	11	0	0	0	0	1475	14	39	652	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	1								19		19
	% Out Trips	4	0	0	0	0	0	65	3	0	79	0
2027 Site Traffic Volumes	4	0	0	0	0	0	0	65	3	0	79	0
2027 TOTAL TRAFFIC VOLUMES	4	0	11	0	0	0	0	1540	17	39	731	0

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT MAPLEGROVE DRIVE
 P.M. PEAK HOUR



Description	Northbound Maplegrove Drive			Southbound			Eastbound Medical Center Pkwy			Westbound Medical Center Pkwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	27		113				1098	13		80	1542	
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0		3.0					3.0	3.0	3.0	3.0	
Growth Factor	1.23	1.00	1.23	1.00	1.00	1.00	1.00	1.23	1.23	1.23	1.23	1.00
Annual Background Growth Trips	6	0	26	0	0	0	0	252	3	18	354	0
2027 Background Traffic Volumes	33	0	139	0	0	0	0	1350	16	98	1896	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	1						19	1		19	
	% Out Trips	6	0	0	0	0	0	102	5	0	110	0
2027 Site Traffic Volumes	6	0	0	0	0	0	0	102	5	0	110	0
2027 TOTAL TRAFFIC VOLUMES	39	0	139	0	0	0	0	1452	21	98	2006	0

**TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT ROBERT ROSE DRIVE
 A.M. PEAK HOUR**



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Medical Center Pkwy			Westbound Medical Center Pkwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	94	13	30	47	21	49	31	1053	125	32	424	11
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Growth Factor	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Annual Background Growth Trips	22	3	7	11	5	11	7	242	29	7	97	3
2027 Background Traffic Volumes	116	16	37	58	26	60	38	1295	154	39	521	14
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	4	6								15	15
	% Out Trips	17	25	0	15	6	0	0	15	4	0	63
2027 Site Traffic Volumes	17	25	0	52	21	0	0	52	14	0	63	63
2027 TOTAL TRAFFIC VOLUMES	133	41	37	110	47	60	38	1347	168	39	584	77

TRAFFIC VOLUME WORKSHEET
 MEDICAL CENTER PARKWAY AT ROBERT ROSE DRIVE
 P.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Medical Center Pkwy			Westbound Medical Center Pkwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	308	33	19	75	35	37	108	879	243	65	1286	71
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Growth Factor	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Annual Background Growth Trips	71	8	4	17	8	9	25	202	56	15	296	16
2027 Background Traffic Volumes	379	41	23	92	43	46	133	1081	299	80	1582	87
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	4	6								15	15
	% Out Trips	23	35	0	15	6	81	32	0	0	81	21
2027 Site Traffic Volumes	23	35	0	81	32	0	0	81	21	0	87	87
2027 TOTAL TRAFFIC VOLUMES	402	76	23	173	75	46	133	1162	320	80	1669	174

TRAFFIC VOLUME WORKSHEET
 WILKINSON PIKE AT GRESHAMPARK DRIVE
 A.M. PEAK HOUR



Description	Northbound Greshampark Dr			Southbound			Eastbound Wilkinson Pk			Westbound Wilkinson Pk		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	9		462					27	3		213	24
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0		3.0					3.0	3.0		3.0	3.0
Growth Factor	1.23	1.00	1.23	1.00	1.00	1.00	1.00	1.23	1.23	1.23	1.23	1.00
Annual Background Growth Trips	2	0	106	0	0	0	0	6	1		49	6
2027 Background Traffic Volumes	11	0	568	0	0	0	0	33	4		262	30
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips			2								2	
% In Trips	0	0	15	0	0	0	0	0	0	0	15	0
% Out Trips			2								2	
2027 Site Traffic Volumes	0	0	15	0	0	0	0	0	0	0	15	0
Willowoak Dr Extension Adjustment Trips			-234								-91	
2027 TOTAL TRAFFIC VOLUMES	11	0	349	0	0	0	0	33	4		186	30

TRAFFIC VOLUME WORKSHEET
 WILKINSON PIKE AT GRESHAMPARK DRIVE
 P.M. PEAK HOUR



Description	Northbound Greshampark Dr			Southbound			Eastbound Wilkinson Pk			Westbound Wilkinson Pk		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	10		279					29	12		527	32
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0		3.0					3.0	3.0		3.0	3.0
Growth Factor	1.23	1.00	1.23	1.00	1.00	1.00	1.00	1.23	1.23	1.23	1.23	1.00
Annual Background Growth Trips	2	0	64	0	0	0	0	7	3	121	7	0
2027 Background Traffic Volumes	12	0	343	0	0	0	0	36	15	648	39	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips			2								2	
% In Trips	0	0	22	0	0	0	0	0	0	0	22	0
% Out Trips			2								2	
2027 Site Traffic Volumes	0	0	22	0	0	0	0	0	0	22	0	0
Willowoak Dr Extension Adjustment Trips			-152								-219	
2027 TOTAL TRAFFIC VOLUMES	12	0	213	0	0	0	0	36	15	451	39	0

TRAFFIC VOLUME WORKSHEET
 WILKINSON PIKE AT WEST PARK DRIVE / CLARI PARK ACCESS #2
 A.M. PEAK HOUR



Description	Northbound Clari Park Access #2			Southbound West Park Dr			Eastbound Wilkinson Pk			Westbound Wilkinson Pk		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES				21		31	17	472		204		12
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)				3.0		3.0	3.0	3.0			3.0	3.0
Growth Factor	1.00	1.00	1.00	1.23	1.00	1.23	1.23	1.23	1.00	1.00	1.23	1.23
Annual Background Growth Trips	0	0	0	5	0	7	4	109	0	0	47	3
2027 Background Traffic Volumes	0	0	0	26	0	38	21	581	0	0	251	15
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In								2		1	2
	% Out Trips			2		1			2		1	2
	7	0	3	0	0	0	0	7	8	4	8	0
2027 Site Traffic Volumes	7	0	3	0	0	0	0	7	8	4	8	0
Willowoak Dr Extension Adjustment Trips								-234			-91	
2027 TOTAL TRAFFIC VOLUMES	7	0	3	26	0	38	21	354	8	4	168	15

TRAFFIC VOLUME WORKSHEET
 WILKINSON PIKE AT WEST PARK DRIVE / CLARI PARK ACCESS #2
 P.M. PEAK HOUR



Description	Northbound Clari Park Access #2			Southbound West Park Dr			Eastbound Wilkinson Pk			Westbound Wilkinson Pk			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2020 EXISTING TRAFFIC VOLUMES				23		36	50	256		523		25	
2027 BACKGROUND TRAFFIC VOLUMES													
<i>Annual Background Growth</i>													
Growth Rate (%/year)				3.0		3.0	3.0	3.0			3.0	3.0	
Growth Factor	1.00	1.00	1.00	1.23	1.00	1.23	1.23	1.23	1.00	1.00	1.23	1.23	
Annual Background Growth Trips	0	0	0	5	0	8	11	59	0	0	120	6	
2027 Background Traffic Volumes	0	0	0	28	0	44	61	315	0	0	643	31	
2027 SITE TRAFFIC VOLUMES													
Clari Park Primary Trips	% In								2	2	1	2	
	% Out Trips			2	0	1	0	0	0	11	12	6	12
2027 Site Traffic Volumes	11	0	5	0	0	0	0	11	12	6	12	0	
Willowoak Dr Extension Adjustment Trips									-152			-219	
2027 TOTAL TRAFFIC VOLUMES	11	0	5	28	0	44	61	174	12	6	436	31	

TRAFFIC VOLUME WORKSHEET
 WILKINSON PIKE AT WILLOWOAK TRAIL
 A.M. PEAK HOUR



Description	Northbound Willowoak Trail			Southbound			Eastbound Wilkinson Pk			Westbound Wilkinson Pk		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	31		45				478	19		18	182	
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0		3.0					3.0	3.0	3.0	3.0	
Growth Factor	1.23	1.00	1.23	1.00	1.00	1.00	1.00	1.23	1.23	1.23	1.23	1.00
Annual Background Growth Trips	7	0	10	0	0	0	0	110	4	4	42	0
2027 Background Traffic Volumes	38	0	55	0	0	0	0	588	23	22	224	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips			12					3		12	3	
% In Trips	0	0	41	0	0	0	0	10	0	50	13	0
% Out Trips												
2027 Site Traffic Volumes	0	0	41	0	0	0	0	10	0	50	13	0
Willowoak Dr Extension Adjustment %							94%			71%		
Willowoak Dr Extension Adjustment Trips	-26		220				-220	-15		65	-65	
2027 TOTAL TRAFFIC VOLUMES	12	0	316	0	0	0	0	378	8	137	172	0

TRAFFIC VOLUME WORKSHEET
 WILKINSON PIKE AT WILLOWOAK TRAIL
 P.M. PEAK HOUR



Description	Northbound Willowoak Trail			Southbound			Eastbound Wilkinson Pk			Westbound Wilkinson Pk		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	23		30				217	62		36	521	
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0		3.0					3.0	3.0	3.0	3.0	
Growth Factor	1.23	1.00	1.23	1.00	1.00	1.00	1.00	1.23	1.23	1.23	1.23	1.00
Annual Background Growth Trips	5	0	7	0	0	0	0	50	14	8	120	0
2027 Background Traffic Volumes	28	0	37	0	0	0	0	267	76	44	641	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips			12					3		12	3	
% In Trips	0	0	64	0	0	0	0	16	0	69	17	0
2027 Site Traffic Volumes	0	0	64	0	0	0	0	16	0	69	17	0
Willowoak Dr Extension Adjustment %							69%				91%	
Willowoak Dr Extension Adjustment Trips	-20		105				-105	-47		199	-199	
2027 TOTAL TRAFFIC VOLUMES	8	0	206	0	0	0	0	178	29	312	459	0

**TRAFFIC VOLUME WORKSHEET
WILLOWOAK TRAIL AT ROBERT ROSE DRIVE
A.M. PEAK HOUR**



Description	Northbound Robert Rose Dr			Southbound Private Drive			Eastbound Willowoak Trail			Westbound Willowoak Trail		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		2	39	0	3					18		6
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0					3.0		3.0
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.23	1.00	1.23
Annual Background Growth Trips	0	0	9	0	1	0	0	0	0	4	0	1
2027 Background Traffic Volumes	0	2	48	0	4	0	0	0	0	22	0	7
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	16							1	2	10	
	% Out Trips	1	2					10	16	8	42	0
2027 Site Traffic Volumes	70	0	7	0	0	0	0	34	59	8	42	0
Willowoak Dr Extension Adjustment % Willowoak Dr Extension Adjustment Trips	14		15% -14					225	9	4% -9	77	
2027 TOTAL TRAFFIC VOLUMES	84	2	41	0	4	0	0	259	68	21	119	7

**TRAFFIC VOLUME WORKSHEET
WILLOWOAK TRAIL AT ROBERT ROSE DRIVE
P.M. PEAK HOUR**



Description	Northbound Robert Rose Dr			Southbound Private Drive			Eastbound Willowoak Trail			Westbound Willowoak Trail		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		1	30	7	4					66		2
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0					3.0		3.0
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.23	1.00	1.23
Annual Background Growth Trips	0	0	7	2	1	0	0	0	0	15	0	0
2027 Background Traffic Volumes	0	1	37	9	5	0	0	0	0	81	0	2
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	16							1	2	10	
	% Out Trips	1	2					10	16	12	58	0
2027 Site Traffic Volumes	98	0	11	0	0	0	0	54	92	12	58	0
Willowoak Dr Extension Adjustment % Willowoak Dr Extension Adjustment Trips	11		5% -11					120	32	21% -32	208	
2027 TOTAL TRAFFIC VOLUMES	109	1	37	9	5	0	0	174	124	61	266	2

TRAFFIC VOLUME WORKSHEET
 ROBERT ROSE DRIVE AT GRASSINGTON STREET/CLARI PARK ACCESS #7
 A.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Clari Park Access #7			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		38	4	0	22							
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0							
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	9	1	0	5	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	47	5	0	27	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	1	16		2	1						
	% Out		2		16		1		1			
	Trips	4	74	0	0	63	4	3	0	3	0	0
2027 Site Traffic Volumes	4	74	0	0	63	4	3	0	3	0	0	0
2027 TOTAL TRAFFIC VOLUMES	4	121	5	0	90	4	3	0	3	0	0	0

TRAFFIC VOLUME WORKSHEET
 ROBERT ROSE DRIVE AT GRASSINGTON STREET/CLARI PARK ACCESS #7
 P.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Clari Park Access #7			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		29	8	1	69							
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0							
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	7	2	0	16	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	36	10	1	85	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	1	16		2	1						
	% Out		2		16		1		1			
	Trips	6	103	0	0	97	6	5	0	5	0	0
2027 Site Traffic Volumes	6	103	0	0	97	6	5	0	5	0	0	0
2027 TOTAL TRAFFIC VOLUMES	6	139	10	1	182	6	5	0	5	0	0	0

TRAFFIC VOLUME WORKSHEET
 ROBERT ROSE DRIVE AT MARYLEBONE STREET/CLARI PARK ACCESS #8
 A.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Clari Park Access #8			Westbound Marylebhone St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		34	4	1	55					16		6
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0					3.0		3.0
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.23	1.00	1.23
Annual Background Growth Trips	0	8	1	0	13	0	0	0	0	4	0	1
2027 Background Traffic Volumes	0	42	5	1	68	0	0	0	0	20	0	7
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	1	17		1	1						
	% Out Trips	4	75	0	0	63	4	3	0	3	0	0
2027 Site Traffic Volumes	4	75	0	0	63	4	3	0	3	0	0	0
2027 TOTAL TRAFFIC VOLUMES	4	117	5	1	131	4	3	0	3	20	0	7

TRAFFIC VOLUME WORKSHEET
 ROBERT ROSE DRIVE AT MARYLEBONE STREET/CLARI PARK ACCESS #8
 P.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Clari Park Access #8			Westbound Marylebome St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		76	18	4	65					11		1
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0					3.0		3.0
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.23	1.00	1.23
Annual Background Growth Trips	0	17	4	1	15	0	0	0	0	3	0	0
2027 Background Traffic Volumes	0	93	22	5	80	0	0	0	0	14	0	1
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	1	17		1	1						
	% Out Trips	6	103	0	0	97	6	5	0	5	0	0
2027 Site Traffic Volumes	6	103	0	0	97	6	5	0	5	0	0	0
2027 TOTAL TRAFFIC VOLUMES	6	196	22	5	177	6	5	0	5	14	0	1

TRAFFIC VOLUME WORKSHEET
 ROBERT ROSE DRIVE AT SCULLING STREET/CLARI PARK ACCESS #9
 A.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Clari Park Access #9			Westbound Sculling St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		30	3	2	69					25		8
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0					3.0		3.0
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.23	1.00	1.23
Annual Background Growth Trips	0	7	1	0	16	0	0	0	0	6	0	2
2027 Background Traffic Volumes	0	37	4	2	85	0	0	0	0	31	0	10
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	3	18			1						
	% Out Trips	13	75	0	0	62	4	3	0	10	0	0
2027 Site Traffic Volumes	13	75	0	0	62	4	3	0	10	0	0	0
2027 TOTAL TRAFFIC VOLUMES	13	112	4	2	147	4	3	0	10	31	0	10

TRAFFIC VOLUME WORKSHEET
ROBERT ROSE DRIVE AT SCULLING STREET/CLARI PARK ACCESS #9
P.M. PEAK HOUR



Description	Northbound Robert Rose Dr			Southbound Robert Rose Dr			Eastbound Clari Park Access #9			Westbound Sculling St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES		93	28	6	70					18		0
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)		3.0	3.0	3.0	3.0					3.0		3.0
Growth Factor	1.00	1.23	1.23	1.23	1.23	1.00	1.00	1.00	1.00	1.23	1.00	1.23
Annual Background Growth Trips	0	21	6	1	16	0	0	0	0	4	0	0
2027 Background Traffic Volumes	0	114	34	7	86	0	0	0	0	22	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	3	18			1						
	% Out Trips	17	104	0	0	97	6	5	0	16	0	0
2027 Site Traffic Volumes	17	104	0	0	97	6	5	0	16	0	0	0
2027 TOTAL TRAFFIC VOLUMES	17	218	34	7	183	6	5	0	16	22	0	0

TRAFFIC VOLUME WORKSHEET
 GRESHAMPARK DRIVE AT CLARI PARK ACCESS #1
 A.M. PEAK HOUR



Description	Northbound Greshampark Dr			Southbound Greshampark Dr			Eastbound			Westbound Clari Park Access #1		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	471			216								
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0			3.0								
Growth Factor	1.00	1.23	1.00	1.00	1.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	108	0	0	50	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	579	0	0	266	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In 2 13			% In 2 2						% In 13 2		
	% Out 0 8 54			% Out 8 7 0						% Out 45 0 7		
2027 Site Traffic Volumes	0	8	54	8	7	0	0	0	0	45	0	7
Willowoak Dr Extension Adjustment Trips	-234			-91								
2027 TOTAL TRAFFIC VOLUMES	0	353	54	8	182	0	0	0	0	45	0	7

TRAFFIC VOLUME WORKSHEET
 GRESHAMPARK DRIVE AT CLARI PARK ACCESS #1
 P.M. PEAK HOUR



Description	Northbound Greshampark Dr			Southbound Greshampark Dr			Eastbound			Westbound Clari Park Access #1		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES	289			539								
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)	3.0			3.0								
Growth Factor	1.00	1.23	1.00	1.00	1.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	66	0	0	124	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	355	0	0	663	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips												
% In Trips	2 13			2 2								
% Out Trips	0	12	75	12	11	0	0	0	0	13	0	2
2027 Site Traffic Volumes	0	12	75	12	11	0	0	0	0	70	0	11
Willow oak Dr Extension Adjustment Trips	-152			-219								
2027 TOTAL TRAFFIC VOLUMES	0	215	75	12	455	0	0	0	0	70	0	11

TRAFFIC VOLUME WORKSHEET
 WILLOWOAK TRAIL AT CLARI PARK ACCESS #2/#3
 A.M. PEAK HOUR



Description	Northbound Clari Park Access #4			Southbound Clari Park Access #3			Eastbound Willowoak Trail			Westbound Willowoak Trail		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES												
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)												
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In		23	2		1	1	2	23	23		2
	% Out Trips	79	0	79	7	0	3	4	8	96	96	7
2027 Site Traffic Volumes	79	0	79	7	0	3	4	8	96	96	7	8
Willowoak Dr Extension Adjustment Trips								234			91	
2027 TOTAL TRAFFIC VOLUMES	79	0	79	7	0	3	4	242	96	96	98	8

TRAFFIC VOLUME WORKSHEET
 WILLOWOAK TRAIL AT CLARI PARK ACCESS #2/#3
 P.M. PEAK HOUR



Description	Northbound Clari Park Access #4			Southbound Clari Park Access #3			Eastbound Willowoak Trail			Westbound Willowoak Trail		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES												
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)												
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In		23	2		1	1	2	23	23		2
	% Out Trips	124	0	124	11	0	5	6	12	133	133	11
2027 Site Traffic Volumes	124	0	124	11	0	5	6	12	133	133	11	12
Willowoak Dr Extension Adjustment Trips								152			219	
2027 TOTAL TRAFFIC VOLUMES	124	0	124	11	0	5	6	164	133	133	230	12

TRAFFIC VOLUME WORKSHEET
 HONEYLOCUST LN AT CLARI PARK ACCESS #4/#5
 A.M. PEAK HOUR



Description	Northbound Clari Park Access #6			Southbound Clari Park Access #5			Eastbound Honeylocust Ln			Westbound Clari Park Access #11		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES												
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)												
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips							7	9	7		9	
% In Trips	7					7	29	38	29	0	31	0
% Out Trips	24	0	0	0	0	24						
2027 Site Traffic Volumes	24	0	0	0	0	24	29	38	29	0	31	0
2027 TOTAL TRAFFIC VOLUMES	24	0	0	0	0	24	29	38	29	0	31	0

TRAFFIC VOLUME WORKSHEET
 HONEYLOCUST LN AT CLARI PARK ACCESS #4/#5
 P.M. PEAK HOUR



Description	Northbound Clari Park Access #6			Southbound Clari Park Access #5			Eastbound Honeylocust Ln			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES												
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)												
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In	7				7	7	9	7		9	
	% Out Trips	38	0	0	0	0	38	40	52	40	0	48
2027 Site Traffic Volumes	38	0	0	0	0	38	40	52	40	0	48	0
2027 TOTAL TRAFFIC VOLUMES	38	0	0	0	0	38	40	52	40	0	48	0

TRAFFIC VOLUME WORKSHEET
 WILLOWOAK TRAIL AT CLARI PARK ACCESS #10
 A.M. PEAK HOUR



Description	Northbound Clari Park Access #10			Southbound			Eastbound Willowoak Trail			Westbound Willowoak Trail		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES												
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)												
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In		1					1	1	1	25	
	% Out Trips	3	0	3	0	0	0	0	90	4	4	108
2027 Site Traffic Volumes	3	0	3	0	0	0	0	90	4	4	108	0
Willowoak Dr Extension Adjustment Trips								234			91	
2027 TOTAL TRAFFIC VOLUMES	3	0	3	0	0	0	0	324	4	4	199	0

TRAFFIC VOLUME WORKSHEET
 WILLOWOAK TRAIL AT CLARI PARK ACCESS #10
 P.M. PEAK HOUR



























Description	Northbound Clari Park Access #10			Southbound			Eastbound Willowoak Trail			Westbound Willowoak Trail		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2020 EXISTING TRAFFIC VOLUMES												
2027 BACKGROUND TRAFFIC VOLUMES												
<i>Annual Background Growth</i>												
Growth Rate (%/year)												
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0
2027 Background Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2027 SITE TRAFFIC VOLUMES												
Clari Park Primary Trips	% In		1					1	1	1	25	
	% Out Trips	5	0	5	0	0	0	0	140	6	6	150
2027 Site Traffic Volumes	5	0	5	0	0	0	0	140	6	6	150	0
Willowoak Dr Extension Adjustment Trips								152			219	
2027 TOTAL TRAFFIC VOLUMES	5	0	5	0	0	0	0	292	6	6	369	0

APPENDIX D

CAPACITY ANALYSIS WORKSHEETS EXISTING TRAFFIC

HCM 2010 Signalized Intersection Summary
 1: Medical Center Pkwy & Greshampark Dr

Clari Park
 2020 Existing Traffic - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	19	57	33	19	165	32	488	22	522	1211	22
Future Volume (veh/h)	18	19	57	33	19	165	32	488	22	522	1211	22
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	20	21	64	37	21	-19	36	548	25	587	1361	25
Adj No. of Lanes	2	1	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	105	89	98	121	103	282	2246	1005	688	2351	1052
Arrive On Green	0.02	0.06	0.06	0.03	0.06	0.00	0.06	1.00	1.00	0.06	0.66	0.66
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	20	21	64	37	21	-19	36	548	25	587	1361	25
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.7	1.4	5.2	1.4	1.4	0.0	0.9	0.0	0.0	7.5	27.3	0.7
Cycle Q Clear(g_c), s	0.7	1.4	5.2	1.4	1.4	0.0	0.9	0.0	0.0	7.5	27.3	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	68	105	89	98	121	103	282	2246	1005	688	2351	1052
V/C Ratio(X)	0.29	0.20	0.72	0.38	0.17	-0.19	0.13	0.24	0.02	0.85	0.58	0.02
Avail Cap(c_a), veh/h	212	272	231	212	272	231	334	2246	1005	688	2351	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.8	58.6	60.3	62.0	57.5	0.0	9.6	0.0	0.0	13.6	11.9	7.4
Incr Delay (d2), s/veh	1.8	1.1	12.3	1.8	0.8	0.0	0.1	0.3	0.0	9.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	2.6	0.7	0.7	0.0	0.4	0.1	0.0	15.1	13.6	0.3
LnGrp Delay(d),s/veh	64.6	59.7	72.6	63.8	58.3	0.0	9.7	0.3	0.0	23.5	12.9	7.5
LnGrp LOS	E	E	E	E	E		A	A	A	C	B	A
Approach Vol, veh/h		105			39			609			1973	
Approach Delay, s/veh		68.5			92.0			0.8			16.0	
Approach LOS		E			F			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	94.9	10.7	13.3	15.0	91.0	9.6	14.4				
Change Period (Y+Rc), s	7.5	8.5	7.0	6.0	7.5	8.5	7.0	6.0				
Max Green Setting (Gmax), s	7.5	66.5	8.0	19.0	7.5	66.5	8.0	19.0				
Max Q Clear Time (g_c+I1), s	2.9	29.3	3.4	7.2	9.5	2.0	2.7	3.4				
Green Ext Time (p_c), s	0.0	33.1	0.0	0.3	0.0	53.4	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			15.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 2: Medical Center Pkwy & Willowoak Tr

Clari Park
 2020 Existing Traffic - AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	20	9	33	484	1267	24		
Future Volume (veh/h)	20	9	33	484	1267	24		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	23	10	38	563	1473	28		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	92	42	99	2995	2662	1191		
Arrive On Green	0.03	0.03	0.06	1.00	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	23	10	38	563	1473	28		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	0.9	0.8	1.4	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	0.9	0.8	1.4	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	92	42	99	2995	2662	1191		
V/C Ratio(X)	0.25	0.24	0.38	0.19	0.55	0.02		
Avail Cap(c_a), veh/h	344	158	304	2995	2662	1191		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.99	0.99	0.82	0.82		
Uniform Delay (d), s/veh	62.0	62.0	60.2	0.0	0.0	0.0		
Incr Delay (d2), s/veh	1.4	2.8	2.4	0.1	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.7	0.1	0.3	0.0		
LnGrp Delay(d),s/veh	63.4	64.8	62.6	0.1	0.7	0.0		
LnGrp LOS	E	E	E	A	A	A		
Approach Vol, veh/h	33			601	1501			
Approach Delay, s/veh	63.8			4.1	0.7			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.2	107.3		10.5		119.5		
Change Period (Y+Rc), s	8.5	9.5		7.0		9.5		
Max Green Setting (Gmax), s	5	80.5		13.0		100.5		
Max Q Clear Time (g_c+I), s	5	2.0		2.9		2.0		
Green Ext Time (p_c), s	0.0	28.3		0.0		29.7		
Intersection Summary								
HCM 2010 Ctrl Delay			2.6					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 3: Medical Center Pkwy & Honeylocust Ln

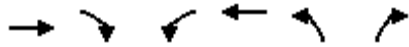
Clari Park
 2020 Existing Traffic - AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	10	5	34	498	1208	49		
Future Volume (veh/h)	10	5	34	498	1208	49		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	12	6	40	593	1438	58		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	63	29	101	3120	2785	1246		
Arrive On Green	0.02	0.02	0.03	0.88	0.79	0.79		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	12	6	40	593	1438	58		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	0.4	0.5	1.5	3.1	19.0	1.1		
Cycle Q Clear(g_c), s	0.4	0.5	1.5	3.1	19.0	1.1		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	63	29	101	3120	2785	1246		
V/C Ratio(X)	0.19	0.21	0.40	0.19	0.52	0.05		
Avail Cap(c_a), veh/h	344	158	304	3120	2785	1246		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.99	0.99	0.83	0.83		
Uniform Delay (d), s/veh	62.9	62.9	62.0	1.1	5.0	3.1		
Incr Delay (d2), s/veh	1.4	3.4	2.5	0.1	0.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.7	1.5	9.4	0.5		
LnGrp Delay(d),s/veh	64.3	66.3	64.4	1.2	5.5	3.1		
LnGrp LOS	E	E	E	A	A	A		
Approach Vol, veh/h	18			633	1496			
Approach Delay, s/veh	65.0			5.2	5.5			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.3	108.3		9.4		120.6		
Change Period (Y+Rc), s	8.5	6.0		7.0		6.0		
Max Green Setting (Gmax), s	5	84.0		13.0		104.0		
Max Q Clear Time (g_c+1), s	5	21.0		2.5		5.1		
Green Ext Time (p_c), s	0.0	26.5		0.0		29.7		
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 4: Maplegrove Dr & Medical Center Pkwy

Clari Park
 2020 Existing Traffic - AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1199	11	32	530	0	9		
Future Volume (veh/h)	1199	11	32	530	0	9		
Number	2	12	1	6	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1462	13	39	646	0	11		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2820	1262	100	3141	43	20		
Arrive On Green	0.80	0.80	0.06	1.00	0.00	0.01		
Sat Flow, veh/h	3632	1583	3442	3632	3442	1583		
Grp Volume(v), veh/h	1462	13	39	646	0	11		
Grp Sat Flow(s),veh/h/ln	1770	1583	1721	1770	1721	1583		
Q Serve(g_s), s	18.6	0.2	1.4	0.0	0.0	0.9		
Cycle Q Clear(g_c), s	18.6	0.2	1.4	0.0	0.0	0.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2820	1262	100	3141	43	20		
V/C Ratio(X)	0.52	0.01	0.39	0.21	0.00	0.55		
Avail Cap(c_a), veh/h	2820	1262	318	3141	331	152		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	0.86	0.86	0.98	0.98	0.00	1.00		
Uniform Delay (d), s/veh	4.6	2.7	60.1	0.0	0.0	63.8		
Incr Delay (d2), s/veh	0.6	0.0	2.4	0.1	0.0	21.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.2	0.1	0.7	0.1	0.0	0.5		
LnGrp Delay(d),s/veh	5.2	2.7	62.5	0.1	0.0	85.4		
LnGrp LOS	A	A	E	A		F		
Approach Vol, veh/h	1475			685	11			
Approach Delay, s/veh	5.1			3.7	85.4			
Approach LOS	A			A	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.8	109.1		9.1		120.9		
Change Period (Y+Rc), s	8.0	5.5		7.5		5.5		
Max Green Setting (Gmax), s	12.0	84.5		12.5		104.5		
Max Q Clear Time (g_c+I), s	13.4	20.6		2.9		2.0		
Green Ext Time (p_c), s	0.0	27.9		0.0		31.7		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

5: Robert Rose Dr & Medical Center Pkwy

Clari Park
2020 Existing Traffic - AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1053	125	32	424	11	94	13	30	47	21	49
Future Volume (veh/h)	31	1053	125	32	424	11	94	13	30	47	21	49
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	37	1254	149	38	505	13	112	15	36	56	25	58
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	2	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	621	2294	1026	353	2281	1021	162	110	93	115	99	84
Arrive On Green	0.06	1.00	1.00	0.03	0.64	0.64	0.05	0.06	0.06	0.03	0.05	0.05
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3442	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	37	1254	149	38	505	13	112	15	36	56	25	58
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	0.9	0.0	0.0	0.9	7.7	0.4	4.2	1.0	2.8	2.1	1.7	4.7
Cycle Q Clear(g_c), s	0.9	0.0	0.0	0.9	7.7	0.4	4.2	1.0	2.8	2.1	1.7	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	621	2294	1026	353	2281	1021	162	110	93	115	99	84
V/C Ratio(X)	0.06	0.55	0.15	0.11	0.22	0.01	0.69	0.14	0.39	0.49	0.25	0.69
Avail Cap(c_a), veh/h	666	2294	1026	404	2281	1021	225	201	171	199	201	171
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	7.1	9.6	8.3	61.0	58.0	58.9	61.7	59.1	60.5
Incr Delay (d2), s/veh	0.0	0.8	0.3	0.1	0.2	0.0	5.2	0.6	2.6	3.2	1.3	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.3	0.1	0.5	3.8	0.2	2.1	0.5	1.3	1.0	0.9	2.3
LnGrp Delay(d),s/veh	7.2	0.8	0.3	7.2	9.8	8.3	66.2	58.6	61.5	64.9	60.4	70.2
LnGrp LOS	A	A	A	A	A	A	E	E	E	E	E	E
Approach Vol, veh/h		1440			556			163			139	
Approach Delay, s/veh		0.9			9.6			64.5			66.3	
Approach LOS		A			A			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	93.3	11.8	13.7	11.7	92.8	12.6	12.9				
Change Period (Y+Rc), s	7.5	9.0	7.5	6.0	8.0	9.0	6.5	6.0				
Max Green Setting (Gmax), s	7.5	71.0	7.5	14.0	7.0	71.0	8.5	14.0				
Max Q Clear Time (g_c+1), s	7.5	2.0	4.1	4.8	2.9	9.7	6.2	6.7				
Green Ext Time (p_c), s	0.0	21.8	0.0	0.3	0.0	21.3	0.1	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay					11.5							
HCM 2010 LOS					B							

Intersection

Int Delay, s/veh 10.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	27	3	213	24	9	462
Future Vol, veh/h	27	3	213	24	9	462
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	170	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	4	254	29	11	550

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	36	0	571	34
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	537	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1575	-	482	1039
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	586	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1575	-	403	1039
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	490	-

Approach EB WB NB

HCM Control Delay, s	0	6.9	12.3
HCM LOS			B

Minor Lane/Major Mvmt NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	403	1039	-	-	1575	-
HCM Lane V/C Ratio	0.027	0.529	-	-	0.161	-
HCM Control Delay (s)	14.2	12.3	-	-	7.7	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	3.2	-	-	0.6	-

Intersection

Int Delay, s/veh 1.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	17	472	204	12	21	31
Future Vol, veh/h	17	472	204	12	21	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	562	243	14	25	37

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	257	0	-	0	852	250
Stage 1	-	-	-	-	250	-
Stage 2	-	-	-	-	602	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1308	-	-	-	330	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	547	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1308	-	-	-	323	789
Mov Cap-2 Maneuver	-	-	-	-	323	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	547	-

Approach EB WB SB

HCM Control Delay, s	0.3	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1308	-	-	-	499
HCM Lane V/C Ratio	0.015	-	-	-	0.124
HCM Control Delay (s)	7.8	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	478	19	18	182	31	45
Future Vol, veh/h	478	19	18	182	31	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	549	22	21	209	36	52

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	571	0	811 560
Stage 1	-	-	-	-	560 -
Stage 2	-	-	-	-	251 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1002	-	349 528
Stage 1	-	-	-	-	572 -
Stage 2	-	-	-	-	791 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1002	-	341 528
Mov Cap-2 Maneuver	-	-	-	-	341 -
Stage 1	-	-	-	-	572 -
Stage 2	-	-	-	-	772 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	0.8	14.3
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	341	528	-	-	1002	-
HCM Lane V/C Ratio	0.104	0.098	-	-	0.021	-
HCM Control Delay (s)	16.8	12.6	-	-	8.7	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.1	-

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔			↔	↔
Traffic Vol, veh/h	0	0	0	18	0	6	0	2	39	0	3	0
Future Vol, veh/h	0	0	0	18	0	6	0	2	39	0	3	0
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	20	0	7	0	2	44	0	3	0

























Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	7	0	0	1	0	0	46	48	1	68	45	4
Stage 1	-	-	-	-	-	-	1	1	-	44	44	-
Stage 2	-	-	-	-	-	-	45	47	-	24	1	-
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	1614	-	-	1622	-	-	955	844	1084	925	847	1080
Stage 1	-	-	-	-	-	-	1022	895	-	970	858	-
Stage 2	-	-	-	-	-	-	969	856	-	994	895	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	1622	-	-	944	834	1084	878	837	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	944	834	-	878	837	-
Stage 1	-	-	-	-	-	-	1022	895	-	970	848	-
Stage 2	-	-	-	-	-	-	953	846	-	951	895	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			5.4			8.5			9.3		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1068	1614	-	-	1622	-	-	837
HCM Lane V/C Ratio	-	0.043	-	-	-	0.012	-	-	0.004
HCM Control Delay (s)	-	0	8.5	0	-	7.2	-	-	9.3
HCM Lane LOS	-	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0.1	0	-	-	0	-	-	0

HCM 2010 Signalized Intersection Summary
 1: Medical Center Pkwy & Greshampark Dr

Clari Park
 2020 Existing Traffic - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	35	46	65	51	463	77	1389	56	304	1024	86
Future Volume (veh/h)	109	35	46	65	51	463	77	1389	56	304	1024	86
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	117	38	31	70	55	309	83	1494	37	327	1101	57
Adj No. of Lanes	2	1	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	227	193	109	199	169	323	2016	902	389	2196	983
Arrive On Green	0.05	0.12	0.12	0.03	0.11	0.11	0.06	1.00	1.00	0.08	0.62	0.62
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	117	38	31	70	55	309	83	1494	37	327	1101	57
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.0	2.7	2.6	3.0	4.1	16.0	3.0	0.0	0.0	11.3	25.7	2.1
Cycle Q Clear(g_c), s	5.0	2.7	2.6	3.0	4.1	16.0	3.0	0.0	0.0	11.3	25.7	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	227	193	109	199	169	323	2016	902	389	2196	983
V/C Ratio(X)	0.72	0.17	0.16	0.64	0.28	1.83	0.26	0.74	0.04	0.84	0.50	0.06
Avail Cap(c_a), veh/h	229	227	193	184	199	169	401	2016	902	389	2196	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.5	59.0	59.0	71.8	61.7	67.0	13.3	0.0	0.0	10.6	15.7	11.2
Incr Delay (d2), s/veh	5.0	0.4	0.5	4.6	0.9	395.5	0.3	2.1	0.1	14.9	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.4	1.2	1.5	2.2	25.5	1.5	0.6	0.0	7.1	12.8	1.0
LnGrp Delay(d),s/veh	75.5	59.5	59.5	76.3	62.6	462.5	13.6	2.1	0.1	25.6	16.5	11.3
LnGrp LOS	E	E	E	E	E	F	B	A	A	C	B	B
Approach Vol, veh/h		186			434			1614			1485	
Approach Delay, s/veh		69.6			349.5			2.6			18.3	
Approach LOS		E			F			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	101.6	11.8	24.3	20.0	94.0	14.0	22.0				
Change Period (Y+Rc), s	7.5	8.5	7.0	6.0	7.5	8.5	7.0	6.0				
Max Green Setting (Gmax), s	11.5	83.5	8.0	18.0	12.5	82.5	10.0	16.0				
Max Q Clear Time (g_c+I1), s	5.0	27.7	5.0	4.7	13.3	2.0	7.0	18.0				
Green Ext Time (p_c), s	0.1	53.8	0.0	1.8	0.0	76.4	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			52.7									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
 2: Medical Center Pkwy & Willowoak Tr

Clari Park
 2020 Existing Traffic - PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	167	83	131	1366	953	170		
Future Volume (veh/h)	167	83	131	1366	953	170		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	186	92	146	1518	1059	189		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	259	119	190	2883	2487	1113		
Arrive On Green	0.08	0.08	0.11	1.00	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	186	92	146	1518	1059	189		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	7.9	8.6	6.2	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	7.9	8.6	6.2	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	259	119	190	2883	2487	1113		
V/C Ratio(X)	0.72	0.77	0.77	0.53	0.43	0.17		
Avail Cap(c_a), veh/h	528	243	264	2883	2487	1113		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.85	0.85	0.84	0.84		
Uniform Delay (d), s/veh	67.8	68.1	65.8	0.0	0.0	0.0		
Incr Delay (d2), s/veh	3.7	10.0	7.4	0.6	0.5	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.9	4.1	3.1	0.2	0.2	0.1		
LnGrp Delay(d),s/veh	71.5	78.1	73.2	0.6	0.5	0.3		
LnGrp LOS	E	E	E	A	A	A		
Approach Vol, veh/h	278			1664	1248			
Approach Delay, s/veh	73.7			7.0	0.4			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	66.8	114.9		18.3		131.7		
Change Period (Y+Rc), s	8.5	9.5		7.0		9.5		
Max Green Setting (Gmax), s	5	90.5		23.0		110.5		
Max Q Clear Time (g_c+I), s	10.2	2.0		10.6		2.0		
Green Ext Time (p_c), s	0.1	48.2		0.7		52.8		
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 3: Medical Center Pkwy & Honeylocust Ln

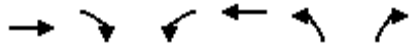
Clari Park
 2020 Existing Traffic - PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	113	149	184	1400	955	82		
Future Volume (veh/h)	113	149	184	1400	955	82		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	124	164	202	1538	1049	90		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	407	187	252	2813	2354	1053		
Arrive On Green	0.12	0.12	0.15	1.00	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	124	164	202	1538	1049	90		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	4.9	15.3	8.5	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	4.9	15.3	8.5	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	407	187	252	2813	2354	1053		
V/C Ratio(X)	0.30	0.87	0.80	0.55	0.45	0.09		
Avail Cap(c_a), veh/h	528	243	493	2813	2354	1053		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.83	0.83	0.90	0.90		
Uniform Delay (d), s/veh	60.5	65.0	63.0	0.0	0.0	0.0		
Incr Delay (d2), s/veh	0.4	23.3	5.0	0.6	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	7.9	4.2	0.3	0.2	0.0		
LnGrp Delay(d),s/veh	60.9	88.3	67.9	0.6	0.5	0.1		
LnGrp LOS	E	F	E	A	A	A		
Approach Vol, veh/h	288			1740	1139			
Approach Delay, s/veh	76.5			8.5	0.5			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.5	105.8		24.8		125.2		
Change Period (Y+Rc), s	8.5	6.0		7.0		6.0		
Max Green Setting (Gmax), s	21.5	84.0		23.0		114.0		
Max Q Clear Time (g_c+10), s	11.5	2.0		17.3		2.0		
Green Ext Time (p_c), s	0.5	45.2		0.5		51.9		
Intersection Summary								
HCM 2010 Ctrl Delay			11.8					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 4: Maplegrove Dr & Medical Center Pkwy

Clari Park
 2020 Existing Traffic - PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1098	13	80	1542	27	113		
Future Volume (veh/h)	1098	13	80	1542	27	113		
Number	2	12	1	6	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1168	14	85	1640	29	120		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2595	1161	128	2915	309	142		
Arrive On Green	0.73	0.73	0.07	1.00	0.09	0.09		
Sat Flow, veh/h	3632	1583	3442	3632	3442	1583		
Grp Volume(v), veh/h	1168	14	85	1640	29	120		
Grp Sat Flow(s),veh/h/ln	1770	1583	1721	1770	1721	1583		
Q Serve(g_s), s	19.7	0.4	3.6	0.0	1.2	11.2		
Cycle Q Clear(g_c), s	19.7	0.4	3.6	0.0	1.2	11.2		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2595	1161	128	2915	309	142		
V/C Ratio(X)	0.45	0.01	0.66	0.56	0.09	0.85		
Avail Cap(c_a), veh/h	2595	1161	390	2915	516	237		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	0.89	0.89	0.69	0.69	1.00	1.00		
Uniform Delay (d), s/veh	8.0	5.4	68.5	0.0	62.7	67.3		
Incr Delay (d2), s/veh	0.5	0.0	4.0	0.5	0.1	13.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.8	0.2	1.8	0.2	0.6	5.4		
LnGrp Delay(d),s/veh	8.5	5.4	72.5	0.5	62.8	80.4		
LnGrp LOS	A	A	E	A	E	F		
Approach Vol, veh/h	1182			1725	149			
Approach Delay, s/veh	8.4			4.1	76.9			
Approach LOS	A			A	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	33.6	115.5		20.9		129.1		
Change Period (Y+Rc), s	8.0	5.5		7.5		5.5		
Max Green Setting (Gmax), s	89.5			22.5		114.5		
Max Q Clear Time (g_c+I), s	21.7			13.2		2.0		
Green Ext Time (p_c), s	0.1	45.3		0.3		60.3		
Intersection Summary								
HCM 2010 Ctrl Delay			9.3					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
5: Robert Rose Dr & Medical Center Pkwy

Clari Park
2020 Existing Traffic - PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	879	243	65	1286	71	308	33	19	75	35	37
Future Volume (veh/h)	108	879	243	65	1286	71	308	33	19	75	35	37
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	115	935	259	69	1368	76	328	35	20	80	37	39
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	2216	991	391	2178	974	376	200	170	121	74	63
Arrive On Green	0.08	1.00	1.00	0.03	0.62	0.62	0.11	0.11	0.11	0.04	0.04	0.04
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3442	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	115	935	259	69	1368	76	328	35	20	80	37	39
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	3.7	0.0	0.0	2.1	36.3	2.9	14.1	2.6	1.7	3.4	2.9	3.6
Cycle Q Clear(g_c), s	3.7	0.0	0.0	2.1	36.3	2.9	14.1	2.6	1.7	3.4	2.9	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	2216	991	391	2178	974	376	200	170	121	74	63
V/C Ratio(X)	0.45	0.42	0.26	0.18	0.63	0.08	0.87	0.18	0.12	0.66	0.50	0.62
Avail Cap(c_a), veh/h	363	2216	991	424	2178	974	424	236	201	172	112	95
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	0.0	9.7	18.1	11.7	65.8	60.9	60.5	71.5	70.5	70.9
Incr Delay (d2), s/veh	1.1	0.5	0.6	0.2	1.4	0.2	16.5	0.4	0.3	6.0	5.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.2	0.2	1.1	18.1	1.3	7.6	1.3	0.8	1.7	1.6	1.8
LnGrp Delay(d),s/veh	16.4	0.5	0.6	9.9	19.5	11.8	82.3	61.3	60.8	77.5	75.6	80.2
LnGrp LOS	B	A	A	A	B	B	F	E	E	E	E	F
Approach Vol, veh/h		1309			1513			383			156	
Approach Delay, s/veh		1.9			18.6			79.3			77.7	
Approach LOS		A			B			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	102.9	12.8	22.1	13.8	101.3	22.9	12.0				
Change Period (Y+Rc), s	7.5	9.0	7.5	6.0	8.0	9.0	6.5	6.0				
Max Green Setting (Gmax), s	7.5	86.0	7.5	19.0	15.0	78.0	18.5	9.0				
Max Q Clear Time (g_c+1), s	1.5	2.0	5.4	4.6	5.7	38.3	16.1	5.6				
Green Ext Time (p_c), s	0.0	40.3	0.0	0.4	0.2	26.8	0.3	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 8.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	29	12	527	32	10	279
Future Vol, veh/h	29	12	527	32	10	279
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	170	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	13	555	34	11	294

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	44	0	1182 38
Stage 1	-	-	-	-	38 -
Stage 2	-	-	-	-	1144 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1564	-	210 1034
Stage 1	-	-	-	-	984 -
Stage 2	-	-	-	-	304 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1564	-	134 1034
Mov Cap-2 Maneuver	-	-	-	-	134 -
Stage 1	-	-	-	-	984 -
Stage 2	-	-	-	-	194 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	8.1	10.7
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	134	1034	-	-	1564	-
HCM Lane V/C Ratio	0.079	0.284	-	-	0.355	-
HCM Control Delay (s)	34.1	9.9	-	-	8.6	0
HCM Lane LOS	D	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	1.2	-	-	1.6	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	50	256	523	25	23	36
Future Vol, veh/h	50	256	523	25	23	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	272	556	27	24	38

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	583	0	-	0	948 570
Stage 1	-	-	-	-	570 -
Stage 2	-	-	-	-	378 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	991	-	-	-	289 521
Stage 1	-	-	-	-	566 -
Stage 2	-	-	-	-	693 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	991	-	-	-	271 521
Mov Cap-2 Maneuver	-	-	-	-	271 -
Stage 1	-	-	-	-	530 -
Stage 2	-	-	-	-	693 -

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	991	-	-	-	383
HCM Lane V/C Ratio	0.054	-	-	-	0.164
HCM Control Delay (s)	8.8	0	-	-	16.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection

Int Delay, s/veh 3.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	217	62	36	521	98	53
Future Vol, veh/h	217	62	36	521	98	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	65	38	548	103	56

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	293	0	885	261
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1269	-	315	778
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1269	-	301	778
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	511	-

Approach EB WB NB

HCM Control Delay, s	0	0.5	18.5
HCM LOS			C

Minor Lane/Major Mvmt NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	301	778	-	-	1269	-
HCM Lane V/C Ratio	0.343	0.072	-	-	0.03	-
HCM Control Delay (s)	23.1	10	-	-	7.9	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-

Intersection

Int Delay, s/veh 7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔			↔	
Traffic Vol, veh/h	0	0	0	66	0	2	0	1	30	7	4	0
Future Vol, veh/h	0	0	0	66	0	2	0	1	30	7	4	0
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	81	0	2	0	1	37	9	5	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	1	0	0	167	165	1	183	164	1
Stage 1	-	-	-	-	-	-	1	1	-	163	163	-
Stage 2	-	-	-	-	-	-	166	164	-	20	1	-
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	1620	-	-	1622	-	-	797	728	1084	778	729	1084
Stage 1	-	-	-	-	-	-	1022	895	-	839	763	-
Stage 2	-	-	-	-	-	-	836	762	-	999	895	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	1622	-	-	763	692	1084	722	693	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	763	692	-	722	693	-
Stage 1	-	-	-	-	-	-	1022	895	-	839	725	-
Stage 2	-	-	-	-	-	-	789	724	-	964	895	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			7.1			8.5			10.2		
HCM LOS							A			B		

























Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1065	1620	-	-	1622	-	-	711
HCM Lane V/C Ratio	-	0.036	-	-	-	0.05	-	-	0.019
HCM Control Delay (s)	-	0	8.5	0	-	7.3	-	-	10.2
HCM Lane LOS	-	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	0	-	-	0.2	-	-	0.1

APPENDIX E

CAPACITY ANALYSIS WORKSHEETS BACKGROUND TRAFFIC

HCM 2010 Signalized Intersection Summary
 1: Medical Center Pkwy & Greshampark Dr

Clari Park
 2027 Background Traffic - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	23	70	41	23	203	39	600	27	642	1489	27
Future Volume (veh/h)	22	23	70	41	23	203	39	600	27	642	1489	27
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	25	26	79	46	26	24	44	674	30	721	1673	30
Adj No. of Lanes	2	1	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	126	107	107	142	120	205	2195	982	617	2291	1025
Arrive On Green	0.02	0.07	0.07	0.03	0.08	0.08	0.06	1.00	1.00	0.06	0.65	0.65
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	25	26	79	46	26	24	44	674	30	721	1673	30
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.9	1.7	6.4	1.7	1.7	1.8	1.1	0.0	0.0	7.5	41.1	0.9
Cycle Q Clear(g_c), s	0.9	1.7	6.4	1.7	1.7	1.8	1.1	0.0	0.0	7.5	41.1	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	126	107	107	142	120	205	2195	982	617	2291	1025
V/C Ratio(X)	0.32	0.21	0.74	0.43	0.18	0.20	0.22	0.31	0.03	1.17	0.73	0.03
Avail Cap(c_a), veh/h	212	272	231	212	272	231	253	2195	982	617	2291	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.5	57.3	59.5	61.8	56.3	56.3	14.0	0.0	0.0	21.0	15.3	8.2
Incr Delay (d2), s/veh	1.7	1.0	11.2	2.0	0.7	1.0	0.4	0.4	0.1	92.5	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.9	3.1	0.8	0.9	0.8	0.6	0.1	0.0	34.3	20.6	0.4
LnGrp Delay(d),s/veh	64.2	58.3	70.6	63.8	57.0	57.3	14.4	0.4	0.1	113.5	17.4	8.3
LnGrp LOS	E	E	E	E	E	E	B	A	A	F	B	A
Approach Vol, veh/h		130			96			748			2424	
Approach Delay, s/veh		66.9			60.4			1.2			45.9	
Approach LOS		E			E			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	92.7	11.1	14.8	15.0	89.1	10.0	15.9				
Change Period (Y+Rc), s	7.5	8.5	7.0	6.0	7.5	8.5	7.0	6.0				
Max Green Setting (Gmax), s	7.5	66.5	8.0	19.0	7.5	66.5	8.0	19.0				
Max Q Clear Time (g_c+I1), s	3.1	43.1	3.7	8.4	9.5	2.0	2.9	3.8				
Green Ext Time (p_c), s	0.0	22.8	0.0	0.5	0.0	60.2	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			37.2									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
 2: Medical Center Pkwy & Willowoak Tr

Clari Park
 2027 Background Traffic - AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	25	11	41	595	1558	30		
Future Volume (veh/h)	25	11	41	595	1558	30		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	29	13	48	692	1812	35		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	103	48	109	2984	2640	1181		
Arrive On Green	0.03	0.03	0.06	1.00	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	29	13	48	692	1812	35		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	1.1	1.0	1.7	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	1.1	1.0	1.7	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	103	48	109	2984	2640	1181		
V/C Ratio(X)	0.28	0.27	0.44	0.23	0.69	0.03		
Avail Cap(c_a), veh/h	344	158	304	2984	2640	1181		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.98	0.98	0.65	0.65		
Uniform Delay (d), s/veh	61.7	61.7	59.8	0.0	0.0	0.0		
Incr Delay (d2), s/veh	1.5	3.1	2.7	0.2	1.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	0.5	0.9	0.1	0.4	0.0		
LnGrp Delay(d),s/veh	63.1	64.7	62.5	0.2	1.0	0.0		
LnGrp LOS	E	E	E	A	A	A		
Approach Vol, veh/h	42			740	1847			
Approach Delay, s/veh	63.6			4.2	1.0			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.6	106.5		10.9		119.1		
Change Period (Y+Rc), s	8.5	9.5		7.0		9.5		
Max Green Setting (Gmax), s	80.5			13.0		100.5		
Max Q Clear Time (g_c+1), s	2.0			3.1		2.0		
Green Ext Time (p_c), s	0.0	43.0		0.0		47.7		
Intersection Summary								
HCM 2010 Ctrl Delay			2.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 3: Medical Center Pkwy & Honeylocust Ln

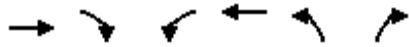
Clari Park
 2027 Background Traffic - AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	12	6	42	612	1486	60		
Future Volume (veh/h)	12	6	42	612	1486	60		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	14	7	50	729	1769	71		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	70	32	111	3113	2768	1238		
Arrive On Green	0.02	0.02	0.03	0.88	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	14	7	50	729	1769	71		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	0.5	0.6	1.9	4.1	0.0	0.0		
Cycle Q Clear(g_c), s	0.5	0.6	1.9	4.1	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	70	32	111	3113	2768	1238		
V/C Ratio(X)	0.20	0.22	0.45	0.23	0.64	0.06		
Avail Cap(c_a), veh/h	344	158	304	3113	2768	1238		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33		
Upstream Filter(I)	1.00	1.00	0.98	0.98	0.71	0.71		
Uniform Delay (d), s/veh	62.6	62.6	61.8	1.2	0.0	0.0		
Incr Delay (d2), s/veh	1.4	3.3	2.8	0.2	0.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.9	2.0	0.3	0.0		
LnGrp Delay(d),s/veh	64.0	65.9	64.6	1.4	0.8	0.1		
LnGrp LOS	E	E	E	A	A	A		
Approach Vol, veh/h	21			779	1840			
Approach Delay, s/veh	64.6			5.4	0.8			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	2.7	107.7		9.7		120.3		
Change Period (Y+Rc), s	8.5	6.0		7.0		6.0		
Max Green Setting (Gmax), s	5	84.0		13.0		104.0		
Max Q Clear Time (g_c+I), s	5	2.0		2.6		6.1		
Green Ext Time (p_c), s	0.0	43.9		0.0		47.5		
Intersection Summary								
HCM 2010 Ctrl Delay			2.7					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 4: Maplegrove Dr & Medical Center Pkwy

Clari Park
 2027 Background Traffic - AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1475	14	39	652	0	11		
Future Volume (veh/h)	1475	14	39	652	0	11		
Number	2	12	1	6	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1799	17	48	795	0	13		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2804	1255	109	3134	50	23		
Arrive On Green	0.79	0.79	0.06	1.00	0.00	0.01		
Sat Flow, veh/h	3632	1583	3442	3632	3442	1583		
Grp Volume(v), veh/h	1799	17	48	795	0	13		
Grp Sat Flow(s),veh/h/ln	1770	1583	1721	1770	1721	1583		
Q Serve(g_s), s	27.9	0.3	1.7	0.0	0.0	1.1		
Cycle Q Clear(g_c), s	27.9	0.3	1.7	0.0	0.0	1.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2804	1255	109	3134	50	23		
V/C Ratio(X)	0.64	0.01	0.44	0.25	0.00	0.57		
Avail Cap(c_a), veh/h	2804	1255	318	3134	331	152		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	0.76	0.76	0.96	0.96	0.00	1.00		
Uniform Delay (d), s/veh	5.7	2.8	59.8	0.0	0.0	63.7		
Incr Delay (d2), s/veh	0.9	0.0	2.7	0.2	0.0	20.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.6	0.1	0.9	0.1	0.0	0.6		
LnGrp Delay(d),s/veh	6.6	2.8	62.4	0.2	0.0	84.1		
LnGrp LOS	A	A	E	A		F		
Approach Vol, veh/h	1816			843	13			
Approach Delay, s/veh	6.5			3.7	84.1			
Approach LOS	A			A	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.1	108.5		9.4		120.6		
Change Period (Y+Rc), s	8.0	5.5		7.5		5.5		
Max Green Setting (Gmax), s	12.0	84.5		12.5		104.5		
Max Q Clear Time (g_c+I), s	13.7	29.9		3.1		2.0		
Green Ext Time (p_c), s	0.0	36.3		0.0		51.1		
Intersection Summary								
HCM 2010 Ctrl Delay			6.0					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

5: Robert Rose Dr & Medical Center Pkwy

Clari Park
2027 Background Traffic - AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1295	154	39	521	14	116	16	37	58	26	60
Future Volume (veh/h)	38	1295	154	39	521	14	116	16	37	58	26	60
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	45	1542	183	46	620	17	138	19	44	69	31	71
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	2	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	2228	997	286	2215	991	189	137	116	121	115	97
Arrive On Green	0.06	1.00	1.00	0.03	0.63	0.63	0.05	0.07	0.07	0.04	0.06	0.06
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3442	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	45	1542	183	46	620	17	138	19	44	69	31	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	1.2	0.0	0.0	1.2	10.3	0.5	5.1	1.2	3.4	2.6	2.1	5.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.2	10.3	0.5	5.1	1.2	3.4	2.6	2.1	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	2228	997	286	2215	991	189	137	116	121	115	97
V/C Ratio(X)	0.08	0.69	0.18	0.16	0.28	0.02	0.73	0.14	0.38	0.57	0.27	0.73
Avail Cap(c_a), veh/h	581	2228	997	333	2215	991	225	201	171	199	201	171
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	7.9	11.0	9.2	60.5	56.4	57.4	61.7	58.2	59.9
Incr Delay (d2), s/veh	0.0	1.4	0.3	0.3	0.3	0.0	9.4	0.5	2.0	4.1	1.3	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.1	0.6	5.1	0.2	2.7	0.7	1.6	1.3	1.1	2.8
LnGrp Delay(d),s/veh	8.1	1.4	0.3	8.1	11.3	9.2	69.9	56.8	59.4	65.9	59.5	69.9
LnGrp LOS	A	A	A	A	B	A	E	E	E	E	E	E
Approach Vol, veh/h		1770			683			201			171	
Approach Delay, s/veh		1.4			11.1			66.4			66.4	
Approach LOS		A			B			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	90.8	12.1	15.5	12.0	90.4	13.6	14.0				
Change Period (Y+Rc), s	7.5	9.0	7.5	6.0	8.0	9.0	6.5	6.0				
Max Green Setting (Gmax), s	7.5	71.0	7.5	14.0	7.0	71.0	8.5	14.0				
Max Q Clear Time (g_c+1), s	7.5	2.0	4.6	5.4	3.2	12.3	7.1	7.7				
Green Ext Time (p_c), s	0.0	32.6	0.0	0.3	0.0	30.4	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								

Intersection						
Int Delay, s/veh	11.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	4	262	30	11	568
Future Vol, veh/h	33	4	262	30	11	568
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	170	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	5	312	36	13	676

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	44	0	702 42
Stage 1	-	-	-	-	42 -
Stage 2	-	-	-	-	660 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1564	-	404 1029
Stage 1	-	-	-	-	980 -
Stage 2	-	-	-	-	514 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1564	-	322 1029
Mov Cap-2 Maneuver	-	-	-	-	322 -
Stage 1	-	-	-	-	980 -
Stage 2	-	-	-	-	409 -

Approach	EB	WB	NB
HCM Control Delay, s	0	7.1	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	322	1029	-	-	1564	-
HCM Lane V/C Ratio	0.041	0.657	-	-	0.199	-
HCM Control Delay (s)	16.7	14.9	-	-	7.9	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	5.1	-	-	0.7	-

Intersection

Int Delay, s/veh 1.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	21	581	251	15	26	38
Future Vol, veh/h	21	581	251	15	26	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	692	299	18	31	45

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	317	0	-	0	1050	308
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	742	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1243	-	-	-	252	732
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	471	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1243	-	-	-	244	732
Mov Cap-2 Maneuver	-	-	-	-	244	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	471	-

Approach EB WB SB

HCM Control Delay, s	0.3	0	16
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1243	-	-	-	404
HCM Lane V/C Ratio	0.02	-	-	-	0.189
HCM Control Delay (s)	8	0	-	-	16
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection

Int Delay, s/veh 1.9

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	588	23	22	224	38	55
Future Vol, veh/h	588	23	22	224	38	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	676	26	25	257	44	63

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	702	0	996	689
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	307	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	895	-	271	446
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	746	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	895	-	262	446
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	721	-

Approach EB WB NB

HCM Control Delay, s	0	0.8	17.3
HCM LOS			C

Minor Lane/Major Mvmt NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	262	446	-	-	895	-
HCM Lane V/C Ratio	0.167	0.142	-	-	0.028	-
HCM Control Delay (s)	21.5	14.4	-	-	9.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	0.5	-	-	0.1	-

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷			↕	
Traffic Vol, veh/h	0	0	0	22	0	7	0	2	48	0	4	0
Future Vol, veh/h	0	0	0	22	0	7	0	2	48	0	4	0
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	25	0	8	0	2	54	0	4	0





























Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	1	0	0	57	59	1	83	55	4
Stage 1	-	-	-	-	-	-	1	1	-	54	54	-
Stage 2	-	-	-	-	-	-	56	58	-	29	1	-
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	1612	-	-	1622	-	-	940	832	1084	904	836	1080
Stage 1	-	-	-	-	-	-	1022	895	-	958	850	-
Stage 2	-	-	-	-	-	-	956	847	-	988	895	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1612	-	-	1622	-	-	925	820	1084	847	823	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	820	-	847	823	-
Stage 1	-	-	-	-	-	-	1022	895	-	958	837	-
Stage 2	-	-	-	-	-	-	936	834	-	936	895	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			5.5			8.6			9.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1070	1612	-	-	1622	-	-	823
HCM Lane V/C Ratio	-	0.053	-	-	-	0.015	-	-	0.005
HCM Control Delay (s)		0	8.6	0	-	7.3	-	-	9.4
HCM Lane LOS		A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)		-	0.2	0	-	0	-	-	0

HCM 2010 Signalized Intersection Summary
 1: Medical Center Pkwy & Greshampark Dr

Clari Park
 2027 Background Traffic - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 				 			 	
Traffic Volume (veh/h)	134	43	57	80	63	569	95	1708	69	374	1259	106
Future Volume (veh/h)	134	43	57	80	63	569	95	1708	69	374	1259	106
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	144	46	38	86	68	258	102	1837	46	402	1354	71
Adj No. of Lanes	2	1	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	232	197	128	199	169	251	1988	890	229	2149	962
Arrive On Green	0.05	0.12	0.12	0.04	0.11	0.11	0.05	0.75	0.75	0.08	0.61	0.61
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	144	46	38	86	68	258	102	1837	46	402	1354	71
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.2	3.3	3.2	3.7	5.1	16.0	3.7	63.5	1.1	12.5	36.5	2.8
Cycle Q Clear(g_c), s	6.2	3.3	3.2	3.7	5.1	16.0	3.7	63.5	1.1	12.5	36.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	232	197	128	199	169	251	1988	890	229	2149	962
V/C Ratio(X)	0.76	0.20	0.19	0.67	0.34	1.53	0.41	0.92	0.05	1.76	0.63	0.07
Avail Cap(c_a), veh/h	229	232	197	184	199	169	320	1988	890	229	2149	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.9	59.0	58.9	71.3	62.1	67.0	16.6	16.3	8.5	46.6	18.7	12.1
Incr Delay (d2), s/veh	10.5	0.5	0.6	4.5	1.2	265.1	0.5	6.4	0.1	357.1	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.7	1.4	1.8	2.7	19.4	1.8	32.2	0.5	32.2	18.1	1.2
LnGrp Delay(d),s/veh	80.4	59.5	59.5	75.8	63.3	332.1	17.1	22.7	8.5	403.8	20.1	12.3
LnGrp LOS	F	E	E	E	E	F	B	C	A	F	C	B
Approach Vol, veh/h		228			412			1985			1827	
Approach Delay, s/veh		72.7			234.2			22.1			104.2	
Approach LOS		E			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	99.6	12.6	24.7	20.0	92.8	15.2	22.0				
Change Period (Y+Rc), s	7.5	8.5	7.0	6.0	7.5	8.5	7.0	6.0				
Max Green Setting (Gmax), s	11.5	83.5	8.0	18.0	12.5	82.5	10.0	16.0				
Max Q Clear Time (g_c+I1), s	5.7	38.5	5.7	5.3	14.5	65.5	8.2	18.0				
Green Ext Time (p_c), s	0.1	44.7	0.0	1.7	0.0	16.9	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			78.0									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary
 2: Medical Center Pkwy & Willowoak Tr

Clari Park
 2027 Background Traffic - PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	205	102	161	1680	1172	209		
Future Volume (veh/h)	205	102	161	1680	1172	209		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	228	113	179	1867	1302	232		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	307	141	222	2834	2406	1076		
Arrive On Green	0.09	0.09	0.13	1.00	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	228	113	179	1867	1302	232		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	9.7	10.5	7.6	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	9.7	10.5	7.6	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	307	141	222	2834	2406	1076		
V/C Ratio(X)	0.74	0.80	0.81	0.66	0.54	0.22		
Avail Cap(c_a), veh/h	528	243	264	2834	2406	1076		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.73	0.73	0.74	0.74		
Uniform Delay (d), s/veh	66.6	67.0	64.4	0.0	0.0	0.0		
Incr Delay (d2), s/veh	3.6	10.0	10.9	0.9	0.7	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.8	5.0	3.9	0.4	0.2	0.1		
LnGrp Delay(d),s/veh	70.2	77.0	75.3	0.9	0.7	0.3		
LnGrp LOS	E	E	E	A	A	A		
Approach Vol, veh/h	341			2046	1534			
Approach Delay, s/veh	72.4			7.4	0.6			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	8.2	111.5		20.4		129.6		
Change Period (Y+Rc), s	8.5	9.5		7.0		9.5		
Max Green Setting (Gmax), s	5	90.5		23.0		110.5		
Max Q Clear Time (g_c+I), s	19.6	2.0		12.5		2.0		
Green Ext Time (p_c), s	0.1	67.5		0.9		78.2		
Intersection Summary								
HCM 2010 Ctrl Delay			10.4					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

3: Medical Center Pkwy & Honeylocust Ln

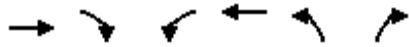
Clari Park
2027 Background Traffic - PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖↗	↑↑	↑↑	↗		
Traffic Volume (veh/h)	139	183	226	1722	1175	101		
Future Volume (veh/h)	139	183	226	1722	1175	101		
Number	7	14	1	6	2	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	153	201	248	1892	1291	111		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	483	222	298	2736	2229	997		
Arrive On Green	0.14	0.14	0.17	1.00	1.00	1.00		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	153	201	248	1892	1291	111		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	6.0	18.8	10.4	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	6.0	18.8	10.4	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	483	222	298	2736	2229	997		
V/C Ratio(X)	0.32	0.90	0.83	0.69	0.58	0.11		
Avail Cap(c_a), veh/h	528	243	493	2736	2229	997		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.71	0.71	0.81	0.81		
Uniform Delay (d), s/veh	58.0	63.5	61.0	0.0	0.0	0.0		
Incr Delay (d2), s/veh	0.4	32.1	4.4	1.0	0.9	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	10.2	5.1	0.4	0.3	0.1		
LnGrp Delay(d),s/veh	58.4	95.6	65.4	1.0	0.9	0.2		
LnGrp LOS	E	F	E	A	A	A		
Approach Vol, veh/h	354			2140	1402			
Approach Delay, s/veh	79.5			8.5	0.8			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	31.5	100.5		28.0		122.0		
Change Period (Y+Rc), s	8.5	6.0		7.0		6.0		
Max Green Setting (Gmax), s	21.5	84.0		23.0		114.0		
Max Q Clear Time (g_c+I), s	12.4	2.0		20.8		2.0		
Green Ext Time (p_c), s	0.5	62.7		0.3		78.4		
Intersection Summary								
HCM 2010 Ctrl Delay			12.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 4: Maplegrove Dr & Medical Center Pkwy

Clari Park
 2027 Background Traffic - PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1350	16	98	1896	33	139		
Future Volume (veh/h)	1350	16	98	1896	33	139		
Number	2	12	1	6	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1436	17	104	2017	35	148		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2511	1123	149	2853	369	170		
Arrive On Green	0.71	0.71	0.09	1.00	0.11	0.11		
Sat Flow, veh/h	3632	1583	3442	3632	3442	1583		
Grp Volume(v), veh/h	1436	17	104	2017	35	148		
Grp Sat Flow(s),veh/h/ln	1770	1583	1721	1770	1721	1583		
Q Serve(g_s), s	29.8	0.5	4.4	0.0	1.4	13.8		
Cycle Q Clear(g_c), s	29.8	0.5	4.4	0.0	1.4	13.8		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2511	1123	149	2853	369	170		
V/C Ratio(X)	0.57	0.02	0.70	0.71	0.09	0.87		
Avail Cap(c_a), veh/h	2511	1123	390	2853	516	237		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	0.81	0.81	0.41	0.41	1.00	1.00		
Uniform Delay (d), s/veh	10.7	6.4	67.5	0.0	60.4	65.9		
Incr Delay (d2), s/veh	0.8	0.0	2.4	0.6	0.1	21.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.6	0.2	2.1	0.2	0.7	7.1		
LnGrp Delay(d),s/veh	11.4	6.4	70.0	0.6	60.5	87.4		
LnGrp LOS	B	A	E	A	E	F		
Approach Vol, veh/h	1453			2121	183			
Approach Delay, s/veh	11.4			4.0	82.2			
Approach LOS	B			A	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	4.5	111.9		23.6		126.4		
Change Period (Y+Rc), s	8.0	5.5		7.5		5.5		
Max Green Setting (Gmax), s	7.0	89.5		22.5		114.5		
Max Q Clear Time (g_c+I), s	10.4	31.8		15.8		2.0		
Green Ext Time (p_c), s	0.2	50.2		0.3		86.9		
Intersection Summary								
HCM 2010 Ctrl Delay			10.7					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

5: Robert Rose Dr & Medical Center Pkwy

Clari Park
2027 Background Traffic - PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	1081	299	80	1582	87	379	41	23	92	43	46
Future Volume (veh/h)	133	1081	299	80	1582	87	379	41	23	92	43	46
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	141	1150	318	85	1683	93	403	44	24	98	46	49
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	2146	960	317	2081	931	424	224	191	141	83	71
Arrive On Green	0.09	1.00	1.00	0.03	0.59	0.59	0.12	0.12	0.12	0.04	0.04	0.04
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3442	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	141	1150	318	85	1683	93	403	44	24	98	46	49
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	4.9	0.0	0.0	2.9	56.0	3.9	17.4	3.2	2.0	4.2	3.6	4.6
Cycle Q Clear(g_c), s	4.9	0.0	0.0	2.9	56.0	3.9	17.4	3.2	2.0	4.2	3.6	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	2146	960	317	2081	931	424	224	191	141	83	71
V/C Ratio(X)	0.75	0.54	0.33	0.27	0.81	0.10	0.95	0.20	0.13	0.70	0.55	0.69
Avail Cap(c_a), veh/h	283	2146	960	348	2081	931	424	236	201	172	112	95
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	0.0	11.4	24.3	13.5	65.3	59.4	58.9	71.0	70.2	70.6
Incr Delay (d2), s/veh	4.7	0.8	0.7	0.4	3.5	0.2	31.0	0.4	0.3	8.9	5.6	12.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.2	0.2	1.4	28.1	1.7	10.1	1.7	0.9	2.2	2.0	2.3
LnGrp Delay(d),s/veh	33.1	0.8	0.7	11.8	27.8	13.7	96.3	59.8	59.2	79.9	75.8	83.2
LnGrp LOS	C	A	A	B	C	B	F	E	E	E	E	F
Approach Vol, veh/h		1609			1861			471			193	
Approach Delay, s/veh		3.6			26.4			91.0			79.8	
Approach LOS		A			C			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	99.9	13.6	24.1	15.1	97.2	25.0	12.7				
Change Period (Y+Rc), s	7.5	9.0	7.5	6.0	8.0	9.0	6.5	6.0				
Max Green Setting (Gmax), s	5	86.0	7.5	19.0	15.0	78.0	18.5	9.0				
Max Q Clear Time (g_c+1), s	5	2.0	6.2	5.2	6.9	58.0	19.4	6.6				
Green Ext Time (p_c), s	0.0	58.3	0.0	0.5	0.2	18.0	0.0	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay					27.4							
HCM 2010 LOS					C							

Intersection

Int Delay, s/veh 9.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	15	648	39	12	343
Future Vol, veh/h	36	15	648	39	12	343
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	170	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	16	682	41	13	361

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	54	0	1451
Stage 1	-	-	-	-	46
Stage 2	-	-	-	-	1405
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1551	-	144
Stage 1	-	-	-	-	976
Stage 2	-	-	-	-	227
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1551	-	79
Mov Cap-2 Maneuver	-	-	-	-	79
Stage 1	-	-	-	-	976
Stage 2	-	-	-	-	125

Approach

	EB	WB	NB
HCM Control Delay, s	0	8.6	12
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	79	1023	-	-	1551	-
HCM Lane V/C Ratio	0.16	0.353	-	-	0.44	-
HCM Control Delay (s)	59.1	10.4	-	-	9.1	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	1.6	-	-	2.3	-

Intersection

Int Delay, s/veh 1.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	61	315	643	31	28	44
Future Vol, veh/h	61	315	643	31	28	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	335	684	33	30	47

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	717	0	-	0	1166	701
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	465	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	884	-	-	-	214	439
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	884	-	-	-	195	439
Mov Cap-2 Maneuver	-	-	-	-	195	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	632	-

Approach EB WB SB

HCM Control Delay, s	1.5	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	884	-	-	-	295
HCM Lane V/C Ratio	0.073	-	-	-	0.26
HCM Control Delay (s)	9.4	0	-	-	21.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	267	76	44	641	28	37
Future Vol, veh/h	267	76	44	641	28	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	281	80	46	675	29	39

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	361	0	1088
Stage 1	-	-	-	-	321
Stage 2	-	-	-	-	767
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1198	-	239
Stage 1	-	-	-	-	735
Stage 2	-	-	-	-	458
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1198	-	224
Mov Cap-2 Maneuver	-	-	-	-	224
Stage 1	-	-	-	-	735
Stage 2	-	-	-	-	430

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	224	720	-	-	1198	-
HCM Lane V/C Ratio	0.132	0.054	-	-	0.039	-
HCM Control Delay (s)	23.5	10.3	-	-	8.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.1	-

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷			↕	
Traffic Vol, veh/h	0	0	0	81	0	2	0	1	37	9	5	0
Future Vol, veh/h	0	0	0	81	0	2	0	1	37	9	5	0
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	100	0	2	0	1	46	11	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	1	0	0	205	203	1	226	202	1
Stage 1	-	-	-	-	-	-	1	1	-	201	201	-
Stage 2	-	-	-	-	-	-	204	202	-	25	1	-
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	1620	-	-	1622	-	-	753	693	1084	729	694	1084
Stage 1	-	-	-	-	-	-	1022	895	-	801	735	-
Stage 2	-	-	-	-	-	-	798	734	-	993	895	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	1622	-	-	712	650	1084	664	651	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	712	650	-	664	651	-
Stage 1	-	-	-	-	-	-	1022	895	-	801	689	-
Stage 2	-	-	-	-	-	-	742	688	-	950	895	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			7.2			8.5			10.6		
HCM LOS							A			B		

























Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1065	1620	-	-	1622	-	-	659
HCM Lane V/C Ratio	-	0.044	-	-	-	0.062	-	-	0.026
HCM Control Delay (s)	-	0	8.5	0	-	7.4	-	-	10.6
HCM Lane LOS	-	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	0	-	-	0.2	-	-	0.1

APPENDIX F

CAPACITY ANALYSIS WORKSHEETS TOTAL TRAFFIC































HCM 2010 Signalized Intersection Summary
 1: Medical Center Pkwy & Greshampark Dr

Clari Park
 2027 Total Traffic - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	16	70	51	15	162	39	779	47	457	1841	27
Future Volume (veh/h)	22	16	70	51	15	162	39	779	47	457	1841	27
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	25	18	79	57	17	-22	44	875	53	513	2069	30
Adj No. of Lanes	2	1	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	123	104	115	142	121	139	2194	982	455	2290	1024
Arrive On Green	0.02	0.07	0.07	0.03	0.08	0.00	0.03	0.62	0.62	0.06	0.65	0.65
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	25	18	79	57	17	-22	44	875	53	513	2069	30
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.9	1.2	6.4	2.1	1.1	0.0	1.2	16.2	1.7	7.5	64.6	0.9
Cycle Q Clear(g_c), s	0.9	1.2	6.4	2.1	1.1	0.0	1.2	16.2	1.7	7.5	64.6	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	123	104	115	142	121	139	2194	982	455	2290	1024
V/C Ratio(X)	0.32	0.15	0.76	0.49	0.12	-0.18	0.32	0.40	0.05	1.13	0.90	0.03
Avail Cap(c_a), veh/h	212	272	231	212	272	231	187	2194	982	455	2290	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.5	57.3	59.7	61.7	56.0	0.0	26.7	12.5	9.7	25.0	19.5	8.3
Incr Delay (d2), s/veh	1.7	0.7	12.7	2.4	0.4	0.0	0.9	0.5	0.1	81.9	6.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	3.2	1.0	0.6	0.0	1.0	8.1	0.8	23.0	33.4	0.4
LnGrp Delay(d),s/veh	64.2	57.9	72.4	64.1	56.4	0.0	27.6	13.0	9.8	106.9	25.9	8.3
LnGrp LOS	E	E	E	E	E		C	B	A	F	C	A
Approach Vol, veh/h		122			52			972			2612	
Approach Delay, s/veh		68.6			88.8			13.5			41.6	
Approach LOS		E			F			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	92.6	11.4	14.5	15.0	89.1	10.0	15.9				
Change Period (Y+Rc), s	7.5	8.5	7.0	6.0	7.5	8.5	7.0	6.0				
Max Green Setting (Gmax), s	7.5	66.5	8.0	19.0	7.5	66.5	8.0	19.0				
Max Q Clear Time (g_c+I1), s	3.2	66.6	4.1	8.4	9.5	18.2	2.9	3.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	47.7	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			35.9									
HCM 2010 LOS			D									































HCM 2010 Signalized Intersection Summary
 2: Medical Center Pkwy & Willowoak Tr/Willowoak Trail

Clari Park
 2027 Total Traffic - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 			 	 		 	 	
Traffic Volume (veh/h)	29	11	11	66	11	154	41	636	61	321	1595	33
Future Volume (veh/h)	29	11	11	66	11	154	41	636	61	321	1595	33
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	34	12	8	72	12	104	48	740	66	349	1855	38
Adj No. of Lanes	2	1	1	2	1	1	2	2	1	2	2	1
Peak Hour Factor	0.86	0.92	0.86	0.92	0.92	0.92	0.86	0.86	0.92	0.92	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	148	126	114	148	126	99	1997	893	379	2284	1022
Arrive On Green	0.03	0.08	0.08	0.03	0.08	0.08	0.06	1.00	1.00	0.11	0.65	0.65
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	34	12	8	72	12	104	48	740	66	349	1855	38
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.4	0.9	0.7	3.1	0.9	9.7	2.0	0.0	0.0	15.1	58.6	1.3
Cycle Q Clear(g_c), s	1.4	0.9	0.7	3.1	0.9	9.7	2.0	0.0	0.0	15.1	58.6	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	148	126	114	148	126	99	1997	893	379	2284	1022
V/C Ratio(X)	0.30	0.08	0.06	0.63	0.08	0.83	0.48	0.37	0.07	0.92	0.81	0.04
Avail Cap(c_a), veh/h	298	161	137	413	224	190	264	1997	893	379	2284	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	0.39	0.39	0.39
Uniform Delay (d), s/veh	70.8	64.0	63.9	71.6	64.0	68.0	69.6	0.0	0.0	66.1	19.8	9.7
Incr Delay (d2), s/veh	1.4	0.2	0.2	5.7	0.2	16.5	3.5	0.5	0.2	13.9	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.5	0.3	1.6	0.5	4.8	1.0	0.1	0.0	7.9	28.8	0.6
LnGrp Delay(d),s/veh	72.2	64.2	64.1	77.3	64.2	84.5	73.1	0.5	0.2	80.0	21.2	9.7
LnGrp LOS	E	E	E	E	E	F	E	A	A	F	C	A
Approach Vol, veh/h		54			188			854			2242	
Approach Delay, s/veh		69.3			80.4			4.6			30.1	
Approach LOS		E			F			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	106.3	12.0	18.9	25.0	94.1	12.0	18.9				
Change Period (Y+Rc), s	8.5	9.5	7.0	7.0	8.5	9.5	7.0	7.0				
Max Green Setting (Gmax), s	11.5	75.5	18.0	13.0	16.5	70.5	13.0	18.0				
Max Q Clear Time (g_c+I1), s	4.0	60.6	5.1	2.9	17.1	2.0	3.4	11.7				
Green Ext Time (p_c), s	0.0	13.1	0.1	0.3	0.0	43.1	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			27.1									
HCM 2010 LOS			C									

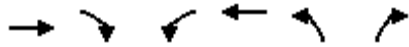
HCM 2010 Signalized Intersection Summary
 3: Medical Center Pkwy & Honeylocust Ln

Clari Park
 2027 Total Traffic - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 			 	 		 	 	
Traffic Volume (veh/h)	16	4	6	28	3	48	42	662	33	59	1527	63
Future Volume (veh/h)	16	4	6	28	3	48	42	662	33	59	1527	63
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	4	4	30	3	32	50	788	36	64	1818	75
Adj No. of Lanes	2	1	1	2	1	1	2	2	1	2	2	1
Peak Hour Factor	0.84	0.92	0.84	0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	72	61	82	60	51	100	2537	1135	107	2543	1138
Arrive On Green	0.03	0.04	0.04	0.02	0.03	0.03	0.03	0.72	0.72	0.06	1.00	1.00
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	19	4	4	30	3	32	50	788	36	64	1818	75
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.8	0.3	0.4	1.3	0.2	3.0	2.1	12.2	1.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.3	0.4	1.3	0.2	3.0	2.1	12.2	1.0	2.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	72	61	82	60	51	100	2537	1135	107	2543	1138
V/C Ratio(X)	0.18	0.06	0.07	0.37	0.05	0.63	0.50	0.31	0.03	0.60	0.71	0.07
Avail Cap(c_a), veh/h	298	161	137	298	161	137	264	2537	1135	264	2543	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	0.57	0.57	0.57
Uniform Delay (d), s/veh	70.9	69.5	69.5	72.1	70.4	71.7	71.7	7.7	6.2	69.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.3	0.4	2.7	0.3	12.3	3.7	0.3	0.1	3.0	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.2	0.6	0.1	1.5	1.1	6.0	0.4	1.3	0.4	0.0
LnGrp Delay(d),s/veh	71.8	69.8	70.0	74.8	70.7	84.0	75.4	8.1	6.2	72.5	1.0	0.1
LnGrp LOS	E	E	E	E	E	F	E	A	A	E	A	A
Approach Vol, veh/h		27			65			874			1957	
Approach Delay, s/veh		71.2			79.2			11.8			3.3	
Approach LOS		E			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	113.8	10.6	12.8	13.2	113.5	11.5	11.8				
Change Period (Y+Rc), s	8.5	6.0	7.0	7.0	8.5	6.0	7.0	7.0				
Max Green Setting (Gmax), s	11.5	84.0	13.0	13.0	11.5	84.0	13.0	13.0				
Max Q Clear Time (g_c+I1), s	4.1	2.0	3.3	2.4	4.7	14.2	2.8	5.0				
Green Ext Time (p_c), s	0.0	47.9	0.0	0.1	0.1	43.7	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			8.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 4: Maplegrove Dr & Medical Center Pkwy

Clari Park
 2027 Total Traffic - AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1540	17	39	731	4	11		
Future Volume (veh/h)	1540	17	39	731	4	11		
Number	2	12	1	6	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1878	21	48	891	5	13		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2790	1248	109	3120	63	29		
Arrive On Green	0.79	0.79	0.06	1.00	0.02	0.02		
Sat Flow, veh/h	3632	1583	3442	3632	3442	1583		
Grp Volume(v), veh/h	1878	21	48	891	5	13		
Grp Sat Flow(s),veh/h/ln	1770	1583	1721	1770	1721	1583		
Q Serve(g_s), s	31.1	0.4	1.7	0.0	0.2	1.1		
Cycle Q Clear(g_c), s	31.1	0.4	1.7	0.0	0.2	1.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2790	1248	109	3120	63	29		
V/C Ratio(X)	0.67	0.02	0.44	0.29	0.08	0.45		
Avail Cap(c_a), veh/h	2790	1248	318	3120	331	152		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	0.68	0.68	0.93	0.93	1.00	1.00		
Uniform Delay (d), s/veh	6.2	2.9	59.8	0.0	62.7	63.2		
Incr Delay (d2), s/veh	0.9	0.0	2.6	0.2	0.5	10.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.2	0.2	0.9	0.1	0.1	0.5		
LnGrp Delay(d),s/veh	7.1	3.0	62.4	0.2	63.3	73.5		
LnGrp LOS	A	A	E	A	E	E		
Approach Vol, veh/h	1899			939	18			
Approach Delay, s/veh	7.1			3.4	70.7			
Approach LOS	A			A	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.1	108.0		9.9		120.1		
Change Period (Y+Rc), s	8.0	5.5		7.5		5.5		
Max Green Setting (Gmax), s	12.0	84.5		12.5		104.5		
Max Q Clear Time (g_c+1), s	13.7	33.1		3.1		2.0		
Green Ext Time (p_c), s	0.0	37.7		0.0		58.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.2					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 5: Robert Rose Dr & Medical Center Pkwy

Clari Park
 2027 Total Traffic - AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1347	168	39	584	77	133	41	37	110	47	60
Future Volume (veh/h)	38	1347	168	39	584	77	133	41	37	110	47	60
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	45	1604	200	46	695	92	158	49	44	131	56	71
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	2	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	470	2203	986	271	2190	980	209	117	100	181	117	99
Arrive On Green	0.06	1.00	1.00	0.03	0.62	0.62	0.06	0.06	0.06	0.05	0.06	0.06
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3442	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	45	1604	200	46	695	92	158	49	44	131	56	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	1.2	0.0	0.0	1.2	12.1	3.1	5.9	3.3	3.5	4.9	3.8	5.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.2	12.1	3.1	5.9	3.3	3.5	4.9	3.8	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	2203	986	271	2190	980	209	117	100	181	117	99
V/C Ratio(X)	0.10	0.73	0.20	0.17	0.32	0.09	0.76	0.42	0.44	0.72	0.48	0.72
Avail Cap(c_a), veh/h	511	2203	986	318	2190	980	225	201	171	199	201	171
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	8.2	11.7	10.0	60.1	58.6	58.7	60.7	58.9	59.8
Incr Delay (d2), s/veh	0.1	1.6	0.3	0.3	0.4	0.2	12.9	2.4	3.0	11.2	3.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.5	0.1	0.6	6.0	1.4	3.2	1.8	1.6	2.6	2.0	2.8
LnGrp Delay(d),s/veh	8.6	1.6	0.3	8.5	12.1	10.2	73.0	61.0	61.7	71.8	61.9	69.0
LnGrp LOS	A	A	A	A	B	B	E	E	E	E	E	E
Approach Vol, veh/h		1849			833			251			258	
Approach Delay, s/veh		1.6			11.7			68.7			68.9	
Approach LOS		A			B			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.6	89.9	14.3	14.2	12.0	89.5	14.4	14.2				
Change Period (Y+Rc), s	7.5	9.0	7.5	6.0	8.0	9.0	6.5	6.0				
Max Green Setting (Gmax), s	7.5	71.0	7.5	14.0	7.0	71.0	8.5	14.0				
Max Q Clear Time (g_c+1), s	7.5	2.0	6.9	5.5	3.2	14.1	7.9	7.7				
Green Ext Time (p_c), s	0.0	37.3	0.0	0.5	0.0	33.7	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay					15.0							
HCM 2010 LOS					B							

Intersection

Int Delay, s/veh 8.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	4	186	30	11	349
Future Vol, veh/h	33	4	186	30	11	349
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	5	221	36	13	415

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	44
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1564
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1564
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	442	1029	-	-	1564	-
HCM Lane V/C Ratio	0.03	0.404	-	-	0.142	-
HCM Control Delay (s)	13.4	10.8	-	-	7.7	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	2	-	-	0.5	-

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	354	8	4	168	15	7	0	3	26	0	38
Future Vol, veh/h	21	354	8	4	168	15	7	0	3	26	0	38
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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	92	92	84	84	92	92	92	84	92	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	421	9	4	200	18	8	0	3	31	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	218	0	0	430	0	0	716	702	426	694	697	209
Stage 1	-	-	-	-	-	-	476	476	-	217	217	-
Stage 2	-	-	-	-	-	-	240	226	-	477	480	-
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	1352	-	-	1129	-	-	345	362	628	357	365	831
Stage 1	-	-	-	-	-	-	570	557	-	785	723	-
Stage 2	-	-	-	-	-	-	763	717	-	569	554	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1352	-	-	1129	-	-	319	352	628	348	355	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	352	-	348	355	-
Stage 1	-	-	-	-	-	-	556	544	-	766	720	-
Stage 2	-	-	-	-	-	-	719	714	-	552	541	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			14.9			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	374	1352	-	-	1129	-	-	531
HCM Lane V/C Ratio	0.029	0.018	-	-	0.004	-	-	0.143
HCM Control Delay (s)	14.9	7.7	0	-	8.2	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

Intersection

Int Delay, s/veh 7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	378	8	137	172	12	316
Future Vol, veh/h	378	8	137	172	12	316
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	9	157	198	14	363

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	443	0	951
Stage 1	-	-	-	-	439
Stage 2	-	-	-	-	512
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1117	-	288
Stage 1	-	-	-	-	650
Stage 2	-	-	-	-	602
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1117	-	242
Mov Cap-2 Maneuver	-	-	-	-	242
Stage 1	-	-	-	-	650
Stage 2	-	-	-	-	507

Approach

	EB	WB	NB
HCM Control Delay, s	0	3.9	18.9
HCM LOS			C

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	242	618	-	-	1117	-
HCM Lane V/C Ratio	0.057	0.588	-	-	0.141	-
HCM Control Delay (s)	20.8	18.8	-	-	8.8	0
HCM Lane LOS	C	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	3.8	-	-	0.5	-

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔			↔	↔
Traffic Vol, veh/h	0	259	68	21	119	7	84	2	41	0	4	0
Future Vol, veh/h	0	259	68	21	119	7	84	2	41	0	4	0
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	291	76	24	134	8	94	2	46	0	4	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	142	0	0	367	0	0	517	519	329	539	553	138
Stage 1	-	-	-	-	-	-	329	329	-	186	186	-
Stage 2	-	-	-	-	-	-	188	190	-	353	367	-
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	1441	-	-	1192	-	-	469	461	712	453	441	910
Stage 1	-	-	-	-	-	-	684	646	-	816	746	-
Stage 2	-	-	-	-	-	-	814	743	-	664	622	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1441	-	-	1192	-	-	458	452	712	415	432	910
Mov Cap-2 Maneuver	-	-	-	-	-	-	458	452	-	415	432	-
Stage 1	-	-	-	-	-	-	684	646	-	816	731	-
Stage 2	-	-	-	-	-	-	793	728	-	619	622	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		1.2		13.4		13.4	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	458	693	1441	-	-	1192	-	-	432
HCM Lane V/C Ratio	0.206	0.07	-	-	-	0.02	-	-	0.01
HCM Control Delay (s)	14.9	10.6	0	-	-	8.1	-	-	13.4
HCM Lane LOS	B	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.2	0	-	-	0.1	-	-	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	4	121	90	4
Future Vol, veh/h	3	3	4	121	90	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	4	132	98	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	240	100	102	0	0
Stage 1	100	-	-	-	-
Stage 2	140	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	748	956	1490	-	-
Stage 1	924	-	-	-	-
Stage 2	887	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	746	956	1490	-	-
Mov Cap-2 Maneuver	752	-	-	-	-
Stage 1	921	-	-	-	-
Stage 2	887	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1490	-	842	-	-
HCM Lane V/C Ratio	0.003	-	0.008	-	-
HCM Control Delay (s)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	3	0	3	20	0	7	4	117	5	1	131	4
Future Vol, veh/h	3	0	3	20	0	7	4	117	5	1	131	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	3	22	0	8	4	127	5	1	142	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	288	286	144	286	286	130	146	0	0	132	0	0
Stage 1	146	146	-	138	138	-	-	-	-	-	-	-
Stage 2	142	140	-	148	148	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	664	623	903	666	623	920	1436	-	-	1453	-	-
Stage 1	857	776	-	865	782	-	-	-	-	-	-	-
Stage 2	861	781	-	855	775	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	657	621	903	662	621	920	1436	-	-	1453	-	-
Mov Cap-2 Maneuver	657	621	-	662	621	-	-	-	-	-	-	-
Stage 1	854	775	-	862	780	-	-	-	-	-	-	-
Stage 2	852	779	-	851	774	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.8		10.3		0.2		0.1	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	761	714	1453	-
HCM Lane V/C Ratio	0.003	-	-	0.009	0.041	0.001	-
HCM Control Delay (s)	7.5	-	-	9.8	10.3	7.5	-
HCM Lane LOS	A	-	-	A	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-

HCM 2010 TWSC
 12: Robert Rose Dr & Clari Park Access #9/Sculling St

Clari Park
 2027 Total Traffic - AM Peak Hour

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	3	0	10	31	0	10	13	112	4	2	147	4
Future Vol, veh/h	3	0	10	31	0	10	13	112	4	2	147	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	11	34	0	11	14	122	4	2	160	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	324	320	162	324	320	124	164	0	0	126	0	0
Stage 1	166	166	-	152	152	-	-	-	-	-	-	-
Stage 2	158	154	-	172	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	629	597	883	629	597	927	1414	-	-	1460	-	-
Stage 1	836	761	-	850	772	-	-	-	-	-	-	-
Stage 2	844	770	-	830	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	616	590	883	616	590	927	1414	-	-	1460	-	-
Mov Cap-2 Maneuver	616	590	-	616	590	-	-	-	-	-	-	-
Stage 1	828	760	-	842	764	-	-	-	-	-	-	-
Stage 2	826	762	-	819	758	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		10.7		0.8		0.1	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	803	671	1460	-
HCM Lane V/C Ratio	0.01	-	-	0.018	0.066	0.001	-
HCM Control Delay (s)	7.6	-	-	9.6	10.7	7.5	-
HCM Lane LOS	A	-	-	A	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	7	353	54	8	182
Future Vol, veh/h	45	7	353	54	8	182
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	8	384	59	9	198

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	630	414	0	0	443
Stage 1	414	-	-	-	-
Stage 2	216	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	446	638	-	-	1117
Stage 1	667	-	-	-	-
Stage 2	820	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	442	638	-	-	1117
Mov Cap-2 Maneuver	531	-	-	-	-
Stage 1	667	-	-	-	-
Stage 2	813	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	531	638	1117
HCM Lane V/C Ratio	-	-	0.092	0.012	0.008
HCM Control Delay (s)	-	-	12.5	10.7	8.2
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0	0

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↗			↖	↗		↕	
Traffic Vol, veh/h	4	242	96	96	98	8	79	0	79	7	0	3
Future Vol, veh/h	4	242	96	96	98	8	79	0	79	7	0	3
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	-	-	None	-	-	None	-	-	None
Storage Length	75	-	0	100	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	263	104	104	107	9	86	0	86	8	0	3

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	116	0	0	367
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	1473	-	-	1192
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1473	-	-	1192
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	3.9	13.6	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	388	776	1473	-	-	1192	-	-	377
HCM Lane V/C Ratio	0.221	0.111	0.003	-	-	0.088	-	-	0.029
HCM Control Delay (s)	16.9	10.2	7.5	-	-	8.3	-	-	14.8
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.4	0	-	-	0.3	-	-	0.1

Intersection												
Int Delay, s/veh	3.7											
<div style="border: 1px solid red; padding: 2px; display: inline-block;"> HCM does not provide for analysis of a partial multi-way stop. The TIS recommendation for this intersection is that the WB approach also be stop-controlled. </div>												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	29	38	29	0	31	0	24	0	0	0	0	24
Future Vol, veh/h	29	38	29	0	31	0	24	0	0	0	0	24
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	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	41	32	0	34	0	26	0	0	0	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	34	0	0	73	0	0	168	155	57	155	171	34
Stage 1	-	-	-	-	-	-	121	121	-	34	34	-
Stage 2	-	-	-	-	-	-	47	34	-	121	137	-
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	1578	-	-	1527	-	-	796	737	1009	812	722	1039
Stage 1	-	-	-	-	-	-	883	796	-	982	867	-
Stage 2	-	-	-	-	-	-	967	867	-	883	783	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1578	-	-	1527	-	-	764	722	1009	800	708	1039
Mov Cap-2 Maneuver	-	-	-	-	-	-	764	722	-	800	708	-
Stage 1	-	-	-	-	-	-	865	780	-	962	867	-
Stage 2	-	-	-	-	-	-	943	867	-	865	767	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0	9.9	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	764	1578	-	-	1527	-	-	1039
HCM Lane V/C Ratio	0.034	0.02	-	-	-	-	-	0.025
HCM Control Delay (s)	9.9	7.3	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	324	4	4	199	3	3
Future Vol, veh/h	324	4	4	199	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	352	4	4	216	3	3

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	356	0	578
Stage 1	-	-	-	-	354
Stage 2	-	-	-	-	224
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1203	-	478
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	813
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1203	-	477
Mov Cap-2 Maneuver	-	-	-	-	561
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	811

Approach

	EB	WB	NB
HCM Control Delay, s	0	0.2	10.9
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	619	-	-	1203	-
HCM Lane V/C Ratio	0.011	-	-	0.004	-
HCM Control Delay (s)	10.9	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 8.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	33	4	186	30	11	349
Future Vol, veh/h	33	4	186	30	11	349
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	5	221	36	13	415

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	44	0	520 42
Stage 1	-	-	-	-	42 -
Stage 2	-	-	-	-	478 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1564	-	516 1029
Stage 1	-	-	-	-	980 -
Stage 2	-	-	-	-	624 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1564	-	443 1029
Mov Cap-2 Maneuver	-	-	-	-	477 -
Stage 1	-	-	-	-	980 -
Stage 2	-	-	-	-	536 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	6.6	10.9
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	1029	-	-	1564	-
HCM Lane V/C Ratio	0.027	0.404	-	-	0.142	-
HCM Control Delay (s)	12.8	10.8	-	-	7.7	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	2	-	-	0.5	-

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	21	354	8	4	168	15	7	0	3	26	0	38
Future Vol, veh/h	21	354	8	4	168	15	7	0	3	26	0	38
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	92	92	84	84	92	92	92	84	92	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	421	9	4	200	18	8	0	3	31	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	218	0	0	430	0	0	716	702	426	694	697	209
Stage 1	-	-	-	-	-	-	476	476	-	217	217	-
Stage 2	-	-	-	-	-	-	240	226	-	477	480	-
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	1352	-	-	1129	-	-	345	362	628	357	365	831
Stage 1	-	-	-	-	-	-	570	557	-	785	723	-
Stage 2	-	-	-	-	-	-	763	717	-	569	554	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1352	-	-	1129	-	-	321	354	628	349	357	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	321	354	-	349	357	-
Stage 1	-	-	-	-	-	-	560	547	-	771	720	-
Stage 2	-	-	-	-	-	-	719	714	-	556	544	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			14.9			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	376	1352	-	-	1129	-	-	532
HCM Lane V/C Ratio	0.029	0.018	-	-	0.004	-	-	0.143
HCM Control Delay (s)	14.9	7.7	-	-	8.2	-	-	12.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

Intersection

Int Delay, s/veh 7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	378	8	137	172	12	316
Future Vol, veh/h	378	8	137	172	12	316
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	9	157	198	14	363

Major/Minor

	Major1	Major2	Minor1
Conflicting Flow All	0	0	443
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1117
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1117
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

























	EB	WB	NB
HCM Control Delay, s	0	3.9	18.7
HCM LOS			C

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	373	618	-	-	1117	-
HCM Lane V/C Ratio	0.037	0.588	-	-	0.141	-
HCM Control Delay (s)	15	18.8	-	-	8.8	-
HCM Lane LOS	C	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	3.8	-	-	0.5	-

























HCM 2010 Signalized Intersection Summary
 1: Medical Center Pkwy & Greshampark Dr

Clari Park
 2027 Total Traffic - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	29	57	94	43	437	95	2055	88	303	1561	106
Future Volume (veh/h)	134	29	57	94	43	437	95	2055	88	303	1561	106
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	144	31	38	101	46	170	102	2210	59	326	1678	71
Adj No. of Lanes	2	1	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	223	189	144	199	169	185	1988	890	257	2148	961
Arrive On Green	0.05	0.12	0.12	0.04	0.11	0.11	0.08	1.00	1.00	0.08	0.61	0.61
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	144	31	38	101	46	170	102	2210	59	326	1678	71
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.2	2.2	3.2	4.3	3.4	16.0	3.7	84.3	0.0	12.5	53.2	2.8
Cycle Q Clear(g_c), s	6.2	2.2	3.2	4.3	3.4	16.0	3.7	84.3	0.0	12.5	53.2	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	223	189	144	199	169	185	1988	890	257	2148	961
V/C Ratio(X)	0.76	0.14	0.20	0.70	0.23	1.01	0.55	1.11	0.07	1.27	0.78	0.07
Avail Cap(c_a), veh/h	229	224	190	184	199	169	253	1988	890	257	2148	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.9	59.1	59.6	70.9	61.4	67.0	23.0	0.0	0.0	37.2	22.0	12.1
Incr Delay (d2), s/veh	10.5	0.3	0.6	6.8	0.7	71.0	0.2	50.9	0.0	146.9	2.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.2	1.5	2.2	1.8	10.3	1.9	14.1	0.0	21.2	26.7	1.2
LnGrp Delay(d),s/veh	80.4	59.5	60.2	77.8	62.1	138.0	23.1	50.9	0.0	184.2	24.9	12.3
LnGrp LOS	F	E	E	E	E	F	C	F	A	F	C	B
Approach Vol, veh/h		213			317			2371			2075	
Approach Delay, s/veh		73.7			107.8			48.5			49.5	
Approach LOS		E			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	99.5	13.3	23.9	20.0	92.8	15.2	22.0				
Change Period (Y+Rc), s	7.5	8.5	7.0	6.0	7.5	8.5	7.0	6.0				
Max Green Setting (Gmax), s	11.5	83.5	8.0	18.0	12.5	82.5	10.0	16.0				
Max Q Clear Time (g_c+I1), s	5.7	55.2	6.3	5.2	14.5	86.3	8.2	18.0				
Green Ext Time (p_c), s	0.1	28.3	0.0	1.1	0.0	0.0	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.8									
HCM 2010 LOS			D									

























HCM 2010 Signalized Intersection Summary
 2: Medical Center Pkwy & Willowoak Tr/Willowoak Trail

Clari Park
 2027 Total Traffic - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	20	102	96	25	299	161	1742	88	255	1227	214
Future Volume (veh/h)	211	20	102	96	25	299	161	1742	88	255	1227	214
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	234	22	70	107	28	206	179	1936	98	283	1363	238
Adj No. of Lanes	2	1	1	2	1	1	2	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	240	204	153	224	190	224	1899	850	264	1940	868
Arrive On Green	0.05	0.13	0.13	0.04	0.12	0.12	0.07	0.54	0.54	0.15	1.00	1.00
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	234	22	70	107	28	206	179	1936	98	283	1363	238
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	8.0	1.6	6.0	4.6	2.0	18.0	7.7	80.5	4.6	11.5	0.0	0.0
Cycle Q Clear(g_c), s	8.0	1.6	6.0	4.6	2.0	18.0	7.7	80.5	4.6	11.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	240	204	153	224	190	224	1899	850	264	1940	868
V/C Ratio(X)	1.27	0.09	0.34	0.70	0.13	1.08	0.80	1.02	0.12	1.07	0.70	0.27
Avail Cap(c_a), veh/h	184	240	204	298	224	190	264	1899	850	264	1940	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.43	0.43	0.52	0.52	0.52
Uniform Delay (d), s/veh	71.0	57.6	59.5	70.7	59.0	66.0	69.1	34.8	17.2	63.5	0.0	0.0
Incr Delay (d2), s/veh	159.0	0.2	1.0	5.7	0.2	89.5	6.4	18.7	0.1	60.9	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.8	2.7	2.3	1.0	12.6	3.9	44.0	2.0	7.7	0.3	0.1
LnGrp Delay(d),s/veh	230.0	57.7	60.5	76.4	59.2	155.5	75.5	53.5	17.3	124.4	1.1	0.4
LnGrp LOS	F	E	E	E	E	F	E	F	B	F	A	A
Approach Vol, veh/h		326			341			2213			1884	
Approach Delay, s/veh		182.0			122.8			53.7			19.6	
Approach LOS		F			F			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.3	91.7	13.7	26.3	20.0	90.0	15.0	25.0				
Change Period (Y+Rc), s	8.5	9.5	7.0	7.0	8.5	9.5	7.0	7.0				
Max Green Setting (Gmax), s	11.5	80.5	13.0	13.0	11.5	80.5	8.0	18.0				
Max Q Clear Time (g_c+I1), s	9.7	2.0	6.6	8.0	13.5	82.5	10.0	20.0				
Green Ext Time (p_c), s	0.1	65.1	0.1	0.5	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.9									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
 3: Medical Center Pkwy & Honeylocust Ln

Clari Park
 2027 Total Traffic - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	6	183	43	5	75	226	1791	46	81	1239	106
Future Volume (veh/h)	145	6	183	43	5	75	226	1791	46	81	1239	106
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	159	7	201	47	5	82	248	1968	51	89	1362	116
Adj No. of Lanes	2	1	1	2	1	1	2	2	1	2	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	250	212	98	205	174	297	2165	969	131	1995	892
Arrive On Green	0.05	0.13	0.13	0.03	0.11	0.11	0.09	0.61	0.61	0.04	0.56	0.56
Sat Flow, veh/h	3442	1863	1583	3442	1863	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	159	7	201	47	5	82	248	1968	51	89	1362	116
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	7.0	0.5	19.1	2.0	0.4	7.4	10.8	73.9	2.0	3.9	41.5	5.2
Cycle Q Clear(g_c), s	7.0	0.5	19.1	2.0	0.4	7.4	10.8	73.9	2.0	3.9	41.5	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	250	213	98	205	174	297	2165	969	131	1995	892
V/C Ratio(X)	0.88	0.03	0.95	0.48	0.02	0.47	0.84	0.91	0.05	0.68	0.68	0.13
Avail Cap(c_a), veh/h	181	250	213	113	221	187	389	2165	969	192	1995	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.66	0.66	0.66	0.73	0.73	0.73
Uniform Delay (d), s/veh	71.5	57.2	65.3	72.7	60.4	63.5	68.4	25.8	11.8	72.2	23.5	15.6
Incr Delay (d2), s/veh	35.2	0.0	46.5	3.6	0.0	2.0	7.9	4.9	0.1	4.5	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.3	11.1	1.0	0.2	3.3	5.5	37.3	0.9	1.9	20.6	2.4
LnGrp Delay(d),s/veh	106.7	57.2	111.8	76.4	60.4	65.5	76.3	30.7	11.9	76.6	24.9	15.8
LnGrp LOS	F	E	F	E	E	E	E	C	B	E	C	B
Approach Vol, veh/h		367			134			2267			1567	
Approach Delay, s/veh		108.5			69.1			35.2			27.2	
Approach LOS		F			E			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.6	91.7	11.3	27.4	14.3	99.0	15.0	23.7				
Change Period (Y+Rc), s	8.5	6.0	7.0	7.0	8.5	6.0	7.0	7.0				
Max Green Setting (Gmax), s	17.2	80.8	5.0	20.4	8.5	89.5	8.0	18.0				
Max Q Clear Time (g_c+I1), s	12.8	43.5	4.0	21.1	5.9	75.9	9.0	9.4				
Green Ext Time (p_c), s	0.3	33.7	0.0	0.0	0.0	13.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
 4: Maplegrove Dr & Medical Center Pkwy

Clari Park
 2027 Total Traffic - PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1452	21	98	2006	39	139		
Future Volume (veh/h)	1452	21	98	2006	39	139		
Number	2	12	1	6	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1545	22	104	2134	41	148		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2515	1125	149	2857	365	168		
Arrive On Green	0.71	0.71	0.01	0.27	0.11	0.11		
Sat Flow, veh/h	3632	1583	3442	3632	3442	1583		
Grp Volume(v), veh/h	1545	22	104	2134	41	148		
Grp Sat Flow(s),veh/h/ln	1770	1583	1721	1770	1721	1583		
Q Serve(g_s), s	33.6	0.6	4.5	82.8	1.6	13.8		
Cycle Q Clear(g_c), s	33.6	0.6	4.5	82.8	1.6	13.8		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2515	1125	149	2857	365	168		
V/C Ratio(X)	0.61	0.02	0.70	0.75	0.11	0.88		
Avail Cap(c_a), veh/h	2515	1125	206	2857	402	185		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	0.74	0.74	0.33	0.33	1.00	1.00		
Uniform Delay (d), s/veh	11.1	6.4	73.0	41.0	60.7	66.1		
Incr Delay (d2), s/veh	0.8	0.0	2.0	0.6	0.1	33.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.6	0.3	2.2	41.0	0.8	7.6		
LnGrp Delay(d),s/veh	12.0	6.4	75.0	41.6	60.8	99.7		
LnGrp LOS	B	A	E	D	E	F		
Approach Vol, veh/h	1567			2238	189			
Approach Delay, s/veh	11.9			43.1	91.2			
Approach LOS	B			D	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	44.5	112.1		23.4		126.6		
Change Period (Y+Rc), s	8.0	5.5		7.5		5.5		
Max Green Setting (Gmax), s	90.0	102.5		17.5		119.5		
Max Q Clear Time (g_c+10), s	10.5	35.6		15.8		84.8		
Green Ext Time (p_c), s	0.1	59.8		0.1		32.6		
Intersection Summary								
HCM 2010 Ctrl Delay			33.2					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

5: Robert Rose Dr & Medical Center Pkwy

Clari Park
2027 Total Traffic - PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	1162	320	80	1669	174	402	76	23	173	75	46
Future Volume (veh/h)	133	1162	320	80	1669	174	402	76	23	173	75	46
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	141	1236	340	85	1776	185	428	81	24	184	80	49
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	2064	924	289	1998	894	472	217	184	232	99	84
Arrive On Green	0.10	1.00	1.00	0.03	0.56	0.56	0.14	0.12	0.12	0.07	0.05	0.05
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3442	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	141	1236	340	85	1776	185	428	81	24	184	80	49
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	5.2	0.0	0.0	3.0	65.8	8.6	18.4	6.0	2.0	7.9	6.4	4.5
Cycle Q Clear(g_c), s	5.2	0.0	0.0	3.0	65.8	8.6	18.4	6.0	2.0	7.9	6.4	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	2064	924	289	1998	894	472	217	184	232	99	84
V/C Ratio(X)	0.87	0.60	0.37	0.29	0.89	0.21	0.91	0.37	0.13	0.79	0.81	0.58
Avail Cap(c_a), veh/h	171	2064	924	315	1998	894	493	217	184	330	99	84
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	0.0	12.8	28.5	16.1	63.8	61.2	59.4	68.9	70.2	69.4
Incr Delay (d2), s/veh	28.6	1.0	0.9	0.6	6.4	0.5	19.8	1.1	0.3	8.3	36.7	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.3	0.2	1.5	33.8	3.9	10.0	3.2	0.9	4.0	4.3	2.2
LnGrp Delay(d),s/veh	61.0	1.0	0.9	13.3	34.9	16.6	83.6	62.3	59.8	77.2	106.9	78.9
LnGrp LOS	E	A	A	B	C	B	F	E	E	E	F	E
Approach Vol, veh/h		1717			2046			533			313	
Approach Delay, s/veh		5.9			32.4			79.3			85.1	
Approach LOS		A			C			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	96.5	17.6	23.5	15.2	93.7	27.1	14.0				
Change Period (Y+Rc), s	7.5	9.0	7.5	6.0	8.0	9.0	6.5	6.0				
Max Green Setting (Gmax), s	84.4	14.4	14.1	8.0	83.0	21.5	8.0					
Max Q Clear Time (g_c+1), s	2.0	9.9	8.0	7.2	67.8	20.4	8.4					
Green Ext Time (p_c), s	0.0	63.5	0.2	0.5	0.0	14.4	0.2	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					31.5							
HCM 2010 LOS					C							

Intersection

Int Delay, s/veh 8

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	36	15	451	39	12	213
Future Vol, veh/h	36	15	451	39	12	213
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	16	475	41	13	224

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	54	0	1037	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	991	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1551	-	256	1023
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1551	-	176	1023
Mov Cap-2 Maneuver	-	-	-	-	176	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	247	-

Approach EB WB NB

HCM Control Delay, s	0	7.7	10.4
HCM LOS			B

Minor Lane/Major Mvmt NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	176	1023	-	-	1551	-
HCM Lane V/C Ratio	0.072	0.219	-	-	0.306	-
HCM Control Delay (s)	27	9.5	-	-	8.3	0
HCM Lane LOS	D	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.8	-	-	1.3	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	61	174	12	6	436	31	11	0	5	28	0	44
Future Vol, veh/h	61	174	12	6	436	31	11	0	5	28	0	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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	185	13	6	464	33	12	0	5	30	0	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	497	0	0	198	0	0	838	831	192	817	821	481
Stage 1	-	-	-	-	-	-	322	322	-	493	493	-
Stage 2	-	-	-	-	-	-	516	509	-	324	328	-
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	1067	-	-	1375	-	-	286	305	850	295	309	585
Stage 1	-	-	-	-	-	-	690	651	-	558	547	-
Stage 2	-	-	-	-	-	-	542	538	-	688	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1067	-	-	1375	-	-	248	282	850	276	286	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	282	-	276	286	-
Stage 1	-	-	-	-	-	-	642	606	-	519	544	-
Stage 2	-	-	-	-	-	-	496	535	-	637	602	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.1			0.1			17			15.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	1067	-	-	1375	-	-	408
HCM Lane V/C Ratio	0.054	0.061	-	-	0.005	-	-	0.188
HCM Control Delay (s)	17	8.6	0	-	7.6	0	-	15.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.7

Intersection

Int Delay, s/veh 4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	178	29	312	459	8	206
Future Vol, veh/h	178	29	312	459	8	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	31	328	483	8	217

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	218
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1352
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1352
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	112	838	-	-	1352	-
HCM Lane V/C Ratio	0.075	0.259	-	-	0.243	-
HCM Control Delay (s)	39.7	10.8	-	-	8.5	0
HCM Lane LOS	E	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	1	-	-	1	-

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷			↕	
Traffic Vol, veh/h	0	174	124	61	266	2	109	1	37	9	5	0
Future Vol, veh/h	0	174	124	61	266	2	109	1	37	9	5	0
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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	215	153	75	328	2	135	1	46	11	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	330	0	0	368	0	0	774	772	292	794	847	329
Stage 1	-	-	-	-	-	-	292	292	-	479	479	-
Stage 2	-	-	-	-	-	-	482	480	-	315	368	-
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	1229	-	-	1191	-	-	316	330	747	306	299	712
Stage 1	-	-	-	-	-	-	716	671	-	568	555	-
Stage 2	-	-	-	-	-	-	565	554	-	696	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1229	-	-	1191	-	-	296	309	747	273	280	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	296	309	-	273	280	-
Stage 1	-	-	-	-	-	-	716	671	-	568	520	-
Stage 2	-	-	-	-	-	-	523	519	-	652	621	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			22.6			19		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	296	720	1229	-	-	1191	-	-	275
HCM Lane V/C Ratio	0.455	0.065	-	-	-	0.063	-	-	0.063
HCM Control Delay (s)	26.9	10.3	0	-	-	8.2	-	-	19
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.2	0.2	0	-	-	0.2	-	-	0.2

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	6	139	182	6
Future Vol, veh/h	5	5	6	139	182	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	7	151	198	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	367	202	205	0	-	0
Stage 1	202	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	633	839	1366	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	630	839	1366	-	-	-
Mov Cap-2 Maneuver	673	-	-	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1366	-	747	-	-
HCM Lane V/C Ratio	0.005	-	0.015	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	5	14	0	1	6	196	22	5	177	6
Future Vol, veh/h	5	0	5	14	0	1	6	196	22	5	177	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	15	0	1	7	213	24	5	192	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	446	457	196	447	448	225	199	0	0	237	0	0
Stage 1	206	206	-	239	239	-	-	-	-	-	-	-
Stage 2	240	251	-	208	209	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	523	500	845	522	506	814	1373	-	-	1330	-	-
Stage 1	796	731	-	764	708	-	-	-	-	-	-	-
Stage 2	763	699	-	794	729	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	519	496	845	515	501	814	1373	-	-	1330	-	-
Mov Cap-2 Maneuver	519	496	-	515	501	-	-	-	-	-	-	-
Stage 1	792	728	-	760	704	-	-	-	-	-	-	-
Stage 2	758	696	-	786	726	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	12	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1373	-	-	643	528	1330	-
HCM Lane V/C Ratio	0.005	-	-	0.017	0.031	0.004	-
HCM Control Delay (s)	7.6	-	-	10.7	12	7.7	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	16	22	0	0	17	218	34	7	183	6
Future Vol, veh/h	5	0	16	22	0	0	17	218	34	7	183	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	17	24	0	0	18	237	37	8	199	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	511	529	203	519	514	256	206	0	0	274	0	0
Stage 1	219	219	-	292	292	-	-	-	-	-	-	-
Stage 2	292	310	-	227	222	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	473	455	838	467	464	783	1365	-	-	1289	-	-
Stage 1	783	722	-	716	671	-	-	-	-	-	-	-
Stage 2	716	659	-	776	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	466	446	838	451	455	783	1365	-	-	1289	-	-
Mov Cap-2 Maneuver	466	446	-	451	455	-	-	-	-	-	-	-
Stage 1	773	718	-	707	662	-	-	-	-	-	-	-
Stage 2	707	650	-	755	716	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		13.4		0.5		0.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1365	-	-	704	451	1289	-
HCM Lane V/C Ratio	0.014	-	-	0.032	0.053	0.006	-
HCM Control Delay (s)	7.7	-	-	10.3	13.4	7.8	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	11	215	75	12	455
Future Vol, veh/h	70	11	215	75	12	455
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	12	234	82	13	495

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	796	275	0	0	316
Stage 1	275	-	-	-	-
Stage 2	521	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	356	764	-	-	1244
Stage 1	771	-	-	-	-
Stage 2	596	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	352	764	-	-	1244
Mov Cap-2 Maneuver	460	-	-	-	-
Stage 1	771	-	-	-	-
Stage 2	590	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	460	764	1244
HCM Lane V/C Ratio	-	-	0.165	0.016	0.01
HCM Control Delay (s)	-	-	14.4	9.8	7.9
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	0

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	6	164	133	133	230	12	124	0	124	11	0	5
Future Vol, veh/h	6	164	133	133	230	12	124	0	124	11	0	5
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	-	-	None	-	-	None	-	-	None
Storage Length	75	-	0	100	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	178	145	145	250	13	135	0	135	12	0	5

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	263	0	0	323	0	0	741	745	178	879	884	257
Stage 1	-	-	-	-	-	-	192	192	-	547	547	-
Stage 2	-	-	-	-	-	-	549	553	-	332	337	-
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	1301	-	-	1237	-	-	332	342	865	268	284	782
Stage 1	-	-	-	-	-	-	810	742	-	521	517	-
Stage 2	-	-	-	-	-	-	520	514	-	681	641	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1301	-	-	1237	-	-	299	301	865	205	250	782
Mov Cap-2 Maneuver	-	-	-	-	-	-	299	301	-	205	250	-
Stage 1	-	-	-	-	-	-	806	738	-	518	457	-
Stage 2	-	-	-	-	-	-	456	454	-	572	638	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	2.9	18.3	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	865	1301	-	-	1237	-	-	266
HCM Lane V/C Ratio	0.451	0.156	0.005	-	-	0.117	-	-	0.065
HCM Control Delay (s)	26.6	9.9	7.8	-	-	8.3	-	-	19.5
HCM Lane LOS	D	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.2	0.6	0	-	-	0.4	-	-	0.2

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	40	52	40	0	48	0	38	0	0	0	0	38
Future Vol, veh/h	40	52	40	0	48	0	38	0	0	0	0	38
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	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	57	43	0	52	0	41	0	0	0	0	41

HCM does not provide for analysis of a partial multi-way stop. The TIS recommendation for this intersection is that the WB approach also be stop-controlled.

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	52	0	0	100	0	0	238	217	79	217	238	52
Stage 1	-	-	-	-	-	-	165	165	-	52	52	-
Stage 2	-	-	-	-	-	-	73	52	-	165	186	-
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	1554	-	-	1493	-	-	716	681	981	739	663	1016
Stage 1	-	-	-	-	-	-	837	762	-	961	852	-
Stage 2	-	-	-	-	-	-	937	852	-	837	746	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1554	-	-	1493	-	-	672	662	981	723	644	1016
Mov Cap-2 Maneuver	-	-	-	-	-	-	672	662	-	723	644	-
Stage 1	-	-	-	-	-	-	814	741	-	934	852	-
Stage 2	-	-	-	-	-	-	899	852	-	814	725	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0	10.7	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	672	1554	-	-	1493	-	-	1016
HCM Lane V/C Ratio	0.061	0.028	-	-	-	-	-	0.041
HCM Control Delay (s)	10.7	7.4	-	-	0	-	-	8.7
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	292	6	6	369	5	5
Future Vol, veh/h	292	6	6	369	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	317	7	7	401	5	5

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	324	0	736
Stage 1	-	-	-	-	321
Stage 2	-	-	-	-	415
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1236	-	386
Stage 1	-	-	-	-	735
Stage 2	-	-	-	-	666
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1236	-	384
Mov Cap-2 Maneuver	-	-	-	-	492
Stage 1	-	-	-	-	735
Stage 2	-	-	-	-	662

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	585	-	-	1236	-
HCM Lane V/C Ratio	0.019	-	-	0.005	-
HCM Control Delay (s)	11.3	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	7.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	15	451	39	12	213
Future Vol, veh/h	36	15	451	39	12	213
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	16	475	41	13	224

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	54	0	1037
Stage 1	-	-	-	-	46
Stage 2	-	-	-	-	991
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1551	-	256
Stage 1	-	-	-	-	976
Stage 2	-	-	-	-	359
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1551	-	178
Mov Cap-2 Maneuver	-	-	-	-	222
Stage 1	-	-	-	-	976
Stage 2	-	-	-	-	249

Approach	EB	WB	NB
HCM Control Delay, s	0	7.7	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	222	1023	-	-	1551	-
HCM Lane V/C Ratio	0.057	0.219	-	-	0.306	-
HCM Control Delay (s)	22.2	9.5	-	-	8.3	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.8	-	-	1.3	-

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	61	174	12	6	436	31	11	0	5	28	0	44
Future Vol, veh/h	61	174	12	6	436	31	11	0	5	28	0	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	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	185	13	6	464	33	12	0	5	30	0	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	497	0	0	198	0	0	838	831	192	817	821	481
Stage 1	-	-	-	-	-	-	322	322	-	493	493	-
Stage 2	-	-	-	-	-	-	516	509	-	324	328	-
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	1067	-	-	1375	-	-	286	305	850	295	309	585
Stage 1	-	-	-	-	-	-	690	651	-	558	547	-
Stage 2	-	-	-	-	-	-	542	538	-	688	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1067	-	-	1375	-	-	250	285	850	278	289	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	285	-	278	289	-
Stage 1	-	-	-	-	-	-	648	611	-	524	545	-
Stage 2	-	-	-	-	-	-	496	536	-	642	608	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.1			0.1			16.8			15.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	1067	-	-	1375	-	-	409
HCM Lane V/C Ratio	0.053	0.061	-	-	0.005	-	-	0.187
HCM Control Delay (s)	16.8	8.6	-	-	7.6	-	-	15.8
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.7

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	178	29	312	459	8	206
Future Vol, veh/h	178	29	312	459	8	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	31	328	483	8	217

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	218	0	1342 203
Stage 1	-	-	-	-	203 -
Stage 2	-	-	-	-	1139 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1352	-	168 838
Stage 1	-	-	-	-	831 -
Stage 2	-	-	-	-	305 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1352	-	127 838
Mov Cap-2 Maneuver	-	-	-	-	199 -
Stage 1	-	-	-	-	831 -
Stage 2	-	-	-	-	231 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	199	838	-	-	1352	-
HCM Lane V/C Ratio	0.042	0.259	-	-	0.243	-
HCM Control Delay (s)	23.9	10.8	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	1	-	-	1	-

**MURFREESBORO PLANNING COMMISSION
STAFF COMMENTS, PAGE 1
MAY 5, 2021
PROJECT PLANNER: MATTHEW BLOMELEY**

- 3.c. Street renaming [2021-902] to rename an approximately two-mile long segment of Mercury Boulevard (west of South Rutherford Boulevard) to Dr Martin Luther King Jr Boulevard, City of Murfreesboro Planning Department applicant.**

Section 5.2 of the Subdivision Regulations states that “The Planning Commission shall have final authority over street names.” At its March 10, 2021 meeting, the City Council directed the Planning Staff to bring to the Planning Commission for its consideration the renaming of an approximately two-mile long segment of Mercury Boulevard from Southeast Broad Street to South Rutherford Boulevard. This segment is proposed to be renamed to “Dr Martin Luther King Jr Boulevard.” A detailed report regarding this proposed street renaming is attached to these staff comments for the Planning Commission’s review.

Action Needed:

The Planning Commission will need to conduct a public hearing, after which it should discuss this matter and then take action on the request.

**MURFREESBORO PLANNING COMMISSION
STAFF COMMENTS, PAGE 1
MAY 5, 2021
PROJECT PLANNER: MATTHEW BLOMELEY**

- 3.d. Street renaming [2021-903] to rename an approximately 600'-long segment of Mercury Boulevard (east of South Rutherford Boulevard) to John Bragg Highway, City of Murfreesboro Planning Department applicant.**

Section 5.2 of the Subdivision Regulations states that “The Planning Commission shall have final authority over street names.” At its March 10, 2021 meeting, the City Council directed the Planning Staff to bring to the Planning Commission for its consideration the renaming of an approximately 600'-long segment of Mercury Boulevard east of South Rutherford Boulevard. This segment is proposed to be renamed to “John Bragg Highway.” A detailed report regarding this proposed street renaming is attached to these staff comments for the Planning Commission’s review.

Action Needed:

The Planning Commission will need to conduct a public hearing, after which it should discuss this matter and then take action on the request.

Report on Potential Renaming of Mercury Boulevard **to Dr Martin Luther King Jr Boulevard**

April 2021

City of Murfreesboro Planning Department

Impetus for Report

During its regular meeting on February 4, 2021, Council directed Staff to study the potential renaming of Mercury Boulevard to Dr Martin Luther King Jr Boulevard. This report has been drafted to provide Council additional background on the street renaming process, the history of Mercury Boulevard, and the impacts of a potential renaming. At its March 10, 2021 workshop, Council directed Staff to bring the renaming request to the Planning Commission for its consideration.

Street Naming Authority

Section 5.2 of the City's Subdivision Regulations states that "The Planning Commission shall have final authority over street names." Having consistent and logical protocols for street naming and property addressing aids in predictability for the general public as well as for service providers, including emergency service providers. However, the Subdivision Regulations offers little additional guidance regarding street naming, except that proposed street names may not duplicate existing subdivision names or street names and that extensions of existing streets shall continue the same street name. In an effort to fill in the gaps, Staff, in consultation with various emergency service providers, attempts to provide professional guidance to the Planning Commission in carrying out its street naming authority.

In an effort to clarify when renaming a street is appropriate, the Planning Commission adopted the following policy in January 2019: *"It shall be the policy of the City of Murfreesboro Planning Commission to rename existing streets only when a legitimate public interest is served and only when it promotes the public health, safety, and welfare of the community as a whole (e.g., in conjunction with a road construction project or to eliminate confusion for emergency service providers). The Planning Commission shall not endorse street renaming requests that do not meet this standard."* This policy was adopted to provide guidance for the Planning Commission in determining when to consider renaming streets.

Before the Planning Commission votes on whether to rename a street, it conducts a public hearing, so that all affected and interested parties have an opportunity to express their opinion on the renaming. To Staff's knowledge, there is no legal requirement to hold a public hearing for a street renaming. However, this has been

the City's customary practice for at least several decades.

Additional Background on Mercury Boulevard

Mercury Boulevard's western terminus is located at its intersection with Southeast Broad Street (US HWY 41/SR 2). The Mercury Boulevard street name extends approximately 600 linear feet beyond its intersection with South Rutherford Boulevard. At that point, its street name changes to John Bragg Highway. Mercury Boulevard is also identified as US HWY 70s and SR 1. Existing land uses along Mercury Boulevard include an assortment of single-family residential, multi-family residential, commercial, and institutional.

Mercury Boulevard was constructed in phases. The first phase was the segment from Southeast Broad Street eastward to what is now known as Lasseter Drive. It was constructed in the early-mid 1950s. In the 1956 City Directory edition (BEK Directories, Inc), three addressed properties, including Bradley Academy, are noted on Mercury Boulevard. The earliest subdivision plat located by Staff adjacent to this roadway calling out the street name as "Mercury Boulevard" was in 1955. A 1945 plat of the lots near the intersection of Mercury and Carver Avenue shows a "Washington Street" in the vicinity of where the current Mercury Boulevard right-of-way is located. Staff is not certain of the reason the highway was named Mercury Boulevard when it was constructed. However, there are other streets located south of Mercury Boulevard with names related to Roman and Greek mythology, including Mars, Diana, Minerva, Atlas, Venus, Olympia, and Apollo. Most of these streets were constructed around the same time as Phase 1 of Mercury Boulevard, so naming the highway "Mercury" Boulevard was consistent with the street naming theme of that area.

Proposed Renaming

Upon reviewing the request by Council, Staff reviewed the existing street naming and address numbering conditions. Staff has always been concerned about the confusion created by the 600' segment of highway named Mercury Boulevard east of South Rutherford Boulevard. Having a roadway transition to a different street name at a major intersection is almost always preferable to a transition at a much less conspicuous location. South Rutherford Boulevard is likely where most people already think that the street name changes to John Bragg Highway. This renaming project, if it moves forward, will allow Staff to rectify this existing, confusing situation, creating a more recognizable location where the street name changes to John Bragg Highway. Numerically, most of the addresses are in range. However, there are approximately ten address numbers west of South Rutherford Boulevard that Staff believes need to change. In addition, all of the address numbers east of Rutherford will need to be adjusted. Changing the numerical addresses can be accomplished simultaneously with the street name changes.

The total number of address changes associated with this street name change will be approximately 403, including approximately 39 commercial and government addresses and approximately 364 residential addresses (including both single-family residential homes and dwelling units in multi-family residential developments). An

overall map, as well as maps showing individual segments of the proposed renaming, can be found in Appendix A.

Impact to Property Owners and Tenants

It is unavoidable that there will be confusion caused by any street name change. Street name changes take time for everyone to get accustomed to, especially for a street like Mercury Boulevard, which has been known by its current name for over 60 years. It is predictable that some people will continue to call a street by its old name even after its name has officially been changed. In addition, some entities may commit data entry errors or omissions during the course of updating the affected addresses. These are known risks associated with any street name or address change. However, with the proper steps taken by the City and by the impacted property owners and tenants, these issues can be minimized during and after the transition.

When streets are renamed, there are certain tasks that must be accomplished in order to implement the name change. City Staff determines an effective date for the name change that will provide sufficient time for service providers and property owners/tenants to implement the change. Staff will then notify various service providers of the name change and the effective date, including emergency service providers, utilities, the USPS, and applicable City Departments, to name a few. On a side note, various private entities, including various websites and GPS providers, separately obtain updated street and address information from non-City entities. Some of these websites and GPS providers may have a lag time in updating their data. This is outside of the City's ability to control.

Property owners and tenants will be responsible for notifying entities that they do business with, such as personal creditors (e.g., credit card companies and banks), subscriptions to magazines, customers, and family members and friends. Also, for any addresses where the number is also changing, the address numbers on the mailbox and on the building will need to be changed. The numbers on the structures will need to meet MFRD requirements. In addition, the State of Tennessee Department of Safety requires any affected residents to change their address in the State driver's license records, which can be done online. Finally, property owners may need to amend the deeds to their property, so that there are no address-related inconsistencies, potentially causing issues with future sales of their property.

Impact to Service Providers

All service providers will need adequate time to implement the proposed street name change and the associated address changes. Staff contacted the City Transportation Department, MPD, MFRD, and the Rutherford County Emergency Communications District (RCECD) for additional information on the impact of the renaming. (Copies of the correspondence from these entities can be found in Appendix B.) According to the Transportation Department, the estimated cost of fabricating and installing new street name signs for the length of this roadway is approximately \$10,000.

MPD and MFRD have not indicated that this street name change will be a hindrance in continuing to provide its current level of services. In addition, both departments

are in favor of seizing the opportunity change the street name to John Bragg Highway at the roadway's intersection with South Rutherford Boulevard. Correspondence from RCECD indicates that the Martin Luther King Jr Boulevard street name is not in conflict with any existing street names within Rutherford County and is available for use. The "Mercury" street name is duplicated elsewhere in Rutherford County, as there is a Mercury Drive in LaVergne. It appears that Mercury Drive in LaVergne has been in use as a street name since at least the 1950s. While it is generally not recommended practice to duplicate street names, in this instance the address ranges for the two streets are not coincident and RCECD has indicated that it is not aware of any incidents where the existing duplication of the Mercury street name has caused issue in determining a correct service address in a time of emergency. Further, it is unlikely that Mercury Boulevard and Mercury Drive address ranges will overlap as it is unlikely that either street will be extended in the future into coincident address ranges.

RCECD reached out to the State of Tennessee's GIS vendor regarding the use of "Dr" in the proposed street name. ("Dr" is also the abbreviation for the suffix "Drive.") The GIS vendor indicated that the use of "Dr" should work as long as it is input correctly during times of emergency. However, if it is used incorrectly, then it could create discrepancies in matching addresses in the system during times of emergency. Additional information on how street names and addresses are changed for emergency service providers can be found in the attached letter and e-mail from RCECD in Appendix B.

Consistency with Subdivision Regulations and Planning Commission Street Renaming Policy

As previously stated, the Subdivision Regulations states that proposed street names may not duplicate existing street names. Both the Mercury Boulevard and Mercury Drive street names appear to have originated in the 1950s, long before the adoption of the current Subdivision Regulations. Although the existing street name duplication appears to pose little risk in the provision of emergency services, eliminating the duplication will help eliminate future risks of these two streets being confused with one another. In addition, City Staff is of the opinion that creating the street name break at South Rutherford Boulevard complies with the adopted 2019 street naming policy promoting public health, safety and welfare, as it is beneficial for the community and for emergency service providers and it will help to reduce confusion regarding where the John Bragg Highway street name begins. The name change location for John Bragg Highway at South Rutherford Boulevard is consistent with recent Planning Commission initiatives (e.g., South Church Street/Shelbyville Pike, Memorial Boulevard/Lebanon Pike) to align major street name change locations to facilitate NextGen E-911 services and timely emergency response.

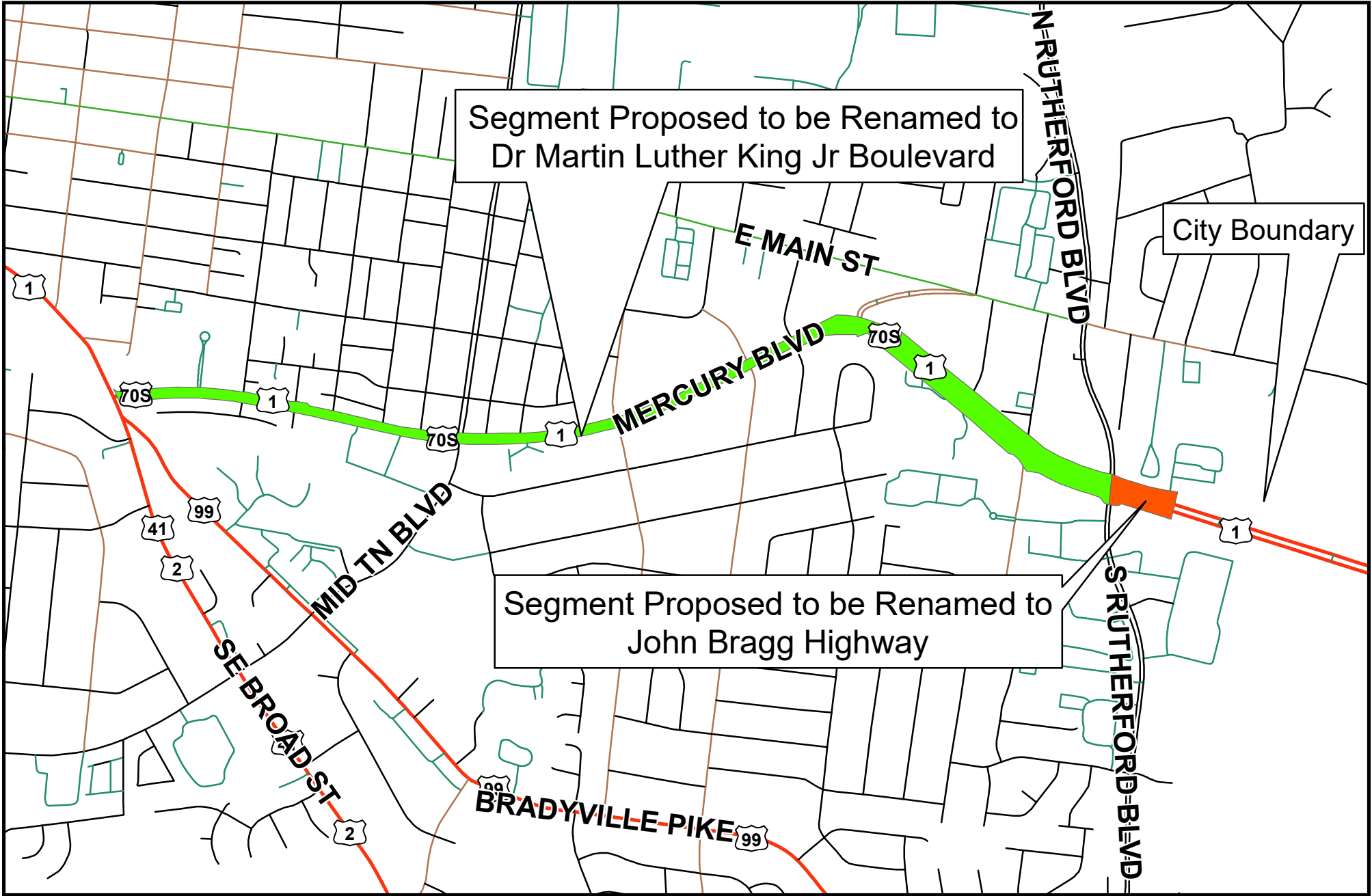
Beyond the items noted above, however, is the reason this proposed street name change was brought up in February -- which is to honor the substantial contributions made by Dr. Martin Luther King, Jr. in the advancement of civil rights in our nation and, as a result, in our community as well. In addition, it is intentional that Mercury Boulevard was chosen to be studied for this renaming, as it is located in an area of significant cultural and historical importance. Renaming a major street after Dr. Martin Luther King, Jr. embraces the diversity of our community and honors the

legacy of Dr. King. The street renaming policy states that renamings must “serve a legitimate public interest” and “promote the public health, safety, and welfare of the community as a whole.” Staff believes that this renaming achieves these goals.

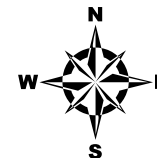
Next Steps

The Planning Commission should conduct public hearings on these matters, after which it should discuss them and then take action. The public hearings have been noticed via the City website, the Murfreesboro Post, signs along Mercury Boulevard, and notices mailed directly to affected property owners, commercial tenants, and residential tenants. If approved by the Planning Commission, Staff will determine an effective date and begin implementing the street name change and associated address changes.

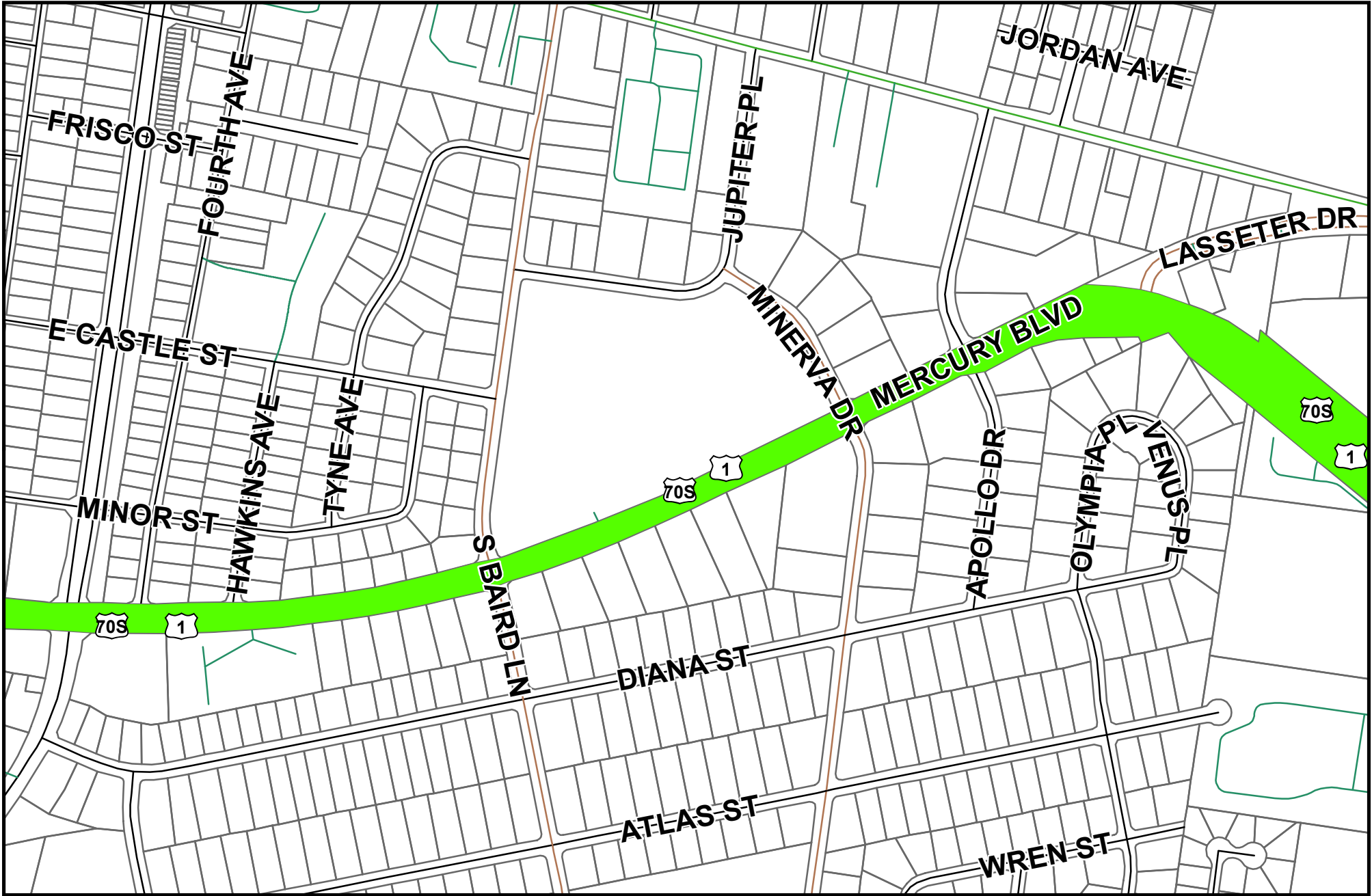
Appendix A
Maps of Mercury Boulevard



Mercury Boulevard Proposed to be Renamed
Dr Martin Luther King Jr Boulevard and John Bragg Highway



Planning Department
City of Murfreesboro
11 W Vine St
Murfreesboro, TN 37130
www.murfreesborotn.gov

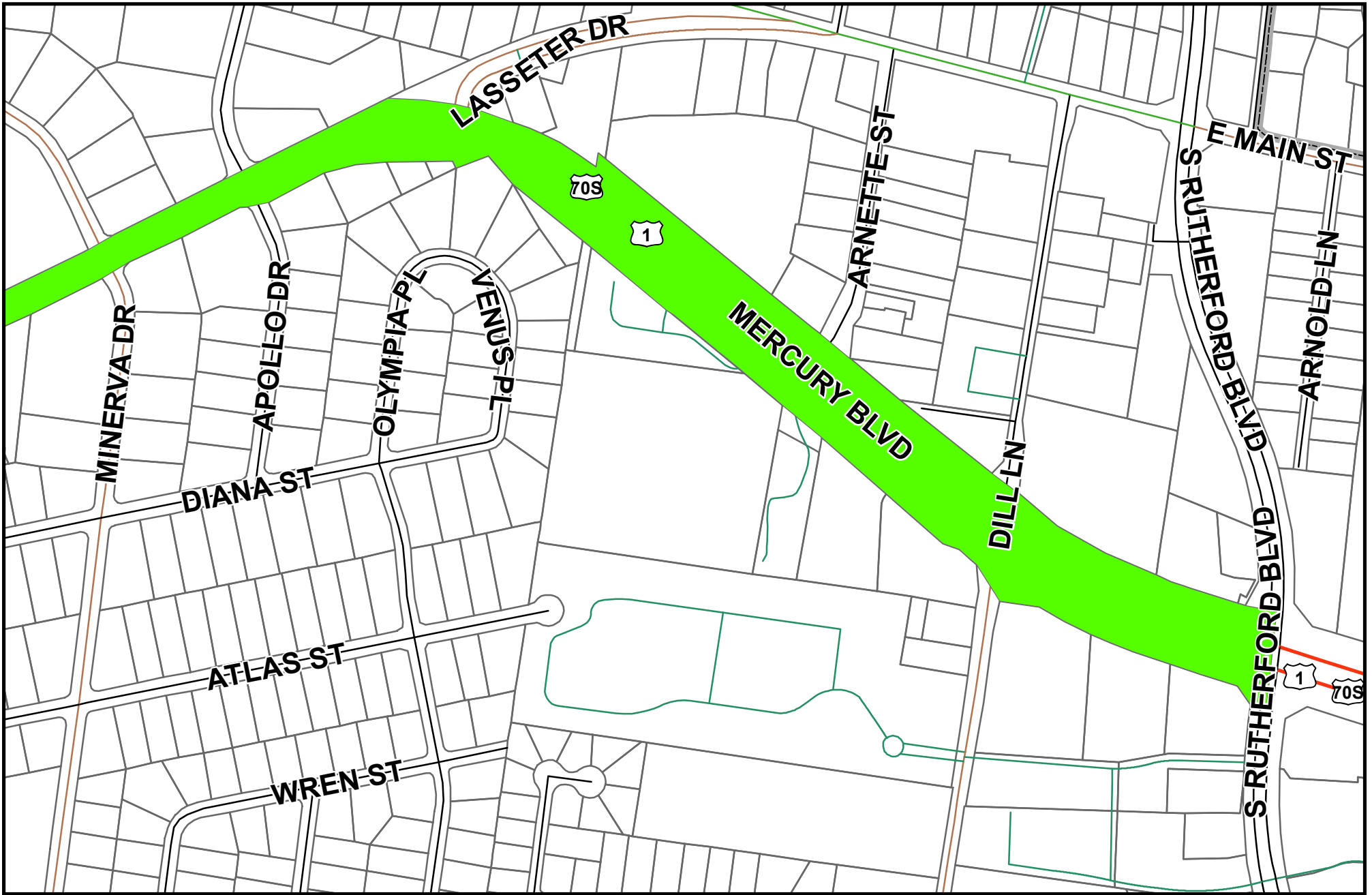


Segment of Mercury Boulevard Proposed to be Renamed
Dr Martin Luther King Jr Boulevard

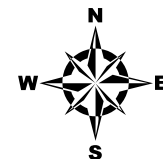


Planning Department
City of Murfreesboro
11 W Vine St
Murfreesboro, TN 37130
www.murfreesborotn.gov



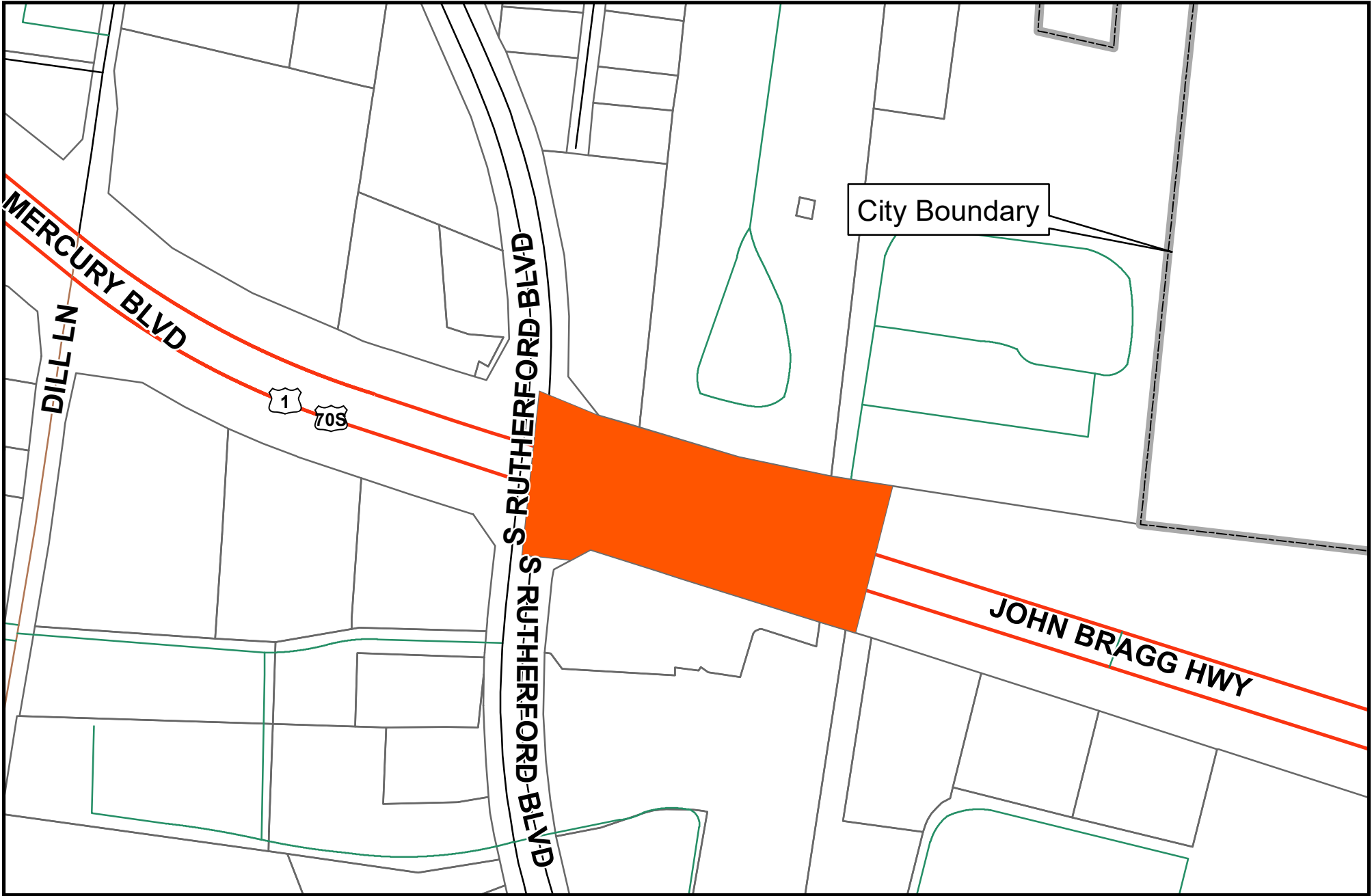


Segment of Mercury Boulevard Proposed to be Renamed
Dr Martin Luther King Jr Boulevard



Planning Department
City of Murfreesboro
11 W Vine St
Murfreesboro, TN 37130
www.murfreesborotn.gov





Segment of Mercury Boulevard Proposed to be Renamed
John Bragg Highway



Planning Department
City of Murfreesboro
11 W Vine St
Murfreesboro, TN 37130
www.murfreesborotn.gov



Appendix B
Responses from Service Providers

From: [Jim Kerr](#)
To: [Matthew Blomeley](#); [Ram Balachandran](#)
Cc: [Sam Huddleston](#); [Greg McKnight](#); [Matt Fasig](#)
Subject: RE: Potential Mercury Boulevard renaming
Date: Wednesday, March 3, 2021 10:00:25 AM

Matthew,

Knowing this was coming, we have already pulled together an estimated cost for ground and overhead street name sign replacements. Not sure the exact name MLK Blvd. or Martin Luther King Jr. Blvd. we estimate the fabrication and installation at about \$10,000. This includes contracting S&W for the overhead signs at the signalized intersection locations. Let us know if you need further information.

Thanks

Jim Kerr

Transportation Director
City of Murfreesboro
P.O. Box 1139
Murfreesboro, TN 37133-1139
Office: (615) 893-6441
Fax: (615) 849-2606
Email: jkerr@murfreesborotn.gov

From: [Carl Peas](#)
To: [Matthew Blomeley](#)
Subject: RE: Mercury Boulevard renaming
Date: Wednesday, March 3, 2021 1:41:55 PM

Matthew,

After consulting with The Community Risk Reduction Staff and the responders from Station #3 (Mercury Blvd.). We agree that changing the name of Mercury Blvd. to Martin Luther King Blvd. would not cause any disruption in the services that we provide. As you pointed out in our phone conversation earlier, we all like the idea of having Martin Luther King Blvd. having a hard stop at Rutherford Blvd. then picking up the name John Bragg Hwy. This would help eliminate any confusion to the current Mercury Blvd. that proceeds past Rutherford Blvd. If you have any questions, please feel free to contact me. Thanks.

Carl Peas
Assistant Chief/Fire Marshal
Murfreesboro Fire Rescue Department
1311 Jones Blvd.
Murfreesboro TN. 37130
Office: 615-893-1422
Mobile: 615-642-3224
cpeas@murfreesborotn.gov

From: [Clayton Williams](#)
To: [Matthew Blomeley](#); [Carl Peas](#)
Cc: [Sam Huddleston](#); [Greg McKnight](#)
Subject: RE: Mercury Boulevard renaming
Date: Wednesday, March 3, 2021 2:20:53 PM

Mr. Blomeley,

The Police Department has no issue with changing the roadway name and we agree that using Rutherford Blvd as the transition point for MLK/John Bragg is fine. However, we will need some time and a heads up before the official change takes place to address some back end issues.

These issues include updating our Records Management System and Computer Aided Dispatch to marry the new address names and numbers to the current ones in order to properly maintain historical call history of any affected properties. We will also need to update the information with any business or residence with an alarm permit to maintain accurate records and billing.

Does that make sense?



Clayton Williams

Lieutenant

Administration

Murfreesboro Police Department

1004 North Highland Avenue

Murfreesboro, TN 37130

Phone: 629-201-5572

Cell: 615-971-6370

email: 0417@murfreesborotn.gov



RUTHERFORD COUNTY
EMERGENCY COMMUNICATIONS DISTRICT
591 FORTRESS BOULEVARD • MURFREESBORO, TN 37128-4129
TELEPHONE (615) 890-7550

March 4, 2021

Matthew Blomeley
Murfreesboro Planning Dept.
111 West Vine Street
Murfreesboro, TN 37130

Dear Matthew,

Per the City of Murfreesboro Planning Department's request, the Rutherford County Emergency Communications District completed research to determine the various factors that should be taken into consideration when deliberating whether to rename Mercury Boulevard. The key factors are as follows:

1. Proposed Road Name Variations –

MLK, Martin Luther King, Martin Luther King Jr – none of the proposed spelling variations are in conflict with other road names either currently in use within Rutherford County or listed as a reserved street name on the Rutherford County ECD Reserved Street Name List. Furthermore, the Rutherford County ECD office is not aware of any issues with existing abbreviated road names such as *MTSU Boulevard* or *MTCS Road*.

2. Road Name Duplication -

The road name *Mercury* is currently duplicated in Rutherford County. *Mercury Boulevard* is located within the Murfreesboro city limits and *Mercury Drive* is located within the La Vergne city limits.

Mercury Dr	100-299	LaVergne	262 ESN
Mercury Blvd	500-2399	Murfreesboro	261 ESN

3. Previously known issues regarding the current road name –

The Rutherford County ECD office is not aware of any prior issues in determining the location of a caller requesting emergency services on either Mercury Boulevard or Mercury Drive.

BOARD OF DIRECTORS

KEVIN ARNOLD, CHAIRMAN • MIKE FITZHUGH, VICE-CHAIRMAN • MIKE WALKER, SECRETARY • JOHN HOOD, TREASURER
MICHAEL BOWEN • DAVID BRENISER • CHRIS CLARK • MARK FOULKS • BILL KETRON

STEVE SMITH • DIRECTOR

JOHN W. RODGERS • LEGAL COUNSEL

4. Process involved in changing a road name in the Master Street Address Guide (MSAG) -

Various contractual and software changes with both AT&T and Intrado during the last few years have changed the number of guaranteed changes and how the number of requested changes is calculated. When working on a project, Intrado is currently contracted, by AT&T, to guarantee 30 changes per day.

If an MSAG entry for a road is broken up into multiple segments, each segment/translates to an additional MSAG entry. Each segment/MSAG entry that is submitted for a change will count individually. Roads that transition between two or more jurisdictions or roads that include a large gap in address ranges are broken up in the appropriate number of MSAG entries to reflect the transition. Many of the main roads transition from one jurisdiction to another, multiple times, as one jurisdiction annexes portions of land on either side of the road.

If a road name change includes combining two or more of the individual segments/MSAG entries, the act of combining the segments will decrease the number of changes requested.

In the past, each customer record that required a change, based upon a road name change, counted as an additional change. This however has changed to our favor in some cases. The current policy now states that if the customer address numeric is not changed in addition to the road name, the customer record change will not count as a separate change. However, if the address numeric is changed, each customer record submitted for an address numeric change will increase the number of requested changes, which will add to the count of changes requested for the separate MSAG entry/entries for the road.

If any approved road name and/or address changes result in 31 or more changes to the Master Street Address Guide database, the approved changes can be completed in segments, with different effective dates.

As always, the Rutherford County ECD office is available to answer any additional questions or address any concerns regarding the information provided today.

Respectfully,

Cassie Lowery, ENP
Assistant Director

From: [Cassie Lowery](#)
To: [Matthew Blomeley](#)
Cc: [Steve Smith](#); [Sam Huddleston](#)
Subject: RE: [EXTERNAL]- Fwd: Street Name Question
Date: Thursday, April 15, 2021 10:35:05 AM
Attachments: [image001.png](#)

Matthew,

I believe spelling out Doctor rather than using an abbreviation would work but you should keep in mind that someone, down the road, may end up changing or referring to it “unofficially” with the abbreviation. We could also run into an issue if anyone searching for the street name, via electronic means, did so by using the common abbreviation. I know this seems like a lot of “but” and “if” scenarios for a simple street name request but I feel compelled to point the possibilities out so that everyone can make an informed decision.

Thank You,
Cassie



From: Matthew Blomeley <mblomeley@murfreesborotn.gov>
Sent: Thursday, April 15, 2021 10:08 AM
To: Cassie Lowery <clowery@rcecd911.org>
Cc: Steve Smith <ssmith@rcecd911.org>; Sam Huddleston <shuddleston@murfreesborotn.gov>
Subject: RE: [EXTERNAL]- Fwd: Street Name Question

Good morning, Cassie.

Based on TrueNorth’s e-mail below, it seems that it would work but there is an increased chance for human or computer error with the “Dr” at the beginning of the streetname. If the “Dr” was changed to “Doctor”, would that address these concerns?

Thanks,

Matthew

Matthew T. Blomeley, AICP
Assistant Planning Director

City of Murfreesboro Planning Department
Office Phone: (615)-893-6441 Ext. 1605
E-mail: mblomeley@murfreesborotn.gov
Website: www.murfreesborotn.gov

From: Cassie Lowery <clowery@rcecd911.org>
Sent: Friday, March 5, 2021 11:57 PM
To: Matthew Blomeley <mblomeley@murfreesborotn.gov>
Cc: Steve Smith <ssmith@rcecd911.org>
Subject: [EXTERNAL]- Fwd: Street Name Question

Matthew,

Per my previous email, I reached out to the GIS vendor that is contracted by the State of Tennessee to consume and integrate local GIS data into a single, consolidated and standardized statewide dataset for NG911 call routing. Please refer to the email included below for TrueNorth Geographic Technologies' response to your inquiry.

Thank You,
Cassie Lowery

Sent from my iPhone

Begin forwarded message:

From: James Wood <jwood@tngeo.com>
Date: March 5, 2021 at 7:15:16 PM CST
To: Cassie Lowery <clowery@rcecd911.org>
Cc: David Speight <dspeight@tngeo.com>
Subject: RE: Street Name Question

As long as it's parsed correctly, it should be OK, but I prefer to stay away from things that could potentially create complications for processes outside of human control. For instance if I look at "DR LOWERY DR", I can probably tell what is "Doctor" and what is "Drive", but with geocoding engines expecting prefix street types ("AVE A" is a good example), then there could potentially be some confusion as to how to parse, and therefore how to correctly match, a particular address. You don't want that happening in the PSAP or for other public safety applications relying on non-human interaction.

From: Cassie Lowery <clowery@rcecd911.org>
Sent: Friday, March 5, 2021 11:49
To: James Wood <jwood@tngeo.com>; David Speight <dspeight@tngeo.com>
Subject: Street Name Question

I have another street name question and did attempt to locate an answer in the GIS Standards for NG911 document but was unable to do so. What is your opinion on the use of an abbreviation for doctor (Dr) as part of a street name?

Thank You,
Cassie



CONFIDENTIALITY NOTICE: Do not forward without the express written permission of the above named author of this message. The information and/or attachments in this e-mail message is confidential and intended only for the use of its intended recipient. If you, the reader of this message, are not the intended recipient, you are hereby notified that you should not further disseminate, distribute, or forward this e-mail message. If you have received this e-mail in error, please notify the sender and destroy the message.

CONFIDENTIALITY NOTICE: Do not forward without the express written permission of the above named author of this message. The information and/or attachments in this e-mail message is confidential and intended only for the use of its intended recipient. If you, the reader of this message, are not the intended recipient, you are hereby notified that you should not further disseminate, distribute, or forward this e-mail message. If you have received this e-mail in error, please notify the sender and destroy the message.

CONFIDENTIALITY NOTICE: Do not forward without the express written permission of the above named author of this message. The information and/or attachments in this e-mail message is confidential and intended only for the use of its intended recipient. If you, the reader of this message, are not the intended recipient, you are hereby notified that you should not further disseminate, distribute, or forward this e-mail message. If you have received this e-mail in error, please notify the sender and destroy the message.

**MURFREESBORO PLANNING COMMISSION
STAFF COMMENTS, PAGE 1
MAY 5, 2021
PROJECT PLANNER: MATTHEW BLOMELEY**

- 3.e. Proposed amendments to the Zoning Ordinance [2020-807] regarding townhouses, the RS-A zone, and other miscellaneous topics and pertaining to the following sections:
- Section 2: Interpretation and Definitions;
 - Section 19: Residential Districts;
 - Section 26: Off-Street Parking, Queuing, and Loading;
 - Chart 1: Uses Permitted by Zoning District (including Chart 1 Endnotes);
 - Chart 2: Minimum Lot Requirements, Minimum Yard Requirements, and Land Use Intensity Ratios (including Chart 2 Endnotes); and
 - Chart 4: Required Off-Street Parking and Queuing Spaces by Use.

City of Murfreesboro Planning Department applicant.

In 2017, an amendment to the Zoning Ordinance was adopted creating the RS-6 and RS-A zones. The RS-A zone includes the following three types: Type 1 (Zero-Lot Line), Type 2 (Suburban Townhouse), and Type 3 (Urban Townhouse). Before the adoption of this ordinance amendment, the Zoning Ordinance included very little detail on single-family attached uses, except for zero-lot line attached and detached dwellings. Staff believes that the adoption of the 2017 ordinance amendment has proven to be effective in providing additional opportunities and a more defined regulatory framework for single-family attached residential uses, including townhomes. However, in administering the regulations over the course of the last several years, Staff has noticed areas that it believes need improvement. In this request, Staff brings to the Planning Commission for its consideration proposed amendments to the Zoning Ordinance pertaining to the RS-A zone and, generally, to single-family residential and townhouse uses. It is Staff's goal in proposing these amendments to provide clarification on certain issues for City Staff and decision makers as well as the public and the development community. See below for additional detail.

Definitions (Section 2):

The current definition of "townhouse dwelling" in the Zoning Ordinance can be read to apply to both the "multi-family dwelling" definition and the "single-family attached dwelling" definitions. This has led to confusion about how to classify townhouse uses. This amendment seeks to include language that, for zoning purposes, townhouses are a type of single-family attached dwelling and not multi-family. This

would seem to be consistent with the 2017 creation of the RS-A zoning district -- which stands for “Residential Single-Family Attached” -- for uses such as townhomes.

Chart 1 (Uses Permitted) and Chart 1 Endnotes:

When the RS-A zone was adopted, Chart 1 was not revised to differentiate between single-family attached zero-lot line residential uses and single-family attached townhouse uses. While both are types of single-family attached residential uses, they are distinct, and in Staff’s opinion, warrant separate entries in Chart 1 in order to clarify where they are permitted. In addition, Staff proposes to clarify which types of residential uses are permitted in each of the three RS-A zones. In order to achieve this, endnotes are proposed to be added to create more certainty. Endnotes are included in the proposed amendment that specify that zero-lot line dwellings are only permitted in Type 1, “suburban” style townhouses are only permitted in Type 2, and “urban” style townhouses are only permitted in Type 3. This is intended to create more predictability and continuity in how property in the various RS-A zones can be developed. Clarification has also been included that single-family detached dwellings (not of the zero-lot line variety) shall be permitted in all three types of RS-A zoning.

Chart 2 (Bulk Regulations) and Chart 2 Endnotes:

In the 2017 ordinance amendment, when the RS-6 zone was created, exterior material requirements were included for this district. The ordinance specifies several different types of exterior materials with limited combustibility that must be used as the primary exterior material on each building façade. However, there are other zoning districts with similar minimum lot sizes and side setbacks that do not currently have this requirement. Some of these other districts actually have smaller minimum lot size requirements than the RS-6 zone. With that mind, in order to be consistent, Staff proposes identical exterior material requirements for certain other zones that allow single-family uses and that have similar lot sizes and setbacks. Language is also proposed to specify that the reason for the exterior material requirements is to minimize the extent of fire damage on adjacent structures. Additional language is proposed to be added to give the Planning Director authority to review requests for alternative combinations of building materials after a review of their combustibility with the Building and Codes Director.

In addition, the RS-6 zone requires a minimum front garage setback of 35’ in order to allow for driveways of adequate length to accommodate four (4) vehicles; however, the balance of the structure is allowed a reduced minimum front setback of 25’. There are a number of zoning districts -- RS-8, for example -- that currently have a 30’ minimum front building setback. This does not allow for driveways of adequate depth to accommodate four (4) vehicles. The 30’ front setback creates a situation where vehicles block the public sidewalk due to a lack

of adequate driveway depth. Staff proposes to modify the front setback requirements of those zoning districts, so that they mirror those of the RS-6 zone.

Modifications are also proposed to the Chart 2 endnotes which contain the standards for the RS-A zones.

Miscellaneous:

In addition to the aforementioned revisions, Staff also proposes some other miscellaneous revisions to ensure that the language in the Zoning Ordinance is consistent throughout.

Action Needed:

A draft of the proposed ordinance amendment is included in the agenda packet for the Planning Commission's review. The Planning Commission will need to conduct a public hearing, after which it will need to discuss and then formulate a recommendation to City Council.

ORDINANCE 21-O-XX amending Murfreesboro City Code Appendix A— Zoning, Sections 2, 19, 26, Chart 1, Chart 1 Endnotes, Chart 2, Chart 2 Endnotes, and Chart 4, City of Murfreesboro Planning Staff, applicant. [2020-807]

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MURFREESBORO, TENNESSEE, AS FOLLOWS:

SECTION 1. Appendix A, Section 2, Interpretation and Definitions, of the Murfreesboro City Code is hereby amended by deleting the definitions for “Dwelling, Townhouse” and “Dwelling, Zero-Lost Line” and replacing with the following definitions:

“Dwelling, Townhouse: A row of three or more adjoining dwelling units, each of which is separated from the others by one or more unpierced common walls extending from the ground to the roof and have at least two exterior walls. For the purposes of this article, “Dwelling, Townhouse” shall be a type of Single-Family Attached Dwelling and not a type of Multiple-Family Dwelling.

Dwelling, Zero-Lot Line: A dwelling located on a lot in such a manner that one or more sides rests directly on a lot line. For the purposes of this article, “Dwelling, Zero-Lot Line” shall either be a type of Single-Family Attached Dwelling or Single-Family Detached Dwelling.”

SECTION 2. Appendix A, Section 19, Residential Districts, of the Murfreesboro City Code is hereby amended by deleting the section titled “RS-A, SINGLE-FAMILY ATTACHED” and replacing with the following:

“RS-A, SINGLE-FAMILY ATTACHED

This district is intended to permit the development and maintenance of residential areas characterized by three specific development types:

Type 1: Zero-lot line. Type 1 includes two-unit structures with lots of at least three thousand square feet of lot area per dwelling unit.

Type 2: Suburban Townhouse. Type 2 includes single-family attached developments characterized by multi-unit townhouse structures with lots of least two thousand square feet per dwelling unit. Because Type 2 developments require broad building setbacks and dedicated open space, these developments are appropriate for suburban areas.

Type 3: Urban Townhouse. Type 3 includes single-family attached developments characterized by multi-unit townhouse structures with lots of at least two thousand square feet per dwelling unit. Because Type 3 developments have shallow setback requirements and do not necessitate dedicated open space, these developments are appropriate in urban areas, particularly as infill redevelopment.

Other uses such as single-family detached dwellings, schools, churches, and specified services associated with or compatible with the residential uses allowed in this district are also permitted, some of which are subject to site plan review and approval or the issuance of a special use permit therefore. The uses permitted in this district, the special permit uses that may be allowed in this district, and the uses for which administrative site plan

review and approval are required are listed in Chart 1 and its endnotes, unless otherwise regulated in this article. The minimum lot and yard requirements, maximum height, maximum gross dwelling unit density and the land use intensity ratios which govern any use in this district are listed on Chart 2 and its endnotes, unless otherwise regulated in this article. From and after the effective date of this amendment, all references in the Zoning Ordinance and Zoning Map to “RZ” shall be deemed to refer to “RS-A Type 1”.”

SECTION 3. Appendix A, Section 26, Off-Street Parking, Queuing, and Loading, of the Murfreesboro City Code is hereby amended by deleting the last sentence of Section 26(C)(2)(d). (Ed. Note: The sentence deleted is as follows: *Parking spaces within garages for multifamily residential structures that are also classified as single-family attached residential structures (e.g., townhomes) shall be regulated by Section 26(C)(1) (a)[5] of this article.*)

SECTION 4. Appendix A, Chart 1, Uses Permitted by Zoning District, of the Murfreesboro City Code is hereby by deleting it in its entirety and substituting in lieu thereof the attached Chart 1.

SECTION 5. Appendix A, Chart 1 Endnotes, Uses Permitted by Zoning District, of the Murfreesboro City Code is hereby amended as follows:

- Delete Chart 1 Endnote 2 and replace it with “Reserved.”
- Add Chart 1 Endnotes 23-28 as follows:
 23. Single-Family attached or detached, zero-lot line developments shall be subject to the use and development regulations listed in Section 33 of this article.
 24. The RS-A, Type 1 zone shall not permit single-family attached structures consisting of more than two dwelling units. While single-family attached or detached zero-lot line structures (max. 2 units attached) shall be permitted in the RS-A, Type 1 zone, they shall not be permitted in the RS-A, Type 2 or Type 3 zones.
 25. Suburban Type townhouses shall be permitted in the RS-A, Type 2 zone but not in the RS-A, Type 1 or Type 3 zones. Suburban Type townhouses may be on one lot of record as a horizontal property regime or on zero-lot line individual lots of record.
 26. Urban Type townhouses shall be permitted in the RS-A, Type 3 zone but not in the RS-A, Type 1 or Type 2 zones. Urban Type townhouses may be on one lot of record as a horizontal property regime or on zero-lot line individual lots of record.
 27. Single-family detached dwellings shall be permitted by right in all RS-A zones.
 28. In the RS-A, Type 2 and RS-A, Type 3 districts, single-family attached townhouse dwellings may be located one lot of record as part of a horizontal property regime or on individual lots of record. In all other districts where townhouses are permitted (with the exception of duly-approved PUD or PRD zones specifically allowing townhouses on individual lots of record), they shall be located on one lot of record as part of a horizontal property regime.

SECTION 6. Appendix A, Chart 2, Minimum Lot Requirements, Minimum Yard Requirements and Land Use Intensity Ratios, of the Murfreesboro City Code is hereby amended by deleting it in its entirety and substituting in lieu thereof the attached Chart 2.

SECTION 7. Appendix A, Chart 2 Endnotes, Minimum Lot Requirements, Minimum Yard Requirements and Land Use Intensity Ratios, of the Murfreesboro City Code is hereby amended as follows:

- Delete Chart 2 Endnote 10 and replace it with “Reserved.”
- In both Chart 2 Endnotes 26 and 27, add “and single-family residential attached townhouse developments” after “multi-family residential developments.”
- Delete in their entirety Chart 2 Endnotes 28-36 and substitute in lieu thereof Chart 2 Endnotes 28-38 as follows:

28. In all RS-A districts as well as the RS-4, RS-6, RS-8, RD, RM-12, RM-16, and CL districts, in order to minimize the extent of fire damage on adjacent structures, the facades of single-family detached dwellings shall consist primarily of one or more of the following materials: brick, stone, or cementitious siding. Other building materials such as EIFS, vinyl siding, and wood siding may be used for decorative or accent purposes and may constitute no more than 25 percent of any façade. Alternative combinations of exterior materials may be permitted only with the approval of the Planning Director, in consultation with the Building and Codes Director, after a review of the combustibility of the materials.

29. In the RS-4, RS-6, RS-8, RD, CM-R, CM-RS-8, OG-R, and CL districts, a garage attached to a single-family detached dwelling shall have a minimum front setback of 35 feet. The remaining portion of the structure shall have a minimum front setback of 25 feet. The driveway of an attached or detached garage for a single-family detached dwelling in the above districts shall have sufficient width and depth to accommodate four vehicles. A single-family detached dwelling unit in the above zoning districts that has no garage shall have a minimum front setback of 35 feet.

30. In the RM-12, RM-16, CU, CM-R, and RS-A, Type 2 and Type 3 districts, in order to minimize the extent of fire damage on adjacent structures, the facades of townhouse units shall consist primarily of one or more of the following materials: brick, stone, or cementitious siding. Other building materials such as EIFS, vinyl siding, and wood siding may be used for decorative or accent purposes and may constitute no more than 25 percent of any façade. Alternative combinations of exterior materials may be permitted only with the approval of the Planning Director, in consultation with the Building and Codes Director, after a review of the combustibility of the materials.

31. In the RD, RM-12, RM-16, CM-R, OG-R, CL, and RS-A, Type 1 districts, in order to minimize the extent of fire damage on adjacent structures, the facades of single-family attached and detached zero-lot line structures (max. 2 units attached) shall consist primarily of one or more of the following materials: brick, stone, or cementitious siding. Other building materials such as EIFS, vinyl siding, and wood siding may be used for decorative or accent purposes and may constitute no more than 25 percent of any façade. Alternative combinations of exterior materials may be permitted only with the approval of the Planning Director, in consultation

with the Building and Codes Director, after a review of the combustibility of the materials.

32. In the RS-A district, a row of Type 2 (Suburban Townhouse) or Type 3 (Urban Townhouse) townhouses shall consist of a minimum of three townhouse units and no more than eight townhouse units or 240 feet of building length, whichever is less.
33. In the RS-A district, Type 2 (Suburban Townhouse), developments shall set aside a minimum of twenty percent of the gross development area as open space. A minimum of five percent of the gross development area shall be designated as formal open space and shall be maintained in perpetuity by the developer and/or Homeowners Association (HOA). A formal open space shall consist of a minimum of 5,000 square feet and may include hardscape improvements, street furnishings, recreational facilities, and amenity structures (i.e. gazebos, arbors, band shells, etc.). The above requirements shall apply to single-family residential attached developments in the RS-A, Type 2 zone but not to single-family residential detached developments. Single-family residential detached developments in the RS-A, Type 2 zone shall be subject to any applicable open space requirements in the Design Guidelines.
34. The following standards shall apply to developments in the RS-A district for Type 3 (Urban Townhouse) developments: (a) When the front setback is less than 30 feet, townhouses shall have a minimum finished floor elevation of eighteen inches above the finished grade located adjacent to the front of the structure. Usable porches/stoops, landscaping, and non-opaque decorative fencing may be used to distinguish between public and private space. (b) Buildings shall be no less than two stories and the maximum building height shall be 45 feet or three stories, whichever is less. However, projections for rooftop patios, such as stairwells and the like, as well as other common rooftop projections such as chimneys, may be allowed up to a maximum height of 55' for three-story buildings. (c) In areas where sidewalk width is equal to or greater than eight feet, and where on-street parking is available in front of the proposed development, townhouses may be constructed to the rear edge of the sidewalk. (d) Off-street parking shall be located to the rear or side of the building and shall be accessed via alleyway or shared driveway. Individual driveways off of a public street shall not be allowed. Front-facing garages or carports shall not be allowed.
35. An application for RS-A zoning shall clearly indicate the development type sought (i.e. Type 1 Zero-Lot Line, Type 2 Suburban Townhouse, or Type 3 Urban Townhouse). If multiple development types are sought for a property, the application shall include a description of the property designated for each development type.
36. Minimum lot area and minimum lot width shall apply to townhouses recorded on individual lots of record. For a townhouse development recorded as a horizontal property regime, the minimum lot area and width requirements shall not apply.
37. Single-family detached dwellings and zero-lot line single-family attached and detached dwellings in the RM-12, RM-16, and RS-A (Type 1, Type 2, and Type 3) zones shall have a minimum front setback of 35'. However, in the event that the requirements in Section 26 of this article are met in order to allow garages to count toward the minimum parking requirements, the minimum front setback may be reduced to 25', as long as the minimum number of parking spaces for each lot are being provided on-site. The reduction to 25' may not be made for individual lots on a "case-by-case basis"; rather, a developer shall request the reduction for an

entire subdivision or for an entire section of a subdivision, so that the structures in the development will be constructed in a uniform manner.

38. If there is any conflict between Section 24, Article VI (City Core Overlay District) and the front setback requirements denoted in Chart 1 and its endnotes, Section 24, Article VI (City Core Overlay District) shall prevail.

SECTION 8. Appendix A, Chart 4, Required Off-Street Parking and Queuing Spaces by Use, of the Murfreesboro City Code is hereby amended as follows:

- Change the first entry under “Dwellings” to read “Single-family detached dwellings; single-family detached or attached dwellings, zero-lot line; and two-family dwellings”
- Change the fourth entry under “Dwellings” to read “Single-family attached townhouse dwellings, Urban or Suburban.”

SECTION 9. That this Ordinance shall take effect fifteen (15) days after its passage upon second and final reading, the public welfare and the welfare of the City requiring it.

Passed:

1st reading _____

2nd reading _____

Shane McFarland, Mayor

ATTEST:

APPROVED AS TO FORM:

Melissa B. Wright
City Recorder

Adam F. Tucker
City Attorney

SEAL

USES PERMITTED ³	ZONING DISTRICTS																											
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P		
DWELLINGS																												
Single-Family detached	X	X	X	X	X	X	X	X	X	X ²⁷		X		X									X	X		X		
Single-Family attached or detached, zero-lot line (max. 2 units attached) ²³							X	X	X	X ²⁴		X		X										X		X		
Single-Family attached, townhouse ^{25, 26, 28}								X	X	X														X		X		
Two-Family							X	X	X			X		X										X		X		
Three-Family								X	X			X		X										X		X		
Four-Family								X	X			X		X										X		X		
Multiple-Family								X ²¹	X ²¹									X ²¹	X ²¹							X		
OTHER HOUSING																												
Accessory Apartment	S ⁸	S ⁸	S ⁸	S ⁸	S ⁸	S ⁸				S ⁸																		
Accessory Dwelling Unit											X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X ¹	X ¹	X ¹	X ¹							
Assisted-Care Living Facility ¹⁵							S	X	X	X		X		X	X	X	X	X					X	X	X	S		
Bed-and-Breakfast Homestay	S	S	S	S	S		S	S	X	S		S		X	X	X		X					S	S	S	X		
Bed-and-Breakfast Inn	S	S	S	S	S		S	S	S	S		S		S	X	X		X					S	S	S	S		
Boarding House ¹⁵							S	S	X	X		S		X	X	X		X						S	S	X		
Emergency Shelter	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Extended Stay Hotel/Motel																X	X											
Family Crisis Shelter											S		S	S	S	S				S	S	S		S				
Family Violence Shelter							S	S			S	S	S	X	X	X			X	X	X		X	S	S	S		
Fraternity/Sorority											S		S	S	S	S								S	S	S		
Group Shelter							S	S			S	S	S	S	S	S			S	S								
Class I Home for the Aged ¹⁵	S	S	S	S	S	S	S	X	X	X		X		X	X	X		X					S	S	S	S		
Class II Home for the Aged ¹⁵	S	S	S	S	S		S	S	S	S		S		X	X	X		X					S	S	S	S		
Class III Home for the Aged ¹⁵							S	S			S		S	X	X	X	X	X					S	S	S	S		
Hotel																X	X	X	X	X	X							
Mission ¹⁰																				S	S	S						
Mobile Homes											X																	
Motel															X	X			X	X	X							
Rooming House							S	S	S									X						S	S	X		
Student Dormitory									S																	X		
Transitional Home							S	S	S		S	S												S	S			
INSTITUTIONS																												
Adult Day Care Center	S	S	S	S	S	S	S	S	S	S		X	X	X	X	X	X		X	X	X	X	S	X	X			
Adult Day Care Home	S	S	S	S	S	S	S	S	S	S	S	X	S	X	X	X		X	X	X	X	X	X	X	X			

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																										
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P	
Airport, Heliport	S	S	S	S	S	S	S	S	S	S					S				S	S	S	S	S	S	S	S	
Cemetery, Mausoleum	S	S	S	S	S	S	S	S	S	S	S	S	S			S			S	S	S						
Church ¹³	S	S	S	S	S	S	S	X	X	S	S	S	X	X	X	X	X	X	X	X	X	S	S	X	X		
College, University												X	X				X						X		X		
Day-Care Center							S	S	S		S	S	S	X	X	X	X	X	X	X	X	S	S	S	S		
Family Day-Care Home	S	S	S	S	S	S	S	S	S	S	S	S		X	X	X		X	X	X	X	S	S	S	X		
Group Day-Care Home	S	S	S	S	S	S	S	S	S	S	S	S		X	X	X		X	X	X	X	S	S	S	X		
Hospital												X	X				X		X	X	X	X	X	X			
Lodge, Club, Country Club ¹³	S	S	S	S	S	S	S	S	S	S	S	S	S	S	X	X	X	X	X	X	X	S	S	S			
Mental Health Facility												X	X	X		X	X		X	X	X		X	X			
Morgue																X	X		X	X	X		X	X			
Museum							S	S	S			S	S	S	X	X	X	X	X	X	X	X	S	S	S	X	S
Nursing Home												X	X	S	S	S	X		X	X	X	X	X	X	X		
Nursery School							S	S	S		S	S	S	S	S	S	X		S	S	S	S	S	S	X		
Park	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Philanthropic Institution							S	S	S				X	X	X	X	X	X	X	X	X	X	X	X	X		
Pet Cemetery	S	S	S												S	S			S	S	S						
Public Building ¹³	S	S	S	S	S	S	S	S	S	S	S	S	S	X	X	X	X	X	X	X	X	S	S	S	X		
Recreation Field ¹³	S	S	S	S	S	S	S	S	S	S	S	S	S	X	X	X	X		X	X	X	S	S	S	X	X	
Senior Citizens Center	S	S	S	S	S	S	S	X	X	S		X	X	X	X	X	X		X	X	X	S	X	X			
School, Public or Private, Grades K - 12 ¹³	S	S	S	S	S	S	S	S	S	S	S	S	S	X	X	X	X	X	X	X	X	S	S	S	X		
Student Center								S	S			S	S	S	S	S	X						S	S			
AGRICULTURAL USES																											
Customary General Farming	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶	X ⁶				X ⁶	X			X	X	X				X	X	
Crop, Soil Preparation Agricultural Services	S	S	S	S	S	S	S	S	S	S	S				X	X			X	X	X				X	X	
Farm Labor and Management Services												X	X	X	X	X		X	X	X	X				X		
Fish Hatcheries and Preserves																X			X	X	X						
Grain, Fruit, Field Crop and Vegetable Cultivation and Storage	X	X	X	X	X	X	X	X	X	X	X								X	X	X				X		
Livestock, Horse, Dairy, Poultry, and Egg Products	S	S	S	S	S	S	S	S	S	S									X	X	X				X		
Timber Tracts, Forest Nursery, Gathering of Forest Products	S	S	S	S	S	S	S	S	S	S									X	X	X						
COMMERCIAL																											
Adult Cabaret																			X ⁹								
Adult Entertainment Center																			X ⁹								
Adult Motel																			X ⁹								

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																										
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P	
Adults-Only Bookstore																				X ⁶							
Adults-Only Motion Picture Theater																					X ⁶						
Amusements, Commercial Indoor															X	X	X	X	X	X	X					S	
Amusements, Commercial Outdoor excluding Motorized																X	X			X	X	X				S	S
Amusements, Commercial Outdoor Motorized except Carnivals																				S	S	S					
Animal Grooming Facility															X	X	X			X	X	X					
Antique Mall															X	X	X	X	X	X	X	X					
Antique Shop <3,000 sq. ft.												X	X	X	X	X	X	X	X	X	X	X		X			
Apothecaries (pharmaceuticals only)												X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Art or Photo Studio or Gallery												X	X	X	X	X	X	X	X	X	X	X		X		X	
Automotive Repair ¹²															X	X	X	X	X	X	X	X					
Bakery, Retail														X	X	X	X	X	X	X	X	X					
Bank, Branch Office												X	X	X	X	X	X	X	X	X	X	X					
Bank, Drive-Up Electronic Teller												X	X	X	X	X	X	X	X	X	X	X					
Bank, Main Office															X	X	X	X	X	X	X	X					
Barber or Beauty Shop												X	X	X	X	X	X	X	X	X	X	X		X			
Beer, Packaged														X	X	X		X	X	X	X	X					
Boat Rental, Sales, or Repair															X				X	X	X	X					
Book or Card Shop												X	X	X	X	X	X	X	X	X	X	X		X			
Business School												X	X		X	X	X	X	X	X	X	X					
Business and Communication Service												X	X	X	X	X	X	X	X	X	X	X					
Campground, Travel-Trailer Park																X			X	X	X	X					
Carnivals																S			S	S	S	S					S
Catering Establishment												X	X	X	X	X	X	X	X	X	X	X		X			
Clothing Store														X	X	X	X	X	X	X	X	X					
Coffee, Food, or Beverage Kiosk														X	X	X	X		X	X	X	X					
Commercial Center														X	X	X	X		X	X	X	X					
Convenience Sales and Service, maximum 5,000 sq. ft. floor area														X	X	X	X	X	X	X	X	X					
Crematory																			S	S	S	S					
Delicatessen														X	X	X	X	X	X	X	X	X					

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																									
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P
Department or Discount Store															X	X	X	X	X	X	X					
Drive-In Theater																X				X	X	X				
Dry Cleaning														X	X	X	X	X	X	X	X	X				
Dry Cleaning Pick-Up Station														X	X	X	X	X	X	X	X	X				
Financial Service												X	X	X	X	X	X	X	X	X	X	X				
Fireworks Public Display																										X
Fireworks Retailer																S				S	S	S				
Fireworks Seasonal Retailer														S		S				S	S	S				
Flower or Plant Store												X	X	X	X	X	X	X	X	X	X	X		X		
Funeral Home														S		X	X		X	X	X	X				
Garage, Parking																X	X	X	X	X	X	X				
Garden and Lawn Supplies															S	X	X	X	X	X	X	X				
Gas--Liquified Petroleum, Bottled and Bulk																X			X	X	X					
Gas Station														X	X	X	X	X	X	X	X	X				
General Service and Repair Shop																X	X	X	X	X	X	X				
Glass--Auto, Plate, and Window																X	X		X	X	X	X				
Glass--Stained and Leaded														X	X	X	X	X	X	X	X	X				
Greenhouse or Nursery																X	X	X	X	X	X	X				
Group Assembly, <250 persons												S	S		X	X	X	X	X	X	X	X	S	S	S	
Group Assembly, >250 persons												S	S		S	S	X	S	S	S	S	S	S	S	S	
Health Club												X	X	X	X	X	X	X	X	X	X	X		X		
Ice Retail															X	X		X	X	X	X	X				
Interior Decorator												X	X	X	X	X	X	X	X	X	X	X		X		
Iron Work																X			X	X	X	X				
Janitorial Service															X	X	X	X	X	X	X	X				
Karate, Instruction															X	X	X	X	X	X	X	X				
Kennels																X			X	X	X	X				
Keys, Locksmith															X	X	X	X	X	X	X	X				
Laboratories, Medical												X	X		X	X	X		X	X	X	X	X	X		
Laboratories, Testing															X	X	X		X	X	X	X				
Laundries, Self-Service														X	X	X			X	X	X	X				
Lawn, Tree, and Garden Service																X			X	X	X	X				
Liquor Store															X	X	X	X	X	X	X	X				
Livestock, Auction																			X	X	X	X				
Lumber, Building Material																X			X	X	X	X				
Manufactured Home Sales																			X	X						
Massage Parlor																			X ⁹							

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																									
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P
Motor Vehicle Sales (Automobiles)																S	S		X ³	X ³	X ³					
Motor Vehicle Sales (Other Than Automobiles)																S	S		X	X	X					
Motor Vehicle Service ¹²																X	X		X	X	X					
Movie Theater															X	X	X	X	X	X	X					
Music or Dancing Academy															X	X	X	X	X	X	X					
Offices												X	X	X	X	X	X	X	X	X	X	X ⁵	X ⁵	X ⁵		
Optical Dispensaries												X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Pawn Shop																X		X	X	X	X					
Personal Service Establishment														X	X	X	X	X	X	X	X					
Pet Crematory																			S	S	S					
Pet Funeral Home															X	X			X	X	X					
Pet Shops															X	X	X	X	X	X	X					
Pharmacies												X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Photo Finishing														X	X	X	X	X	X	X	X					
Photo Finishing Pick-Up Station														X	X	X	X		X	X	X					
Radio, TV, or Recording Studio																X	X	X	X	X	X					
Radio and Television Transmission Towers															S	S		S	S	S	S				S	
Rap Parlor																			X ⁹							
Reducing and Weight Control Service												X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Restaurant and Carry-Out Restaurant														X	X	X	X	X	X	X	X					
Restaurant, Drive-In																X			X	X	X					
Restaurant, Specialty														X	X	X	X	X	X	X	X					
Restaurant, Specialty -Limited												S	S	X	X	X	X	X	X	X	X	S	S	S		
Retail Shop, other than enumerated elsewhere															X	X	X	X	X	X	X					
Salvage and Surplus Merchandise																X			X	X	X					
Sauna																			X ⁹							
Sheet Metal Shop																X			X	X	X					
Shopping Center, Community																X	X		X	X	X					
Shopping Center, Neighborhood															X	X	X		X	X	X					
Shopping Center, Regional																X	X		X	X	X					
Specialty Shop												X	X	X	X	X	X	X	X	X	X		X			
Tavern																X		X	X	X	X					
Taxidermy Studio																S			S	S	S					
Towing ¹²																X			X	X	X					

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																									
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P
Veterinary Office												X	X	X	X	X	X		X	X	X		X			
Veterinary Clinic															X	X	X		X	X	X					
Veterinary Hospital																X	X		X	X	X					
Vehicle Sales (Non-Motorized)																X	X		X	X	X					
Vehicle Wash														X		X	X		X	X	X					
Video Rental														X	X	X	X	X	X	X	X					
Wholesaling																X		X	X	X	X					
Wireless Telecommunications Towers, Antennas ¹⁷	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Wrecker Service, Wrecker Storage Yard ¹²																X			X	X	X					
INDUSTRIAL																										
Manufacture, Storage, Distribution of:																										
Abrasive Products																			X	X						
Alcoholic Beverage Manufacture																			X ²⁰	X ²⁰						
Asbestos Products																			S							
Automobile Dismantlers and Recyclers ⁷																			S ⁷							
Automobile Manufacture																			X	X						
Automobile Parts and Components Manufacture																			X	X						
Automobile Seats Manufacture																			X	X						
Bakery Goods, Candy																			X	X	X					
Boat Manufacture																			X	X						
Bottling Works																			X	X	X					
Brewery																			X	X						
Canned Goods																			X	X						
Chemicals																			X							
Composting Facility																			S						S	
Contractor's Storage, Indoor																X		X	X	X	X					
Contractor's Yard or Storage, Outdoor																X		X	X	X	X					
Cosmetics																			X	X	X					
Custom Wood Products																		X	X	X	X					
Electrical or Electronic Equipment, Appliances, and Instruments																			X	X	X					
Fabricated Metal Products and Machinery																			X	X	X					
Fertilizer																			X							
Food and Beverage Products except animal slaughter, stockyards, rendering, and brewery																			X	X	X					

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																										
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P	
Furniture and Fixtures																				X	X						
Jewelry																				X	X	X					
Leather and Leather Products except tanning and finishing																				X	X	X					
Leather and Leather Products, Tanning and Finishing																				X							
Lumber and Wood Products																				X	X						
Mobile Home Construction																				X							
Musical Instruments																				X	X	X					
Office/Art Supplies																				X	X	X					
Paints																				X	X						
Paper Mills																				S							
Paper Products excluding paper and pulp mills																				X	X						
Petroleum, Liquified Petroleum Gas and Coal Products except refining																				S							
Petroleum and Coal Products Refining																				S							
Pharmaceuticals																				X	X	X					
Photographic Film Manufacture																				X	X						
Pottery, Figurines, and Ceramic Products																				X	X	X					
Primary Metal Distribution and Storage																				X	X						
Primary Metal Manufacturing																				X	X						
Printing and Publishing																	X	X	X	X	X	X					
Rubber and Plastic Products except rubber or plastic manufacture																				X	X						
Rubber and Plastic Products, Rubber and Plastic Manufacture																				X	X						
Saw Mills																				X							
Scrap Processing Yard																				S							
Scrap Metal Processors																				S							
Scrap Metal Distribution and Storage																				S							
Secondary Material Dealers																				S							
Silverware and Cutlery																				X	X	X					
Small Moulded Metal Products																				X	X						
Sporting Goods																				X	X	X					
Stone, Clay, Glass, and Concrete Products																				X	X						
Textile, Apparel Products, Cotton--Factoring, Grading																				X	X	X					
Textile, Apparel Products, Cotton Gin																				X	X						

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

USES PERMITTED ³	ZONING DISTRICTS																										
	RS 15	RS 12	RS 10	RS 8	RS 6	RS 4	RD	RM 12	RM 16	RS-A	R MO	OG R	OG	CL	CF ¹⁴	CH	MU	CBD	HI	GI	LI	CM-RS-8	CM-R	CM	CU	P	
Tire Manufacture																				X	X						
Tobacco Products																				X	X						
Toiletries																				X	X	X					
Transportation Equipment																				X	X	X					
Warehousing, Transporting/Distributing ¹⁸																				X	X	X					
TRANSPORTATION AND PUBLIC UTILITIES																											
Bus Terminal or Service Facility																X				X	X	X					
Garbage or Refuse Collection Service																				X	X						
Refuse Processing, Treatment, and Storage																				S							
Gas, Electric, Water, Sewerage Production and/or Treatment Facility																				X	X	S					
Landfill ¹⁹																				S							
Post Office or Postal Facility														X	X	X	X	X	X	X	X	X					
Telephone or Communication Services															X	X	X	X	X	X	X	X					
Electric Transmission, Gas Piping, Water Pumping Station	S	S	S	S	S	S	S	S	S	S	S	S	S	X	X	X	X	X	X	X	X	X					
Taxicab Dispatch Station																X				X	X	X					
Freight Terminal, Service Facility																X				X	X	X					
OTHER																											
Advertising Sign																X				X	X	X					
Home Occupations	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹	S ¹¹		X			X					S ¹¹	S ¹¹	S ¹¹			
Junkyard																				S							
Recycling center																S				X	X	X					
Self-Service Storage Facility ¹⁶														S	S	X	S			X	X	X					
Wholesale Establishments																X		X		X	X	X					
Temporary Mobile Recycling Center															S	S				S	S	S				S	

X = Use permitted by right.

S = Use requiring site plan review and approval subject to the issuance of a special use permit in accordance with the provisions of Sections 8 and 9 of this article.

DISTRICT AND USE	Minimum Lot Requirements		Minimum Yard Requirements ^{[5][17][25]}			Maximum Height ^[16] (Ft.)	Maximum Gross Density ^[2] (D.U./Acre)	Land Use Intensity Ratios			Maximum Lot Coverage (percent)
	Area (Sq. Ft.)	Width (Ft.)	Front ^[38] (Ft.)	Side (Ft.)	Rear (Ft.)			Maximum F.A.R.	Minimum L.S.R.	Minimum O.S.R.	
RS-15 DISTRICT 1. Dwellings and other uses permitted	15,000	75 ^[12]	40	12.5	30	35	2.9	none	none	none	25
RS-12 DISTRICT 1. Dwellings and other uses permitted	12,000	70 ^[12]	35	10	25	35	3.63	none	none	none	25
RS-10 DISTRICT 1. Dwellings and other uses permitted	10,000	65 ^[12]	35	10	25	35	4.4	none	none	none	25
RS-8 DISTRICT 1. Dwellings and other uses permitted ^[28]	8,000	55 ^[12]	35 ^{[1][29]}	5 ^[10]	20	35	5.4	none	none	none	30
RS-6 DISTRICT 1. Dwellings and other uses permitted ^[28]	6,000	50 ^[12]	35 ^{[1][29]}	5	20	35	7.2	none	none	none	50
RS-4 DISTRICT 1. Dwellings and other uses permitted ^[28]	4,000	40 ^[12]	35 ^{[1][29]}	5	20	35	10.8	none	none	none	40
R-D DISTRICT 1. Single-family detached dwellings and other uses permitted except ^[28] 2. Two-family dwellings 3. Single-family attached or detached with zero lot line (max. 2 units attached) ^{[7][31]}	8,000 8,000 4,000	55 ^[12] 55 ^[12] 27 ^[12]	35 ^{[1][29]} 30 ^[1] 35 ^[1]	5 5 10 ^[7]	25 25 25	35 35 35	5.4 10.9 10.9	none none 0.3	none none 0.48	none none 0.7	30 30 none

DISTRICT AND USE	Minimum Lot Requirements		Minimum Yard Requirements ^{[5][17][25]}			Maximum Height ^[16] (Ft.)	Maximum Gross Density ^[2] (D.U./Acre)	Land Use Intensity Ratios			Maximum Lot Coverage (percent)
	Area (Sq. Ft.)	Width (Ft.)	Front ^[38] (Ft.)	Side (Ft.)	Rear (Ft.)			Maximum F.A.R.	Minimum L.S.R.	Minimum O.S.R.	
RM-12 DISTRICT											
1. Single-family detached dwellings and other uses permitted except ^[28]	7,500	50 ^[12]	35 ^{[1][37]}	5	25	35	5.8	none	none	none	30
2. Two-family dwellings	7,500	50 ^[12]	30 ^[1]	5	25	35	11.6	none	none	none	30
3. Three-family dwellings	11,250	50 ^[12]	30 ^[1]	5	25	35	11.6	none	none	none	30
4. Four-family dwellings	15,000	50 ^[12]	30 ^[1]	5	25	35	11.6	none	none	none	30
5. Single-family attached or detached with zero lot line (max. 2 units attached) ^{[7][31]}	3,750	18 ^[12]	35 ^{[1][37]}	10 ^[7]	25	35	11.6	none	none	none	none
6. Multiple-family dwellings and Single-family attached townhouse dwellings ^[30]	FN ^[14]	50 ^[12]	30 ^[1]	FN ^[3]	25	45 ^[11]	FN ^[14]	none	none	FN	none
RM-16 DISTRICT											
1. Single-family detached dwellings and other uses permitted except ^[28]	6,000	50 ^[12]	35 ^{[1][37]}	5	25	35	7.3	none	none	none	35
2. Two-family dwellings	6,000	50 ^[12]	30 ^[1]	5	25	35	14.5	none	none	none	35
3. Three-family dwellings	9,000	50 ^[12]	30 ^[1]	5	25	35	14.5	none	none	none	30
4. Four-family dwellings	12,000	50 ^[12]	30 ^[1]	5	25	35	14.5	none	none	none	30
5. Single-family attached or detached with zero lot line (max. 2 units attached) ^{[7][31]}	3,000	18 ^[12]	35 ^{[1][37]}	10 ^[7]	25	35	14.5	none	none	none	none
6. Multiple-family dwellings and Single-family attached townhouse dwellings ^[30]	FN ^[9]	50 ^[12]	30 ^[1]	FN ^[3]	25	45 ^[11]	FN ^[9]	none	none	FN	none
RS-A DISTRICT^[35]											
1. Single-family detached and single-family attached or detached with zero-lot line (max. 2 units attached) ^{[7][28][31]}	3,000	30 ^[12]	35 ^{[1][37]}	5	20	35	14.5	0.3	0.48	0.7	none
2. Single-family attached townhouse on one lot or individual lots (Suburban Type) ^{[30][32][33]}	2,000 ^[36]	20 ^[36]	35 ^[1]	5	20	35	12	1	0.5	0.25	none
3. Single-family attached townhouse on one lot or individual lots (Urban Type) ^{[30][32][33][34]}	2,000 ^[36]	20 ^[36]	20 ^{[1][34]}	5	20	45 ^[34]	12	1	none	none	none
4. Other uses permitted	6,000	30 ^[12]	30 ^[1]	10	20	35	none	none	none	none	35
R-MO DISTRICT											
1. Mobile homes	4,000	40 ^[12]	25 ^[1]	10	15	12	10.9	none	none	none	none

DISTRICT AND USE	Minimum Lot Requirements		Minimum Yard Requirements ^{[5][17][25]}			Maximum Height ^[16] (Ft.)	Maximum Gross Density ^[2] (D.U./Acre)	Land Use Intensity Ratios			Maximum Lot Coverage (percent)
	Area (Sq. Ft.)	Width (Ft.)	Front ^[38] (Ft.)	Side (Ft.)	Rear (Ft.)			Maximum F.A.R.	Minimum L.S.R.	Minimum O.S.R.	
CM-R DISTRICT											
1. Single-family detached	5,000	50 ^[12]	35 ^{[1][29]}	10	20	35	8.7	none	none	none	none
2. Two-family dwellings	5,000	50 ^[12]	30 ^[1]	10	20	35	16	none	none	none	none
3. Single-family attached or detached with zero lot line (max. 2 units attached) ^{[7][31]}	2,500	30	35 ^[1]	10	20	35	16	none	none	none	none
4. Single-family attached townhouse dwellings ^[30]	2,500	50 ^[12]	30 ^[1]	10	20	35	16 ^[9]	0.3	0.48	0.7	none
5. Four-family dwellings	15,000	50 ^[12]	30 ^[1]	5	25 ^[4]	35	11.6	none	none	none	30
6. Medical offices, clinics, and other related uses	none	50 ^[12]	30 ^[1]	10	20	60	none	none	none	none	none
CM DISTRICT											
1. Medical offices, clinics, and other related uses	none	50 ^[12]	30 ^[1]	10	20	60	none	none	none	none	none
CM-RS-8 DISTRICT											
1. Single-family detached	8,000	50 ^[12]	35 ^{[1][29]}	10	20	35	5.4	none	none	none	none
2. Medical offices, clinics, and other related uses	none	50 ^[12]	30 ^[1]	10	20	60	none	none	none	none	none
OG-R DISTRICT											
1. Offices and other uses except	5,000	50 ^[12]	30 ^[1]	10	20	35	none	0.3	0.28	0.6	none
2. Single-family detached	5,000	50 ^[12]	35 ^{[1][29]}	10	20	35	8.7	none	none	none	none
3. Two-family dwellings	5,000	50 ^[12]	30 ^[1]	10	20	35	17.4	none	none	none	none
4. Three-family dwellings	7,500	50 ^[12]	30 ^[1]	10	20	35	17.4	none	none	none	30
5. Four-family dwellings	12,000	50 ^[12]	30 ^[1]	10	20	35	14.5	none	none	none	30
6. Single-family attached or detached with zero lot line (max. 2 units attached) ^{[7][31]}	2,500	25 ^[12]	35 ^[1]	10	20	35	17.4	none	none	none	none
OG DISTRICT											
1. Offices and other uses	5,000	50 ^[12]	30 ^[1]	10	20	35	none	0.3	0.28	0.6	none

