



AGENDA

**Gainesville Planning and Appeals Board
Tuesday, September 11, 2018, 5:30 PM
Gainesville Justice Center**

1. CALL TO ORDER

2. MINUTES

A. August 14, 2018 PAB Meeting Minutes

3. OLD BUSINESS

4. NEW BUSINESS

A. Variance Requests

- (1) Request from **St. Paul United Methodist Church** to vary the sign lighting and size requirements on a 5.24± acre tract located on the northwest side of the intersection of Washington Street and West Academy Street (a/k/a **404 Washington Street, NW**), having a zoning classification of Neighborhood Business (N-B) and General Business (G-B).
Ward Number: Four
Tax Parcel Number(s): 01-026-001-054
Request: Electronic message board sign

B. Annexation Requests

- (1) Request from **Limestone Greenway, LLC** to annex a 75.12± acres tract located on the southwest side of the intersection of Jesse Jewell Parkway and Limestone Parkway, having road frontage on Lakeview Drive, Highland Street, Spring Street and Victory Street (a/k/a **0 and 2065 Limestone Parkway**) and to establish zoning as Planned Unit Development (P-U-D).
Ward Number: Two
Tax Parcel Number(s): 00-082-003-001
Request: Mixed-use development

C. Special Use Requests

- (1) Request from **KRM 2016 LLC** for a special use on a 0.82± acre tract located on the north side of Washington Street, west of West Academy Street (a/k/a **520 Washington Street, NW**), having a zoning of Neighborhood Business (N-B).
Ward Number: Four
Tax Parcel Number(s): 01-026-001-046
Request: Five duplex apartments

5. MISCELLANEOUS

6. ADJOURNMENT

CITY OF GAINESVILLE

AGENDA REQUEST

Date Submitted: 8/22/2018
Presenter: N/A
Item of Business: August 14, 2018 PAB Meeting Minutes
Meeting Date: 9/11/2018

Purpose of Request:

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

History/Background:

Facts & Issues for Consideration:

The draft minutes were reviewed by the Planning Manager and Community Development Director.

Department Recommendation:

Approval of the minutes as presented.

Department Director:

Rusty Ligon

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

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
 Draft Minutes	Minutes

GAINESVILLE PLANNING AND APPEALS BOARD
DRAFT MINUTES OF MEETING
AUGUST 14, 2018

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

Members Present: Chairman Doug Carter and Board Members Eddie Martin, Sr., Ryan Thompson, Carmen Delgado, Rich White and Kelvin Simmons

Members Absent: Vice-Chair Jane Fleming

Staff Present: Community Development Director Rusty Ligon, Planning Manager Matt Tate and Recording Secretary Judy Foster

Others Present: Council Members Barbara Brooks and George Wangemann

MINUTES OF JULY 10, 2018

There was a motion to approve the minutes as presented.

Motion made by Board Member Thompson

Motion seconded by Board Member Martin

Vote – 6 favor, 1 absent (Fleming)

NEW BUSINESS

NOTE: *In the absence of the Vice-Chair, Chairman Carter appointed Board Member White as Chairman Pro-Tem during his absence as he recused himself from the meeting at 5:34 p.m.*

A. Rezoning Request

- 1) Request from **LLJ Development, LLC** to rezone a 6.854± acres tract located on the east side of Dawsonville Highway, southeast of Beechwood Boulevard (a/k/a **0 and 1010 Dawsonville Highway**) from Office and Institutional (O-I) and General Business (G-B) to General Business (G-B).

Ward Number: One

Tax Parcel Number(s): 01-115-001-002 and 061

Request: Fitness center, retail and restaurant

Staff Presentation: Planning Manager Matt Tate gave the following staff presentation:

The applicant is proposing to rezone the subject 6.854± acres property from Office and Institutional (O-I) and General Business (G-B) to General Business (G-B) for a fitness center, retail and restaurant uses. Adjacent uses include Northlake Square shopping center, Guilford Clinic, Gateway Thrift Store, Jackson EMC office, Trinity Baptist Church, McEver Corners shopping center and the Lakeshore Heights subdivision. The property is located within the Gateway Corridor Overlay Zone and contains two lots. The larger tract is zoned Office and Institutional (O-I) and General Business (G-B) which was previously the location of the New Horizons West Nursing Home demolished in 2013. The smaller tract is already zoned General Business (G-B) and contains a detention pond. The proposed fitness center building is 22,000± square feet in size and the retail/restaurant building is 6,800 square feet. The anticipated hours for the fitness center are from 5 a.m. to 12 a.m. Access to the site is proposed from an existing shared driveway on Dawsonville Highway

which currently serves the adjacent Jackson EMC gated employee parking lot. The applicant is proposing to maintain the existing right in/right out and a left in access.

A Traffic Impact Study (TIS) was completed for the proposed development. Pending Georgia Department of Transportation (GDOT) approval, the proposed improvements include a 300-foot long, northbound right turn lane on Dawsonville Highway at the proposed site driveway. As well, the existing intersection would be converted to an RCUT median which will allow for right turns into and out of the site driveway and left turns into the site driveway. As a result, left turning movements would no longer be permitted from the site driveway or from the driveway located on the opposite side of Dawsonville Highway in front of Leslie's Pool Supplies, Danny's Donuts and Batteries + Bulbs.

The subject property is located within two land use categories based on the Future Development Map for the City of Gainesville. The front portion of the subject property is within the *Public/Institutional/Transportation/Communication/Utilities* land use category and within the *Retail/Commercial* land use category. The subject property is also located within the *Suburban Commercial* Character Area which includes commercial, public / institutional, multi-family residential and mixed uses.

The Planning Division staff is recommending approval of this rezoning request with General Business (G-B) zoning, based on the Comprehensive Plan and the adjacent residential and non-residential land uses with six zoning conditions.

Applicant Presentation: **Skylar Long**, 1220 East 16th Street, Cordele, stated he was the Project Manager for the applicant which is a family owned development company now in its fifth generation in almost 100 years. They have worked heavily throughout Georgia as well as other markets in the southeast, totaling between 500,000 to 600,000 square feet of retail development over the past five years. He stated they have already completed two other fitness centers for this nationally known company which has a great product and maintains their space nicely. Mr. Long stated the site was originally a nursing home which has been vacant for a number of years now. They plan to have the fitness center to the rear of the subject property with possible retail and restaurant located in the front. The detention area is already in place which also serves the Northlake Square development, and utilities are on site for the proposed development as well.

FAVOR: None

OPPOSE: None

Planning and Appeals Board Comments: None

There was a motion to recommend conditional approval to rezone the subject property from Office and Institutional (O-I) and General Business (G-B) to General Business (G-B) for a fitness center, retail and restaurant uses with the following conditions:

Conditions

1. The proposed buildings shall be generally consistent with the standards depicted on the architectural elevation provided with this rezoning application including exterior materials, roof and wall signs.

2. **Prohibited uses for the subject property shall include motels or hotels, group homes, crisis centers, adult novelty stores, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, tobacco or vaping stores, tire stores, auto parts stores, gas station/convenience store, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like.**
3. **The existing vegetated buffer areas adjacent to the Lakeshore Heights Subdivision shall remain undisturbed. Additional evergreen buffer trees shall be planted between the proposed building/parking lot/service areas and the existing detention pond at the top of the slope where needed. The intent of the buffer is to supplement the existing vegetation with buffer trees to provide for an effective buffer. The location, spacing, size and type of trees planted shall be subject to Community Development Department Director approval.**
4. **Prior to a permit being issued, the developer/property owner shall exhaust all reasonable measures to provide for inter-parcel vehicular access with the adjacent properties located to the north and south as determined by the Gainesville Public Works Director. Documentation shall be provided to the City of Gainesville in this regard.**
5. **All access point design for the subject property shall be submitted for review by the Georgia Department of Transportation in conjunction with the Gainesville Public Works Director, and approval of said design shall be required prior to issuance of a building permit. All required access/traffic/sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner.**
6. **An updated as-built boundary survey/plat of the subject property, indicating all improvements required for the proposed use, shall be recorded prior to obtaining a Certificate of Occupancy.**

Motion made by Board Member Martin

Motion seconded by Board Member Thompson

Vote – 5 favor, 1 recusal (Carter), 1 absent (Fleming)

ADJOURNMENT

There was a motion to adjourn the meeting at 5:42 p.m.

Motion made by Board Member Martin

Motion seconded by Board Member Simmons

Vote – 5 favor, 2 absent (Carter, Fleming)

Respectfully submitted,

Doug Carter, Chairman

Judy Foster, Recording Secretary

CITY OF GAINESVILLE

AGENDA REQUEST

Date Submitted: 8/21/2018

Presenter: Matt Tate

Item of Business: Request from **St. Paul United Methodist Church** to vary the sign lighting and size requirements on a 5.24± acre tract located on the northwest side of the intersection of Washington Street and West Academy Street (a/k/a **404 Washington Street, NW**), having a zoning classification of Neighborhood Business (N-B) and General Business (G-B).
Ward Number: Four
Tax Parcel Number(s): 01-026-001-054
Request: Electronic message board sign

Meeting Date: 9/11/2018

Purpose of Request:

The applicant is requesting to vary the sign lighting and sign size requirements for a monument sign with an electronic message board display. The location of the sign is within the Neighborhood Business (N-B) zoning district which limits the structure size of a single-tenant sign to 96 square feet and does not permit internal lighting such as an electronic message board display. The proposed sign is 120 square feet (10-feet high by 12-feet wide) and the proposed electronic message board portion of the sign is just under 20 square feet in size per side with amber or white in color display. The proposed sign will be located at its current location but will be perpendicular to Washington Street. Adjacent uses include professional office, bank, auto sales and residential.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Planning staff recommended approval with one condition. See staff recommendation report for details.

Department Director:

Rusty Ligon

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

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ Staff Recommendation Report	Report
☐ Location Maps	Backup Material
☐ Statement of Hardship	Backup Material
☐ Site Plan	Backup Material
☐ Sign Rendering	Backup Material

**GAINESVILLE PLANNING AND APPEALS BOARD
STAFF RECOMMENDATION**

Applicant/Property Owner:..... St. Paul United Methodist Church
404 Washington Street
Gainesville, GA 30501

Request:..... Vary the sign lighting and size requirements to allow for an electronic message board sign

Zoning:..... Neighborhood Business (N-B) and General Business (G-B)

Location:..... 404 Washington Street, NW

Staff Recommendation:..... **Approval, with condition**

Meeting Date:..... September 11, 2018

▪ **Request**

The property is zoned both Neighborhood Business (N-B) and General Business (G-B). The existing sign on the property is 9-feet high by 13-feet wide, 117 square feet and is located on the side of the property zoned N-B. N-B zoning only allows signs with external illumination but G-B zoning does allow for electronic message board (EMB) signs. The applicant is proposing to vary the lighting standards to allow for an EMB sign to be added to a new monument sign. In addition, the applicant is proposing to vary the sign size standards which limit the size of the sign to a structure area of 96 square feet. The new sign would be in the same location and similar in size as the existing sign, but perpendicular to Washington Street. The proposed sign is 120 square feet in size (10-feet high by 12-feet wide) and the proposed electronic message board portion of the sign is just under 20 square feet in size per side with amber or white in color display.

▪ **Background Information and Existing Conditions**

The subject property is 5.24± acres in size and is located on the northwest side of the intersection of Washington Street and West Academy Street. The property contains the St. Paul United Methodist Church. Adjacent uses include professional office, bank, auto sales and residential.

▪ **Significant Factors**

The Ordinance requires that the applicant's claim for hardship must be based on the size or shape of the lot, its topography, or other physical characteristics inherent in the lot itself and not on the desired aesthetics. Further, the Code states that a variance shall not be granted as a convenience to the applicant or as a way to gain any advantage or interest over similarly zoned properties.

The applicant states the proposed request would benefit the church by better communicating messages to its members and the community. As well, the sign's color, brightness and time of operation will be maintained to help minimize any potential disruption to the neighbors.

There have been no nearby variance requests approved for EMB signs within the immediate area. However, numerous variance requests for similar EMB signs have been approved within the city limits over the past 10 years for various churches including the First Baptist Church on Green Street, First United Methodist Church on Thompson Bridge Road and the New Haven Church on White Sulphur Road.

- **Supporting Documents**

Statement of Hardship, Concept Plan, Sign Rendering

- **Analysis**

(1) Are there extraordinary and exceptional conditions pertaining to the particular piece of property in question because of its size, shape or topography?

The sign is currently ten-feet from Washington Street which is considered a local road. The topography is relatively flat and the shape of the property is not unique.

(2) Would the application of the Unified Land Development Code to this particular piece of property create an unnecessary hardship?

The sign code is designed to enhance the aesthetics of the City by restricting signs and lights which increase clutter and to provide for consistency and compatibility. The church and existing monument sign are currently located on the side of the property zoned N-B. While all zoning districts within the city limits allow for a church, an electronic message board is only permitted if the church were located within a more intense commercial or industrial zoning district. The corner of the property that is zoned G-B does allow for an EMB sign. However, the applicant wishes to keep the new sign constant with the existing structure. A variance would allow the new EMB sign to be constructed in the same place as the existing monument sign.

(3) Are there conditions that are peculiar to the property which adversely affect its reasonable uses or usability as currently zoned?

The subject property's use or usability does not appear to be adversely impacted by any peculiar conditions of the property. The desire to have an EMB sign appears to support the logistical needs of the church to disseminate information to the community in a more efficient manner.

(4) Would relief, if granted, cause substantial detriment to the public good or impair the purposes and intent of this ordinance?

The proposed EMB sign is not unique to other properties within the City, but is unique to Washington Street. If relief were given, it would not appear to cause substantial detriment to the public good given the scale of the proposal.

(5) There must be a proved hardship by showing beyond a doubt the inability to make a reasonable use of the land if the zoning ordinance were applied literally.

The property will retain its use as a church and the existing sign could be improved without the addition of an EMB sign. It is the opinion of the Planning Division staff that the variance request is based partially on a physical hardship, as well as the applicant's personal desire to increase the effectiveness of the existing sign.

(6) The hardship cannot be self-created; e.g., as in a case where the lot was purchased with the knowledge of an existing restriction.

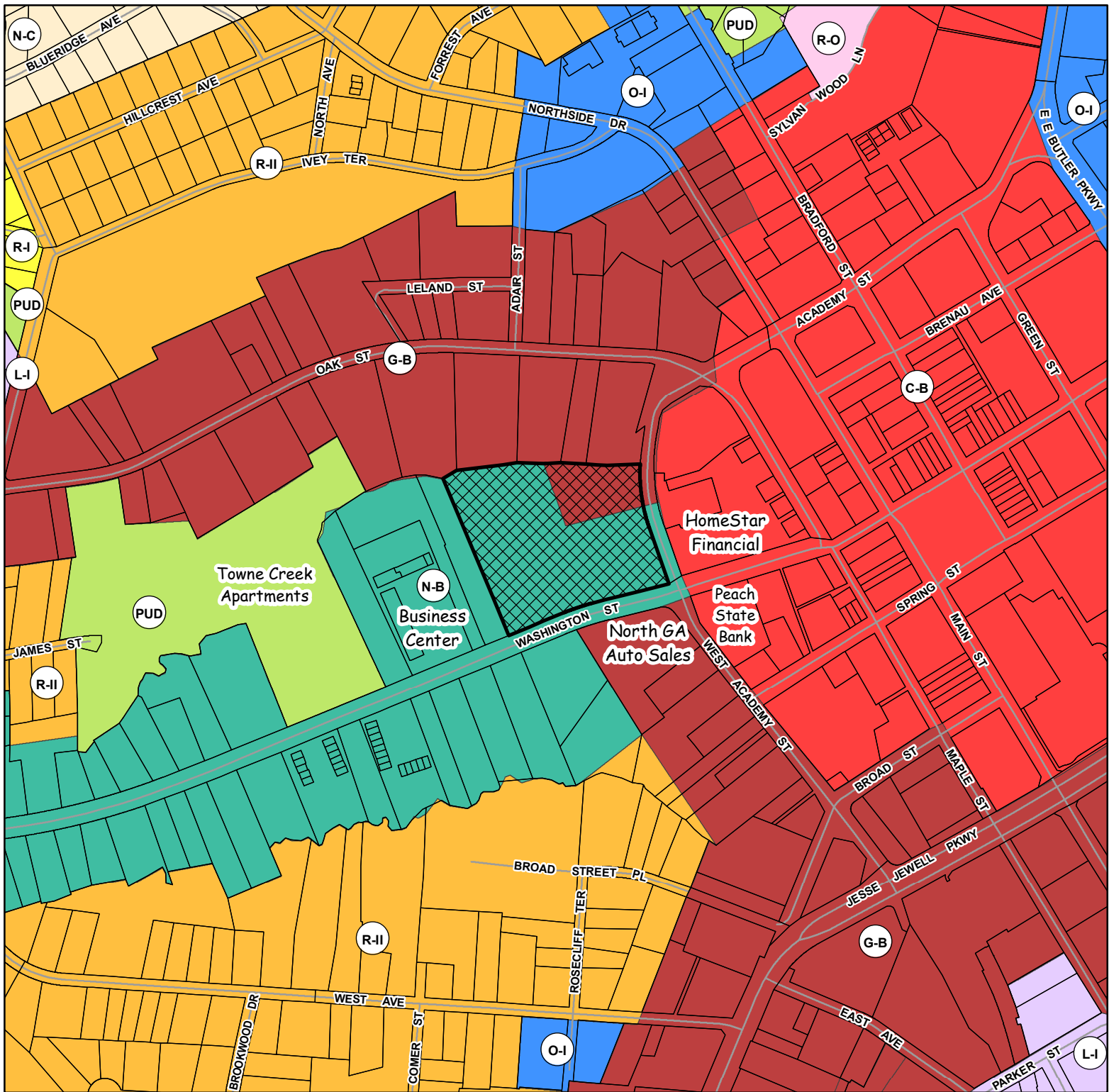
According to tax records the church was built on the subject property in 1937. The applicant was first made aware of the sign requirements upon contacting staff for a sign permit.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this variance request given the proposed sign would maintain consistency with the existing structure.

Condition

The subject property shall be limited to one electronic message board sign. The electronic message board sign may be two sided not to exceed 20 square feet per side and shall meet the standards of the Unified Land Development Code.



Applicant:
ST. PAUL UNITED METHODIST CHURCH

VARIANCE REQUEST



Request:

Vary the sign lighting & size requirements within Neighborhood Business for an electronic message board sign

Subject Area Address:

404 Washington Street, NW

Meeting: 9/11/2018

Prepared: 8/13/2018

Gainesville Community Development Department

 Subject Property

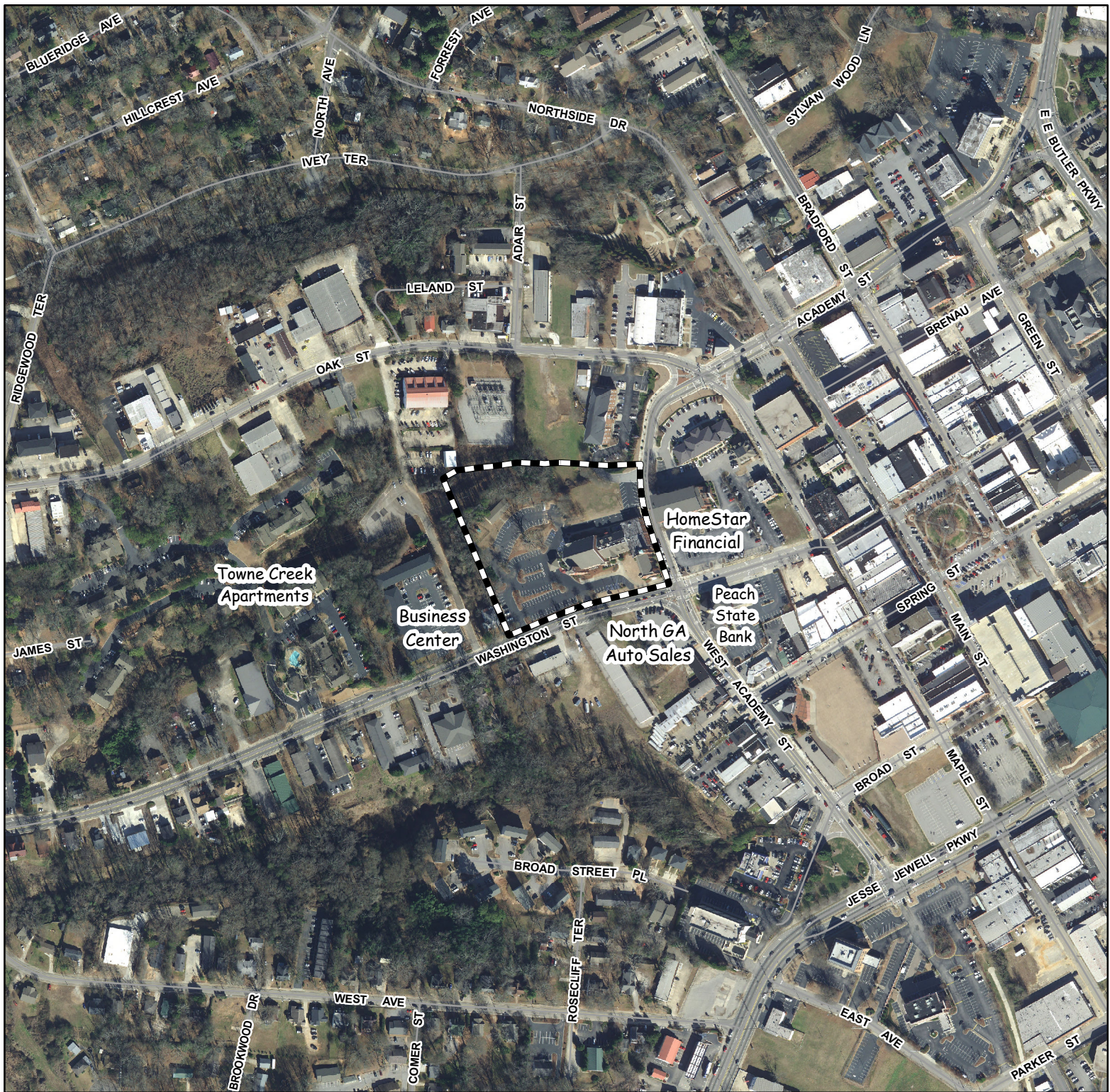


0 240 480 720 960 Feet

1" = 400'

Tax Parcel:

01-026-001-054



Applicant:

ST. PAUL UNITED METHODIST CHURCH

VARIANCE REQUEST



Request:

Vary the sign lighting & size requirements within Neighborhood Business for an electronic message board sign

Subject Area Address:

404 Washington Street, NW

Meeting: 9/11/2018

Prepared: 8/13/2018

Gainesville Community Development Department



Subject Property

Aerial from 2015

0 240 480 720 960 Feet



1" = 400'

Tax Parcel:

01-026-001-054

Variance Request

STATEMENT OF HARDSHIP

The Gainesville Planning and Appeals Board has the authority, in specific cases, to grant variances from the terms of the Unified Land Development Code of the City of Gainesville, Georgia, when the variance will not be contrary to the public interest where, owing to special conditions, a literal enforcement of the Unified Land Development Code will, in specific cases, result in unnecessary hardship and so that the resolution shall be observed, public safety and welfare secured, and substantial justice done. The authority to grant such variances shall be limited to those instances where a hardship is clearly established as required by the Unified Land Development Code. Variances may be granted only upon a finding by the Gainesville Planning and Appeals Board that:

Describe how each situation listed below relates to your application.

1) There are extraordinary and exceptional conditions pertaining to the particular piece of property in question because of its size, shape, or topography. (The hardship must relate to the physical character of the lot and not to a personal or economic hardship.)

BECAUSE OF THE LOCATION OF EXISTING BUILDINGS AND DRIVEWAYS, THE CHOSEN LOCATION IS THE ONLY WORKABLE LOCATION FOR THIS SIGN. THERE IS PRESENTLY A SIGN IN THIS LOCATION BUT IT DOES NOT HAVE AN LED BOARD.

2) The application of the requirements of this resolution to this particular property would create an unnecessary hardship.

THE CHURCH WOULD NOT BE ABLE TO HAVE AN LED READER BOARD. SUCH BOARDS ARE VERY COMMON AT OTHER COMMUNITY CHURCHES.

3) There are conditions that are peculiar to the property which adversely affect its reasonable use or usability as currently zoned.

THE ORIGINAL CHURCH BUILDING OCCUPIES THE CORNER OF THE PROPERTY LEAVING ONLY THE GRASS AREA ALONG WASHINGTON STREET AS THE LOCATION FOR THE SIGN

4) Relief, if granted, would not cause substantial detriment to the public good or impair the purposes and intent of this Ordinance. For example, granting the variance would not confer any special privilege that is denied by this regulation to other property in the same zoning district. Such conditions are not the result of any actions of the property owner.

THIS IS THE ONLY CHURCH IN THE IMMEDIATE AREA. THIS VARIANCE WOULD NOT SET A PRECEDENT

5) There must be a proved hardship by showing beyond a doubt the inability to make a reasonable use of the land if the zoning ordinance were applied literally.

WITHOUT THE LED READER BOARD THE CHURCH WOULD NOT BE ABLE TO COMMUNICATE IMPORTANT MESSAGES TO ITS MEMBERS AND THE COMMUNITY. THE INCREASE IN SIZE IS NECESSARY TO ACCOMMODATE THE CHURCH NAME AND LED BOARD.

6) The hardship cannot be self-created; e.g., as in a case where the lot was purchased with the knowledge of an existing restriction.

THIS HARDSHIP WAS NOT SELF-CREATED. THE CHURCH OCCUPIED THIS PROPERTY PRIOR TO THE CURRENT ZONING.

I hereby certify that the above information and all attached information is true and correct.

Signature of Applicant

Dr. Shirley Whiteaker

Date 8/21/18



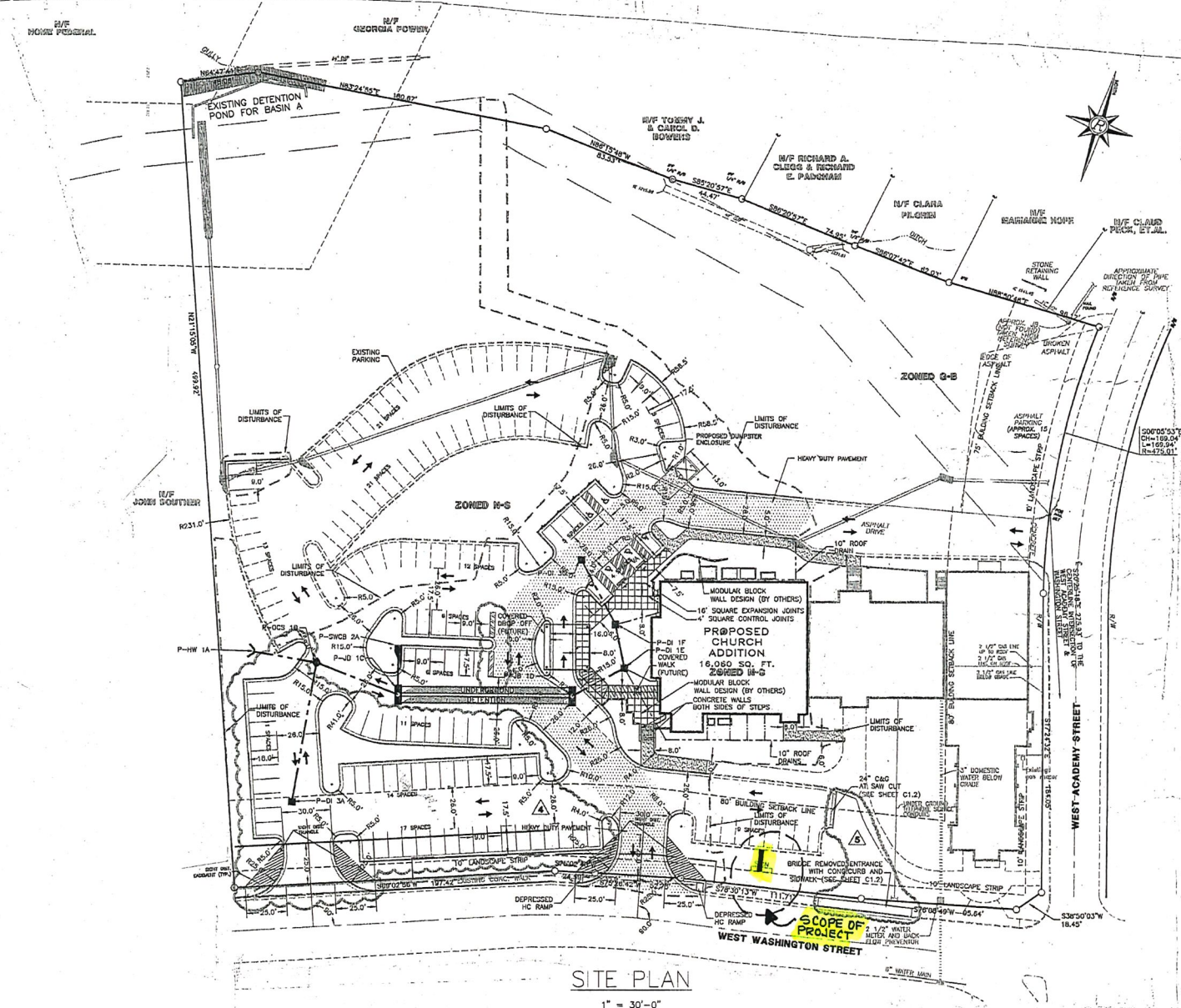
Architects
Bailey Associates
Georgia 30601
770.334.0012

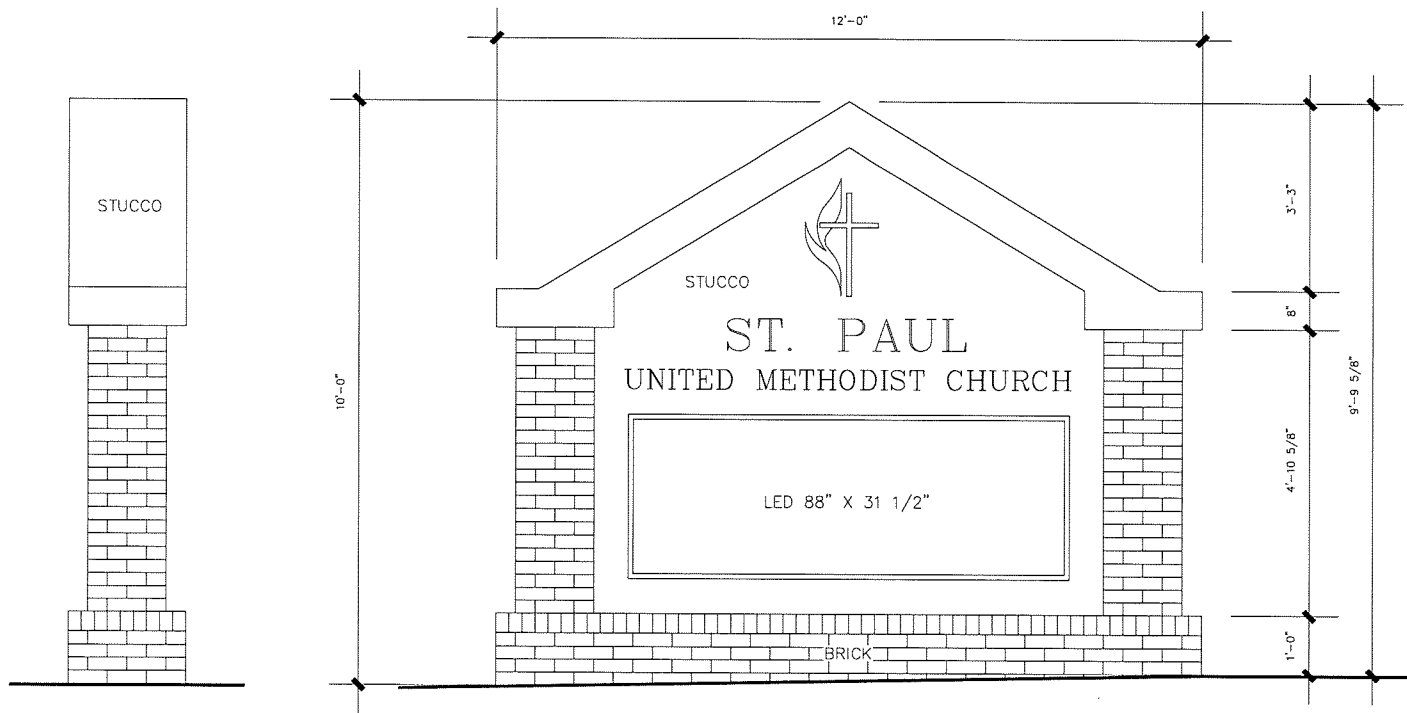
Bailey Associates

ST. PAUL
UNITED METHODIST CHURCH
GAINESVILLE, GEORGIA

Project No. 17052
Drawn By JKB
Checked By
Date MAY 25, 2018
Revisions
JULY 27, 2018

C1
OF 1



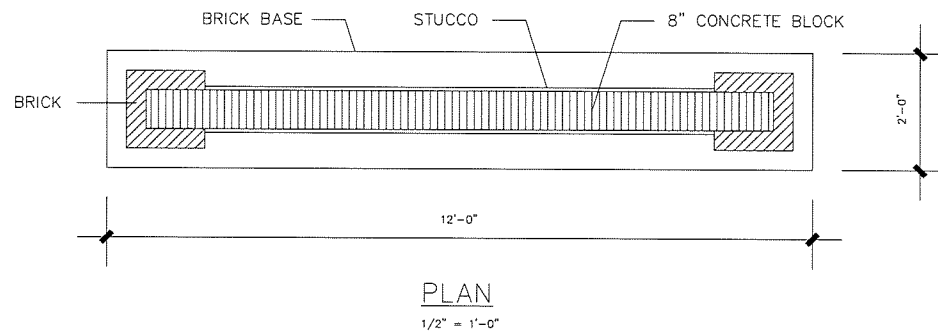


SIDE ELEVATION
1/2" = 1'-0"

FRONT ELEVATION
1/2" = 1'-0"

AREA AND HEIGHT

MAXIMUM SIGN FACE AREA: 58 SQ. FT.
MAXIMUM SIGN STRUCTURE AREA: 120 SQ. FT.
MAXIMUM HEIGHT: 10'-0"



PLAN
1/2" = 1'-0"



Architects
Bailey Associates
Georgia 30507
770 334 0872

Bailey Associates

ST. PAUL
UNITED METHODIST CHURCH
GAINESVILLE, GEORGIA

Project No 17052
Drawn By JKB
Checked By
Date MAY 25, 2018
Revisions
JULY 27, 2018

A1
OF 1

CITY OF GAINESVILLE

AGENDA REQUEST

Date Submitted: 8/21/2018

Presenter: Matt Tate

Item of Business: Request from **Limestone Greenway, LLC** to annex a 75.12± acres tract located on the southwest side of the intersection of Jesse Jewell Parkway and Limestone Parkway, having road frontage on Lakeview Drive, Highland Street, Spring Street and Victory Street (a/k/a **0 and 2065 Limestone Parkway**) and to establish zoning as Planned Unit Development (P-U-D).
Ward Number: Two
Tax Parcel Number(s): 00-082-003-001
Request: Mixed-use development

Meeting Date: 9/11/2018

Purpose of Request:

The applicant is proposing to annex the subject property with a zoning of Planned Unit Development (P-U-D) for the purpose of utilizing city sewer for a mixed-use development. The property is currently zoned Agricultural Residential-III (AR-III), Residential-II (R-II) and Highway Business (H-B) within unincorporated Hall County and is adjacent to the city limits to the north, east and west. The property is located within the Limestone Parkway Overlay Zone, is heavily wooded and contains a stream. The proposal includes 189,400 square feet of commercial space which may include office, retail, restaurant and hotel space. In addition, a total of 252 multi-family residential units and 33 single-family homes are proposed. A single access road is proposed from Limestone Parkway to serve the commercial and multi-family uses. Two access drives are also proposed off of Limestone Parkway and Jesse Jewell Parkway to serve a commercial out parcel lot. In addition, one access road is proposed off of Lakeview Drive to serve the proposed single-family homes. Nearby uses include the New Holland Market (Kroger) Shopping Center, Gainesville Middle School, Frances Meadows Aquatic Center, and numerous single-family homes off of Lakeview Drive and within the adjacent New Holland Village.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Planning staff recommended approval with fifteen conditions. See the staff recommendation report for details.

Department Director:

Rusty Ligon

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

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ Staff Recommendation Report	Report
☐ Location Maps	Backup Material

▢	Narrative	Backup Material
▢	Survey	Backup Material
▢	Site Plan	Backup Material
▢	Commercial Design Concepts (Retail/Office/Hotel)	Backup Material
▢	Commercial Design Concepts (Freestanding Retail)	Backup Material
▢	Single-family Residential Design Concepts	Backup Material
▢	Multi-family Residential Design Concepts	Backup Material
▢	Sign Concepts	Backup Material
▢	Landscape Plan Concepts	Backup Material
▢	Development Team	Backup Material
▢	Traffic Impact Study	Backup Material
▢	Letter from Gainesville City School System	Backup Material

**GAINESVILLE PLANNING and APPEALS BOARD
STAFF RECOMMENDATION**

Applicant and Property Owner..... Limestone Greenway, LLC
Location..... 0 and 2065 Limestone Parkway
Request..... Annex with a zoning of Planned Unit Development (P-U-D)
Total Acres 75.12[±] acres
Ward..... Two
Proposed Use..... Mixed-use development
Planning Division Staff Recommendation **Approval, with conditions**
Date..... September 11, 2018

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

The applicant is proposing to annex the subject property with a zoning of Planned Unit Development (P-U-D) for the purpose of utilizing city sewer for a mixed-use development. The property is currently zoned Agricultural Residential-III (AR-III), Residential-II (R-II) and Highway Business (H-B) within unincorporated Hall County and is adjacent to the city limits to the north, east and west. In addition, the property is located within the Limestone Parkway Overlay Zone, is heavily wooded with numerous mature trees and consists of sloping terrain and a stream (Limestone Creek) that traverses the property.

The proposal includes up to 189,400 square feet of office, retail, restaurant, hotel space. In addition, a total of 252 multi-family residential units and 33 single-family homes are proposed. One access road is proposed from Limestone Parkway to serve the commercial and multi-family uses. The multi-family property will be gated and accessed from a proposed roundabout. A total of two driveways are proposed from Limestone Parkway and Jesse Jewell Parkway for the commercial out parcel lot. One access road is proposed off of Lakeview Drive for the single-family homes.

The following design standards are proposed for the development.

General Development and Architectural Guidelines

- Exterior building materials shall include, but are not limited to brick masonry, stone masonry, split-face block masonry, EIFS, wood or cement board siding.
- Architectural elements shall be reasonably consistent throughout the development. However, with different property uses, there will naturally be different exterior elevation designs. Exhibits "C", "D", "E" and "F" depict proposed conceptual elevations of the buildings.
- Dumpsters, compactors, and similar equipment will be screened.
- Due to the extreme topographic nature of the site – the multi-family building design & height shall be consistent with three/four story split configuration, and the potential hotel or office buildings maximum building height will be up to 6 stories.
- Building Setbacks shall be defined for each specific use (front setback along the proposed road as shown on site plan shall be 15 feet).

- Lighting from building, parking, and landscaping will be contained within the bounds of the subject property. Extra care will be taken when the outer perimeter subject property abuts an existing residential property.

Single Family Home Development and Architectural Guidelines

- A maximum of 33 single-family homes
- Single family residences with 3 bedrooms and 2 baths
- Heated floor space shall be no less than 1,100 square feet
- In accordance with Exhibit "E" - Primary exterior building materials shall include, fiber cement lap siding and fiber cement board and batten siding on all elevations. Accent material application shall include fiber cement shake siding, brick and cultured stone accents shall be utilized on front and visual elevations of the buildings. Masonry block or concrete retaining walls shall be finished with stucco.
- It is the intent for the individual homes to be developed on one common property boundary with no individual property lines, and each home separated by a minimum of 10 feet. The developer reserves the right to develop as a (A) condominium subdivision, fee simple subdivision or (B) traditional subdivision with the following minimum lot standards for each, (lot size, lot width, road frontage).
- (A) Building Setbacks shall be as follows (at a minimum):
- Front Setback: (proposed main road - 15 feet)
- Front Setback: (Lakeview Drive - 30 feet)
- Front Setback: (Highland Street – 30 feet)
- Side/Building Separation: 5 feet
- Rear Setback/Buffer (Historical Mill Homes): 25 feet
- (B) Lot Size / Building Setbacks shall be as follows (at a minimum):
- Front Setback: (proposed main road - 20 feet)
- Front Setback: (Lakeview Drive - 30 feet)
- Front Setback: (Highland Street – 30 feet)
- Side/Building Separation: 0-10 feet between buildings
- Rear Setback/Buffer (Historical Mill Homes): 25 feet or 10' from internal (newly created) property line
- Minimum lot size: 6,300 sq. ft.
- Minimum lot width/road frontage: 60' or (30' cul-de-sac)

Multi-Family Apartment Development and Architectural Guidelines

- A maximum of 252 multi-family apartments
- 9-foot ceilings with crown molding & chair rail accents & custom designed cabinetry
- Appliances include: Refrigerator, Dishwasher, Microwave Oven & Disposal
- One, two, and three-bedroom apartment homes
- Heated floor space shall be no less than 650 square feet
- Controlled access gated community
- Professionally designed & maintained landscaping
- Resort style swimming pool
- Outdoor entertainment area to include a fireplace/pit element and gas grill
- Clubhouse w/ business and media center
- Fitness center
- Children's play area
- In accordance with Exhibit "F"- Primary exterior building materials shall include, fiber cement lap siding and fiber cement board and batten siding on all elevations. Accent material application shall include fiber cement shake siding, brick and cultured stone accents shall be utilized on front and visual elevations of the buildings. Retaining site walls constructed of masonry block or poured in place concrete finished with stucco.

- Metal roofs may be utilized on accent roofed areas.
- HVAC condenser units may be visible from the street with no screening.
- Due to the extreme topographic nature of the site – the multi-family building design & height shall be consistent with three/four story split configuration.
- Building Setbacks shall be as follows (at a minimum):
- Front Setback: 30 feet
- Side setback: 10 feet
- Rear setback: 20 feet

Commercial Development and Architectural Guidelines

- Primary exterior buildings shall be in accordance with Exhibit “D”. The applicant’s concept plan and traffic study show a total of 189,400 square feet of commercial/office/hotel space proposed. The applicant states that no more than 100 apartment, townhome or condominium units will receive an occupancy permit prior to receiving an occupancy permit for the construction of at least 35,000 square feet of proposed commercial space.

Parking & Entrance/Exit Roads

- Parking requirements shall meet or exceed the City of Gainesville parking requirements as to number of spaces, size and accessible spaces as it relates to the following: multi-family, commercial, lodging/hotel, retail office, commercial-excluding outparcels. The overall commercial parking requirements will be met by combining the North and South Commercial Sites. Parking will be located in areas to meet retail requirements and may be in front of buildings. Due to parking requirements and the development scale, the maximum impervious area will be consistent with what the City of Gainesville currently allows within all non-residential and residential zoning districts. Storm water management will be designed per applicable codes.
- Main entrance to the development shall occur at the existing major signalized intersection on Limestone Parkway and Kroger rear access drive off the New Holland Market development. A right in/right out traffic pattern shall occur at the 3.04 acre out parcel on Limestone Parkway and Jesse Jewell Parkway. A final entrance shall occur on Lakeview Drive for the single family 33 home (+/-10%) development only.

Detention

- All storm water detention shown on the site plan are preliminary and general in design. The owner/applicant may vary these ponds (in number, size, or location) from the attached concept plan so long as the changes are consistent with applicable land codes. Storm water detention ponds will be above grade in areas dictated by terrain and may be in front of, beside, or behind buildings and will be designed as a landscape feature if visible from road, driveway or parking areas.

Landscaping and Buffers

- As shown on the site plan, a 25-foot perimeter buffer is planned adjacent to all existing residential uses and a 15-foot buffer is planned adjacent to like use (commercially zoned) properties. The existing streams that traverse the property will maintain local and state required buffers. Landscaping shall be professionally designed and professionally maintained. The site will be professionally landscaped to minimize the view of parking, soften walls, break up parking fields, and blend storm water ponds into the site development.

Signage

- Limestone Greenway, LLC’s development objective is to create Gainesville/Hall County’s newest mixed-use development. Signage is critical to this objective. Accordingly, signage throughout the development will be uniform and consistent. Each sign, whether a small

wayfinding interior sign or a large monument or project identification sign, will be architecturally consistent and lit or back-lit as often as possible. Please see Exhibit "G" for proposed sign locations. Limestone Greenway, LLC would submit specific sign dimensions prior to the Planning and Appeals Board hearing. The applicant would like to further reserve the right to modify the attached sign location plan as necessary while adhering to the community development theme.

Overlay Zone Requirements -Limestone Parkway Overlay Zone

- The property, when annexed into the City of Gainesville, will fall within the Limestone Parkway Overlay Zone. The Overlay requirements address retaining walls, architecture, storm water detention, mass grading and multiple site development standards. It is stated in the Limestone Overlay as follows: "The purpose of the Limestone Parkway Overlay Zone is to provide special design requirements for those properties located within the zone, regardless of their zoning classification, in order to maintain a consistent appearance along the parkway and throughout the zone. The intent of this zone is to create an identity for the area that will enhance its economic vitality and protect the value of properties within the zone."
- It is the intent of the Planned Unit Development (P-U-D) to meet the spirit of the overlay zone while establishing development guidelines which allow development in a manner which balance extreme topographic challenges, existing architectural elements (New Holland Mill), and limited access requirements on Limestone Parkway and Jesse Jewell Parkway. The entire retail and apartment site will be mass graded with resulting slopes in the 2%-8% ranges in building areas, parking areas and driveways. Embankments will not exceed 2:1 slope. Retaining walls will be 2' - 30' in height to provide access, and development of the site walls will be visible from the street and will have a split face block appearance with colors enhancing and playing off architectural elements in the development.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Single-family homes; Undeveloped land	Residential-I (R-I) -City General Business (G-B) -City
South	New Holland Village single-family and duplex homes; Church; Brenau University Sports Complex; Undeveloped land	Residential-II (R-II) -County Highway Business (H-B) -County Light Industrial (L-I) -County
East	New Holland Market shopping center	Planned Unit Development (P-U-D) -City
West	Single-family and duplex homes; Gainesville Middle School; Frances Meadows Aquatic Center	Residential-II (R-II) -City/County Office and Institutional (O-I) -City

Significant uses within the surrounding area include Lakeview Academy, Northeast Georgia Health Medical Center and Atlanta Botanical Garden.

▪ **Traffic Impact Study Summary**

A Traffic Impact Study was completed for the proposed development on March 29, 2018, by Marc R. Acampora, PE, LLC Traffic Engineering. Traffic counts were collected on Wednesday,

November 11, 2017 from 7:00 A.M to 9:00 A.M. and from 4:30 P.M. to 6:30 P.M. Area schools were in session. Historic GDOT 24-hour traffic counts were also collected in the vicinity from 2012 through 2016. Based on the data a 3% annual growth factor was applied to the counted volumes when projecting future volumes or a five year period through year 2022 for a total applied growth rate of 15.9%.

The peak hour generation for this project was calculated at 580 A.M. / 859 P.M. two way trips and the 24-hour volume is 13,982 two-way trips.

The study extended one mile from the limits of the proposed site and included the following 16 intersections:

- 1) Limestone Parkway (US 129) at Cleveland Highway (US 129/GA 11)
- 2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284)
- 3) Limestone Parkway (US 129) at Beverly Road
- 4) Limestone Parkway (US 129) at Kroger Access
- 5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129/US 129 Business)
- 6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way
- 7) I-985 SB at Jesse Jewell Parkway (US 129)
- 8) I-985 NB at Jesse Jewell Parkway (US 129)
- 9) Lakeview Drive at Beverly Road / Nottingham Drive
- 10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street
- 11) Jesse Jewell Parkway (US 129 Bus) at Community Way / Terrace Street
- 12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard (GA 11 Conn) / MLK, Jr. Blvd
- 13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway
- 14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway
- 15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Conn)
- 16) Park Hill Drive (GA 11) at Lakeview Drive

According to the Traffic Impact Study the addition of the Limestone Greenway trips will increase delays at most intersections and approaches. The comparison between the no-build and build conditions reveal that most of the increases will be small, and most of the locations in this study will continue to operate acceptably in the build condition. A summary of the study revealed that future operations, upon the project being fully constructed and operational, the below intersections would have extremely heavy traffic flows rated LOS F. LOS "F" is a condition of extremely heavy flow, with frequent stoppage and very slow speeds. Traffic is unstable and often comes to a complete halt.

These intersections include:

- 1) P.M. peak hour westbound right turn stop sign at Limestone Pkwy at Cleveland Hwy.
- 2) A.M and P.M. peak hour eastbound approach at Limestone Pkwy and Beverly Rd.
- 3) A.M. and P.M. peak hour at Limestone Pkwy and Jesse Jewell Pkwy which includes the A.M. and P.M. peak hour northbound approach at Textile Way; A.M. peak hour southbound approach at Limestone Pkwy; A.M. eastbound approach at Limestone Pkwy and the A.M and P.M. peak hour westbound approach at Jesse Jewell Pkwy.
- 4) A.M. peak hour and southbound approach at Lakeview Dr. at Beverly Rd;
- 5) A.M. and P.M. peak hour northbound and southbound approach at Jesse Jewell Pkwy at Quarry St;
- 6) A.M. peak hour southbound approach at Jesse Jewell Pkwy at Community Way;
- 7) P.M. peak hour westbound through/left at South Enota Dr. at Robinhood Trail;
- 8) P.M. peak hour at Park Hill Dr. at South Enota Dr. southbound approach at Park Hill Dr. / eastbound and westbound approach at South Enota Dr.

The following is a summary of the findings and the recommendations of this traffic impact study:

1) Limestone Parkway (US 129) at Cleveland Highway (GA 11)

The signalized portion of this intersection operates extremely well but the stop-sign controlled right turn movement from westbound Limestone Parkway to northbound Cleveland Highway experiences LOS F in the P.M. peak hour, though it generally works acceptably at other times of the day. The existing volumes at this location merit consideration of a second northbound through lane on Cleveland Highway into which the westbound right turn from Limestone Parkway would free-flow. The same mitigation for the existing volumes applies to the no-build and build conditions.

2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284)

This intersection operates acceptably. Based on existing volumes, there would be a modest benefit to providing a separate eastbound exclusive right turn lane on Clarks Bridge Road at this intersection. No other mitigation is identified for the no-build or build conditions.

3) Limestone Parkway (US 129) at Beverly Road

This intersection currently operates acceptably. There would be a modest benefit in the existing condition to providing a separate eastbound exclusive right turn lane on Beverly Road. In the no-build condition, the eastbound approach drops to LOS E in the A.M., and in the build condition, this approach drops to LOS F in the A.M. and P.M., reinforcing the appropriateness of the addition of the eastbound right turn lane. The northbound left turn volume on Limestone Parkway is sufficient in the existing condition to justify a protected / permissive left turn phasing according to GDOT standards, and consideration should be given to adding this phasing whether or not the proposed Limestone Greenway development is built.

4) Limestone Parkway (US 129) at Kroger Access

This intersection operates well and no mitigation is identified in the existing or no-build conditions. This intersection will continue to operate well with the addition of the fourth approach and the Limestone Greenway site trips. The analysis assumes two eastbound lanes, which will consist of a shared left/through lane and a right turn lane. The existing northbound U-turn lane on Limestone Parkway will become the left turn lane for the site and there is already a southbound right turn lane at this location on Limestone Parkway. The signal at this intersection will need to be upgraded to provide signal heads for the eastbound approach, including pedestrian signals, and it is recommended that the northbound left turn lane receive a protected/permissive phasing, which will require additional signal equipment. The existing southbound right turn lane and northbound left turn lane should be lengthened to satisfy GDOT auxiliary lane length standards.

5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129 Business)

This location currently operates acceptably in the P.M., but experiences high delays in the A.M. peak hour. The largest capacity need here is for a third westbound through lane on Jesse Jewell Parkway. Other mitigation was tested and is discussed in the text. The benefit of adding a southbound right turn lane on Limestone Parkway is increased in the no-build condition (so that the center lane is a shared through/right, plus a new exclusive right turn lane). The southbound exclusive right turn lane should include a right turn overlap phase. A westbound right turn overlap phase would also improve the efficiency of the signal. The A.M. peak hour will deteriorate further in the build condition. The mitigation identified in the existing and no-build are still applicable in the build condition.

6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way

This intersection operates well and no mitigation is identified for the existing, no-build, or build conditions.

7) I-985 SB at Jesse Jewell Parkway (US 129)

The southbound ramp at I-985 operates acceptably and no mitigation is identified. The addition of a second eastbound right turn lane from Jesse Jewell Parkway onto the southbound ramp would provide some additional storage and capacity for the no-build 1,065 A.M. peak hour right turners. No additional mitigation is identified for this intersection in the build condition.

8) I-985 NB at Jesse Jewell Parkway (US 129)

The northbound ramp operates acceptably and no mitigation is identified for the existing, no-build, or build conditions.

9) Lakeview Drive at Beverly Road / Nottingham Drive

This intersection currently operates well as an all-way stop and no changes are recommended in the existing condition. In the no-build condition, the southbound approach will deteriorate to LOS F in the A.M. peak hour, making this intersection a potential candidate for signalization. The increases in volumes from the Limestone Greenway project will further increase delays at this all-way stop controlled intersection. With signalization, all approaches would operate acceptably in the no-build and future conditions. A signal warrant analysis performed according to the criteria set forth in the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) would be necessary to identify if this intersection meets the requirements for signalization.

10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street

The northbound and southbound approaches from Myrtle Street and Quarry Street operate at LOS F. However, the volumes incurring these high delays are very low and most of the side street approach vehicles are right turners. Line of sight to the west along Jesse Jewell from southbound Quarry is limited, presenting a safety concern. It does not appear that volumes on the side streets are sufficient to warrant a signal at this time. However, other factors may justify signalization, such as the presence of school traffic and the limitation in sight distance. A signal warrant analysis could be performed to determine if or when signalization would be appropriate. The same issues that affect this intersection in the existing condition continue in the no-build and build, with increased delays on the side street stop sign controlled approaches. It is noted that allowing through connectivity at the gated school bus access to Gainesville Middle School at Lakeview Drive, perhaps at limited times of day, may provide an alternative route for trips on Lakeview to bypass the unsignalized Quarry Street intersection.

11) Jesse Jewell Parkway (US 129 Business) at Community Way / Terrace Street

This intersection generally operates well in the existing condition. The southbound and eastbound approaches are at LOS E in the A.M. peak hour, suggesting that this intersection is approaching the limit before which mitigation may be necessary. In the no-build condition, the southbound approach will deteriorate to LOS F in the A.M. The southbound approach should be restriped to include a shared left turn and through movement and an exclusive right turn lane. Then, a right turn overlap phase should be added to this southbound right turn lane. Recommendations made for the no-build condition still apply for the build condition.

12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard / MLK, Jr. Boulevard (GA 11 Connector)

This intersection operates well in the existing condition and no mitigation is necessary. This intersection will continue to operate acceptably in the no-build and build conditions. However, by the build condition, in the P.M., several approaches will drop to LOS E, suggesting that this intersection will be reaching the limits of its capacity.

13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway

This intersection operates well. It is noted that, within the Walgreens property, the directional arrows are yellow, and should be white, and there is no centerline or lane line striping.

Walgreens should consider improving the striping to meet conventional standards. This intersection will continue to operate well in the no-build and build conditions.

14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway

This intersection currently works acceptably. The westbound left turn from Robinhood Trail is beginning to incur notable delays (LOS E) in the P.M. The center two-way left-turn lane on South Enota is striped through this intersection. It is recommended that the left turn lane striping be modified here to treat this as an intersection, with a break in the centerline striping and distinct northbound and southbound left turn lanes. Sherwood Plaza should install a stop sign and accompanying stop bar on their exiting approach. In the no-build condition, the westbound approach will deteriorate to LOS F in the P.M. However, during other times of day, this intersection will continue to operate acceptably. Signalization would eliminate the westbound left turn LOS F. However, based on the side street volumes, this intersection would likely be a weak candidate for signalization. The issue of signalization is still applicable for the build condition.

15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Connector)

This intersection functions acceptably and no mitigation is identified for the existing condition. The southbound approach on Park Hill Drive will deteriorate to LOS F in the no-build P.M. For the no-build, it is recommended that a southbound exclusive right turn lane be built on Park Hill Drive. In the build condition, this intersection will continue to deteriorate, with the southbound and westbound approaches joining the eastbound approach (from the no-build condition) at LOS F. In addition to the no-build mitigation, right turn overlap phases can be added to that new southbound right turn lane and to the westbound right turn lane.

16) Park Hill Drive (GA 11) at Lakeview Drive

This intersection was recently signalized and operates acceptably. Pedestrian accommodations and ADA accessibility are technically provided. However, the ADA ramps all abruptly terminate with high curbing and no accompanying sidewalk is provided on the east side of Park Hill or along either side of Lakeview. It is recommended that pedestrian accommodations at this location be improved. No other mitigation is identified for the no-build or build conditions.

17) Jesse Jewell Parkway (US 129 Bus) at Retail Outparcel RIRO Access

This access will work well with movements restricted to right-in / right-out. A deceleration lane should be provided on Jesse Jewell Parkway according to GDOT standards.

18) Limestone Parkway (US 129) at Retail Outparcel RIRO Access

This access will work well with movements restricted to right-in / right-out. A deceleration lane should be provided on Limestone Parkway according to GDOT standards.

▪ **Other Departmental Comments**

The Gainesville City School System commented on the proposal. A copy of the letter is attached with this staff report.

The Gainesville Public Works Department has recommended transportation improvements which are included with the Transportation / Traffic zoning conditions within this staff report.

According to the Georgia Department of Transportation (GDOT), the applicant will need to coordinate with GDOT since this development will impact the State Route System.

A Development of Regional Impact Study (DRI #2803) was submitted for this development. At this time, the Georgia Mountains Regional Commission finds that the proposal does not present any potential adverse inter-jurisdictional impacts. However, it was suggested that the City and

developer examine options for improving pedestrian accessibility and an alternate access point to compliment the Limestone Parkway intersection.

▪ **Zoning History**

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

2017 – A request by Keel Property Management, LLC to annex a 6.32± acres tract with a zoning of General Business (G-B) located at 0 White Sulphur Road Drive was conditionally approved for restaurant, retail and a carwash.

2017 – A request by the City of Gainesville to rezone 53.177± acres located at 1514, 1515, 1545, 1560 and 1581 Community Way from Residential-II (R-II) to Office and Institutional (O-I) zoning was approved for existing uses and for future professional office purposes.

2016 – A request by Timothy Bullard to annex a 20.417± acres tract located at 1582 and 1586 Pine Valley Road was denied for a 240-unit apartment complex with Residential-II (R-II) zoning.

2012 – A request by Pacolet Milliken Enterprises, Inc. to annex a 68.223± acres tract located at 601 White Sulphur Road was approved with conditional Planned Unit Development (P-U-D) zoning for a mixed-use development.

2008 – A request by JHME Properties, LLC to rezone 10.0± acres located at 1465 Jesse Jewell Parkway from Residential-II (R-II) to Office and Institutional (O-I) was approved with conditions for medical and general office uses, with retail and restaurant uses.

▪ **Staff Analysis**

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

The surrounding area has experienced significant residential and commercial growth within the last 10 years. The adjacent and nearby property includes a mixture of single-family, multi-family, commercial, industrial and public uses. The proposed use contains a mixture of single-family, multi-family and commercial uses which is consistent with the surrounding development. The proposed zoning of Planned Unit Development (P-U-D) is similarly zoned as the adjacent New Holland Market Place property annexed in 2012, which was approved for up to 400,000 square feet of commercial space, and 300 planned multi-family residential apartment units or 200,000 square feet of office space.

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

The subject property is undeveloped, heavily wooded with mature trees and contains a stream. The proposed development will change the landscape and will introduce noise, light and traffic from the property. The proposed mixed-use development is designed around the existing streams which will require much of the property to remain undeveloped with buffers and designated green space. Most of the traffic will be directed away from Lakeview Drive onto Limestone Parkway which will minimize traffic impacts within the adjacent neighborhood but will further increase congestion on the main corridors/intersections.

Transportation improvements as identified within the traffic study and zoning conditions will be necessary to help reduce negative impacts to Limestone Parkway, Jesse Jewell Parkway and other nearby roads/intersections.

Environmental impacts should be properly mitigated through improved storm water measures. Open space, buffers, sedimentation ponds and storm water detention ponds will be required within the development to help protect Limestone Creek.

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

The Gainesville Future Development Map places the subject property within the *Low-Medium Density Residential* land use category, *Mixed Use General* land use category and the *Parks / Recreation / Conservation* land use category.

The majority of the property is located within the *Low-Medium Density Residential* land use category which includes areas containing or planned for single-family detached or semi-detached housing at densities up to 4.0 dwelling units per acre. The proposal seeks an overall gross residential density of 3.79 dwelling units per acre for the entire 75.12 acres tract. The density for the single-family and multi-family tracts combined (40.81± acres) is 7.05 dwelling units per acre.

The portion of the property located within the *Mixed Use General* land use category is situated between Limestone Parkway, Jesse Jewell Parkway and Victory Street and includes areas containing or planned for a mixture of land uses including office, neighborhood retail, and residential.

The *Parks / Recreation / Conservation* land use category is located along Limestone Creek and includes areas containing or planned for parks and recreation facilities, permanently designated open space, and conservation areas, including buffers along water ways and other environmental features.

The subject property is located within the *Historic Mill Villages* Character Area. The vision for this character area is to include historic preservation and incremental restoration as a priority for the mill village area. New development should be designed to incorporate green technologies and practices as well as architecture consistent with the forms and materials of the mill and housing. Greenfield sites should be carefully planned and controlled to protect Limestone Creek. New mixed-income development is acceptable as new construction on adequately sized lots or a reuse of the property. Opportunities may exist for future adaptive reuse for mixed-use development and neighborhood serving commercial. Land uses allowed within this character area include medium density residential, mixed-use, commercial, public / institutional, and parks / recreation / conservation.

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

The subject property is currently zoned for single-family and for commercial purposes and could be developed as such. Water and sewer services are necessary in order to develop the subject property for the desired use and density. If developed, the property should be master planned as opposed to developed piece mill, due to the amount of environmental resources. Carefully planned master planned communities typically provide for better uniformity and higher development standards such as building quality, connectivity, common space, landscaping, environmental protection and services that would otherwise not be provided to the residents.

(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?

Surrounding developments currently utilizes City water and sewer services and there is sufficient capacity to serve the development. Water and sewer extension to the development will be required.

As listed in the above summarized Traffic Impact Study for this project, the peak hour generation for this project was calculated at 580 A.M. / 859 P.M. two way trips and the 24-hour volume is 13,982 two-way trips. The improvements as proposed within the study and zoning conditions are strongly recommended by staff to help mitigate some of the traffic concerns.

Existing public safety services respond to the adjacent and nearby properties. Gainesville Fire Station #1 off of Queen City Parkway is located approximately 3.1 miles away. As well, Hall County Fire Station #7 off of East Crescent Drive is located approximately 0.8 miles away. The amount of proposed single-family homes will put additional strain on police and fire services.

The addition of single-family and multi-family housing will add more children to the Gainesville City School System as the proposal is not age restricted. It is unclear at this time how many of the 285 residential units will house school age children that are not already living within the Gainesville City school district.

(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?

It is staff's opinion the subject property and surrounding area has been impacted by growth along the Jesse Jewell Parkway and Limestone Parkway due to its proximity to Exit 24/I-985, Northeast Georgia Medical Center and downtown Gainesville.

The proposed mixed-use development appears to be of high quality and could serve as an appropriate transitional use between Limestone Parkway/Jesse Jewell Parkway and the nearby established residential uses. The proposed commercial component is designed as a town center concept, which is unique to Gainesville, to include public gathering areas/open space and additional shopping opportunities not available on the east side of Gainesville.

Of concern, the multi-family residential component will add to the high number of existing/proposed rental housing in Gainesville. Currently, there are 7,827 multi-family units within Gainesville and an additional 2,166 units have been approved for future development, totaling 9,993 multi-family units.

(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?

Due to the subject property's proximity to existing residential and commercial land uses, the proposed mixed-use development, *with the recommended conditions of zoning* appears to promote a reasonable balance between the interests of the City, the property owner, and neighboring residents and property owners.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of the proposed annexation request with **Planned Unit Development (P-U-D) zoning**, based on the Comprehensive Plan and the adjacent residential and non-residential land uses.

Conditions

Development Standards

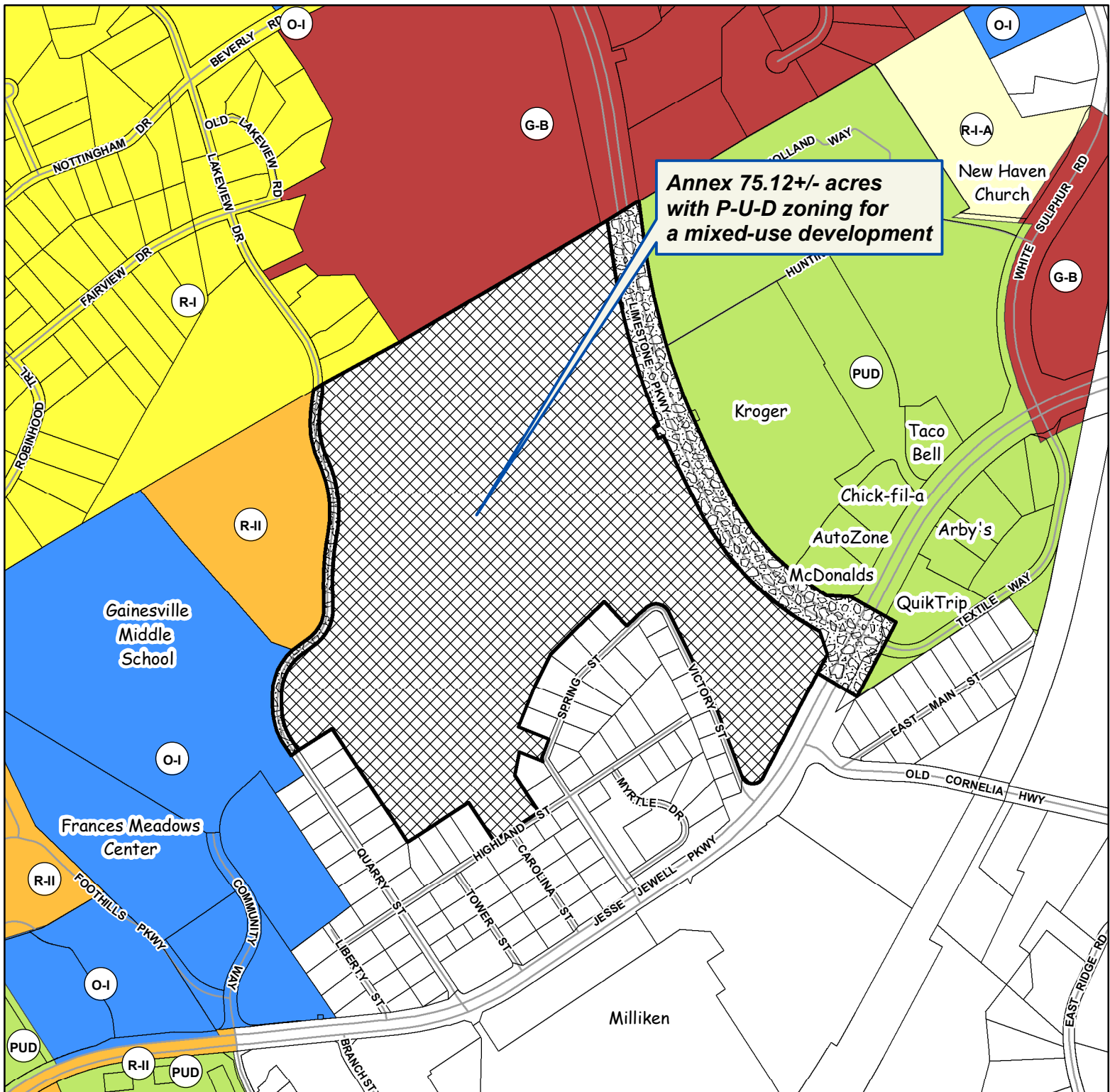
1. The development standards within the applicant's narrative, concept plan and architectural renderings shall be made part of the zoning ordinance, and shall be subject to the Community Development Director approval. Any zoning conditions adopted as part of this zoning ordinance that conflict with the applicant's narrative, concept plan and architectural renderings shall take precedence over the applicant's development standards.
2. Prohibited uses for the subject property shall include extended stay hotels, motels/hotels with rooms accessed from the exterior of the building, adult novelty stores group homes, crisis centers, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, tobacco or vaping stores, tire stores, auto parts stores, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like. A gas station shall be prohibited except for the proposed outparcel lot at the corner of Jesse Jewell Parkway and Limestone Parkway.
3. Apartments, townhomes and condominiums are an approved use for the multi-family residential portion of the proposal. The applicant may receive an occupancy permit for no more than 100 apartment, townhome or condominium units prior to receiving an occupancy permit for the construction of at least 35,000 square feet of the proposed commercial space.
4. In addition to the proposed buffers stated as part of this proposal, a minimum 25-foot wide buffer shall be required along Lakeview Drive for the entire development. The buffer shall contain a mixture of evergreen and deciduous trees. The Community Development Director shall have the final determination on the number, location and type of trees to be planted.
5. The proposed erosion control and water quality measures for the development shall at minimum meet the Georgia Storm Water Management Manual requirements. The developer shall also construct additional bioretention facilities within the development strategically designed and located to minimize sedimentation and to filter runoff from yards, pavement, and buildings, with the goal of minimizing the amount of unfiltered runoff, fertilizer, and other contaminants entering Lake Lanier from the development. The City of Gainesville shall approve the final design of all water quality measures.
6. All service areas, loading areas, ground or roof top HVAC equipment shall be screened from view from all adjacent residential uses, public and private roads.
7. All of the front yards of the proposed new single-family residential dwellings shall be sodded with grass. In addition, the rear of the proposed single-family homes fronting Lakeview Drive and Highland Street shall be designed with exterior architectural features to resemble a front facade.

Transportation / Traffic

8. All required access/traffic/sidewalk improvements associated with the proposed development shall be reviewed and approved by the Georgia Department of Transportation and the Gainesville Public Works Director and any additional improvements shall be at the full expense of the Developer.
9. The Developer shall meet all requirements of the Georgia Department of Transportation, but at a minimum shall construct the following roadway improvements identified in the Traffic Impact Study dated March 29, 2018:
 - a) Limestone Parkway at Beverly Road – Construction of a separate eastbound exclusive right turn lane on Beverly Road. A protected/permissive left turn phasing for the northbound left turn volume on Limestone Parkway will need to be

evaluated and submitted for review and approval by the Georgia Department of Transportation.

- b) Limestone Parkway at Kroger Access – An addition of the fourth approach for the Limestone Greenway site will need to be approved and permitted by the Georgia Department of Transportation. The existing northbound U-turn lane on Limestone Parkway will be restriped as a left turn lane. The signal at the intersection will need to be upgraded for the addition of the fourth approach. The existing southbound right turn lane and northbound left turn lane should be lengthened to satisfy Georgia Department of Transportation auxiliary lane length standards. A protected/permissive left turn phasing for the northbound left turn lane will need to be evaluated and submitted for review and approval by the Georgia Department of Transportation.
 - c) Limestone Parkway at Jesse Jewell Parkway – An addition of a southbound right turn lane on Limestone Parkway in order to accommodate a shared through/right plus a new exclusive right turn lane. Overlap phasing of the intersection will need to be evaluated and submitted for review and approval by the Georgia Department of Transportation.
10. In addition to the identified roadway improvements, the newly constructed Limestone Greenway roadway should include either a center turn lane or a raised median with left turn lanes into the retail access.
 11. The roundabout shown on the proposed concept plan shall be required per the approval of the Gainesville Public Works Director.
 12. Improvements at the signalized intersections should include video detection and fiber connection to the City's ITS facility.
 13. All new streets, alleys, driveways and sidewalks shall meet the standards within Article 9-13-10 of the City's Unified Land Development Code, but shall be privately maintained. Pervious paving, not including gravel, may be allowed for the single-family homes per the approval of the Gainesville Public Works Director.
 14. All new streets shall include a minimum 5' sidewalk along both sides of the street, in accordance with Section 9-13-9-26 of the City's Unified Land Development Code. In addition, a minimum 5' wide sidewalk shall be constructed along Lakeview Drive for the entire length of the subject property. A crosswalk shall be provided from the subject property across Lakeview Drive to the existing side/rear entrance to the Gainesville Middle School and Frances Meadows Aquatic Center. The Gainesville Public Works Director shall have the final determination on the exact design and location of the new sidewalk and crosswalk.
 15. There shall be no access allowed from the subject property onto Lakeview Drive except for the road proposed for the single-family homes.



Applicant:

ANNEXATION REQUEST

LIMESTONE GREENWAY, LLC



Request:

Annex 75.12+/- acres with Planned Unit Development (P-U-D) zoning for a mixed-use development

Subject Area Address:

0 and 2065 Limestone Parkway

Meeting: 9/11/2018

Prepared: 8/1/2018

Gainesville Community Development Department

 Subject Property

 Right-of-Way to be Annexed

0 360 720 1,080 1,440 Feet



1" = 600'

Tax Parcel:

00-082-003-001



Applicant:

ANNEXATION REQUEST

LIMESTONE GREENWAY, LLC



Request:

Annex 75.12+/- acres with Planned Unit Development (P-U-D) zoning for a mixed-use development

Subject Area Address:

0 and 2065 Limestone Parkway

Meeting: 9/11/2018

Prepared: 8/1/2018

Gainesville Community Development Department



Subject Property

Aerial from 2015

0 360 720 1,080 1,440 Feet



1" = 600'

Tax Parcel:

00-082-003-001

**CITY OF GAINESVILLE
NARRATIVE REPORT
REGARDING
LIMESTONE GREENWAY**

**ANNEXATION AND REZONING PETITION FOR 75.12 ACRES OF LAND AT
THE INTERSECTION OF JESSE JEWELL PARKWAY AND LIMESTONE PARKWAY
IN GAINESVILLE, HALL COUNTY, GEORGIA
PROPERTY OWNER: Limestone Greenway, LLC.
APPLICANT: Limestone Greenway, LLC.
REQUESTED ZONING: PLANNED UNIT DEVELOPMENT (PUD)**



FACT SHEET

OVERVIEW

The proposed development is a +/-75.12 acre mixed land-use development in Hall County, Georgia. The applicant proposes the site be annexed into the City of Gainesville and zoned as a Planned Unit Development (PUD) with a focus on commercial development, professional office facilities, multi-family and single family residential. The site is located within the Limestone Parkway Overlay District and along a Gateway Corridor as designated by the City of Gainesville. The plans shown herein are conceptual in nature and may change as market conditions warrant.

LOCATION

The site is located west of Interstate 985 at the intersection of Limestone Parkway and Jesse Jewell Parkway.

SIZE

Total property size is +/-75.12 acres.

COMMERCIAL/OFFICE DEVELOPMENT

Limestone Greenway will include up to 189,400 square feet of commercial/office space/hotel similar to the design concepts in Exhibit "C." There is also a +/-3.04 acre out parcel at the corner of Limestone Parkway and Jesse Jewell Parkway with proposed free-standing retail similar to the design concepts in Exhibit "D."

RESIDENTIAL DEVELOPMENT

The proposed site plan includes 33 single family residential homes and up to 252 multi-family apartment units. The proposed single-family home design would be 1-story similar to the design concepts in Exhibit "E". The multi-family design will be similar to the projects in Exhibit "F".



I. INTRODUCTION

This application seeks approval of the Gainesville City Council to annex into the city limits of Gainesville and to rezone as PUD the 75.12 acre tract located at the intersection of Jesse Jewell Parkway and Limestone Parkway. The legal description for all tracts (hereinafter "Property") is attached hereto as Exhibit "A". The subject property lies to the west of 1-985 and is on the southwest intersection of Limestone Parkway and Jesse Jewell Parkway and on the easterly side of Lakeview Drive. It is located within the Limestone Parkway Overlay District and along a Gateway Corridor (Jesse Jewell Parkway). The subject property is located along the City's Bus Route 2, at the intersection of two Major Arterials (Jesse Jewell Parkway and Limestone Parkway), and is contained in an emerging commercial/mixed-use corridor referred to as "New Holland Market" as denoted and mapped in the City of Gainesville's 2030 Comprehensive Plan. The subject property adjoins the historic homes which front on Quarry Street and is also located within a 1.5 mile radius of Gainesville Middle School and New Holland Core Knowledge Academy, as well as Riverbend Elementary School and Lakeview Academy. Several medical facilities are located within a mile radius of the subject property. The subject property is also flanked by two corridors that are "Areas with Significant Infill Opportunities," as designated on the City's Comprehensive Plan. The applicant is requesting a zoning designation of Planned Unit Development (PUD) in order to provide a mix of uses including neighborhood commercial and others. The request will also comply with the vision and opportunities of the City of Gainesville 2030 Comprehensive Plan and the Economic Gateway Corridor.

II. APPLICANT DESCRIPTION

Limestone Greenway, LLC is a private, family owned company represented by Wendell M. Starke. Mr. Wendell Starke graduated Summa Cum Laude from Auburn University in 1963 and received his Masters of Business Administration from Auburn University in 1964. For the next 35 years, he worked in the investment management field. In 1978, he co-founded INVESCO Capital Management, Inc., which grew to become one of the world's largest investment management firms. He served as President and Chief Investment Officer from 1978 to 1992 and as Chairman and CEO from 1992 to 1997. He retired as Chairman of INVESCO, Inc., in 1999.

In 1990, he developed the Pristine Springs Ranch in Idaho, a cattle business and fish farm that produced more than fifteen million pounds of trout and tilapia per year. He operates radio stations in Idaho and Oregon. He is active in real estate development in Idaho, Georgia and North Carolina.



Mr. Starke resides in Gainesville, Georgia. His two daughters live in Twin Falls, Idaho and operate businesses. His son lives in Johns Creek, Georgia, and manages real estate for The Starke Companies.

Real Estate Development

City View Center, Gainesville, GA

Marina Bay on Lake Lanier, lake front gated community, Hall County, GA

Mundy Mill, Mixed Use Development, Gainesville, GA

Three Creeks Cattle, Stream Mitigation Bank, Hall Co., GA

Retail Shopping Center – GA 400 and Hwy. 53, Dawsonville, GA

Lanier Club Apartments, Gainesville, GA

Hope Valley Farm, Mixed Use Development, Durham, NC

South Hampton Condominium Development, Twin Falls, ID

Education

Auburn University, Bachelor and Master of Business Administration

Chartered Financial Analyst

Chartered Investment Counselor

Current Affiliations, Civic and Charitable Organizations

Pristine Springs Ranch, Owner

FM Idaho Co. and Locally Owned Radio Co., Manager

Eagle Ranch, Advisory Board Member

Previous Affiliations

INVESCO, Inc., President, Chief Investment Officer, Chairman and CEO

YMCA of Georgia, Chairman and Life Member

Atlanta Society of Financial Analysts, President

Boys & Girls Town, Board Member and Chairman of Fund for Needy Children



III. PROPOSED USES

The subject property will serve as an economic development gateway to the City of Gainesville. The owner/applicant intends to develop the subject property in a manner consistent with a Planned Unit Development, with commercial, professional office, and residential opportunities. The applicant, Limestone Greenway, LLC, proposes to construct a community featuring a commercial area, complete with major and junior retail anchors and associated parking; with potential hotel, small retail shop space, adjacent office and/or multi-family residential units, along with one outparcel opportunity suitable for small commercial/retail or restaurant use along Jesse Jewell Parkway. This Planned Unit Development proposes multi-land use (different land uses situated next to one another), not necessarily, but not excluding, mixed use development, to be interconnected and interrelated. Exhibit "B" is a conceptual plan for the proposed subject property. The square footage is approximate, but not limited, to those outlined as follows:

- Retail/Commercial/Professional Office 189,400 SF
 - Limestone Greenway, LLC would like to reserve the right to modify the building locations, drives, parking areas and building dimensions shown on Exhibit "B" to accommodate market demand so long as the maximum square footages and parking ratios stated herein are maintained.
- Outparcel 3.04 acres with retail
- Multi-Family Units: 252 units planned
- Single Family homes: 33 units planned



IV. DESIGN GUIDELINES

A. Signage

Limestone Greenway, LLC's development objective is to create Gainesville/Hall County's newest mixed-use development. Signage is critical to this objective. Accordingly, signage throughout the development will be uniform and consistent. Each sign, whether a small wayfinding interior sign or a large monument or project identification sign, will be architecturally consistent and lit or back-lit as often as possible. Please see Exhibit "G" for proposed sign locations. Limestone Greenway, LLC would submit specific sign dimensions prior to the Planning and Appeals Board hearing. The applicant would like to further reserve the right to modify the attached sign location plan as necessary while adhering to the community development theme.

B. General Architectural Guidelines

- The architectural style shall be in accordance with the following:
- Exterior building materials shall include, but not be limited to brick masonry, stone masonry, split-face block masonry, EIFS, wood or cement board siding.
- Architectural elements shall be reasonably consistent throughout the development. However, with different property uses, there will naturally be different exterior elevation designs. Exhibits "C", "D", "E" and "F" depict proposed conceptual elevations of the buildings.
- Dumpsters, compactors, and similar equipment will be screened.
- Due to the extreme topographic nature of the site – the multi-family building design & height shall be consistent with three/four story split configuration, potential Hotel or Office buildings the maximum building height will be up to 6 stories.



B. General Architectural Guidelines (continued)

- Building Setbacks shall be defined for each specific use (front setback along proposed road as shown on site plan shall be 15 feet).
- Lighting from building, parking, and landscape lighting will be contained within the bounds of the subject property. Extra care will be taken when the outer perimeter subject property abuts an existing residential property.

C. Architectural Guidelines – Multi-Family Residence

Apartments & Amenities:

- 9-foot ceilings with crown molding & chair rail accents & custom designed cabinetry
- Appliances include: Refrigerator, Dishwasher, Microwave Oven & Disposal
- One, two, and three-bedroom apartment homes
- Heated floor space shall be no less than 650 square feet
- Controlled access gated community
- Professionally designed & maintained landscaping
- Resort style swimming pool
- Outdoor entertainment area to include a fireplace/pit element and gas grill
- Clubhouse w/ business and media center
- Fitness center
- Children's play area

The architectural style shall be in accordance with Exhibit "F" and the following:

- Primary exterior building materials shall include, fiber cement lap siding and fiber cement board and batten siding on all elevations. Accent material application shall include Fiber cement shake siding, brick and cultured stone accents shall be utilized on front and visual elevations of the buildings. Retaining site walls constructed of masonry block or poured in place concrete shall be finished with stucco.
- Metal roofs may be utilized on accent roofed areas.
- HVAC condenser units may be visual from the street with no screening.
- Due to the extreme topographic nature of the site – the multi-family building design & height shall be consistent with three/four story split configuration.



C. Architectural Guidelines – Multi-Family Residence (continued)

- Building Setbacks shall be as follows (at a minimum):
 - Front Setback: 30 feet
 - Side setback: 10 feet
 - Rear setback: 20 feet
- Lighting from building, parking, and landscape lighting will be contained within the bounds of the subject property. Extra care will be taken when the outer perimeter subject property abuts an existing residential property.

D. Architectural Guidelines – Single Family Home Residence

The architectural style shall be in accordance with Exhibit “E” and the following:

- Single family residences with 3 bedrooms and 2 baths
- Heated floor space shall be no less than 1,100 square feet
- Primary exterior building materials shall include, fiber cement lap siding and fiber cement board and batten siding on all elevations. Accent material application shall include Fiber cement shake siding, brick and cultured stone accents shall be utilized on front and visual elevations of the buildings. Masonry block or concrete retaining walls shall be finished with stucco.
- It is the intent for the individual homes to be developed on one common property boundary with no individual property lines, and each home separated by a minimum of 10 feet. The developer reserves the right to develop as a (A) condominium subdivision, fee simple subdivision or (B) traditional subdivision with the following minimum lot standards for each, (lot size, lot width, road frontage).
- (A) Building Setbacks shall be as follows (at a minimum):
 - Front Setback: (proposed main road - 15 feet)
 - Front Setback: (Lakeview Drive - 30 feet)
 - Front Setback: (Highland Street – 30 feet)
 - Side/Building Separation: 5 feet
 - Rear Setback/Buffer (Historical Mill Homes): 25 feet



- (B) Lot Size / Building Setbacks shall be as follows (at a minimum):
 - Front Setback: (proposed main road - 20 feet)
 - Front Setback: (Lakeview Drive - 30 feet)
 - Front Setback: (Highland Street – 30 feet)
 - Side/Building Separation: 0-10 feet between buildings
 - Rear Setback/Buffer (Historical Mill Homes): 25 feet or 10' from internal (newly created) property line
 - Minimum lot size: 6300 sq. ft.
 - Minimum lot width/road frontage: 60' or (30' cul-de-sac)

E. Parking & Entrance/Exit Roads

Parking requirements shall meet or exceed the City of Gainesville parking requirements as to number of spaces, size and accessible spaces as it relates to the following: multifamily, commercial, lodging/hotel, retail office, commercial-excluding outparcels. The overall commercial parking requirements will be met by combining the North and South Commercial Sites.

Main entrance to the development shall occur at the existing major signalized intersect on Limestone Parkway and Kroger rear access drive of The New Holland Market development. A right in/right out traffic pattern shall occur at the 3.04 acre out parcel on Limestone Parkway and Jessie Jewell Parkway. A final entrance shall occur on Lakeview Drive for the single family 30 home (+/-10%) development and a temporary construction access point for construction of the Multi-family/Commercial properties that may be converted to an emergency access point only upon completion of construction.

An updated traffic study is provided by Marc R. Acampora, PE, LLC. According to the traffic study the developer agrees to make upgrades to the off-site intersection known as Beverly Drive/Limestone Parkway by providing an additional dedicated right-turn onto Limestone Parkway. The developer is limiting its portion of improvement to the addition of lane width on Beverly Drive approach to Limestone Parkway up and to the existing guard rail.



F. Detention

All storm water detention shown on the site plan are preliminary and general in design. The owner/applicant may vary these ponds (in number, size, or location) from the attached concept plan so long as the changes are consistent with applicable land codes.

G. Landscaping and Buffers

As shown on the site plan, a 25-foot buffer is planned adjacent to the existing residential uses and a 15-foot buffer adjacent to like use properties. The existing streams that traverse the property will maintain local and state required buffers. Landscaping shall be professionally designed and professionally maintained.

H. Overlay Zone Requirements

Limestone Parkway Overlay Zone

The property, when annexed into the city of Gainesville, will fall within the Limestone Parkway Overlay Zone. The Overlay requirements address retaining walls, architecture, storm water detention, mass grading and multiple site development standards. It is stated in the Limestone Overlay as follows:

Limestone Parkway Overlay Zone (continued)

"The purpose of the Limestone Parkway Overlay Zone is to provide special design requirements for those properties located within the zone, regardless of their zoning classification, in order to maintain a consistent appearance along the parkway and throughout the zone. The intent of this zone is to create an identity for the area that will enhance its economic vitality and protect the value of properties within the zone."

PUD – Planned Unit Development

It is the intent of the Planned Unit Development (PUD) to meet the spirit of the overlay zone while establishing development guidelines which allow development in a manner which



balance extreme topographic challenges, existing architectural elements (New Holland Mill), and limited access requirements on Limestone Parkway and Jesse Jewell Parkway. The entire retail and apartment site will be mass graded with resulting slopes in the 2%-8% ranges in building areas, parking areas and driveways. Embankments will not exceed 2:1 slope. Retaining walls will be 2' -30' in height to provide access and development of the site walls will be visible from the street and will have a split face block appearance with colors enhancing and playing off architectural elements in the development.

PUD – Planned Unit Development (continued)

Parking will be located in areas to meet retail requirements and may be in front of buildings. Storm water detention ponds will be above grade in areas dictated by terrain and may be in front of, beside, or behind buildings and will be designed as a landscape feature if visible from road, driveway or parking areas. The site will be professionally landscaped to minimize the view of parking, soften walls, break up parking fields, and blend storm water ponds into the site development. Due to parking requirements and the development scale, the maximum impervious area will be in will be consistent with what the City of Gainesville currently allows for within all nonresidential and residential zoning districts. Storm water management will be designed per applicable codes.

V. CONCLUSION

The applicant may receive an occupancy permit for no more than 100 apartment, townhome or condominium units prior to receiving an occupancy permit for the construction of at least 35,000 square feet of the proposed commercial space and respectfully requests that the annexation and rezoning application be approved.

TRACT "1"		
1	N 26°27'03"W	177.99'
2	N 68°33'15"W	84.98'
	A=85.18' R=63.31'LI	
3	S 57°25'37"W	35.81'
	A=36.06' R=87.08'LI	
4	S 45°59'41"W	109.52'
	A=109.52' R=7263.36'RL	
5	N 43°14'43"W	144.37'
6	S 46°59'35"W	100.64'
7	S 45°55'49"W	99.65'
8	S 44°31'36"W	131.32'
9	S 26°58'41"W	185.32'
10	S 20°59'30"W	194.04'
11	S 68°21'37"E	145.44'
12	S 22°24'33"W	86.39'
13	S 04°24'53"W	9.53'
14	S 38°34'33"E	7.73'
15	N 70°03'59"W	121.03'
16	S 08°53'27"W	102.51'
17	S 33°32'14"E	89.14'
18	S 34°01'36"E	108.91'
19	S 56°27'28"W	224.13'
20	N 35°20'33"W	218.08'
21	S 54°37'32"W	317.68'
22	N 33°34'16"W	100.44'
23	N 33°07'12"W	100.78'
24	N 33°29'23"W	99.66'
25	N 34°13'24"W	99.25'
26	N 33°50'06"W	100.21'
27	N 33°24'38"W	100.11'
28	S 56°22'35"W	171.67'
A	N 33°33'08"W	46.43'
B	N 14°01'08"W	185.80'
	A=189.45' R=277.86'RL	
C	N 05°31'10"E	63.92'
D	N 29°41'21"E	152.17'
	A=188.78' R=185.79'RL	
E	N 53°51'52"E	65.35'
F	N 28°35'27"E	187.41'
	A=194.68' R=204.48'LI	
G	N 02°41'59"E	264.26'
	A=284.41' R=2239.31'RL	
H	N 06°04'57"E	130.59'
I	N 09°44'22"W	282.43'
	A=285.79' R=481.28'LI	
J	N 06°30'47"W	261.13'
	A=268.00' R=400.07'RL	
K	N 06°33'40"E	76.46'
	A=76.60' R=367.35'LI	

LAKEVIEW DRIVE
(50 Foot Right Of Way)

ANNEXATION TRACT 1 (75.12 ACRES)

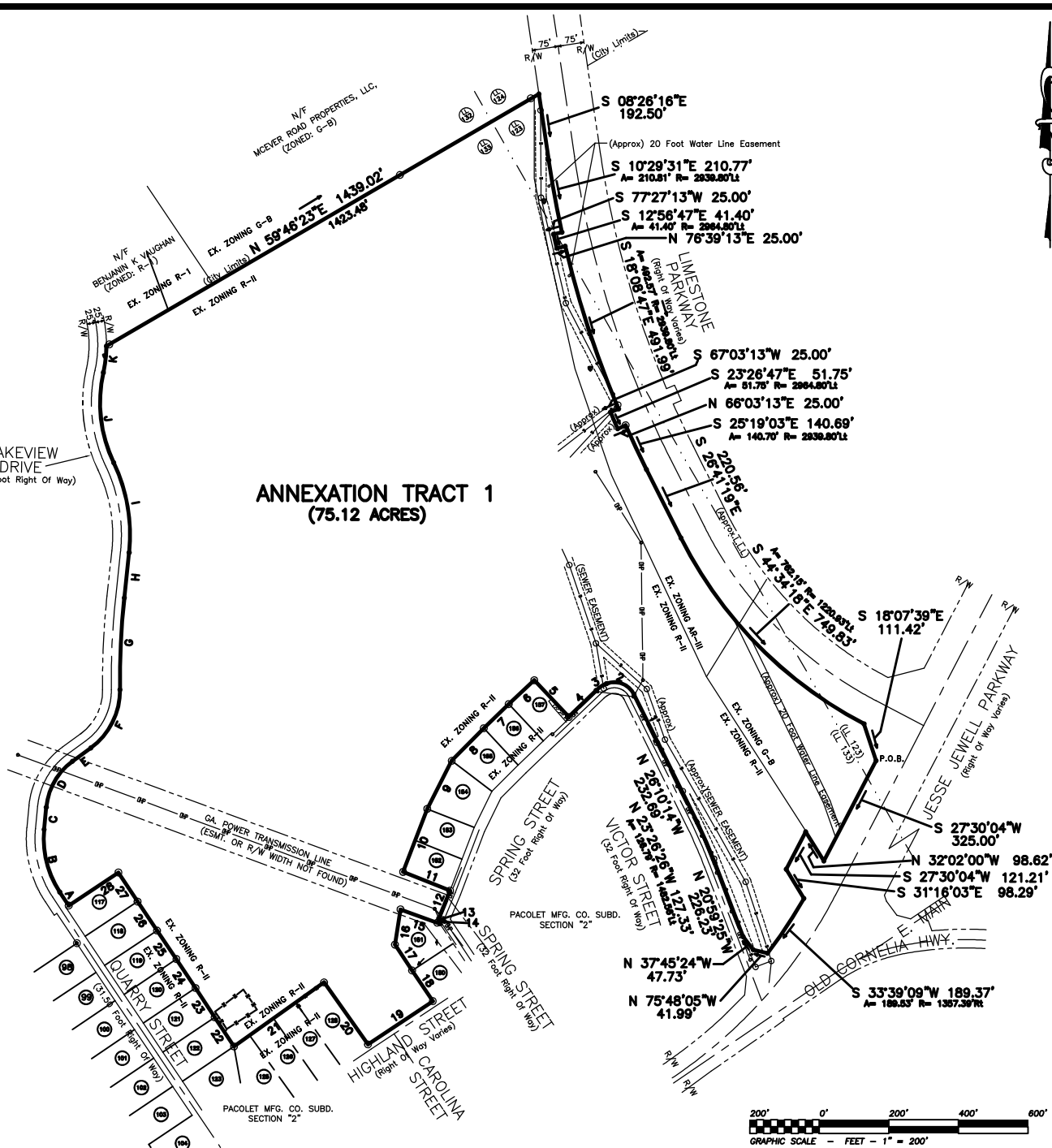




EXHIBIT B

Proposed Site Plan



- 1 TOTAL COMMERCIAL/OFFICE SITE:
(NORTH) OF PROPOSED ROAD
COMMERCIAL SQ. FT. = 53,200
TOTAL PARKING PROVIDED = 325
- 2 TOTAL COMMERCIAL/OFFICE SITE:
(SOUTH) OF PROPOSED ROAD
COMMERCIAL SQ. FT. = 130,200
TOTAL PARKING PROVIDED = 481 SPACES
TOTAL COMMERCIAL/OFFICE SITE: 31.22 ACRES
- 3 TOTAL APARTMENT SITE: 26.43 ACRES
TOTAL UNITS: (UNITS ALLOWED) = 316 UNITS
TOTAL UNITS: (PROPOSED) = 252 UNITS
DENSITY: 9.53 UNITS/AC
TOTAL PARKING = 486 SPACE
- 4 TOTAL SINGLE FAMILY: 14.3 ACRES
TOTAL UNITS: 30 UNITS
- 5 TOTAL OUTPARCEL AREA: 3.04 ACRES
TOTAL PROJECT AREA: 75.12 ACRES
WATER SUPPLY: CITY OF GAINESVILLE
SEWER SUPPLY: CITY OF GAINESVILLE

LIMESTONE GREENWAY

MIXED USE PLAN FOR:

— LOCATED IN —
LAND LOTS 123 & 133
9TH LAND DISTRICT
HALL COUNTY, GEORGIA

REVISIONS

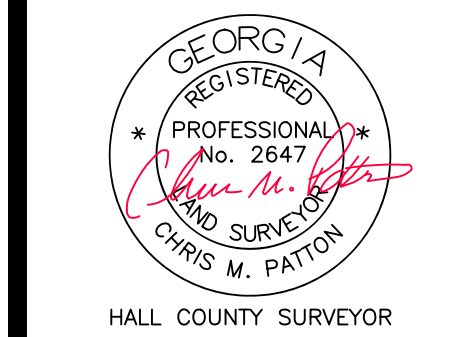
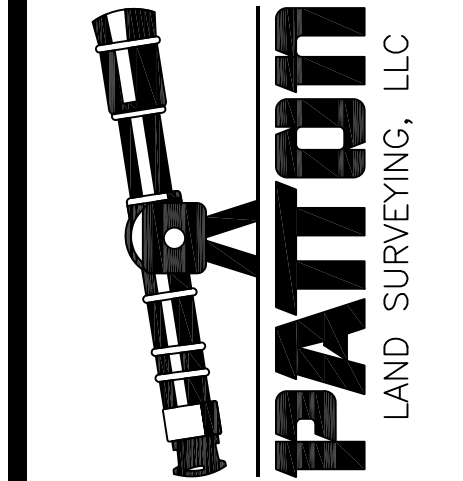
No.	DATE	DESCRIPTION
1	07/26/2018	REVISED AREAS & ROADWAY

SHEET NUMBER:

1 of 4
SCALE: NOT TO SCALE

PLAT DATE: 02/23/2018
Concept/17-036.03.dwg
JN. 17-036

REGISTERED PROFESSIONAL
LAND SURVEYORS





- 1 TOTAL COMMERCIAL/OFFICE SITE:
(NORTH) OF PROPOSED ROAD
COMMERCIAL SQ. FT. = 53,200
TOTAL PARKING PROVIDED = 325
- 2 TOTAL COMMERCIAL/OFFICE SITE:
(SOUTH) OF PROPOSED ROAD
COMMERCIAL SQ. FT. = 130,200
TOTAL PARKING PROVIDED = 481 SPACES
TOTAL COMMERCIAL/OFFICE SITE: 31.22 ACRES
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TOTAL PROJECT AREA: 75.12 ACRES
WATER SUPPLY: CITY OF GAINESVILLE
SEWER SUPPLY: CITY OF GAINESVILLE

MIXED USE PLAN FOR:
LIMESTONE GREENWAY

- LOCATED IN -
LAND LOTS 123 & 133
9TH LAND DISTRICT
HALL COUNTY, GEORGIA

REVISIONS

No.	DATE	DESCRIPTION
1	07/26/2018	REVISED AREAS & ROADWAY

SHEET NUMBER:

2 of 4
SCALE: 1" = 120'

PLAT DATE: 02/23/2018
Concept/17-036.01.dwg
JN. 17-036

REGISTERED PROFESSIONAL
LAND SURVEYORS

PATTON
LAND SURVEYING, LLC

P.O. BOX 256
GAINESVILLE, GA. 30503
PHONE: (770) 532-6492
FAX: (770) 532-1995
www.pattonsurveying.com

GEORGIA
REGISTERED
PROFESSIONAL
NO. 2647
LAND SURVEYOR
CHRIS M. PATTON
HALL COUNTY SURVEYOR



REGISTERED PROFESSIONAL LAND SURVEYORS

PATTON
LAND SURVEYING, LLC

P.O. BOX 256
GAINESVILLE, GA. 30503
PHONE: (770) 532-6492
FAX: (770) 532-1995
www.pattonsurveying.com

GEORGIA REGISTERED PROFESSIONAL LAND SURVEYOR

Chris M. Patton

HALL COUNTY SURVEYOR

MIXED USE PLAN FOR:

LIMESTONE GREENWAY

- LOCATED IN -

LAND LOTS 123 & 133
9TH LAND DISTRICT
HALL COUNTY, GEORGIA

REVISIONS

No.	DATE	DESCRIPTION
1	07/25/2018	REVISED AREAS & ROADWAY

SHEET NUMBER:

4 of 4

SCALE: 1" = 60'

PLAT DATE: 02/23/2018

Concept/17-036.01.dwg

JN. 17-036



EXHIBIT C

Commercial Design Concepts (Retail/Office/Hotel)



RETAIL DESIGN CONCEPTS





RETAIL DESIGN CONCEPTS





RETAIL DESIGN CONCEPTS





COMMERCIAL OFFICE DESIGN CONCEPTS





COMMERCIAL OFFICE DESIGN CONCEPTS





HOTEL DESIGN CONCEPTS





EXHIBIT D

Commercial Design Concepts (Free-Standing Retail)







EXHIBIT E

Single Family Residence Design Concepts



LIBERTY LAKEVIEW

COMMUNITY CONCEPT FOLIO

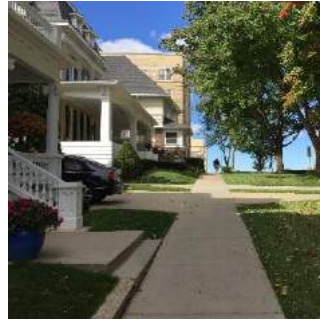




EXHIBIT F

Multi-Family Residence Design Concepts

Design Concept Multi-Family



Design Concept Multi-Family





EXHIBIT G

Sign Concepts



Limestone Greenway

Gainesville, GA

Preliminary Concepts March.2018

 **ATLANTIC**
SIGN & GRAPHICS, INC.
"Where form and function come together!"
5235 POPLAR STREET BUFORD, GEORGIA 30518
TEL: 770-614-6613 FAX: 770-614-5893



A PRIMARY PARK IDENTIFICATION • Front View / Elevation Rendering
SCALE: 1/4" = 1' 0" • For Presentation

CLIENT	Limestone Greenway
	4038 Chestatee Rd Gainesville, GA 30506
JOB INFO	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
	© COPYRIGHT 2018, BY ATLANTIC SIGN & GRAPHICS, INC. ALL DESIGNS PRESENTED ARE THE SOLE PROPERTY OF ATLANTIC SIGN & GRAPHICS, INC., AND MAY NOT BE REPRODUCED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM ATLANTIC SIGN & GRAPHICS, INC.
REVISION HISTORY	Date - Revision
APPROVAL	Client Approval
	Landlord Approval
NOTES	
 ATLANTIC SIGN & GRAPHICS, INC. <i>"Where form and function come together!"</i> 3235 POPLAR STREET BUFORD, GEORGIA 30218 TEL: 770-614-6613 FAX: 770-614-5893	
Lisc #: 	
SHEET G1	



A PRIMARY PARK IDENTIFICATION • Front View / Elevation Rendering
SCALE: 1/4" = 1' 0" • For Presentation

CLIENT	Limestone Greenway
	4038 Chestatee Rd Gainesville, GA 30506
JOB INFO	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
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REVISION HISTORY	Date - Revision
APPROVAL	Client Approval
	Landlord Approval
NOTES	
ATLANTIC SIGN & GRAPHICS, INC. <i>"Where form and function come together!"</i> 3235 POPLAR STREET BUFORD, GEORGIA 30518 TEL: 770-614-6613 FAX: 770-614-5893	
Lisc #: 	
SHEET G2	



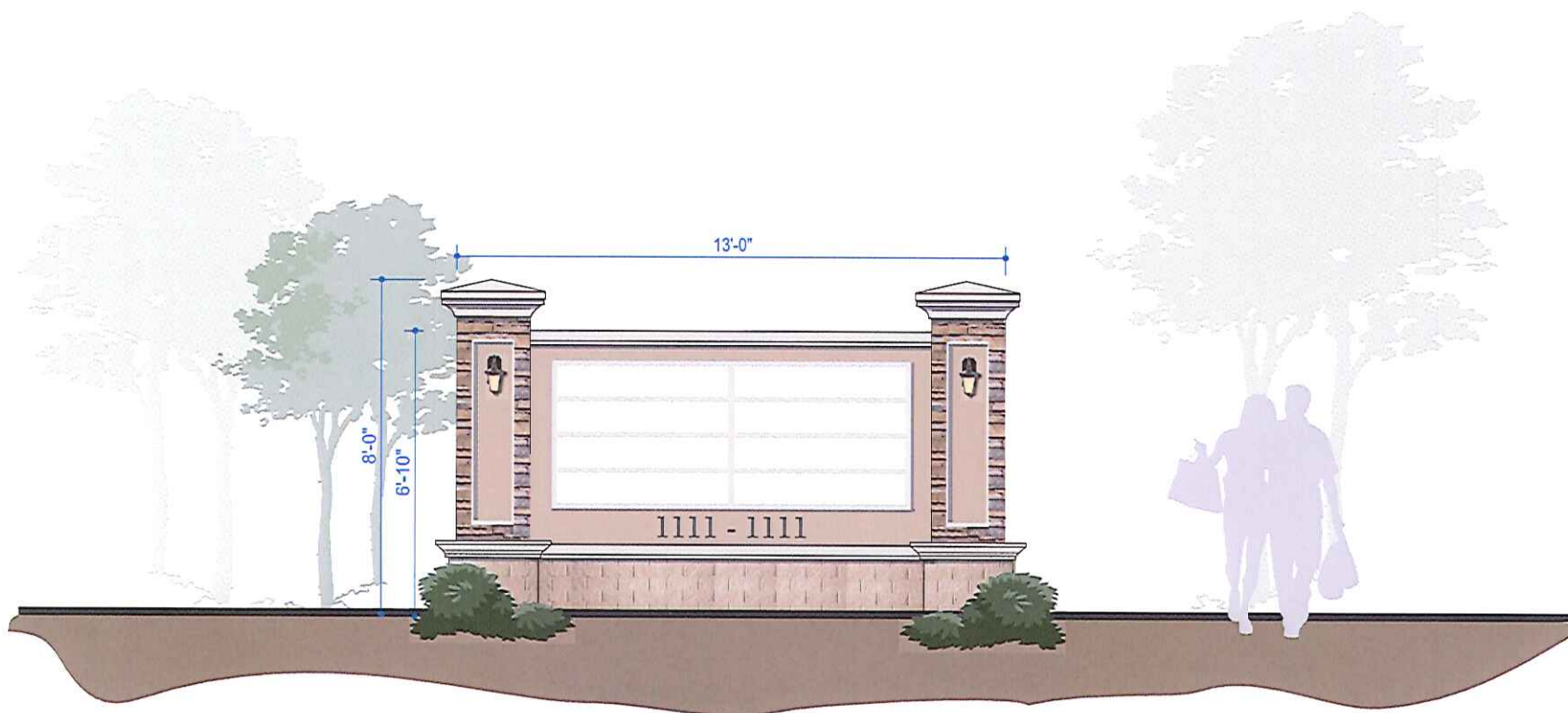
B PRIMARY RETAIL IDENTIFICATION • Front View / Elevation Rendering
SCALE: 3/8" = 1' 0" • For Presentation

CLIENT	Limestone Greenway
	4038 Chestatee Rd Gainesville, GA 30506
JOB INFO	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
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REVISION HISTORY	Date - Revision
APPROVAL	Client Approval
	Landlord Approval
NOTES	
ATLANTIC SIGN & GRAPHICS, INC. <i>"Where form and function come together!"</i> 5235 POPLAR STREET BUFORD, GEORGIA 30518 TEL: 770-614-6613 FAX: 770-614-5893	
Lisc #: LISTED	
SHEET G3	



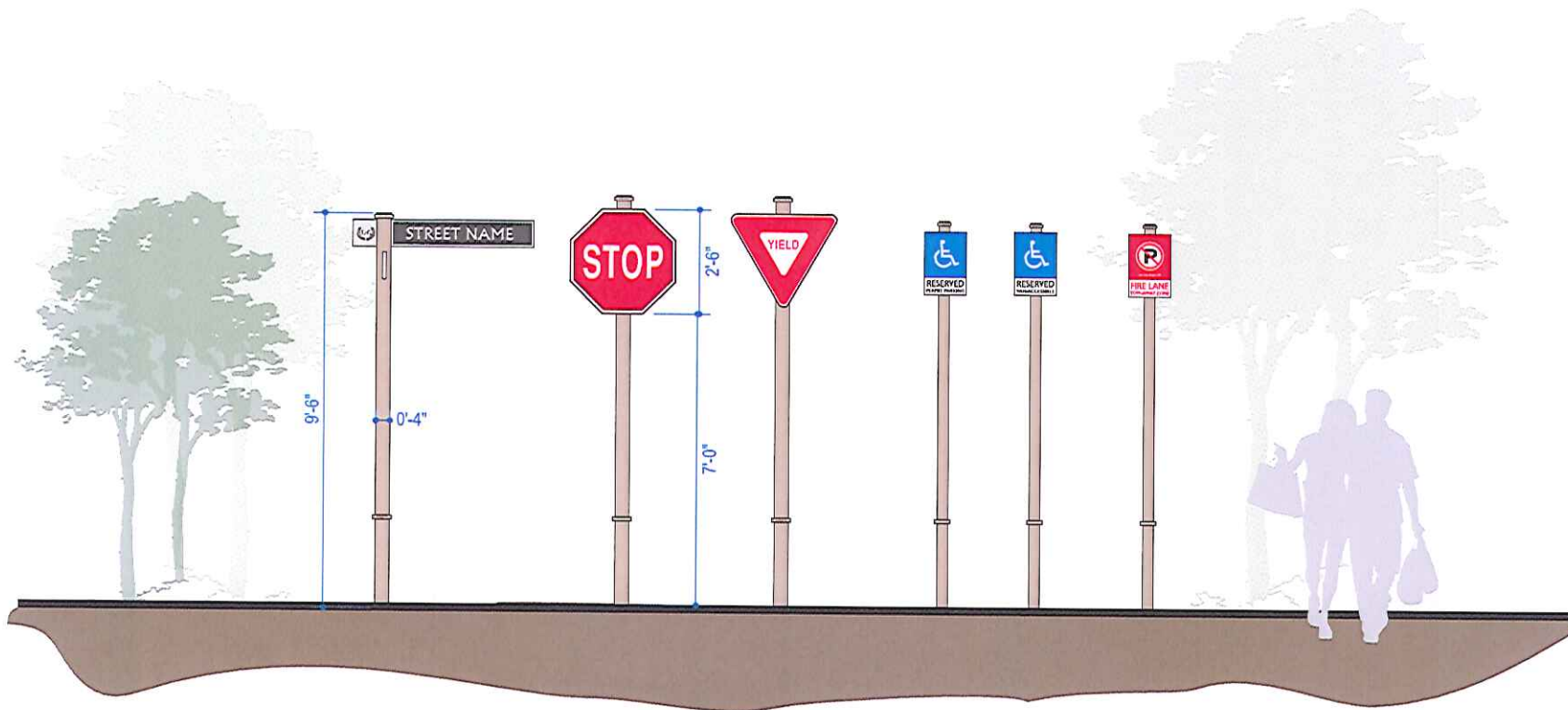
C.1 SINGLE TENANT RETAIL IDENTIFICATION - • Front View / Elevation Rendering
SCALE: 3/8" = 1' 0" • For Presentation

CLIENT	Limestone Greenway
	4038 Chestatee Rd Gainesville, GA 30506
JOB INFO	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
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REVISION HISTORY	Date - Revision
APPROVAL	Client Approval
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Lisc #: 	
SHEET G4	



C.2 MULTI-TENANT RETAIL IDENTIFICATION • Front View / Elevation Rendering
SCALE: 3/8" = 1' 0" • For Presentation

CLIENT	Limestone Greenway
	4038 Chestatee Rd Gainesville, GA 30506
JOB INFO	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
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SHEET G5	



E REGULATORY & RESTRICTIVE PARKING • Front View / Elevation Rendering
SCALE: 1/4" = 1' 0" • For Presentation

CLIENT	Limestone Greenway
	4038 Chestatee Rd Gainesville, GA 30506
JOB INFO	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
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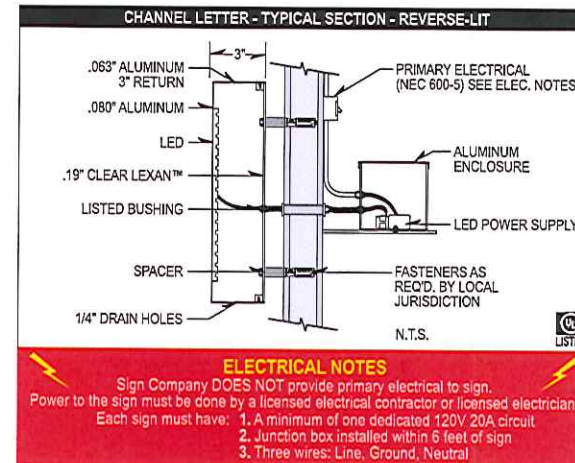
TENANT NAME

F Reverse Channel Letters w/ LED, Individually Mounted, Remote Transformers • Front View
For Presentation

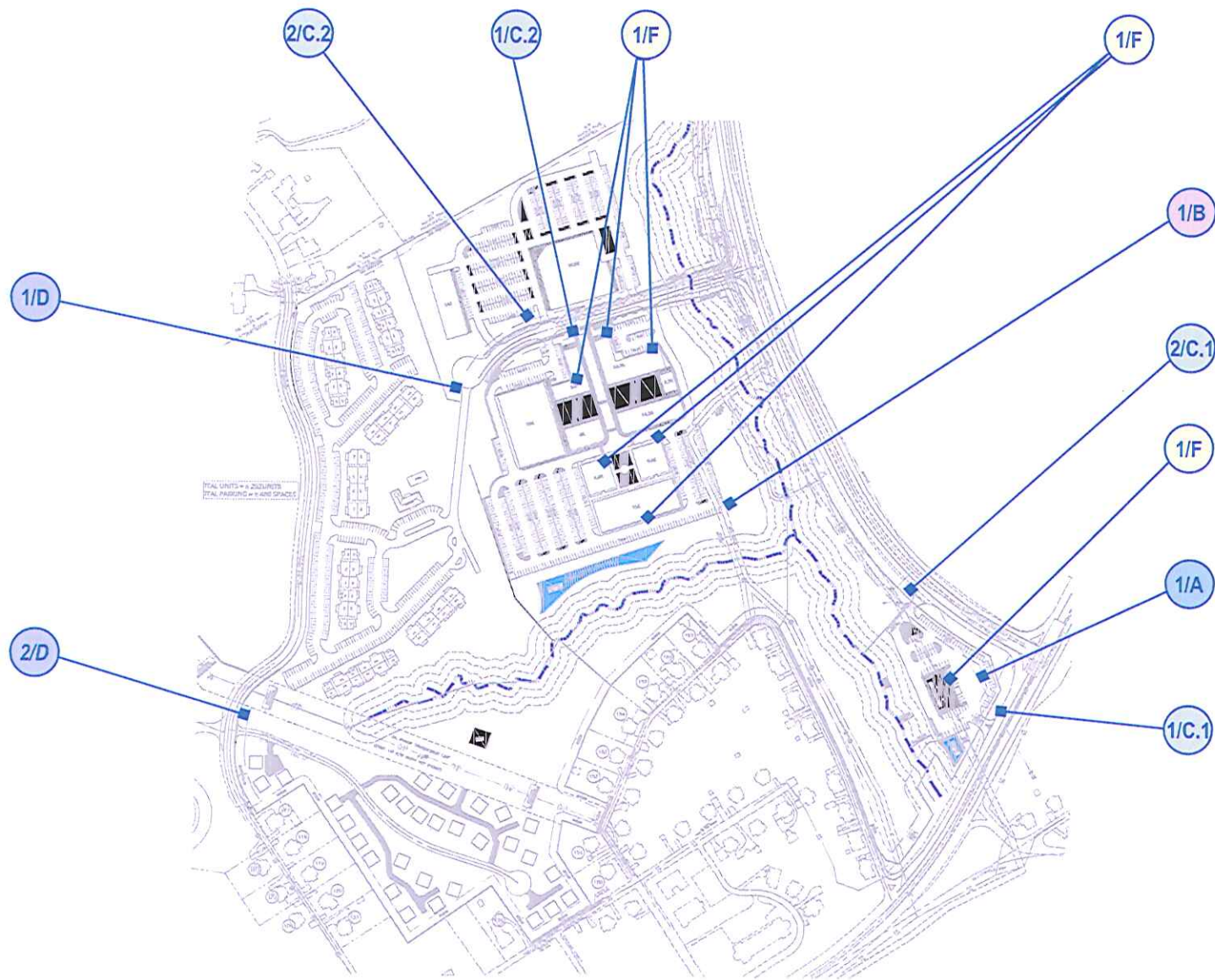
INTERNALLY ILLUMINATED REVERSE CHANNEL LETTERS
EXACT COLOR, SIZE AND FONT TO BE DETERMINED

NOTES:

- Individually Mounted
- WHITE interiors for increased illumination
- All paint two-stage automotive acrylic



CLIENT	Limestone Greenway
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	Date: 03/16/2018 Sales: Jeff Williamson P.M.: Mark Dunford Designer: Lauren Schultz
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CLIENT	Limestone Greenway
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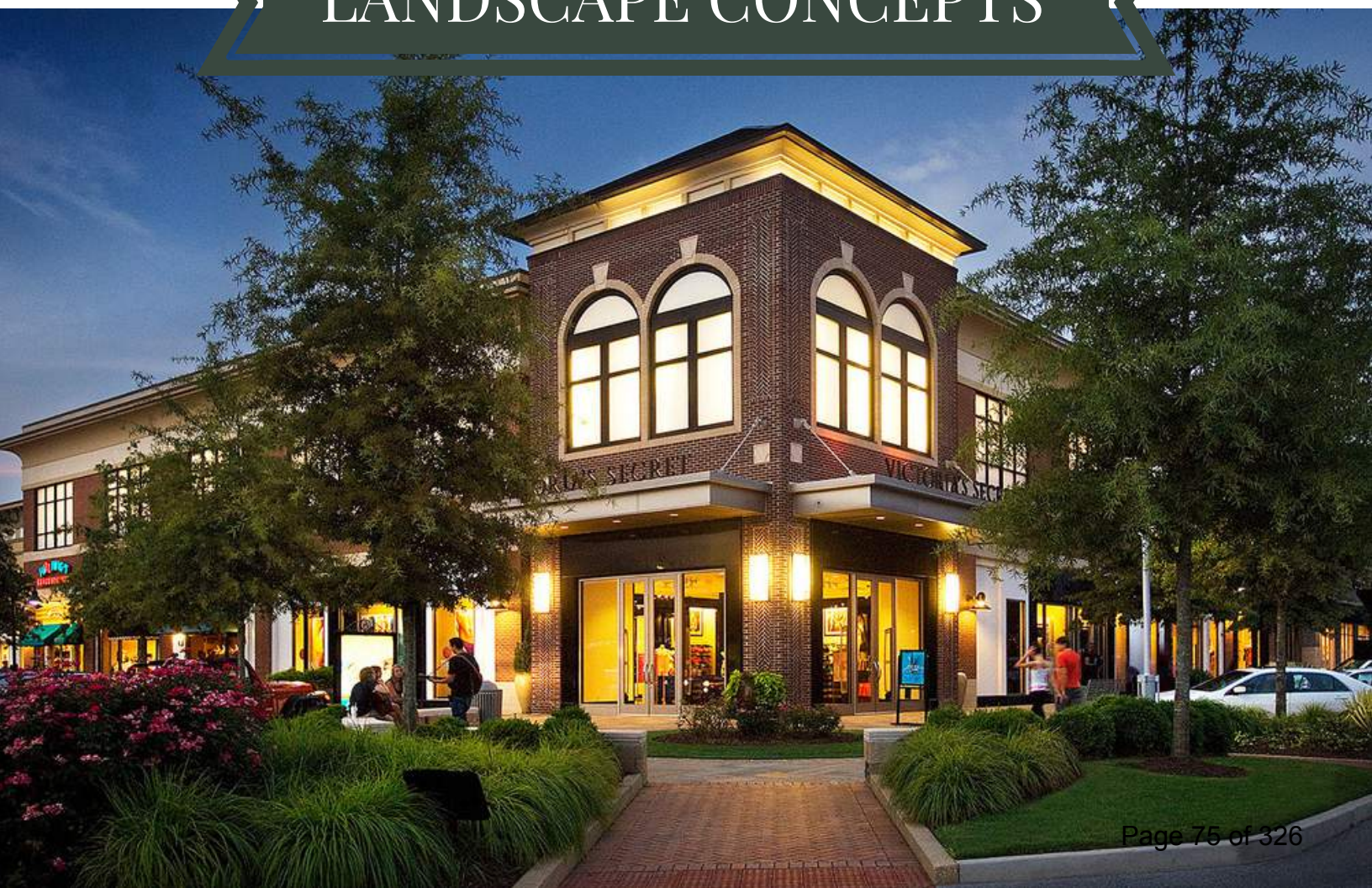


EXHIBIT H

Landscape Plan Concepts



LANDSCAPE CONCEPTS





LANDSCAPE CONCEPTS





LANDSCAPE CONCEPTS

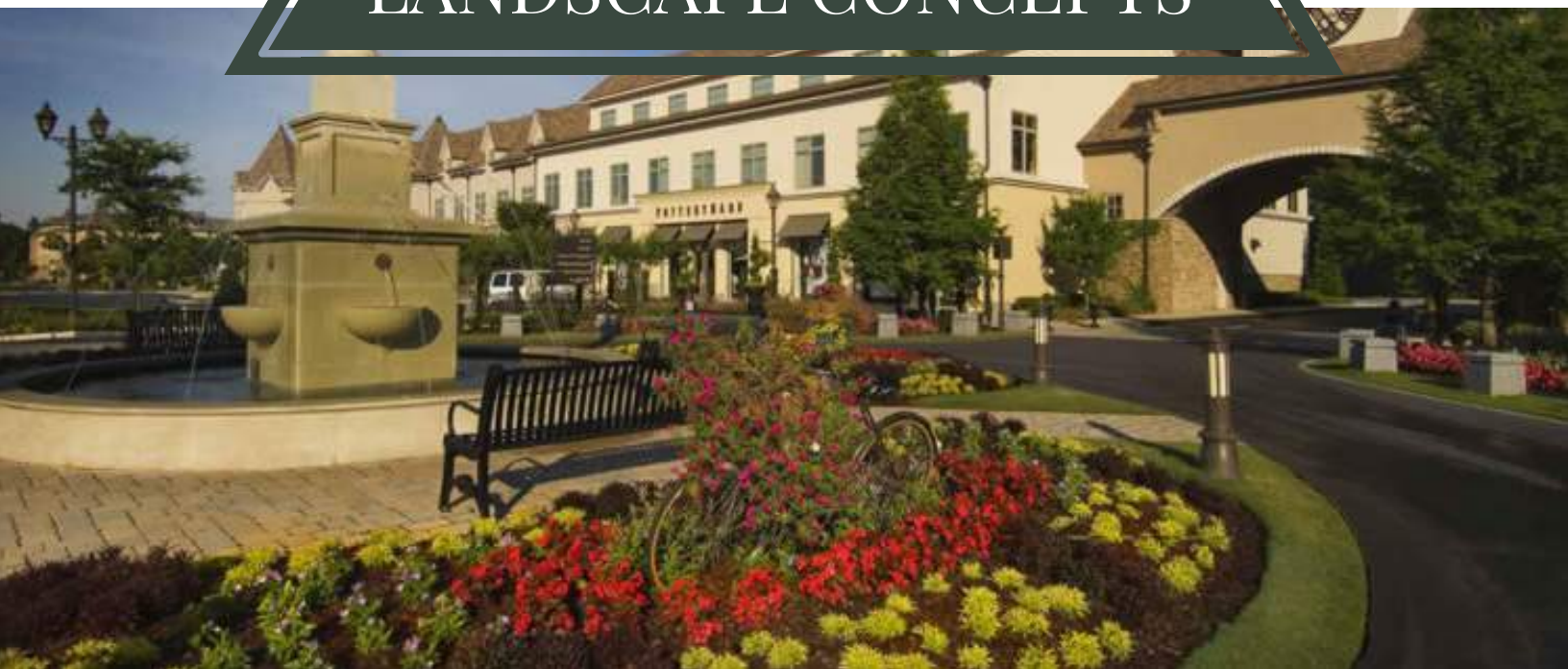




EXHIBIT I

Development Team

Wendell M. Starke

Mr. Wendell Starke graduated Summa Cum Laude from Auburn University in 1963 and received his Masters of Business Administration from Auburn University in 1964. For the next 35 years, he worked in the investment management field. In 1978, he co-founded INVESCO Capital Management, Inc., which grew to become one of the world's largest investment management firms. He served as President and Chief Investment Officer from 1978 to 1992 and as Chairman and CEO from 1992 to 1997. He retired as Chairman of INVESCO, Inc., in 1999.

In 1990, he developed the Pristine Springs Ranch in Idaho, a cattle business that also produces and processes more than ten million pounds of trout and tilapia. He operates radio stations in Idaho and Oregon. He is active in real estate development in Idaho, Georgia and North Carolina.

Mr. Starke resides in Gainesville, Georgia. His two daughters live in Twin Falls, Idaho and operate businesses. His son lives in Johns Creek, Georgia, and manages real estate for The Starke Companies.

Real Estate Development

City View Center, Gainesville, GA
Marina Bay on Lake Lanier, lake front gated community, Gainesville, GA
Mundy Mill, Mixed Use Development, Gainesville, GA
Three Creeks Cattle, Stream Mitigation Bank, Hall Co., GA
Retail Shopping Center – GA 400 and Hwy. 53, Dawsonville, GA
Lanier Club Apartments, Gainesville, GA
Hope Valley Farm, Mixed Use Development, Durham, NC
South Hampton Condominium Development, Twin Falls, ID

Education

Auburn University, Bachelor and Master of Business Administration
Chartered Financial Analyst
Chartered Investment Counselor

Current Affiliations, Civic and Charitable Organizations

Pristine Springs Ranch, Owner
FM Idaho Co. and Locally Owned Radio Co., Manager
Eagle Ranch, Advisory Board Member
Chattahoochee Bank of Georgia, Chairman

Previous Affiliations

INVESCO, Inc., President, Chief Investment Officer, Chairman and CEO
YMCA of Georgia, Chairman and Life Member
Atlanta Society of Financial Analysts, President
Boys & Girls Town, Board Member

Mac McCain, The WTM Corporation

Mac McCain is President/CEO of The WTM Corporation. The firm was established in 1992 for the purpose of real estate development and general contracting.

McCain received a bachelor of science degree in Building Construction from Auburn University and holds general contractor licenses in Georgia and South Carolina. He has been involved with the development of numerous master-planned communities, single and multifamily communities, commercial centers and office buildings located throughout metro Atlanta as well as North and South Carolina.

Project references available upon request.

Wakefield Beasley & Associates

Wakefield Beasley & Associates was created to solve clients' problems and create amazing spaces. Its founders, Lamar Wakefield and John Beasley, saw the need for a professional services firm that worked closely with clients to create innovative and efficient developments across the world. That people-led focus has yielded one high-profile project after another.

Its initial milestone project was Metro Atlanta's first office condominium project: Governor's Ridge in Cobb County. The Forum on Peachtree Parkway took the firm to the next level, and then another leap forward came with Atlantic Station. The firm - which now employs over 150 people and has offices in Jacksonville; Orlando; Panama and Shanghai - is headquartered in one of its most recent mixed-use projects: Avalon in Alpharetta. The latest game changer was winning the contract for The Battery Atlanta at SunTrust Park, a \$2 billion mixed use development surrounding the new Atlanta Braves stadium. The diverse firm - which has 27 countries represented in its Alpharetta headquarters staff - has a wide range of product types: retail/mixed use, hospitality, corporate office, industrial, municipal, education, multi-family, senior living, ecclesiastical and more.

Chris Patton, Patton Land Surveying

Education: B.S. Criminal Justice – Appalachian State University 1985
Associate Degree Land Surveying 1992

Registration: Professional Land Surveyor: State of Georgia since 1994

Professional

Experience: Mr. Patton has 25 years of experience in land surveying and mapping. He is proficient in a wide variety of disciplines related to the surveying profession including: boundary surveys, topographic surveys, As-built surveys, and construction staking for roadways, subdivision lots, storm drain, sanitary sewer, curb lines, and building corners. Mr. Patton has also been honored with the ability to be elected and serve as the Hall County Surveyor for 3 terms.

Professional

Affiliations: SAMSOG Surveying & Mapping Society of Georgia

George Hokayem, CCIM, SVN/Hokayem Company, Inc.

George A. Hokayem, CCIM, serves as managing director for SVN/Hokayem Company, Inc., a full service commercial real estate brokerage firm. He holds the designation of Certified Commercial Investment Member (CCIM) and is also an active member of the International Council of Shopping Centers (ICSC). While his primary market area for over 33 years has been the North Georgia region, Hokayem has been directly involved in successful brokerage transactions in North Carolina, Tennessee and Arkansas. Hokayem has served on the Hall County Board of Equalization, the Planning and Appeals Board and the Gainesville Redevelopment Authority.

Hokayem holds a BBA in Real Estate and an MBA in Real Estate/Business Management from the University of Georgia and also completed post graduate course work in accounting at the University of Georgia. He has completed numerous continuing education courses from sponsoring organizations including: International Council of Shopping Centers (ICSC), Institute of Real Estate Management (IREM), Wharton School of Business, National Association of Home Builders, and CCIM Institute.

Heather Taylor, SVN/ Hokayem Company, Inc.

Heather Taylor joined SVN/Hokayem Company, Inc. in 2008 and is currently an Associate Advisor and Property Manager. Taylor specializes in the leasing of office space and oversees the Property Management division. She currently manages a portfolio of over 250,000 square feet of medical, office and retail space throughout Northeast Georgia.

Taylor has worked in various capacities within the real estate industry including Sales & Marketing, Sales Management, Administration and Property Management. Taylor began her career with Pulte Homes. Over a period of 6 years, she had closings of more than \$47 Million in new homes sales while maintaining a 97% Customer Satisfaction Rating. Taylor was also the recipient of Nine "Customer Choice" Awards, Three T.O.P.S. (The Outstanding Pulte Subdivision) Awards and served as a Pulte "Top Gun" Trainer. Other honors include "Rookie of the Year" (1999), 1st Runner-Up to "Salesperson of the Year" (2001), 2nd Runner-Up to "Salesperson of the Year" (2002) and Georgia Division MVP (2004).

In 2005, Taylor became the Sales Manager for Touchstone Homes where she supervised a sales team of 22 agents. During her tenure, Touchstone Homes was named "America's Best Builder" 2007 by Builder Magazine. Her team produced over \$180 million in revenue with a 28% Increase in Customer Satisfaction Scores. Taylor also served as a member of the Strategic Planning Team and helped design the floor plan for Touchstone Home's entry in the 2007 Atlanta Street of Dreams tour.

Taylor is a resident of Hall County and holds a B.A. in Communications from the University of South Carolina.

Traffic Impact Study

Proposed Limestone Greenway Multi-Use Development City of Gainesville, Georgia

March 29, 2018

MARC R. ACAMPORA, PE, LLC
TRAFFIC ENGINEERING



Traffic Impact Study

Proposed Limestone Greenway Multi-Use Development
City of Gainesville, Georgia

study prepared for:

Limestone Greenway, LLC
P.O. Box 978
Gainesville, Georgia 30503

March 29, 2018



MARC R. ACAMPORA, PE, LLC
TRAFFIC ENGINEERING

858 Myrtle Street, NE
Atlanta, Georgia 30308
(678) 637-1763

e-mail: acamporatraffic@comcast.net
web: www.acamporatraffic.com



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Introduction

This study assesses the traffic impact of a proposed multi-use development in the City of Gainesville, Georgia. The project will consist of 130,200 square feet of retail uses, 53,200 square feet of office, 252 residential apartments, and 30 single-family homes. A 6,000 square foot retail outparcel is located at the corner of Jesse Jewell Parkway and Limestone Parkway. The site is located along the west side of Limestone Parkway, north of Jesse Jewell Parkway as shown in the location map in Figure 1.

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

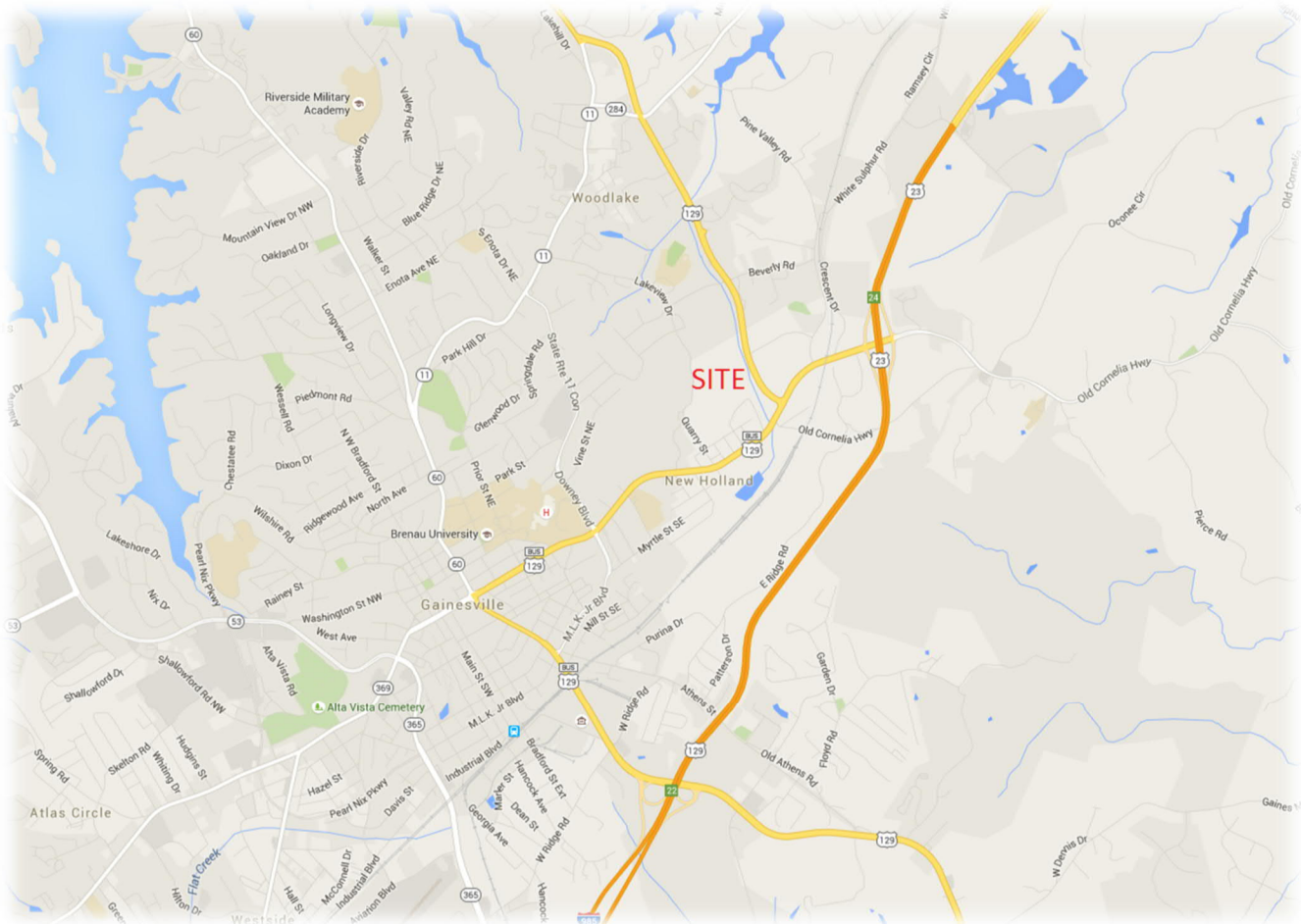


Figure 1 – Limestone Greenway Location Map

Existing Traffic Conditions

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

Description of Roadway Facilities

Limestone Parkway (US 129) is a north / south limited access highway that begins at Jesse Jewell Parkway and continues north to Cleveland Highway. In the vicinity of the proposed development, Limestone Parkway has two through travel lanes in each direction and is median divided. Exclusive left and right turn lanes are provided at nearby signalized intersections. In close proximity to the proposed development, Limestone Parkway has signalized intersections at Jesse Jewell Parkway, the access to the Kroger shopping center, and Beverly Road. The terrain along this section of Limestone Parkway is gently rolling and the posted speed limit is 50 mph. In 2016 the Georgia Department of Transportation (Georgia DOT) recorded an Annual Average Daily Traffic (AADT) Volume of 18,100 vehicles per day (vpd) on Limestone Parkway north of the access to the Kroger shopping center.

Jesse Jewell Parkway (US 129 Business west of Limestone Parkway, US 129 to the east, Georgia State Route 369) is an east / west highway that extends into downtown Gainesville to the west of the proposed development. There are two through lanes in each direction and a median divide on this section of Jesse Jewell Parkway. Exclusive turn lanes are provided at signalized intersections and at some unsignalized locations. To the east, Jesse Jewell Parkway has an interchange with Interstate 985. The posted speed limit on this section of Jesse Jewell Parkway is 45 mph and the terrain is gently rolling. The Georgia DOT recorded an AADT of 30,300 vpd on Jesse Jewell Parkway east of Quarry Street and an AADT of 26,800 vpd east of Limestone Parkway in 2016.

Beverly Road is a two lane local collector that begins at White Sulphur Road, to the east, has a signalized intersection with Limestone Parkway, then continues west to Lakeview Drive, where its name changes to Nottingham Drive and continues a short distance to its terminus at Robinhood Trail. The intersection of Beverly Road and Lakeview Drive is all-way stop sign controlled. The terrain along Beverly Road is gently rolling and the posted speed limit is 30 mph west of Limestone Parkway. The 2016 Georgia DOT AADT on Beverly Road east of Lakeview Drive was 3,150 vpd.

Lakeview Drive / Quarry Street is a north south residential street that begins to the northwest at Park Hill Drive and continues south past the subject development, where its name changes to Quarry Street. The Lakeview Drive portion of the road is winding and hilly with low density development. The Quarry Street segment is straight and hilly, with a notable downhill grade as it approaches Jesse Jewell Parkway. Quarry Street is lined with higher density single family homes and a church at the corner with Jesse Jewell Parkway. A gated bus access to Gainesville Middle School is also provided on Quarry Street. Quarry Street is side street stop sign controlled at Jesse Jewell Parkway. The posted speed limit is 30 mph on Lakeview Drive, south of Beverly Road, with a 20 mph school zone just north of Beverly Road, and 25 mph on Quarry Street. South of Jesse Jewell Parkway, aligning with Quarry Street, is a gated access to the Milliken Plant. Intersection sight distance along

Jesse Jewell Parkway to and from Quarry Street is limited due to curvature of the parkway, a concrete retaining wall in the northeast corner, and grading and vegetation to the west. Lakeview Drive had an AADT of 3,130 vpd north of Beverly Road in 2016.

Park Hill Drive (Georgia State Route 11) is an arterial that is a continuation of Cleveland Highway, travels to the southwest, then changes names for a short distance to Morningside Drive, then changes names to Riverside Drive, until it terminates by merging into Thompson Bridge Road at Green Street. South of South Enota Drive, Park Hill Drive has one through travel lane in each direction with exclusive left turn lanes at South Enota Drive. North of this intersection, Park Hill Drive has two northbound lanes and one southbound lane, with a two-way left-turn lane. The terrain is gently rolling. The 2016 AADT on Park Hill Drive was 18,900 vpd north of Lakeview Drive.

South Enota Drive begins as Enota Avenue west of Thompson Bridge Road, takes a sharp bend to the south at Enota Elementary School, and changes names to South Enota Drive, has a signalized intersection at Park Hill Drive, then continues to the south where it becomes Georgia State Route 11 Connector. To the south, it changes names to Downey Boulevard, intersects with Jesse Jewell Parkway, then continues to the southwest, changing name again to MLK Jr. Boulevard. Through most of the study area South Enota Drive has one through lane per direction with a center two-way left-turn lane, while Downey Boulevard generally has two through lanes in each direction. South Enota Drive had an AADT of 10,800 vpd north of Robinhood Trail in 2016, while Downey Boulevard had a 2016 AADT of 15,400 vpd north of Jesse Jewell Parkway.

The following are photographs of intersections and roadways taken at locations in the study area.



Photograph 1 – Cleveland Highway Facing North at Limestone Parkway



Photograph 2 – Limestone Parkway Facing North at Clarks Bridge Road



Photograph 3 – Limestone Parkway at Beverly Road Facing Northwest



Photograph 4 – Limestone Parkway at Kroger Access Facing West Toward Subject Site



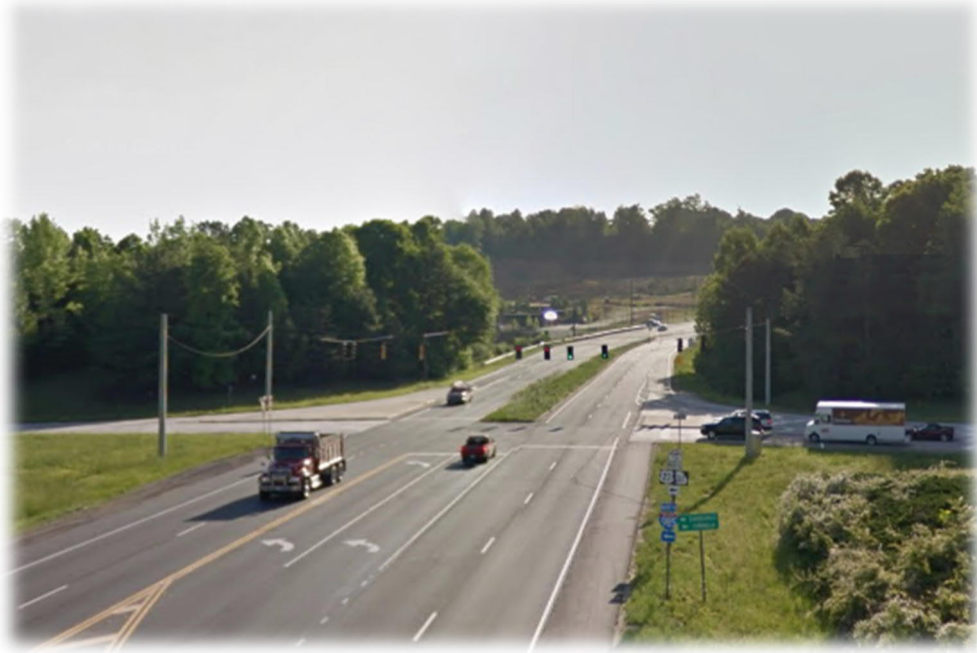
Photograph 5 – Limestone Parkway at Jesse Jewell Parkway Facing North



Photograph 6 – White Sulphur Road Facing South at Jesse Jewell Parkway



Photograph 7 – Jesse Jewell Parkway at I-985 Southbound Ramps Facing West



Photograph 8 – Jesse Jewell Parkway at I-985 Northbound Ramps Facing East



Photograph 9 – Lakeview Drive at Beverly Road Facing North



Photograph 10 – View Facing North Across Jesse Jewell Parkway Toward Quarry Street



Photograph 11 – View Facing South on Community Way at Jesse Jewell Parkway



Photograph 12 – Jesse Jewell Parkway Facing West at Downey Boulevard



Photograph 13 – South Enota Drive Facing North at Sherwood Park Drive



Photograph 14 – South Enota Drive Facing Robinhood Trail



Photograph 15 – Park Hill Drive at South Enota Drive



Photograph 16 – Park Hill Drive at Lakeview Drive



Photograph 17 – Lakeview Drive Along Site Frontage Facing South

Existing Traffic Volumes

Existing full turning movement traffic volume counts were collected at the following intersections in the vicinity of the proposed development:

- 1) Limestone Parkway (US 129) at Cleveland Highway (US 129/GA 11)
- 2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284)
- 3) Limestone Parkway (US 129) at Beverly Road
- 4) Limestone Parkway (US 129) at Kroger Access
- 5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129/US 129 Business)
- 6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way
- 7) I-985 SB at Jesse Jewell Parkway (US 129)
- 8) I-985 NB at Jesse Jewell Parkway (US 129)
- 9) Lakeview Drive at Beverly Road / Nottingham Drive
- 10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street
- 11) Jesse Jewell Parkway (US 129 Bus) at Community Way / Terrace Street
- 12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard (GA 11 Conn) / MLK, Jr. Boulevard
- 13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway
- 14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway
- 15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Conn)
- 16) Park Hill Drive (GA 11) at Lakeview Drive

The counts were collected on Wednesday, November 1, 2017, from 7:00 a.m. to 9:00 a.m. and from 4:30 p.m. to 6:30 p.m. Area schools were in standard session on the date of the traffic counts. From the count data, the highest four consecutive 15-minute interval volumes at each intersection, during each time period, were determined. These volumes make up the typical weekday a.m. and p.m. peak hour traffic volumes at that intersection. The existing a.m. and p.m. peak hour turning movement volumes are shown in Figure 2. The intersection raw count data is found in Appendix A.

Historic Georgia DOT 24-hour traffic counts were also collected in the vicinity. These counts were performed from 2012 through 2016 and, according to the Georgia DOT, the counts were adjusted for a variety of factors, including season, in order to arrive at the Annual Average Daily Traffic (AADT) Volume. The Georgia DOT AADT counts are summarized in Table 1.

The annual growth trends have fluctuated from year to year, with notable increases some years and significant decreases in other years, and with the increases and decreases sometimes occurring in the same years, at different locations. Based on this data, it was decided to apply a 3% annual growth factor to the counted volumes when projecting future volumes. This is discussed in the No-Build Traffic Volumes section of this report.

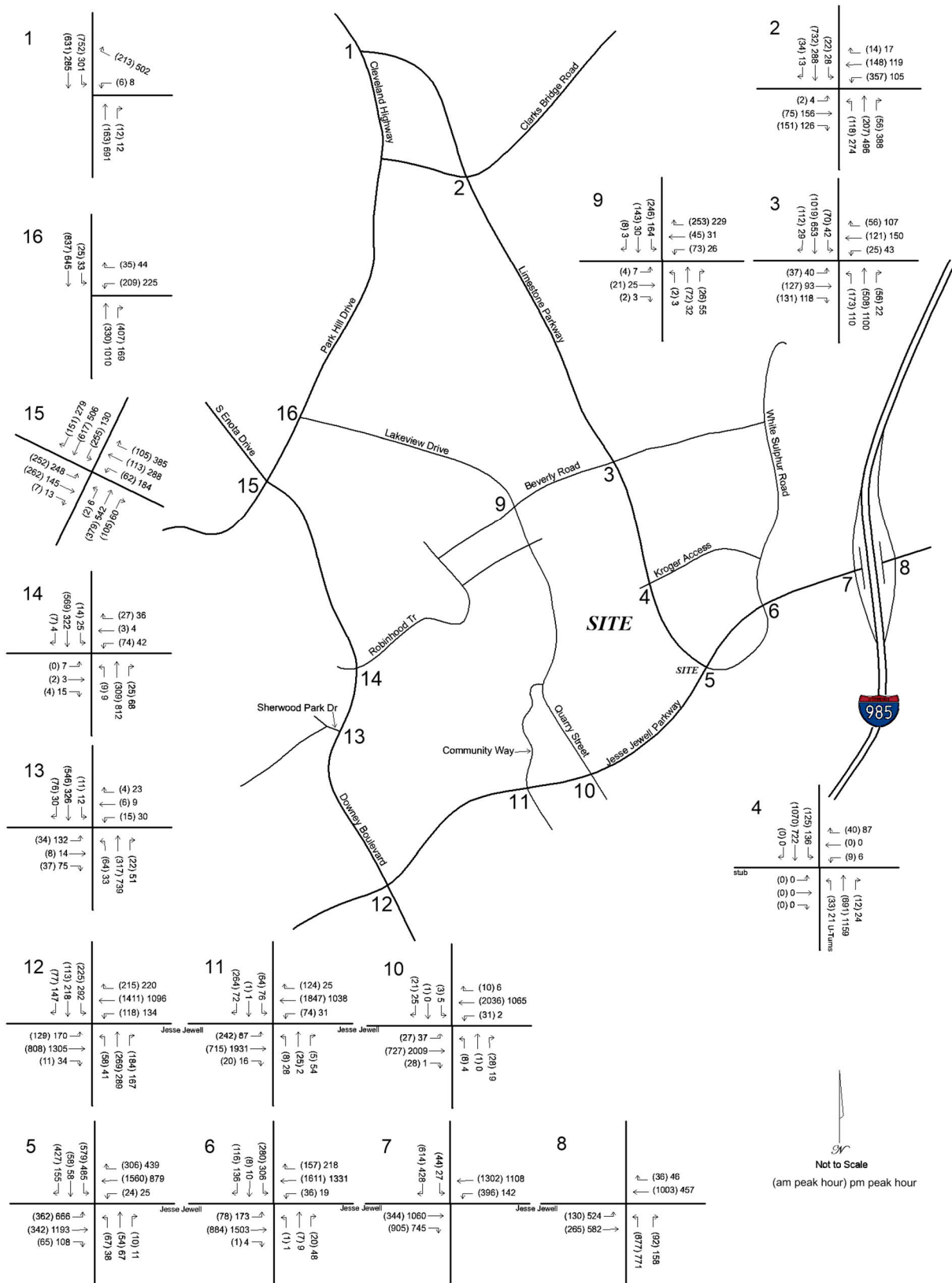


Figure 2 – Existing Traffic Volumes

Table 1 – Georgia DOT Annual Average Daily Traffic Volume Counts

Year	Limestone N of Kroger	Annual Growth	Limestone N of Beverly	Annual Growth	Jesse Jewell E of Quarry	Annual Growth	Jesse Jewell E of Limestone	Annual Growth	Beverly E of Lakeview	Annual Growth	Lakeview N of Beverly	Annual Growth
Station	1390763		1390765		1390207		1390420		1390202		1398211	
2012	16,060		16,150		24,710		26,810		3,030		2,580	
2013	16,990	5.8%	16,090	-0.4%	24,620	-0.4%	26,750	-0.2%	3,100	2.3%	2,640	2.3%
2014	17,000	0.1%	17,200	6.9%	27,300	10.9%	26,800	0.2%	3,100	0.0%	2,940	11.4%
2015	17,600	3.5%	17,800	3.5%	28,200	3.3%	26,750	-0.2%	3,080	-0.6%	3,060	4.1%
2016	18,100	2.8%	18,300	2.8%	30,300	7.4%	26,800	0.2%	3,150	2.3%	3,130	2.3%
Avg		3.0%		3.2%		5.2%		0.0%		1.0%		4.9%

Year	Cleveland S of Limestone	Annual Growth	Park Hill N of Lakeview	Annual Growth	S Enota N of Robinhood	Annual Growth	Downey N of Jesse Jewell	Annual Growth	Downey S of Jesse Jewell	Annual Growth	Sum of All	Annual Growth
Station	1390141		1390139		1390112		1390105		1390202		all	
2012	10,060		16,650		11,010		14,450		7,630		149,140	
2013	10,220	1.6%	16,540	-0.7%	10,940	-0.6%	14,460	0.1%	7,580	-0.7%	149,930	0.5%
2014	10,200	-0.2%	18,200	10.0%	10,900	-0.4%	14,500	0.3%	8,890	17.3%	157,030	4.7%
2015	10,500	2.9%	18,800	3.3%	11,300	3.7%	15,000	3.4%	9,180	3.3%	161,270	2.7%
2016	10,800	2.9%	18,900	0.5%	10,800	-4.4%	15,400	2.7%	9,450	2.9%	165,130	2.4%
Avg		1.8%		3.2%		-0.5%		1.6%		5.5%		2.6%

Existing Intersection Operations

Existing traffic operations were analyzed at the counted intersections using Synchro software, version 10, in accordance with the methodology presented in the Transportation Research Board's 2016 Highway Capacity Manual (HCM 6). The HCM 6 methodology is presented in Appendix B. The results of the analysis are shown in Table 2. Computer printouts containing detailed results of the analysis are located in Appendix C.

Table 2 – Existing Intersection Operations

Intersection / Approach	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1) Limestone Parkway at Cleveland Highway	A	2.0	A	2.6
northbound approach	A	3.8	A	3.5
southbound approach	A	1.7	A	1.5
westbound left turn (signalized)	A	0.0	A	0.0
westbound right turn (stop sign)	B	11.4	F	260.2
2) Limestone Parkway at Clarks Bridge Road	C	21.5	A	7.7
northbound approach	C	20.6	B	13.6
southbound approach	B	18.1	A	9.7
eastbound approach	D	39.7	C	26.1
westbound approach	B	18.8	B	12.5
3) Limestone Parkway at Beverly Road	B	12.3	A	9.7
northbound approach	B	10.1	A	7.3
southbound approach	A	6.6	A	5.8
eastbound approach	C	34.3	C	21.4
westbound approach	C	23.2	B	19.1
4) Limestone Parkway at Kroger Access	A	4.3	A	6.8
northbound approach	A	4.8	A	7.8
southbound approach	A	2.4	A	3.0
westbound approach	C	30.0	C	28.9
5) Limestone Parkway at Jesse Jewell Parkway	F	95.9	D	35.6
northbound approach (Textile)	F	159.8	D	39.3
southbound approach (Limestone)	F	123.3	D	43.6
eastbound approach (Jesse Jewell)	F	101.2	C	26.1
westbound approach (Jesse Jewell)	E	69.6	D	43.8
6) Jesse Jewell Parkway at White Sulphur Road	C	29.2	C	31.1
northbound approach	C	31.4	C	22.3
southbound approach	C	34.5	C	24.2
eastbound approach	B	10.7	C	33.4
westbound approach	D	37.0	C	30.8
7) I-985 SB at Jesse Jewell Parkway	C	21.2	B	15.2
southbound approach	C	21.1	B	16.1
eastbound approach	B	18.4	B	16.9

westbound approach	C	21.9	B	13.4
8) I-985 NB at Jesse Jewell Parkway	B	14.8	B	13.3
northbound approach	B	13.0	B	16.7
eastbound approach	B	15.9	B	12.7
westbound approach	B	15.7	A	8.6
9) Lakeview Drive at Beverly Road	C	21.8	B	10.1
northbound approach	B	10.9	A	8.7
southbound approach	D	28.2	B	10.5
eastbound approach	B	10.3	A	8.7
westbound approach	C	18.5	B	10.6
10) Jesse Jewell Parkway at Quarry Street	A	6.0	B	13.3
northbound approach	F	201.4	F	1,164.0
southbound approach	F	132.7	F	91.4
eastbound left turn	C	23.2	B	11.8
westbound left turn	A	9.6	C	24.9
11) Jesse Jewell Parkway at Community Way	D	45.2	B	19.7
northbound approach	C	32.5	C	27.2
southbound approach	E	72.8	C	25.8
eastbound approach	E	63.4	C	23.3
westbound approach	C	31.1	B	11.0
12) Jesse Jewell Parkway at Downey Blvd	C	26.4	C	31.6
northbound approach	C	30.2	C	24.9
southbound approach	C	30.9	C	26.8
eastbound approach	C	20.2	D	38.0
westbound approach	C	27.8	C	30.5
13) South Enota Drive at Sherwood Park Dr	A	5.5	B	12.2
northbound approach	A	2.8	B	10.6
southbound approach	A	4.0	A	7.2
eastbound approach	C	22.4	C	22.2
westbound approach	C	20.3	B	18.1
14) South Enota Drive at Robinhood Trail	A	2.6	A	2.8
northbound left turn	A	8.7	A	8.0
southbound left turn	A	8.0	B	11.0
eastbound approach	B	14.9	D	28.2
westbound through/left	C	23.4	E	46.9
westbound right turn	B	10.1	C	18.4
15) Park Hill Drive at South Enota Drive	C	23.8	D	45.1
northbound approach (Park Hill)	C	23.0	C	27.6
southbound approach (Park Hill)	B	15.3	D	46.0
eastbound approach (S. Enota)	D	40.4	D	53.1
westbound approach (S. Enota)	C	25.9	E	57.0
16) Park Hill Drive at Lakeview Drive	B	12.1	B	12.1
northbound approach	A	9.0	B	12.0

southbound approach	A	9.8	A	6.8
westbound approach	C	26.3	C	24.8

The analysis of existing conditions reveals generally acceptable traffic operations at most of the study intersections. The following is a discussion of each intersection:

- 1) Limestone Parkway (US 129) at Cleveland Highway (US 129/GA 11) – The signalized portion of this intersection operates extremely well with minimal delays. This is due to the fact the westbound right turners are removed from the signal and controlled by a side street stop sign north of the signal. The westbound left turn volume that goes through the signal is minimal and the primary conflicting movements at the signal are the northbound approach and the southbound left turn. The stop-sign controlled right turn movement from westbound Limestone Parkway to northbound Cleveland Highway experiences LOS F in the p.m. peak hour, though it generally works acceptably at other times of the day. The volumes at this location merit consideration of a second northbound through lane on Cleveland Highway into which the westbound right turn from Limestone Parkway would free-flow.
- 2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284) – This intersection operates acceptably. There would be a modest benefit to providing a separate eastbound exclusive right turn lane on Clarks Bridge Road at this intersection.
- 3) Limestone Parkway (US 129) at Beverly Road – This intersection operates acceptably. There would be a modest benefit to providing a separate eastbound exclusive right turn lane on Beverly Road at this intersection.
- 4) Limestone Parkway (US 129) at Kroger Access – This intersection operates well in the existing condition. No mitigation is identified here.
- 5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129 Bus) – This location operates acceptably in the p.m., but experiences high delays in the a.m. peak hour. The single largest capacity need here is an additional westbound through lane (for a total of three) on Jesse Jewell Parkway. Alternative mitigation was tested included a second westbound right turn lane and a westbound right turn overlap phase, and a second right turn lane on southbound Limestone Parkway. With just the second right turn lane on Limestone, the intersection and all movements improve to LOS E. With just the addition of the third westbound through lane on Jesse Jewell Parkway, this intersection would improve to LOS D in the a.m. peak hour.
- 6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way – This intersection operates well and no mitigation is identified.
- 7) I-985 SB at Jesse Jewell Parkway (US 129) – The southbound ramp at I-985 operates acceptably and no mitigation is identified.

- 8) I-985 NB at Jesse Jewell Parkway (US 129) – The northbound ramp operates acceptably and no mitigation is identified.
- 9) Lakeview Drive at Beverly Road / Nottingham Drive – This intersection operates well as an all-way stop. No changes are recommended here in the existing condition.
- 10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street – The northbound and southbound approaches from Myrtle Street and Quarry Street, operate at LOS F. However, the volumes incurring these high delays are very low, and most of the side street approach vehicles are right turners. Line of sight to the west along Jesse Jewell from southbound Quarry is limited, presenting a safety concern. The side street delays are high due to the difficulty for side street vehicles at the stop sign controlled approaches to find gaps in the high volumes on Jesse Jewell Parkway. This is not unusual on side street stop controlled approaches at major thoroughfares such as Jesse Jewell Parkway. One way to reduce these side street delays would be to signalize the intersection. It does not appear that volumes on the side streets are sufficient to warrant a signal at this time. However, there may be other factors that justify signalization, such as the presence of school traffic and the limitation in sight distance. In order to determine if signalization is appropriate, a signal needs study (warrant analysis) could be performed according to the standards set forth in the Federal Highway Administration's Manual On Uniform Traffic Control Devices (MUTCD).
- 11) Jesse Jewell Parkway (US 129 Bus) at Community Way / Terrace Street – This intersection generally operates well. The southbound and eastbound approaches are at LOS E in the a.m. peak hour, suggesting that this intersection is approaching the limit before which mitigation may be necessary. No mitigation is identified for the existing condition.
- 12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard / MLK, Jr. Boulevard (GA 11 Conn) – This intersection operates well in the existing condition. No mitigation is necessary.
- 13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway – This intersection operates well. It is noted that, within the Walgreens property, the directional arrows are yellow, and should be white, and there is no centerline or lane line striping. Walgreens should consider improving the striping to meet conventional standards.
- 14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway – This intersection works acceptably. The westbound left turn from Robinhood Trail is beginning to incur notable delays (LOS E) in the p.m. The center two-way left-turn lane on South Enota is striped through this intersection. It is recommended that the left turn lane striping be modified here to treat this as an intersection, with a break in the centerline striping and distinct northbound and southbound left turn lanes. Sherwood Plaza should install a stop sign and accompanying stop bar on their exiting approach.
- 15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Conn) – This intersection functions acceptably and no mitigation is identified for the existing condition.

- 16) Park Hill Drive (GA 11) at Lakeview Drive – This intersection was recently signalized and operates acceptably. Pedestrian accommodations and ADA accessibility are technically provided. However, the ADA ramps all abruptly terminate with high curbing and no accompanying sidewalk is provided on the east side of Park Hill or along either side of Lakeview. The City should consider improving pedestrian accommodation at this location.

No-Build Traffic Conditions

A future 2022 no-build condition was developed. This represents the traffic conditions that will exist in the future at the date of the full build-out of the proposed Limestone Greenway development, but not including the project trips. The purpose of the analysis of this condition is to isolate the traffic impacts of the proposed development from other growth and development that is expected to occur in the area while the project is under construction.

No-Build Volumes

The no-build volumes consist of the counted traffic volumes increased by a general background growth factor. The existing traffic volumes were increased by a 3% annual growth rate, as identified in the Existing Traffic Volumes section of this report. This growth was applied for five years to the projected build-out horizon of 2022. The total growth rate applied was 15.9%.

The counted volumes were increased by the 15.9% growth factor to produce the no-build condition traffic volumes that will be on the roadway network in the future when the Limestone Greenway development is completed, but excluding the project's trips. The traffic volume worksheets in Appendix A show the no-build volumes.

No-Build Intersection Operations

No-build traffic operations were analyzed at the study intersections using Synchro 10 software in accordance with the HCM 6 methodology. The results of the no-build analysis are shown in Table 3. Computer printouts containing detailed results of the analysis are located in Appendix D.

Table 3 – No-Build Intersection Operations

Intersection / Approach	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1) Limestone Parkway at Cleveland Highway	A	2.9	A	3.0
northbound approach	A	4.2	A	3.5
southbound approach	A	2.7	A	2.2
westbound left turn (signalized)	A	0.0	A	0.0
westbound right turn (stop sign)	B	12.2	F	468.3
2) Limestone Parkway at Clarks Bridge Road	C	30.8	B	17.5
northbound approach	C	25.9	B	16.8
southbound approach	C	20.0	B	10.8
eastbound approach	D	43.9	C	30.0
westbound approach	D	42.2	B	12.4
3) Limestone Parkway at Beverly Road	B	17.7	B	11.9
northbound approach	B	16.6	A	10.0
southbound approach	A	7.5	A	7.5
eastbound approach	E	58.9	C	25.3
westbound approach	C	23.5	B	19.3
4) Limestone Parkway at Kroger Access	A	4.7	A	8.1
northbound approach	A	5.3	A	9.6
southbound approach	A	2.9	A	3.9
westbound approach	C	29.1	C	27.9
5) Limestone Parkway at Jesse Jewell Parkway	F	173.3	D	50.7
northbound approach (Textile)	F	196.6	D	50.8
southbound approach (Limestone)	F	224.6	D	52.4
eastbound approach (Jesse Jewell)	F	137.5	D	35.9
westbound approach (Jesse Jewell)	F	152.2	E	69.6
6) Jesse Jewell Parkway at White Sulphur Road	D	39.1	D	40.2
northbound approach	D	42.3	D	35.3
southbound approach	E	55.6	D	43.8
eastbound approach	B	13.0	D	41.4
westbound approach	D	48.5	D	38.0
7) I-985 SB at Jesse Jewell Parkway	D	35.3	B	15.5
southbound approach	D	38.6	B	19.6
eastbound approach	C	21.1	B	16.9
westbound approach	D	36.7	B	12.6
8) I-985 NB at Jesse Jewell Parkway	B	13.0	B	16.2
northbound approach	B	15.0	C	26.0
eastbound approach	B	11.9	B	12.3
westbound approach	B	11.9	A	7.3
9) Lakeview Drive at Beverly Road	E	41.0	B	11.6
northbound approach	B	12.7	A	9.4

southbound approach	F	59.7	B	11.8
eastbound approach	B	12.7	A	9.2
westbound approach	D	31.0	B	12.6
10) Jesse Jewell Parkway at Quarry Street	F	82.0	E	46.3
northbound approach	F	794.6	F	2,383.5
southbound approach	F	3,621.4	F	1,281.9
eastbound left turn	D	31.5	B	13.3
westbound left turn	B	10.2	D	32.1
11) Jesse Jewell Parkway at Community Way	E	73.2	C	25.0
northbound approach	D	53.5	D	38.7
southbound approach	F	277.8	D	36.1
eastbound approach	D	35.8	C	30.9
westbound approach	D	49.2	B	10.3
12) Jesse Jewell Parkway at Downey Blvd	D	36.5	D	49.3
northbound approach	D	49.0	D	52.9
southbound approach	D	48.0	E	57.9
eastbound approach	C	25.9	E	60.3
westbound approach	D	35.9	C	31.9
13) South Enota Drive at Sherwood Park Dr	A	6.3	B	14.6
northbound approach	A	3.5	B	14.0
southbound approach	A	5.2	A	8.3
eastbound approach	C	22.2	C	24.2
westbound approach	C	20.1	B	18.3
14) South Enota Drive at Robinhood Trail	A	3.4	A	4.6
northbound left turn	A	9.0	A	8.2
southbound left turn	A	8.2	B	11.9
eastbound approach	C	16.4	E	41.3
westbound through/left	D	32.6	F	86.2
westbound right turn	B	10.5	C	21.9
15) Park Hill Drive at South Enota Drive	C	33.1	E	72.2
northbound approach (Park Hill)	C	30.5	D	36.3
southbound approach (Park Hill)	C	23.8	E	79.0
eastbound approach (S. Enota)	D	53.4	F	100.2
westbound approach (S. Enota)	C	33.5	E	77.8
16) Park Hill Drive at Lakeview Drive	B	16.0	B	15.8
northbound approach	B	11.1	B	16.8
southbound approach	B	15.6	A	9.1
westbound approach	C	29.3	C	27.4

As would be expected, the growth factor applied to the counted volumes will increase delays at most intersections and approaches. Most of the locations in this study will still operate acceptably in the no-build condition, but a few new locations require attention. The following is a discussion of each intersection for the no-build condition:

- 1) Limestone Parkway (US 129) at Cleveland Highway (GA 11) – As with the existing condition, the signalized portion of this intersection operates extremely well with minimal delays, but the stop-sign controlled right turn movement from westbound Limestone Parkway to northbound Cleveland Highway will see increased delays and a continued LOS F in the p.m. peak hour. The same mitigation identified in the existing still applies.
- 2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284) – This overall intersection will continue to operate acceptably. No other mitigation is identified for the no-build condition.
- 3) Limestone Parkway (US 129) at Beverly Road – This overall intersection will continue to operate acceptably. However, the eastbound approach drops to LOS E in the a.m., reinforcing the appropriateness of the addition of the eastbound right turn lane, identified in the existing condition.
- 4) Limestone Parkway (US 129) at Kroger Access – This intersection will continue to operate well and no mitigation is identified here.
- 5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129 Bus) – This location will continue to operate acceptably in the p.m., but a.m. peak hour delays will increase further. The existing analysis identified the need for an additional westbound through lane (for a total of three) on Jesse Jewell Parkway, and the benefit of adding an additional southbound right turn lane on Limestone Parkway. The benefit of the additional right turn lane is increased in the no-build condition (so that the center lane is a shared through/right, plus a new exclusive right turn lane). The exclusive right turn lane should be accommodated by a right turn overlap phase that would operate concurrently with the eastbound protected left turn phase from Jesse Jewell Parkway to northbound Limestone Parkway. The addition of a right turn overlap phase for the westbound right turn, which would operate concurrently with the southbound left turn phase on Limestone Parkway, would also improve the efficiency of the signal.
- 6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way – This intersection will continue to operate well and no mitigation is identified for the no-build condition.
- 7) I-985 SB at Jesse Jewell Parkway (US 129) – As in the existing, the southbound ramp at I-985 will operate acceptably. The addition of a second eastbound right turn lane from Jesse Jewell Parkway onto the southbound ramp would provide some additional storage and capacity for the no-build 1,065 a.m. peak hour right turners.
- 8) I-985 NB at Jesse Jewell Parkway (US 129) – The northbound ramp will continue to operate acceptably in the no-build condition.
- 9) Lakeview Drive at Beverly Road / Nottingham Drive – With the increases in volumes, the all-way stop control will begin to be challenged in the peak hours, with the southbound approach just crossing to LOS F in the a.m. peak hour. Alternative control such as signalization would allow all approaches at this intersection to operate acceptably in the no-build condition.

- 10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street – The same issues that affect this intersection in the existing condition continue in the no-build, with increased delays on the side street stop sign controlled approaches. The existing condition discussion still applies in the no-build condition.
- 11) Jesse Jewell Parkway (US 129 Bus) at Community Way / Terrace Street – This intersection generally operates well, but the southbound approach will deteriorate to LOS F in the a.m. The southbound right turn movement is very heavy and is currently shared with the through movement. It is recommended that the southbound approach be restriped to include a shared left turn and through movement and an exclusive right turn lane. Then, a right turn overlap phase should be added to this southbound right turn lane which would provide a protected green arrow concurrently with the eastbound protected left turn phase. While the southbound approach would still operate at LOS F, the delays for this movement would decrease substantially and in the a.m. the overall intersection would improve from LOS E to LOS D.
- 12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard / MLK, Jr. Boulevard (GA 11 Conn) – This intersection will continue to operate acceptably in the no-build condition.
- 13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway – This intersection will operate well in the no-build condition.
- 14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway – The westbound approach will deteriorate to LOS F in the p.m. However, during other times of day, this intersection will continue to operate acceptably. Signalization would eliminate the westbound left turn LOS F. However, based on the side street volumes, this intersection would likely be a weak candidate for signalization.
- 15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Conn) – The southbound approach on Park Hill Drive will deteriorate to LOS F in the p.m. On this southbound approach, the heavy through volume and heavy right turn volume share a lane. It is recommended that a southbound exclusive right turn lane be built on Park Hill Drive at this intersection. This will eliminate the p.m. southbound LOS F and will improve overall efficiency of this intersection.
- 16) Park Hill Drive (GA 11) at Lakeview Drive – This intersection will continue to operate acceptably in the no-build condition. Other than the pedestrian accommodations discussed in the existing condition, no other mitigation is identified for the no-build condition.

Limestone Greenway Traffic Characteristics

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

Project Description

The subject property is bounded by Lakeview Drive to the west and Limestone Parkway to the east. The project will include 130,200 square feet of retail, 53,200 square feet of office, 252 residential apartments, 30 single-family homes, and an outparcel at the corner of Jesse Jewell Parkway and Limestone Parkway with 6,000 square feet of retail. The primary vehicular access will be on Limestone Parkway at new west leg at the existing signal to the Kroger shopping center. The 30 single family homes will have an independent connection from the rest of the development, onto Lakeview Drive. The small outparcel will also not be connected to the rest of the development and will have a right-in / right-out access each on Limestone Parkway and on Jesse Jewell Parkway. The site plan is presented in Figure 3.



Figure 3 – Limestone Greenway Site Plan

Trip Generation

Trip generation is an estimate of the number of entering and exiting vehicular trips that will be generated by the proposed development. Trip generation was calculated using the standard rates and equations from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th edition. Table 4 summarizes each component of the development and the ITE Land Use selected for each. It is noted that the final square

footages for the retail and office components of the project changed very slightly from the trip generation calculations, with the retail increasing by 1,820 ft² and the office decreasing by the same amount. The change was so small, with the increase and decrease somewhat offsetting one another, that negligible net effect is expected from the slight change from the trip calculations shown in Table 4.

Multi-use adjustments were made according to the methodology in the ITE Trip Generation Handbook, 3rd Edition, which is based on NCHRP Report 684. These adjustments account for trips that will occur between compatible uses within the project. For example, some trips will be made between the apartments and the grocery store. These trips will remain internal to the project and will not travel on adjacent roadways. No multi-use reduction was applied to the single family homes on Lakeview Drive, since they will not be connected to the rest of the project. Likewise, no multi-use adjustment was applied to the retail outparcel.

The retail and outparcel trips were adjusted to reflect the effect of pass-by trips. These are trips that are already passing the site enroute to their final destination, but will turn into the site for retail purposes, then continue on to their original destination. These trips appear entering and exiting the site driveways, but they are not new trips on the adjacent roadways. Based on the ITE Trip Generation Handbook, 3rd Edition, the pass-by percentages selected for the primary retail was 24% in the a.m. and 34% in the p.m. The pass-by percentages applied to the retail outparcel were 41% in the a.m. and 51% in the p.m. Table 4 summarizes the trip generation calculations for the proposed development.

Trip Distribution and Assignment

The trip distribution percentages indicate what proportion of the project's trips will travel to and from various directions. The new trips were distributed based on the locations and proximity of likely trip origins for each land use, including population and employment centers and major routes of travel. Separate distributions were developed for the retail, office, and residential land uses. The new project trips, shown in Table 4, were assigned to the roadway network based on these percentages. Pass-by trips were assigned, where appropriate, based on existing traffic flows passing the site. The new trip distribution percentages for each land use are shown in Figure 4. The total a.m. and p.m. peak hour trips expected to be generated by the Limestone Greenway development are presented in Figure 5.

Table 4 – Limestone Greenway Trip Generation

Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour			24-Hour
			Enter	Exit	2-Way	Enter	Exit	2-Way	2-Way
Shopping Center	820	91,630 ft ²	123	75	198	244	265	509	5,666
High Turnover Restaurants	932	6,850 ft ²	37	31	68	42	25	67	768
High Turnover Restaurants	932	4,900 ft ²	27	22	49	30	18	48	550
Supermarket	850	25,000 ft ²	58	38	96	141	136	277	2,986
Retail/Restaurant/Grocery Subtotal		128,380 ft ² *	245	166	411	457	444	901	9,970
-multi-use % from NCHRP 684		*see text	-2%	-2%		-4%	0%		
-multi-use volume			-5	-3	-8	-18	0	-18	
subtotal			240	163	403	439	444	883	
-pass-by		24%/34%	-58	-39	-97	-149	-151	-300	
Retail/Restaurant/Grocery New Trips			182	124	306	290	293	583	
General Office	710	36,680 ft ²	37	6	43	7	35	42	358
Medical Office	720	18,340 ft ²	38	11	49	18	46	64	618
Office Subtotal		55,020 ft ² *	75	17	92	25	81	106	976
-multi-use % from NCHRP 684		*see text	-5%	-28%		-7%	-28%		
-multi-use volume			-4	-5	-9	-2	-23	-24	
Office New External Trips			71	12	83	23	58	82	976
Apartments (Multi-Family Low-Rise)	220	252 units	26	89	115	84	50	134	1,864
-multi-use % from NCHRP 684			0%	3%		-1%	-2%		
-multi-use volume			0	-2	-2	-1	-1	-2	
Residential New External Trips			26	87	113	83	49	132	
Single Family	210	30 homes	5	17	22	19	11	30	284
Jesse Jewell Retail	820	6,000 ft ²	51	43	94	33	35	68	888
-pass-by		41%/51%	-21	-18	-39	-17	-18	-35	
Jesse Jewell Retail New External Trips			30	25	55	16	17	33	
Total Project Gross Trip Generation			402	332	734	618	621	1,239	13,982
Gross Retail/Restaurant/Grocery		134,380 ft ² *	296	209	505	490	479	969	10,858
Gross Residential Trips		282 units	31	106	137	103	61	164	2,148
Gross Office Trips		55,020 ft ² *	75	17	92	25	81	106	976
-multi-use		*see text	-9	-10	-19	-21	-24	-45	
-pass-by			-79	-57	-135	-166	-169	-335	
Total Project New External Trips			315	265	580	431	429	859	

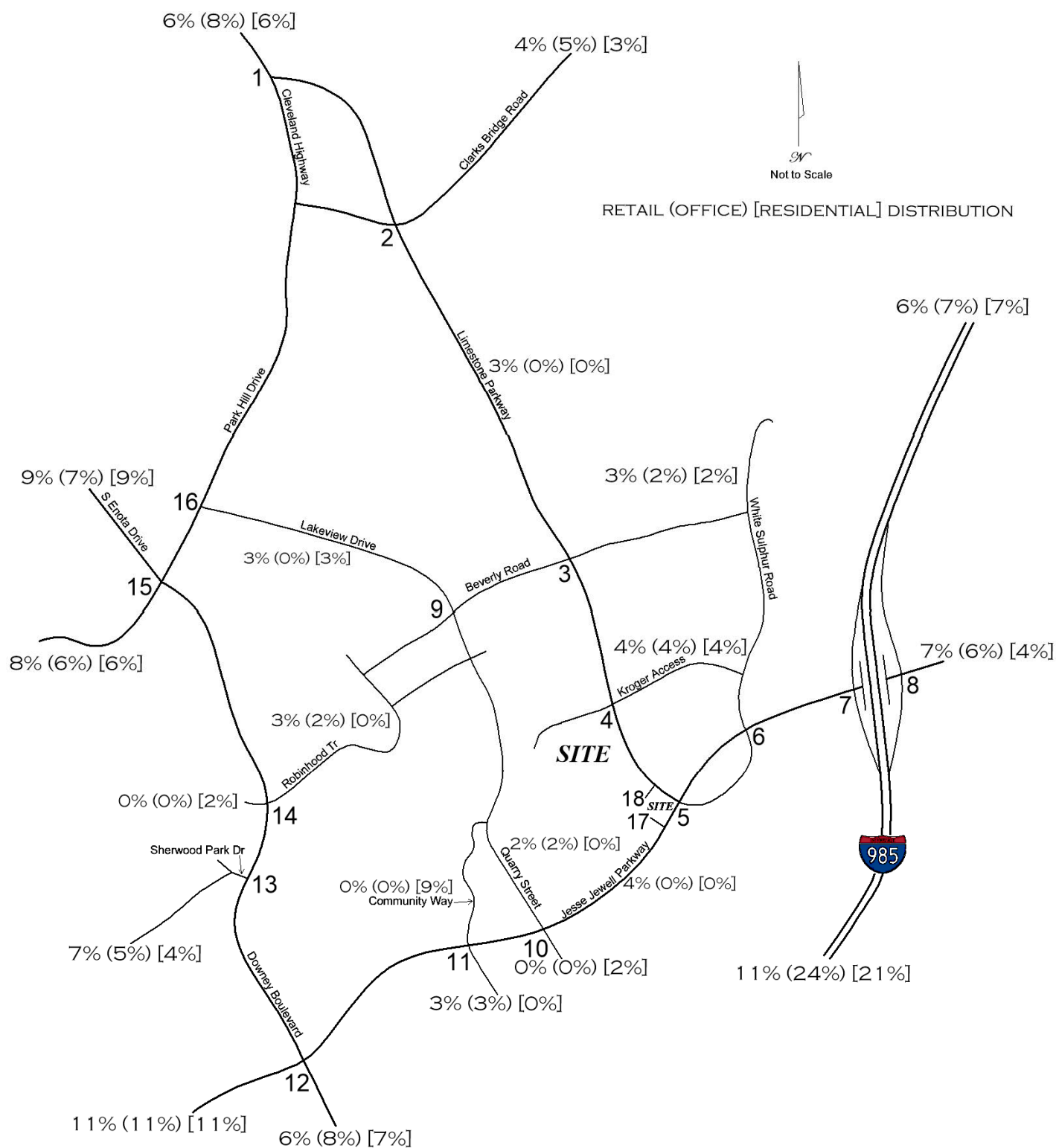


Figure 4 – Limestone Greenway Trip Distribution Percentages for Each Land Use Category

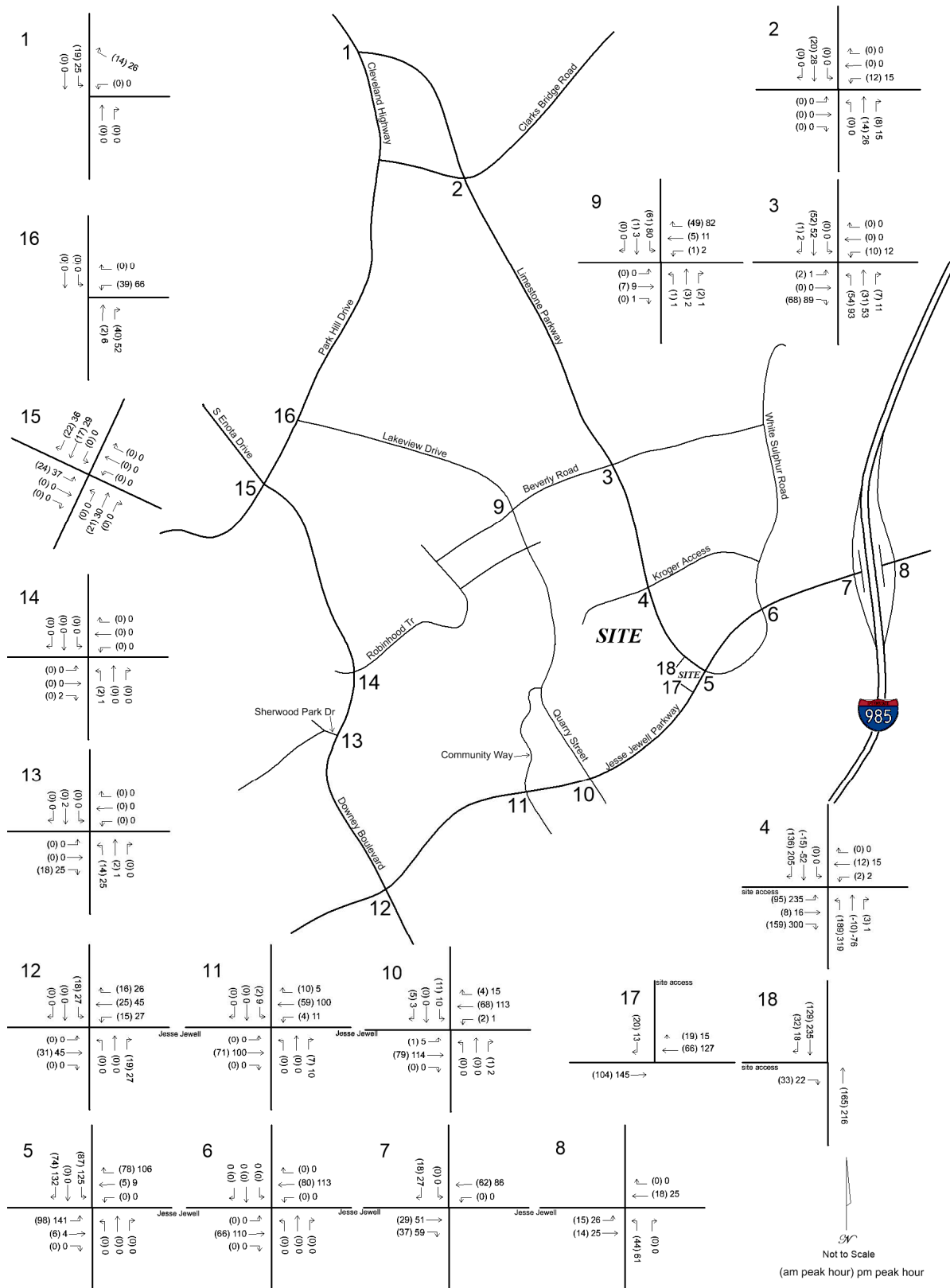


Figure 5 – Limestone Greenway Project-Generated Trips

Future Traffic Conditions

This section describes the anticipated future traffic conditions after the project is constructed and operational.

Future Traffic Volumes

The trips from the Limestone Greenway project were added to the no-build volumes. The resulting volumes are the traffic volumes that will be at each intersection when Limestone Greenway is fully operational. The future traffic volume projections are shown in Figure 6. These volumes are also shown in the intersection volume worksheets in Appendix A.

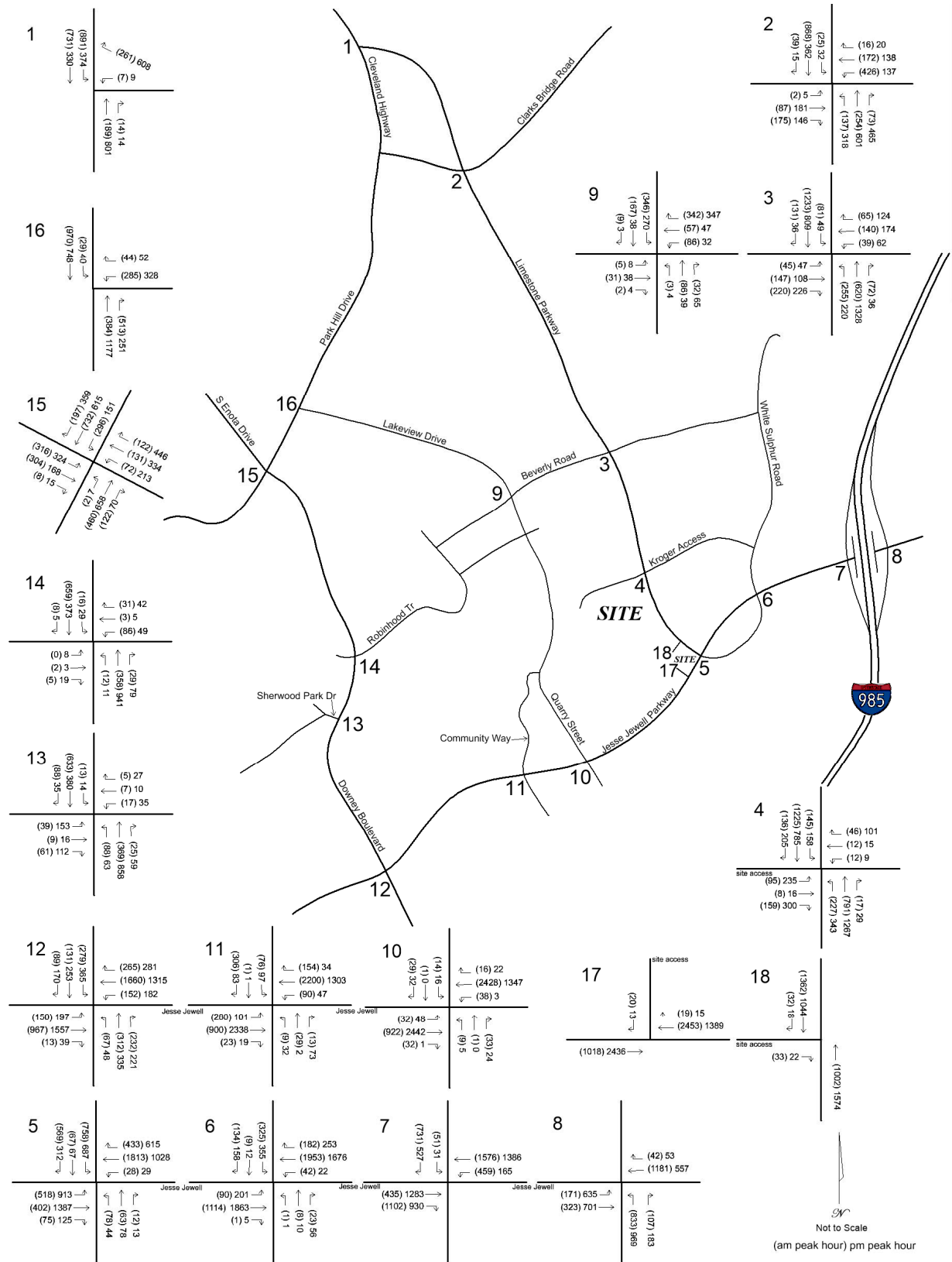


Figure 6 – Future Peak Hour Traffic Volume Projections

Future Intersection Operations

An operational analysis was performed for the future condition. The analysis includes all intersections evaluated in the existing and no-build conditions plus the project accesses. Table 5 presents the results of the future build analysis, along with the no-build results for direct comparison. Computer printouts containing detailed results of the analysis are located in Appendix D.

Table 5 – No-Build and Future Intersection Operations

Intersection / Approach	A.M. Peak Hour				P.M. Peak Hour			
	No-Build		Build		No-Build		Build	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1) Limestone Pkwy at Cleveland Hwy	A	2.9	A	3.2	A	3.0	A	3.2
northbound approach	A	4.2	A	4.4	A	3.5	A	3.6
southbound approach	A	2.7	A	3.1	A	2.2	A	2.6
westbound left turn (signalized)	A	0.0	A	0.0	A	0.0	A	0.0
westbound right turn (stop sign)	B	12.2	B	12.4	F	468.3	F	507.0
2) Limestone Pkwy at Clarks Bridge Rd	C	30.8	C	29.7	B	17.5	B	17.7
northbound approach	C	25.9	C	29.7	B	16.8	B	17.4
southbound approach	C	20.0	C	22.2	B	10.8	B	10.9
eastbound approach	D	43.9	D	43.9	C	30.0	C	30.0
westbound approach	D	42.2	C	33.4	B	12.4	B	12.6
3) Limestone Parkway at Beverly Road	B	17.7	D	39.4	B	11.9	C	25.7
northbound approach	B	16.6	D	39.5	A	10.0	B	11.6
southbound approach	A	7.5	A	7.7	A	7.5	A	7.7
eastbound approach	E	58.9	F	162.2	C	25.3	F	139.6
westbound approach	C	23.5	C	23.9	B	19.3	C	22.6
4) Limestone Pkwy at Kroger Access	A	4.7	B	12.7	A	8.1	B	19.6
northbound approach	A	5.3	A	9.6	A	9.6	B	17.1
southbound approach	A	2.9	B	11.5	A	3.9	B	16.3
eastbound approach (exiting site)	NA	NA	C	26.8	NA	NA	C	33.8
westbound approach	C	29.1	C	22.2	C	27.9	B	18.9
5) Limestone Pkwy at Jesse Jewell Pkwy	F	173.3	F	205.7	D	50.7	F	80.2
northbound approach (Textile)	F	196.6	F	197.0	D	50.8	F	81.5
southbound approach (Limestone)	F	224.6	F	277.3	D	52.4	E	78.4
eastbound approach (Jesse Jewell)	F	137.5	F	192.1	D	35.9	D	47.1
westbound approach (Jesse Jewell)	F	152.2	F	159.8	E	69.6	F	125.3
6) Jesse Jewell Pkwy at White Sulphur Rd	D	39.1	D	42.2	D	40.2	D	47.2
northbound approach	D	42.3	D	47.5	D	35.3	D	41.4
southbound approach	E	55.6	E	61.9	D	43.8	D	51.9
eastbound approach	B	13.0	B	14.4	D	41.4	D	49.3
westbound approach	D	48.5	D	52.1	D	38.0	D	43.6
7) I-985 SB at Jesse Jewell Parkway	D	35.3	D	37.8	B	15.5	B	15.7
southbound approach	D	38.6	D	48.1	B	19.6	C	21.2

eastbound approach	C	21.1	C	20.5	B	16.9	B	16.7
westbound approach	D	36.7	D	36.6	B	12.6	B	12.7
8) I-985 NB at Jesse Jewell Parkway	B	13.0	B	19.6	B	16.2	B	17.3
northbound approach	B	15.0	C	23.9	C	26.0	C	26.1
eastbound approach	B	11.9	B	18.6	B	12.3	B	14.3
westbound approach	B	11.9	B	16.4	A	7.3	A	7.9
9) Lakeview Drive at Beverly Road	E	41.0	F	74.8	B	11.6	C	16.5
northbound approach	B	12.7	B	13.7	A	9.4	B	10.5
southbound approach	F	59.7	F	118.2	B	11.8	C	16.1
eastbound approach	B	12.7	B	12.4	A	9.2	B	10.2
westbound approach	D	31.0	E	47.3	B	12.6	C	19.3
10) Jesse Jewell Pkwy at Quarry Street	F	82.0	F	77.3	E	46.3	F	76.2
northbound approach	F	794.6	F	1,048.3	F	2,383.5	F	4,484.9
southbound approach	F	3,621.4	F	4,321.1	F	1,281.9	F	1,980.5
eastbound left turn	D	31.5	D	33.4	B	13.3	B	14.3
westbound left turn	B	10.2	B	10.6	D	32.1	E	36.1
11) Jesse Jewell Pkwy at Community Way	E	73.2	E	76.2	C	25.0	C	26.7
northbound approach	D	53.5	D	49.2	D	38.7	D	49.9
southbound approach	F	277.8	F	283.0	D	36.1	D	44.8
eastbound approach	D	35.8	D	35.8	C	30.9	C	32.4
westbound approach	D	49.2	E	55.2	B	12.8	B	11.0
12) Jesse Jewell Parkway at Downey Blvd	D	36.5	D	41.6	D	49.3	E	62.9
northbound approach	D	49.0	D	49.7	D	52.9	E	78.7
southbound approach	D	48.0	D	52.1	E	57.9	E	63.6
eastbound approach	C	25.9	C	27.9	E	60.3	E	77.9
westbound approach	D	35.9	D	44.5	C	31.9	D	41.2
13) South Enota Dr at Sherwood Park Dr	A	6.3	A	7.1	B	14.6	B	15.1
northbound approach	A	3.5	A	4.1	B	14.0	B	14.0
southbound approach	A	5.2	A	5.7	A	8.3	A	8.3
eastbound approach	C	22.2	C	22.3	C	24.2	C	26.0
westbound approach	C	20.1	B	19.7	B	18.3	B	18.7
14) South Enota Drive at Robinhood Trail	A	3.4	A	3.5	A	4.6	A	4.7
northbound left turn	A	9.0	A	9.0	A	8.2	A	8.2
southbound left turn	A	8.2	A	8.2	B	11.9	B	11.9
eastbound approach	C	16.4	C	16.4	E	41.3	E	40.0
westbound through/left	D	32.6	D	33.0	F	86.2	F	87.8
westbound right turn	B	10.5	B	10.5	C	21.9	C	21.9
15) Park Hill Drive at South Enota Drive	C	33.1	D	36.2	E	72.2	F	89.5
northbound approach (Park Hill)	C	30.5	D	35.4	D	36.3	D	35.7
southbound approach (Park Hill)	C	23.8	C	29.4	E	79.0	F	100.6
eastbound approach (S. Enota)	D	53.4	D	50.9	F	100.2	F	125.7
westbound approach (S. Enota)	C	33.5	C	34.4	E	77.8	F	99.3
16) Park Hill Drive at Lakeview Drive	B	16.0	B	19.3	B	15.8	C	21.5

northbound approach	B	11.1	B	13.4	B	16.8	C	23.5
southbound approach	B	15.6	B	18.7	A	9.1	B	11.2
westbound approach	C	29.3	C	34.2	C	27.4	C	34.3
17) Jesse Jewell Pkwy at Retail RIRO	NA	NA	A	0.2	NA	NA	A	0.1
southbound right turn	NA	NA	D	32.9	NA	NA	C	16.0
18) Limestone Pkwy at Retail RIRO	NA	NA	A	0.3	NA	NA	A	0.1
eastbound right turn	NA	NA	C	21.7	NA	NA	B	14.9

The addition of the Limestone Greenway trips will increase delays at most intersections and approaches. The comparison between the no-build and build conditions in Table 5 reveal that most of the increases will be small, and most of the locations in this study will continue to operate acceptably in the build condition. The following is a discussion of each intersection for the build condition:

- 1) Limestone Parkway (US 129) at Cleveland Highway (GA 11) – The same discussion and mitigation for the existing and no-build conditions apply for the build condition.
- 2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284) – This overall intersection will continue to operate acceptably. No other mitigation is identified for the build condition.
- 3) Limestone Parkway (US 129) at Beverly Road – This overall intersection will operate acceptably. However, the delays on the eastbound approach on Beverly will drop to LOS F in both the a.m. and p.m. peaks. The existing and no-build analysis identified the benefit of adding an eastbound exclusive right turn lane and this lane is recommended for the build condition. The northbound left turn volume on Limestone Parkway is sufficient in the existing condition to justify a protected / permissive left turn phasing according to Georgia DOT standards, and consideration should be given to adding this phasing whether or not the proposed Limestone Greenway development is built.
- 4) Limestone Parkway (US 129) at Site Access / Kroger Access – This intersection will operate well with the addition of the fourth approach and the Limestone Greenway site trips. The analysis assumes two eastbound lanes, which will consist of a shared left/through lane and a right turn lane. The existing northbound U-turn lane on Limestone Parkway will become the left turn lane for the site and there is already a southbound right turn lane at this location on Limestone Parkway. The traffic impact study notes that the existing storage lengths of these lanes do not satisfy Georgia DOT standards and it is recommended that both the northbound left turn lane and southbound right turn lane be extended to meet these standards. The signal at this intersection will need to be upgraded to provide signal heads for the eastbound approach, including pedestrian signals, and it is recommended that the northbound left turn lane receive a protected/permissive phasing, which will require additional signal equipment.
- 5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129 Bus) – The a.m. peak hour will deteriorate further in the build condition. Discussions for the existing and no-build conditions are still applicable in the build condition. Recommendations for the existing condition included adding a third westbound through lane on Jesse Jewell Parkway and an additional southbound right turn lane on

Limestone Parkway (so that the center lane is a shared through/right, plus a new exclusive right turn lane). The no-build analysis concluded that the additional southbound exclusive right turn lane on Limestone Parkway should be accommodated by a right turn overlap phase that would operate concurrently with the eastbound protected left turn phase from Jesse Jewell Parkway to northbound Limestone Parkway. The no-build analysis also noted the value of the addition of a right turn overlap phase for the westbound right turn, which would operate concurrently with the southbound left turn phase on Limestone Parkway.

- 6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way – This intersection will continue to operate well and no mitigation is identified for the build condition.
- 7) I-985 SB at Jesse Jewell Parkway (US 129) – No additional mitigation is identified for this intersection in the build condition.
- 8) I-985 NB at Jesse Jewell Parkway (US 129) – The northbound ramp will continue to operate acceptably in the build condition.
- 9) Lakeview Drive at Beverly Road / Nottingham Drive – The trips from the Limestone Greenway project will further increase delays at this all-way stop controlled intersection. Signalization would allow this intersection to operate well with the build condition volumes. A signal warrant analysis performed according to the criteria set forth in the Federal Highway Administration's Manual On Uniform Traffic Control Devices (MUTCD) would be necessary to identify if this intersection meets the requirements for signalization.
- 10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street – The same issues that affected this intersection in the existing and no-build conditions, will continue in the build condition. The existing condition discussion still applies in the build condition. The project trips on Quarry will consist of those from the single-family homes, plus a few trips from the existing neighborhood to the new project retail, that will travel to the site via Jesse Jewell and Limestone.
- 11) Jesse Jewell Parkway (US 129 Bus) at Community Way / Terrace Street – This intersection will generally operate well in the build condition, but the southbound approach will continue to operate at LOS F in the a.m. Recommendations made in the no-build condition still apply for the build condition.
- 12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard / MLK, Jr. Boulevard (GA 11 Conn) – This intersection will continue operate acceptably in the build condition. However, in the p.m., several approaches will drop to LOS E, suggesting that this intersection will be reaching the limits of its capacity.
- 13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway – This intersection will continue to operate well in the build condition.

- 14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway – The westbound approach delays will increase in the p.m. The discussion in the no-build section of the potential for signalization is still applicable for the build condition.
- 15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Conn) – This intersection will continue to deteriorate, with the southbound and westbound approaches joining the eastbound approach (from the no-build condition) at LOS F. In addition to the mitigation recommended in the no-build analysis, right turn overlap phases can be added to that new recommended southbound right turn lane and to the westbound right turn lane. These improvements would eliminate all approach LOS Fs in the build condition.
- 16) Park Hill Drive (GA 11) at Lakeview Drive – This intersection will continue to operate acceptably in the build condition.
- 17) Jesse Jewell Parkway (US 129 Bus) at Retail Outparcel RIRO Access – This access will work well with movements restricted to right-in / right-out. See discussion below for the need for a deceleration lane on Jesse Jewell Parkway.
- 18) Limestone Parkway (US 129) at Retail Outparcel RIRO Access – This access will work well with movements restricted to right-in / right-out. See discussion below for the need for a deceleration lane on Limestone Parkway.

Georgia DOT Design Standards

The Limestone Greenway primary site access will be located on Limestone Parkway, which is US 129. Therefore, the applicable standards proscribed in the Georgia DOT's Regulations for Driveway and Encroachment Control (Driveway Manual) should be implemented at this location. This intersection is already constructed with a northbound exclusive left turn lane (currently operating as a U-Turn lane) and a southbound exclusive right turn lane. This intersection is also already signalized. The standards in the Driveway Manual were not evaluated to determine if the turn lanes are required, since the lanes already exist. However, the storage length and taper length standards for each were assessed, in order to ensure that the existing lanes meet Georgia DOT design standards, as follows:

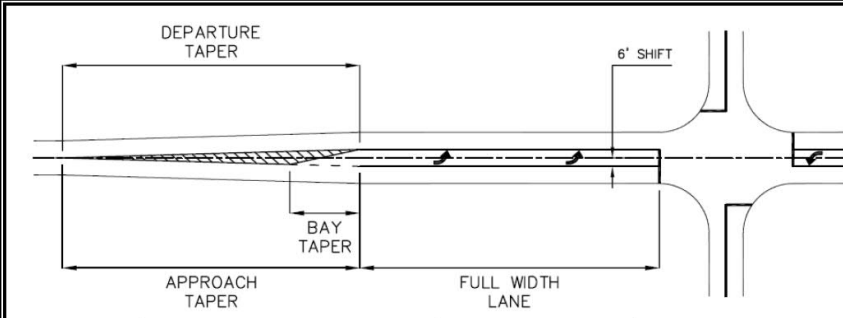
The posted speed limit on Limestone Parkway at this intersection is 50 mph. Table 6, below, is Table 4-8 from the Driveway Manual, and provides the full-width storage length and taper length requirements for right turn lanes, while Table 7 is Table 4-9 from the Driveway Manual, and provides storage and taper standards for left turn lanes.

Table 6 – Georgia DOT Design Standards for Right Turn Lanes

SPEED, MPH	FULL WIDTH STORAGE, FT	TAPER, FT
25		50
30	75	50
35	100	50
40	150	50
45	175	100
50	225	100
55	250	100
60	300	100
65	350	100

TABLE 4-8 MINIMUM RIGHT TURN DECELERATION LENGTHS

Table 7 – Georgia DOT Design Standards for Left Turn Lanes



POSTED SPEED LIMIT, MPH	APPROACH AND DEPARTURE TAPER, FT		BAY TAPER, FT	FULL WIDTH STORAGE
	6' Shift	12' Shift		
30	90	180	50	135
35	125	250	50	160
40	160	320	50	210
45	270	540	100	235
50	300	600	100	285
55	330	660	100	310
60	360	720	100	360
65	390	780	100	410

TABLE 4-9 MINIMUM DESIGN ELEMENTS OF LEFT TURN LANES

Based on these tables, the southbound right turn lane on Limestone Parkway at the site access should provide a minimum of 225 feet of full-width storage and a taper of 100 feet. The northbound left turn lane should provide a minimum of 285 feet of full width storage and a 100 foot bay taper. The existing lanes each provide approximately 150 feet of full-width storage. Therefore, it is recommended that both auxiliary lanes be extended to satisfy the Georgia DOT minimum requirements.

The need for deceleration lanes at the two accesses to the outparcel at the corner of Limestone / Jesse Jewell were also evaluated. Table 8, below, is Table 4-6 from the Driveway Manual, and provides the standards for the need for deceleration lanes.

Table 8 – Georgia DOT Minimum Volume Requirements for Right Turn Lanes

POSTED SPEED	2 LANE ROUTES		MORE THAN 2 LANES ON MAIN ROAD	
	AADT		AADT	
	< 6000	>=6000	<10000	>=10000
35 MPH OR LESS	200 RTV a day	100 RTV a day	200 RTV a day	100 RTV a day
40 TO 50 MPH	150 RTV a day	75 RTV a day	150 RTV a day	75 RTV a day
55 TO 60 MPH	100 RTV a day	50 RTV a day	100 RTV a day	50 RTV a day
>= 65 MPH	Always	Always	Always	Always

TABLE 4-6 MINIMUM VOLUMES REQUIRING RIGHT TURN LANES

The outparcel entering 24-hour volume (new plus pass-by trips) is 444 trips per day. The daily right turn volume (RTV) at the Limestone Parkway access is projected as approximately 60% of these entering trips, or 266 RTV per day. The posted speed limit is 50 mph on Limestone Parkway and the AADT on the adjacent section is 18,100 (from Table 1). Therefore, the RTV threshold above which a deceleration lane is required is 75 RTV per day. The projected 266 RTV per day exceeds this volume and, therefore, a deceleration lane is required at the outparcel access on Limestone Parkway. Based on the standards presented above in Table 7, this deceleration lane should provide 225 feet of full width storage and a 100 foot taper.

The daily RTV at the Jesse Jewell Parkway access is projected at approximately 40% of the 444 site entering trips, or 178 RTV per day. The posted speed limit is 45 mph on Jesse Jewell Parkway and the AADT is 30,300 vpd (from Table 1). Therefore, the RTV threshold is 75 RTV per day. The projected 178 RTV per day exceeds this volume and, therefore, a deceleration lane is required at the outparcel access on Jesse Jewell Parkway. This deceleration lane should provide 175 feet of full width storage and a 100 foot taper.

The project site engineer is referred to the Georgia DOT Driveway Manual for other driveway design standards including driveway width, island design, and curb return radii.

Summary of Study Findings and Recommendations

The following is a summary of the findings and the recommendations of this traffic impact study:

- 1) Limestone Parkway (US 129) at Cleveland Highway (GA 11) – The signalized portion of this intersection operates extremely well but the stop-sign controlled right turn movement from westbound Limestone Parkway to northbound Cleveland Highway experiences LOS F in the p.m. peak hour, though it generally works acceptably at other times of the day. The existing volumes at this location merit consideration of a second northbound through lane on Cleveland Highway into which the westbound right turn from Limestone Parkway would free-flow. The same mitigation for the existing volumes applies to the no-build and build conditions.
- 2) Limestone Parkway (US 129) at Clarks Bridge Road (GA 284) – This intersection operates acceptably. Based on existing volumes, there would be a modest benefit to providing a separate eastbound exclusive right turn lane on Clarks Bridge Road at this intersection. No other mitigation is identified for the no-build or build conditions.
- 3) Limestone Parkway (US 129) at Beverly Road – This intersection currently operates acceptably. There would be a modest benefit in the existing condition to providing a separate eastbound exclusive right turn lane on Beverly Road. In the no-build condition, the eastbound approach drops to LOS E in the a.m., and in the build condition, this approach drops to LOS F in the a.m. and p.m., reinforcing the appropriateness of the addition of the eastbound right turn lane. The northbound left turn volume on Limestone Parkway is sufficient in the existing condition to justify a protected / permissive left turn phasing according to Georgia DOT standards, and consideration should be given to adding this phasing whether or not the proposed Limestone Greenway development is built.
- 4) Limestone Parkway (US 129) at Kroger Access – This intersection operates well and no mitigation is identified in the existing or no-build conditions. This intersection will continue to operate well with the addition of the fourth approach and the Limestone Greenway site trips. The analysis assumes two eastbound lanes, which will consist of a shared left/through lane and a right turn lane. The existing northbound U-turn lane on Limestone Parkway will become the left turn lane for the site and there is already a southbound right turn lane at this location on Limestone Parkway. The signal at this intersection will need to be upgraded to provide signal heads for the eastbound approach, including pedestrian signals, and it is recommended that the northbound left turn lane receive a protected/permissive phasing, which will require additional signal equipment. The existing southbound right turn lane and northbound left turn lane should be lengthened to satisfy Georgia DOT auxiliary lane length standards.
- 5) Limestone Parkway (US 129) at Jesse Jewell Parkway (US 129 Bus) – This location currently operates acceptably in the p.m., but experiences high delays in the a.m. peak hour. The largest capacity need here is for a third westbound through lane on Jesse Jewell Parkway. Other mitigation was tested and is discussed in the text. The benefit of adding a southbound right turn lane on Limestone Parkway is increased in the no-build condition (so that the center lane is a shared through/right, plus a new exclusive right turn lane). The

southbound exclusive right turn lane should include a right turn overlap phase. A westbound right turn overlap phase would also improve the efficiency of the signal. The a.m. peak hour will deteriorate further in the build condition. The mitigation identified in the existing and no-build are still applicable in the build condition.

- 6) Jesse Jewell Parkway (US 129) at White Sulphur Road / Textile Way – This intersection operates well and no mitigation is identified for the existing, no-build, or build conditions.
- 7) I-985 SB at Jesse Jewell Parkway (US 129) – The southbound ramp at I-985 operates acceptably and no mitigation is identified. The addition of a second eastbound right turn lane from Jesse Jewell Parkway onto the southbound ramp would provide some additional storage and capacity for the no-build 1,065 a.m. peak hour right turners. No additional mitigation is identified for this intersection in the build condition.
- 8) I-985 NB at Jesse Jewell Parkway (US 129) – The northbound ramp operates acceptably and no mitigation is identified for the existing, no-build, or build conditions.
- 9) Lakeview Drive at Beverly Road / Nottingham Drive – This intersection currently operates well as an all-way stop and no changes are recommended in the existing condition. In the no-build condition, the southbound approach will deteriorate to LOS F in the a.m. peak hour, making this intersection a potential candidate for signalization. The increases in volumes from the Limestone Greenway project will further increase delays at this all-way stop controlled intersection. With signalization, all approaches would operate acceptably in the no-build and future conditions. A signal warrant analysis performed according to the criteria set forth in the Federal Highway Administration's Manual On Uniform Traffic Control Devices (MUTCD) would be necessary to identify if this intersection meets the requirements for signalization.
- 10) Jesse Jewell Parkway (US 129 Bus) at Quarry Street / Myrtle Street – The northbound and southbound approaches from Myrtle Street and Quarry Street operate at LOS F. However, the volumes incurring these high delays are very low and most of the side street approach vehicles are right turners. Line of sight to the west along Jesse Jewell from southbound Quarry is limited, presenting a safety concern. It does not appear that volumes on the side streets are sufficient to warrant a signal at this time. However, other factors may justify signalization, such as the presence of school traffic and the limitation in sight distance. A signal warrant analysis could be performed to determine if or when signalization would be appropriate. The same issues that affect this intersection in the existing condition continue in the no-build and build, with increased delays on the side street stop sign controlled approaches. It is noted that allowing through connectivity at the gated school bus access to Gainesville Middle School at Lakeview Drive, perhaps at limited times of day, may provide an alternative route for trips on Lakeview to bypass the unsignalized Quarry Street intersection.
- 11) Jesse Jewell Parkway (US 129 Bus) at Community Way / Terrace Street – This intersection generally operates well in the existing condition. The southbound and eastbound approaches are at LOS E in the a.m. peak hour, suggesting that this intersection is approaching the limit before which mitigation may be necessary. In the no-build condition, the southbound approach will deteriorate to LOS F in the a.m. The southbound approach should be restriped to include a shared left turn and through movement and an

exclusive right turn lane. Then, a right turn overlap phase should be added to this southbound right turn lane. Recommendations made for the no-build condition still apply for the build condition.

- 12) Jesse Jewell Parkway (US 129 Bus) at Downey Boulevard / MLK, Jr. Boulevard (GA 11 Conn) – This intersection operates well in the existing condition and no mitigation is necessary. This intersection will continue operate acceptably in the no-build and build conditions. However, by the build condition, in the p.m., several approaches will drop to LOS E, suggesting that this intersection will be reaching the limits of its capacity.
- 13) South Enota Drive (GA 11 Conn) at Sherwood Park Drive / Walgreens Driveway – This intersection operates well. It is noted that, within the Walgreens property, the directional arrows are yellow, and should be white, and there is no centerline or lane line striping. Walgreens should consider improving the striping to meet conventional standards. This intersection will continue to operate well in the no-build and build conditions.
- 14) South Enota Drive (GA 11 Conn) at Robinhood Trail / Sherwood Plaza Driveway – This intersection currently works acceptably. The westbound left turn from Robinhood Trail is beginning to incur notable delays (LOS E) in the p.m. The center two-way left-turn lane on South Enota is striped through this intersection. It is recommended that the left turn lane striping be modified here to treat this as an intersection, with a break in the centerline striping and distinct northbound and southbound left turn lanes. Sherwood Plaza should install a stop sign and accompanying stop bar on their exiting approach. In the no-build condition, the westbound approach will deteriorate to LOS F in the p.m. However, during other times of day, this intersection will continue to operate acceptably. Signalization would eliminate the westbound left turn LOS F. However, based on the side street volumes, this intersection would likely be a weak candidate for signalization. The issue of signalization is still applicable for the build condition.
- 15) Park Hill Drive (GA 11) at South Enota Drive (GA 11 Conn) – This intersection functions acceptably and no mitigation is identified for the existing condition. The southbound approach on Park Hill Drive will deteriorate to LOS F in the no-build p.m. For the no-build, it is recommended that a southbound exclusive right turn lane be built on Park Hill Drive. In the build condition, this intersection will continue to deteriorate, with the southbound and westbound approaches joining the eastbound approach (from the no-build condition) at LOS F. In addition to the no-build mitigation, right turn overlap phases can be added to that new southbound right turn lane and to the westbound right turn lane.
- 16) Park Hill Drive (GA 11) at Lakeview Drive – This intersection was recently signalized and operates acceptably. Pedestrian accommodations and ADA accessibility are technically provided. However, the ADA ramps all abruptly terminate with high curbing and no accompanying sidewalk is provided on the east side of Park Hill or along either side of Lakeview. It is recommended that pedestrian accommodations at this location be improved. No other mitigation is identified for the no-build or build conditions.
- 17) Jesse Jewell Parkway (US 129 Bus) at Retail Outparcel RIRO Access – This access will work well with movements restricted to right-in / right-out. A deceleration lane should be provided on Jesse Jewell Parkway according to Georgia DOT standards.

- 18) Limestone Parkway (US 129) at Retail Outparcel RIRO Access – This access will work well with movements restricted to right-in / right-out. A deceleration lane should be provided on Limestone Parkway according to Georgia DOT standards.

Appendix A

Traffic Count Data and Volume Worksheets

Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

March 2018

Intersection: 1. Cleveland Highway and Limestone Parkway

Weekday A.M. Peak Hour	Northbound Cleveland Highway			Southbound Cleveland Highway				Westbound Limestone Parkway		
	T	R	Tot	L	T	Tot		L	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	163	12	175	752	631	1383		6	213	219
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%		15.9%	15.9%	15.9%
No-Build Volumes	189	14	203	872	731	1603		7	247	254
Limestone Greenway Retail New Trips	0	0	0	11	0	11		0	7	7
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0		0	0	0
Limestone Greenway Office Trips	0	0	0	6	0	6		0	1	1
Limestone Greenway Residential Trips	0	0	0	2	0	2		0	6	6
Total Site Trips	0	0	0	19	0	19		0	14	14
Build Volumes	189	14	203	891	731	1622		7	261	268

Weekday P.M. Peak Hour	Northbound Cleveland Highway			Southbound Cleveland Highway				Westbound Limestone Parkway		
	T	R	Tot	L	T	Tot		L	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	691	12	703	301	285	586		8	502	510
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%		15.9%	15.9%	15.9%
No-Build Volumes	801	14	815	349	330	679		9	582	591
Limestone Greenway Retail New Trips	0	0	0	17	0	17		0	18	18
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0		0	0	0
Limestone Greenway Office Trips	0	0	0	2	0	2		0	5	5
Limestone Greenway Residential Trips	0	0	0	6	0	6		0	3	3
Total Site Trips	0	0	0	25	0	25		0	26	26
Build Volumes	801	14	815	374	330	704		9	608	617

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Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

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Intersection: 2. Limestone Parkway and Clarks Bridge Road

Weekday A.M. Peak Hour	Northbound Limestone Parkway				Southbound Limestone Parkway				Eastbound Clarks Bridge Road				Westbound Clarks Bridge Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	118	207	56	381	22	732	34	788	2	75	151	228	357	148	14	519
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	137	240	65	442	25	848	39	913	2	87	175	264	414	172	16	602
Limestone Greenway Retail New Trips	0	7	5	12	0	11	0	11	0	0	0	0	8	0	0	8
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	1	1	2	0	6	0	6	0	0	0	0	3	0	0	3
Limestone Greenway Residential Trips	0	6	2	8	0	3	0	3	0	0	0	0	1	0	0	1
Total Site Trips	0	14	8	22	0	20	0	20	0	0	0	0	12	0	0	12
Build Volumes	137	254	73	464	25	868	39	933	2	87	175	264	426	172	16	614

Weekday P.M. Peak Hour	Northbound Limestone Parkway				Southbound Limestone Parkway				Eastbound Clarks Bridge Road				Westbound Clarks Bridge Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	274	496	388	1158	28	288	13	329	4	156	126	286	105	119	17	241
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	318	575	450	1342	32	334	15	381	5	181	146	331	122	138	20	279
Limestone Greenway Retail New Trips	0	18	12	30	0	17	0	17	0	0	0	0	11	0	0	11
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	5	2	7	0	2	0	2	0	0	0	0	1	0	0	1
Limestone Greenway Residential Trips	0	3	1	4	0	9	0	9	0	0	0	0	3	0	0	3
Total Site Trips	0	26	15	41	0	28	0	28	0	0	0	0	15	0	0	15
Build Volumes	318	601	465	1383	32	362	15	409	5	181	146	331	137	138	20	294

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Intersection: 3. Limestone Parkway and Beverly Road

Weekday A.M. Peak Hour	Northbound Limestone Parkway				Southbound Limestone Parkway				Eastbound Beverly Road				Westbound Beverly Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	100	395	62	557	64	830	57	951	31	89	85	205	37	91	71	199
Counted Volumes (Wednesday, November 1, 2017)	173	508	56	737	70	1019	112	1201	37	127	131	295	25	121	56	202
% Change	73%	29%	-10%	32%	9%	23%	96%	26%	19%	43%	54%	44%	-32%	33%	-21%	2%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	201	589	65	854	81	1181	130	1392	43	147	152	342	29	140	65	234
Limestone Greenway Retail New Trips	29	16	4	49	0	24	0	24	0	0	41	41	5	0	0	5
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	7	4	1	12	0	7	0	7	0	0	12	12	2	0	0	2
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	2	3	0	5	0	19	0	19	0	0	10	10	2	0	0	2
Limestone Greenway Multi-Family Residential Trips	16	8	2	26	0	2	0	2	0	0	5	5	1	0	0	1
Limestone Greenway Single-Family Residential Trips	0	0	0	0	0	0	1	1	2	0	0	2	0	0	0	0
Total Site Trips	54	31	7	92	0	52	1	53	2	0	68	70	10	0	0	10
Build Volumes	255	620	72	946	81	1233	131	1445	45	147	220	412	39	140	65	244

Weekday P.M. Peak Hour	Northbound Limestone Parkway				Southbound Limestone Parkway				Eastbound Beverly Road				Westbound Beverly Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	76	879	17	972	39	537	30	606	33	69	76	178	54	67	119	240
Counted Volumes (Wednesday, November 1, 2017)	110	1100	22	1232	42	653	29	724	40	93	118	251	43	150	107	300
% Change	45%	25%	29%	27%	8%	22%	-3%	19%	21%	35%	55%	41%	-20%	124%	-10%	25%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	127	1275	25	1428	49	757	34	839	46	108	137	291	50	174	124	348
Limestone Greenway Retail New Trips	68	38	9	115	0	38	0	38	0	0	65	65	9	0	0	9
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	7	3	0	10	0	4	0	4	0	0	6	6	1	0	0	1
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	9	8	1	18	0	3	0	3	0	0	3	3	0	0	0	0
Limestone Greenway Multi-Family Residential Trips	9	4	1	14	0	7	0	7	0	0	15	15	2	0	0	2
Limestone Greenway Single-Family Residential Trips	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0
Total Site Trips	93	53	11	157	0	52	2	54	1	0	89	90	12	0	0	12
Build Volumes	220	1328	36	1585	49	809	36	893	47	108	226	381	62	174	124	360

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Intersection: 4. Limestone Parkway and Kroger Rear Access / Site Access

Weekday A.M. Peak Hour	Northbound Limestone Parkway				Southbound Limestone Parkway				Eastbound Site Access				Westbound Kroger Rear Access			
	U/L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	27	564	9	600	105	794		899					5		27	32
Counted Volumes (Wednesday, November 1, 2017)	33	691	12	736	125	1070		1195					9		40	49
% Change	22%	23%	33%	23%	19%	35%		33%					80%		48%	53%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%		15.9%					15.9%		15.9%	15.9%
No-Build Volumes	38	801	14	853	145	1240		1385					10		46	57
Limestone Greenway Retail New Trips	104	0	0	104	0	0	70	70	49	5	70	124	0	8	0	8
Limestone Greenway Retail Pass-by Trips	22	-22	0	0	0	-36	36	0	15	0	24	39	0	0	0	0
Limestone Greenway Outparcel New Trips	0	12	2	14	0	21	0	21	0	0	0	0	2	0	0	2
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	46	0	0	46	0	0	22	22	5	0	7	12	0	3	0	3
Limestone Greenway Multi-Family Residential Trips	17	0	0	17	0	0	8	8	26	3	58	87	0	1	0	1
Limestone Greenway Single-Family Residential Trips	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Site Trips	189	-10	3	182	0	-15	136	121	95	8	159	262	2	12	0	14
Build Volumes	227	791	17	1035	145	1225	136	1506	95	8	159	262	12	12	46	71

Weekday P.M. Peak Hour	Northbound Limestone Parkway				Southbound Limestone Parkway				Eastbound Site Access				Westbound Kroger Rear Access			
	U/L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	32	917	27	976	128	602		730					13		94	107
Counted Volumes (Wednesday, November 1, 2017)	21	1159	24	1204	136	722		858					6		87	93
% Change	-34%	26%	-11%	23%	6%	20%		18%					-54%		-7%	-13%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%		15.9%					15.9%		15.9%	15.9%
No-Build Volumes	24	1343	28	1395	158	837		994					7		101	108
Limestone Greenway Retail New Trips	167	0	0	167	0	0	112	112	115	12	166	293	0	11	0	11
Limestone Greenway Retail Pass-by Trips	86	-86	0	0	0	-63	63	0	88	0	63	151	0	0	0	0
Limestone Greenway Outparcel New Trips	0	10	1	11	0	11	0	11	0	0	0	0	1	0	0	1
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	10	0	0	10	0	0	6	6	18	2	38	58	0	1	0	1
Limestone Greenway Multi-Family Residential Trips	56	0	0	56	0	0	24	24	14	2	33	49	0	3	0	3
Limestone Greenway Single-Family Residential Trips	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total Site Trips	319	-76	1	244	0	-52	205	153	235	16	300	551	2	15	0	17
Build Volumes	343	1267	29	1639	158	785	205	1147	235	16	300	551	9	15	101	125

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Intersection: 5. Limestone Parkway and Jesse Jewell Parkway

Weekday A.M. Peak Hour	Northbound Textile Way				Southbound Limestone Parkway				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	54	59	11	124	467	128	414	1009	243	443	50	736	27	1234	338	1599
Counted Volumes (Wednesday, November 1, 2017)	67	54	10	131	579	58	427	1064	362	342	65	769	24	1560	306	1890
% Change	24%	-8%	-9%	6%	24%	-55%	3%	5%	49%	-23%	30%	4%	-11%	26%	-9%	18%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	78	63	12	152	671	67	495	1233	420	396	75	891	28	1808	355	2191
Limestone Greenway Retail New Trips	0	0	0	0	29	0	41	70	60	0	0	60	0	0	44	44
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	21	0	0	21	4	0	0	4	0	3	0	3
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	5	0	0	5	4	1	0	5	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	4	0	3	7	20	0	0	20	0	0	26	26
Limestone Greenway Multi-Family Residential Trips	0	0	0	0	28	0	30	58	9	0	0	9	0	0	8	8
Limestone Greenway Single-Family Residential Trips	0	0	0	0	0	0	0	0	1	5	0	6	0	2	0	2
Total Site Trips	0	0	0	0	87	0	74	161	98	6	0	104	0	5	78	83
Build Volumes	78	63	12	152	758	67	569	1394	518	402	75	995	28	1813	433	2274

Weekday P.M. Peak Hour	Northbound Textile Way				Southbound Limestone Parkway				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	60	57	12	129	505	74	243	822	642	954	118	1714	62	599	480	1141
Counted Volumes (Wednesday, November 1, 2017)	38	67	11	116	485	58	155	698	666	1193	108	1967	25	879	439	1343
% Change	-37%	18%	-8%	-10%	-4%	-22%	-36%	-15%	4%	25%	-8%	15%	-60%	47%	-9%	18%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	44	78	13	134	562	67	180	809	772	1383	125	2280	29	1019	509	1557
Limestone Greenway Retail New Trips	0	0	0	0	69	0	97	166	97	0	0	97	0	0	70	70
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	15	0	0	15	2	0	0	2	0	2	0	2
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	4	0	0	4	6	0	0	6	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	21	0	17	38	7	0	0	7	0	0	9	9
Limestone Greenway Multi-Family Residential Trips	0	0	0	0	16	0	17	33	29	0	0	29	0	0	27	27
Limestone Greenway Single-Family Residential Trips	0	0	0	0	0	0	1	1	0	4	0	4	0	7	0	7
Total Site Trips	0	0	0	0	125	0	132	257	141	4	0	145	0	9	106	115
Build Volumes	44	78	13	134	687	67	312	1066	913	1387	125	2425	29	1028	615	1672

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Intersection: 6. Jesse Jewell Parkway and White Sulphur Road / Textile Way

Weekday A.M. Peak Hour

	Northbound Textile Way				Southbound White Sulphur Road				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	1	7	20	28	280	8	116	404	78	884	1	963	36	1611	157	1804
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	1	8	23	32	325	9	134	468	90	1048	1	1140	42	1873	182	2097
Limestone Greenway Retail New Trips	0	0	0	0	0	0	0	0	0	29	0	29	0	44	0	44
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	0	0	0	0	0	4	0	4	0	26	0	26
Limestone Greenway Residential Trips	0	0	0	0	0	0	0	0	0	33	0	33	0	10	0	10
Total Site Trips	0	0	0	0	0	0	0	0	0	66	0	66	0	80	0	80
Build Volumes	1	8	23	32	325	9	134	468	90	1114	1	1206	42	1953	182	2177

Weekday P.M. Peak Hour

	Northbound Textile Way				Southbound White Sulphur Road				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	1	9	48	58	306	10	136	452	173	1503	4	1680	19	1331	218	1568
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	1	10	56	67	355	12	158	524	201	1753	5	1958	22	1563	253	1838
Limestone Greenway Retail New Trips	0	0	0	0	0	0	0	0	0	69	0	69	0	70	0	70
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	0	0	0	0	0	21	0	21	0	9	0	9
Limestone Greenway Residential Trips	0	0	0	0	0	0	0	0	0	20	0	20	0	34	0	34
Total Site Trips	0	0	0	0	0	0	0	0	0	110	0	110	0	113	0	113
Build Volumes	1	10	56	67	355	12	158	524	201	1863	5	2068	22	1676	253	1951

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Intersection: 7. Jesse Jewell Parkway and Interstate 985 Southbound Ramps

Weekday A.M. Peak Hour		Southbound I-985 Off Ramp			Eastbound Jesse Jewell Parkway			Westbound Jesse Jewell Parkway		
		L	R	Tot	T	R	Tot	L	T	Tot
Counted Volumes (Thursday, September 17, 2015)		42	610	652	426	619	1045	160	1144	1304
Counted Volumes (Wednesday, November 1, 2017)		44	614	658	344	905	1249	396	1302	1698
% Change		5%	1%	1%	-19%	46%	20%	148%	14%	30%
Annual Background Growth		15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes		51	713	764	406	1065	1471	459	1514	1973
Limestone Greenway Retail New Trips		0	11	11	16	13	29	0	33	33
Limestone Greenway Retail Pass-by Trips		0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips		0	5	5	2	2	4	0	21	21
Limestone Greenway Residential Trips		0	2	2	11	22	33	0	8	8
Total Site Trips		0	18	18	29	37	66	0	62	62
Build Volumes		51	731	782	435	1102	1537	459	1576	2035

Weekday P.M. Peak Hour		Southbound I-985 Off Ramp			Eastbound Jesse Jewell Parkway			Westbound Jesse Jewell Parkway		
		L	R	Tot	T	R	Tot	L	T	Tot
Counted Volumes (Thursday, September 17, 2015)		23	278	301	1020	564	1584	112	983	1095
Counted Volumes (Wednesday, November 1, 2017)		27	428	455	1060	745	1805	142	1108	1250
% Change		17%	54%	51%	4%	32%	14%	27%	13%	14%
Annual Background Growth		15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes		31	500	531	1232	871	2103	165	1300	1465
Limestone Greenway Retail New Trips		0	17	17	38	31	69	0	53	53
Limestone Greenway Retail Pass-by Trips		0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips		0	2	2	7	14	21	0	7	7
Limestone Greenway Residential Trips		0	8	8	6	14	20	0	26	26
Total Site Trips		0	27	27	51	59	110	0	86	86
Build Volumes		31	527	558	1283	930	2213	165	1386	1551

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Intersection: 8. Jesse Jewell Parkway and Interstate 985 Northbound Ramps

Weekday A.M. Peak Hour	Northbound I-985 Off Ramp				Eastbound Jesse Jewell Parkway			Westbound Jesse Jewell Parkway		
	L	R	Tot		L	T	Tot	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	583	59	642		154	313	467	730	21	751
Counted Volumes (Wednesday, November 1, 2017)	677	92	769		130	265	395	1003	36	1039
% Change	16%	56%	20%		-16%	-15%	-15%	37%	71%	38%
Annual Background Growth	15.9%	15.9%	15.9%		15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
Milliken Lakeview Property	4	0	4		5	2	7	1	0	1
No-Build Volumes	789	107	895		156	309	465	1163	42	1205
Limestone Greenway Retail New Trips	20	0	20		7	9	16	13	0	13
Limestone Greenway Retail Pass-by Trips	0	0	0		0	0	0	0	0	0
Limestone Greenway Office Trips	17	0	17		1	1	2	4	0	4
Limestone Greenway Residential Trips	7	0	7		7	4	11	1	0	1
Total Site Trips	44	0	44		15	14	29	18	0	18
Build Volumes	833	107	939		171	323	494	1181	42	1223

Weekday P.M. Peak Hour	Northbound Textile Way				Eastbound Jesse Jewell Parkway			Westbound Jesse Jewell Parkway		
	L	R	Tot		L	T	Tot	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	671	221	892		479	538	1017	441	45	486
Counted Volumes (Wednesday, November 1, 2017)	771	158	929		524	582	1106	457	46	503
% Change	15%	-29%	4%		9%	8%	9%	4%	2%	3%
Annual Background Growth	15.9%	15.9%	15.9%		15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
Milliken Lakeview Property	14	0	14		2	1	3	2	0	2
No-Build Volumes	908	183	1091		609	676	1285	532	53	585
Limestone Greenway Retail New Trips	33	0	33		18	20	38	20	0	20
Limestone Greenway Retail Pass-by Trips	0	0	0		0	0	0	0	0	0
Limestone Greenway Office Trips	6	0	6		4	3	7	1	0	1
Limestone Greenway Residential Trips	22	0	22		4	2	6	4	0	4
Total Site Trips	61	0	61		26	25	51	25	0	25
Build Volumes	969	183	1152		635	701	1336	557	53	610

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Intersection: 9. Lakeview Drive and Nottingham Drive / Beverly Road

Weekday A.M. Peak Hour	Northbound Lakeview Drive				Southbound Lakeview Drive				Eastbound Nottingham Drive				Westbound Beverly Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	2	43	18	63	184	130	7	321	2	11	0	13	57	43	131	231
Counted Volumes (Wednesday, November 1, 2017)	2	72	26	100	246	143	8	397	4	21	2	27	73	45	253	371
% Change	0%	67%	44%	59%	34%	10%	14%	24%	100%	91%	#DIV/0!	108%	28%	5%	93%	61%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	2	83	30	116	285	166	9	460	5	24	2	31	85	52	293	430
Limestone Greenway Retail New Trips	0	0	0	0	36	0	0	36	0	5	0	5	0	4	25	29
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	11	0	0	11	0	1	0	1	0	1	6	7
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	9	0	0	9	0	1	0	1	0	0	2	2
Limestone Greenway Multi-Family Residential Trips	0	0	0	0	5	0	0	5	0	0	0	0	0	0	16	16
Limestone Greenway Single-Family Residential Trips	1	3	2	6	0	1	0	1	0	0	0	0	1	0	0	1
Total Site Trips	1	3	2	6	61	1	0	62	0	7	0	7	1	5	49	55
Build Volumes	3	86	32	122	346	167	9	522	5	31	2	38	86	57	342	485

Weekday P.M. Peak Hour	Northbound Lakeview Drive				Southbound Lakeview Drive				Eastbound Nottingham Drive				Westbound Beverly Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	3	19	30	52	111	20	3	134	2	34	0	36	28	42	93	163
Counted Volumes (Wednesday, November 1, 2017)	3	32	55	90	164	30	3	197	7	25	3	35	26	31	229	286
% Change	0%	68%	83%	73%	48%	50%	0%	47%	250%	-26%	#DIV/0!	-3%	-7%	-26%	146%	75%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	3	37	64	104	190	35	3	228	8	29	3	41	30	36	265	331
Limestone Greenway Retail New Trips	0	0	0	0	56	0	0	56	0	9	0	9	0	9	59	68
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	6	0	0	6	0	0	0	0	0	1	6	7
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	3	0	0	3	0	0	0	0	0	1	8	9
Limestone Greenway Multi-Family Residential Trips	0	0	0	0	15	0	0	15	0	0	0	0	0	0	9	9
Limestone Greenway Single-Family Residential Trips	1	2	1	4	0	3	0	3	0	0	1	1	2	0	0	2
Total Site Trips	1	2	1	4	80	3	0	83	0	9	1	10	2	11	82	95
Build Volumes	4	39	65	108	270	38	3	311	8	38	4	51	32	47	347	426

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Intersection: 10. Jesse Jewell Parkway and Quarry Street / Myrtle Street (Milliken Access)

Weekday A.M. Peak Hour	Northbound Myrtle Street (Milliken)				Southbound Quarry Street				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	7	0	10	17	3	1	50	54	32	646	17	695	34	1630	12	1676
Counted Volumes (Wednesday, November 1, 2017)	8	1	28	37	3	1	21	25	27	727	28	782	31	2036	10	2077
% Change	14%	#DIV/0!	180%	118%	0%	0%	-58%	-54%	-16%	13%	65%	13%	-9%	25%	-17%	24%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	9	1	32	43	3	1	24	29	31	843	32	906	36	2360	12	2407
Limestone Greenway Retail New Trips	0	0	0	0	4	0	0	4	0	49	0	49	0	34	2	36
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	1	0	0	1	0	19	0	19	0	3	0	3
Limestone Greenway Multi-Family Residential Trips	0	0	1	1	0	0	0	0	0	8	0	8	2	28	0	30
Limestone Greenway Single-Family Residential Trips	0	0	0	0	6	0	5	11	1	0	0	1	0	0	2	2
Total Site Trips	0	0	1	1	11	0	5	16	1	79	0	80	2	68	4	74
Build Volumes	9	1	33	44	14	1	29	45	32	922	32	986	38	2428	16	2481

Weekday P.M. Peak Hour	Northbound Myrtle Street (Milliken)				Southbound Quarry Street				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, September 17, 2015)	8	0	26	34	2	0	18	20	33	1700	2	1735	5	872	7	884
Counted Volumes (Wednesday, November 1, 2017)	4	0	19	23	5	0	25	30	37	2009	1	2047	2	1065	6	1073
% Change	-50%	#DIV/0!	-27%	-32%	150%	#DIV/0!	39%	50%	12%	18%	-50%	18%	-60%	22%	-14%	21%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	5	0	22	27	6	0	29	35	43	2328	1	2372	2	1234	7	1244
Limestone Greenway Retail New Trips	0	0	0	0	6	0	0	6	0	79	0	79	0	79	6	85
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	0	0	0	0	0	7	0	7	0	16	1	17
Limestone Greenway Multi-Family Residential Trips	0	0	2	2	0	0	0	0	0	27	0	27	1	16	0	17
Limestone Greenway Single-Family Residential Trips	0	0	0	0	4	0	3	7	5	0	0	5	0	0	8	8
Total Site Trips	0	0	2	2	10	0	3	13	5	114	0	119	1	113	15	129
Build Volumes	5	0	24	29	16	0	32	48	48	2442	1	2491	3	1347	22	1373

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Intersection: 11. Jesse Jewell Parkway and Community Way / Terrace Street

Weekday A.M. Peak Hour	Northbound Terrace Street				Southbound Community Way				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	8	25	5	38	64	1	264	329	242	715	20	977	74	1847	124	2045
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	9	29	6	44	74	1	306	381	280	829	23	1132	86	2141	144	2370
Limestone Greenway Retail New Trips	0	0	5	5	0	0	0	0	0	44	0	44	4	30	0	34
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	2	2	0	0	0	0	0	17	0	17	0	3	0	3
Limestone Greenway Multi-Family Residential Trips	0	0	0	0	2	0	0	2	0	6	0	6	0	20	8	28
Limestone Greenway Single-Family Residential Trips	0	0	0	0	0	0	0	0	0	1	0	1	0	3	2	5
Total Site Trips	0	0	7	7	2	0	0	2	0	71	0	71	4	59	10	73
Build Volumes	9	29	13	51	76	1	306	383	280	900	23	1203	90	2200	154	2443

Weekday P.M. Peak Hour	Northbound Terrace Street				Southbound Community Way				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	28	2	54	84	76	1	72	149	87	1931	16	2034	31	1038	25	1094
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	32	2	63	97	88	1	83	173	101	2238	19	2357	36	1203	29	1268
Limestone Greenway Retail New Trips	0	0	9	9	0	0	0	0	0	70	0	70	9	70	0	79
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Outparcel New Trips	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2
Limestone Greenway Outparcel Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	1	1	0	0	0	0	0	6	0	6	2	14	0	16
Limestone Greenway Multi-Family Residential Trips	0	0	0	0	7	0	0	7	0	20	0	20	0	12	4	16
Limestone Greenway Single-Family Residential Trips	0	0	0	0	2	0	0	2	0	3	0	3	0	2	1	3
Total Site Trips	0	0	10	10	9	0	0	9	0	100	0	100	11	100	5	116
Build Volumes	32	2	73	107	97	1	83	182	101	2338	19	2457	47	1303	34	1384

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Intersection: 12. Jesse Jewell Parkway and Downey Boulevard / MLK Jr. Boulevard

Weekday A.M. Peak Hour

	Northbound MLK, Jr. Boulevard				Southbound Downey Boulevard				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	58	269	184	511	225	113	77	415	129	808	11	948	118	1411	215	1744
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	67	312	213	592	261	131	89	481	150	936	13	1099	137	1635	249	2021
Limestone Greenway Retail New Trips	0	0	11	11	13	0	0	13	0	20	0	20	7	14	9	30
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	6	6	4	0	0	4	0	7	0	7	1	1	1	3
Limestone Greenway Residential Trips	0	0	2	2	1	0	0	1	0	4	0	4	7	10	6	23
Total Site Trips	0	0	19	19	18	0	0	18	0	31	0	31	15	25	16	56
Build Volumes	67	312	232	611	279	131	89	499	150	967	13	1130	152	1660	265	2077

Weekday P.M. Peak Hour

	Northbound MLK, Jr. Boulevard				Southbound Downey Boulevard				Eastbound Jesse Jewell Parkway				Westbound Jesse Jewell Parkway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	41	289	167	497	292	218	147	657	170	1305	34	1509	134	1096	220	1450
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	48	335	194	576	338	253	170	761	197	1512	39	1749	155	1270	255	1681
Limestone Greenway Retail New Trips	0	0	18	18	20	0	0	20	0	32	0	32	18	32	20	70
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	2	2	1	0	0	1	0	3	0	3	5	6	3	14
Limestone Greenway Residential Trips	0	0	7	7	6	0	0	6	0	10	0	10	4	7	3	14
Total Site Trips	0	0	27	27	27	0	0	27	0	45	0	45	27	45	26	98
Build Volumes	48	335	221	603	365	253	170	788	197	1557	39	1794	182	1315	281	1779

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Intersection: 13. South Enota Drive and Sherwood Park Drive

Weekday A.M. Peak Hour

	Northbound South Enota Drive				Southbound South Enota Drive				Eastbound Sherwood Park Drive				Westbound Walgreens Driveway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	64	317	22	403	11	546	76	633	34	8	37	79	15	6	4	25
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	74	367	25	467	13	633	88	734	39	9	43	92	17	7	5	29
Limestone Greenway Retail New Trips	9	0	0	9	0	0	0	0	0	0	13	13	0	0	0	0
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	1	0	0	1	0	0	0	0	0	0	4	4	0	0	0	0
Limestone Greenway Residential Trips	4	2	0	6	0	0	0	0	0	0	1	1	0	0	0	0
Total Site Trips	14	2	0	16	0	0	0	0	0	0	18	18	0	0	0	0
Build Volumes	88	369	25	483	13	633	88	734	39	9	61	110	17	7	5	29

Weekday P.M. Peak Hour

	Northbound South Enota Drive				Southbound South Enota Drive				Eastbound Sherwood Park Drive				Westbound Walgreens Driveway			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	33	739	51	823	12	326	30	368	132	14	75	221	30	9	23	62
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	38	857	59	954	14	378	35	427	153	16	87	256	35	10	27	72
Limestone Greenway Retail New Trips	20	0	0	20	0	0	0	0	0	0	20	20	0	0	0	0
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	3	0	0	3	0	0	0	0	0	0	1	1	0	0	0	0
Limestone Greenway Residential Trips	2	1	0	3	0	2	0	2	0	0	4	4	0	0	0	0
Total Site Trips	25	1	0	26	0	2	0	2	0	0	25	25	0	0	0	0
Build Volumes	63	858	59	980	14	380	35	429	153	16	112	281	35	10	27	72

MARC R. ACAMPORA, PE, LLC

Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

March 2018

Intersection: 14. South Enota Drive and Robinhood Trail

Weekday A.M. Peak Hour

	Northbound South Enota Drive				Southbound South Enota Drive				Eastbound Sherwood Plaza Access				Westbound Robinhood Trail			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	9	309	25	343	14	569	7	590	0	2	4	6	74	3	27	104
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	10	358	29	398	16	659	8	684	0	2	5	7	86	3	31	121
Limestone Greenway Retail New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Residential Trips	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Site Trips	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Build Volumes	12	358	29	400	16	659	8	684	0	2	5	7	86	3	31	121

Weekday P.M. Peak Hour

	Northbound South Enota Drive				Southbound South Enota Drive				Eastbound Sherwood Plaza Access				Westbound Robinhood Trail			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	9	812	68	889	25	322	4	351	7	3	15	25	42	4	36	82
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	10	941	79	1030	29	373	5	407	8	3	17	29	49	5	42	95
Limestone Greenway Retail New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Residential Trips	1	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0
Total Site Trips	1	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0
Build Volumes	11	941	79	1031	29	373	5	407	8	3	19	31	49	5	42	95

MARC R. ACAMPORA, PE, LLC

Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

March 2018

Intersection: 15. Park Hill Drive and South Enota Drive

Weekday A.M. Peak Hour	Northbound Park Hill Drive				Southbound Park Hill Drive				Eastbound South Enota Drive				Westbound South Enota Drive			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, March 30, 2017)	12	448	114	574	245	852	171	1268	272	254	34	560	81	127	86	294
Counted Volumes (Wednesday, November 1, 2017)	2	379	105	486	255	617	151	1023	252	262	7	521	62	113	105	280
% Change	-83%	-15%	-8%	-15%	4%	-28%	-12%	-19%	-7%	3%	-79%	-7%	-23%	-11%	22%	-5%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	2	439	122	563	296	715	175	1186	292	304	8	604	72	131	122	325
Limestone Greenway Retail New Trips	0	15	0	15	0	10	11	21	16	0	0	16	0	0	0	0
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	4	0	4	0	1	1	2	5	0	0	5	0	0	0	0
Limestone Greenway Residential Trips	0	2	0	2	0	6	10	16	3	0	0	3	0	0	0	0
Total Site Trips	0	21	0	21	0	17	22	39	24	0	0	24	0	0	0	0
Build Volumes	2	460	122	584	296	732	197	1225	316	304	8	628	72	131	122	325

Weekday P.M. Peak Hour	Northbound Park Hill Drive				Southbound Park Hill Drive				Eastbound South Enota Drive				Westbound South Enota Drive			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Thursday, March 30, 2017)	17	584	48	649	106	579	250	935	231	142	28	401	237	341	354	932
Counted Volumes (Wednesday, November 1, 2017)	6	542	60	608	130	506	279	915	248	145	13	406	184	288	385	857
% Change	-65%	-7%	25%	-6%	23%	-13%	12%	-2%	7%	2%	-54%	1%	-22%	-16%	9%	-8%
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%
No-Build Volumes	7	628	70	705	151	586	323	1060	287	168	15	471	213	334	446	993
Limestone Greenway Retail New Trips	0	23	0	23	0	23	26	49	26	0	0	26	0	0	0	0
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limestone Greenway Office Trips	0	1	0	1	0	3	4	7	2	0	0	2	0	0	0	0
Limestone Greenway Residential Trips	0	6	0	6	0	3	6	9	9	0	0	9	0	0	0	0
Total Site Trips	0	30	0	30	0	29	36	65	37	0	0	37	0	0	0	0
Build Volumes	7	658	70	735	151	615	359	1125	324	168	15	508	213	334	446	993

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Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

March 2018

Intersection: 16. Park Hill Drive and Lakeview Drive

Weekday A.M. Peak Hour	Northbound Park Hill Drive			Southbound Park Hill Drive				Westbound Lakeview Drive		
	T	R	Tot	L	T	Tot		L	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	330	407	737	25	837	862		209	35	244
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%		15.9%	15.9%	15.9%
No-Build Volumes	382	473	855	29	970	999		246	44	290
Limestone Greenway Retail New Trips	0	31	31	0	0	0		21	0	21
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0		0	0	0
Limestone Greenway Office Trips	0	9	9	0	0	0		2	0	2
Limestone Greenway Residential Trips	2	0	2	0	0	0		16	0	16
Total Site Trips	2	40	42	0	0	0		39	0	39
Build Volumes	384	513	897	29	970	999		285	44	329

Weekday P.M. Peak Hour	Northbound Park Hill Drive			Southbound Park Hill Drive				Westbound Lakeview Drive		
	T	R	Tot	L	T	Tot		L	R	Tot
Counted Volumes (Wednesday, November 1, 2017)	1010	169	1179	33	645	678		225	44	269
Annual Background Growth	15.9%	15.9%	15.9%	15.9%	15.9%	15.9%		15.9%	15.9%	15.9%
No-Build Volumes	1171	199	1370	40	748	788		262	52	314
Limestone Greenway Retail New Trips	0	49	49	0	0	0		49	0	49
Limestone Greenway Retail Pass-by Trips	0	0	0	0	0	0		0	0	0
Limestone Greenway Office Trips	0	3	3	0	0	0		8	0	8
Limestone Greenway Residential Trips	6	0	6	0	0	0		9	0	9
Total Site Trips	6	52	58	0	0	0		66	0	66
Build Volumes	1177	251	1428	40	748	788		328	52	380

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Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

March 2018

Intersection: 17. Jesse Jewell Parkway and Outparcel RIRO

Weekday A.M. Peak Hour		Southbound Outparcel RIRO		Eastbound Jesse Jewell Parkway		Westbound Jesse Jewell Parkway		
		R	Tot	T	Tot	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)				769	769	2054		2054
Annual Background Growth				15.9%	15.9%	15.9%		15.9%
No-Build Volumes				914	914	2387		2387
Limestone Greenway Retail New Trips		4	4	64	64	41	7	48
Limestone Greenway Retail Pass-by Trips		16	16	5	5	-8	12	4
Limestone Greenway Office Trips		0	0	20	20	3	0	3
Limestone Greenway Residential Trips		0	0	15	15	30	0	30
Total Site Trips		20	20	104	104	66	19	85
Build Volumes		20	20	1018	1018	2453	19	2472

Weekday P.M. Peak Hour		Southbound Outparcel RIRO		Eastbound Jesse Jewell Parkway		Westbound Jesse Jewell Parkway		
		R	Tot	T	Tot	T	R	Tot
Counted Volumes (Wednesday, November 1, 2017)				1967	1967	1072		1072
Annual Background Growth				15.9%	15.9%	15.9%		15.9%
No-Build Volumes				2291	2291	1262		1262
Limestone Greenway Retail New Trips		2	2	99	99	97	4	101
Limestone Greenway Retail Pass-by Trips		11	11	6	6	-5	11	6
Limestone Greenway Office Trips		0	0	7	7	17	0	17
Limestone Greenway Residential Trips		0	0	33	33	18	0	18
Total Site Trips		13	13	145	145	127	15	142
Build Volumes		13	13	2436	2436	1389	15	1404

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Limestone Greenway Traffic Impact Study
City of Gainesville, Georgia

March 2018

Intersection: 18. Limestone Parkway and Outparcel RIRO

Weekday A.M. Peak Hour	Northbound Limestone Parkway			Southbound Limestone Parkway			Eastbound Outparcel RIRO				
	T	R	Tot	T	R	Tot	L	T	R	Tot	
Counted Volumes (Wednesday, November 1, 2017)	722		722	1064		1064					
Annual Background Growth	15.9%		15.9%	15.9%		15.9%					
No-Build Volumes	837		837	1233		1233					
Limestone Greenway Retail New Trips	104		104	70	23	93			21	21	
Limestone Greenway Retail Pass-by Trips	5		5	-6	9	3			12	12	
Limestone Greenway Office Trips	46		46	7	0	7			0	0	
Limestone Greenway Residential Trips	10		10	58	0	58			0	0	
Total Site Trips	165		165	129	32	161			33	33	
Build Volumes	1002		1002	1362	32	1394			33	33	

Weekday P.M. Peak Hour	Northbound Limestone Parkway			Southbound Limestone Parkway			Eastbound Outparcel RIRO				
	T	R	Tot	T	R	Tot	L	T	R	Tot	
Counted Volumes (Wednesday, November 1, 2017)	1172		1172	698		698					
Annual Background Growth	15.9%		15.9%	15.9%		15.9%					
No-Build Volumes	1358		1358	809		809					
Limestone Greenway Retail New Trips	167		167	166	12	178			15	15	
Limestone Greenway Retail Pass-by Trips	4		4	-3	6	3			7	7	
Limestone Greenway Office Trips	16		16	38	0	38			0	0	
Limestone Greenway Residential Trips	29		29	34	0	34			0	0	
Total Site Trips	216		216	235	18	253			22	22	
Build Volumes	1574		1574	1044	18	1062			22	22	

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TMC Data
Limestone Pkwy @ SR 11/ Cleveland Hwy
7-9am | 4:30-6:30pm

File Name : 41500011
Site Code : 41480011
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Cleveland Hwy Northbound					Cleveland Hwy Southbound					Eastbound					Limestone Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	30	2	0	32	138	108	0	0	246	0	0	0	0	0	0	0	37	2	39	317
07:15 AM	0	49	3	0	52	164	130	0	0	294	0	0	0	0	0	0	0	55	0	55	401
07:30 AM	0	33	1	0	34	224	175	0	0	399	0	0	0	0	0	2	0	45	0	47	480
07:45 AM	0	54	8	0	62	194	174	0	0	368	0	0	0	0	0	0	1	61	0	62	492
Total	0	166	14	0	180	720	587	0	0	1307	0	0	0	0	0	2	1	198	2	203	1690
08:00 AM	0	27	0	0	27	170	152	0	0	322	0	0	0	0	0	3	0	52	0	55	404
08:15 AM	0	37	2	0	39	117	151	0	0	268	0	0	0	0	0	4	0	63	0	67	374
08:30 AM	0	43	6	0	49	128	100	0	0	228	0	0	0	0	0	2	0	59	0	61	338
08:45 AM	0	36	3	0	39	103	113	0	0	216	0	0	0	0	0	0	0	55	0	55	310
Total	0	143	11	0	154	518	516	0	0	1034	0	0	0	0	0	9	0	229	0	238	1426
*** BREAK ***																					
04:30 PM	0	161	6	0	167	86	68	0	0	154	0	0	0	0	0	2	0	152	0	154	475
04:45 PM	0	170	2	0	172	76	69	0	0	145	0	0	0	0	0	2	0	132	0	134	451
Total	0	331	8	0	339	162	137	0	0	299	0	0	0	0	0	4	0	284	0	288	926
05:00 PM	0	168	2	0	170	71	78	0	0	149	0	0	0	0	0	1	0	111	0	112	431
05:15 PM	0	192	2	0	194	68	70	0	0	138	0	0	0	0	0	3	0	107	0	110	442
05:30 PM	0	179	0	0	179	83	83	0	0	166	0	0	0	0	0	2	1	100	0	103	448
05:45 PM	0	105	0	0	105	66	82	0	0	148	0	0	0	0	0	0	0	102	0	102	355
Total	0	644	4	0	648	288	313	0	0	601	0	0	0	0	0	6	1	420	0	427	1676
06:00 PM	0	103	3	0	106	66	82	0	0	148	0	0	0	0	0	4	0	105	0	109	363
06:15 PM	0	103	3	0	106	52	82	0	0	134	0	0	0	0	0	0	0	120	0	120	360
Grand Total	0	1490	43	0	1533	1806	1717	0	0	3523	0	0	0	0	0	25	2	1356	2	1385	6441
Apprch %	0	97.2	2.8	0		51.3	48.7	0	0		0	0	0	0		1.8	0.1	97.9	0.1		
Total %	0	23.1	0.7	0	23.8	28	26.7	0	0	54.7	0	0	0	0	0	0.4	0	21.1	0	21.5	

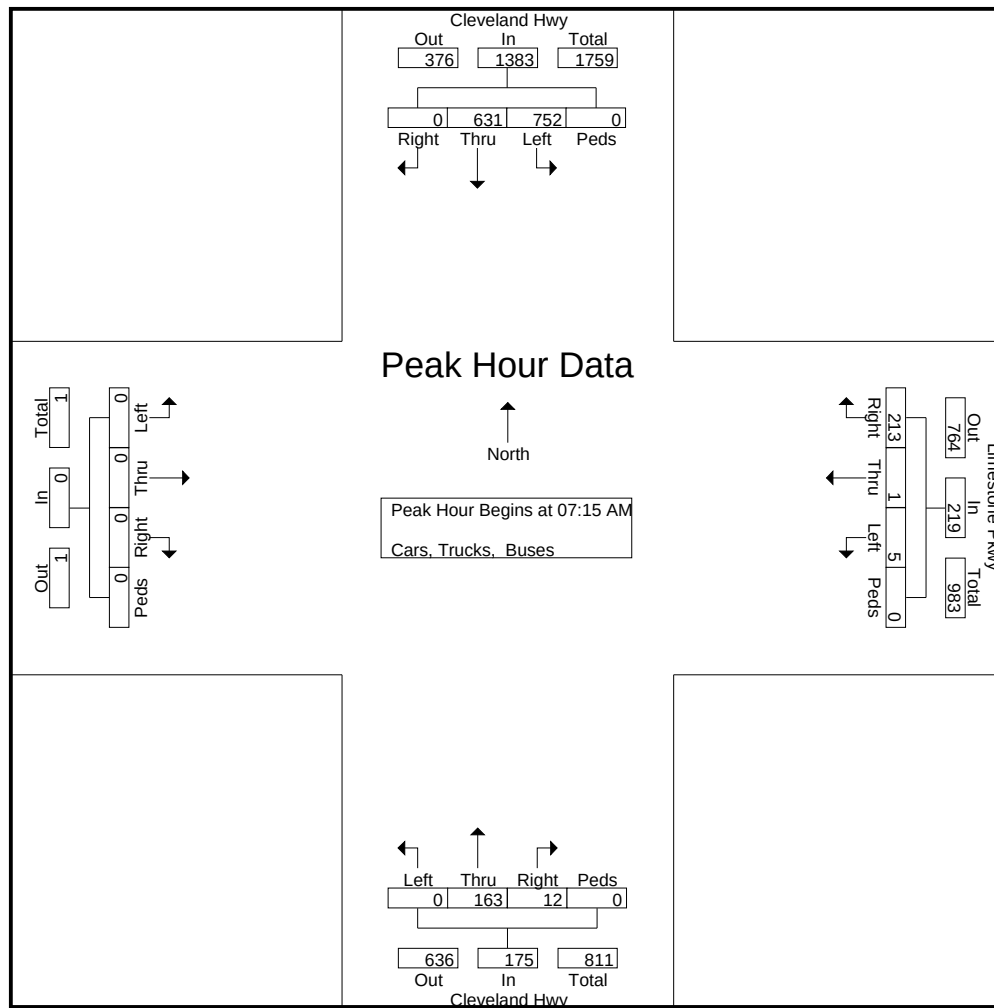
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TMC Data
Limestone Pkwy @ SR 11/ Cleveland Hwy
7-9am | 4:30-6:30pm

File Name : 41500011
Site Code : 41480011
Start Date : 11/1/2017
Page No : 2

	Cleveland Hwy Northbound					Cleveland Hwy Southbound					Eastbound					Limestone Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	49	3	0	52	164	130	0	0	294	0	0	0	0	0	0	0	55	0	55	401
07:30 AM	0	33	1	0	34	224	175	0	0	399	0	0	0	0	0	2	0	45	0	47	480
07:45 AM	0	54	8	0	62	194	174	0	0	368	0	0	0	0	0	0	1	61	0	62	492
08:00 AM	0	27	0	0	27	170	152	0	0	322	0	0	0	0	0	3	0	52	0	55	404
Total Volume	0	163	12	0	175	752	631	0	0	1383	0	0	0	0	0	5	1	213	0	219	1777
% App. Total	0	93.1	6.9	0		54.4	45.6	0	0		0	0	0	0		2.3	0.5	97.3	0		
PHF	.000	.755	.375	.000	.706	.839	.901	.000	.000	.867	.000	.000	.000	.000	.000	.417	.250	.873	.000	.883	.903



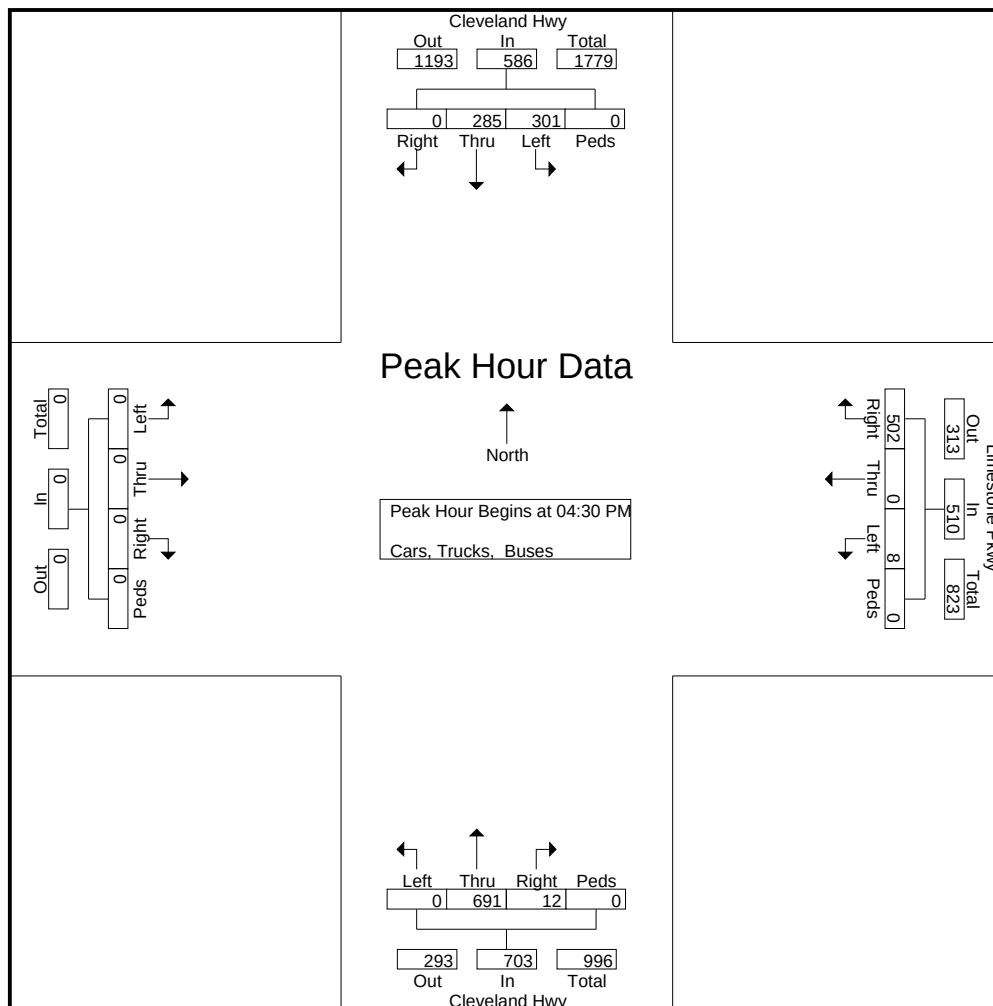
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TMC Data
Limestone Pkwy @ SR 11/ Cleveland Hwy
7-9am | 4:30-6:30pm

File Name : 41500011
Site Code : 41480011
Start Date : 11/1/2017
Page No : 3

	Cleveland Hwy Northbound					Cleveland Hwy Southbound					Eastbound					Limestone Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	161	6	0	167	86	68	0	0	154	0	0	0	0	0	2	0	152	0	154	475
04:45 PM	0	170	2	0	172	76	69	0	0	145	0	0	0	0	0	2	0	132	0	134	451
05:00 PM	0	168	2	0	170	71	78	0	0	149	0	0	0	0	0	1	0	111	0	112	431
05:15 PM	0	192	2	0	194	68	70	0	0	138	0	0	0	0	0	3	0	107	0	110	442
Total Volume	0	691	12	0	703	301	285	0	0	586	0	0	0	0	0	8	0	502	0	510	1799
% App. Total	0	98.3	1.7	0		51.4	48.6	0	0		0	0	0	0		1.6	0	98.4	0		
PHF	.000	.900	.500	.000	.906	.875	.913	.000	.000	.951	.000	.000	.000	.000	.000	.667	.000	.826	.000	.828	.947



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TMC Data
Limestone Pkwy @ Clarks Bridge Rd

7-9am | 4:30-6:30pm

File Name : 41500010
Site Code : 41480010
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Clarks Bridge Rd Eastbound					Clarks Bridge Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	17	34	14	0	65	4	128	1	0	133	1	8	18	0	27	47	33	1	0	81	306
07:15 AM	27	45	12	0	84	7	159	9	0	175	0	16	41	0	57	64	35	2	0	101	417
07:30 AM	31	40	17	0	88	5	176	23	0	204	1	23	48	0	72	95	36	3	0	134	498
07:45 AM	22	66	18	0	106	8	210	0	0	218	0	25	28	0	53	118	49	5	0	172	549
Total	97	185	61	0	343	24	673	33	0	730	2	72	135	0	209	324	153	11	0	488	1770
08:00 AM	38	56	9	0	103	2	187	2	0	191	1	11	34	0	46	80	28	4	0	112	452
08:15 AM	32	50	19	0	101	3	137	0	0	140	2	14	31	0	47	63	20	4	0	87	375
08:30 AM	23	49	17	0	89	2	119	1	0	122	0	11	20	0	31	49	27	4	0	80	322
08:45 AM	23	63	21	0	107	4	115	1	0	120	0	14	25	0	39	42	30	3	0	75	341
Total	116	218	66	0	400	11	558	4	0	573	3	50	110	0	163	234	105	15	0	354	1490
*** BREAK ***																					
04:30 PM	50	135	73	0	258	8	86	1	0	95	1	37	41	0	79	23	23	6	0	52	484
04:45 PM	53	128	81	0	262	9	69	1	0	79	2	28	28	0	58	20	17	6	0	43	442
Total	103	263	154	0	520	17	155	2	0	174	3	65	69	0	137	43	40	12	0	95	926
05:00 PM	74	116	124	0	314	4	66	2	0	72	2	53	42	0	97	22	31	5	0	58	541
05:15 PM	76	117	104	0	297	7	80	4	0	91	0	43	29	0	72	32	25	2	0	59	519
05:30 PM	71	135	79	0	285	8	73	6	0	87	0	32	27	0	59	31	46	4	0	81	512
05:45 PM	39	104	55	0	198	8	70	0	0	78	0	32	31	0	63	37	24	12	0	73	412
Total	260	472	362	0	1094	27	289	12	0	328	2	160	129	0	291	122	126	23	0	271	1984
06:00 PM	40	98	48	0	186	6	61	0	0	67	0	30	21	0	51	24	19	5	0	48	352
06:15 PM	28	119	39	0	186	3	59	0	0	62	1	16	22	0	39	14	26	3	0	43	330
Grand Total	644	1355	730	0	2729	88	1795	51	0	1934	11	393	486	0	890	761	469	69	0	1299	6852
Apprch %	23.6	49.7	26.7	0		4.6	92.8	2.6	0		1.2	44.2	54.6	0		58.6	36.1	5.3	0		
Total %	9.4	19.8	10.7	0	39.8	1.3	26.2	0.7	0	28.2	0.2	5.7	7.1	0	13	11.1	6.8	1	0	19	

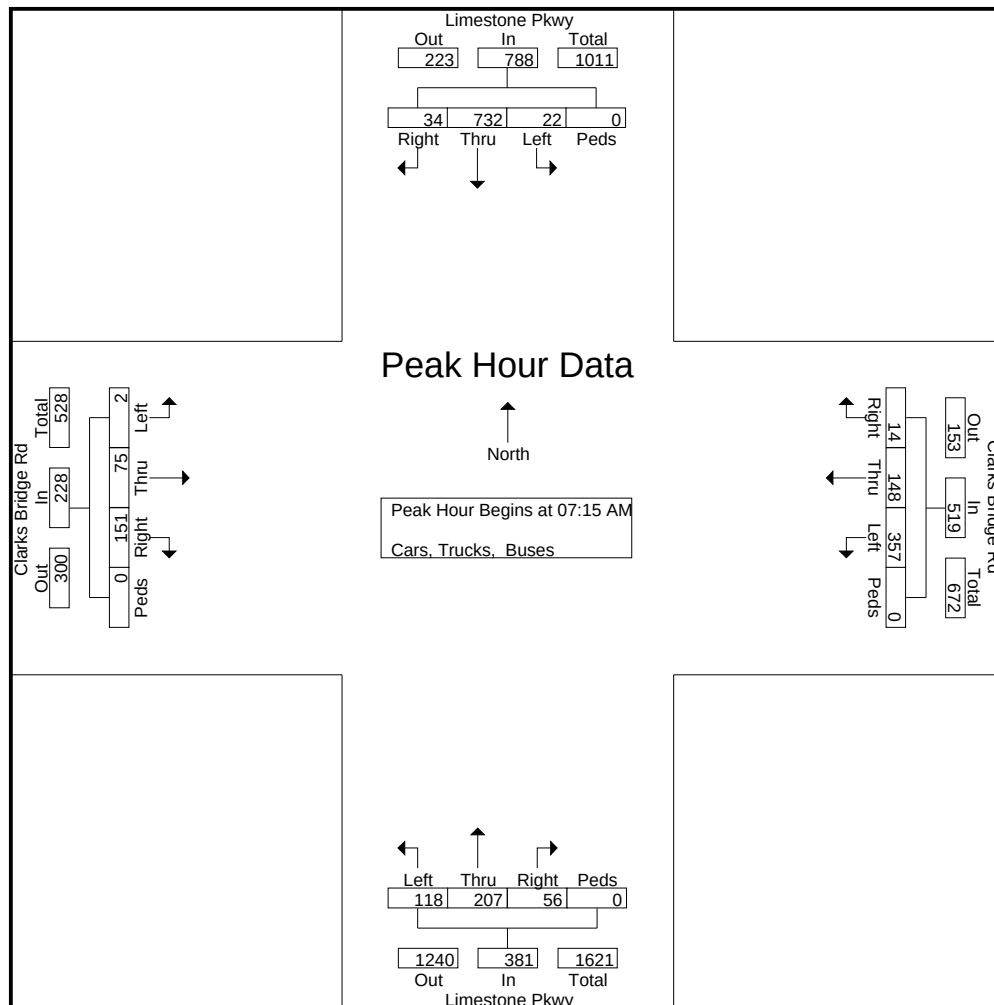
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TMC Data
Limestone Pkwy @ Clarks Bridge Rd
7-9am | 4:30-6:30pm

File Name : 41500010
Site Code : 41480010
Start Date : 11/1/2017
Page No : 2

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Clarks Bridge Rd Eastbound					Clarks Bridge Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	27	45	12	0	84	7	159	9	0	175	0	16	41	0	57	64	35	2	0	101	417
07:30 AM	31	40	17	0	88	5	176	23	0	204	1	23	48	0	72	95	36	3	0	134	498
07:45 AM	22	66	18	0	106	8	210	0	0	218	0	25	28	0	53	118	49	5	0	172	549
08:00 AM	38	56	9	0	103	2	187	2	0	191	1	11	34	0	46	80	28	4	0	112	452
Total Volume	118	207	56	0	381	22	732	34	0	788	2	75	151	0	228	357	148	14	0	519	1916
% App. Total	31	54.3	14.7	0		2.8	92.9	4.3	0		0.9	32.9	66.2	0		68.8	28.5	2.7	0		
PHF	.776	.784	.778	.000	.899	.688	.871	.370	.000	.904	.500	.750	.786	.000	.792	.756	.755	.700	.000	.754	.872



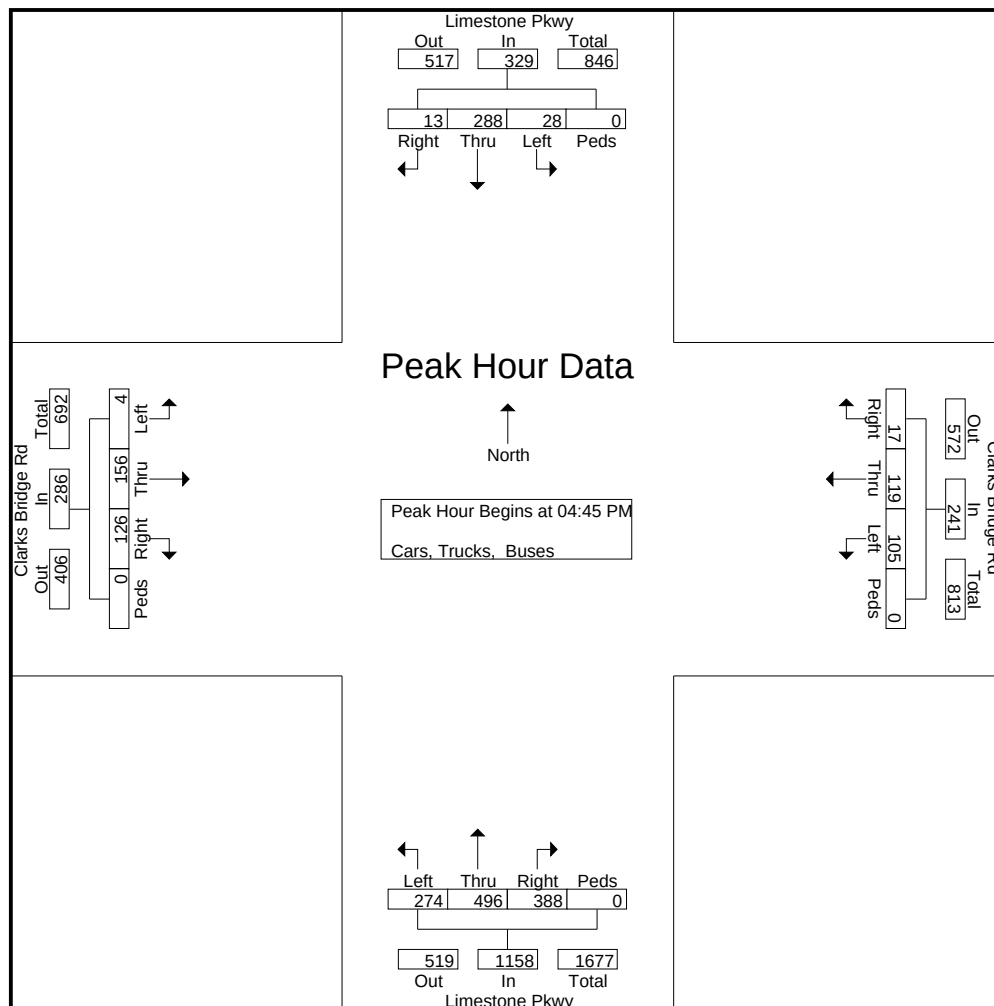
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TMC Data
Limestone Pkwy @ Clarks Bridge Rd
7-9am | 4:30-6:30pm

File Name : 41500010
Site Code : 41480010
Start Date : 11/1/2017
Page No : 3

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Clarks Bridge Rd Eastbound					Clarks Bridge Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	53	128	81	0	262	9	69	1	0	79	2	28	28	0	58	20	17	6	0	43	442
05:00 PM	74	116	124	0	314	4	66	2	0	72	2	53	42	0	97	22	31	5	0	58	541
05:15 PM	76	117	104	0	297	7	80	4	0	91	0	43	29	0	72	32	25	2	0	59	519
05:30 PM	71	135	79	0	285	8	73	6	0	87	0	32	27	0	59	31	46	4	0	81	512
Total Volume	274	496	388	0	1158	28	288	13	0	329	4	156	126	0	286	105	119	17	0	241	2014
% App. Total	23.7	42.8	33.5	0		8.5	87.5	4	0		1.4	54.5	44.1	0		43.6	49.4	7.1	0		
PHF	.901	.919	.782	.000	.922	.778	.900	.542	.000	.904	.500	.736	.750	.000	.737	.820	.647	.708	.000	.744	.931



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TMC Data
Limestone Pkwy @ Beverly Rd

7-9am | 4:30-6:30pm

File Name : 41500009
Site Code : 41480009
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Beverly Rd Eastbound					Beverly Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	14	76	2	0	92	11	193	5	0	209	4	18	15	0	37	4	12	5	0	21	359
07:15 AM	15	102	8	0	125	17	225	8	0	250	4	26	17	0	47	5	10	9	0	24	446
07:30 AM	30	102	13	0	145	16	288	18	0	322	6	22	30	0	58	3	17	12	0	32	557
07:45 AM	46	137	10	0	193	16	302	36	0	354	10	36	26	0	72	7	32	13	0	52	671
Total	105	417	33	0	555	60	1008	67	0	1135	24	102	88	0	214	19	71	39	0	129	2033
08:00 AM	32	136	23	0	191	23	232	36	0	291	13	35	34	0	82	11	38	11	0	60	624
08:15 AM	65	133	10	0	208	15	197	22	0	234	8	34	41	0	83	4	34	20	0	58	583
08:30 AM	34	125	10	0	169	16	180	8	0	204	6	25	15	0	46	9	30	14	0	53	472
08:45 AM	15	133	13	0	161	14	142	8	0	164	3	20	13	0	36	7	10	10	0	27	388
Total	146	527	56	0	729	68	751	74	0	893	30	114	103	0	247	31	112	55	0	198	2067
*** BREAK ***																					
04:30 PM	21	246	6	0	273	9	173	5	0	187	10	21	30	0	61	8	32	27	0	67	588
04:45 PM	31	247	3	0	281	8	157	6	0	171	9	24	29	0	62	9	29	18	0	56	570
Total	52	493	9	0	554	17	330	11	0	358	19	45	59	0	123	17	61	45	0	123	1158
05:00 PM	26	298	3	0	327	16	180	10	0	206	8	24	32	0	64	14	47	38	0	99	696
05:15 PM	32	309	10	0	351	9	143	8	0	160	13	24	27	0	64	12	42	24	0	78	653
05:30 PM	24	271	2	0	297	12	140	13	0	165	4	25	19	0	48	6	30	20	0	56	566
05:45 PM	32	206	6	0	244	3	149	9	0	161	8	19	29	0	56	8	20	10	0	38	499
Total	114	1084	21	0	1219	40	612	40	0	692	33	92	107	0	232	40	139	92	0	271	2414
06:00 PM	25	193	2	0	220	4	148	6	0	158	7	13	19	0	39	1	12	8	0	21	438
06:15 PM	15	171	3	0	189	7	101	5	0	113	4	9	12	0	25	5	9	3	0	17	344
Grand Total	457	2885	124	0	3466	196	2950	203	0	3349	117	375	388	0	880	113	404	242	0	759	8454
Apprch %	13.2	83.2	3.6	0		5.9	88.1	6.1	0		13.3	42.6	44.1	0		14.9	53.2	31.9	0		
Total %	5.4	34.1	1.5	0	41	2.3	34.9	2.4	0	39.6	1.4	4.4	4.6	0	10.4	1.3	4.8	2.9	0	9	

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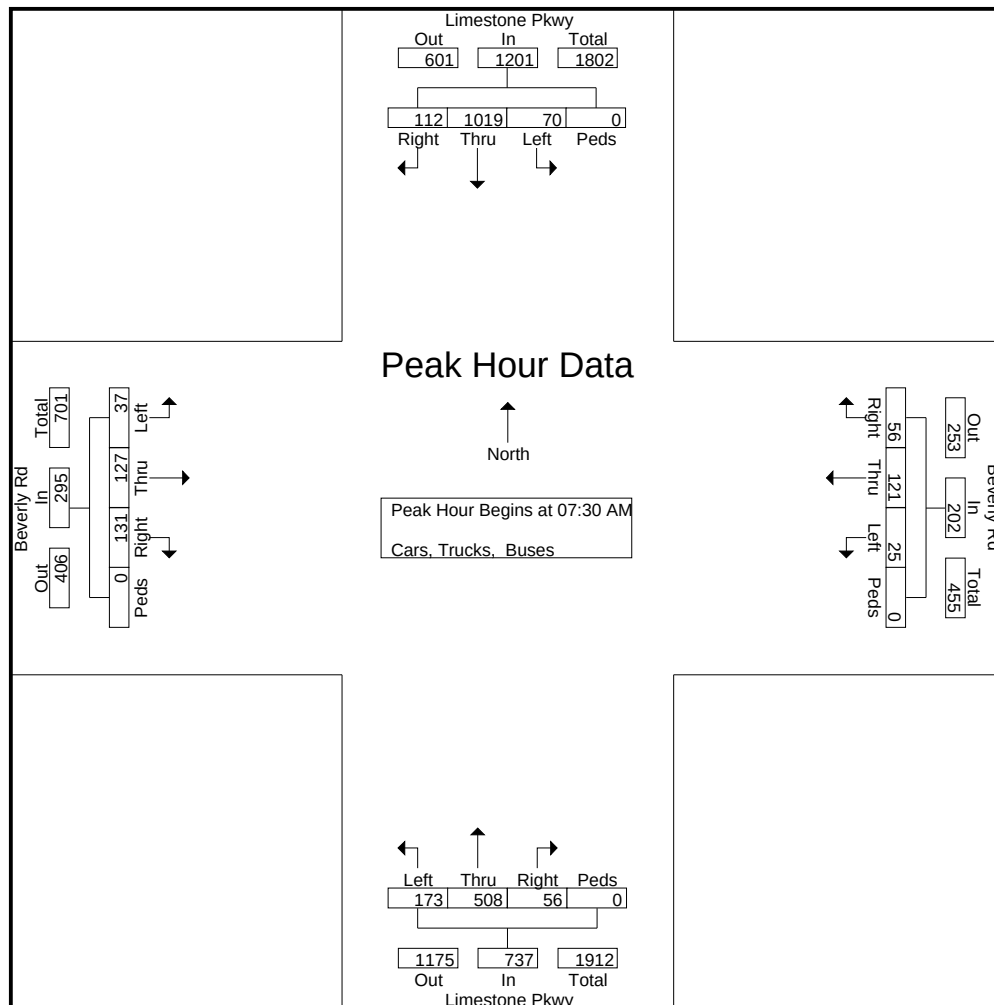
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TMC Data
Limestone Pkwy @ Beverly Rd

7-9am | 4:30-6:30pm

File Name : 41500009
Site Code : 41480009
Start Date : 11/1/2017
Page No : 2

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Beverly Rd Eastbound					Beverly Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	30	102	13	0	145	16	288	18	0	322	6	22	30	0	58	3	17	12	0	32	557
07:45 AM	46	137	10	0	193	16	302	36	0	354	10	36	26	0	72	7	32	13	0	52	671
08:00 AM	32	136	23	0	191	23	232	36	0	291	13	35	34	0	82	11	38	11	0	60	624
08:15 AM	65	133	10	0	208	15	197	22	0	234	8	34	41	0	83	4	34	20	0	58	583
Total Volume	173	508	56	0	737	70	1019	112	0	1201	37	127	131	0	295	25	121	56	0	202	2435
% App. Total	23.5	68.9	7.6	0		5.8	84.8	9.3	0		12.5	43.1	44.4	0		12.4	59.9	27.7	0		
PHF	.665	.927	.609	.000	.886	.761	.844	.778	.000	.848	.712	.882	.799	.000	.889	.568	.796	.700	.000	.842	.907



Reliable Traffic Data Services

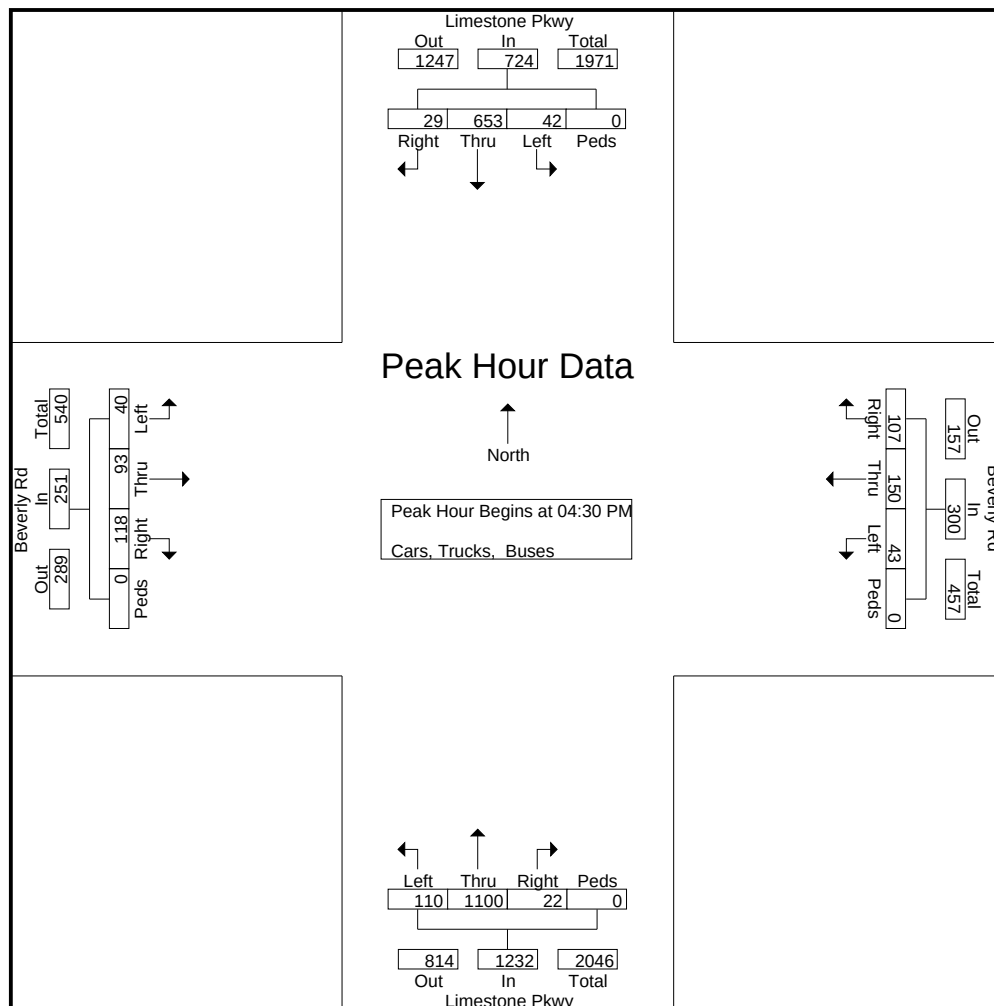
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TMC Data
Limestone Pkwy @ Beverly Rd

7-9am | 4:30-6:30pm

File Name : 41500009
Site Code : 41480009
Start Date : 11/1/2017
Page No : 3

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Beverly Rd Eastbound					Beverly Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	21	246	6	0	273	9	173	5	0	187	10	21	30	0	61	8	32	27	0	67	588
04:45 PM	31	247	3	0	281	8	157	6	0	171	9	24	29	0	62	9	29	18	0	56	570
05:00 PM	26	298	3	0	327	16	180	10	0	206	8	24	32	0	64	14	47	38	0	99	696
05:15 PM	32	309	10	0	351	9	143	8	0	160	13	24	27	0	64	12	42	24	0	78	653
Total Volume	110	1100	22	0	1232	42	653	29	0	724	40	93	118	0	251	43	150	107	0	300	2507
% App. Total	8.9	89.3	1.8	0		5.8	90.2	4	0		15.9	37.1	47	0		14.3	50	35.7	0		
PHF	.859	.890	.550	.000	.877	.656	.907	.725	.000	.879	.769	.969	.922	.000	.980	.768	.798	.704	.000	.758	.901



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TMC Data
Limestone Pkwy @ Kroger Drwy

7-9am | 4:30-6:30pm

File Name : 41480008
Site Code : 41480008
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Eastbound					Kroger Drwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	112	1	0	115	22	217	0	0	239	0	0	0	0	0	0	0	2	0	2	356
07:15 AM	3	128	1	0	132	34	242	0	0	276	0	0	0	0	0	1	0	4	0	5	413
07:30 AM	7	148	0	0	155	35	281	0	0	316	0	0	0	0	0	1	0	7	0	8	479
07:45 AM	12	182	3	0	197	27	313	0	0	340	0	0	0	0	0	4	0	9	0	13	550
Total	24	570	5	0	599	118	1053	0	0	1171	0	0	0	0	0	6	0	22	0	28	1798
08:00 AM	9	184	4	0	197	30	255	0	0	285	0	0	0	0	0	2	0	5	0	7	489
08:15 AM	5	177	5	0	187	33	221	0	0	254	0	0	0	0	0	2	0	19	0	21	462
08:30 AM	5	174	1	0	180	30	180	0	0	210	0	0	0	0	0	1	0	7	0	8	398
08:45 AM	7	168	5	0	180	24	158	0	0	182	0	0	0	0	0	0	0	8	0	8	370
Total	26	703	15	0	744	117	814	0	0	931	0	0	0	0	0	5	0	39	0	44	1719
*** BREAK ***																					
04:30 PM	3	257	7	0	267	34	175	0	0	209	0	0	0	0	0	2	0	28	0	30	506
04:45 PM	4	257	7	0	268	41	161	0	0	202	0	0	0	0	0	2	0	18	0	20	490
Total	7	514	14	0	535	75	336	0	0	411	0	0	0	0	0	4	0	46	0	50	996
05:00 PM	5	323	4	0	332	32	224	0	0	256	0	0	0	0	0	0	0	19	0	19	607
05:15 PM	9	322	6	0	337	29	162	0	0	191	0	0	0	0	0	2	0	22	0	24	552
05:30 PM	7	272	3	0	282	35	147	0	0	182	0	0	0	0	0	2	0	25	0	27	491
05:45 PM	8	216	2	0	226	35	147	0	0	182	0	0	0	0	0	3	0	24	0	27	435
Total	29	1133	15	0	1177	131	680	0	0	811	0	0	0	0	0	7	0	90	0	97	2085
06:00 PM	8	208	3	0	219	39	129	0	0	168	0	0	0	0	0	1	0	25	0	26	413
06:15 PM	5	163	5	0	173	26	107	0	0	133	0	0	0	0	0	1	0	19	0	20	326
Grand Total	99	3291	57	0	3447	506	3119	0	0	3625	0	0	0	0	0	24	0	241	0	265	7337
Apprch %	2.9	95.5	1.7	0		14	86	0	0		0	0	0	0		9.1	0	90.9	0		
Total %	1.3	44.9	0.8	0	47	6.9	42.5	0	0	49.4	0	0	0	0	0	0.3	0	3.3	0	3.6	

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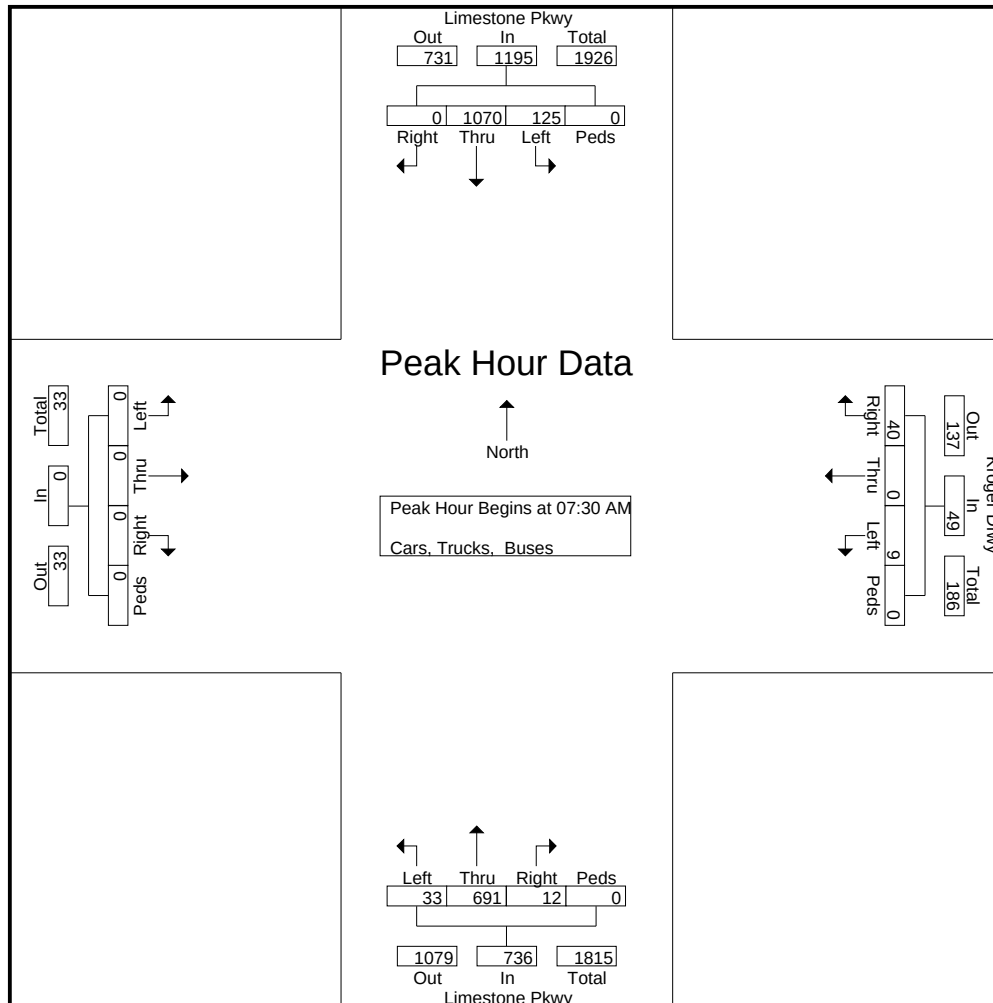
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TMC Data
Limestone Pkwy @ Kroger Drwy

7-9am | 4:30-6:30pm

File Name : 41480008
Site Code : 41480008
Start Date : 11/1/2017
Page No : 2

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Eastbound					Kroger Drwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	7	148	0	0	155	35	281	0	0	316	0	0	0	0	0	1	0	7	0	8	479
07:45 AM	12	182	3	0	197	27	313	0	0	340	0	0	0	0	0	4	0	9	0	13	550
08:00 AM	9	184	4	0	197	30	255	0	0	285	0	0	0	0	0	2	0	5	0	7	489
08:15 AM	5	177	5	0	187	33	221	0	0	254	0	0	0	0	0	2	0	19	0	21	462
Total Volume	33	691	12	0	736	125	1070	0	0	1195	0	0	0	0	0	9	0	40	0	49	1980
% App. Total	4.5	93.9	1.6	0		10.5	89.5	0	0		0	0	0	0		18.4	0	81.6	0		
PHF	.688	.939	.600	.000	.934	.893	.855	.000	.000	.879	.000	.000	.000	.000	.000	.563	.000	.526	.000	.583	.900



Reliable Traffic Data Services

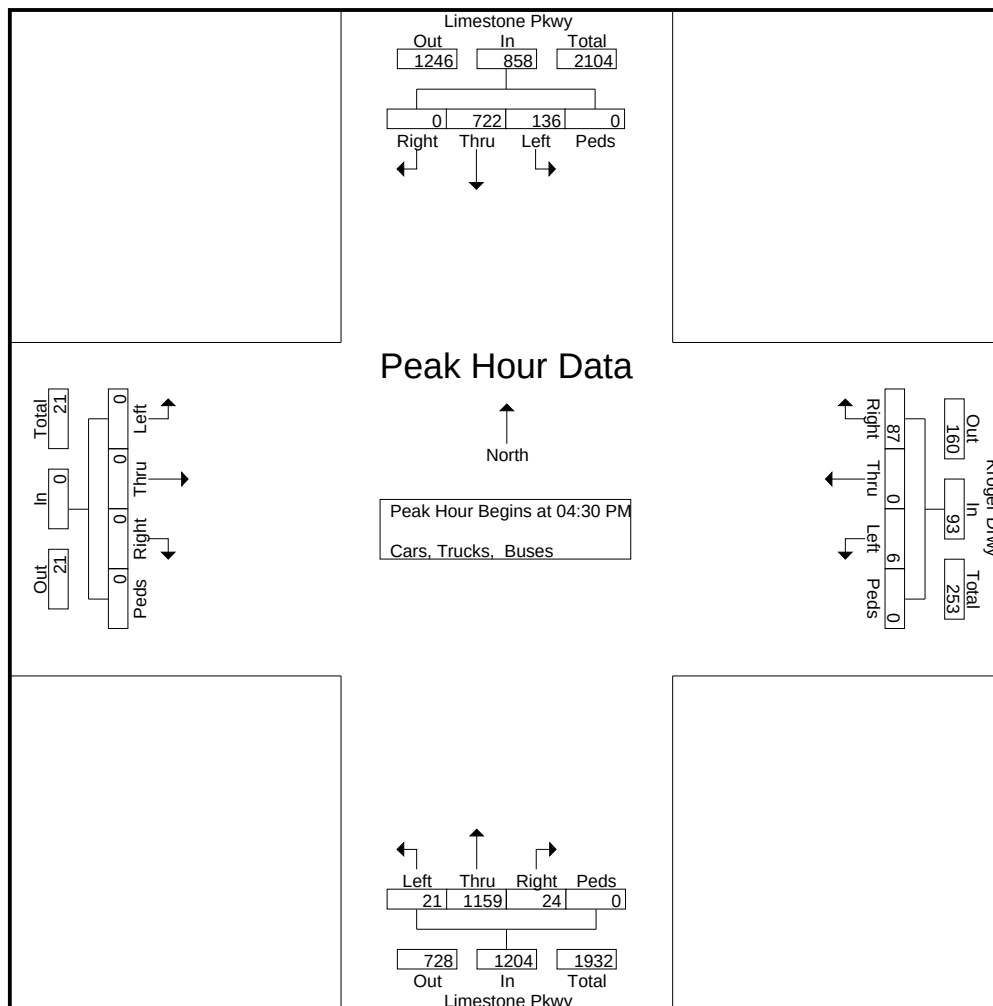
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TMC Data
Limestone Pkwy @ Kroger Drwy

7-9am | 4:30-6:30pm

File Name : 41480008
Site Code : 41480008
Start Date : 11/1/2017
Page No : 3

	Limestone Pkwy Northbound					Limestone Pkwy Southbound					Eastbound					Kroger Drwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	3	257	7	0	267	34	175	0	0	209	0	0	0	0	0	2	0	28	0	30	506
04:45 PM	4	257	7	0	268	41	161	0	0	202	0	0	0	0	0	2	0	18	0	20	490
05:00 PM	5	323	4	0	332	32	224	0	0	256	0	0	0	0	0	0	0	19	0	19	607
05:15 PM	9	322	6	0	337	29	162	0	0	191	0	0	0	0	0	2	0	22	0	24	552
Total Volume	21	1159	24	0	1204	136	722	0	0	858	0	0	0	0	0	6	0	87	0	93	2155
% App. Total	1.7	96.3	2	0		15.9	84.1	0	0		0	0	0	0		6.5	0	93.5	0		
PHF	.583	.897	.857	.000	.893	.829	.806	.000	.000	.838	.000	.000	.000	.000	.000	.750	.000	.777	.000	.775	.888



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TMC Data
Jesse Jewell Pkwy @ Limestone Pkwy

7-9am | 4:30-6:30pm

File Name : 41480004
Site Code : 41480004
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Textile Way Northbound					Limestone Pkwy Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	12	5	5	0	22	122	14	80	0	216	39	101	14	0	154	9	161	60	0	230	622
07:15 AM	14	6	1	0	21	191	8	97	0	296	60	101	12	0	173	14	191	79	0	284	774
07:30 AM	16	7	1	0	24	183	19	113	0	315	58	59	20	0	137	12	249	85	0	346	822
07:45 AM	21	16	5	0	42	188	18	139	0	345	89	49	18	0	156	4	304	92	0	400	943
Total	63	34	12	0	109	684	59	429	0	1172	246	310	64	0	620	39	905	316	0	1260	3161
08:00 AM	10	17	2	0	29	165	17	96	1	279	89	99	14	0	202	8	433	66	0	507	1017
08:15 AM	18	15	1	0	34	117	8	120	0	245	92	86	19	0	197	7	425	74	0	506	982
08:30 AM	18	6	2	0	26	109	15	72	0	196	92	108	14	0	214	5	398	74	0	477	913
08:45 AM	11	12	2	0	25	101	10	60	0	171	91	83	12	0	186	5	330	80	0	415	797
Total	57	50	7	0	114	492	50	348	1	891	364	376	59	0	799	25	1586	294	0	1905	3709
*** BREAK ***																					
04:30 PM	11	29	4	0	44	128	12	56	0	196	176	242	33	0	451	8	183	84	0	275	966
04:45 PM	10	14	1	0	25	139	19	33	0	191	195	282	30	0	507	7	169	149	0	325	1048
Total	21	43	5	0	69	267	31	89	0	387	371	524	63	0	958	15	352	233	0	600	2014
05:00 PM	8	7	3	0	18	110	20	35	0	165	129	357	16	0	502	4	267	107	0	378	1063
05:15 PM	9	17	3	0	29	108	7	31	0	146	166	312	29	0	507	6	260	99	0	365	1047
05:30 PM	8	7	2	0	17	109	19	28	0	156	122	268	15	0	405	6	254	95	0	355	933
05:45 PM	9	10	5	0	24	122	6	32	0	160	130	183	23	0	336	5	239	72	0	316	836
Total	34	41	13	0	88	449	52	126	0	627	547	1120	83	0	1750	21	1020	373	0	1414	3879
06:00 PM	4	12	0	0	16	110	12	18	0	140	115	126	22	0	263	4	186	78	0	268	687
06:15 PM	6	7	1	0	14	96	9	38	0	143	104	152	15	0	271	5	163	83	0	251	679
Grand Total	185	187	38	0	410	2098	213	1048	1	3360	1747	2608	306	0	4661	109	4212	1377	0	5698	14129
Apprch %	45.1	45.6	9.3	0		62.4	6.3	31.2	0		37.5	56	6.6	0		1.9	73.9	24.2	0		
Total %	1.3	1.3	0.3	0	2.9	14.8	1.5	7.4	0	23.8	12.4	18.5	2.2	0	33	0.8	29.8	9.7	0	40.3	

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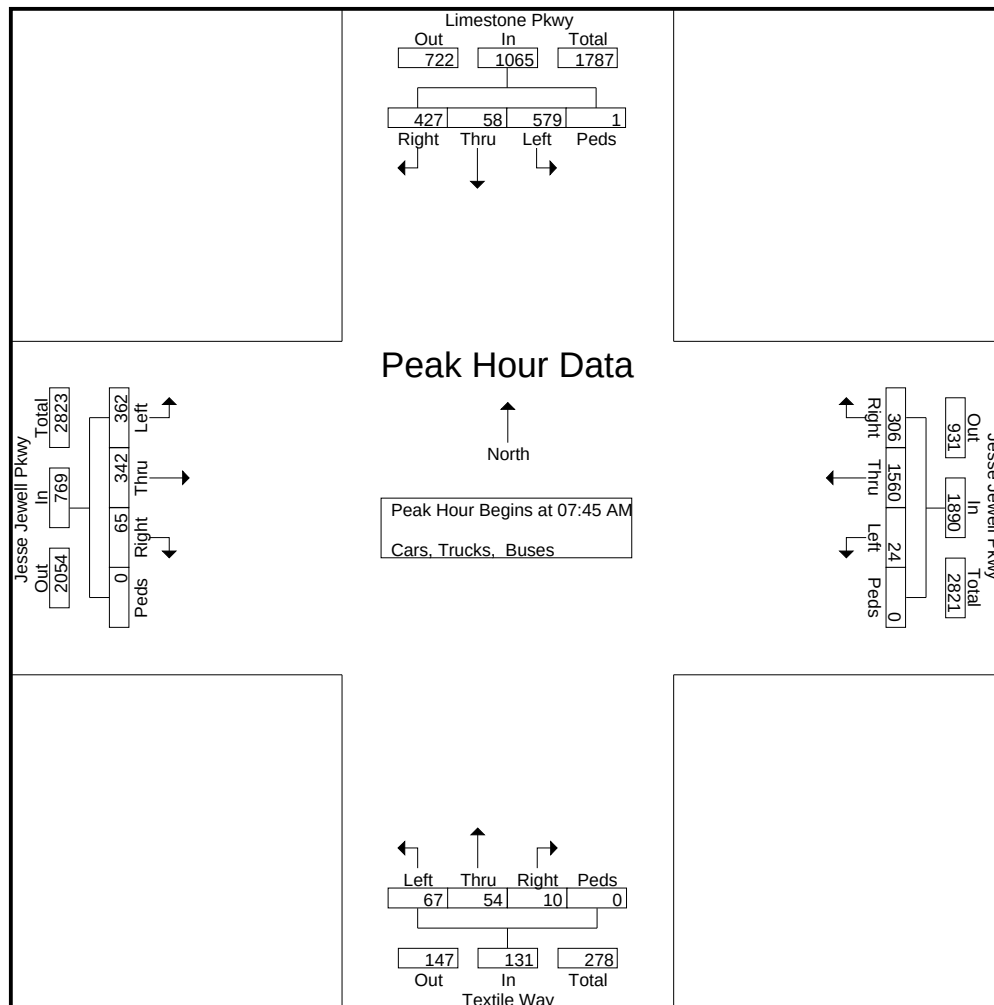
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TMC Data
Jesse Jewell Pkwy @ Limestone Pkwy

7-9am | 4:30-6:30pm

File Name : 41480004
Site Code : 41480004
Start Date : 11/1/2017
Page No : 2

	Textile Way Northbound					Limestone Pkwy Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	21	16	5	0	42	188	18	139	0	345	89	49	18	0	156	4	304	92	0	400	943
08:00 AM	10	17	2	0	29	165	17	96	1	279	89	99	14	0	202	8	433	66	0	507	1017
08:15 AM	18	15	1	0	34	117	8	120	0	245	92	86	19	0	197	7	425	74	0	506	982
08:30 AM	18	6	2	0	26	109	15	72	0	196	92	108	14	0	214	5	398	74	0	477	913
Total Volume	67	54	10	0	131	579	58	427	1	1065	362	342	65	0	769	24	1560	306	0	1890	3855
% App. Total	51.1	41.2	7.6	0		54.4	5.4	40.1	0.1		47.1	44.5	8.5	0		1.3	82.5	16.2	0		
PHF	.798	.794	.500	.000	.780	.770	.806	.768	.250	.772	.984	.792	.855	.000	.898	.750	.901	.832	.000	.932	.948



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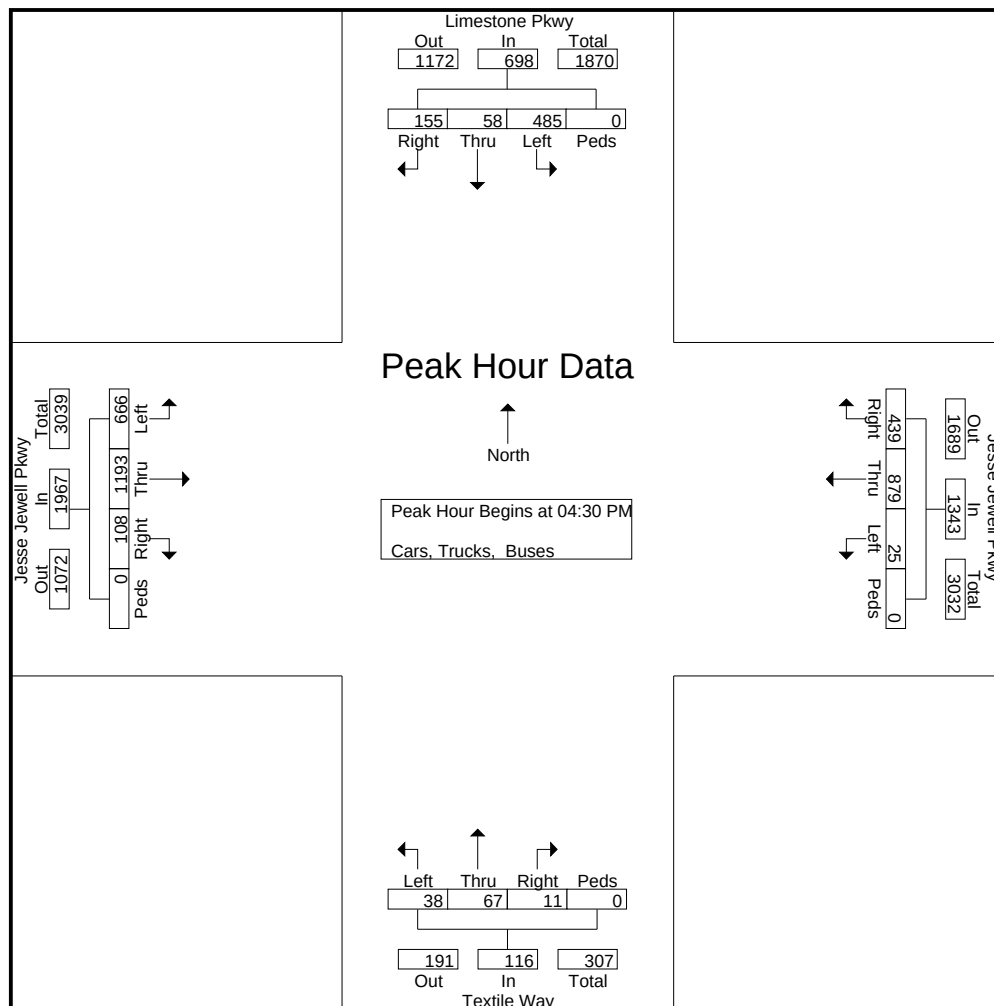
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TMC Data
Jesse Jewell Pkwy @ Limestone Pkwy

7-9am | 4:30-6:30pm

File Name : 41480004
Site Code : 41480004
Start Date : 11/1/2017
Page No : 3

	Textile Way Northbound					Limestone Pkwy Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	11	29	4	0	44	128	12	56	0	196	176	242	33	0	451	8	183	84	0	275	966
04:45 PM	10	14	1	0	25	139	19	33	0	191	195	282	30	0	507	7	169	149	0	325	1048
05:00 PM	8	7	3	0	18	110	20	35	0	165	129	357	16	0	502	4	267	107	0	378	1063
05:15 PM	9	17	3	0	29	108	7	31	0	146	166	312	29	0	507	6	260	99	0	365	1047
Total Volume	38	67	11	0	116	485	58	155	0	698	666	1193	108	0	1967	25	879	439	0	1343	4124
% App. Total	32.8	57.8	9.5	0		69.5	8.3	22.2	0		33.9	60.7	5.5	0		1.9	65.5	32.7	0		
PHF	.864	.578	.688	.000	.659	.872	.725	.692	.000	.890	.854	.835	.818	.000	.970	.781	.823	.737	.000	.888	.970



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TMC Data
Jesse Jewell Pkwy @ White Sulphur Rd

7-9am | 4:30-6:30pm

File Name : 41480003
Site Code : 41480003
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Textile Way Northbound					White Sulphur Rd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	1	5	0	6	59	1	24	0	84	39	202	0	0	241	12	272	36	0	320	651
07:15 AM	0	2	4	0	6	78	4	26	0	108	28	222	0	0	250	10	282	42	0	334	698
07:30 AM	0	2	2	0	4	80	1	41	0	122	23	232	1	0	256	10	335	50	0	395	777
07:45 AM	0	1	7	0	8	79	2	26	0	107	22	235	0	0	257	15	340	43	0	398	770
Total	0	6	18	0	24	296	8	117	0	421	112	891	1	0	1004	47	1229	171	0	1447	2896
08:00 AM	1	1	6	0	8	64	3	23	0	90	16	217	0	0	233	4	450	36	0	490	821
08:15 AM	0	3	5	0	8	57	2	26	0	85	17	200	0	0	217	7	486	28	0	521	831
08:30 AM	0	1	7	0	8	59	4	28	0	91	20	194	0	0	214	5	423	27	0	455	768
08:45 AM	0	0	8	0	8	33	3	28	0	64	11	201	3	0	215	8	346	14	0	368	655
Total	1	5	26	0	32	213	12	105	0	330	64	812	3	0	879	24	1705	105	0	1834	3075
*** BREAK ***																					
04:30 PM	0	0	11	0	11	79	3	32	0	114	31	327	0	0	358	4	268	24	0	296	779
04:45 PM	0	2	5	0	7	71	3	23	0	97	34	326	2	0	362	2	320	49	0	371	837
Total	0	2	16	0	18	150	6	55	0	211	65	653	2	0	720	6	588	73	0	667	1616
05:00 PM	1	3	17	0	21	79	3	36	0	118	35	382	1	0	418	7	329	59	0	395	952
05:15 PM	0	2	19	0	21	82	3	36	0	121	56	449	1	0	506	5	354	55	0	414	1062
05:30 PM	0	2	7	0	9	74	1	41	0	116	48	346	0	0	394	5	328	55	0	388	907
05:45 PM	1	4	14	0	19	82	5	27	0	114	50	257	2	0	309	8	289	60	0	357	799
Total	2	11	57	0	70	317	12	140	0	469	189	1434	4	0	1627	25	1300	229	0	1554	3720
06:00 PM	0	2	11	0	13	89	3	36	0	128	35	191	2	0	228	4	264	43	0	311	680
06:15 PM	0	2	4	0	6	60	1	21	0	82	24	168	2	0	194	5	247	30	0	282	564
Grand Total	3	28	132	0	163	1125	42	474	0	1641	489	4149	14	0	4652	111	5333	651	0	6095	12551
Apprch %	1.8	17.2	81	0		68.6	2.6	28.9	0		10.5	89.2	0.3	0		1.8	87.5	10.7	0		
Total %	0	0.2	1.1	0	1.3	9	0.3	3.8	0	13.1	3.9	33.1	0.1	0	37.1	0.9	42.5	5.2	0	48.6	

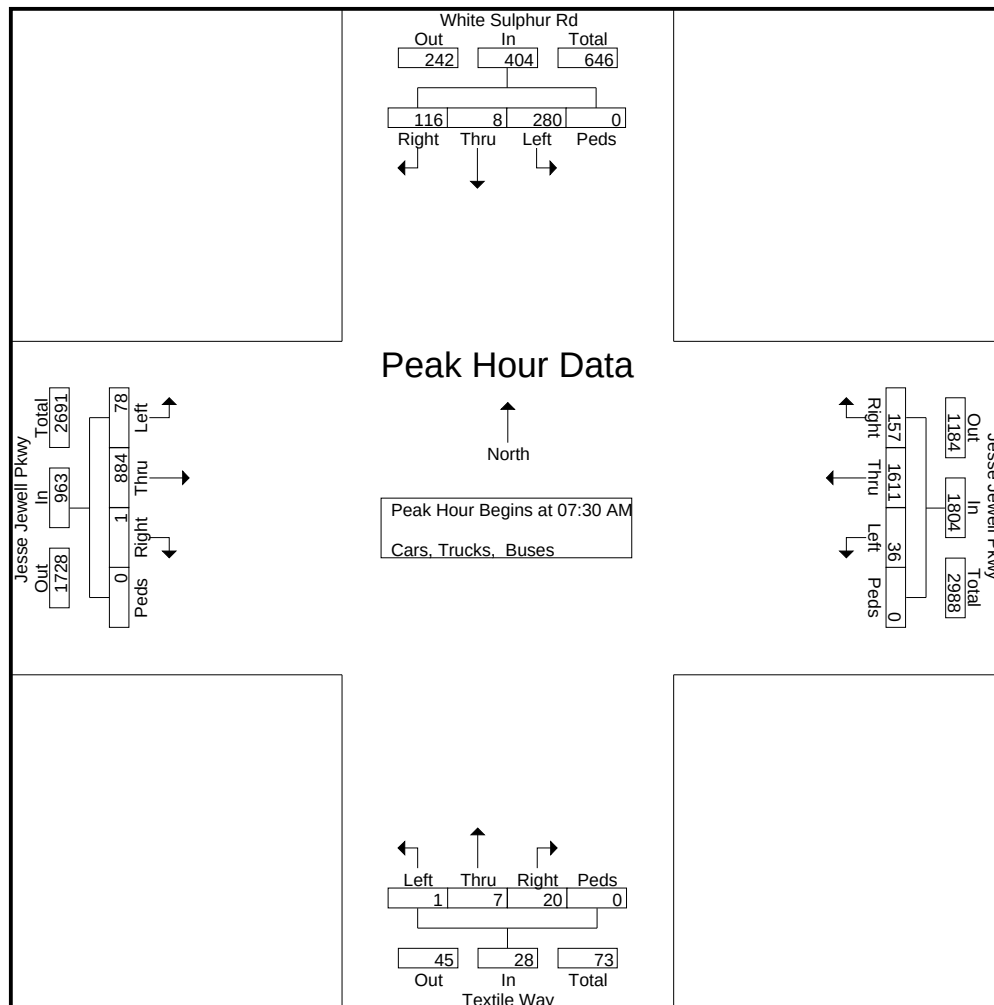
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TMC Data
Jesse Jewell Pkwy @ White Sulphur Rd
7-9am | 4:30-6:30pm

File Name : 41480003
Site Code : 41480003
Start Date : 11/1/2017
Page No : 2

	Textile Way Northbound					White Sulphur Rd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	2	2	0	4	80	1	41	0	122	23	232	1	0	256	10	335	50	0	395	777
07:45 AM	0	1	7	0	8	79	2	26	0	107	22	235	0	0	257	15	340	43	0	398	770
08:00 AM	1	1	6	0	8	64	3	23	0	90	16	217	0	0	233	4	450	36	0	490	821
08:15 AM	0	3	5	0	8	57	2	26	0	85	17	200	0	0	217	7	486	28	0	521	831
Total Volume	1	7	20	0	28	280	8	116	0	404	78	884	1	0	963	36	1611	157	0	1804	3199
% App. Total	3.6	25	71.4	0		69.3	2	28.7	0		8.1	91.8	0.1	0		2	89.3	8.7	0		
PHF	.250	.583	.714	.000	.875	.875	.667	.707	.000	.828	.848	.940	.250	.000	.937	.600	.829	.785	.000	.866	.962



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TMC Data

Jesse Jewell Pkwy @ White Sulphur Rd

7-9am | 4:30-6:30pm

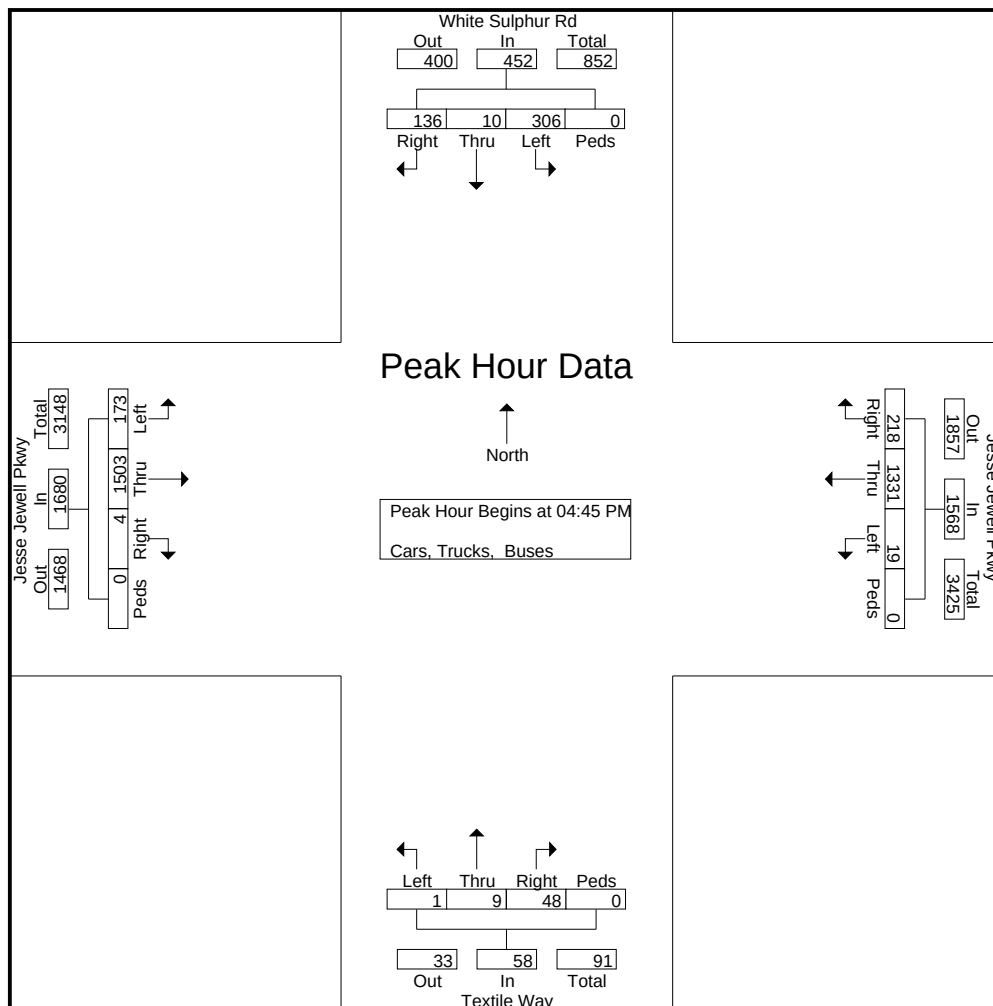
File Name : 41480003

Site Code : 41480003

Start Date : 11/1/2017

Page No : 3

	Textile Way Northbound					White Sulphur Rd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	2	5	0	7	71	3	23	0	97	34	326	2	0	362	2	320	49	0	371	837
05:00 PM	1	3	17	0	21	79	3	36	0	118	35	382	1	0	418	7	329	59	0	395	952
05:15 PM	0	2	19	0	21	82	3	36	0	121	56	449	1	0	506	5	354	55	0	414	1062
05:30 PM	0	2	7	0	9	74	1	41	0	116	48	346	0	0	394	5	328	55	0	388	907
Total Volume	1	9	48	0	58	306	10	136	0	452	173	1503	4	0	1680	19	1331	218	0	1568	3758
% App. Total	1.7	15.5	82.8	0		67.7	2.2	30.1	0		10.3	89.5	0.2	0		1.2	84.9	13.9	0		
PHF	.250	.750	.632	.000	.690	.933	.833	.829	.000	.934	.772	.837	.500	.000	.830	.679	.940	.924	.000	.947	.885



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TMC Data
Jesse Jewell Pkwy @ I-985 SB Ramps

7-9am | 4:30-6:30pm

File Name : 41500002
Site Code : 41480002
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Northbound					I-985 SB Off Ramp Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	8	0	48	0	56	0	96	136	0	232	51	219	0	0	270	558
07:15 AM	0	0	0	0	0	9	0	80	0	89	0	100	222	0	322	78	277	0	0	355	766
07:30 AM	0	0	0	0	0	10	0	102	0	112	0	89	227	0	316	98	308	0	0	406	834
07:45 AM	0	0	0	0	0	15	0	125	0	140	0	94	252	0	346	102	359	0	0	461	947
Total	0	0	0	0	0	42	0	355	0	397	0	379	837	0	1216	329	1163	0	0	1492	3105
08:00 AM	0	0	0	0	0	6	0	173	0	179	0	96	241	0	337	95	328	0	0	423	939
08:15 AM	0	0	0	0	0	13	0	214	0	227	0	65	185	0	250	101	307	0	0	408	885
08:30 AM	0	0	0	0	0	17	0	206	0	223	0	75	173	0	248	57	184	0	0	241	712
08:45 AM	0	0	0	0	0	7	0	167	0	174	0	89	114	0	203	23	209	0	0	232	609
Total	0	0	0	0	0	43	0	760	0	803	0	325	713	0	1038	276	1028	0	0	1304	3145
*** BREAK ***																					
04:30 PM	0	0	0	0	0	4	0	99	0	103	0	247	210	0	457	34	250	0	0	284	844
04:45 PM	0	0	0	0	0	10	0	96	0	106	0	228	191	0	419	32	274	0	0	306	831
Total	0	0	0	0	0	14	0	195	0	209	0	475	401	0	876	66	524	0	0	590	1675
05:00 PM	0	0	0	0	0	6	0	105	0	111	0	290	179	0	469	36	287	0	0	323	903
05:15 PM	0	0	0	0	0	7	0	128	0	135	0	295	165	0	460	40	297	0	0	337	932
05:30 PM	0	0	0	0	0	3	0	126	0	129	0	244	128	0	372	33	252	0	0	285	786
05:45 PM	0	0	0	0	0	3	0	111	0	114	0	199	115	0	314	31	221	0	0	252	680
Total	0	0	0	0	0	19	0	470	0	489	0	1028	587	0	1615	140	1057	0	0	1197	3301
06:00 PM	0	0	0	0	0	7	0	79	0	86	0	199	89	0	288	22	221	0	0	243	617
06:15 PM	0	0	0	0	0	11	0	48	0	59	0	173	98	0	271	20	192	0	0	212	542
Grand Total	0	0	0	0	0	136	0	1907	0	2043	0	2579	2725	0	5304	853	4185	0	0	5038	12385
Apprch %	0	0	0	0		6.7	0	93.3	0		0	48.6	51.4	0		16.9	83.1	0	0		
Total %	0	0	0	0	0	1.1	0	15.4	0	16.5	0	20.8	22	0	42.8	6.9	33.8	0	0	40.7	

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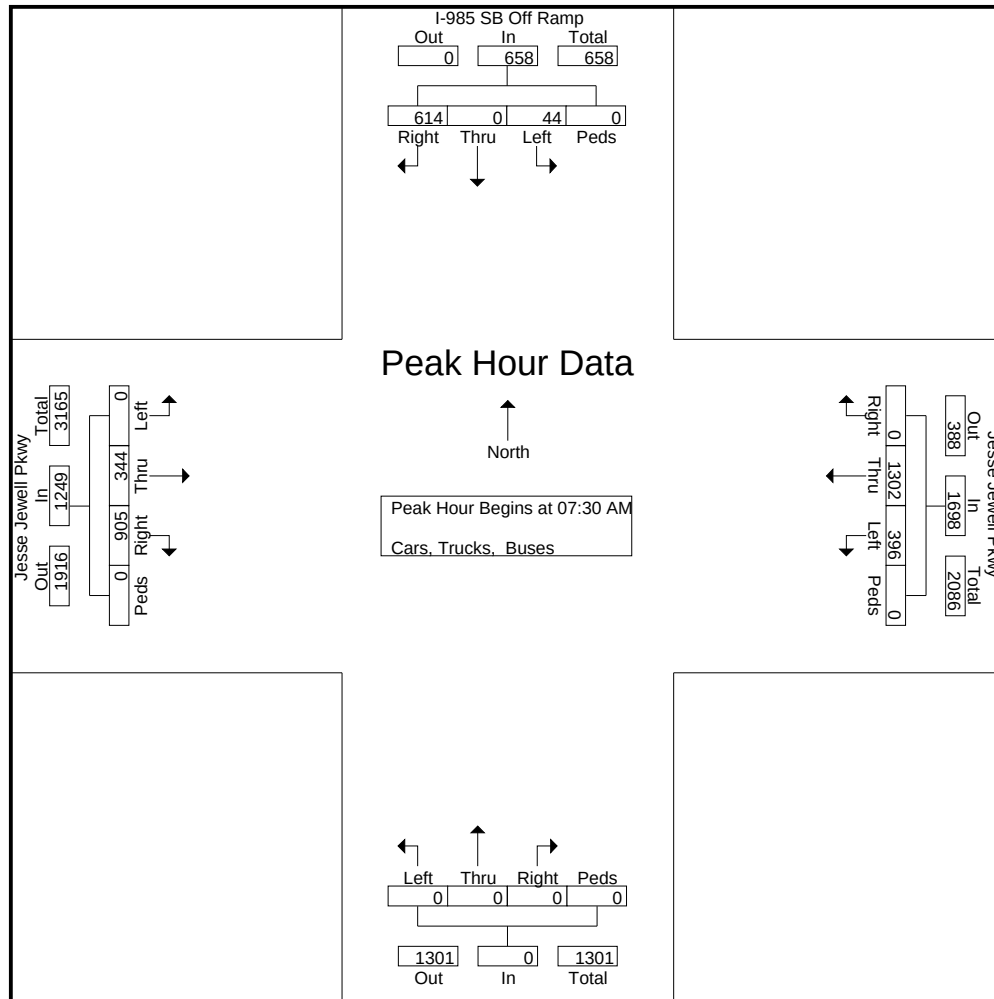
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TMC Data
Jesse Jewell Pkwy @ I-985 SB Ramps

7-9am | 4:30-6:30pm

File Name : 41500002
Site Code : 41480002
Start Date : 11/1/2017
Page No : 2

	Northbound					I-985 SB Off Ramp Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	10	0	102	0	112	0	89	227	0	316	98	308	0	0	406	834
07:45 AM	0	0	0	0	0	15	0	125	0	140	0	94	252	0	346	102	359	0	0	461	947
08:00 AM	0	0	0	0	0	6	0	173	0	179	0	96	241	0	337	95	328	0	0	423	939
08:15 AM	0	0	0	0	0	13	0	214	0	227	0	65	185	0	250	101	307	0	0	408	885
Total Volume	0	0	0	0	0	44	0	614	0	658	0	344	905	0	1249	396	1302	0	0	1698	3605
% App. Total	0	0	0	0		6.7	0	93.3	0		0	27.5	72.5	0		23.3	76.7	0	0		
PHF	.000	.000	.000	.000	.000	.733	.000	.717	.000	.725	.000	.896	.898	.000	.902	.971	.907	.000	.000	.921	.952



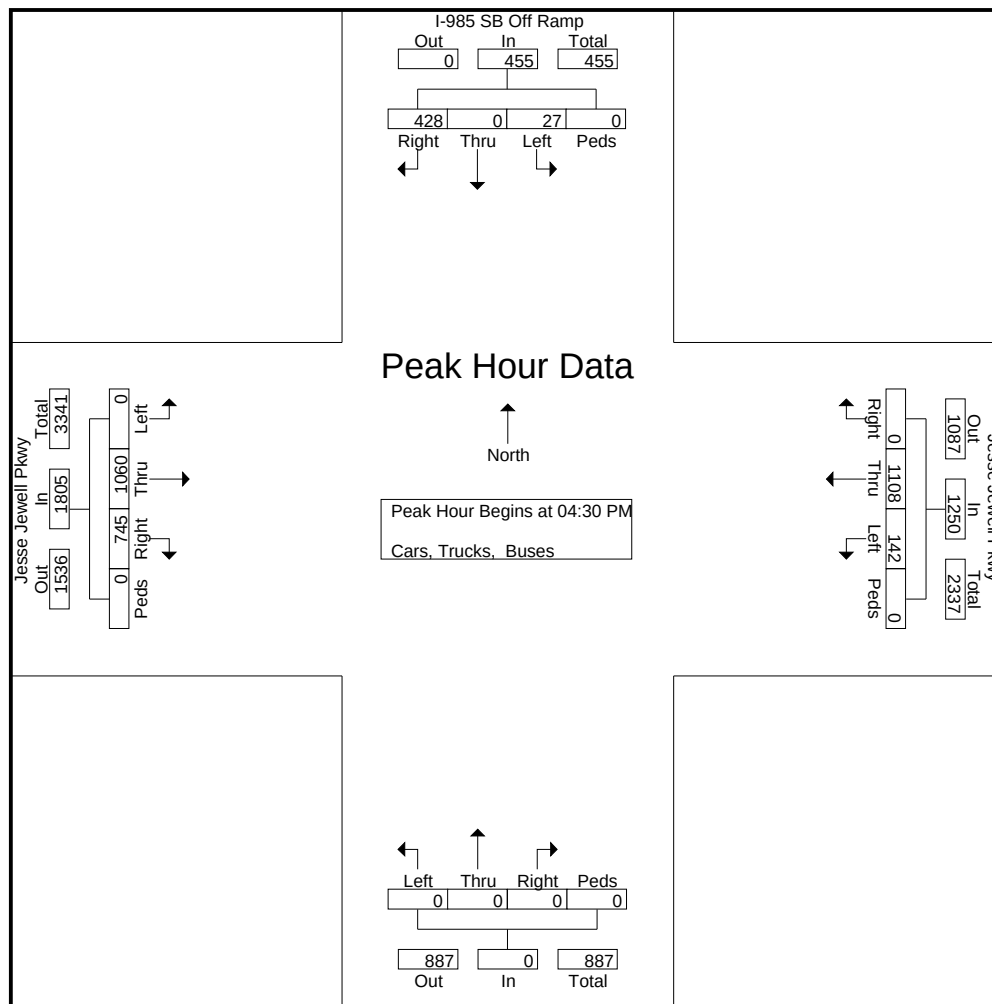
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TMC Data
Jesse Jewell Pkwy @ I-985 SB Ramps
7-9am | 4:30-6:30pm

File Name : 41500002
Site Code : 41480002
Start Date : 11/1/2017
Page No : 3

	Northbound					I-985 SB Off Ramp Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	4	0	99	0	103	0	247	210	0	457	34	250	0	0	284	844
04:45 PM	0	0	0	0	0	10	0	96	0	106	0	228	191	0	419	32	274	0	0	306	831
05:00 PM	0	0	0	0	0	6	0	105	0	111	0	290	179	0	469	36	287	0	0	323	903
05:15 PM	0	0	0	0	0	7	0	128	0	135	0	295	165	0	460	40	297	0	0	337	932
Total Volume	0	0	0	0	0	27	0	428	0	455	0	1060	745	0	1805	142	1108	0	0	1250	3510
% App. Total	0	0	0	0	0	5.9	0	94.1	0		0	58.7	41.3	0		11.4	88.6	0	0		
PHF	.000	.000	.000	.000	.000	.675	.000	.836	.000	.843	.000	.898	.887	.000	.962	.888	.933	.000	.000	.927	.942



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TMC Data
Jesse Jewell Pkwy @ I-985 NB

7-9am | 4:30-6:30pm

File Name : 41500001
Site Code : 41480001
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	I-985 Northbound					Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	110	0	27	0	137	0	0	0	0	0	40	59	0	0	99	0	175	3	0	178	414
07:15 AM	159	0	29	0	188	0	0	0	0	0	39	64	0	0	103	0	191	11	0	202	493
07:30 AM	175	0	28	0	203	0	0	0	0	0	40	62	0	0	102	0	236	11	0	247	552
07:45 AM	184	0	31	0	215	0	0	0	0	0	29	76	0	0	105	1	272	8	0	281	601
Total	628	0	115	0	743	0	0	0	0	0	148	261	0	0	409	1	874	33	0	908	2060
08:00 AM	152	0	20	0	172	0	0	0	0	0	31	69	0	0	100	0	261	12	0	273	545
08:15 AM	166	0	13	0	179	0	0	0	0	0	30	58	0	0	88	0	233	5	0	238	505
08:30 AM	117	0	8	0	125	0	0	0	0	0	36	56	0	0	92	0	128	1	0	129	346
08:45 AM	91	0	23	0	114	0	0	0	0	0	34	57	0	0	91	0	126	6	0	132	337
Total	526	0	64	0	590	0	0	0	0	0	131	240	0	0	371	0	748	24	0	772	1733
*** BREAK ***																					
04:30 PM	180	0	27	0	207	0	0	0	0	0	125	138	0	0	263	0	102	17	0	119	589
04:45 PM	196	0	44	0	240	0	0	0	0	0	114	139	0	0	253	0	100	10	0	110	603
Total	376	0	71	0	447	0	0	0	0	0	239	277	0	0	516	0	202	27	0	229	1192
05:00 PM	191	0	41	0	232	0	0	0	0	0	145	138	0	0	283	0	136	11	0	147	662
05:15 PM	204	0	46	0	250	0	0	0	0	0	140	167	0	0	307	0	119	8	0	127	684
05:30 PM	155	0	35	0	190	0	0	0	0	0	101	139	0	0	240	0	131	12	0	143	573
05:45 PM	109	0	27	0	136	0	0	0	0	0	95	113	0	0	208	0	131	7	0	138	482
Total	659	0	149	0	808	0	0	0	0	0	481	557	0	0	1038	0	517	38	0	555	2401
06:00 PM	120	0	29	0	149	0	0	0	0	0	89	115	0	0	204	0	125	10	0	135	488
06:15 PM	96	0	22	0	118	0	0	0	0	0	73	105	0	0	178	0	103	5	0	108	404
Grand Total	2405	0	450	0	2855	0	0	0	0	0	1161	1555	0	0	2716	1	2569	137	0	2707	8278
Apprch %	84.2	0	15.8	0		0	0	0	0		42.7	57.3	0	0		0	94.9	5.1	0		
Total %	29.1	0	5.4	0	34.5	0	0	0	0	0	14	18.8	0	0	32.8	0	31	1.7	0	32.7	

Reliable Traffic Data Services

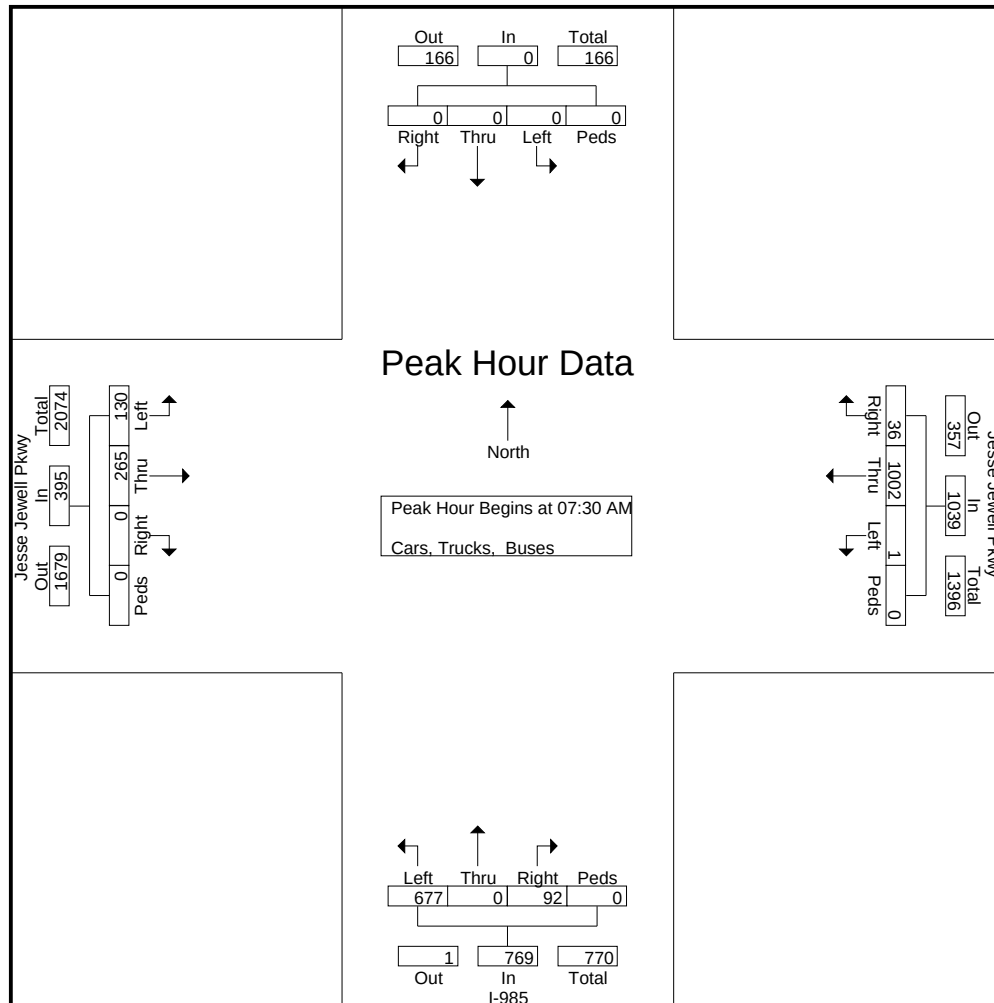
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TMC Data
Jesse Jewell Pkwy @ I-985 NB

7-9am | 4:30-6:30pm

File Name : 41500001
Site Code : 41480001
Start Date : 11/1/2017
Page No : 2

	I-985 Northbound					Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	175	0	28	0	203	0	0	0	0	0	40	62	0	0	102	0	236	11	0	247	552
07:45 AM	184	0	31	0	215	0	0	0	0	0	29	76	0	0	105	1	272	8	0	281	601
08:00 AM	152	0	20	0	172	0	0	0	0	0	31	69	0	0	100	0	261	12	0	273	545
08:15 AM	166	0	13	0	179	0	0	0	0	0	30	58	0	0	88	0	233	5	0	238	505
Total Volume	677	0	92	0	769	0	0	0	0	0	130	265	0	0	395	1	1002	36	0	1039	2203
% App. Total	88	0	12	0		0	0	0	0		32.9	67.1	0	0		0.1	96.4	3.5	0		
PHF	.920	.000	.742	.000	.894	.000	.000	.000	.000	.000	.813	.872	.000	.000	.940	.250	.921	.750	.000	.924	.916



Reliable Traffic Data Services

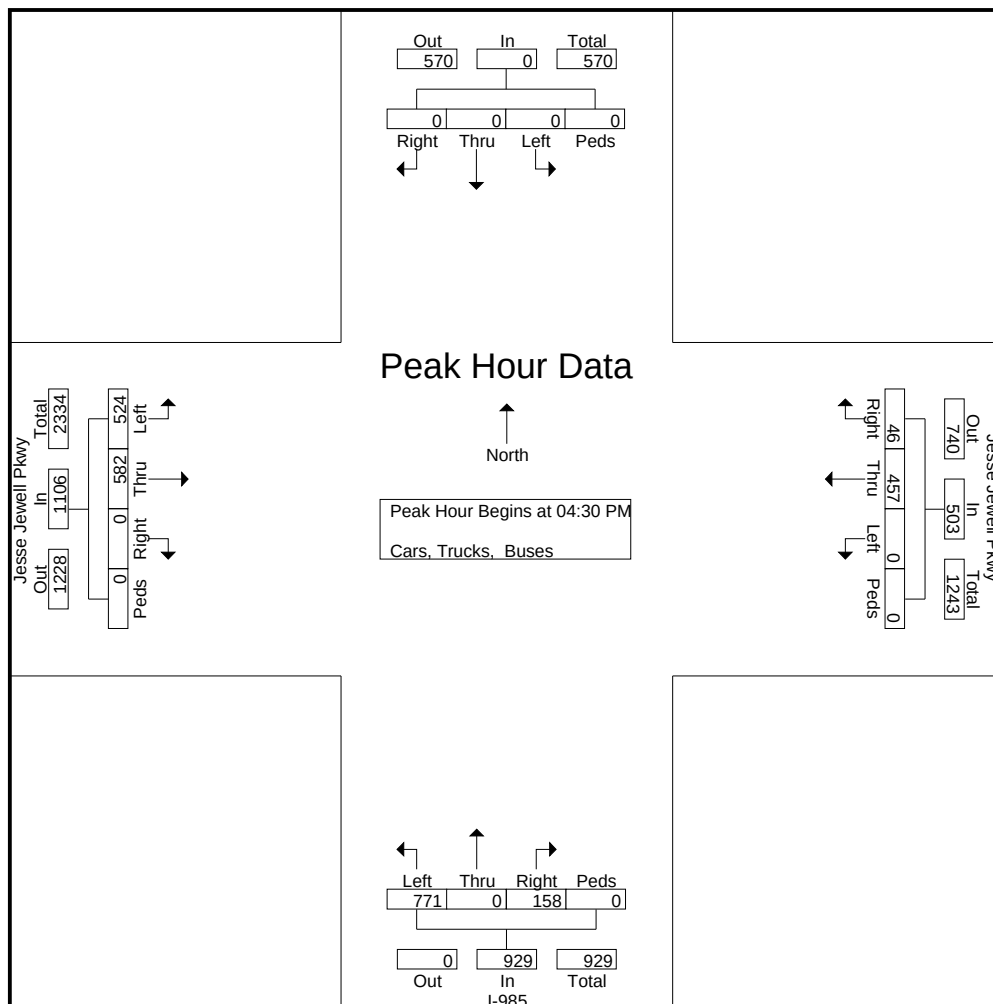
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TMC Data
Jesse Jewell Pkwy @ I-985 NB

7-9am | 4:30-6:30pm

File Name : 41500001
Site Code : 41480001
Start Date : 11/1/2017
Page No : 3

	I-985 Northbound					Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	180	0	27	0	207	0	0	0	0	0	125	138	0	0	263	0	102	17	0	119	589
04:45 PM	196	0	44	0	240	0	0	0	0	0	114	139	0	0	253	0	100	10	0	110	603
05:00 PM	191	0	41	0	232	0	0	0	0	0	145	138	0	0	283	0	136	11	0	147	662
05:15 PM	204	0	46	0	250	0	0	0	0	0	140	167	0	0	307	0	119	8	0	127	684
Total Volume	771	0	158	0	929	0	0	0	0	0	524	582	0	0	1106	0	457	46	0	503	2538
% App. Total	83	0	17	0		0	0	0	0	0	47.4	52.6	0	0		0	90.9	9.1	0		
PHF	.945	.000	.859	.000	.929	.000	.000	.000	.000	.000	.903	.871	.000	.000	.901	.000	.840	.676	.000	.855	.928



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TMC Data
Beverly Rd @ Lakeview Dr

7-9am | 4:30-6:30pm

File Name : 41500014
Site Code : 41480014
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Lakeview Dr Northbound					Lakeview Dr Southbound					Nottingham Dr Eastbound					Beverly Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	4	3	0	7	35	9	2	0	46	2	0	0	0	2	4	2	26	0	32	87
07:15 AM	0	4	4	0	8	41	8	0	0	49	1	1	0	0	2	6	0	21	0	27	86
07:30 AM	0	15	6	0	21	46	24	0	0	70	2	8	0	0	10	10	9	40	0	59	160
07:45 AM	1	11	7	0	19	60	27	2	0	89	1	3	1	0	5	24	16	60	0	100	213
Total	1	34	20	0	55	182	68	4	0	254	6	12	1	0	19	44	27	147	0	218	546
08:00 AM	0	22	4	0	26	71	56	2	0	129	0	4	1	0	5	21	6	77	0	104	264
08:15 AM	1	24	9	0	34	69	36	4	0	109	1	6	0	0	7	18	14	76	0	108	258
08:30 AM	0	6	4	0	10	39	9	2	0	50	1	4	0	0	5	8	11	43	0	62	127
08:45 AM	0	3	7	0	10	24	3	3	0	30	1	2	0	0	3	4	7	21	0	32	75
Total	1	55	24	0	80	203	104	11	0	318	3	16	1	0	20	51	38	217	0	306	724
*** BREAK ***																					
04:30 PM	0	5	5	0	10	40	7	1	0	48	0	4	0	0	4	6	6	47	0	59	121
04:45 PM	1	13	9	0	23	49	6	0	0	55	4	9	1	0	14	7	11	47	0	65	157
Total	1	18	14	0	33	89	13	1	0	103	4	13	1	0	18	13	17	94	0	124	278
05:00 PM	2	6	20	0	28	42	9	2	0	53	3	6	1	0	10	7	8	60	0	75	166
05:15 PM	0	8	21	0	29	33	8	0	0	41	0	6	1	0	7	6	6	75	0	87	164
05:30 PM	0	8	12	0	20	29	4	1	0	34	0	3	0	0	3	3	8	52	0	63	120
05:45 PM	2	7	6	0	15	44	9	2	0	55	2	3	0	0	5	7	7	50	0	64	139
Total	4	29	59	0	92	148	30	5	0	183	5	18	2	0	25	23	29	237	0	289	589
06:00 PM	0	8	4	0	12	28	6	3	0	37	1	5	1	0	7	4	3	32	0	39	95
06:15 PM	0	7	2	0	9	21	2	1	0	24	1	2	0	0	3	2	2	24	0	28	64
Grand Total	7	151	123	0	281	671	223	25	0	919	20	66	6	0	92	137	116	751	0	1004	2296
Apprch %	2.5	53.7	43.8	0		73	24.3	2.7	0		21.7	71.7	6.5	0		13.6	11.6	74.8	0		
Total %	0.3	6.6	5.4	0	12.2	29.2	9.7	1.1	0	40	0.9	2.9	0.3	0	4	6	5.1	32.7	0	43.7	

Reliable Traffic Data Services

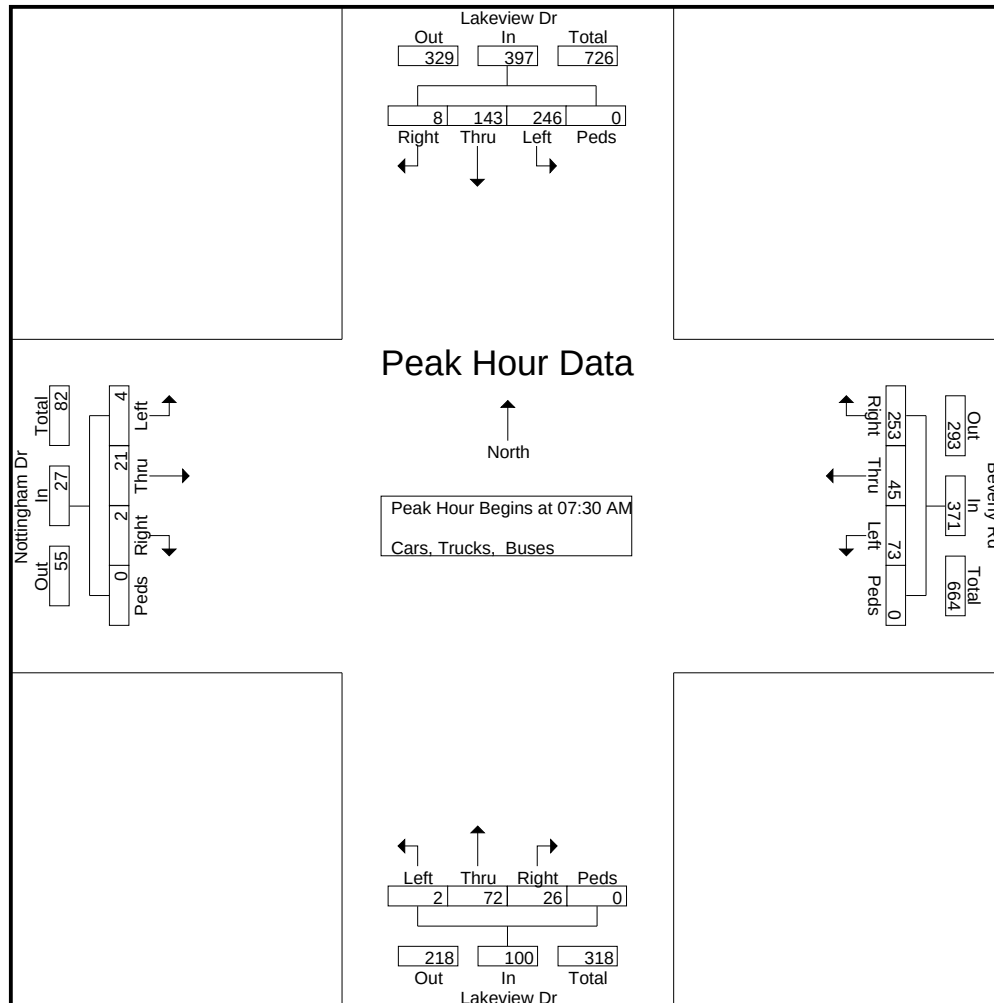
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TMC Data
Beverly Rd @ Lakeview Dr

7-9am | 4:30-6:30pm

File Name : 41500014
Site Code : 41480014
Start Date : 11/1/2017
Page No : 2

	Lakeview Dr Northbound					Lakeview Dr Southbound					Nottingham Dr Eastbound					Beverly Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	15	6	0	21	46	24	0	0	70	2	8	0	0	10	10	9	40	0	59	160
07:45 AM	1	11	7	0	19	60	27	2	0	89	1	3	1	0	5	24	16	60	0	100	213
08:00 AM	0	22	4	0	26	71	56	2	0	129	0	4	1	0	5	21	6	77	0	104	264
08:15 AM	1	24	9	0	34	69	36	4	0	109	1	6	0	0	7	18	14	76	0	108	258
Total Volume	2	72	26	0	100	246	143	8	0	397	4	21	2	0	27	73	45	253	0	371	895
% App. Total	2	72	26	0		62	36	2	0		14.8	77.8	7.4	0		19.7	12.1	68.2	0		
PHF	.500	.750	.722	.000	.735	.866	.638	.500	.000	.769	.500	.656	.500	.000	.675	.760	.703	.821	.000	.859	.848



Reliable Traffic Data Services

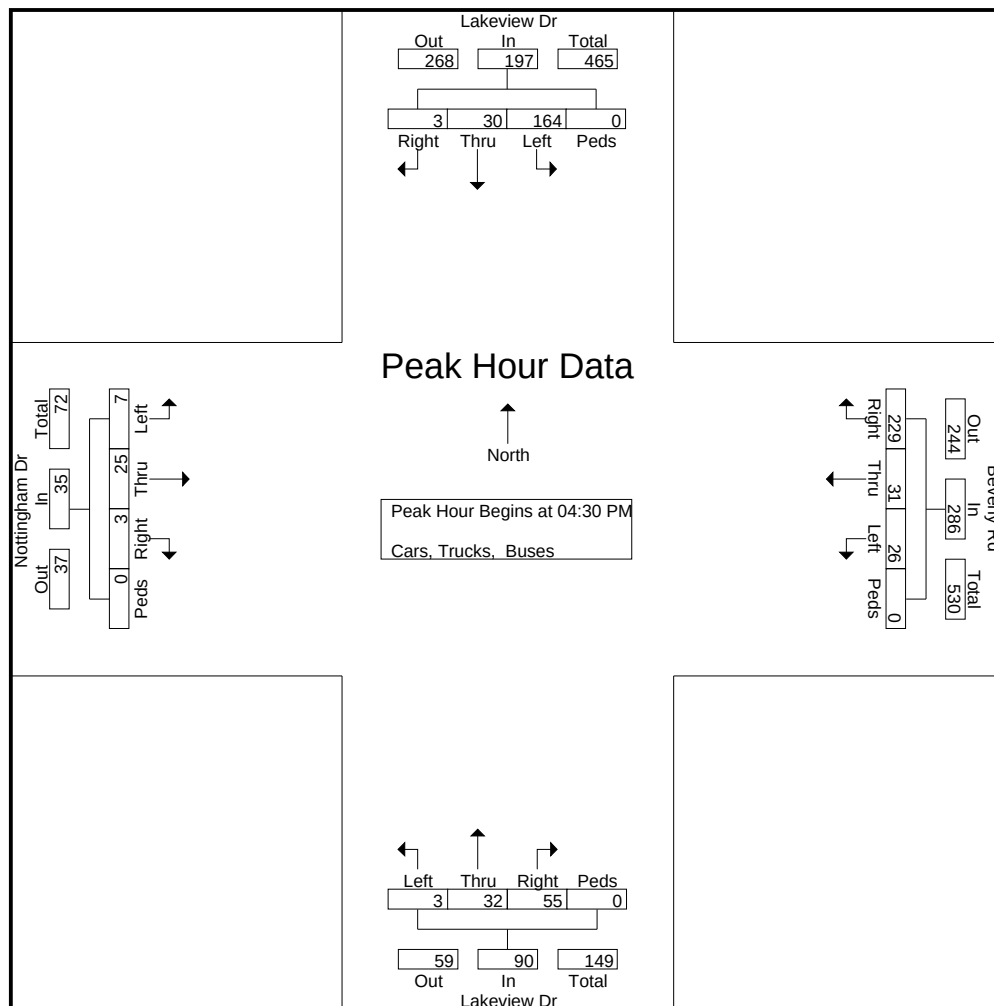
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TMC Data
Beverly Rd @ Lakeview Dr

7-9am | 4:30-6:30pm

File Name : 41500014
Site Code : 41480014
Start Date : 11/1/2017
Page No : 3

	Lakeview Dr Northbound					Lakeview Dr Southbound					Nottingham Dr Eastbound					Beverly Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	5	5	0	10	40	7	1	0	48	0	4	0	0	4	6	6	47	0	59	121
04:45 PM	1	13	9	0	23	49	6	0	0	55	4	9	1	0	14	7	11	47	0	65	157
05:00 PM	2	6	20	0	28	42	9	2	0	53	3	6	1	0	10	7	8	60	0	75	166
05:15 PM	0	8	21	0	29	33	8	0	0	41	0	6	1	0	7	6	6	75	0	87	164
Total Volume	3	32	55	0	90	164	30	3	0	197	7	25	3	0	35	26	31	229	0	286	608
% App. Total	3.3	35.6	61.1	0		83.2	15.2	1.5	0		20	71.4	8.6	0		9.1	10.8	80.1	0		
PHF	.375	.615	.655	.000	.776	.837	.833	.375	.000	.895	.438	.694	.750	.000	.625	.929	.705	.763	.000	.822	.916



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TMC Data
Jesse Jewell Pkwy @ Quarry St

7-9am | 4:30-6:30pm

File Name : 41500015
Site Code : 41480015
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Myrtle St Northbound					Quarry St Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	10	0	10	3	152	11	0	166	5	235	0	0	240	416
07:15 AM	1	0	1	0	2	0	0	3	0	3	2	180	5	0	187	3	309	0	0	312	504
07:30 AM	2	0	1	0	3	1	0	8	0	9	8	138	13	0	159	9	367	0	0	376	547
07:45 AM	0	1	2	0	3	1	0	4	0	5	4	156	20	0	180	13	445	2	0	460	648
Total	3	1	4	0	8	2	0	25	0	27	17	626	49	0	692	30	1356	2	0	1388	2115
08:00 AM	2	0	7	0	9	0	1	6	0	7	9	192	6	0	207	9	537	4	0	550	773
08:15 AM	5	0	13	0	18	0	0	6	0	6	13	187	1	0	201	8	559	2	0	569	794
08:30 AM	1	0	6	0	7	2	0	5	0	7	1	192	1	0	194	1	495	2	0	498	706
08:45 AM	0	0	1	0	1	0	0	0	0	0	4	177	0	0	181	0	410	0	0	410	592
Total	8	0	27	0	35	2	1	17	0	20	27	748	8	0	783	18	2001	8	0	2027	2865
*** BREAK ***																					
04:30 PM	1	0	2	0	3	1	0	3	0	4	7	434	1	0	442	1	259	1	0	261	710
04:45 PM	1	0	2	0	3	2	0	9	0	11	7	475	1	0	483	1	199	1	0	201	698
Total	2	0	4	0	6	3	0	12	0	15	14	909	2	0	925	2	458	2	0	462	1408
05:00 PM	2	0	8	0	10	0	0	4	0	4	8	621	0	0	629	0	300	1	0	301	944
05:15 PM	1	0	5	0	6	1	0	4	0	5	11	486	0	0	497	0	294	1	0	295	803
05:30 PM	0	0	4	0	4	2	0	8	0	10	11	427	0	0	438	1	272	3	0	276	728
05:45 PM	0	0	0	0	0	0	0	5	0	5	11	302	0	0	313	2	276	3	0	281	599
Total	3	0	17	0	20	3	0	21	0	24	41	1836	0	0	1877	3	1142	8	0	1153	3074
06:00 PM	0	0	1	0	1	0	0	9	0	9	5	277	0	0	282	1	221	1	0	223	515
06:15 PM	0	0	2	0	2	1	0	2	0	3	6	268	0	0	274	0	211	2	0	213	492
Grand Total	16	1	55	0	72	11	1	86	0	98	110	4664	59	0	4833	54	5389	23	0	5466	10469
Apprch %	22.2	1.4	76.4	0		11.2	1	87.8	0		2.3	96.5	1.2	0		1	98.6	0.4	0		
Total %	0.2	0	0.5	0	0.7	0.1	0	0.8	0	0.9	1.1	44.6	0.6	0	46.2	0.5	51.5	0.2	0	52.2	

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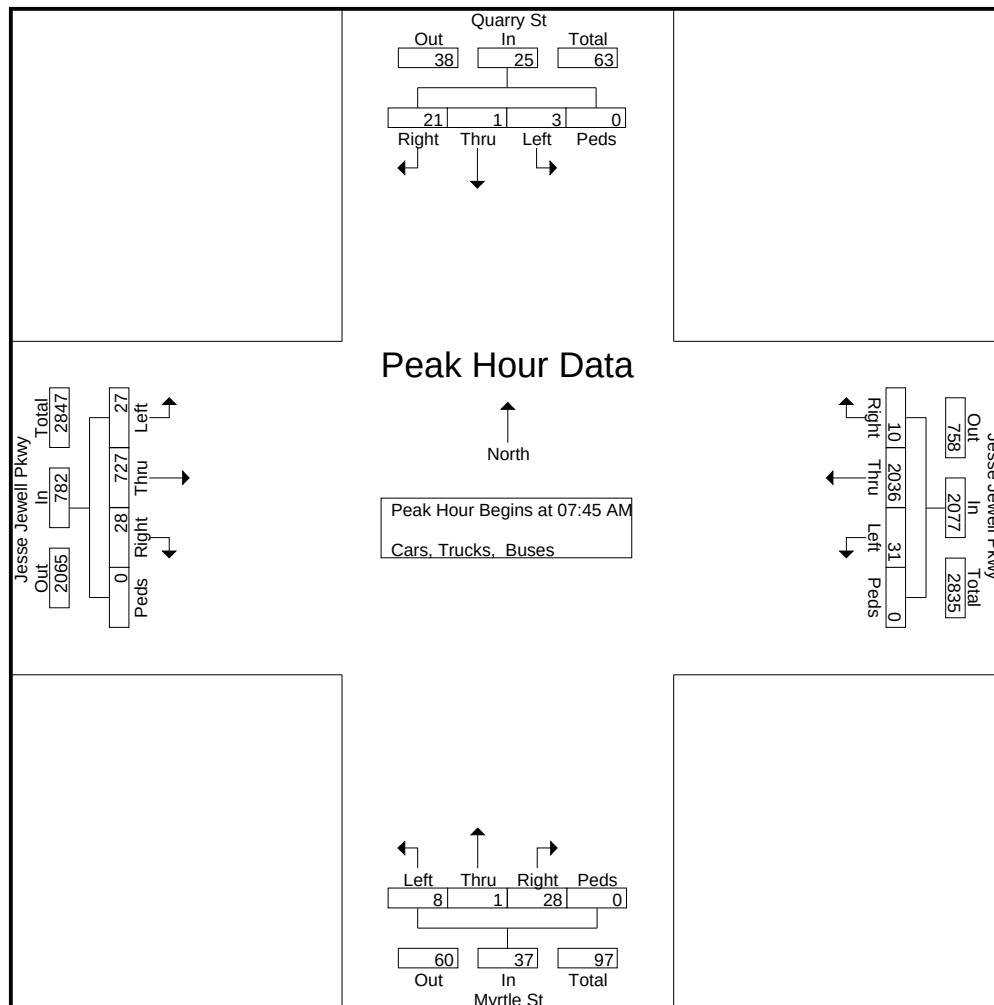
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TMC Data
Jesse Jewell Pkwy @ Quarry St

7-9am | 4:30-6:30pm

File Name : 41500015
Site Code : 41480015
Start Date : 11/1/2017
Page No : 2

	Myrtle St Northbound					Quarry St Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	1	2	0	3	1	0	4	0	5	4	156	20	0	180	13	445	2	0	460	648
08:00 AM	2	0	7	0	9	0	1	6	0	7	9	192	6	0	207	9	537	4	0	550	773
08:15 AM	5	0	13	0	18	0	0	6	0	6	13	187	1	0	201	8	559	2	0	569	794
08:30 AM	1	0	6	0	7	2	0	5	0	7	1	192	1	0	194	1	495	2	0	498	706
Total Volume	8	1	28	0	37	3	1	21	0	25	27	727	28	0	782	31	2036	10	0	2077	2921
% App. Total	21.6	2.7	75.7	0		12	4	84	0		3.5	93	3.6	0		1.5	98	0.5	0		
PHF	.400	.250	.538	.000	.514	.375	.250	.875	.000	.893	.519	.947	.350	.000	.944	.596	.911	.625	.000	.913	.920



Reliable Traffic Data Services

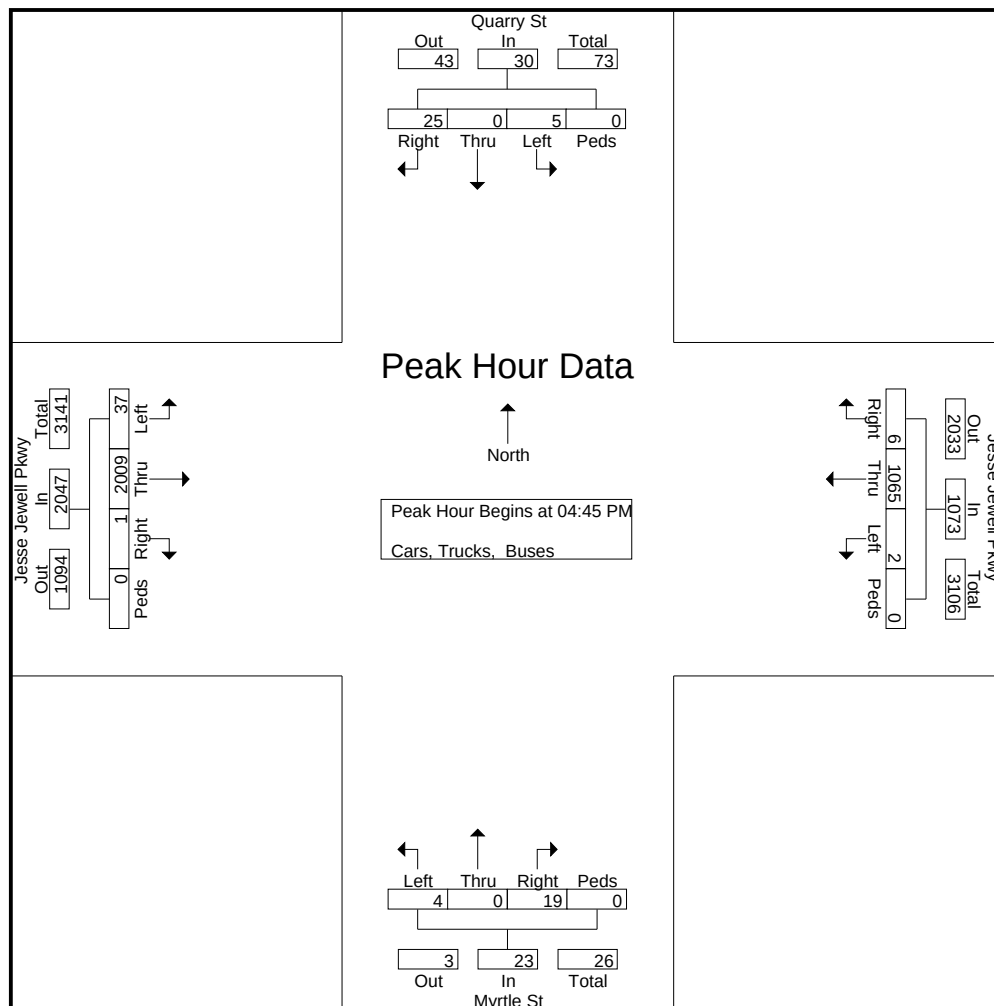
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TMC Data
Jesse Jewell Pkwy @ Quarry St

7-9am | 4:30-6:30pm

File Name : 41500015
Site Code : 41480015
Start Date : 11/1/2017
Page No : 3

	Myrtle St Northbound					Quarry St Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	1	0	2	0	3	2	0	9	0	11	7	475	1	0	483	1	199	1	0	201	698
05:00 PM	2	0	8	0	10	0	0	4	0	4	8	621	0	0	629	0	300	1	0	301	944
05:15 PM	1	0	5	0	6	1	0	4	0	5	11	486	0	0	497	0	294	1	0	295	803
05:30 PM	0	0	4	0	4	2	0	8	0	10	11	427	0	0	438	1	272	3	0	276	728
Total Volume	4	0	19	0	23	5	0	25	0	30	37	2009	1	0	2047	2	1065	6	0	1073	3173
% App. Total	17.4	0	82.6	0		16.7	0	83.3	0		1.8	98.1	0	0		0.2	99.3	0.6	0		
PHF	.500	.000	.594	.000	.575	.625	.000	.694	.000	.682	.841	.809	.250	.000	.814	.500	.888	.500	.000	.891	.840



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TMC Data
Jesse Jewell Pkwy @ Community Way/
Terrace St
7-9am | 4:30-6:30pm

File Name : 41500005
Site Code : 41480005
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Terrace St Northbound					Community Way Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	3	0	4	5	1	15	0	21	33	164	0	0	197	6	238	15	0	259	481
07:15 AM	2	0	2	0	4	6	0	22	0	28	40	179	2	0	221	7	291	19	0	317	570
07:30 AM	1	3	3	0	7	12	1	41	0	54	77	158	0	0	235	7	336	25	0	368	664
07:45 AM	2	7	2	0	11	17	0	84	0	101	104	155	4	0	263	16	390	32	0	438	813
Total	6	10	10	0	26	40	2	162	0	204	254	656	6	0	916	36	1255	91	0	1382	2528
08:00 AM	2	12	0	0	14	20	0	96	1	117	62	178	9	0	249	19	476	54	0	549	929
08:15 AM	2	6	1	0	9	20	1	71	0	92	47	195	5	0	247	22	507	27	0	556	904
08:30 AM	2	0	2	0	4	7	0	13	0	20	29	187	2	0	218	17	474	11	0	502	744
08:45 AM	1	1	4	0	6	5	1	9	0	15	28	169	1	0	198	7	396	16	0	419	638
Total	7	19	7	0	33	52	2	189	1	244	166	729	17	0	912	65	1853	108	0	2026	3215
*** BREAK ***																					
04:30 PM	2	0	9	0	11	17	0	22	0	39	22	427	3	0	452	4	260	10	0	274	776
04:45 PM	12	1	9	0	22	22	0	18	0	40	27	438	7	0	472	16	197	5	0	218	752
Total	14	1	18	0	33	39	0	40	0	79	49	865	10	0	924	20	457	15	0	492	1528
05:00 PM	10	0	23	0	33	21	0	21	0	42	23	584	0	0	607	5	288	3	0	296	978
05:15 PM	4	1	13	0	18	16	1	11	0	28	15	482	6	0	503	6	293	7	0	306	855
05:30 PM	4	0	11	0	15	31	0	32	0	63	13	405	3	0	421	5	260	5	0	270	769
05:45 PM	4	0	4	0	8	13	0	13	0	26	12	310	1	0	323	8	261	4	0	273	630
Total	22	1	51	0	74	81	1	77	0	159	63	1781	10	0	1854	24	1102	19	0	1145	3232
06:00 PM	7	0	2	0	9	11	0	17	0	28	7	283	7	0	297	5	223	3	0	231	565
06:15 PM	1	0	5	0	6	16	0	4	0	20	6	258	6	0	270	9	208	2	0	219	515
Grand Total	57	31	93	0	181	239	5	489	1	734	545	4572	56	0	5173	159	5098	238	0	5495	11583
Apprch %	31.5	17.1	51.4	0		32.6	0.7	66.6	0.1		10.5	88.4	1.1	0		2.9	92.8	4.3	0		
Total %	0.5	0.3	0.8	0	1.6	2.1	0	4.2	0	6.3	4.7	39.5	0.5	0	44.7	1.4	44	2.1	0	47.4	

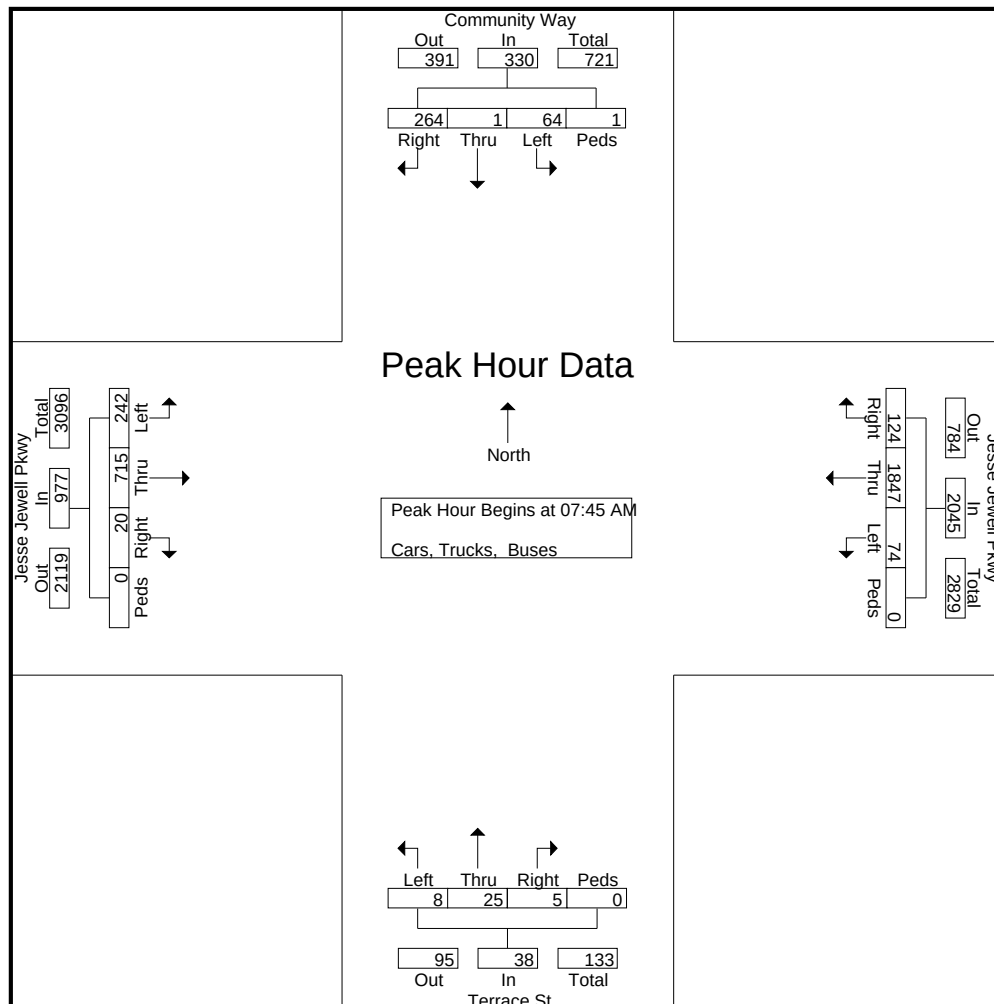
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TMC Data
Jesse Jewell Pkwy @ Community Way/
Terrace St
7-9am | 4:30-6:30pm

File Name : 41500005
Site Code : 41480005
Start Date : 11/1/2017
Page No : 2

	Terrace St Northbound					Community Way Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	7	2	0	11	17	0	84	0	101	104	155	4	0	263	16	390	32	0	438	813
08:00 AM	2	12	0	0	14	20	0	96	1	117	62	178	9	0	249	19	476	54	0	549	929
08:15 AM	2	6	1	0	9	20	1	71	0	92	47	195	5	0	247	22	507	27	0	556	904
08:30 AM	2	0	2	0	4	7	0	13	0	20	29	187	2	0	218	17	474	11	0	502	744
Total Volume	8	25	5	0	38	64	1	264	1	330	242	715	20	0	977	74	1847	124	0	2045	3390
% App. Total	21.1	65.8	13.2	0		19.4	0.3	80	0.3		24.8	73.2	2	0		3.6	90.3	6.1	0		
PHF	1.0 0	.521	.625	.000	.679	.800	.250	.688	.250	.705	.582	.917	.556	.000	.929	.841	.911	.574	.000	.920	.912



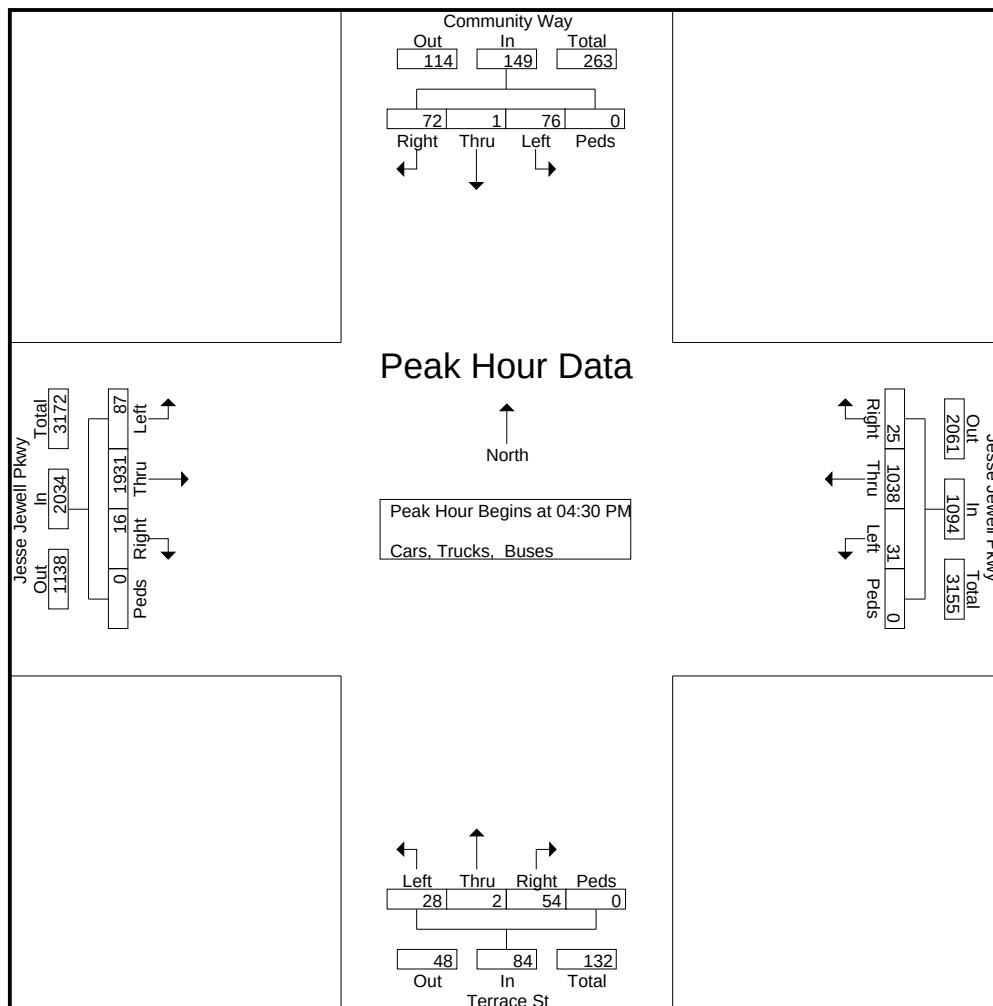
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TMC Data
Jesse Jewell Pkwy @ Community Way/
Terrace St
7-9am | 4:30-6:30pm

File Name : 41500005
Site Code : 41480005
Start Date : 11/1/2017
Page No : 3

	Terrace St Northbound					Community Way Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	2	0	9	0	11	17	0	22	0	39	22	427	3	0	452	4	260	10	0	274	776
04:45 PM	12	1	9	0	22	22	0	18	0	40	27	438	7	0	472	16	197	5	0	218	752
05:00 PM	10	0	23	0	33	21	0	21	0	42	23	584	0	0	607	5	288	3	0	296	978
05:15 PM	4	1	13	0	18	16	1	11	0	28	15	482	6	0	503	6	293	7	0	306	855
Total Volume	28	2	54	0	84	76	1	72	0	149	87	1931	16	0	2034	31	1038	25	0	1094	3361
% App. Total	33.3	2.4	64.3	0		51	0.7	48.3	0		4.3	94.9	0.8	0		2.8	94.9	2.3	0		
PHF	.583	.500	.587	.000	.636	.864	.250	.818	.000	.887	.806	.827	.571	.000	.838	.484	.886	.625	.000	.894	.859



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TMC Data
Jesse Jewell Pkwy @ Downey Blvd/
MLK Jr Blvd
7-9am | 4:30-6:30pm

File Name : 41500006
Site Code : 41480006
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	MLK Jr Blvd Northbound					Downey Blvd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	41	18	0	62	40	35	21	0	96	23	188	4	0	215	16	183	34	0	233	606
07:15 AM	8	66	35	0	109	58	62	38	0	158	32	251	4	0	287	28	264	59	0	351	905
07:30 AM	8	60	33	0	101	53	41	10	0	104	34	160	2	0	196	17	214	34	0	265	666
07:45 AM	14	76	67	0	157	65	30	15	0	110	29	215	2	0	246	30	315	40	0	385	898
Total	33	243	153	0	429	216	168	84	0	468	118	814	12	0	944	91	976	167	0	1234	3075
08:00 AM	14	67	50	0	131	56	28	20	0	104	37	241	2	0	280	29	360	49	0	438	953
08:15 AM	18	69	37	0	124	56	31	12	0	99	33	177	1	0	211	26	366	53	0	445	879
08:30 AM	12	57	30	0	99	48	24	30	0	102	30	175	6	0	211	33	370	73	0	476	888
08:45 AM	13	45	37	0	95	41	17	27	0	85	33	187	4	0	224	19	261	43	0	323	727
Total	57	238	154	0	449	201	100	89	0	390	133	780	13	0	926	107	1357	218	0	1682	3447
*** BREAK ***																					
04:30 PM	12	55	46	0	113	75	45	31	0	151	46	312	4	0	362	22	280	57	0	359	985
04:45 PM	9	75	30	0	114	67	55	44	0	166	46	288	5	0	339	36	217	54	0	307	926
Total	21	130	76	0	227	142	100	75	0	317	92	600	9	0	701	58	497	111	0	666	1911
05:00 PM	12	72	43	0	127	77	72	40	0	189	38	391	14	0	443	36	302	64	0	402	1161
05:15 PM	8	87	48	0	143	73	46	32	1	152	40	314	11	0	365	40	297	45	0	382	1042
05:30 PM	8	63	29	0	100	70	52	37	0	159	39	271	7	0	317	26	262	67	0	355	931
05:45 PM	7	55	16	0	78	37	43	44	0	124	56	260	6	0	322	23	242	48	0	313	837
Total	35	277	136	0	448	257	213	153	1	624	173	1236	38	0	1447	125	1103	224	0	1452	3971
06:00 PM	4	42	14	0	60	20	20	30	0	70	42	228	3	0	273	20	161	25	0	206	609
06:15 PM	6	74	25	0	105	40	29	20	0	89	38	170	6	0	214	17	140	54	0	211	619
Grand Total	156	1004	558	0	1718	876	630	451	1	1958	596	3828	81	0	4505	418	4234	799	0	5451	13632
Apprch %	9.1	58.4	32.5	0		44.7	32.2	23	0.1		13.2	85	1.8	0		7.7	77.7	14.7	0		
Total %	1.1	7.4	4.1	0	12.6	6.4	4.6	3.3	0	14.4	4.4	28.1	0.6	0	33	3.1	31.1	5.9	0	40	

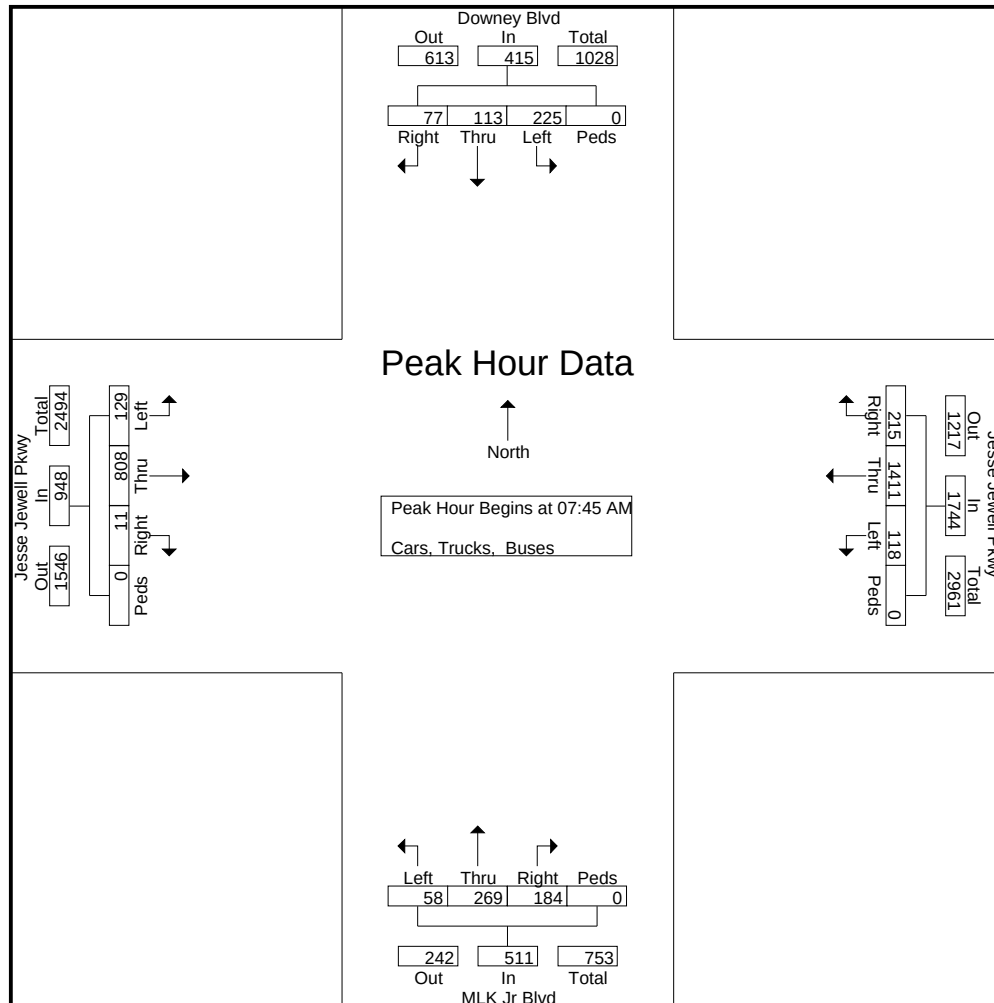
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TMC Data
Jesse Jewell Pkwy @ Downey Blvd/
MLK Jr Blvd
7-9am | 4:30-6:30pm

File Name : 41500006
Site Code : 41480006
Start Date : 11/1/2017
Page No : 2

	MLK Jr Blvd Northbound					Downey Blvd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	14	76	67	0	157	65	30	15	0	110	29	215	2	0	246	30	315	40	0	385	898
08:00 AM	14	67	50	0	131	56	28	20	0	104	37	241	2	0	280	29	360	49	0	438	953
08:15 AM	18	69	37	0	124	56	31	12	0	99	33	177	1	0	211	26	366	53	0	445	879
08:30 AM	12	57	30	0	99	48	24	30	0	102	30	175	6	0	211	33	370	73	0	476	888
Total Volume	58	269	184	0	511	225	113	77	0	415	129	808	11	0	948	118	1411	215	0	1744	3618
% App. Total	11.4	52.6	36	0		54.2	27.2	18.6	0		13.6	85.2	1.2	0		6.8	80.9	12.3	0		
PHF	.806	.885	.687	.000	.814	.865	.911	.642	.000	.943	.872	.838	.458	.000	.846	.894	.953	.736	.000	.916	.949



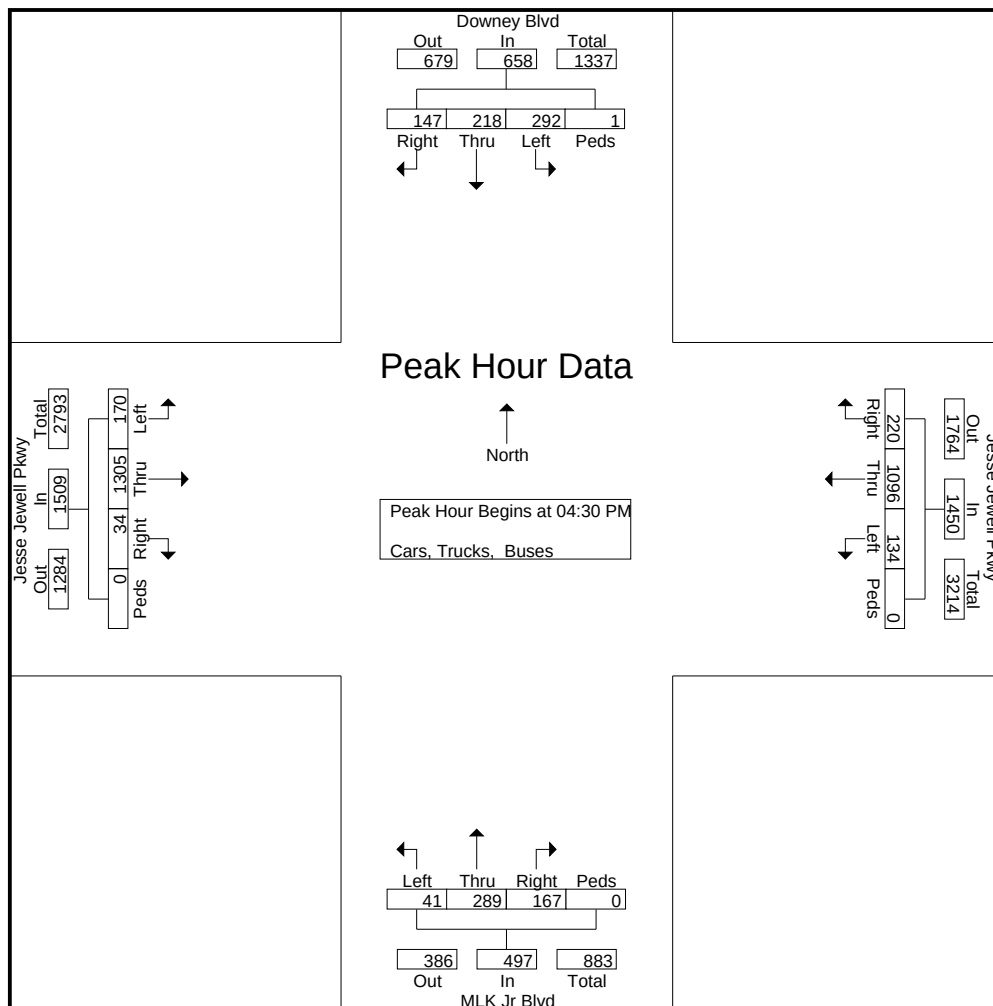
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TMC Data
Jesse Jewell Pkwy @ Downey Blvd/
MLK Jr Blvd
7-9am | 4:30-6:30pm

File Name : 41500006
Site Code : 41480006
Start Date : 11/1/2017
Page No : 3

	MLK Jr Blvd Northbound					Downey Blvd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	12	55	46	0	113	75	45	31	0	151	46	312	4	0	362	22	280	57	0	359	985
04:45 PM	9	75	30	0	114	67	55	44	0	166	46	288	5	0	339	36	217	54	0	307	926
05:00 PM	12	72	43	0	127	77	72	40	0	189	38	391	14	0	443	36	302	64	0	402	1161
05:15 PM	8	87	48	0	143	73	46	32	1	152	40	314	11	0	365	40	297	45	0	382	1042
Total Volume	41	289	167	0	497	292	218	147	1	658	170	1305	34	0	1509	134	1096	220	0	1450	4114
% App. Total	8.2	58.1	33.6	0		44.4	33.1	22.3	0.2		11.3	86.5	2.3	0		9.2	75.6	15.2	0		
PHF	.854	.830	.870	.000	.869	.948	.757	.835	.250	.870	.924	.834	.607	.000	.852	.838	.907	.859	.000	.902	.886



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TMC Data
Jesse Jewell Pkwy @ Downey Blvd/
MLK Jr Blvd
7-9am | 4:30-6:30pm

File Name : 41500006
Site Code : 41480006
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	MLK Jr Blvd Northbound					Downey Blvd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	41	18	0	62	40	35	21	0	96	23	188	4	0	215	16	183	34	0	233	606
07:15 AM	8	66	35	0	109	58	62	38	0	158	32	251	4	0	287	28	264	59	0	351	905
07:30 AM	8	60	33	0	101	53	41	10	0	104	34	160	2	0	196	17	214	34	0	265	666
07:45 AM	14	76	67	0	157	65	30	15	0	110	29	215	2	0	246	30	315	40	0	385	898
Total	33	243	153	0	429	216	168	84	0	468	118	814	12	0	944	91	976	167	0	1234	3075
08:00 AM	14	67	50	0	131	56	28	20	0	104	37	241	2	0	280	29	360	49	0	438	953
08:15 AM	18	69	37	0	124	56	31	12	0	99	33	177	1	0	211	26	366	53	0	445	879
08:30 AM	12	57	30	0	99	48	24	30	0	102	30	175	6	0	211	33	370	73	0	476	888
08:45 AM	13	45	37	0	95	41	17	27	0	85	33	187	4	0	224	19	261	43	0	323	727
Total	57	238	154	0	449	201	100	89	0	390	133	780	13	0	926	107	1357	218	0	1682	3447
*** BREAK ***																					
04:30 PM	12	55	46	0	113	75	45	31	0	151	46	312	4	0	362	22	280	57	0	359	985
04:45 PM	9	75	30	0	114	67	55	44	0	166	46	288	5	0	339	36	217	54	0	307	926
Total	21	130	76	0	227	142	100	75	0	317	92	600	9	0	701	58	497	111	0	666	1911
05:00 PM	12	72	43	0	127	77	72	40	0	189	38	391	14	0	443	36	302	64	0	402	1161
05:15 PM	8	87	48	0	143	73	46	32	1	152	40	314	11	0	365	40	297	45	0	382	1042
05:30 PM	8	63	29	0	100	70	52	37	0	159	39	271	7	0	317	26	262	67	0	355	931
05:45 PM	7	55	16	0	78	37	43	44	0	124	56	260	6	0	322	23	242	48	0	313	837
Total	35	277	136	0	448	257	213	153	1	624	173	1236	38	0	1447	125	1103	224	0	1452	3971
06:00 PM	4	42	14	0	60	20	20	30	0	70	42	228	3	0	273	20	161	25	0	206	609
06:15 PM	6	74	25	0	105	40	29	20	0	89	38	170	6	0	214	17	140	54	0	211	619
Grand Total	156	1004	558	0	1718	876	630	451	1	1958	596	3828	81	0	4505	418	4234	799	0	5451	13632
Apprch %	9.1	58.4	32.5	0		44.7	32.2	23	0.1		13.2	85	1.8	0		7.7	77.7	14.7	0		
Total %	1.1	7.4	4.1	0	12.6	6.4	4.6	3.3	0	14.4	4.4	28.1	0.6	0	33	3.1	31.1	5.9	0	40	

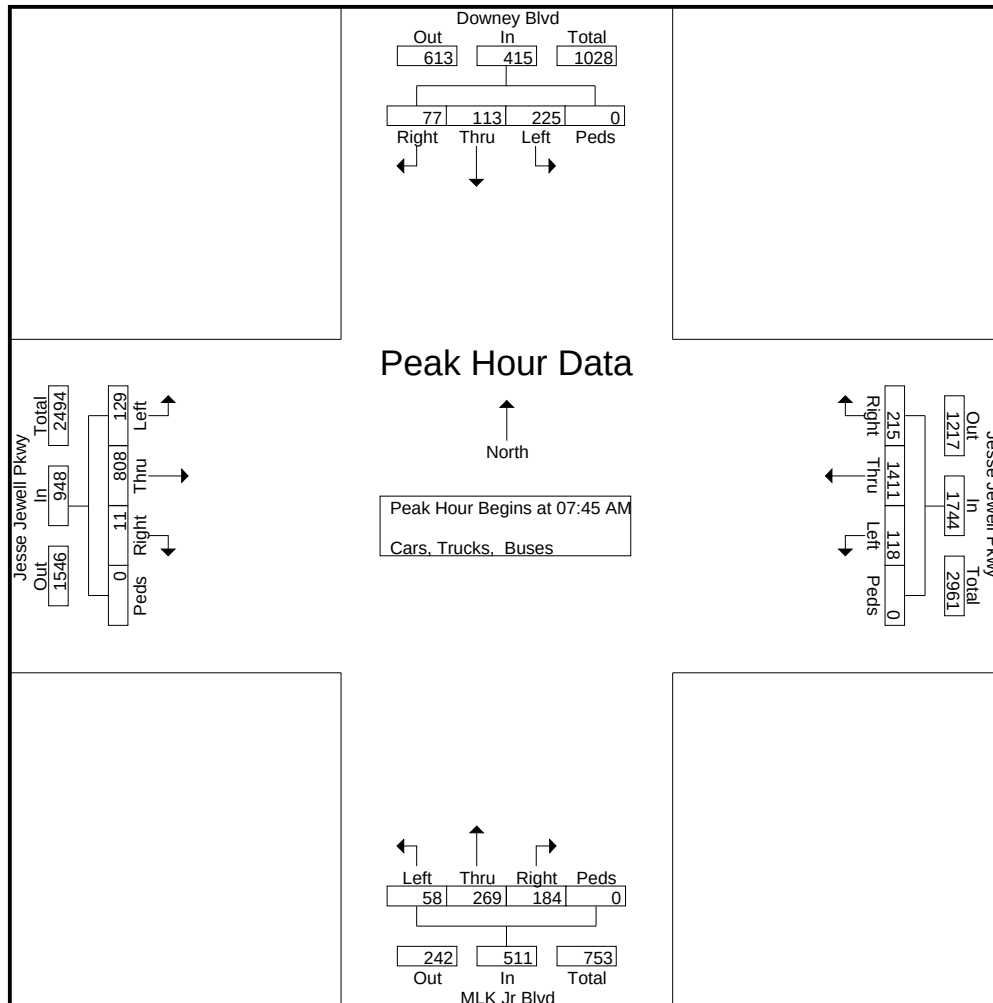
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TMC Data
Jesse Jewell Pkwy @ Downey Blvd/
MLK Jr Blvd
7-9am | 4:30-6:30pm

File Name : 41500006
Site Code : 41480006
Start Date : 11/1/2017
Page No : 2

	MLK Jr Blvd Northbound					Downey Blvd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	14	76	67	0	157	65	30	15	0	110	29	215	2	0	246	30	315	40	0	385	898
08:00 AM	14	67	50	0	131	56	28	20	0	104	37	241	2	0	280	29	360	49	0	438	953
08:15 AM	18	69	37	0	124	56	31	12	0	99	33	177	1	0	211	26	366	53	0	445	879
08:30 AM	12	57	30	0	99	48	24	30	0	102	30	175	6	0	211	33	370	73	0	476	888
Total Volume	58	269	184	0	511	225	113	77	0	415	129	808	11	0	948	118	1411	215	0	1744	3618
% App. Total	11.4	52.6	36	0		54.2	27.2	18.6	0		13.6	85.2	1.2	0		6.8	80.9	12.3	0		
PHF	.806	.885	.687	.000	.814	.865	.911	.642	.000	.943	.872	.838	.458	.000	.846	.894	.953	.736	.000	.916	.949



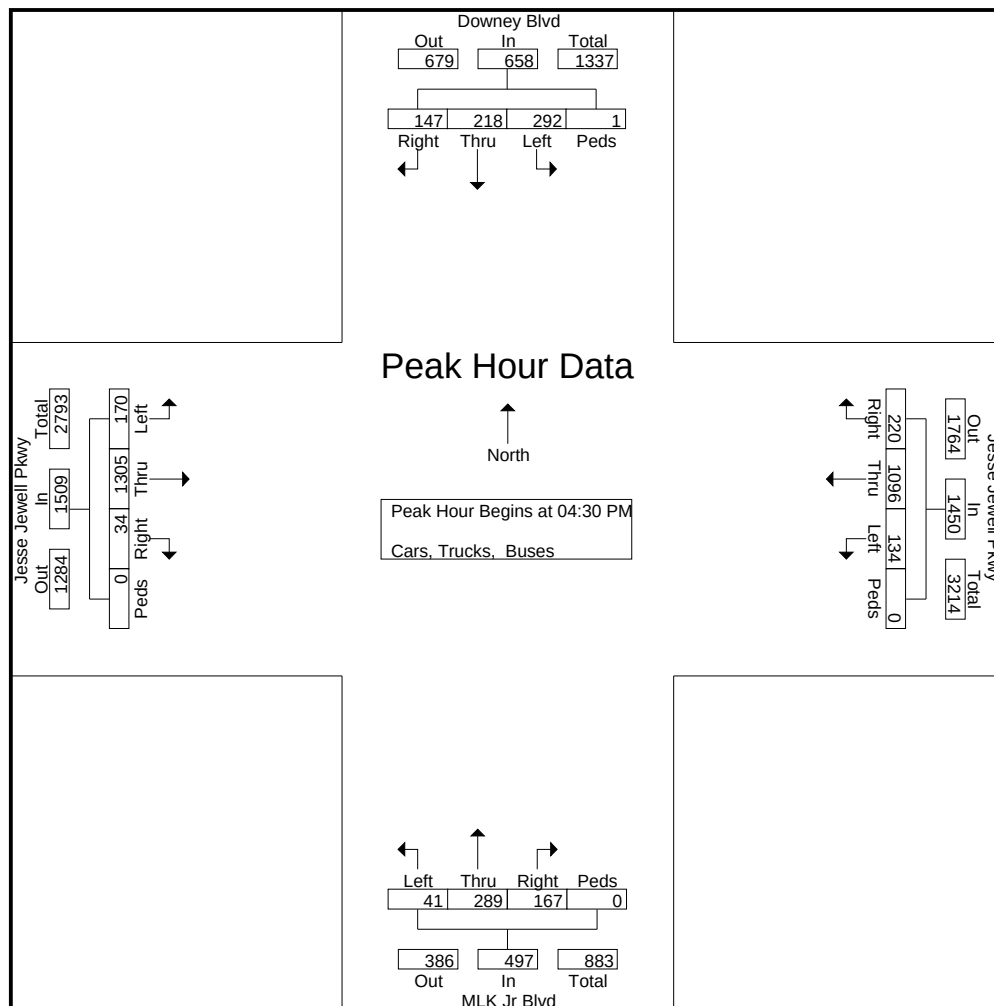
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TMC Data
Jesse Jewell Pkwy @ Downey Blvd/
MLK Jr Blvd
7-9am | 4:30-6:30pm

File Name : 41500006
Site Code : 41480006
Start Date : 11/1/2017
Page No : 3

	MLK Jr Blvd Northbound					Downey Blvd Southbound					Jesse Jewell Pkwy Eastbound					Jesse Jewell Pkwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	12	55	46	0	113	75	45	31	0	151	46	312	4	0	362	22	280	57	0	359	985
04:45 PM	9	75	30	0	114	67	55	44	0	166	46	288	5	0	339	36	217	54	0	307	926
05:00 PM	12	72	43	0	127	77	72	40	0	189	38	391	14	0	443	36	302	64	0	402	1161
05:15 PM	8	87	48	0	143	73	46	32	1	152	40	314	11	0	365	40	297	45	0	382	1042
Total Volume	41	289	167	0	497	292	218	147	1	658	170	1305	34	0	1509	134	1096	220	0	1450	4114
% App. Total	8.2	58.1	33.6	0		44.4	33.1	22.3	0.2		11.3	86.5	2.3	0		9.2	75.6	15.2	0		
PHF	.854	.830	.870	.000	.869	.948	.757	.835	.250	.870	.924	.834	.607	.000	.852	.838	.907	.859	.000	.902	.886



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TMC Data
Downey Blvd @ Sherwood Park Dr
7-9am | 4:30-6:30pm

File Name : 41500007
Site Code : 41480007
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Downey Blvd Northbound					Downey Blvd Southbound					Sherwood Park Dr Eastbound					Walgreens Drwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	59	4	0	67	2	99	6	0	107	1	0	3	0	4	3	0	1	0	4	182
07:15 AM	7	68	6	0	81	0	108	12	0	120	1	0	6	0	7	1	1	4	0	6	214
07:30 AM	14	78	7	0	99	2	134	16	0	152	9	3	6	0	18	5	2	1	0	8	277
07:45 AM	14	94	7	0	115	4	152	20	0	176	11	2	14	0	27	3	3	1	0	7	325
Total	39	299	24	0	362	8	493	54	0	555	22	5	29	0	56	12	6	7	0	25	998
08:00 AM	22	67	3	0	92	3	128	18	0	149	8	1	5	0	14	4	0	0	0	4	259
08:15 AM	14	78	5	0	97	2	132	22	0	156	6	2	12	0	20	3	1	2	0	6	279
08:30 AM	19	89	9	0	117	0	86	21	0	107	6	2	9	0	17	3	2	2	0	7	248
08:45 AM	22	62	3	0	87	0	77	17	0	94	7	2	12	0	21	3	0	3	0	6	208
Total	77	296	20	0	393	5	423	78	0	506	27	7	38	0	72	13	3	7	0	23	994
*** BREAK ***																					
04:30 PM	11	171	12	0	194	3	73	8	0	84	25	4	14	0	43	6	4	3	0	13	334
04:45 PM	7	175	18	0	200	4	83	10	0	97	33	4	20	0	57	13	3	10	0	26	380
Total	18	346	30	0	394	7	156	18	0	181	58	8	34	0	100	19	7	13	0	39	714
05:00 PM	8	217	10	0	235	4	98	10	0	112	49	4	25	0	78	7	1	6	0	14	439
05:15 PM	7	176	11	0	194	1	72	2	0	75	25	2	16	0	43	4	1	4	0	9	321
05:30 PM	6	156	6	0	168	7	93	5	0	105	16	3	12	0	31	9	0	4	0	13	317
05:45 PM	8	143	8	0	159	2	82	7	0	91	7	3	8	0	18	6	2	7	0	15	283
Total	29	692	35	0	756	14	345	24	0	383	97	12	61	0	170	26	4	21	0	51	1360
06:00 PM	4	111	7	0	122	6	73	8	0	87	9	1	7	0	17	6	2	1	0	9	235
06:15 PM	6	102	9	0	117	3	73	2	0	78	2	0	2	0	4	8	0	4	0	12	211
Grand Total	173	1846	125	0	2144	43	1563	184	0	1790	215	33	171	0	419	84	22	53	0	159	4512
Apprch %	8.1	86.1	5.8	0		2.4	87.3	10.3	0		51.3	7.9	40.8	0		52.8	13.8	33.3	0		
Total %	3.8	40.9	2.8	0	47.5	1	34.6	4.1	0	39.7	4.8	0.7	3.8	0	9.3	1.9	0.5	1.2	0	3.5	

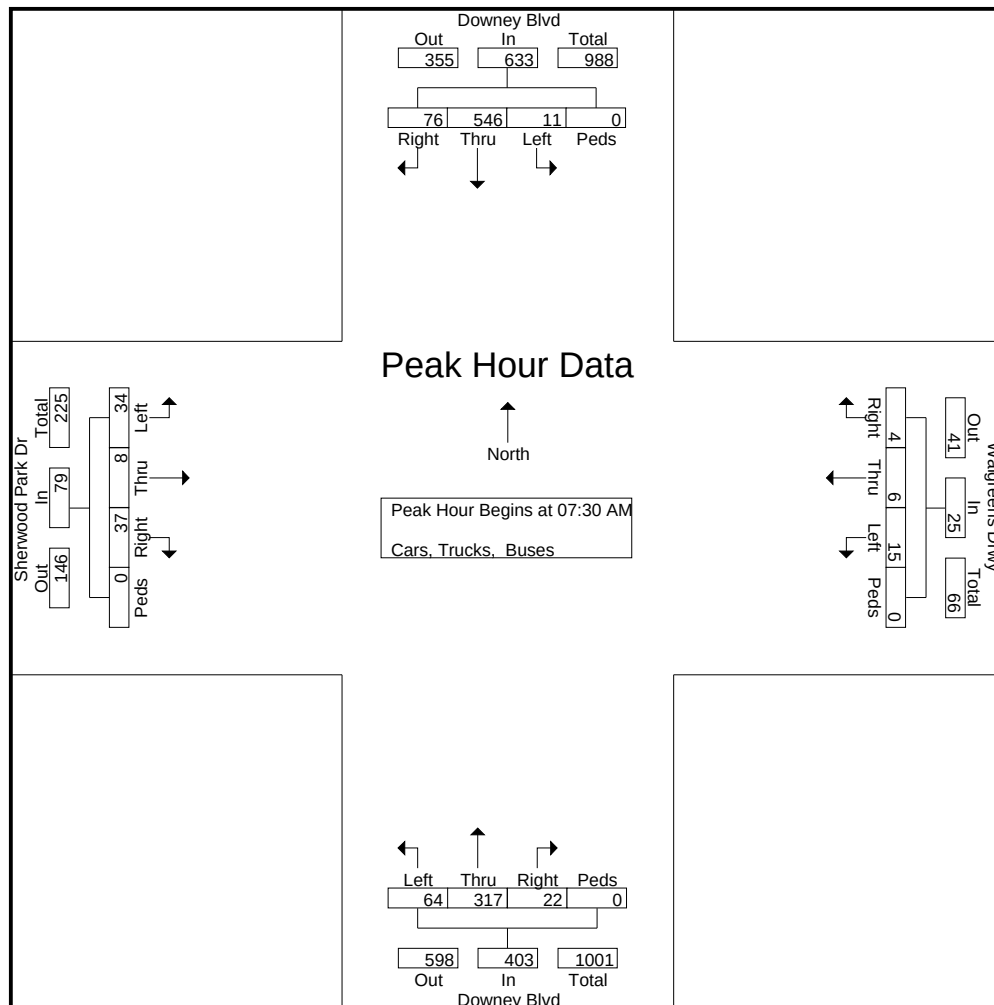
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TMC Data
Downey Blvd @ Sherwood Park Dr
7-9am | 4:30-6:30pm

File Name : 41500007
Site Code : 41480007
Start Date : 11/1/2017
Page No : 2

	Downey Blvd Northbound					Downey Blvd Southbound					Sherwood Park Dr Eastbound					Walgreens Drwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	14	78	7	0	99	2	134	16	0	152	9	3	6	0	18	5	2	1	0	8	277
07:45 AM	14	94	7	0	115	4	152	20	0	176	11	2	14	0	27	3	3	1	0	7	325
08:00 AM	22	67	3	0	92	3	128	18	0	149	8	1	5	0	14	4	0	0	0	4	259
08:15 AM	14	78	5	0	97	2	132	22	0	156	6	2	12	0	20	3	1	2	0	6	279
Total Volume	64	317	22	0	403	11	546	76	0	633	34	8	37	0	79	15	6	4	0	25	1140
% App. Total	15.9	78.7	5.5	0		1.7	86.3	12	0		43	10.1	46.8	0		60	24	16	0		
PHF	.727	.843	.786	.000	.876	.688	.898	.864	.000	.899	.773	.667	.661	.000	.731	.750	.500	.500	.000	.781	.877



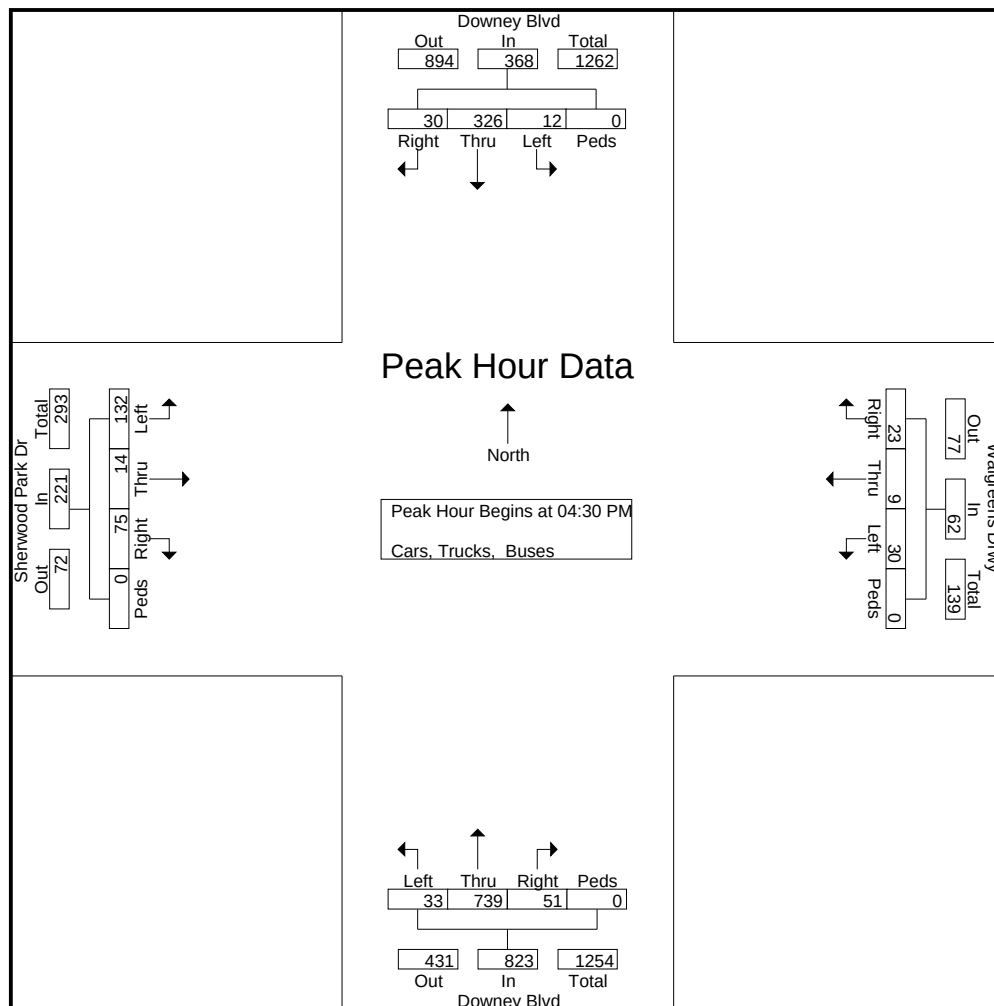
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TMC Data
Downey Blvd @ Sherwood Park Dr
7-9am | 4:30-6:30pm

File Name : 41500007
Site Code : 41480007
Start Date : 11/1/2017
Page No : 3

	Downey Blvd Northbound					Downey Blvd Southbound					Sherwood Park Dr Eastbound					Walgreens Drwy Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	11	171	12	0	194	3	73	8	0	84	25	4	14	0	43	6	4	3	0	13	334
04:45 PM	7	175	18	0	200	4	83	10	0	97	33	4	20	0	57	13	3	10	0	26	380
05:00 PM	8	217	10	0	235	4	98	10	0	112	49	4	25	0	78	7	1	6	0	14	439
05:15 PM	7	176	11	0	194	1	72	2	0	75	25	2	16	0	43	4	1	4	0	9	321
Total Volume	33	739	51	0	823	12	326	30	0	368	132	14	75	0	221	30	9	23	0	62	1474
% App. Total	4	89.8	6.2	0		3.3	88.6	8.2	0		59.7	6.3	33.9	0		48.4	14.5	37.1	0		
PHF	.750	.851	.708	.000	.876	.750	.832	.750	.000	.821	.673	.875	.750	.000	.708	.577	.563	.575	.000	.596	.839



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TMC Data
Downey Blvd @ Robinhood Trail

7-9am | 4:30-6:30pm

File Name : 41500016
Site Code : 41480016
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Downey Blvd Northbound					Downey Blvd Southbound					Sherwood Plaza Drwy Eastbound					Robinhood Trail Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	59	2	0	63	1	95	0	0	96	0	0	1	0	1	10	1	4	0	15	175
07:15 AM	2	68	1	0	71	1	109	0	0	110	0	0	0	0	0	9	0	0	0	9	190
07:30 AM	2	84	4	0	90	3	145	2	0	150	0	1	1	0	2	8	0	4	0	12	254
07:45 AM	3	78	10	0	91	2	146	1	0	149	0	0	0	0	0	26	0	6	0	32	272
Total	9	289	17	0	315	7	495	3	0	505	0	1	2	0	3	53	1	14	0	68	891
08:00 AM	3	68	5	0	76	6	136	2	0	144	0	0	1	0	1	20	1	7	0	28	249
08:15 AM	1	79	6	0	86	3	142	2	0	147	0	1	2	0	3	20	2	10	0	32	268
08:30 AM	6	79	3	0	88	4	93	2	0	99	1	0	1	0	2	10	1	10	0	21	210
08:45 AM	2	68	3	0	73	2	86	4	0	92	2	0	6	0	8	10	1	3	0	14	187
Total	12	294	17	0	323	15	457	10	0	482	3	1	10	0	14	60	5	30	0	95	914
*** BREAK ***																					
04:30 PM	0	179	12	0	191	1	65	0	0	66	2	1	5	0	8	5	2	3	0	10	275
04:45 PM	4	212	17	0	233	6	88	2	0	96	1	1	4	0	6	12	1	8	0	21	356
Total	4	391	29	0	424	7	153	2	0	162	3	2	9	0	14	17	3	11	0	31	631
05:00 PM	1	255	24	0	280	5	90	1	0	96	2	2	3	0	7	12	1	6	0	19	402
05:15 PM	2	172	16	0	190	9	61	0	0	70	2	0	3	0	5	11	1	13	0	25	290
05:30 PM	2	173	11	0	186	5	83	1	0	89	2	0	5	0	7	7	1	9	0	17	299
05:45 PM	1	154	3	0	158	3	74	0	0	77	5	0	1	0	6	6	2	10	0	18	259
Total	6	754	54	0	814	22	308	2	0	332	11	2	12	0	25	36	5	38	0	79	1250
06:00 PM	1	123	5	0	129	1	73	1	0	75	0	3	3	0	6	8	2	5	0	15	225
06:15 PM	1	92	3	0	96	0	71	1	0	72	2	0	0	0	2	4	0	4	0	8	178
Grand Total	33	1943	125	0	2101	52	1557	19	0	1628	19	9	36	0	64	178	16	102	0	296	4089
Apprch %	1.6	92.5	5.9	0		3.2	95.6	1.2	0		29.7	14.1	56.2	0		60.1	5.4	34.5	0		
Total %	0.8	47.5	3.1	0	51.4	1.3	38.1	0.5	0	39.8	0.5	0.2	0.9	0	1.6	4.4	0.4	2.5	0	7.2	

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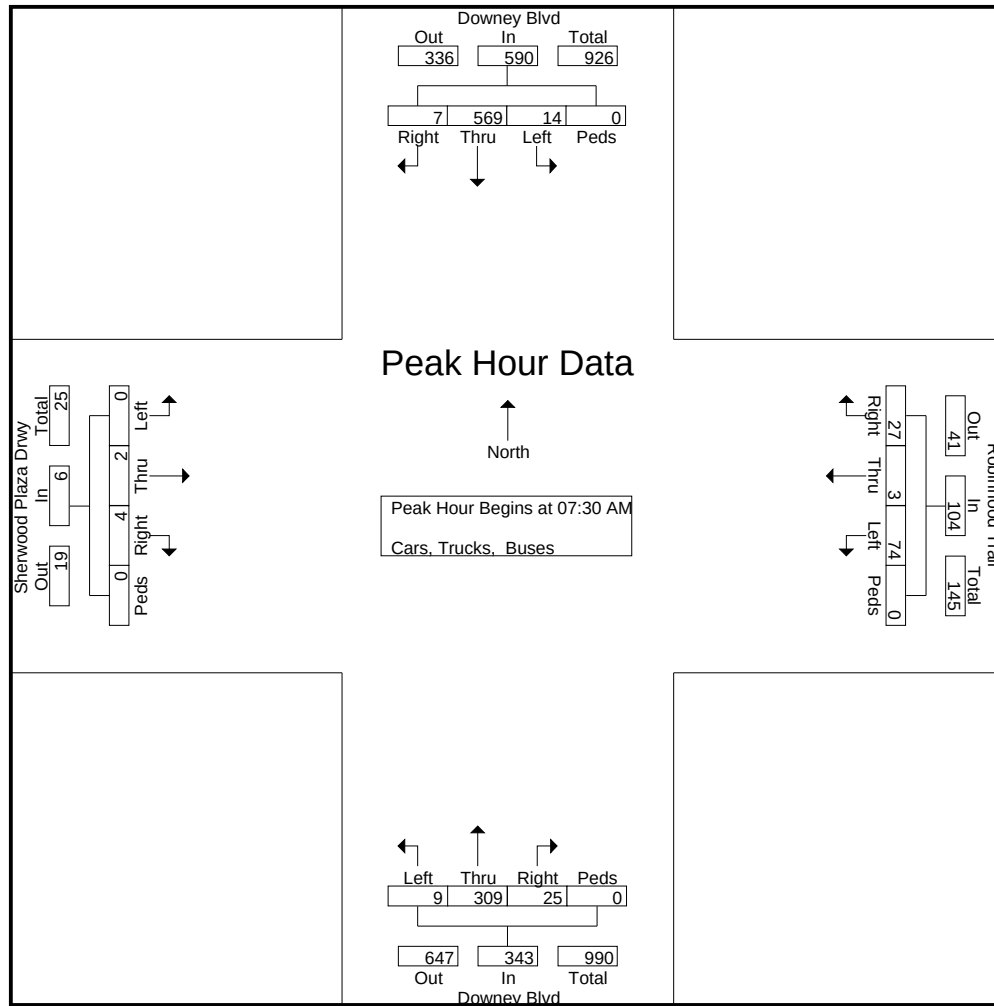
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TMC Data
Downey Blvd @ Robinhood Trail

7-9am | 4:30-6:30pm

File Name : 41500016
Site Code : 41480016
Start Date : 11/1/2017
Page No : 2

	Downey Blvd Northbound					Downey Blvd Southbound					Sherwood Plaza Drwy Eastbound					Robinhood Trail Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	84	4	0	90	3	145	2	0	150	0	1	1	0	2	8	0	4	0	12	254
07:45 AM	3	78	10	0	91	2	146	1	0	149	0	0	0	0	0	26	0	6	0	32	272
08:00 AM	3	68	5	0	76	6	136	2	0	144	0	0	1	0	1	20	1	7	0	28	249
08:15 AM	1	79	6	0	86	3	142	2	0	147	0	1	2	0	3	20	2	10	0	32	268
Total Volume	9	309	25	0	343	14	569	7	0	590	0	2	4	0	6	74	3	27	0	104	1043
% App. Total	2.6	90.1	7.3	0		2.4	96.4	1.2	0		0	33.3	66.7	0		71.2	2.9	26	0		
PHF	.750	.920	.625	.000	.942	.583	.974	.875	.000	.983	.000	.500	.500	.000	.500	.712	.375	.675	.000	.813	.959



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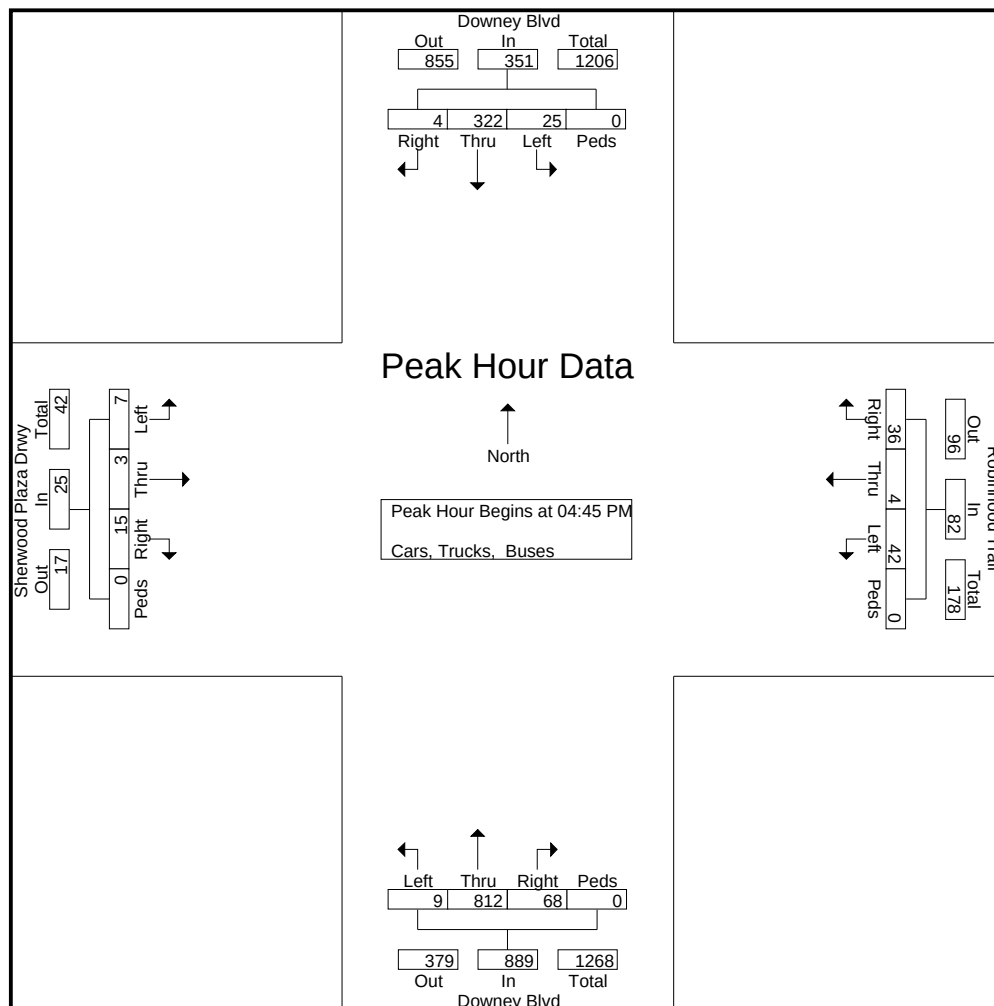
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TMC Data
Downey Blvd @ Robinhood Trail

7-9am | 4:30-6:30pm

File Name : 41500016
Site Code : 41480016
Start Date : 11/1/2017
Page No : 3

	Downey Blvd Northbound					Downey Blvd Southbound					Sherwood Plaza Drwy Eastbound					Robinhood Trail Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	212	17	0	233	6	88	2	0	96	1	1	4	0	6	12	1	8	0	21	356
05:00 PM	1	255	24	0	280	5	90	1	0	96	2	2	3	0	7	12	1	6	0	19	402
05:15 PM	2	172	16	0	190	9	61	0	0	70	2	0	3	0	5	11	1	13	0	25	290
05:30 PM	2	173	11	0	186	5	83	1	0	89	2	0	5	0	7	7	1	9	0	17	299
Total Volume	9	812	68	0	889	25	322	4	0	351	7	3	15	0	25	42	4	36	0	82	1347
% App. Total	1	91.3	7.6	0		7.1	91.7	1.1	0		28	12	60	0		51.2	4.9	43.9	0		
PHF	.563	.796	.708	.000	.794	.694	.894	.500	.000	.914	.875	.375	.750	.000	.893	.875	1.0	.692	.000	.820	.838



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TMC Data
Park Hill Dr/ SR 11 Bus @
Enota Ave/ Downey Blvd
7-9am | 4:30-6:30pm

File Name : 41500013
Site Code : 41480013
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Park Hill Dr Northbound					Park Hill Dr Southbound					Enota Ave Eastbound					Downey Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	61	24	0	88	47	101	20	0	168	33	26	7	0	66	8	28	25	0	61	383
07:15 AM	0	58	35	0	93	47	77	19	0	143	36	44	5	0	85	16	30	28	0	74	395
07:30 AM	1	83	21	0	105	66	153	26	0	245	48	57	4	0	109	15	27	26	0	68	527
07:45 AM	1	92	36	0	129	65	149	41	0	255	68	74	2	0	144	14	31	29	0	74	602
Total	5	294	116	0	415	225	480	106	0	811	185	201	18	0	404	53	116	108	0	277	1907
08:00 AM	0	124	24	0	148	60	172	43	0	275	59	64	1	0	124	15	27	25	0	67	614
08:15 AM	0	80	24	0	104	64	143	41	0	248	77	67	0	0	144	18	28	25	0	71	567
08:30 AM	1	54	15	0	70	42	130	47	0	219	37	49	1	0	87	12	26	24	0	62	438
08:45 AM	2	56	16	0	74	42	120	42	0	204	34	57	2	0	93	14	29	20	0	63	434
Total	3	314	79	0	396	208	565	173	0	946	207	237	4	0	448	59	110	94	0	263	2053
*** BREAK ***																					
04:30 PM	3	140	11	0	154	33	123	59	0	215	64	31	2	0	97	36	63	86	0	185	651
04:45 PM	2	143	15	0	160	30	113	59	0	202	60	25	4	0	89	39	78	77	0	194	645
Total	5	283	26	0	314	63	236	118	0	417	124	56	6	0	186	75	141	163	0	379	1296
05:00 PM	0	149	19	0	168	28	109	69	0	206	65	37	6	0	108	57	84	135	0	276	758
05:15 PM	2	166	12	0	180	29	125	68	0	222	55	31	3	0	89	41	62	102	0	205	696
05:30 PM	2	105	16	0	123	39	132	69	0	240	58	47	1	0	106	50	81	80	0	211	680
05:45 PM	2	122	13	0	137	34	140	73	0	247	70	30	3	0	103	36	61	68	0	165	652
Total	6	542	60	0	608	130	506	279	0	915	248	145	13	0	406	184	288	385	0	857	2786
06:00 PM	4	103	14	0	121	33	124	50	0	207	46	26	3	0	75	17	58	45	0	120	523
06:15 PM	5	93	5	0	103	32	98	34	0	164	37	33	2	0	72	16	44	47	0	107	446
Grand Total	28	1629	300	0	1957	691	2009	760	0	3460	847	698	46	0	1591	404	757	842	0	2003	9011
Apprch %	1.4	83.2	15.3	0		20	58.1	22	0		53.2	43.9	2.9	0		20.2	37.8	42	0		
Total %	0.3	18.1	3.3	0	21.7	7.7	22.3	8.4	0	38.4	9.4	7.7	0.5	0	17.7	4.5	8.4	9.3	0	22.2	

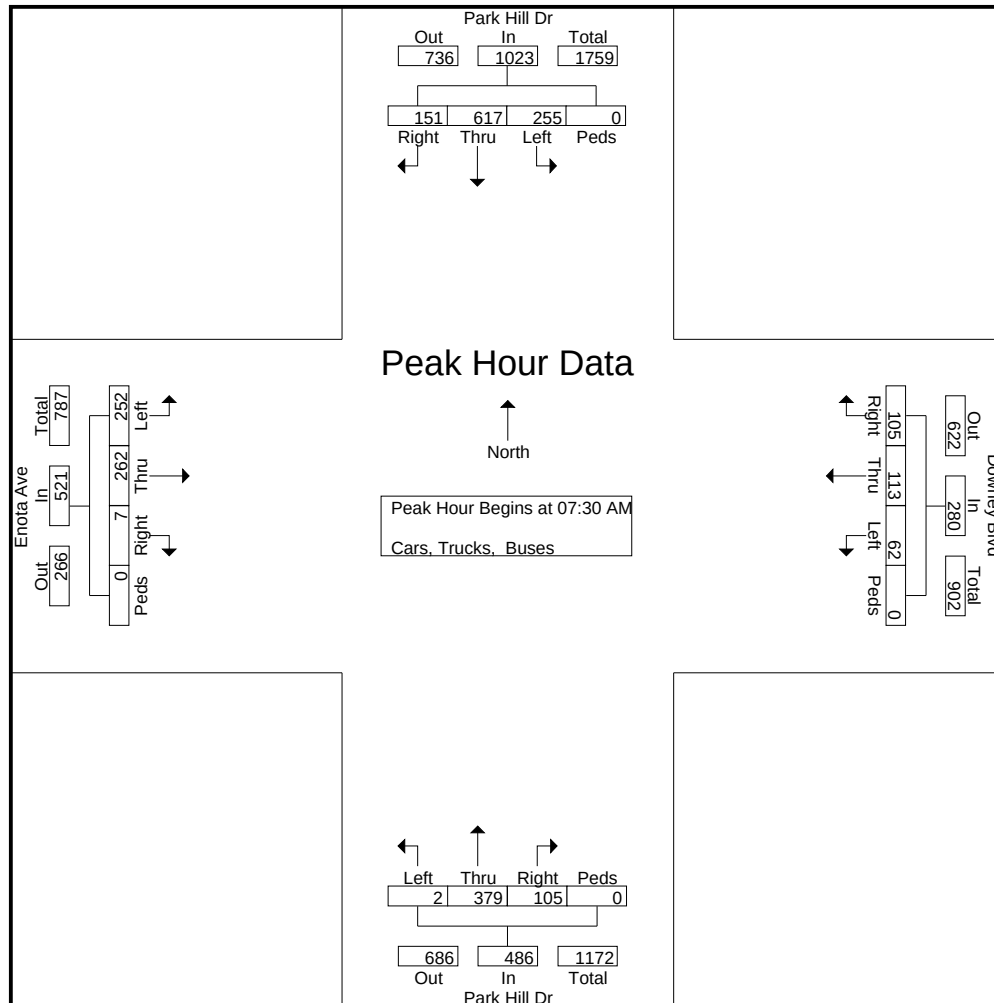
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TMC Data
Park Hill Dr/ SR 11 Bus @
Enota Ave/ Downey Blvd
7-9am | 4:30-6:30pm

File Name : 41500013
Site Code : 41480013
Start Date : 11/1/2017
Page No : 2

	Park Hill Dr Northbound					Park Hill Dr Southbound					Enota Ave Eastbound					Downey Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	1	83	21	0	105	66	153	26	0	245	48	57	4	0	109	15	27	26	0	68	527
07:45 AM	1	92	36	0	129	65	149	41	0	255	68	74	2	0	144	14	31	29	0	74	602
08:00 AM	0	124	24	0	148	60	172	43	0	275	59	64	1	0	124	15	27	25	0	67	614
08:15 AM	0	80	24	0	104	64	143	41	0	248	77	67	0	0	144	18	28	25	0	71	567
Total Volume	2	379	105	0	486	255	617	151	0	1023	252	262	7	0	521	62	113	105	0	280	2310
% App. Total	0.4	78	21.6	0		24.9	60.3	14.8	0		48.4	50.3	1.3	0		22.1	40.4	37.5	0		
PHF	.500	.764	.729	.000	.821	.966	.897	.878	.000	.930	.818	.885	.438	.000	.905	.861	.911	.905	.000	.946	.941



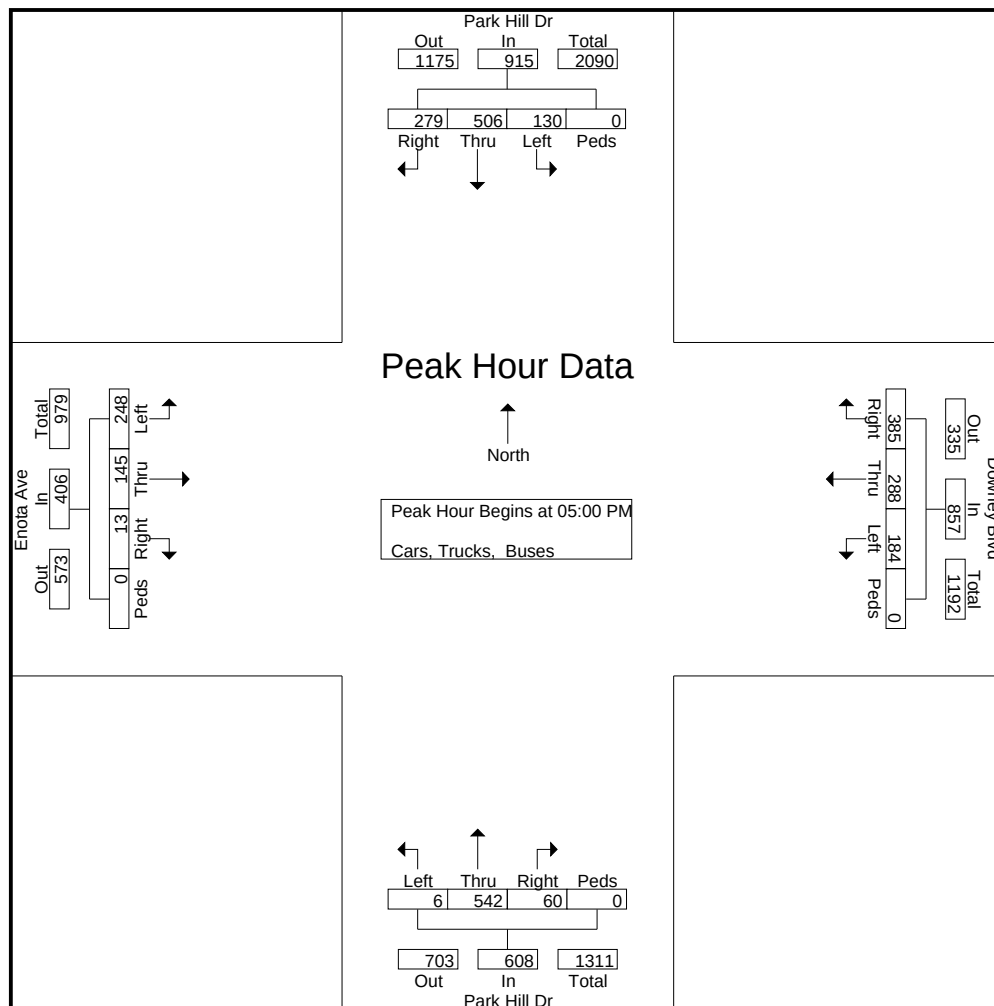
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TMC Data
Park Hill Dr/ SR 11 Bus @
Enota Ave/ Downey Blvd
7-9am | 4:30-6:30pm

File Name : 41500013
Site Code : 41480013
Start Date : 11/1/2017
Page No : 3

	Park Hill Dr Northbound					Park Hill Dr Southbound					Enota Ave Eastbound					Downey Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	149	19	0	168	28	109	69	0	206	65	37	6	0	108	57	84	135	0	276	758
05:15 PM	2	166	12	0	180	29	125	68	0	222	55	31	3	0	89	41	62	102	0	205	696
05:30 PM	2	105	16	0	123	39	132	69	0	240	58	47	1	0	106	50	81	80	0	211	680
05:45 PM	2	122	13	0	137	34	140	73	0	247	70	30	3	0	103	36	61	68	0	165	652
Total Volume	6	542	60	0	608	130	506	279	0	915	248	145	13	0	406	184	288	385	0	857	2786
% App. Total	1	89.1	9.9	0		14.2	55.3	30.5	0		61.1	35.7	3.2	0		21.5	33.6	44.9	0		
PHF	.750	.816	.789	.000	.844	.833	.904	.955	.000	.926	.886	.771	.542	.000	.940	.807	.857	.713	.000	.776	.919



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TMC Data
Park Hill Dr @ Lakeview Dr

7-9am | 4:30-6:30pm

File Name : 41500012
Site Code : 41480012
Start Date : 11/1/2017
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Park Hill Dr Northbound					Park Hill Dr Southbound					Eastbound					Lakeview Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	69	38	0	107	2	134	0	0	136	0	0	0	0	0	26	0	7	0	33	276
07:15 AM	0	82	58	0	140	6	173	0	0	179	0	0	0	0	0	20	0	5	0	25	344
07:30 AM	0	73	74	0	147	6	214	0	0	220	0	0	0	0	0	23	0	7	0	30	397
07:45 AM	0	88	105	0	193	7	203	0	0	210	0	0	0	0	0	41	0	7	0	48	451
Total	0	312	275	0	587	21	724	0	0	745	0	0	0	0	0	110	0	26	0	136	1468
08:00 AM	0	74	114	0	188	5	201	0	0	206	0	0	0	0	0	75	0	9	0	84	478
08:15 AM	0	95	114	0	209	7	219	0	0	226	0	0	0	0	0	70	0	12	0	82	517
08:30 AM	0	73	37	0	110	4	158	0	0	162	0	0	0	0	0	48	0	6	0	54	326
08:45 AM	0	82	25	0	107	4	177	0	0	181	0	0	0	0	0	30	0	5	0	35	323
Total	0	324	290	0	614	20	755	0	0	775	0	0	0	0	0	223	0	32	0	255	1644
*** BREAK ***																					
04:30 PM	0	232	50	0	282	9	147	0	0	156	0	0	0	0	0	50	0	9	0	59	497
04:45 PM	0	248	49	0	297	10	156	0	0	166	0	0	0	0	0	58	0	15	0	73	536
Total	0	480	99	0	579	19	303	0	0	322	0	0	0	0	0	108	0	24	0	132	1033
05:00 PM	0	244	40	0	284	7	153	0	0	160	0	0	0	0	0	44	0	7	0	51	495
05:15 PM	0	290	41	0	331	7	160	0	0	167	0	0	0	0	0	65	0	14	0	79	577
05:30 PM	0	228	39	0	267	9	176	0	0	185	0	0	0	0	0	58	0	8	0	66	518
05:45 PM	0	193	43	0	236	7	176	0	0	183	0	0	0	0	0	47	0	13	0	60	479
Total	0	955	163	0	1118	30	665	0	0	695	0	0	0	0	0	214	0	42	0	256	2069
06:00 PM	0	188	33	0	221	9	165	0	0	174	0	0	0	0	0	43	0	10	0	53	448
06:15 PM	0	171	32	0	203	8	151	0	0	159	0	0	0	0	0	41	0	10	0	51	413
Grand Total	0	2430	892	0	3322	107	2763	0	0	2870	0	0	0	0	0	739	0	144	0	883	7075
Apprch %	0	73.1	26.9	0		3.7	96.3	0	0		0	0	0	0		83.7	0	16.3	0		
Total %	0	34.3	12.6	0	47	1.5	39.1	0	0	40.6	0	0	0	0	0	10.4	0	2	0	12.5	

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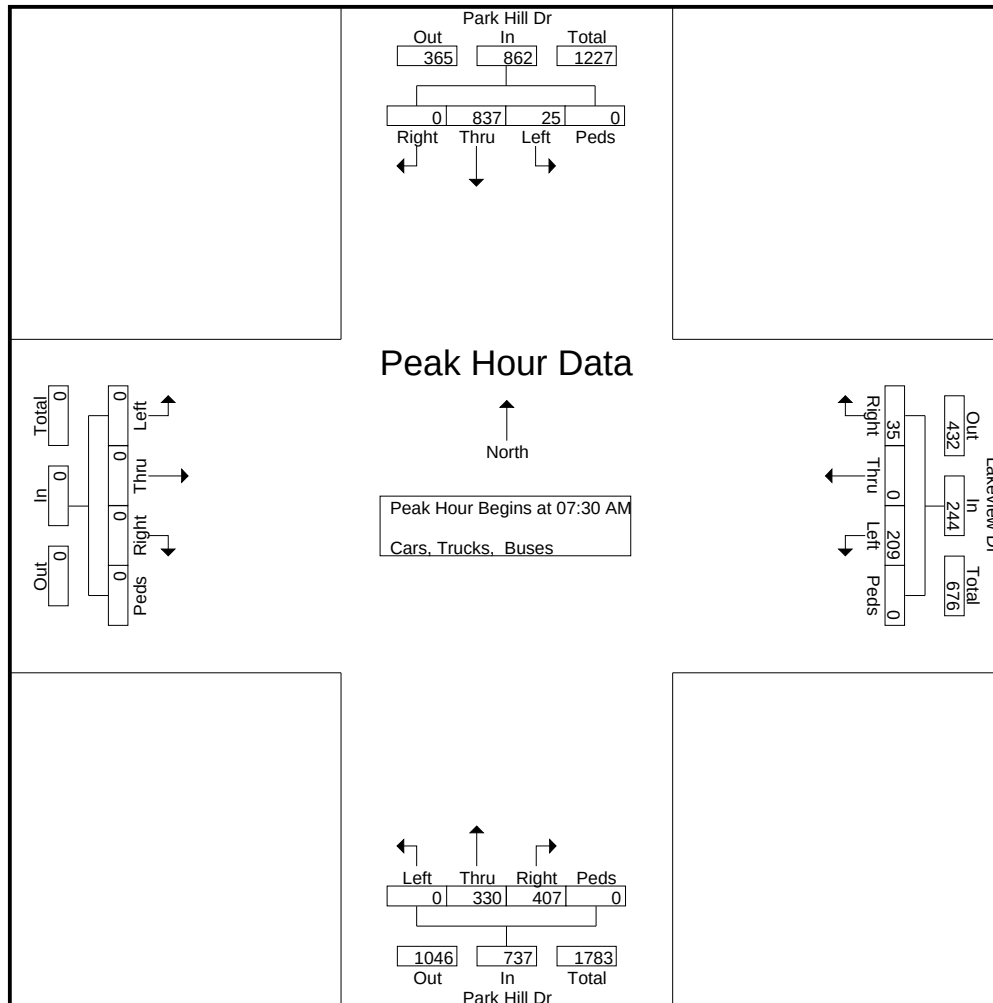
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TMC Data
Park Hill Dr @ Lakeview Dr

7-9am | 4:30-6:30pm

File Name : 41500012
Site Code : 41480012
Start Date : 11/1/2017
Page No : 2

	Park Hill Dr Northbound					Park Hill Dr Southbound					Eastbound					Lakeview Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	73	74	0	147	6	214	0	0	220	0	0	0	0	0	23	0	7	0	30	397
07:45 AM	0	88	105	0	193	7	203	0	0	210	0	0	0	0	0	41	0	7	0	48	451
08:00 AM	0	74	114	0	188	5	201	0	0	206	0	0	0	0	0	75	0	9	0	84	478
08:15 AM	0	95	114	0	209	7	219	0	0	226	0	0	0	0	0	70	0	12	0	82	517
Total Volume	0	330	407	0	737	25	837	0	0	862	0	0	0	0	0	209	0	35	0	244	1843
% App. Total	0	44.8	55.2	0		2.9	97.1	0	0		0	0	0	0		85.7	0	14.3	0		
PHF	.000	.868	.893	.000	.882	.893	.955	.000	.000	.954	.000	.000	.000	.000	.000	.697	.000	.729	.000	.726	.891



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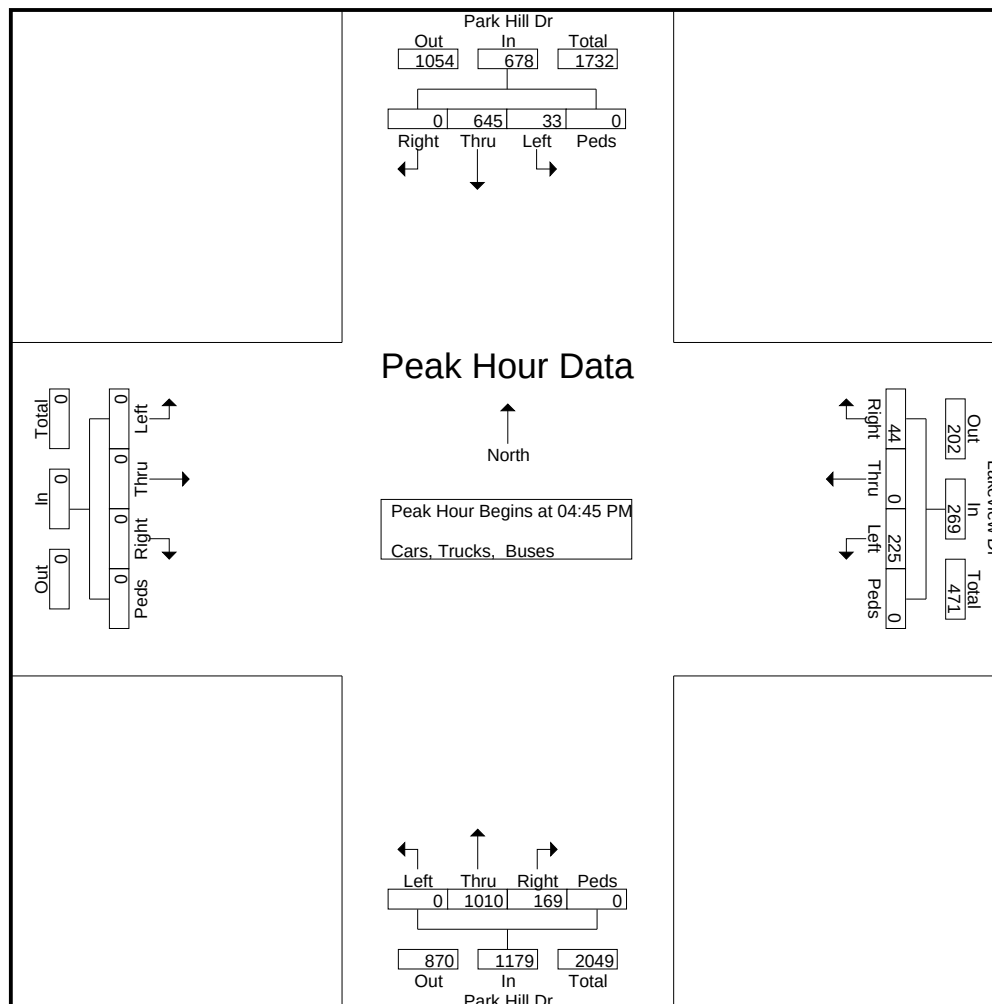
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TMC Data
Park Hill Dr @ Lakeview Dr

7-9am | 4:30-6:30pm

File Name : 41500012
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Page No : 3

	Park Hill Dr Northbound					Park Hill Dr Southbound					Eastbound					Lakeview Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	248	49	0	297	10	156	0	0	166	0	0	0	0	0	58	0	15	0	73	536
05:00 PM	0	244	40	0	284	7	153	0	0	160	0	0	0	0	0	44	0	7	0	51	495
05:15 PM	0	290	41	0	331	7	160	0	0	167	0	0	0	0	0	65	0	14	0	79	577
05:30 PM	0	228	39	0	267	9	176	0	0	185	0	0	0	0	0	58	0	8	0	66	518
Total Volume	0	1010	169	0	1179	33	645	0	0	678	0	0	0	0	0	225	0	44	0	269	2126
% App. Total	0	85.7	14.3	0		4.9	95.1	0	0		0	0	0	0		83.6	0	16.4	0		
PHF	.000	.871	.862	.000	.890	.825	.916	.000	.000	.916	.000	.000	.000	.000	.000	.865	.000	.733	.000	.851	.921



Appendix B

Intersection Analysis Methodology

Intersection Analysis Methodology

The methodology used for evaluating traffic operations at intersections is presented in the Transportation Research Board's Highway Capacity Manual, 2016 edition (HCM 6). Synchro 10 software, which emulates the HCM 6 methodology, was used for all analyses. The following is an overview of the methodology employed for the analysis of signalized intersections and roundabouts and stop-sign controlled (unsignalized) intersections. Levels of service (LOS) are assigned letters A through F. LOS A indicates operations with very low control delay while LOS F describes operations with high control delay. LOS F is considered to be unacceptable by most drivers, while LOS E is typically considered to be the limit of acceptable delay.

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

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

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

Source: Highway Capacity Manual 6

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

Table B – Level of Service Criteria for Unsignalized Intersections

Control Delay (s/veh)	LOS
0 – 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Source: Highway Capacity Manual 6

Appendix C

Existing Intersection Operational Analysis

Limestone

1: Cleveland Highway & Limestone Parkway

existing a.m.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	0	163	12	752	631
Future Volume (veh/h)	6	0	163	12	752	631
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	0	230	17	864	725
Peak Hour Factor	0.42	0.92	0.71	0.71	0.87	0.87
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	0	0	1270	1076	1173	1746
Arrive On Green	0.00	0.00	0.68	0.68	0.19	0.93
Sat Flow, veh/h	0	0	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	230	17	864	725
Grp Sat Flow(s),veh/h/ln	0	0	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	2.7	0.2	5.7	2.5
Cycle Q Clear(g_c), s	0.0	0.0	2.7	0.2	5.7	2.5
Prop In Lane	0.00	0.00		1.00	1.00	
Lane Grp Cap(c), veh/h	0	0	1270	1076	1173	1746
V/C Ratio(X)	0.00	0.00	0.18	0.02	0.74	0.42
Avail Cap(c_a), veh/h	0	0	1270	1076	1907	1746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	3.5	3.1	1.4	0.2
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.8	0.1	0.3	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	3.8	3.2	2.3	0.9
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		247		1589	
Approach Delay, s/veh	0.0		3.8		1.7	
Approach LOS			A		A	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.3	44.7			60.0	0.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	36.0	16.0			56.0	16.0
Max Q Clear Time (g_c+I1), s	7.7	4.7			4.5	0.0
Green Ext Time (p_c), s	3.6	1.0			6.3	0.0
Intersection Summary						
HCM 6th Ctrl Delay			2.0			
HCM 6th LOS			A			

Limestone

97: Cleveland Highway & Limestone Parkway

existing a.m.

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						 
Traffic Vol, veh/h	0	213	163	0	0	1383
Future Vol, veh/h	0	213	163	0	0	1383
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	87	71	92	92	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	245	230	0	0	1590
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	230	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	808	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	808	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.4	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 808		-			
HCM Lane V/C Ratio	- 0.303		-			
HCM Control Delay (s)	- 11.4		-			
HCM Lane LOS	- B		-			
HCM 95th %tile Q(veh)	- 1.3		-			

Limestone

2: Limestone Parkway & Clarks Bridge Road

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	75	151	357	148	14	118	207	56	22	732	34
Future Volume (veh/h)	2	75	151	357	148	14	118	207	56	22	732	34
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	95	191	476	197	19	131	230	62	24	813	38
Peak Hour Factor	0.79	0.79	0.79	0.75	0.75	0.75	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	47	110	216	618	799	77	254	1499	668	507	1499	668
Arrive On Green	0.20	0.20	0.20	0.23	0.48	0.48	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	5	561	1103	1781	1679	162	648	3554	1585	1087	3554	1585
Grp Volume(v), veh/h	289	0	0	476	0	216	131	230	62	24	813	38
Grp Sat Flow(s),veh/h/ln	1669	0	0	1781	0	1841	648	1777	1585	1087	1777	1585
Q Serve(g_s), s	2.0	0.0	0.0	15.7	0.0	5.4	14.9	3.1	1.8	1.1	13.4	1.1
Cycle Q Clear(g_c), s	13.2	0.0	0.0	15.7	0.0	5.4	28.3	3.1	1.8	4.2	13.4	1.1
Prop In Lane	0.01		0.66	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	0	0	618	0	877	254	1499	668	507	1499	668
V/C Ratio(X)	0.77	0.00	0.00	0.77	0.00	0.25	0.52	0.15	0.09	0.05	0.54	0.06
Avail Cap(c_a), veh/h	388	0	0	642	0	918	254	1499	668	507	1499	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	0.0	16.2	0.0	12.2	27.6	14.0	13.6	15.3	17.0	13.4
Incr Delay (d2), s/veh	9.1	0.0	0.0	5.5	0.0	0.1	7.3	0.2	0.3	0.2	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	6.0	0.0	0.0	6.8	0.0	2.1	2.7	1.2	0.7	0.3	5.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	0.0	0.0	21.7	0.0	12.3	34.9	14.2	13.9	15.5	18.4	13.6
LnGrp LOS	D	A	A	C	A	B	C	B	B	B	B	B
Approach Vol, veh/h		289			692			423			875	
Approach Delay, s/veh		39.7			18.8			20.6			18.1	
Approach LOS		D			B			C			B	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		37.0	21.9	19.3		37.0		41.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		33.0	19.0	16.0		33.0		39.0				
Max Q Clear Time (g_c+I1), s		30.3	17.7	15.2		15.4		7.4				
Green Ext Time (p_c), s		0.7	0.3	0.1		5.7		1.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.5									
HCM 6th LOS			C									

Limestone

3: Limestone Parkway & Beverly Road

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (veh/h)	37	127	131	25	121	56	173	508	56	70	1019	112
Future Volume (veh/h)	37	127	131	25	121	56	173	508	56	70	1019	112
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1870	1885	1870	1870	1870	1870	1885
Adj Flow Rate, veh/h	42	143	147	30	144	67	194	571	63	82	1199	132
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.89	0.89	0.89	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	1	1	1	2	1	2	2	2	2	1
Cap, veh/h	88	177	164	98	357	356	306	2348	1047	576	2348	1056
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	134	789	733	165	1590	1585	415	3554	1585	793	3554	1598
Grp Volume(v), veh/h	332	0	0	174	0	67	194	571	63	82	1199	132
Grp Sat Flow(s),veh/h/ln	1655	0	0	1755	0	1585	415	1777	1585	793	1777	1598
Q Serve(g_s), s	8.0	0.0	0.0	0.0	0.0	2.4	31.3	4.5	1.0	3.2	12.0	2.1
Cycle Q Clear(g_c), s	13.5	0.0	0.0	5.5	0.0	2.4	43.4	4.5	1.0	7.8	12.0	2.1
Prop In Lane	0.13		0.44	0.17		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	0	0	454	0	356	306	2348	1047	576	2348	1056
V/C Ratio(X)	0.77	0.00	0.00	0.38	0.00	0.19	0.63	0.24	0.06	0.14	0.51	0.13
Avail Cap(c_a), veh/h	439	0	0	464	0	364	306	2348	1047	576	2348	1056
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	0.0	23.1	0.0	21.9	17.1	4.8	4.2	6.3	6.0	4.4
Incr Delay (d2), s/veh	8.2	0.0	0.0	0.5	0.0	0.3	9.6	0.2	0.1	0.5	0.8	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	6.0	0.0	0.0	2.4	0.0	0.9	3.4	1.3	0.3	0.5	3.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	0.0	0.0	23.6	0.0	22.1	26.8	5.0	4.3	6.9	6.8	4.6
LnGrp LOS	C	A	A	C	A	C	C	A	A	A	A	A
Approach Vol, veh/h		332			241			828			1413	
Approach Delay, s/veh		34.3			23.2			10.1			6.6	
Approach LOS		C			C			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.0		19.6		50.0		19.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		46.0		16.0		46.0		16.0				
Max Q Clear Time (g_c+I1), s		45.4		15.5		14.0		7.5				
Green Ext Time (p_c), s		0.4		0.1		12.6		0.7				
Intersection Summary												
HCM 6th Ctrl Delay				12.3								
HCM 6th LOS				B								

Limestone

4: Limestone Parkway & Kroger Access

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↰	↰	↕	↰	↰	↕	↰
Traffic Volume (veh/h)	0	0	0	9	0	40	33	691	12	125	1070	0
Future Volume (veh/h)	0	0	0	9	0	40	33	691	12	125	1070	0
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1885	0	1885	1870	1870	1885	1885	1870	1870
Adj Flow Rate, veh/h				16	0	69	36	735	13	142	1216	0
Peak Hour Factor				0.58	0.92	0.58	0.92	0.94	0.94	0.88	0.88	0.92
Percent Heavy Veh, %				1	0	1	2	2	1	1	2	2
Cap, veh/h				106	0	94	435	2176	978	651	2736	1220
Arrive On Green				0.06	0.00	0.06	0.61	0.61	0.61	0.07	0.77	0.00
Sat Flow, veh/h				1795	0	1598	459	3554	1598	1795	3554	1585
Grp Volume(v), veh/h				16	0	69	36	735	13	142	1216	0
Grp Sat Flow(s),veh/h/ln				1795	0	1598	459	1777	1598	1795	1777	1585
Q Serve(g_s), s				0.4	0.0	2.0	1.5	4.7	0.1	1.1	5.6	0.0
Cycle Q Clear(g_c), s				0.4	0.0	2.0	1.5	4.7	0.1	1.1	5.6	0.0
Prop In Lane				1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				106	0	94	435	2176	978	651	2736	1220
V/C Ratio(X)				0.15	0.00	0.73	0.08	0.34	0.01	0.22	0.44	0.00
Avail Cap(c_a), veh/h				614	0	547	435	2176	978	714	2736	1220
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				20.9	0.0	21.6	3.8	4.4	3.5	2.5	1.9	0.0
Incr Delay (d2), s/veh				0.7	0.0	10.4	0.4	0.4	0.0	0.2	0.5	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.9	0.1	1.1	0.0	0.1	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.5	0.0	32.0	4.2	4.9	3.6	2.7	2.4	0.0
LnGrp LOS				C	A	C	A	A	A	A	A	A
Approach Vol, veh/h					85			784			1358	
Approach Delay, s/veh					30.0			4.8			2.4	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	7.4	32.6				40.0		6.8				
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0				
Max Green Setting (Gmax), s	5.0	27.0				36.0		16.0				
Max Q Clear Time (g_c+I1), s	3.1	6.7				7.6		4.0				
Green Ext Time (p_c), s	0.1	5.7				10.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				4.3								
HCM 6th LOS				A								

Limestone

5: Jesse Jewell Parkway & Limestone Parkway/Textile Way

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	579	58	427	67	54	10	362	342	65	24	1560	306
Future Volume (veh/h)	579	58	427	67	54	10	362	342	65	24	1560	306
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	752	75	555	86	69	13	402	380	72	26	1677	329
Peak Hour Factor	0.77	0.77	0.77	0.78	0.78	0.78	0.90	0.90	0.90	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	628	70	517	65	223	42	314	1803	804	511	1551	692
Arrive On Green	0.18	0.36	0.36	0.15	0.15	0.15	0.09	0.51	0.51	0.02	0.44	0.44
Sat Flow, veh/h	3456	192	1422	796	1530	288	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	752	0	630	86	0	82	402	380	72	26	1677	329
Grp Sat Flow(s),veh/h/ln	1728	0	1614	796	0	1818	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	20.0	0.0	40.0	0.0	0.0	4.4	10.0	6.5	2.6	0.9	48.0	16.2
Cycle Q Clear(g_c), s	20.0	0.0	40.0	16.0	0.0	4.4	10.0	6.5	2.6	0.9	48.0	16.2
Prop In Lane	1.00		0.88	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	628	0	587	65	0	265	314	1803	804	511	1551	692
V/C Ratio(X)	1.20	0.00	1.07	1.31	0.00	0.31	1.28	0.21	0.09	0.05	1.08	0.48
Avail Cap(c_a), veh/h	628	0	587	65	0	265	314	1803	804	540	1551	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	0.0	35.0	55.0	0.0	42.1	50.0	14.9	14.0	16.5	31.0	22.0
Incr Delay (d2), s/veh	103.5	0.0	58.3	216.4	0.0	0.7	148.1	0.3	0.2	0.0	48.3	2.3
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	17.5	0.0	24.8	5.7	0.0	2.0	10.8	2.7	1.0	0.4	30.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.5	0.0	93.3	271.4	0.0	42.7	198.1	15.2	14.2	16.5	79.3	24.4
LnGrp LOS	F	A	F	F	A	D	F	B	B	B	F	C
Approach Vol, veh/h		1382			168			854			2032	
Approach Delay, s/veh		123.3			159.8			101.2			69.6	
Approach LOS		F			F			F			E	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	59.8		44.0	14.0	52.0	24.0	20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	54.0		40.0	10.0	48.0	20.0	16.0				
Max Q Clear Time (g_c+I1), s	2.9	8.5		42.0	12.0	50.0	22.0	18.0				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			95.9									
HCM 6th LOS			F									

Limestone

6: Textile Way/White Sulphur Road & Jesse Jewell Parkway

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	884	1	36	1611	157	1	7	20	280	8	116
Future Volume (veh/h)	78	884	1	36	1611	157	1	7	20	280	8	116
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	940	1	41	1852	180	1	8	23	337	10	140
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	2164	965	359	1866	832	302	76	219	445	32	451
Arrive On Green	0.04	0.61	0.61	0.53	0.53	0.53	0.18	0.18	0.18	0.08	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	596	3554	1585	1237	426	1224	1781	107	1495
Grp Volume(v), veh/h	83	940	1	41	1852	180	1	0	31	337	0	150
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	596	1777	1585	1237	0	1650	1781	0	1601
Q Serve(g_s), s	1.8	12.6	0.0	3.5	46.2	5.4	0.1	0.0	1.4	7.0	0.0	6.5
Cycle Q Clear(g_c), s	1.8	12.6	0.0	8.6	46.2	5.4	0.1	0.0	1.4	7.0	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.93
Lane Grp Cap(c), veh/h	152	2164	965	359	1866	832	302	0	295	445	0	483
V/C Ratio(X)	0.55	0.43	0.00	0.11	0.99	0.22	0.00	0.00	0.11	0.76	0.00	0.31
Avail Cap(c_a), veh/h	162	2184	974	359	1866	832	302	0	295	445	0	483
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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	9.3	6.8	13.6	21.1	11.4	30.2	0.0	30.8	31.1	0.0	24.1
Incr Delay (d2), s/veh	3.3	0.1	0.0	0.1	19.0	0.1	0.0	0.0	0.7	7.4	0.0	1.7
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	1.0	4.4	0.0	0.5	22.2	1.8	0.0	0.0	0.6	4.3	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	9.4	6.8	13.7	40.0	11.5	30.2	0.0	31.5	38.5	0.0	25.7
LnGrp LOS	C	A	A	B	D	B	C	A	C	D	A	C
Approach Vol, veh/h		1024			2073			32			487	
Approach Delay, s/veh		10.7			37.0			31.4			34.5	
Approach LOS		B			D			C			C	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	20.0		58.5		31.0	7.5	51.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	7.0	16.0		55.0		27.0	4.0	47.0				
Max Q Clear Time (g_c+I1), s	9.0	3.4		14.6		8.5	3.8	48.2				
Green Ext Time (p_c), s	0.0	0.1		8.4		0.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				29.2								
HCM 6th LOS				C								

Limestone

7: I-985 southbound & Jesse Jewell Parkway

existing a.m.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑		↑↑
Traffic Volume (veh/h)	0	344	905	396	1302	0	0	0	0	44	0	614
Future Volume (veh/h)	0	344	905	396	1302	0	0	0	0	44	0	614
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	0	1870
Adj Flow Rate, veh/h	0	382	0	430	1415	0				60	0	841
Peak Hour Factor	0.92	0.90	0.90	0.92	0.92	0.92				0.73	0.92	0.73
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1043		478	1754	0				683	0	1070
Arrive On Green	0.00	0.29	0.00	0.14	0.49	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	3647	1585	3456	3647	0				1781	0	2790
Grp Volume(v), veh/h	0	382	0	430	1415	0				60	0	841
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0				1781	0	1395
Q Serve(g_s), s	0.0	5.5	0.0	8.0	21.8	0.0				1.4	0.0	17.3
Cycle Q Clear(g_c), s	0.0	5.5	0.0	8.0	21.8	0.0				1.4	0.0	17.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1043		478	1754	0				683	0	1070
V/C Ratio(X)	0.00	0.37		0.90	0.81	0.00				0.09	0.00	0.79
Avail Cap(c_a), veh/h	0	1312		478	2023	0				683	0	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.81	0.00	0.74	0.74	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.2	0.0	27.6	13.9	0.0				12.8	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	15.5	1.6	0.0				0.1	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	0.0	4.1	7.8	0.0				0.5	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.4	0.0	43.1	15.5	0.0				12.8	0.0	21.6
LnGrp LOS	A	B		D	B	A				B	A	C
Approach Vol, veh/h		382	A		1845						901	
Approach Delay, s/veh		18.4			21.9						21.1	
Approach LOS		B			C						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			13.0	23.1		28.9		36.1				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			9.0	24.0		20.0		37.0				
Max Q Clear Time (g_c+I1), s			10.0	7.5		19.3		23.8				
Green Ext Time (p_c), s			0.0	2.2		0.3		8.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.2									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

8: I-985 northbound & Jesse Jewell Parkway

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 		 			
Traffic Volume (veh/h)	130	265	0	0	1002	36	677	0	92	0	0	0
Future Volume (veh/h)	130	265	0	0	1002	36	677	0	92	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	138	282	0	0	1089	39	761	0	103			
Peak Hour Factor	0.94	0.94	0.92	0.92	0.92	0.92	0.89	0.92	0.89			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	405	1555	0	0	1555	694	1518	0	1226			
Arrive On Green	0.44	0.44	0.00	0.00	0.44	0.44	0.44	0.00	0.44			
Sat Flow, veh/h	968	3647	0	0	3647	1585	3456	0	2790			
Grp Volume(v), veh/h	138	282	0	0	1089	39	761	0	103			
Grp Sat Flow(s),veh/h/ln	484	1777	0	0	1777	1585	1728	0	1395			
Q Serve(g_s), s	8.8	3.2	0.0	0.0	16.2	0.9	10.3	0.0	1.4			
Cycle Q Clear(g_c), s	24.9	3.2	0.0	0.0	16.2	0.9	10.3	0.0	1.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	405	1555	0	0	1555	694	1518	0	1226			
V/C Ratio(X)	0.34	0.18	0.00	0.00	0.70	0.06	0.50	0.00	0.08			
Avail Cap(c_a), veh/h	458	1750	0	0	1750	780	1518	0	1226			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.9	11.2	0.0	0.0	14.8	10.5	13.1	0.0	10.6			
Incr Delay (d2), s/veh	0.5	0.1	0.0	0.0	1.1	0.0	0.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.0	1.1	0.0	0.0	5.9	0.3	3.6	0.0	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	11.2	0.0	0.0	15.9	10.6	13.4	0.0	10.6			
LnGrp LOS	C	B	A	A	B	B	B	A	B			
Approach Vol, veh/h	420					1128		864				
Approach Delay, s/veh	15.9					15.7		13.0				
Approach LOS	B					B		B				
Timer - Assigned Phs	2		4					8				
Phs Duration (G+Y+Rc), s	32.6		32.4					32.4				
Change Period (Y+Rc), s	4.0		4.0					4.0				
Max Green Setting (Gmax), s	25.0		32.0					32.0				
Max Q Clear Time (g_c+l1), s	12.3		26.9					18.2				
Green Ext Time (p_c), s	2.9		1.5					6.7				
Intersection Summary												
HCM 6th Ctrl Delay			14.8									
HCM 6th LOS			B									

Limestone

9: Lakeview Drive & Nottingham Drive/Beverly Road

existing a.m.

Intersection	
Intersection Delay, s/veh	21.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	21	2	73	45	253	2	72	26	246	143	8
Future Vol, veh/h	4	21	2	73	45	253	2	72	26	246	143	8
Peak Hour Factor	0.68	0.68	0.68	0.86	0.86	0.86	0.74	0.74	0.74	0.77	0.77	0.77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	6	31	3	85	52	294	3	97	35	319	186	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	18.5	10.9	28.2
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	15%	20%	62%
Vol Thru, %	72%	78%	12%	36%
Vol Right, %	26%	7%	68%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	27	371	397
LT Vol	2	4	73	246
Through Vol	72	21	45	143
RT Vol	26	2	253	8
Lane Flow Rate	135	40	431	516
Geometry Grp	1	1	1	1
Degree of Util (X)	0.226	0.075	0.656	0.807
Departure Headway (Hd)	6.033	6.758	5.475	5.635
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	589	533	656	639
Service Time	4.128	4.758	3.549	3.701
HCM Lane V/C Ratio	0.229	0.075	0.657	0.808
HCM Control Delay	10.9	10.3	18.5	28.2
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	0.9	0.2	4.9	8.2

Limestone

10: Myrtle Street/Quarry Street & Jesse Jewell Parkway

existing a.m.

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	727	28	31	2036	10	8	1	28	3	1	21
Future Vol, veh/h	27	727	28	31	2036	10	8	1	28	3	1	21
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	-	-	-3	-
Peak Hour Factor	94	94	94	91	91	91	51	51	51	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	773	30	34	2237	11	16	2	55	3	1	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2248	0	0	803	0	0	2033	3162	402	2757	3172	1124
Stage 1	-	-	-	-	-	-	846	846	-	2311	2311	-
Stage 2	-	-	-	-	-	-	1187	2316	-	446	861	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	6.94	5.94	6.64
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	226	-	-	817	-	-	33	10	598	15	17	219
Stage 1	-	-	-	-	-	-	323	377	-	57	105	-
Stage 2	-	-	-	-	-	-	200	71	-	605	428	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	226	-	-	817	-	-	24	8	598	10	14	219
Mov Cap-2 Maneuver	-	-	-	-	-	-	24	8	-	10	14	-
Stage 1	-	-	-	-	-	-	282	329	-	50	101	-
Stage 2	-	-	-	-	-	-	169	68	-	476	373	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.1			201.4			132.7		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	73	226	-	-	817	-	-	53
HCM Lane V/C Ratio	0.994	0.127	-	-	0.042	-	-	0.53
HCM Control Delay (s)	201.4	23.2	-	-	9.6	-	-	132.7
HCM Lane LOS	F	C	-	-	A	-	-	F
HCM 95th %tile Q(veh)	5.2	0.4	-	-	0.1	-	-	2

Limestone

14: South Enota Drive & Robinhood Trail

existing a.m.

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	0	2	4	74	3	27	9	309	25	14	569	7
Future Vol, veh/h	0	2	4	74	3	27	9	309	25	14	569	7
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	50	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	81	81	81	94	94	94	98	98	98
Heavy Vehicles, %	2	1	2	1	1	1	2	2	1	1	2	2
Mvmt Flow	0	4	8	91	4	33	10	329	27	14	581	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	978	989	585	982	979	343	588	0	0	356	0	0
Stage 1	613	613	-	363	363	-	-	-	-	-	-	-
Stage 2	365	376	-	619	616	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	6.11	5.51	5.71	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	230	248	511	301	330	736	987	-	-	1208	-	-
Stage 1	480	485	-	728	693	-	-	-	-	-	-	-
Stage 2	654	618	-	568	574	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	214	243	511	288	323	736	987	-	-	1208	-	-
Mov Cap-2 Maneuver	214	243	-	288	323	-	-	-	-	-	-	-
Stage 1	475	479	-	721	686	-	-	-	-	-	-	-
Stage 2	615	612	-	548	567	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.9		19.9		0.2		0.2					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	987	-	-	374	289	736	1208	-	-			
HCM Lane V/C Ratio	0.01	-	-	0.032	0.329	0.045	0.012	-	-			
HCM Control Delay (s)	8.7	-	-	14.9	23.4	10.1	8	-	-			
HCM Lane LOS	A	-	-	B	C	B	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.1	1.4	0.1	0	-	-			

Limestone

11: Terrace Street/Community Way & Jesse Jewell Parkway

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	715	20	74	1847	124	8	25	5	64	1	264
Future Volume (veh/h)	242	715	20	74	1847	124	8	25	5	64	1	264
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1870	1870	1885	1870	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	260	769	22	80	2008	135	12	37	7	90	1	372
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.68	0.68	0.68	0.71	0.71	0.71
Percent Heavy Veh, %	1	2	2	1	2	1	1	1	1	1	1	1
Cap, veh/h	185	2391	68	479	2053	923	49	121	17	205	1	372
Arrive On Green	0.06	0.68	0.68	0.58	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1795	3528	101	691	3554	1598	0	519	74	1373	4	1594
Grp Volume(v), veh/h	260	387	404	80	2008	135	56	0	0	90	0	373
Grp Sat Flow(s),veh/h/ln	1795	1777	1852	691	1777	1598	593	0	0	1373	0	1598
Q Serve(g_s), s	5.0	8.1	8.1	5.0	49.4	3.5	0.0	0.0	0.0	0.0	0.0	21.0
Cycle Q Clear(g_c), s	5.0	8.1	8.1	5.0	49.4	3.5	21.0	0.0	0.0	13.9	0.0	21.0
Prop In Lane	1.00		0.05	1.00		1.00	0.21		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	185	1204	1255	479	2053	923	187	0	0	205	0	373
V/C Ratio(X)	1.40	0.32	0.32	0.17	0.98	0.15	0.30	0.00	0.00	0.44	0.00	1.00
Avail Cap(c_a), veh/h	185	1205	1256	479	2054	923	187	0	0	205	0	373
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	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	6.0	6.0	9.1	18.4	8.8	28.4	0.0	0.0	31.8	0.0	34.5
Incr Delay (d2), s/veh	210.7	0.2	0.1	0.2	15.0	0.1	4.1	0.0	0.0	6.7	0.0	46.6
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	14.9	2.6	2.7	0.7	22.0	1.1	1.2	0.0	0.0	2.1	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	237.7	6.1	6.1	9.2	33.5	8.8	32.5	0.0	0.0	38.5	0.0	81.0
LnGrp LOS	F	A	A	A	C	A	C	A	A	D	A	F
Approach Vol, veh/h	1051			2223			56			463		
Approach Delay, s/veh	63.4			31.1			32.5			72.8		
Approach LOS	E			C			C			E		
Timer - Assigned Phs												
	2			4		6		7	8			
Phs Duration (G+Y+Rc), s												
	25.0			65.0		25.0		9.0	56.0			
Change Period (Y+Rc), s												
	4.0			4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s												
	21.0			61.0		21.0		5.0	52.0			
Max Q Clear Time (g_c+I1), s												
	23.0			10.1		23.0		7.0	51.4			
Green Ext Time (p_c), s												
	0.0			5.9		0.0		0.0	0.6			
Intersection Summary												
HCM 6th Ctrl Delay												
45.2												
HCM 6th LOS												
D												

Limestone

12: Downey Boulevard & Jesse Jewell Parkway

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	808	11	118	1411	215	58	269	184	225	113	77
Future Volume (veh/h)	129	808	11	118	1411	215	58	269	184	225	113	77
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	951	13	128	1534	234	72	332	227	239	120	82
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	1617	22	344	1636	730	397	803	358	326	457	387
Arrive On Green	0.05	0.45	0.45	0.06	0.46	0.46	0.04	0.23	0.23	0.06	0.24	0.24
Sat Flow, veh/h	1781	3589	49	1781	3554	1585	1781	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	152	471	493	128	1534	234	72	332	227	239	120	82
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1781	1777	1585	1781	1870	1585
Q Serve(g_s), s	3.7	15.8	15.8	3.0	32.7	7.4	2.4	6.4	10.3	5.0	4.1	3.3
Cycle Q Clear(g_c), s	3.7	15.8	15.8	3.0	32.7	7.4	2.4	6.4	10.3	5.0	4.1	3.3
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	801	839	344	1636	730	397	803	358	326	457	387
V/C Ratio(X)	0.79	0.59	0.59	0.37	0.94	0.32	0.18	0.41	0.63	0.73	0.26	0.21
Avail Cap(c_a), veh/h	193	801	839	394	1650	736	407	803	358	326	457	387
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	16.4	16.4	12.3	20.4	13.6	22.1	26.3	27.9	27.2	24.3	24.0
Incr Delay (d2), s/veh	19.0	1.1	1.1	0.7	10.7	0.3	0.2	1.6	8.3	8.2	1.4	1.2
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	2.4	6.2	6.5	1.2	14.6	2.5	1.0	2.8	4.6	2.6	2.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	17.5	17.4	13.0	31.1	13.9	22.4	27.9	36.1	35.4	25.7	25.2
LnGrp LOS	D	B	B	B	C	B	C	C	D	D	C	C
Approach Vol, veh/h		1116			1896			631			441	
Approach Delay, s/veh		20.2			27.8			30.2			30.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	22.0	8.8	39.9	7.5	23.5	8.0	40.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	18.0	7.0	34.0	4.0	19.0	4.0	37.0				
Max Q Clear Time (g_c+I1), s	7.0	12.3	5.0	17.8	4.4	6.1	5.7	34.7				
Green Ext Time (p_c), s	0.0	1.5	0.1	5.8	0.0	0.7	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.4									
HCM 6th LOS			C									

Limestone

13: South Enota Drive & Sherwood Park Drive/Walgreens access

existing a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	8	37	15	6	4	64	317	22	11	546	76
Future Volume (veh/h)	34	8	37	15	6	4	64	317	22	11	546	76
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	2003	1988	2003	1885	1870	1870
Adj Flow Rate, veh/h	47	11	51	19	8	5	73	360	25	12	607	84
Peak Hour Factor	0.73	0.73	0.73	0.78	0.78	0.78	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	2
Cap, veh/h	235	28	132	190	58	156	615	1468	1253	832	1187	164
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1412	291	1351	661	594	1598	806	1988	1697	1006	1608	222
Grp Volume(v), veh/h	47	0	62	27	0	5	73	360	25	12	0	691
Grp Sat Flow(s),veh/h/ln	1412	0	1642	1255	0	1598	806	1988	1697	1006	0	1830
Q Serve(g_s), s	1.6	0.0	1.7	0.0	0.0	0.1	2.0	2.8	0.2	0.2	0.0	7.7
Cycle Q Clear(g_c), s	3.3	0.0	1.7	1.7	0.0	0.1	9.8	2.8	0.2	3.0	0.0	7.7
Prop In Lane	1.00		0.82	0.70		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	235	0	160	248	0	156	615	1468	1253	832	0	1351
V/C Ratio(X)	0.20	0.00	0.39	0.11	0.00	0.03	0.12	0.25	0.02	0.01	0.00	0.51
Avail Cap(c_a), veh/h	561	0	539	588	0	524	615	1468	1253	832	0	1351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.6	20.2	0.0	19.9	4.7	2.0	1.7	2.5	0.0	2.7
Incr Delay (d2), s/veh	0.4	0.0	1.5	0.2	0.0	0.1	0.4	0.4	0.0	0.0	0.0	1.4
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	0.5	0.0	0.7	0.3	0.0	0.1	0.3	0.5	0.0	0.0	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	0.0	22.2	20.3	0.0	20.0	5.1	2.4	1.7	2.6	0.0	4.1
LnGrp LOS	C	A	C	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		109			32			458			703	
Approach Delay, s/veh		22.4			20.3			2.8			4.0	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		8.8		40.0		8.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		11.8		5.3		9.7		3.7				
Green Ext Time (p_c), s		2.8		0.3		5.5		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			5.5									
HCM 6th LOS			A									

Limestone

15: Park Hill Drive & South Enota Drive

existing a.m.

													
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	2	379	105	255	617	151	252	262	7	62	113	105	
Future Volume (veh/h)	2	379	105	255	617	151	252	262	7	62	113	105	
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	
Work Zone On Approach	No				No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	2	462	128	274	663	162	277	288	8	65	119	0	
Peak Hour Factor	0.82	0.82	0.82	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	278	619	172	428	874	214	351	341	9	213	325		
Arrive On Green	0.44	0.44	0.44	0.11	0.60	0.60	0.06	0.19	0.19	0.04	0.17	0.00	
Sat Flow, veh/h	664	1410	391	1781	1452	355	1781	1811	50	1781	1870	1585	
Grp Volume(v), veh/h	2	0	590	274	0	825	277	0	296	65	119	0	
Grp Sat Flow(s),veh/h/ln	664	0	1800	1781	0	1807	1781	0	1861	1781	1870	1585	
Q Serve(g_s), s	0.2	0.0	19.5	5.5	0.0	23.9	4.0	0.0	11.0	2.1	4.0	0.0	
Cycle Q Clear(g_c), s	12.4	0.0	19.5	5.5	0.0	23.9	4.0	0.0	11.0	2.1	4.0	0.0	
Prop In Lane	1.00		0.22	1.00		0.20	1.00		0.03	1.00		1.00	
Lane Grp Cap(c), veh/h	278	0	791	428	0	1088	351	0	350	213	325		
V/C Ratio(X)	0.01	0.00	0.75	0.64	0.00	0.76	0.79	0.00	0.84	0.31	0.37		
Avail Cap(c_a), veh/h	278	0	791	462	0	1088	351	0	417	238	419		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	19.2	0.0	16.7	12.5	0.0	10.4	28.2	0.0	28.0	23.5	26.0	0.0	
Incr Delay (d2), s/veh	0.0	0.0	6.3	2.7	0.0	5.0	11.6	0.0	12.9	0.8	0.7	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	0.0	0.0	8.6	2.1	0.0	9.1	3.8	0.0	5.9	0.9	1.8	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	19.3	0.0	23.1	15.2	0.0	15.4	39.8	0.0	40.9	24.3	26.7	0.0	
LnGrp LOS	B	A	C	B	A	B	D	A	D	C	C		
Approach Vol, veh/h	592		1099				573				184		A
Approach Delay, s/veh	23.0		15.3				40.4				25.9		
Approach LOS	C		B				D				C		
Timer - Assigned Phs	1	2	3	4	6		7	8					
Phs Duration (G+Y+Rc), s	11.6	35.4	7.0	17.4	47.0		8.0	16.4					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0		4.0	4.0					
Max Green Setting (Gmax), s	9.0	30.0	4.0	16.0	43.0		4.0	16.0					
Max Q Clear Time (g_c+I1), s	7.5	21.5	4.1	13.0	25.9		6.0	6.0					
Green Ext Time (p_c), s	0.1	2.6	0.0	0.5	6.0		0.0	0.3					
Intersection Summary													
HCM 6th Ctrl Delay	23.8												
HCM 6th LOS	C												

Limestone

16: Park Hill Drive & Lakeview Drive

existing a.m.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			
Traffic Volume (veh/h)	209	35	330	407	25	837
Future Volume (veh/h)	209	35	330	407	25	837
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1832	1832	1870	1870	1885	1870
Adj Flow Rate, veh/h	286	48	375	462	26	881
Peak Hour Factor	0.73	0.73	0.88	0.88	0.95	0.95
Percent Heavy Veh, %	1	1	2	2	1	2
Cap, veh/h	351	312	990	883	422	1223
Arrive On Green	0.20	0.20	0.56	0.56	0.02	0.65
Sat Flow, veh/h	1745	1553	1870	1585	1795	1870
Grp Volume(v), veh/h	286	48	375	462	26	881
Grp Sat Flow(s),veh/h/ln	1745	1553	1777	1585	1795	1870
Q Serve(g_s), s	8.6	1.4	6.5	10.0	0.3	17.0
Cycle Q Clear(g_c), s	8.6	1.4	6.5	10.0	0.3	17.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	351	312	990	883	422	1223
V/C Ratio(X)	0.82	0.15	0.38	0.52	0.06	0.72
Avail Cap(c_a), veh/h	507	451	990	883	509	1223
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.0	18.1	6.8	7.6	5.5	6.2
Incr Delay (d2), s/veh	6.7	0.2	1.1	2.2	0.1	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.5	2.1	3.1	0.1	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.7	18.4	7.9	9.8	5.5	9.9
LnGrp LOS	C	B	A	A	A	A
Approach Vol, veh/h	334		837			907
Approach Delay, s/veh	26.3		9.0			9.8
Approach LOS	C		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	5.3	34.7			40.0	15.1
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	4.0	28.0			36.0	16.0
Max Q Clear Time (g_c+I1), s	2.3	12.0			19.0	10.6
Green Ext Time (p_c), s	0.0	5.2			6.4	0.5
Intersection Summary						
HCM 6th Ctrl Delay			12.1			
HCM 6th LOS			B			

Limestone

1: Cleveland Highway & Limestone Parkway

existing p.m.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	0	691	12	301	285
Future Volume (veh/h)	8	0	691	12	301	285
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	0	759	13	317	300
Peak Hour Factor	0.67	0.92	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	0	0	1463	1240	702	1734
Arrive On Green	0.00	0.00	0.78	0.78	0.07	0.93
Sat Flow, veh/h	0	0	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	759	13	317	300
Grp Sat Flow(s),veh/h/ln	0	0	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	8.2	0.1	1.3	0.8
Cycle Q Clear(g_c), s	0.0	0.0	8.2	0.1	1.3	0.8
Prop In Lane	0.00	0.00		1.00	1.00	
Lane Grp Cap(c), veh/h	0	0	1463	1240	702	1734
V/C Ratio(X)	0.00	0.00	0.52	0.01	0.45	0.17
Avail Cap(c_a), veh/h	0	0	1463	1240	929	1734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	2.2	1.3	2.1	0.2
Incr Delay (d2), s/veh	0.0	0.0	1.3	0.0	0.5	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	0.0	0.0	1.1	0.0	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	3.5	1.3	2.6	0.4
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		772			617
Approach Delay, s/veh	0.0		3.5			1.5
Approach LOS			A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	8.0	47.0			55.0	0.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	11.0	36.0			51.0	16.0
Max Q Clear Time (g_c+I1), s	3.3	10.2			2.8	0.0
Green Ext Time (p_c), s	0.6	6.1			2.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			2.6			
HCM 6th LOS			A			

Limestone

97: Cleveland Highway & Limestone Parkway

existing p.m.

Intersection						
Int Delay, s/veh	79.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						 
Traffic Vol, veh/h	0	502	691	0	0	586
Future Vol, veh/h	0	502	691	0	0	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	83	91	92	92	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	605	759	0	0	617
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	759	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	~ 405	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	~ 405	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	260.2	0		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 405		-			
HCM Lane V/C Ratio	- 1.493		-			
HCM Control Delay (s)	- 260.2		-			
HCM Lane LOS	- F		-			
HCM 95th %tile Q(veh)	- 32.1		-			
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Limestone

2: Limestone Parkway & Clarks Bridge Road

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	156	126	105	119	17	274	496	388	28	288	13
Future Volume (veh/h)	4	156	126	105	119	17	274	496	388	28	288	13
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	214	173	142	161	23	298	539	422	31	320	14
Peak Hour Factor	0.73	0.73	0.73	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	250	199	409	638	91	554	1649	736	339	1649	736
Arrive On Green	0.26	0.26	0.26	0.07	0.40	0.40	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	6	960	763	1781	1601	229	1046	3554	1585	584	3554	1585
Grp Volume(v), veh/h	392	0	0	142	0	184	298	539	422	31	320	14
Grp Sat Flow(s),veh/h/ln	1729	0	0	1781	0	1829	1046	1777	1585	584	1777	1585
Q Serve(g_s), s	1.9	0.0	0.0	3.2	0.0	3.9	13.6	5.6	11.3	2.1	3.1	0.3
Cycle Q Clear(g_c), s	12.6	0.0	0.0	3.2	0.0	3.9	16.7	5.6	11.3	7.6	3.1	0.3
Prop In Lane	0.01		0.44	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	514	0	0	409	0	729	554	1649	736	339	1649	736
V/C Ratio(X)	0.76	0.00	0.00	0.35	0.00	0.25	0.54	0.33	0.57	0.09	0.19	0.02
Avail Cap(c_a), veh/h	568	0	0	409	0	786	554	1649	736	339	1649	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	0.0	12.8	0.0	11.7	14.1	9.8	11.4	12.3	9.2	8.4
Incr Delay (d2), s/veh	5.5	0.0	0.0	0.5	0.0	0.2	3.7	0.5	3.2	0.5	0.3	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	5.4	0.0	0.0	1.2	0.0	1.4	3.3	2.0	4.0	0.3	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	0.0	13.3	0.0	11.9	17.8	10.4	14.6	12.8	9.4	8.5
LnGrp LOS	C	A	A	B	A	B	B	B	B	B	A	A
Approach Vol, veh/h		392			326			1259			365	
Approach Delay, s/veh		26.1			12.5			13.6			9.7	
Approach LOS		C			B			B			A	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		31.0	8.0	19.2		31.0		27.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		27.0	4.0	17.0		27.0		25.0				
Max Q Clear Time (g_c+I1), s		18.7	5.2	14.6		9.6		5.9				
Green Ext Time (p_c), s		4.2	0.0	0.6		2.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

Limestone

3: Limestone Parkway & Beverly Road

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (veh/h)	40	93	118	43	150	107	110	1100	22	42	653	29
Future Volume (veh/h)	40	93	118	43	150	107	110	1100	22	42	653	29
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1870	1885	1870	1870	1870	1870	1885
Adj Flow Rate, veh/h	41	95	120	57	197	141	125	1250	25	48	742	33
Peak Hour Factor	0.98	0.98	0.98	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	1	1	1	1	2	1	2	2	2	2	1
Cap, veh/h	103	143	150	142	343	374	494	2199	981	310	2199	989
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	114	609	638	260	1457	1585	701	3554	1585	434	3554	1598
Grp Volume(v), veh/h	256	0	0	254	0	141	125	1250	25	48	742	33
Grp Sat Flow(s),veh/h/ln	1361	0	0	1717	0	1585	701	1777	1585	434	1777	1598
Q Serve(g_s), s	3.2	0.0	0.0	0.0	0.0	4.1	5.7	11.4	0.3	4.0	5.5	0.4
Cycle Q Clear(g_c), s	10.2	0.0	0.0	7.0	0.0	4.1	11.3	11.4	0.3	15.4	5.5	0.4
Prop In Lane	0.16		0.47	0.22		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	0	0	485	0	374	494	2199	981	310	2199	989
V/C Ratio(X)	0.65	0.00	0.00	0.52	0.00	0.38	0.25	0.57	0.03	0.15	0.34	0.03
Avail Cap(c_a), veh/h	540	0	0	638	0	519	494	2199	981	310	2199	989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	18.6	0.0	17.6	7.8	6.2	4.1	10.7	5.0	4.1
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.9	0.0	0.6	1.2	1.1	0.0	1.1	0.4	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	3.0	0.0	0.0	2.7	0.0	1.4	0.8	3.2	0.1	0.4	1.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	0.0	19.5	0.0	18.2	9.0	7.2	4.1	11.7	5.5	4.1
LnGrp LOS	C	A	A	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		256			395			1400			823	
Approach Delay, s/veh		21.4			19.1			7.3			5.8	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		16.9		38.0		16.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		34.0		18.0		34.0		18.0				
Max Q Clear Time (g_c+I1), s		13.4		12.2		17.4		9.0				
Green Ext Time (p_c), s		10.8		0.7		5.5		1.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									

Limestone

4: Limestone Parkway & Kroger Access

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↰	↰	↕	↰	↰	↕	↰
Traffic Volume (veh/h)	0	0	0	6	0	87	21	1159	24	136	722	0
Future Volume (veh/h)	0	0	0	6	0	87	21	1159	24	136	722	0
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1885	0	1885	1870	1870	1885	1885	1870	1870
Adj Flow Rate, veh/h				8	0	112	24	1302	27	162	860	0
Peak Hour Factor				0.78	0.92	0.78	0.89	0.89	0.89	0.84	0.84	0.92
Percent Heavy Veh, %				1	0	1	2	2	1	1	2	2
Cap, veh/h				164	0	146	526	2088	938	425	2641	1178
Arrive On Green				0.09	0.00	0.09	0.59	0.59	0.59	0.07	0.74	0.00
Sat Flow, veh/h				1795	0	1598	643	3554	1598	1795	3554	1585
Grp Volume(v), veh/h				8	0	112	24	1302	27	162	860	0
Grp Sat Flow(s),veh/h/ln				1795	0	1598	643	1777	1598	1795	1777	1585
Q Serve(g_s), s				0.2	0.0	3.3	0.8	11.6	0.3	1.4	4.0	0.0
Cycle Q Clear(g_c), s				0.2	0.0	3.3	0.8	11.6	0.3	1.4	4.0	0.0
Prop In Lane				1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				164	0	146	526	2088	938	425	2641	1178
V/C Ratio(X)				0.05	0.00	0.77	0.05	0.62	0.03	0.38	0.33	0.00
Avail Cap(c_a), veh/h				593	0	528	526	2088	938	442	2641	1178
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				20.1	0.0	21.5	4.3	6.5	4.2	5.5	2.1	0.0
Incr Delay (d2), s/veh				0.1	0.0	8.1	0.2	1.4	0.1	0.6	0.3	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
%ile BackOfQ(50%),veh/ln				0.1	0.0	1.4	0.1	3.1	0.1	0.3	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.2	0.0	29.6	4.4	7.9	4.3	6.0	2.4	0.0
LnGrp LOS				C	A	C	A	A	A	A	A	A
Approach Vol, veh/h					120			1353			1022	
Approach Delay, s/veh					28.9			7.8			3.0	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	7.5	32.5				40.0		8.4				
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0				36.0		16.0				
Max Q Clear Time (g_c+I1), s	3.4	13.6				6.0		5.3				
Green Ext Time (p_c), s	0.0	8.4				7.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				6.8								
HCM 6th LOS				A								

Limestone

5: Jesse Jewell Parkway & Limestone Parkway/Textile Way

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	485	58	155	38	67	11	666	1193	108	25	879	439
Future Volume (veh/h)	485	58	155	38	67	11	666	1193	108	25	879	439
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	545	65	174	58	102	17	687	1230	111	28	988	493
Peak Hour Factor	0.89	0.89	0.89	0.66	0.66	0.66	0.97	0.97	0.97	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	593	142	379	195	147	24	757	1830	816	235	1133	506
Arrive On Green	0.17	0.31	0.31	0.09	0.09	0.09	0.22	0.52	0.52	0.02	0.32	0.32
Sat Flow, veh/h	3456	450	1204	1141	1563	260	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	545	0	239	58	0	119	687	1230	111	28	988	493
Grp Sat Flow(s),veh/h/ln	1728	0	1654	1141	0	1823	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.6	0.0	9.4	4.0	0.0	5.2	15.8	20.9	3.0	0.9	21.4	25.1
Cycle Q Clear(g_c), s	12.6	0.0	9.4	4.0	0.0	5.2	15.8	20.9	3.0	0.9	21.4	25.1
Prop In Lane	1.00		0.73	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	593	0	520	195	0	171	757	1830	816	235	1133	506
V/C Ratio(X)	0.92	0.00	0.46	0.30	0.00	0.70	0.91	0.67	0.14	0.12	0.87	0.98
Avail Cap(c_a), veh/h	593	0	690	312	0	358	763	1830	816	281	1133	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	22.4	35.3	0.0	35.8	31.0	14.7	10.3	18.1	26.2	27.4
Incr Delay (d2), s/veh	19.4	0.0	0.6	0.8	0.0	5.0	14.5	2.0	0.3	0.2	9.3	34.3
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	6.7	0.0	3.6	1.1	0.0	2.5	7.9	8.1	1.0	0.4	10.1	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	0.0	23.0	36.1	0.0	40.8	45.5	16.6	10.7	18.3	35.5	61.8
LnGrp LOS	D	A	C	D	A	D	D	B	B	B	D	E
Approach Vol, veh/h		784			177			2028			1509	
Approach Delay, s/veh		43.6			39.3			26.1			43.8	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	46.0		29.7	21.9	30.0	18.0	11.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	40.0		34.0	18.0	26.0	14.0	16.0				
Max Q Clear Time (g_c+I1), s	2.9	22.9		11.4	17.8	27.1	14.6	7.2				
Green Ext Time (p_c), s	0.0	8.9		1.5	0.1	0.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			35.6									
HCM 6th LOS			D									

Limestone

6: Textile Way/White Sulphur Road & Jesse Jewell Parkway

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1503	4	19	1331	218	1	9	48	306	10	136
Future Volume (veh/h)	173	1503	4	19	1331	218	1	9	48	306	10	136
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	208	1811	5	20	1401	229	1	13	70	329	11	146
Peak Hour Factor	0.83	0.83	0.83	0.95	0.95	0.95	0.69	0.69	0.69	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	1878	838	113	1472	657	401	62	333	470	40	532
Arrive On Green	0.06	0.53	0.53	0.41	0.41	0.41	0.24	0.24	0.24	0.06	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	258	3554	1585	1230	254	1370	1781	112	1490
Grp Volume(v), veh/h	208	1811	5	20	1401	229	1	0	83	329	0	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	258	1777	1585	1230	0	1624	1781	0	1602
Q Serve(g_s), s	4.0	34.3	0.1	2.7	26.7	6.9	0.0	0.0	2.9	4.0	0.0	4.9
Cycle Q Clear(g_c), s	4.0	34.3	0.1	29.0	26.7	6.9	0.0	0.0	2.9	4.0	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.84	1.00		0.93
Lane Grp Cap(c), veh/h	215	1878	838	113	1472	657	401	0	394	470	0	572
V/C Ratio(X)	0.97	0.96	0.01	0.18	0.95	0.35	0.00	0.00	0.21	0.70	0.00	0.27
Avail Cap(c_a), veh/h	215	1878	838	113	1472	657	401	0	394	470	0	572
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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	15.9	7.8	34.3	19.8	14.0	20.1	0.0	21.1	23.0	0.0	16.0
Incr Delay (d2), s/veh	52.1	13.3	0.0	0.7	13.7	0.3	0.0	0.0	1.2	4.6	0.0	1.2
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	4.7	15.0	0.0	0.4	12.6	2.3	0.0	0.0	1.2	3.5	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	29.2	7.8	35.1	33.5	14.4	20.1	0.0	22.4	27.5	0.0	17.2
LnGrp LOS	E	C	A	D	C	B	C	A	C	C	A	B
Approach Vol, veh/h		2024			1650			84			486	
Approach Delay, s/veh		33.4			30.8			22.3			24.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	8.0	21.0		41.0		29.0	8.0	33.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	17.0		37.0		25.0	4.0	29.0				
Max Q Clear Time (g_c+I1), s	6.0	4.9		36.3		6.9	6.0	31.0				
Green Ext Time (p_c), s	0.0	0.3		0.6		0.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			31.1									
HCM 6th LOS			C									

Limestone

7: I-985 southbound & Jesse Jewell Parkway

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑		↑↑
Traffic Volume (veh/h)	0	1060	745	142	1108	0	0	0	0	27	0	428
Future Volume (veh/h)	0	1060	745	142	1108	0	0	0	0	27	0	428
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	0	1870
Adj Flow Rate, veh/h	0	1104	0	153	1191	0				32	0	510
Peak Hour Factor	0.92	0.96	0.96	0.93	0.93	0.92				0.84	0.92	0.84
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1380		230	1854	0				615	0	962
Arrive On Green	0.00	0.39	0.00	0.07	0.52	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3647	1585	3456	3647	0				1781	0	2790
Grp Volume(v), veh/h	0	1104	0	153	1191	0				32	0	510
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0				1781	0	1395
Q Serve(g_s), s	0.0	16.5	0.0	2.6	14.5	0.0				0.7	0.0	8.8
Cycle Q Clear(g_c), s	0.0	16.5	0.0	2.6	14.5	0.0				0.7	0.0	8.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1380		230	1854	0				615	0	962
V/C Ratio(X)	0.00	0.80		0.66	0.64	0.00				0.05	0.00	0.53
Avail Cap(c_a), veh/h	0	1599		230	2073	0				615	0	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.23	0.00	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.3	0.0	27.3	10.3	0.0				13.1	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	6.0	0.5	0.0				0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.0	0.0	1.2	4.7	0.0				0.3	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.9	0.0	33.4	10.8	0.0				13.1	0.0	16.3
LnGrp LOS	A	B		C	B	A				B	A	B
Approach Vol, veh/h		1104	A		1344						542	
Approach Delay, s/veh		16.9			13.4						16.1	
Approach LOS		B			B						B	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			8.0	27.3		24.7		35.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			4.0	27.0		17.0		35.0				
Max Q Clear Time (g_c+I1), s			4.6	18.5		10.8		16.5				
Green Ext Time (p_c), s			0.0	4.8		1.3		8.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.2									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

8: I-985 northbound & Jesse Jewell Parkway

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 		 			
Traffic Volume (veh/h)	524	582	0	0	457	46	771	0	158	0	0	0
Future Volume (veh/h)	524	582	0	0	457	46	771	0	158	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	582	647	0	0	531	53	829	0	170			
Peak Hour Factor	0.90	0.90	0.92	0.92	0.86	0.86	0.93	0.92	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	915	1796	0	0	1796	801	1248	0	1008			
Arrive On Green	0.51	0.51	0.00	0.00	0.51	0.51	0.36	0.00	0.36			
Sat Flow, veh/h	1612	3647	0	0	3647	1585	3456	0	2790			
Grp Volume(v), veh/h	582	647	0	0	531	53	829	0	170			
Grp Sat Flow(s),veh/h/ln	806	1777	0	0	1777	1585	1728	0	1395			
Q Serve(g_s), s	19.7	6.6	0.0	0.0	5.2	1.0	12.1	0.0	2.5			
Cycle Q Clear(g_c), s	24.9	6.6	0.0	0.0	5.2	1.0	12.1	0.0	2.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	915	1796	0	0	1796	801	1248	0	1008			
V/C Ratio(X)	0.64	0.36	0.00	0.00	0.30	0.07	0.66	0.00	0.17			
Avail Cap(c_a), veh/h	960	1895	0	0	1895	845	1248	0	1008			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	15.9	9.0	0.0	0.0	8.6	7.6	16.1	0.0	13.0			
Incr Delay (d2), s/veh	0.9	0.1	0.0	0.0	0.1	0.0	1.3	0.0	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			
%ile BackOfQ(50%),veh/ln	3.2	2.1	0.0	0.0	1.7	0.3	4.5	0.0	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	9.1	0.0	0.0	8.7	7.6	17.4	0.0	13.1			
LnGrp LOS	B	A	A	A	A	A	B	A	B			
Approach Vol, veh/h	1229			584			999					
Approach Delay, s/veh	12.7			8.6			16.7					
Approach LOS	B			A			B					
Timer - Assigned Phs	2			4			8					
Phs Duration (G+Y+Rc), s	25.7			34.3			34.3					
Change Period (Y+Rc), s	4.0			4.0			4.0					
Max Green Setting (Gmax), s	20.0			32.0			32.0					
Max Q Clear Time (g_c+I1), s	14.1			26.9			7.2					
Green Ext Time (p_c), s	2.2			3.4			3.9					
Intersection Summary												
HCM 6th Ctrl Delay	13.3											
HCM 6th LOS	B											

Limestone

9: Lakeview Drive & Nottingham Drive/Beverly Road

existing p.m.

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	25	3	26	31	229	3	32	55	164	30	3
Future Vol, veh/h	7	25	3	26	31	229	3	32	55	164	30	3
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.78	0.78	0.78	0.90	0.90	0.90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	11	40	5	32	38	279	4	41	71	182	33	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	10.6	8.7	10.5
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	20%	9%	83%
Vol Thru, %	36%	71%	11%	15%
Vol Right, %	61%	9%	80%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	35	286	197
LT Vol	3	7	26	164
Through Vol	32	25	31	30
RT Vol	55	3	229	3
Lane Flow Rate	115	56	349	219
Geometry Grp	1	1	1	1
Degree of Util (X)	0.153	0.08	0.422	0.312
Departure Headway (Hd)	4.765	5.154	4.359	5.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	688	820	696
Service Time	2.852	3.24	2.416	3.203
HCM Lane V/C Ratio	0.155	0.081	0.426	0.315
HCM Control Delay	8.7	8.7	10.6	10.5
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.5	0.3	2.1	1.3

Limestone

10: Myrtle Street/Quarry Street & Jesse Jewell Parkway

existing p.m.

Intersection												
Int Delay, s/veh	13.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	2009	1	2	1065	6	4	0	19	5	0	25
Future Vol, veh/h	37	2009	1	2	1065	6	4	0	19	5	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-3	-
Peak Hour Factor	81	81	81	89	89	89	58	58	58	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	2480	1	2	1197	7	7	0	33	7	0	37
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	2481	0	0	3176	3781	1241	2537	3778	602
Stage 1	-	-	-	-	-	-	2573	2573	-	1205	1205	-
Stage 2	-	-	-	-	-	-	603	1208	-	1332	2573	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	6.94	5.94	6.64
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	575	-	-	183	-	-	~ 4	4	166	21	8	466
Stage 1	-	-	-	-	-	-	26	52	-	238	312	-
Stage 2	-	-	-	-	-	-	453	254	-	203	80	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	575	-	-	183	-	-	~ 3	4	166	16	7	466
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 3	4	-	16	7	-
Stage 1	-	-	-	-	-	-	24	48	-	219	309	-
Stage 2	-	-	-	-	-	-	413	251	-	150	74	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			\$ 1164			91.4		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	16	575	-	-	183	-	-	82				
HCM Lane V/C Ratio	2.478	0.079	-	-	0.012	-	-	0.538				
HCM Control Delay (s)	\$ 1164	11.8	-	-	24.9	-	-	91.4				
HCM Lane LOS	F	B	-	-	C	-	-	F				
HCM 95th %tile Q(veh)	5.6	0.3	-	-	0	-	-	2.3				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Limestone

14: South Enota Drive & Robinhood Trail

existing p.m.

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	7	3	15	42	4	36	9	812	68	25	322	4
Future Vol, veh/h	7	3	15	42	4	36	9	812	68	25	322	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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	50	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	79	79	79	91	91	91
Heavy Vehicles, %	2	1	2	1	1	1	2	2	1	1	2	2
Mvmt Flow	8	3	17	51	5	44	11	1028	86	27	354	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1506	1546	356	1513	1505	1071	358	0	0	1114	0	0
Stage 1	410	410	-	1093	1093	-	-	-	-	-	-	-
Stage 2	1096	1136	-	420	412	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	6.11	5.51	5.71	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	99	115	688	150	185	313	1201	-	-	631	-	-
Stage 1	619	597	-	353	395	-	-	-	-	-	-	-
Stage 2	259	278	-	689	668	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	80	109	688	137	175	313	1201	-	-	631	-	-
Mov Cap-2 Maneuver	80	109	-	137	175	-	-	-	-	-	-	-
Stage 1	613	571	-	350	391	-	-	-	-	-	-	-
Stage 2	218	275	-	640	639	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	28.2		34.4		0.1		0.8					
HCM LOS	D		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1201	-	-	183	140	313	631	-	-			
HCM Lane V/C Ratio	0.009	-	-	0.153	0.401	0.14	0.044	-	-			
HCM Control Delay (s)	8	-	-	28.2	46.9	18.4	11	-	-			
HCM Lane LOS	A	-	-	D	E	C	B	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.5	1.7	0.5	0.1	-	-			

Limestone

11: Terrace Street/Community Way & Jesse Jewell Parkway

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	1931	16	31	1038	25	28	2	54	76	1	72
Future Volume (veh/h)	87	1931	16	31	1038	25	28	2	54	76	1	72
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1870	1870	1885	1870	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	104	2299	19	35	1166	28	44	3	84	85	1	81
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.64	0.64	0.64	0.89	0.89	0.89
Percent Heavy Veh, %	1	2	2	1	2	1	1	1	1	1	1	1
Cap, veh/h	357	2450	20	114	2051	922	147	37	213	388	4	339
Arrive On Green	0.05	0.68	0.68	0.58	0.58	0.58	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1795	3612	30	159	3554	1598	384	170	991	1321	20	1581
Grp Volume(v), veh/h	104	1129	1189	35	1166	28	131	0	0	85	0	82
Grp Sat Flow(s),veh/h/ln	1795	1777	1865	159	1777	1598	1545	0	0	1321	0	1601
Q Serve(g_s), s	1.6	41.9	42.2	8.4	15.4	0.6	1.3	0.0	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s	1.6	41.9	42.2	43.0	15.4	0.6	5.1	0.0	0.0	3.7	0.0	3.2
Prop In Lane	1.00		0.02	1.00		1.00	0.34		0.64	1.00		0.99
Lane Grp Cap(c), veh/h	357	1205	1265	114	2051	922	396	0	0	388	0	343
V/C Ratio(X)	0.29	0.94	0.94	0.31	0.57	0.03	0.33	0.00	0.00	0.22	0.00	0.24
Avail Cap(c_a), veh/h	368	1215	1275	114	2051	922	396	0	0	388	0	343
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	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	10.6	10.6	35.1	9.9	6.8	25.0	0.0	0.0	24.4	0.0	24.2
Incr Delay (d2), s/veh	0.4	13.4	13.3	1.5	0.4	0.0	2.2	0.0	0.0	1.3	0.0	1.6
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	0.5	16.2	17.1	0.7	5.2	0.2	2.1	0.0	0.0	1.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	24.0	24.0	36.6	10.3	6.8	27.2	0.0	0.0	25.7	0.0	25.9
LnGrp LOS	A	C	C	D	B	A	C	A	A	C	A	C
Approach Vol, veh/h	2422					1229		131		167		
Approach Delay, s/veh	23.3					11.0		27.2		25.8		
Approach LOS	C					B		C		C		
Timer - Assigned Phs	2		4		6		7	8				
Phs Duration (G+Y+Rc), s	20.0		54.6		20.0		7.5	47.0				
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0	4.0				
Max Green Setting (Gmax), s	16.0		51.0		16.0		4.0	43.0				
Max Q Clear Time (g_c+I1), s	7.1		44.2		5.7		3.6	45.0				
Green Ext Time (p_c), s	0.4		6.4		0.5		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	19.7											
HCM 6th LOS	B											

Limestone

12: Downey Boulevard & Jesse Jewell Parkway

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	1035	34	134	1096	220	41	289	167	292	218	147
Future Volume (veh/h)	170	1035	34	134	1096	220	41	289	167	292	218	147
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	1218	40	149	1218	244	47	332	192	336	251	169
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	1349	44	217	1317	588	357	904	403	419	589	499
Arrive On Green	0.07	0.38	0.38	0.05	0.37	0.37	0.03	0.25	0.25	0.09	0.31	0.31
Sat Flow, veh/h	1781	3511	115	1781	3554	1585	1781	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	200	616	642	149	1218	244	47	332	192	336	251	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1777	1585	1781	1777	1585	1781	1870	1585
Q Serve(g_s), s	5.0	24.4	24.5	3.9	24.5	8.6	1.4	5.7	7.7	7.0	7.9	6.1
Cycle Q Clear(g_c), s	5.0	24.4	24.5	3.9	24.5	8.6	1.4	5.7	7.7	7.0	7.9	6.1
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	682	710	217	1317	588	357	904	403	419	589	499
V/C Ratio(X)	0.87	0.90	0.90	0.69	0.92	0.42	0.13	0.37	0.48	0.80	0.43	0.34
Avail Cap(c_a), veh/h	231	690	718	217	1332	594	393	904	403	419	589	499
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	21.7	21.7	18.3	22.5	17.5	19.5	22.9	23.6	22.1	20.3	19.6
Incr Delay (d2), s/veh	27.3	15.1	14.8	8.7	11.0	0.5	0.2	1.2	4.0	10.6	2.3	1.8
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	3.7	12.2	12.6	2.0	11.4	3.0	0.6	2.4	3.2	3.3	3.7	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	36.8	36.5	27.0	33.5	17.9	19.7	24.1	27.6	32.7	22.5	21.5
LnGrp LOS	D	D	D	C	C	B	B	C	C	C	C	C
Approach Vol, veh/h		1458			1611			571			756	
Approach Delay, s/veh		38.0			30.5			24.9			26.8	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	23.0	8.0	32.7	6.5	27.5	9.0	31.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	7.0	19.0	4.0	29.0	4.0	22.0	5.0	28.0				
Max Q Clear Time (g_c+I1), s	9.0	9.7	5.9	26.5	3.4	9.9	7.0	26.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.8	0.0	1.6	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			31.6									
HCM 6th LOS			C									

Limestone

13: South Enota Drive & Sherwood Park Drive/Walgreens access

existing p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	14	75	30	9	23	33	739	51	12	326	30
Future Volume (veh/h)	132	14	75	30	9	23	33	739	51	12	326	30
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	2003	1988	2003	1885	1870	1870
Adj Flow Rate, veh/h	186	20	106	50	15	38	38	840	58	15	398	37
Peak Hour Factor	0.71	0.71	0.71	0.60	0.60	0.60	0.88	0.88	0.88	0.82	0.82	0.82
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	2
Cap, veh/h	350	66	352	312	81	408	621	1211	1034	324	1027	95
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1362	260	1377	802	316	1598	1021	1988	1697	625	1685	157
Grp Volume(v), veh/h	186	0	126	65	0	38	38	840	58	15	0	435
Grp Sat Flow(s),veh/h/ln	1362	0	1637	1117	0	1598	1021	1988	1697	625	0	1842
Q Serve(g_s), s	7.8	0.0	3.7	1.5	0.0	1.1	1.2	16.9	0.8	1.0	0.0	7.1
Cycle Q Clear(g_c), s	12.9	0.0	3.7	5.2	0.0	1.1	8.3	16.9	0.8	17.9	0.0	7.1
Prop In Lane	1.00		0.84	0.77		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	350	0	418	393	0	408	621	1211	1034	324	0	1123
V/C Ratio(X)	0.53	0.00	0.30	0.17	0.00	0.09	0.06	0.69	0.06	0.05	0.00	0.39
Avail Cap(c_a), veh/h	372	0	443	415	0	433	621	1211	1034	324	0	1123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	17.8	18.6	0.0	16.8	8.0	7.8	4.7	13.8	0.0	5.9
Incr Delay (d2), s/veh	1.3	0.0	0.4	0.2	0.0	0.1	0.2	3.3	0.1	0.3	0.0	1.0
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	2.4	0.0	1.3	0.7	0.0	0.4	0.3	6.2	0.2	0.2	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	0.0	18.2	18.8	0.0	16.9	8.2	11.1	4.8	14.1	0.0	6.9
LnGrp LOS	C	A	B	B	A	B	A	B	A	B	A	A
Approach Vol, veh/h		312			103			936			450	
Approach Delay, s/veh		22.2			18.1			10.6			7.2	
Approach LOS		C			B			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		19.1		40.0		19.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		18.9		14.9		19.9		7.2				
Green Ext Time (p_c), s		6.3		0.1		2.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				12.2								
HCM 6th LOS				B								

Limestone

15: Park Hill Drive & South Enota Drive

existing p.m.

													
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	6	542	60	130	506	279	248	145	13	184	288	385	
Future Volume (veh/h)	6	542	60	130	506	279	248	145	13	184	288	385	
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	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	6	577	64	167	649	358	267	156	14	219	343	0	
Peak Hour Factor	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	0.84	0.84	0.84	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	80	750	83	329	642	354	285	319	29	407	353		
Arrive On Green	0.45	0.45	0.45	0.07	0.57	0.57	0.11	0.19	0.19	0.11	0.19	0.00	
Sat Flow, veh/h	560	1654	183	1781	1133	625	1781	1691	152	1781	1870	1585	
Grp Volume(v), veh/h	6	0	641	167	0	1007	267	0	170	219	343	0	
Grp Sat Flow(s),veh/h/ln	560	0	1837	1781	0	1758	1781	0	1843	1781	1870	1585	
Q Serve(g_s), s	0.0	0.0	26.3	4.2	0.0	51.0	10.0	0.0	7.4	8.8	16.4	0.0	
Cycle Q Clear(g_c), s	40.8	0.0	26.3	4.2	0.0	51.0	10.0	0.0	7.4	8.8	16.4	0.0	
Prop In Lane	1.00		0.10	1.00		0.36	1.00		0.08	1.00		1.00	
Lane Grp Cap(c), veh/h	80	0	833	329	0	996	285	0	348	407	353		
V/C Ratio(X)	0.07	0.00	0.77	0.51	0.00	1.01	0.94	0.00	0.49	0.54	0.97		
Avail Cap(c_a), veh/h	80	0	833	345	0	996	285	0	348	407	353		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	45.0	0.0	20.6	16.0	0.0	19.5	28.7	0.0	32.6	25.5	36.3	0.0	
Incr Delay (d2), s/veh	1.8	0.0	6.8	1.2	0.0	31.2	36.9	0.0	1.1	1.4	40.0	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	0.2	0.0	12.2	1.7	0.0	26.9	7.5	0.0	3.4	3.8	11.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	46.8	0.0	27.4	17.2	0.0	50.7	65.5	0.0	33.7	26.9	76.3	0.0	
LnGrp LOS	D	A	C	B	A	F	E	A	C	C	E		
Approach Vol, veh/h	647		1174				437				562		A
Approach Delay, s/veh	27.6		46.0				53.1				57.0		
Approach LOS	C		D				D				E		
Timer - Assigned Phs	1	2	3	4	6		7	8					
Phs Duration (G+Y+Rc), s	10.2	44.8	14.0	21.0	55.0		14.0	21.0					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0		4.0	4.0					
Max Green Setting (Gmax), s	7.0	40.0	10.0	17.0	51.0		10.0	17.0					
Max Q Clear Time (g_c+I1), s	6.2	42.8	10.8	9.4	53.0		12.0	18.4					
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0		0.0	0.0					
Intersection Summary													
HCM 6th Ctrl Delay	45.1												
HCM 6th LOS	D												
Notes													

Limestone

16: Park Hill Drive & Lakeview Drive

existing p.m.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			
Traffic Volume (veh/h)	225	44	1010	169	33	645
Future Volume (veh/h)	225	44	1010	169	33	645
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1832	1832	1870	1870	1885	1870
Adj Flow Rate, veh/h	265	52	1135	190	36	701
Peak Hour Factor	0.85	0.85	0.89	0.89	0.92	0.92
Percent Heavy Veh, %	1	1	2	2	1	2
Cap, veh/h	331	295	1702	284	311	1240
Arrive On Green	0.19	0.19	0.56	0.56	0.03	0.66
Sat Flow, veh/h	1745	1553	3141	508	1795	1870
Grp Volume(v), veh/h	265	52	660	665	36	701
Grp Sat Flow(s),veh/h/ln	1745	1553	1777	1779	1795	1870
Q Serve(g_s), s	7.9	1.5	14.2	14.3	0.4	11.0
Cycle Q Clear(g_c), s	7.9	1.5	14.2	14.3	0.4	11.0
Prop In Lane	1.00	1.00		0.29	1.00	
Lane Grp Cap(c), veh/h	331	295	992	993	311	1240
V/C Ratio(X)	0.80	0.18	0.67	0.67	0.12	0.57
Avail Cap(c_a), veh/h	514	457	992	993	388	1240
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.0	18.4	8.4	8.5	6.6	4.9
Incr Delay (d2), s/veh	5.0	0.3	3.5	3.6	0.2	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.5	4.9	5.0	0.1	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.0	18.7	12.0	12.0	6.7	6.8
LnGrp LOS	C	B	B	B	A	A
Approach Vol, veh/h	317		1325			737
Approach Delay, s/veh	24.8		12.0			6.8
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	5.7	34.3			40.0	14.3
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	4.0	28.0			36.0	16.0
Max Q Clear Time (g_c+I1), s	2.4	16.3			13.0	9.9
Green Ext Time (p_c), s	0.0	6.8			5.2	0.5
Intersection Summary						
HCM 6th Ctrl Delay			12.1			
HCM 6th LOS			B			

Appendix D

No-Build Intersection Operational Analysis

Limestone

1: Cleveland Highway & Limestone Parkway

no-build a.m.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	0	189	14	872	731
Future Volume (veh/h)	7	0	189	14	872	731
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	0	259	19	969	812
Peak Hour Factor	0.42	0.92	0.73	0.73	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	0	0	1291	1094	1156	1763
Arrive On Green	0.00	0.00	0.69	0.69	0.20	0.94
Sat Flow, veh/h	0	0	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	259	19	969	812
Grp Sat Flow(s),veh/h/ln	0	0	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	3.5	0.3	7.2	3.1
Cycle Q Clear(g_c), s	0.0	0.0	3.5	0.3	7.2	3.1
Prop In Lane	0.00	0.00		1.00	1.00	
Lane Grp Cap(c), veh/h	0	0	1291	1094	1156	1763
V/C Ratio(X)	0.00	0.00	0.20	0.02	0.84	0.46
Avail Cap(c_a), veh/h	0	0	1291	1094	1979	1763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	3.9	3.4	2.4	0.2
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	1.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.1	0.1	0.5	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	4.2	3.4	4.1	1.1
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		278		1781	
Approach Delay, s/veh	0.0		4.2		2.7	
Approach LOS			A		A	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	17.7	52.3			70.0	0.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	46.0	16.0			66.0	16.0
Max Q Clear Time (g_c+l1), s	9.2	5.5			5.1	0.0
Green Ext Time (p_c), s	4.5	1.1			7.7	0.0
Intersection Summary						
HCM 6th Ctrl Delay			2.9			
HCM 6th LOS			A			

Limestone

97: Cleveland Highway & Limestone Parkway

no-build a.m.

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						 
Traffic Vol, veh/h	0	247	189	0	0	1603
Future Vol, veh/h	0	247	189	0	0	1603
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	89	73	92	92	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	278	259	0	0	1781
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	259	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	779	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	779	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.2	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 779		-			
HCM Lane V/C Ratio	- 0.356		-			
HCM Control Delay (s)	- 12.2		-			
HCM Lane LOS	- B		-			
HCM 95th %tile Q(veh)	- 1.6		-			

Limestone

2: Limestone Parkway & Clarks Bridge Road

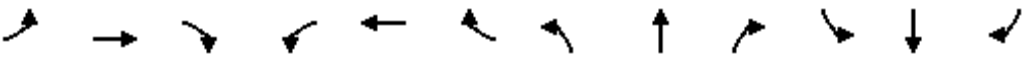
no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	87	175	414	172	16	137	240	65	25	848	39
Future Volume (veh/h)	2	87	175	414	172	16	137	240	65	25	848	39
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	109	219	538	223	21	151	264	71	27	932	43
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	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	41	123	243	550	788	74	221	1568	699	496	1568	699
Arrive On Green	0.22	0.22	0.22	0.20	0.47	0.47	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	2	559	1108	1781	1683	159	577	3554	1585	1045	3554	1585
Grp Volume(v), veh/h	330	0	0	538	0	244	151	264	71	27	932	43
Grp Sat Flow(s),veh/h/ln	1669	0	0	1781	0	1842	577	1777	1585	1045	1777	1585
Q Serve(g_s), s	1.9	0.0	0.0	18.0	0.0	7.2	21.4	4.0	2.3	1.4	17.6	1.4
Cycle Q Clear(g_c), s	17.0	0.0	0.0	18.0	0.0	7.2	39.0	4.0	2.3	5.4	17.6	1.4
Prop In Lane	0.01		0.66	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	0	0	550	0	863	221	1568	699	496	1568	699
V/C Ratio(X)	0.81	0.00	0.00	0.98	0.00	0.28	0.68	0.17	0.10	0.05	0.59	0.06
Avail Cap(c_a), veh/h	437	0	0	550	0	896	221	1568	699	496	1568	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	0.0	21.9	0.0	14.4	34.3	14.9	14.4	16.5	18.7	14.2
Incr Delay (d2), s/veh	10.3	0.0	0.0	32.7	0.0	0.2	15.7	0.2	0.3	0.2	1.7	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	7.9	0.0	0.0	13.2	0.0	2.9	4.2	1.6	0.9	0.4	7.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	0.0	0.0	54.7	0.0	14.6	50.0	15.1	14.7	16.7	20.4	14.4
LnGrp LOS	D	A	A	D	A	B	D	B	B	B	C	B
Approach Vol, veh/h		330			782			486			1002	
Approach Delay, s/veh		43.9			42.2			25.9			20.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		43.0	22.0	23.4		43.0		45.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		39.0	18.0	21.0		39.0		43.0				
Max Q Clear Time (g_c+I1), s		41.0	20.0	19.0		19.6		9.2				
Green Ext Time (p_c), s		0.0	0.0	0.4		6.9		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			30.8									
HCM 6th LOS			C									

Limestone

3: Limestone Parkway & Beverly Road

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (veh/h)	43	147	152	29	140	65	201	589	65	81	1181	130
Future Volume (veh/h)	43	147	152	29	140	65	201	589	65	81	1181	130
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1870	1885	1870	1870	1870	1870	1885
Adj Flow Rate, veh/h	48	165	171	34	165	76	223	654	72	93	1357	149
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	2	1	2	2	2	2	1
Cap, veh/h	86	165	155	96	344	362	259	2335	1042	525	2335	1050
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	122	723	678	157	1506	1585	351	3554	1585	728	3554	1598
Grp Volume(v), veh/h	384	0	0	199	0	76	223	654	72	93	1357	149
Grp Sat Flow(s),veh/h/ln	1523	0	0	1663	0	1585	351	1777	1585	728	1777	1598
Q Serve(g_s), s	9.6	0.0	0.0	0.0	0.0	2.7	31.2	5.4	1.1	4.3	14.8	2.5
Cycle Q Clear(g_c), s	16.0	0.0	0.0	6.4	0.0	2.7	46.0	5.4	1.1	9.7	14.8	2.5
Prop In Lane	0.12		0.45	0.17		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	406	0	0	440	0	362	259	2335	1042	525	2335	1050
V/C Ratio(X)	0.95	0.00	0.00	0.45	0.00	0.21	0.86	0.28	0.07	0.18	0.58	0.14
Avail Cap(c_a), veh/h	406	0	0	440	0	362	259	2335	1042	525	2335	1050
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	0.0	23.3	0.0	21.9	24.1	5.0	4.3	7.1	6.7	4.5
Incr Delay (d2), s/veh	31.1	0.0	0.0	0.7	0.0	0.3	29.3	0.3	0.1	0.7	1.1	0.3
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	9.7	0.0	0.0	2.8	0.0	1.0	5.8	1.6	0.3	0.7	4.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	0.0	0.0	24.0	0.0	22.2	53.4	5.3	4.4	7.8	7.7	4.8
LnGrp LOS	E	A	A	C	A	C	D	A	A	A	A	A
Approach Vol, veh/h		384			275			949			1599	
Approach Delay, s/veh		58.9			23.5			16.6			7.5	
Approach LOS		E			C			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.0		20.0		50.0		20.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		46.0		16.0		46.0		16.0				
Max Q Clear Time (g_c+I1), s		48.0		18.0		16.8		8.4				
Green Ext Time (p_c), s		0.0		0.0		14.4		0.8				
Intersection Summary												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

Limestone

4: Limestone Parkway & Kroger Access

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	46	38	801	14	145	1240	0
Future Volume (veh/h)	0	0	0	10	0	46	38	801	14	145	1240	0
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1885	0	1885	1870	1870	1885	1885	1870	1870
Adj Flow Rate, veh/h				17	0	78	40	843	15	161	1378	0
Peak Hour Factor				0.59	0.92	0.59	0.95	0.95	0.95	0.90	0.90	0.92
Percent Heavy Veh, %				1	0	1	2	2	1	1	2	2
Cap, veh/h				120	0	107	390	2147	965	599	2713	1210
Arrive On Green				0.07	0.00	0.07	0.60	0.60	0.60	0.07	0.76	0.00
Sat Flow, veh/h				1795	0	1598	393	3554	1598	1795	3554	1585
Grp Volume(v), veh/h				17	0	78	40	843	15	161	1378	0
Grp Sat Flow(s),veh/h/ln				1795	0	1598	393	1777	1598	1795	1777	1585
Q Serve(g_s), s				0.4	0.0	2.3	2.1	5.8	0.2	1.3	7.1	0.0
Cycle Q Clear(g_c), s				0.4	0.0	2.3	2.1	5.8	0.2	1.3	7.1	0.0
Prop In Lane				1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				120	0	107	390	2147	965	599	2713	1210
V/C Ratio(X)				0.14	0.00	0.73	0.10	0.39	0.02	0.27	0.51	0.00
Avail Cap(c_a), veh/h				609	0	542	390	2147	965	655	2713	1210
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				20.7	0.0	21.6	4.1	4.8	3.7	2.9	2.2	0.0
Incr Delay (d2), s/veh				0.5	0.0	9.2	0.5	0.5	0.0	0.2	0.7	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	1.0	0.2	1.4	0.0	0.2	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.3	0.0	30.8	4.6	5.4	3.8	3.1	2.8	0.0
LnGrp LOS				C	A	C	A	A	A	A	A	A
Approach Vol, veh/h					95			898			1539	
Approach Delay, s/veh					29.1			5.3			2.9	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	7.5	32.5				40.0		7.1				
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0				
Max Green Setting (Gmax), s	5.0	27.0				36.0		16.0				
Max Q Clear Time (g_c+I1), s	3.3	7.8				9.1		4.3				
Green Ext Time (p_c), s	0.1	6.6				12.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				4.7								
HCM 6th LOS				A								

Limestone

5: Jesse Jewell Parkway & Limestone Parkway/Textile Way

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	671	67	495	78	63	12	420	419	75	28	1814	355
Future Volume (veh/h)	671	67	495	78	63	12	420	419	75	28	1814	355
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	849	85	627	99	80	15	462	460	82	29	1909	374
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	75	556	65	306	57	314	1701	759	450	1454	648
Arrive On Green	0.15	0.39	0.39	0.20	0.20	0.20	0.09	0.48	0.48	0.02	0.41	0.41
Sat Flow, veh/h	3456	193	1422	738	1532	287	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	849	0	712	99	0	95	462	460	82	29	1909	374
Grp Sat Flow(s),veh/h/ln	1728	0	1614	738	0	1819	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	17.0	0.0	43.0	0.0	0.0	4.9	10.0	8.5	3.1	1.0	45.0	20.1
Cycle Q Clear(g_c), s	17.0	0.0	43.0	22.0	0.0	4.9	10.0	8.5	3.1	1.0	45.0	20.1
Prop In Lane	1.00		0.88	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	534	0	631	65	0	364	314	1701	759	450	1454	648
V/C Ratio(X)	1.59	0.00	1.13	1.51	0.00	0.26	1.47	0.27	0.11	0.06	1.31	0.58
Avail Cap(c_a), veh/h	534	0	631	65	0	364	314	1701	759	477	1454	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	0.0	33.5	55.0	0.0	37.1	50.0	17.2	15.8	18.1	32.5	25.1
Incr Delay (d2), s/veh	274.2	0.0	76.6	294.2	0.0	0.4	228.4	0.4	0.3	0.1	145.9	3.7
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	27.6	0.0	29.7	7.2	0.0	2.2	14.3	3.5	1.2	0.4	48.1	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	320.7	0.0	110.1	349.2	0.0	37.5	278.4	17.6	16.1	18.2	178.4	28.8
LnGrp LOS	F	A	F	F	A	D	F	B	B	B	F	C
Approach Vol, veh/h	1561			194			1004			2312		
Approach Delay, s/veh	224.6			196.6			137.5			152.2		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	56.6		47.0	14.0	49.0	21.0	26.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	51.0		43.0	10.0	45.0	17.0	22.0				
Max Q Clear Time (g_c+I1), s	3.0	10.5		45.0	12.0	47.0	19.0	24.0				
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	173.3											
HCM 6th LOS	F											

Limestone

6: Textile Way/White Sulphur Road & Jesse Jewell Parkway

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1048	1	42	1873	182	1	8	23	325	9	134
Future Volume (veh/h)	90	1048	1	42	1873	182	1	8	23	325	9	134
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	1103	1	47	2104	204	1	9	26	382	11	158
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2294	1023	314	2035	908	242	62	178	418	29	422
Arrive On Green	0.04	0.65	0.65	0.57	0.57	0.57	0.15	0.15	0.15	0.10	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	511	3554	1585	1216	424	1226	1781	104	1497
Grp Volume(v), veh/h	95	1103	1	47	2104	204	1	0	35	382	0	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	511	1777	1585	1216	0	1650	1781	0	1601
Q Serve(g_s), s	2.3	17.6	0.0	5.7	63.0	6.9	0.1	0.0	2.0	11.0	0.0	9.3
Cycle Q Clear(g_c), s	2.3	17.6	0.0	15.3	63.0	6.9	0.1	0.0	2.0	11.0	0.0	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.93
Lane Grp Cap(c), veh/h	130	2294	1023	314	2035	908	242	0	240	418	0	451
V/C Ratio(X)	0.73	0.48	0.00	0.15	1.03	0.22	0.00	0.00	0.15	0.91	0.00	0.37
Avail Cap(c_a), veh/h	130	2294	1023	314	2035	908	242	0	240	418	0	451
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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	10.0	6.9	16.0	23.5	11.5	40.2	0.0	41.0	40.9	0.0	31.7
Incr Delay (d2), s/veh	18.6	0.2	0.0	0.2	29.3	0.1	0.0	0.0	1.3	24.3	0.0	2.4
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	2.1	6.4	0.0	0.7	32.5	2.4	0.0	0.0	0.9	7.9	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	10.2	6.9	16.2	52.8	11.6	40.2	0.0	42.3	65.2	0.0	34.1
LnGrp LOS	D	B	A	B	F	B	D	A	D	E	A	C
Approach Vol, veh/h		1199			2355			36			551	
Approach Delay, s/veh		13.0			48.5			42.3			55.6	
Approach LOS		B			D			D			E	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	15.0	20.0		75.0		35.0	8.0	67.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	16.0		71.0		31.0	4.0	63.0				
Max Q Clear Time (g_c+I1), s	13.0	4.0		19.6		11.3	4.3	65.0				
Green Ext Time (p_c), s	0.0	0.1		10.9		0.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				39.1								
HCM 6th LOS				D								

Limestone

7: I-985 southbound & Jesse Jewell Parkway

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑		↑↑
Traffic Volume (veh/h)	0	406	1065	459	1514	0	0	0	0	51	0	719
Future Volume (veh/h)	0	406	1065	459	1514	0	0	0	0	51	0	719
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	0	1870
Adj Flow Rate, veh/h	0	441	0	494	1628	0				68	0	959
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.92				0.75	0.92	0.75
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1281		461	1912	0				664	0	1041
Arrive On Green	0.00	0.36	0.00	0.13	0.54	0.00				0.37	0.00	0.37
Sat Flow, veh/h	0	3647	1585	3456	3647	0				1781	0	2790
Grp Volume(v), veh/h	0	441	0	494	1628	0				68	0	959
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0				1781	0	1395
Q Serve(g_s), s	0.0	8.2	0.0	12.0	35.1	0.0				2.2	0.0	29.6
Cycle Q Clear(g_c), s	0.0	8.2	0.0	12.0	35.1	0.0				2.2	0.0	29.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1281		461	1912	0				664	0	1041
V/C Ratio(X)	0.00	0.34		1.07	0.85	0.00				0.10	0.00	0.92
Avail Cap(c_a), veh/h	0	1500		461	2132	0				664	0	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.75	0.00	0.61	0.61	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	0.0	39.0	17.7	0.0				18.4	0.0	27.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	53.8	2.0	0.0				0.1	0.0	13.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	0.0	8.4	13.5	0.0				0.9	0.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.1	0.0	92.8	19.7	0.0				18.5	0.0	40.0
LnGrp LOS	A	C		F	B	A				B	A	D
Approach Vol, veh/h		441	A		2122						1027	
Approach Delay, s/veh		21.1			36.7						38.6	
Approach LOS		C			D						D	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			16.0	36.4		37.6		52.4				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			12.0	38.0		28.0		54.0				
Max Q Clear Time (g_c+I1), s			14.0	10.2		31.6		37.1				
Green Ext Time (p_c), s			0.0	3.1		0.0		11.3				
Intersection Summary												
HCM 6th Ctrl Delay			35.3									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

8: I-985 northbound & Jesse Jewell Parkway

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 		 			
Traffic Volume (veh/h)	156	309	0	0	1163	42	789	0	107	0	0	0
Future Volume (veh/h)	156	309	0	0	1163	42	789	0	107	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	164	325	0	0	1251	45	877	0	119			
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93	0.90	0.92	0.90			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	451	1706	0	0	1706	761	1244	0	1004			
Arrive On Green	0.48	0.48	0.00	0.00	0.48	0.48	0.36	0.00	0.36			
Sat Flow, veh/h	825	3647	0	0	3647	1585	3456	0	2790			
Grp Volume(v), veh/h	164	325	0	0	1251	45	877	0	119			
Grp Sat Flow(s),veh/h/ln	413	1777	0	0	1777	1585	1728	0	1395			
Q Serve(g_s), s	9.9	2.6	0.0	0.0	14.1	0.8	10.9	0.0	1.4			
Cycle Q Clear(g_c), s	24.0	2.6	0.0	0.0	14.1	0.8	10.9	0.0	1.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	451	1706	0	0	1706	761	1244	0	1004			
V/C Ratio(X)	0.36	0.19	0.00	0.00	0.73	0.06	0.70	0.00	0.12			
Avail Cap(c_a), veh/h	451	1706	0	0	1706	761	1244	0	1004			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.1	7.4	0.0	0.0	10.4	7.0	13.7	0.0	10.7			
Incr Delay (d2), s/veh	0.5	0.1	0.0	0.0	1.7	0.0	1.8	0.0	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			
%ile BackOfQ(50%),veh/ln	0.9	0.8	0.0	0.0	4.6	0.2	3.8	0.0	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	7.5	0.0	0.0	12.1	7.0	15.6	0.0	10.7			
LnGrp LOS	C	A	A	A	B	A	B	A	B			
Approach Vol, veh/h	489			1296			996					
Approach Delay, s/veh	11.9			11.9			15.0					
Approach LOS	B			B			B					
Timer - Assigned Phs	2			4			8					
Phs Duration (G+Y+Rc), s	22.0			28.0			28.0					
Change Period (Y+Rc), s	4.0			4.0			4.0					
Max Green Setting (Gmax), s	18.0			24.0			24.0					
Max Q Clear Time (g_c+l1), s	12.9			26.0			16.1					
Green Ext Time (p_c), s	2.0			0.0			5.1					
Intersection Summary												
HCM 6th Ctrl Delay	13.0											
HCM 6th LOS	B											

Limestone

9: Lakeview Drive & Nottingham Drive/Beverly Road

no-build a.m.

Intersection	
Intersection Delay, s/veh	41
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	2	86	52	293	3	83	36	285	166	9
Future Vol, veh/h	5	24	2	86	52	293	3	83	36	285	166	9
Peak Hour Factor	0.68	0.68	0.68	0.87	0.87	0.87	0.75	0.75	0.75	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	35	3	99	60	337	4	111	48	361	210	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.4	31	12.7	59.7
HCM LOS	B	D	B	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	16%	20%	62%
Vol Thru, %	68%	77%	12%	36%
Vol Right, %	30%	6%	68%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	31	431	460
LT Vol	3	5	86	285
Through Vol	83	24	52	166
RT Vol	36	2	293	9
Lane Flow Rate	163	46	495	582
Geometry Grp	1	1	1	1
Degree of Util (X)	0.303	0.095	0.823	0.991
Departure Headway (Hd)	6.715	7.541	5.984	6.128
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	534	473	604	594
Service Time	4.783	5.627	4.03	4.174
HCM Lane V/C Ratio	0.305	0.097	0.82	0.98
HCM Control Delay	12.7	11.4	31	59.7
HCM Lane LOS	B	B	D	F
HCM 95th-tile Q	1.3	0.3	8.5	14.4

Limestone

10: Myrtle Street/Quarry Street & Jesse Jewell Parkway

no-build a.m.

Intersection												
Int Delay, s/veh	82											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	843	32	36	2360	18	9	1	32	26	1	33
Future Vol, veh/h	33	843	32	36	2360	18	9	1	32	26	1	33
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	-	-	-3	-
Peak Hour Factor	95	95	95	93	93	93	51	51	51	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	887	34	39	2538	19	18	2	63	28	1	36
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2557	0	0	921	0	0	2322	3609	461	3141	3617	1279
Stage 1	-	-	-	-	-	-	974	974	-	2626	2626	-
Stage 2	-	-	-	-	-	-	1348	2635	-	515	991	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	6.94	5.94	6.64
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	170	-	-	737	-	-	20	5	547	~ 8	9	175
Stage 1	-	-	-	-	-	-	270	328	-	37	76	-
Stage 2	-	-	-	-	-	-	159	48	-	557	380	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	170	-	-	737	-	-	~ 11	4	547	~ 4	7	175
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 11	4	-	~ 4	7	-
Stage 1	-	-	-	-	-	-	214	260	-	29	72	-
Stage 2	-	-	-	-	-	-	118	45	-	389	302	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.2			\$ 794.6			\$ 3621.4		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	37	170	-	-	737	-	-	9				
HCM Lane V/C Ratio	2.226	0.204	-	-	0.053	-	-	7.246				
HCM Control Delay (s)	\$ 794.6	31.5	-	-	10.2	-	-	\$ 3621.4				
HCM Lane LOS	F	D	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	9.1	0.7	-	-	0.2	-	-	9.6				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Limestone

14: South Enota Drive & Robinhood Trail

no-build a.m.

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	5	86	3	31	10	358	29	16	659	8
Future Vol, veh/h	0	2	5	86	3	31	10	358	29	16	659	8
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	50	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	82	82	82	95	95	95	98	98	98
Heavy Vehicles, %	2	1	2	1	1	1	2	2	1	1	2	2
Mvmt Flow	0	4	10	105	4	38	11	377	31	16	672	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1125	1138	676	1130	1127	393	680	0	0	408	0	0
Stage 1	708	708	-	415	415	-	-	-	-	-	-	-
Stage 2	417	430	-	715	712	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	6.11	5.51	5.71	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	182	202	453	249	281	695	912	-	-	1156	-	-
Stage 1	426	439	-	692	667	-	-	-	-	-	-	-
Stage 2	613	585	-	516	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	167	197	453	235	274	695	912	-	-	1156	-	-
Mov Cap-2 Maneuver	167	197	-	235	274	-	-	-	-	-	-	-
Stage 1	421	433	-	684	659	-	-	-	-	-	-	-
Stage 2	569	578	-	493	526	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	16.4		26.9		0.2		0.2					
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	912	-	-	330	236	695	1156	-	-			
HCM Lane V/C Ratio	0.012	-	-	0.042	0.46	0.054	0.014	-	-			
HCM Control Delay (s)	9	-	-	16.4	32.6	10.5	8.2	-	-			
HCM Lane LOS	A	-	-	C	D	B	A	-	-			
HCM 95th %tile O(veh)	0	-	-	0.1	2.2	0.2	0	-	-			

Limestone

11: Terrace Street/Community Way & Jesse Jewell Parkway

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	829	23	86	2141	144	9	29	6	74	1	306
Future Volume (veh/h)	280	829	23	86	2141	144	9	29	6	74	1	306
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1870	1885	1870	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	298	882	24	91	2278	153	13	43	9	101	1	419
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.68	0.68	0.68	0.73	0.73	0.73
Percent Heavy Veh, %	1	2	2	1	2	1	1	1	1	1	1	1
Cap, veh/h	269	2709	74	443	2191	985	36	94	15	148	1	266
Arrive On Green	0.12	0.77	0.77	0.62	0.62	0.62	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1795	3534	96	620	3554	1598	0	566	91	1363	4	1594
Grp Volume(v), veh/h	298	443	463	91	2278	153	65	0	0	101	0	420
Grp Sat Flow(s),veh/h/ln	1795	1777	1853	620	1777	1598	657	0	0	1363	0	1598
Q Serve(g_s), s	14.0	9.3	9.3	7.9	74.0	4.9	0.0	0.0	0.0	0.0	0.0	20.0
Cycle Q Clear(g_c), s	14.0	9.3	9.3	7.9	74.0	4.9	20.0	0.0	0.0	20.0	0.0	20.0
Prop In Lane	1.00		0.05	1.00		1.00	0.20		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	269	1362	1421	443	2191	985	145	0	0	148	0	266
V/C Ratio(X)	1.11	0.33	0.33	0.21	1.04	0.16	0.45	0.00	0.00	0.68	0.00	1.58
Avail Cap(c_a), veh/h	269	1362	1421	443	2191	985	145	0	0	148	0	266
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	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.8	4.4	4.4	10.3	23.0	9.8	43.9	0.0	0.0	51.2	0.0	50.0
Incr Delay (d2), s/veh	86.2	0.1	0.1	0.2	30.4	0.1	9.6	0.0	0.0	22.3	0.0	276.9
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	14.2	2.9	3.1	1.1	37.5	1.7	2.1	0.0	0.0	4.0	0.0	28.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.0	4.5	4.5	10.6	53.4	9.8	53.5	0.0	0.0	73.6	0.0	326.9
LnGrp LOS	F	A	A	B	F	A	D	A	A	E	A	F
Approach Vol, veh/h		1204			2522			65			521	
Approach Delay, s/veh		35.8			49.2			53.5			277.8	
Approach LOS		D			D			D			F	
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.0		96.0		24.0	18.0	78.0				
Change Period (Y+Rc), s		4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0		92.0		20.0	14.0	74.0				
Max Q Clear Time (g_c+I1), s		22.0		11.3		22.0	16.0	76.0				
Green Ext Time (p_c), s		0.0		7.2		0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				73.2								
HCM 6th LOS				E								

Limestone

12: Downey Boulevard & Jesse Jewell Parkway

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	936	13	137	1635	249	67	312	213	261	131	89
Future Volume (veh/h)	150	936	13	137	1635	249	67	312	213	261	131	89
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	1088	15	147	1758	268	81	376	257	275	138	94
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.83	0.83	0.83	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1772	24	330	1777	793	347	632	282	302	403	342
Arrive On Green	0.06	0.49	0.49	0.06	0.50	0.50	0.05	0.18	0.18	0.09	0.22	0.22
Sat Flow, veh/h	1781	3589	49	1781	3554	1585	1781	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	174	539	564	147	1758	268	81	376	257	275	138	94
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1585	1781	1777	1585	1781	1870	1585
Q Serve(g_s), s	4.6	19.8	19.8	3.6	44.1	9.2	3.3	8.8	14.3	8.0	5.6	4.5
Cycle Q Clear(g_c), s	4.6	19.8	19.8	3.6	44.1	9.2	3.3	8.8	14.3	8.0	5.6	4.5
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	877	919	330	1777	793	347	632	282	302	403	342
V/C Ratio(X)	0.96	0.61	0.61	0.45	0.99	0.34	0.23	0.60	0.91	0.91	0.34	0.28
Avail Cap(c_a), veh/h	181	877	919	398	1777	793	355	632	282	302	403	342
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	16.6	16.6	12.8	22.3	13.5	28.1	34.0	36.3	31.8	29.9	29.4
Incr Delay (d2), s/veh	55.2	1.3	1.2	0.9	18.8	0.3	0.3	4.1	35.1	29.8	2.3	2.0
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	4.5	7.9	8.2	1.4	21.3	3.2	1.4	4.1	8.2	4.6	2.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	17.8	17.8	13.7	41.1	13.8	28.4	38.1	71.4	61.6	32.2	31.4
LnGrp LOS	E	B	B	B	D	B	C	D	E	E	C	C
Approach Vol, veh/h	1277			2173			714			507		
Approach Delay, s/veh	25.9			35.9			49.0			48.0		
Approach LOS	C			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	20.0	9.6	48.4	8.6	23.4	9.0	49.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	8.0	16.0	9.0	41.0	5.0	19.0	5.0	45.0				
Max Q Clear Time (g_c+I1), s	10.0	16.3	5.6	21.8	5.3	7.6	6.6	46.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	7.4	0.0	0.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	36.5											
HCM 6th LOS	D											

Limestone

13: South Enota Drive & Sherwood Park Drive/Walgreens access

no-build a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	9	43	17	7	5	74	367	25	13	633	88
Future Volume (veh/h)	39	9	43	17	7	5	74	367	25	13	633	88
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	2003	1988	2003	1885	1870	1870
Adj Flow Rate, veh/h	53	12	59	22	9	6	83	412	28	14	696	97
Peak Hour Factor	0.73	0.73	0.73	0.78	0.78	0.78	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	2
Cap, veh/h	244	31	150	197	60	176	527	1447	1236	774	1169	163
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	1410	277	1363	659	543	1598	733	1988	1697	957	1606	224
Grp Volume(v), veh/h	53	0	71	31	0	6	83	412	28	14	0	793
Grp Sat Flow(s),veh/h/ln	1410	0	1640	1202	0	1598	733	1988	1697	957	0	1830
Q Serve(g_s), s	1.8	0.0	2.0	0.0	0.0	0.2	3.0	3.5	0.2	0.3	0.0	10.3
Cycle Q Clear(g_c), s	3.8	0.0	2.0	2.0	0.0	0.2	13.3	3.5	0.2	3.8	0.0	10.3
Prop In Lane	1.00		0.83	0.71		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	244	0	181	257	0	176	527	1447	1236	774	0	1332
V/C Ratio(X)	0.22	0.00	0.39	0.12	0.00	0.03	0.16	0.28	0.02	0.02	0.00	0.60
Avail Cap(c_a), veh/h	544	0	531	569	0	517	527	1447	1236	774	0	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.5	19.9	0.0	19.6	6.4	2.3	1.9	3.0	0.0	3.2
Incr Delay (d2), s/veh	0.4	0.0	1.4	0.2	0.0	0.1	0.6	0.5	0.0	0.0	0.0	2.0
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	0.6	0.0	0.8	0.3	0.0	0.1	0.4	0.6	0.0	0.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	21.8	20.1	0.0	19.7	7.1	2.8	1.9	3.0	0.0	5.2
LnGrp LOS	C	A	C	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h	124			37			523			807		
Approach Delay, s/veh	22.2			20.1			3.4			5.2		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	40.0			9.5			40.0			9.5		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	36.0			16.0			36.0			16.0		
Max Q Clear Time (g_c+I1), s	15.3			5.8			12.3			4.0		
Green Ext Time (p_c), s	3.3			0.3			6.5			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	6.3											
HCM 6th LOS	A											

Limestone

15: Park Hill Drive & South Enota Drive

no-build a.m.

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	2	439	122	296	715	175	292	304	8	72	131	122
Future Volume (veh/h)	2	439	122	296	715	175	292	304	8	72	131	122
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	529	147	315	761	186	317	330	9	76	138	0
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	639	178	381	890	218	360	372	10	192	299	
Arrive On Green	0.45	0.45	0.45	0.11	0.61	0.61	0.09	0.21	0.21	0.05	0.16	0.00
Sat Flow, veh/h	592	1409	391	1781	1452	355	1781	1812	49	1781	1870	1585
Grp Volume(v), veh/h	2	0	676	315	0	947	317	0	339	76	138	0
Grp Sat Flow(s),veh/h/ln	592	0	1800	1781	0	1806	1781	0	1861	1781	1870	1585
Q Serve(g_s), s	0.2	0.0	28.9	7.7	0.0	37.5	8.0	0.0	15.6	3.1	5.9	0.0
Cycle Q Clear(g_c), s	23.7	0.0	28.9	7.7	0.0	37.5	8.0	0.0	15.6	3.1	5.9	0.0
Prop In Lane	1.00		0.22	1.00		0.20	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	193	0	816	381	0	1108	360	0	382	192	299	
V/C Ratio(X)	0.01	0.00	0.83	0.83	0.00	0.85	0.88	0.00	0.89	0.40	0.46	
Avail Cap(c_a), veh/h	193	0	816	440	0	1108	360	0	423	192	340	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.2	0.0	21.1	17.3	0.0	13.8	32.3	0.0	34.0	29.9	33.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	9.5	11.0	0.0	8.5	21.6	0.0	18.8	1.3	1.1	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	0.0	0.0	13.5	3.9	0.0	15.7	5.0	0.0	8.8	1.4	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	30.5	28.3	0.0	22.3	53.9	0.0	52.8	31.2	34.7	0.0
LnGrp LOS	C	A	C	C	A	C	D	A	D	C	C	
Approach Vol, veh/h		678			1262			656			214	A
Approach Delay, s/veh		30.5			23.8			53.4			33.5	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	14.1	43.9	8.0	22.1		58.0	12.0	18.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	13.0	37.0	4.0	20.0		54.0	8.0	16.0				
Max Q Clear Time (g_c+I1), s	9.7	30.9	5.1	17.6		39.5	10.0	7.9				
Green Ext Time (p_c), s	0.3	2.4	0.0	0.5		6.6	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			33.1									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

16: Park Hill Drive & Lakeview Drive

no-build a.m.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	246	44	382	473	29	970
Future Volume (veh/h)	246	44	382	473	29	970
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1832	1832	1870	1870	1885	1870
Adj Flow Rate, veh/h	328	59	429	531	30	1010
Peak Hour Factor	0.75	0.75	0.89	0.89	0.96	0.96
Percent Heavy Veh, %	1	1	2	2	1	2
Cap, veh/h	389	346	957	853	355	1189
Arrive On Green	0.22	0.22	0.54	0.54	0.03	0.64
Sat Flow, veh/h	1745	1553	1870	1585	1795	1870
Grp Volume(v), veh/h	328	59	429	531	30	1010
Grp Sat Flow(s),veh/h/ln	1745	1553	1777	1585	1795	1870
Q Serve(g_s), s	10.2	1.7	8.3	13.2	0.4	24.2
Cycle Q Clear(g_c), s	10.2	1.7	8.3	13.2	0.4	24.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	389	346	957	853	355	1189
V/C Ratio(X)	0.84	0.17	0.45	0.62	0.08	0.85
Avail Cap(c_a), veh/h	493	439	957	853	434	1189
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.0	17.8	8.0	9.1	6.7	8.2
Incr Delay (d2), s/veh	10.3	0.2	1.5	3.4	0.1	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.6	2.9	4.3	0.1	8.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.3	18.0	9.5	12.5	6.8	15.8
LnGrp LOS	C	B	A	B	A	B
Approach Vol, veh/h	387		960			1040
Approach Delay, s/veh	29.3		11.1			15.6
Approach LOS	C		B			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	5.5	34.5			40.0	16.6
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	4.0	28.0			36.0	16.0
Max Q Clear Time (g_c+I1), s	2.4	15.2			26.2	12.2
Green Ext Time (p_c), s	0.0	5.4			5.4	0.5
Intersection Summary						
HCM 6th Ctrl Delay			16.0			
HCM 6th LOS			B			

Limestone

1: Cleveland Highway & Limestone Parkway

no-build p.m.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	0	801	14	349	330
Future Volume (veh/h)	9	0	801	14	349	330
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	0	871	15	364	344
Peak Hour Factor	0.67	0.92	0.92	0.92	0.96	0.96
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	0	0	1538	1304	634	1763
Arrive On Green	0.00	0.00	0.82	0.82	0.06	0.94
Sat Flow, veh/h	0	0	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	871	15	364	344
Grp Sat Flow(s),veh/h/ln	0	0	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	10.8	0.1	1.5	0.9
Cycle Q Clear(g_c), s	0.0	0.0	10.8	0.1	1.5	0.9
Prop In Lane	0.00	0.00		1.00	1.00	
Lane Grp Cap(c), veh/h	0	0	1538	1304	634	1763
V/C Ratio(X)	0.00	0.00	0.57	0.01	0.57	0.20
Avail Cap(c_a), veh/h	0	0	1538	1304	903	1763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	2.1	1.1	3.1	0.1
Incr Delay (d2), s/veh	0.0	0.0	1.5	0.0	0.8	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	0.0	0.0	1.6	0.0	0.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	3.6	1.1	3.9	0.4
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		886			708
Approach Delay, s/veh	0.0		3.5			2.2
Approach LOS			A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	8.4	61.6			70.0	0.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	15.0	47.0			66.0	16.0
Max Q Clear Time (g_c+I1), s	3.5	12.8			2.9	0.0
Green Ext Time (p_c), s	0.9	8.2			2.3	0.0
Intersection Summary						
HCM 6th Ctrl Delay			3.0			
HCM 6th LOS			A			

Limestone

97: Cleveland Highway & Limestone Parkway

no-build p.m.

Intersection						
Int Delay, s/veh	141.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						 
Traffic Vol, veh/h	0	582	801	0	0	679
Future Vol, veh/h	0	582	801	0	0	679
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	92	92	92	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	685	871	0	0	707
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	871	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	~ 349	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	~ 349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s\$	468.3		0		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 349		-			
HCM Lane V/C Ratio	- 1.962		-			
HCM Control Delay (s)	-\$ 468.3		-			
HCM Lane LOS	- F		-			
HCM 95th %tile Q(veh)	- 47.4		-			
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Limestone

2: Limestone Parkway & Clarks Bridge Road

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	181	146	122	138	20	318	575	450	32	334	15
Future Volume (veh/h)	5	181	146	122	138	20	318	575	450	32	334	15
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	245	197	163	184	27	342	618	484	35	367	16
Peak Hour Factor	0.74	0.74	0.74	0.75	0.75	0.75	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	272	215	385	664	97	507	1599	713	291	1599	713
Arrive On Green	0.28	0.28	0.28	0.07	0.42	0.42	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	9	962	758	1781	1594	234	1000	3554	1585	512	3554	1585
Grp Volume(v), veh/h	449	0	0	163	0	211	342	618	484	35	367	16
Grp Sat Flow(s),veh/h/ln	1729	0	0	1781	0	1828	1000	1777	1585	512	1777	1585
Q Serve(g_s), s	3.5	0.0	0.0	3.7	0.0	4.6	19.1	6.9	14.5	2.9	3.8	0.3
Cycle Q Clear(g_c), s	15.1	0.0	0.0	3.7	0.0	4.6	22.9	6.9	14.5	9.9	3.8	0.3
Prop In Lane	0.02		0.44	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	551	0	0	385	0	762	507	1599	713	291	1599	713
V/C Ratio(X)	0.82	0.00	0.00	0.42	0.00	0.28	0.67	0.39	0.68	0.12	0.23	0.02
Avail Cap(c_a), veh/h	551	0	0	385	0	762	507	1599	713	291	1599	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	0.0	12.6	0.0	11.5	17.1	11.0	13.1	14.3	10.1	9.2
Incr Delay (d2), s/veh	9.2	0.0	0.0	0.7	0.0	0.2	7.0	0.7	5.1	0.8	0.3	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	6.9	0.0	0.0	1.4	0.0	1.7	4.8	2.5	5.4	0.4	1.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	0.0	13.3	0.0	11.7	24.2	11.7	18.2	15.1	10.5	9.2
LnGrp LOS	C	A	A	B	A	B	C	B	B	B	B	A
Approach Vol, veh/h		449			374			1444			418	
Approach Delay, s/veh		30.0			12.4			16.8			10.8	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		31.0	8.0	21.0		31.0		29.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		27.0	4.0	17.0		27.0		25.0				
Max Q Clear Time (g_c+I1), s		24.9	5.7	17.1		11.9		6.6				
Green Ext Time (p_c), s		1.5	0.0	0.0		2.5		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

Limestone

3: Limestone Parkway & Beverly Road

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	108	137	50	174	124	127	1275	25	49	757	34
Future Volume (veh/h)	46	108	137	50	174	124	127	1275	25	49	757	34
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1870	1885	1870	1870	1870	1870	1885
Adj Flow Rate, veh/h	47	110	140	65	226	161	141	1417	28	55	851	38
Peak Hour Factor	0.98	0.98	0.98	0.77	0.77	0.77	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	1	1	1	1	1	2	1	2	2	2	2	1
Cap, veh/h	99	154	162	141	367	428	416	2112	942	242	2112	950
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	104	571	602	244	1362	1585	630	3554	1585	369	3554	1598
Grp Volume(v), veh/h	297	0	0	291	0	161	141	1417	28	55	851	38
Grp Sat Flow(s),veh/h/ln	1278	0	0	1607	0	1585	630	1777	1585	369	1777	1598
Q Serve(g_s), s	4.5	0.0	0.0	0.0	0.0	4.9	9.0	15.8	0.4	7.0	7.5	0.6
Cycle Q Clear(g_c), s	13.6	0.0	0.0	9.1	0.0	4.9	16.6	15.8	0.4	22.8	7.5	0.6
Prop In Lane	0.16		0.47	0.22		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	415	0	0	508	0	428	416	2112	942	242	2112	950
V/C Ratio(X)	0.71	0.00	0.00	0.57	0.00	0.38	0.34	0.67	0.03	0.23	0.40	0.04
Avail Cap(c_a), veh/h	445	0	0	539	0	458	416	2112	942	242	2112	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	0.0	18.8	0.0	17.5	10.8	8.1	4.9	15.7	6.4	5.0
Incr Delay (d2), s/veh	5.0	0.0	0.0	1.3	0.0	0.5	2.2	1.7	0.1	2.2	0.6	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	4.2	0.0	0.0	3.4	0.0	1.7	1.3	4.9	0.1	0.7	2.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.0	0.0	20.1	0.0	18.0	13.0	9.8	5.0	17.9	6.9	5.0
LnGrp LOS	C	A	A	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		297			452			1586			944	
Approach Delay, s/veh		25.3			19.3			10.0			7.5	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		19.9		39.0		19.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		35.0		17.0		35.0		17.0				
Max Q Clear Time (g_c+I1), s		18.6		15.6		24.8		11.1				
Green Ext Time (p_c), s		10.7		0.3		4.9		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				11.9								
HCM 6th LOS				B								

Limestone

4: Limestone Parkway & Kroger Access

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	7	0	101	24	1343	28	158	837	0
Future Volume (veh/h)	0	0	0	7	0	101	24	1343	28	158	837	0
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1885	0	1885	1870	1870	1885	1885	1870	1870
Adj Flow Rate, veh/h				9	0	128	26	1476	31	184	973	0
Peak Hour Factor				0.79	0.92	0.79	0.91	0.91	0.91	0.86	0.86	0.92
Percent Heavy Veh, %				1	0	1	2	2	1	1	2	2
Cap, veh/h				188	0	167	479	2048	921	377	2603	1161
Arrive On Green				0.10	0.00	0.10	0.58	0.58	0.58	0.07	0.73	0.00
Sat Flow, veh/h				1795	0	1598	578	3554	1598	1795	3554	1585
Grp Volume(v), veh/h				9	0	128	26	1476	31	184	973	0
Grp Sat Flow(s),veh/h/ln				1795	0	1598	578	1777	1598	1795	1777	1585
Q Serve(g_s), s				0.2	0.0	3.8	1.0	14.8	0.4	1.7	5.0	0.0
Cycle Q Clear(g_c), s				0.2	0.0	3.8	1.0	14.8	0.4	1.7	5.0	0.0
Prop In Lane				1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				188	0	167	479	2048	921	377	2603	1161
V/C Ratio(X)				0.05	0.00	0.76	0.05	0.72	0.03	0.49	0.37	0.00
Avail Cap(c_a), veh/h				584	0	520	479	2048	921	389	2603	1161
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				19.8	0.0	21.4	4.6	7.5	4.5	8.4	2.4	0.0
Incr Delay (d2), s/veh				0.1	0.0	7.1	0.2	2.2	0.1	1.0	0.4	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
%ile BackOfQ(50%),veh/ln				0.1	0.0	1.6	0.1	4.3	0.1	0.8	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				19.9	0.0	28.5	4.8	9.8	4.6	9.4	2.8	0.0
LnGrp LOS				B	A	C	A	A	A	A	A	A
Approach Vol, veh/h					137			1533			1157	
Approach Delay, s/veh					27.9			9.6			3.9	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	7.7	32.3				40.0		9.2				
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0				36.0		16.0				
Max Q Clear Time (g_c+I1), s	3.7	16.8				7.0		5.8				
Green Ext Time (p_c), s	0.0	7.8				8.1		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				8.1								
HCM 6th LOS				A								

Limestone

5: Jesse Jewell Parkway & Limestone Parkway/Textile Way

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	562	67	180	44	78	13	772	1394	125	29	1039	509
Future Volume (veh/h)	562	67	180	44	78	13	772	1394	125	29	1039	509
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	624	74	200	66	116	19	780	1408	126	32	1142	559
Peak Hour Factor	0.90	0.90	0.90	0.67	0.67	0.67	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	665	146	394	175	151	25	798	1900	847	188	1162	518
Arrive On Green	0.19	0.33	0.33	0.10	0.10	0.10	0.23	0.53	0.53	0.02	0.33	0.33
Sat Flow, veh/h	3456	446	1207	1105	1567	257	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	624	0	274	66	0	135	780	1408	126	32	1142	559
Grp Sat Flow(s),veh/h/ln	1728	0	1653	1105	0	1824	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	18.5	0.0	13.9	6.0	0.0	7.5	23.3	31.8	4.2	1.2	33.1	34.0
Cycle Q Clear(g_c), s	18.5	0.0	13.9	6.0	0.0	7.5	23.3	31.8	4.2	1.2	33.1	34.0
Prop In Lane	1.00		0.73	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	665	0	540	175	0	175	798	1900	847	188	1162	518
V/C Ratio(X)	0.94	0.00	0.51	0.38	0.00	0.77	0.98	0.74	0.15	0.17	0.98	1.08
Avail Cap(c_a), veh/h	665	0	636	239	0	281	798	1900	847	215	1162	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	28.2	45.2	0.0	45.9	39.7	18.7	12.2	22.9	34.7	35.0
Incr Delay (d2), s/veh	21.2	0.0	0.7	1.3	0.0	7.0	26.4	2.7	0.4	0.4	22.6	62.4
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	9.7	0.0	5.5	1.7	0.0	3.7	12.7	13.0	1.5	0.5	17.6	21.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	0.0	29.0	46.5	0.0	52.9	66.1	21.3	12.6	23.3	57.3	97.4
LnGrp LOS	E	A	C	D	A	D	E	C	B	C	E	F
Approach Vol, veh/h		898			201			2314			1733	
Approach Delay, s/veh		52.4			50.8			35.9			69.6	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	59.6		38.0	28.0	38.0	24.0	14.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	54.0		40.0	24.0	34.0	20.0	16.0				
Max Q Clear Time (g_c+I1), s	3.2	33.8		15.9	25.3	36.0	20.5	9.5				
Green Ext Time (p_c), s	0.0	11.4		1.8	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			50.7									
HCM 6th LOS			D									

Limestone

6: Textile Way/White Sulphur Road & Jesse Jewell Parkway

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	1753	5	22	1563	253	1	10	56	355	12	158
Future Volume (veh/h)	201	1753	5	22	1563	253	1	10	56	355	12	158
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	2062	6	23	1628	264	1	14	81	378	13	168
Peak Hour Factor	0.85	0.85	0.85	0.96	0.96	0.96	0.69	0.69	0.69	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	2093	933	84	1658	740	294	42	246	423	37	479
Arrive On Green	0.08	0.59	0.59	0.47	0.47	0.47	0.18	0.18	0.18	0.10	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	201	3554	1585	1203	239	1383	1781	115	1488
Grp Volume(v), veh/h	236	2062	6	23	1628	264	1	0	95	378	0	181
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	201	1777	1585	1203	0	1622	1781	0	1603
Q Serve(g_s), s	7.0	51.1	0.1	1.9	40.6	9.6	0.1	0.0	4.6	9.0	0.0	7.8
Cycle Q Clear(g_c), s	7.0	51.1	0.1	42.0	40.6	9.6	0.1	0.0	4.6	9.0	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.85	1.00		0.93
Lane Grp Cap(c), veh/h	222	2093	933	84	1658	740	294	0	288	423	0	516
V/C Ratio(X)	1.06	0.99	0.01	0.27	0.98	0.36	0.00	0.00	0.33	0.89	0.00	0.35
Avail Cap(c_a), veh/h	222	2093	933	84	1658	740	294	0	288	423	0	516
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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	18.1	7.6	44.8	23.6	15.4	30.4	0.0	32.3	31.9	0.0	23.3
Incr Delay (d2), s/veh	77.6	16.3	0.0	1.7	17.8	0.3	0.0	0.0	3.0	20.8	0.0	1.9
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	6.9	22.9	0.0	0.5	19.8	3.4	0.0	0.0	2.0	6.3	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.0	34.4	7.6	46.6	41.5	15.6	30.5	0.0	35.4	52.8	0.0	25.2
LnGrp LOS	F	C	A	D	D	B	C	A	D	D	A	C
Approach Vol, veh/h	2304			1915			96			559		
Approach Delay, s/veh	41.4			38.0			35.3			43.8		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.0	20.0		57.0		33.0	11.0	46.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	9.0	16.0		53.0		29.0	7.0	42.0				
Max Q Clear Time (g_c+I1), s	11.0	6.6		53.1		9.8	9.0	44.0				
Green Ext Time (p_c), s	0.0	0.3		0.0		1.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				40.2								
HCM 6th LOS				D								

Limestone

7: I-985 southbound & Jesse Jewell Parkway

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑		↑↑
Traffic Volume (veh/h)	0	1232	871	165	1300	0	0	0	0	31	0	500
Future Volume (veh/h)	0	1232	871	165	1300	0	0	0	0	31	0	500
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	0	1870
Adj Flow Rate, veh/h	0	1257	0	174	1368	0				36	0	581
Peak Hour Factor	0.92	0.98	0.98	0.95	0.95	0.92				0.86	0.92	0.86
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1457		269	1970	0				556	0	871
Arrive On Green	0.00	0.41	0.00	0.08	0.55	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3647	1585	3456	3647	0				1781	0	2790
Grp Volume(v), veh/h	0	1257	0	174	1368	0				36	0	581
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0				1781	0	1395
Q Serve(g_s), s	0.0	19.4	0.0	2.9	16.7	0.0				0.9	0.0	10.9
Cycle Q Clear(g_c), s	0.0	19.4	0.0	2.9	16.7	0.0				0.9	0.0	10.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1457		269	1970	0				556	0	871
V/C Ratio(X)	0.00	0.86		0.65	0.69	0.00				0.06	0.00	0.67
Avail Cap(c_a), veh/h	0	1540		288	2073	0				556	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.14	0.00	0.73	0.73	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.2	0.0	26.9	9.7	0.0				14.5	0.0	17.9
Incr Delay (d2), s/veh	0.0	0.8	0.0	3.3	0.7	0.0				0.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.9	0.0	1.3	5.2	0.0				0.3	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.9	0.0	30.2	10.4	0.0				14.5	0.0	19.9
LnGrp LOS	A	B		C	B	A				B	A	B
Approach Vol, veh/h		1257	A		1542						617	
Approach Delay, s/veh		16.9			12.6						19.6	
Approach LOS		B			B						B	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			8.7	28.6		22.7		37.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			5.0	26.0		17.0		35.0				
Max Q Clear Time (g_c+I1), s			4.9	21.4		12.9		18.7				
Green Ext Time (p_c), s			0.0	3.2		1.1		9.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

8: I-985 northbound & Jesse Jewell Parkway

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 		 			
Traffic Volume (veh/h)	609	676	0	0	532	53	908	0	183	0	0	0
Future Volume (veh/h)	609	676	0	0	532	53	908	0	183	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	669	743	0	0	605	60	966	0	195			
Peak Hour Factor	0.91	0.91	0.92	0.92	0.88	0.88	0.94	0.92	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	924	1955	0	0	1955	872	1094	0	883			
Arrive On Green	0.55	0.55	0.00	0.00	0.55	0.55	0.32	0.00	0.32			
Sat Flow, veh/h	1495	3647	0	0	3647	1585	3456	0	2790			
Grp Volume(v), veh/h	669	743	0	0	605	60	966	0	195			
Grp Sat Flow(s),veh/h/ln	748	1777	0	0	1777	1585	1728	0	1395			
Q Serve(g_s), s	26.3	7.1	0.0	0.0	5.5	1.1	15.9	0.0	3.1			
Cycle Q Clear(g_c), s	31.9	7.1	0.0	0.0	5.5	1.1	15.9	0.0	3.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	924	1955	0	0	1955	872	1094	0	883			
V/C Ratio(X)	0.72	0.38	0.00	0.00	0.31	0.07	0.88	0.00	0.22			
Avail Cap(c_a), veh/h	924	1955	0	0	1955	872	1094	0	883			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.50	0.50	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	7.7	0.0	0.0	7.3	6.3	19.4	0.0	15.1			
Incr Delay (d2), s/veh	1.4	0.1	0.0	0.0	0.1	0.0	8.7	0.0	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			
%ile BackOfQ(50%),veh/ln	3.9	2.2	0.0	0.0	1.7	0.3	7.0	0.0	0.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	7.7	0.0	0.0	7.4	6.3	28.1	0.0	15.2			
LnGrp LOS	B	A	A	A	A	A	C	A	B			
Approach Vol, veh/h	1412				665		1161					
Approach Delay, s/veh	12.3				7.3		26.0					
Approach LOS	B				A		C					
Timer - Assigned Phs	2		4				8					
Phs Duration (G+Y+Rc), s	23.0		37.0				37.0					
Change Period (Y+Rc), s	4.0		4.0				4.0					
Max Green Setting (Gmax), s	19.0		33.0				33.0					
Max Q Clear Time (g_c+l1), s	17.9		33.9				7.5					
Green Ext Time (p_c), s	0.6		0.0				4.6					
Intersection Summary												
HCM 6th Ctrl Delay	16.2											
HCM 6th LOS	B											

Limestone

9: Lakeview Drive & Nottingham Drive/Beverly Road

no-build p.m.

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	29	4	34	36	265	3	37	66	190	35	3
Future Vol, veh/h	8	29	4	34	36	265	3	37	66	190	35	3
Peak Hour Factor	0.64	0.64	0.64	0.83	0.83	0.83	0.79	0.79	0.79	0.91	0.91	0.91
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	13	45	6	41	43	319	4	47	84	209	38	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	12.6	9.4	11.8
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	20%	10%	83%
Vol Thru, %	35%	71%	11%	15%
Vol Right, %	62%	10%	79%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	41	335	228
LT Vol	3	8	34	190
Through Vol	37	29	36	35
RT Vol	66	4	265	3
Lane Flow Rate	134	64	404	251
Geometry Grp	1	1	1	1
Degree of Util (X)	0.191	0.098	0.52	0.379
Departure Headway (Hd)	5.118	5.522	4.638	5.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	648	783	661
Service Time	3.156	3.563	2.638	3.474
HCM Lane V/C Ratio	0.191	0.099	0.516	0.38
HCM Control Delay	9.4	9.2	12.6	11.8
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.7	0.3	3.1	1.8

Limestone

10: Myrtle Street/Quarry Street & Jesse Jewell Parkway

no-build p.m.

Intersection												
Int Delay, s/veh	46.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	2328	1	2	1234	27	5	0	22	17	0	33
Future Vol, veh/h	51	2328	1	2	1234	27	5	0	22	17	0	33
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	-	-	-3	-
Peak Hour Factor	83	83	83	91	91	91	58	58	58	71	71	71
Heavy Vehicles, %	1	2	2	2	2	1	2	1	2	1	1	1
Mvmt Flow	61	2805	1	2	1356	30	9	0	38	24	0	46
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1386	0	0	2806	0	0	3610	4318	1403	2900	4303	693
Stage 1	-	-	-	-	-	-	2928	2928	-	1375	1375	-
Stage 2	-	-	-	-	-	-	682	1390	-	1525	2928	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.54	6.52	6.94	6.92	5.92	6.62
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.52	-	5.92	4.92	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.52	-	5.92	4.92	-
Follow-up Hdwy	2.21	-	-	2.22	-	-	3.52	4.01	3.32	3.51	4.01	3.31
Pot Cap-1 Maneuver	495	-	-	135	-	-	~ 2	2	129	~ 12	4	411
Stage 1	-	-	-	-	-	-	15	34	-	194	268	-
Stage 2	-	-	-	-	-	-	406	210	-	160	56	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	495	-	-	135	-	-	~ 2	2	129	~ 8	3	411
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 2	2	-	~ 8	3	-
Stage 1	-	-	-	-	-	-	13	30	-	170	264	-
Stage 2	-	-	-	-	-	-	355	207	-	99	49	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			\$ 2383.5			\$ 1281.9		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	10	495	-	-	135	-	-	23				
HCM Lane V/C Ratio	4.655	0.124	-	-	0.016	-	-	3.062				
HCM Control Delay (s)	\$ 2383.5	13.3	-	-	32.1	-	-	\$ 1281.9				
HCM Lane LOS	F	B	-	-	D	-	-	F				
HCM 95th %tile Q(veh)	7	0.4	-	-	0.1	-	-	8.9				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Limestone

14: South Enota Drive & Robinhood Trail

no-build p.m.

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	17	49	5	42	10	941	79	29	373	5
Future Vol, veh/h	8	3	17	49	5	42	10	941	79	29	373	5
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	50	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	81	81	81	92	92	92
Heavy Vehicles, %	2	1	2	1	1	1	2	2	1	1	2	2
Mvmt Flow	9	3	19	60	6	51	12	1162	98	32	405	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1710	1756	408	1718	1709	1211	410	0	0	1260	0	0
Stage 1	472	472	-	1235	1235	-	-	-	-	-	-	-
Stage 2	1238	1284	-	483	474	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	6.11	5.51	5.71	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	72	85	643	115	147	264	1149	-	-	555	-	-
Stage 1	573	561	-	306	352	-	-	-	-	-	-	-
Stage 2	215	237	-	648	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	53	79	643	102	137	264	1149	-	-	555	-	-
Mov Cap-2 Maneuver	53	79	-	102	137	-	-	-	-	-	-	-
Stage 1	567	528	-	303	348	-	-	-	-	-	-	-
Stage 2	168	235	-	589	601	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	41.3		58.1		0.1		0.8					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1149	-	-	130	104	264	555	-	-			
HCM Lane V/C Ratio	0.011	-	-	0.242	0.633	0.194	0.057	-	-			
HCM Control Delay (s)	8.2	-	-	41.3	86.2	21.9	11.9	-	-			
HCM Lane LOS	A	-	-	E	F	C	B	-	-			
HCM 95th %tile O(veh)	0	-	-	0.9	3.1	0.7	0.2	-	-			

Limestone

11: Terrace Street/Community Way & Jesse Jewell Parkway

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	2238	19	36	1203	29	32	2	63	88	1	83
Future Volume (veh/h)	101	2238	19	36	1203	29	32	2	63	88	1	83
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1870	1870	1885	1870	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	117	2602	22	40	1322	32	49	3	97	98	1	92
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.65	0.65	0.65	0.90	0.90	0.90
Percent Heavy Veh, %	1	2	2	1	2	1	1	1	1	1	1	1
Cap, veh/h	333	2648	22	85	2298	1033	116	29	172	286	3	282
Arrive On Green	0.04	0.73	0.73	0.65	0.65	0.65	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1795	3611	30	117	3554	1598	352	166	965	1305	17	1583
Grp Volume(v), veh/h	117	1278	1346	40	1322	32	149	0	0	98	0	93
Grp Sat Flow(s),veh/h/ln	1795	1777	1865	117	1777	1598	1482	0	0	1305	0	1600
Q Serve(g_s), s	1.8	61.5	62.2	3.8	18.8	0.6	3.8	0.0	0.0	0.0	0.0	4.6
Cycle Q Clear(g_c), s	1.8	61.5	62.2	58.2	18.8	0.6	8.3	0.0	0.0	7.8	0.0	4.6
Prop In Lane	1.00		0.02	1.00		1.00	0.33		0.65	1.00		0.99
Lane Grp Cap(c), veh/h	333	1303	1367	85	2298	1033	317	0	0	286	0	285
V/C Ratio(X)	0.35	0.98	0.98	0.47	0.58	0.03	0.47	0.00	0.00	0.34	0.00	0.33
Avail Cap(c_a), veh/h	337	1303	1368	85	2298	1033	317	0	0	286	0	285
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	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	11.4	11.5	44.8	8.9	5.7	33.7	0.0	0.0	33.6	0.0	32.3
Incr Delay (d2), s/veh	0.6	20.5	20.5	4.0	0.4	0.0	4.9	0.0	0.0	3.2	0.0	3.0
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	0.6	24.6	26.0	1.0	6.4	0.2	3.4	0.0	0.0	2.2	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	31.9	32.0	48.8	9.3	5.7	38.7	0.0	0.0	36.9	0.0	35.3
LnGrp LOS	A	C	C	D	A	A	D	A	A	D	A	D
Approach Vol, veh/h	2741			1394			149			191		
Approach Delay, s/veh	30.9			10.3			38.7			36.1		
Approach LOS	C			B			D			D		
Timer - Assigned Phs	2			4		6		7	8			
Phs Duration (G+Y+Rc), s	20.0			70.0		20.0		7.8	62.2			
Change Period (Y+Rc), s	4.0			4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s	16.0			66.0		16.0		4.0	58.0			
Max Q Clear Time (g_c+I1), s	10.3			64.2		9.8		3.8	60.2			
Green Ext Time (p_c), s	0.3			1.8		0.4		0.0	0.0			
Intersection Summary												
HCM 6th Ctrl Delay	25.0											
HCM 6th LOS	C											

Limestone

12: Downey Boulevard & Jesse Jewell Parkway

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1512	39	155	1270	255	48	335	194	338	253	170
Future Volume (veh/h)	197	1512	39	155	1270	255	48	335	194	338	253	170
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	1738	45	168	1380	277	54	376	218	380	284	191
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	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	259	1699	44	179	1609	717	257	569	254	371	495	420
Arrive On Green	0.09	0.48	0.48	0.06	0.45	0.45	0.04	0.16	0.16	0.14	0.26	0.26
Sat Flow, veh/h	1781	3539	91	1781	3554	1585	1781	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	226	870	913	168	1380	277	54	376	218	380	284	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1585	1781	1777	1585	1781	1870	1585
Q Serve(g_s), s	6.6	48.0	48.0	5.3	34.8	11.6	2.5	9.9	13.4	14.0	13.2	10.1
Cycle Q Clear(g_c), s	6.6	48.0	48.0	5.3	34.8	11.6	2.5	9.9	13.4	14.0	13.2	10.1
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	853	890	179	1609	717	257	569	254	371	495	420
V/C Ratio(X)	0.87	1.02	1.03	0.94	0.86	0.39	0.21	0.66	0.86	1.02	0.57	0.45
Avail Cap(c_a), veh/h	300	853	890	179	1609	717	284	569	254	371	495	420
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	26.0	26.0	24.7	24.5	18.2	33.4	39.5	40.9	32.8	31.9	30.7
Incr Delay (d2), s/veh	21.2	35.9	37.0	49.8	4.9	0.3	0.4	5.9	29.6	52.8	4.8	3.5
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	4.0	27.5	28.9	4.6	15.0	4.2	1.1	4.8	7.3	7.8	6.5	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	61.9	63.0	74.5	29.4	18.5	33.8	45.4	70.5	85.6	36.6	34.2
LnGrp LOS	D	F	F	E	C	B	C	D	E	F	D	C
Approach Vol, veh/h	2009			1825			648			855		
Approach Delay, s/veh	60.3			31.9			52.9			57.9		
Approach LOS	E			C			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	20.0	10.0	52.0	7.5	30.5	12.7	49.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	6.0	48.0	5.0	25.0	11.0	43.0				
Max Q Clear Time (g_c+I1), s	16.0	15.4	7.3	50.0	4.5	15.2	8.6	36.8				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	1.7	0.2	4.8				
Intersection Summary												
HCM 6th Ctrl Delay	49.3											
HCM 6th LOS	D											

Limestone

13: South Enota Drive & Sherwood Park Drive/Walgreens access

no-build p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	16	87	35	10	27	38	857	59	14	378	35
Future Volume (veh/h)	153	16	87	35	10	27	38	857	59	14	378	35
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	2003	1988	2003	1885	1870	1870
Adj Flow Rate, veh/h	212	22	121	58	17	45	42	952	66	17	455	42
Peak Hour Factor	0.72	0.72	0.72	0.60	0.60	0.60	0.90	0.90	0.90	0.83	0.83	0.83
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	2
Cap, veh/h	341	67	369	313	79	426	556	1193	1018	250	1012	93
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1351	252	1384	774	296	1598	964	1988	1697	558	1687	156
Grp Volume(v), veh/h	212	0	143	75	0	45	42	952	66	17	0	497
Grp Sat Flow(s),veh/h/ln	1351	0	1636	1069	0	1598	964	1988	1697	558	0	1842
Q Serve(g_s), s	9.3	0.0	4.2	2.0	0.0	1.3	1.5	22.1	1.0	1.4	0.0	8.9
Cycle Q Clear(g_c), s	15.5	0.0	4.2	6.2	0.0	1.3	10.4	22.1	1.0	23.5	0.0	8.9
Prop In Lane	1.00		0.85	0.77		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	341	0	436	392	0	426	556	1193	1018	250	0	1105
V/C Ratio(X)	0.62	0.00	0.33	0.19	0.00	0.11	0.08	0.80	0.06	0.07	0.00	0.45
Avail Cap(c_a), veh/h	341	0	436	392	0	426	556	1193	1018	250	0	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	17.7	19.0	0.0	16.6	9.4	9.2	5.0	18.2	0.0	6.6
Incr Delay (d2), s/veh	3.4	0.0	0.4	0.2	0.0	0.1	0.3	5.6	0.1	0.5	0.0	1.3
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	3.1	0.0	1.5	0.8	0.0	0.4	0.3	8.7	0.3	0.2	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	0.0	18.1	19.2	0.0	16.7	9.7	14.8	5.1	18.8	0.0	7.9
LnGrp LOS	C	A	B	B	A	B	A	B	A	B	A	A
Approach Vol, veh/h		355			120			1060			514	
Approach Delay, s/veh		24.2			18.3			14.0			8.3	
Approach LOS		C			B			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		20.0		40.0		20.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		24.1		17.5		25.5		8.2				
Green Ext Time (p_c), s		6.1		0.0		2.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.6								
HCM 6th LOS				B								

Limestone

15: Park Hill Drive & South Enota Drive

no-build p.m.

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	7	628	70	151	586	323	287	168	15	213	334	446
Future Volume (veh/h)	7	628	70	151	586	323	287	168	15	213	334	446
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	661	74	189	732	404	305	179	16	248	388	0
Peak Hour Factor	0.95	0.95	0.95	0.80	0.80	0.80	0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	661	74	219	977	828	316	366	33	455	416	
Arrive On Green	0.40	0.40	0.40	0.08	0.52	0.52	0.12	0.22	0.22	0.13	0.22	0.00
Sat Flow, veh/h	495	1652	185	1781	1870	1585	1781	1692	151	1781	1870	1585
Grp Volume(v), veh/h	7	0	735	189	732	404	305	0	195	248	388	0
Grp Sat Flow(s),veh/h/ln	495	0	1837	1781	1870	1585	1781	0	1843	1781	1870	1585
Q Serve(g_s), s	1.0	0.0	36.0	5.3	27.7	14.7	11.0	0.0	8.3	9.5	18.3	0.0
Cycle Q Clear(g_c), s	17.7	0.0	36.0	5.3	27.7	14.7	11.0	0.0	8.3	9.5	18.3	0.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	735	219	977	828	316	0	398	455	416	
V/C Ratio(X)	0.04	0.00	1.00	0.86	0.75	0.49	0.96	0.00	0.49	0.54	0.93	
Avail Cap(c_a), veh/h	187	0	735	219	977	828	316	0	398	464	416	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.1	0.0	27.0	20.6	16.9	13.8	27.1	0.0	30.9	23.0	34.3	0.0
Incr Delay (d2), s/veh	0.4	0.0	33.3	28.3	5.3	2.1	40.9	0.0	0.9	1.3	28.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	21.6	3.7	12.3	5.4	8.6	0.0	3.7	4.0	11.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	0.0	60.3	48.9	22.1	15.8	68.1	0.0	31.9	24.2	62.4	0.0
LnGrp LOS	C	A	F	D	C	B	E	A	C	C	E	
Approach Vol, veh/h		742			1325			500			636	A
Approach Delay, s/veh		60.0			24.0			54.0			47.5	
Approach LOS		E			C			D			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	40.0	15.6	23.4		51.0	15.0	24.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	7.0	36.0	12.0	19.0		47.0	11.0	20.0				
Max Q Clear Time (g_c+I1), s	7.3	38.0	11.5	10.3		29.7	13.0	20.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6		6.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			41.7									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

16: Park Hill Drive & Lakeview Drive

no-build p.m.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	262	52	1171	199	40	748
Future Volume (veh/h)	262	52	1171	199	40	748
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1832	1832	1870	1870	1885	1870
Adj Flow Rate, veh/h	305	60	1287	219	43	804
Peak Hour Factor	0.86	0.86	0.91	0.91	0.93	0.93
Percent Heavy Veh, %	1	1	2	2	1	2
Cap, veh/h	369	328	1638	276	260	1207
Arrive On Green	0.21	0.21	0.54	0.54	0.03	0.65
Sat Flow, veh/h	1745	1553	3135	513	1795	1870
Grp Volume(v), veh/h	305	60	747	759	43	804
Grp Sat Flow(s),veh/h/ln	1745	1553	1777	1778	1795	1870
Q Serve(g_s), s	9.3	1.8	18.7	19.2	0.5	14.9
Cycle Q Clear(g_c), s	9.3	1.8	18.7	19.2	0.5	14.9
Prop In Lane	1.00	1.00		0.29	1.00	
Lane Grp Cap(c), veh/h	369	328	957	958	260	1207
V/C Ratio(X)	0.83	0.18	0.78	0.79	0.17	0.67
Avail Cap(c_a), veh/h	500	445	957	958	326	1207
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.0	18.0	10.2	10.4	8.9	6.2
Incr Delay (d2), s/veh	8.2	0.3	6.3	6.7	0.3	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.6	7.2	7.4	0.2	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.2	18.3	16.5	17.1	9.2	9.1
LnGrp LOS	C	B	B	B	A	A
Approach Vol, veh/h	365		1506			847
Approach Delay, s/veh	27.4		16.8			9.1
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	5.9	34.1			40.0	15.8
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	4.0	28.0			36.0	16.0
Max Q Clear Time (g_c+l1), s	2.5	21.2			16.9	11.3
Green Ext Time (p_c), s	0.0	5.0			5.9	0.5
Intersection Summary						
HCM 6th Ctrl Delay			15.8			
HCM 6th LOS			B			

Appendix E

Build Intersection Operational Analysis

Limestone

1: Cleveland Highway & Limestone Parkway

future a.m.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	0	189	14	891	731
Future Volume (veh/h)	7	0	189	14	891	731
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	0	259	19	990	812
Peak Hour Factor	0.42	0.92	0.73	0.73	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	0	0	1277	1082	1160	1763
Arrive On Green	0.00	0.00	0.68	0.68	0.20	0.94
Sat Flow, veh/h	0	0	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	259	19	990	812
Grp Sat Flow(s),veh/h/ln	0	0	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	3.6	0.3	7.5	3.1
Cycle Q Clear(g_c), s	0.0	0.0	3.6	0.3	7.5	3.1
Prop In Lane	0.00	0.00		1.00	1.00	
Lane Grp Cap(c), veh/h	0	0	1277	1082	1160	1763
V/C Ratio(X)	0.00	0.00	0.20	0.02	0.85	0.46
Avail Cap(c_a), veh/h	0	0	1277	1082	1969	1763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	4.1	3.6	2.7	0.2
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	1.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.1	0.1	0.6	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	4.4	3.6	4.7	1.1
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		278		1802	
Approach Delay, s/veh	0.0		4.4		3.1	
Approach LOS			A		A	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	18.2	51.8			70.0	0.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	46.0	16.0			66.0	16.0
Max Q Clear Time (g_c+I1), s	9.5	5.6			5.1	0.0
Green Ext Time (p_c), s	4.7	1.1			7.7	0.0
Intersection Summary						
HCM 6th Ctrl Delay			3.2			
HCM 6th LOS			A			

Limestone

97: Cleveland Highway & Limestone Parkway

future a.m.

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						 
Traffic Vol, veh/h	0	261	189	0	0	1622
Future Vol, veh/h	0	261	189	0	0	1622
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	89	73	92	92	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	293	259	0	0	1802
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	259	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	779	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	779	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.4	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 779		-			
HCM Lane V/C Ratio	- 0.376		-			
HCM Control Delay (s)	- 12.4		-			
HCM Lane LOS	- B		-			
HCM 95th %tile Q(veh)	- 1.8		-			

Limestone

2: Limestone Parkway & Clarks Bridge Road

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	87	175	426	172	16	137	254	73	25	868	39
Future Volume (veh/h)	2	87	175	426	172	16	137	254	73	25	868	39
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	109	219	553	223	21	151	279	80	27	954	43
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	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	41	123	243	590	826	78	197	1487	663	459	1487	663
Arrive On Green	0.22	0.22	0.22	0.23	0.49	0.49	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	2	559	1108	1781	1683	159	565	3554	1585	1022	3554	1585
Grp Volume(v), veh/h	330	0	0	553	0	244	151	279	80	27	954	43
Grp Sat Flow(s),veh/h/ln	1669	0	0	1781	0	1842	565	1777	1585	1022	1777	1585
Q Serve(g_s), s	1.9	0.0	0.0	20.0	0.0	6.9	18.1	4.4	2.7	1.5	18.9	1.4
Cycle Q Clear(g_c), s	17.0	0.0	0.0	20.0	0.0	6.9	37.0	4.4	2.7	5.9	18.9	1.4
Prop In Lane	0.01		0.66	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	0	0	590	0	904	197	1487	663	459	1487	663
V/C Ratio(X)	0.81	0.00	0.00	0.94	0.00	0.27	0.77	0.19	0.12	0.06	0.64	0.06
Avail Cap(c_a), veh/h	437	0	0	590	0	938	197	1487	663	459	1487	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	0.0	19.6	0.0	13.2	37.2	16.2	15.7	18.1	20.4	15.4
Incr Delay (d2), s/veh	10.3	0.0	0.0	22.7	0.0	0.2	24.2	0.3	0.4	0.2	2.1	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	7.9	0.0	0.0	11.8	0.0	2.7	4.6	1.8	1.0	0.4	7.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	0.0	0.0	42.3	0.0	13.4	61.4	16.5	16.1	18.3	22.6	15.5
LnGrp LOS	D	A	A	D	A	B	E	B	B	B	C	B
Approach Vol, veh/h		330			797			510			1024	
Approach Delay, s/veh		43.9			33.4			29.7			22.2	
Approach LOS		D			C			C			C	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		41.0	24.0	23.4		41.0		47.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		37.0	20.0	21.0		37.0		45.0				
Max Q Clear Time (g_c+I1), s		39.0	22.0	19.0		20.9		8.9				
Green Ext Time (p_c), s		0.0	0.0	0.4		6.5		1.5				
Intersection Summary												
HCM 6th Ctrl Delay		29.7										
HCM 6th LOS		C										

Limestone

3: Limestone Parkway & Beverly Road

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	147	220	39	140	65	255	620	72	81	1233	131
Future Volume (veh/h)	45	147	220	39	140	65	255	620	72	81	1233	131
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1870	1885	1870	1870	1870	1870	1885
Adj Flow Rate, veh/h	51	165	247	46	165	76	283	689	80	93	1417	151
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	2	1	2	2	2	2	1
Cap, veh/h	79	124	167	109	305	362	245	2335	1042	505	2335	1050
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	94	545	730	204	1332	1585	330	3554	1585	700	3554	1598
Grp Volume(v), veh/h	463	0	0	211	0	76	283	689	80	93	1417	151
Grp Sat Flow(s),veh/h/ln	1368	0	0	1537	0	1585	330	1777	1585	700	1777	1598
Q Serve(g_s), s	8.4	0.0	0.0	0.0	0.0	2.7	30.1	5.8	1.3	4.6	15.9	2.5
Cycle Q Clear(g_c), s	16.0	0.0	0.0	7.6	0.0	2.7	46.0	5.8	1.3	10.3	15.9	2.5
Prop In Lane	0.11		0.53	0.22		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	0	0	414	0	362	245	2335	1042	505	2335	1050
V/C Ratio(X)	1.25	0.00	0.00	0.51	0.00	0.21	1.16	0.30	0.08	0.18	0.61	0.14
Avail Cap(c_a), veh/h	370	0	0	414	0	362	245	2335	1042	505	2335	1050
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	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	23.5	0.0	21.9	26.3	5.1	4.3	7.3	6.8	4.5
Incr Delay (d2), s/veh	133.8	0.0	0.0	1.0	0.0	0.3	106.2	0.3	0.1	0.8	1.2	0.3
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	19.9	0.0	0.0	3.0	0.0	1.0	11.3	1.7	0.4	0.7	4.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	162.2	0.0	0.0	24.6	0.0	22.2	132.5	5.4	4.5	8.1	8.0	4.8
LnGrp LOS	F	A	A	C	A	C	F	A	A	A	A	A
Approach Vol, veh/h		463			287			1052			1661	
Approach Delay, s/veh		162.2			23.9			39.5			7.7	
Approach LOS		F			C			D			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.0		20.0		50.0		20.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		46.0		16.0		46.0		16.0				
Max Q Clear Time (g_c+I1), s		48.0		18.0		17.9		9.6				
Green Ext Time (p_c), s		0.0		0.0		14.9		0.8				
Intersection Summary												
HCM 6th Ctrl Delay				39.4								
HCM 6th LOS				D								

Limestone

4: Limestone Parkway & site access/Kroger Access

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	8	159	12	12	46	227	791	17	145	1225	136
Future Volume (veh/h)	95	8	159	12	12	46	227	791	17	145	1225	136
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1885	1870	1870	1885	1885	1870	1870
Adj Flow Rate, veh/h	119	10	199	20	20	77	239	833	18	161	1361	151
Peak Hour Factor	0.80	0.80	0.80	0.60	0.60	0.60	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	1	2	2	1	1	2	2
Cap, veh/h	330	13	261	0	322	275	366	1999	899	521	1926	859
Arrive On Green	0.17	0.17	0.17	0.00	0.17	0.17	0.09	0.56	0.56	0.07	0.54	0.54
Sat Flow, veh/h	1298	76	1520	0	1870	1598	1781	3554	1598	1795	3554	1585
Grp Volume(v), veh/h	119	0	209	0	20	77	239	833	18	161	1361	151
Grp Sat Flow(s),veh/h/ln	1298	0	1597	0	1870	1598	1781	1777	1598	1795	1777	1585
Q Serve(g_s), s	5.1	0.0	7.6	0.0	0.5	2.6	3.5	8.2	0.3	2.3	17.3	2.9
Cycle Q Clear(g_c), s	5.7	0.0	7.6	0.0	0.5	2.6	3.5	8.2	0.3	2.3	17.3	2.9
Prop In Lane	1.00		0.95	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	330	0	275	0	322	275	366	1999	899	521	1926	859
V/C Ratio(X)	0.36	0.00	0.76	0.00	0.06	0.28	0.65	0.42	0.02	0.31	0.71	0.18
Avail Cap(c_a), veh/h	448	0	420	0	737	630	383	1999	899	634	1926	859
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	24.0	0.0	21.1	21.9	10.8	7.6	5.9	5.6	10.4	7.1
Incr Delay (d2), s/veh	0.7	0.0	4.3	0.0	0.1	0.6	3.7	0.6	0.0	0.3	2.2	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	1.5	0.0	3.0	0.0	0.2	0.9	1.9	2.6	0.1	0.7	5.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	0.0	28.4	0.0	21.2	22.5	14.5	8.3	5.9	5.9	12.6	7.5
LnGrp LOS	C	A	C	A	C	C	B	A	A	A	B	A
Approach Vol, veh/h		328			97			1090			1673	
Approach Delay, s/veh		26.8			22.2			9.6			11.5	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	38.2	0.0	14.5	9.4	37.0		14.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	31.0	4.0	16.0	6.0	33.0		24.0				
Max Q Clear Time (g_c+I1), s	4.3	10.2	0.0	9.6	5.5	19.3		4.6				
Green Ext Time (p_c), s	0.1	6.1	0.0	0.9	0.0	8.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

Limestone

5: Jesse Jewell Parkway & Limestone Parkway/Textile Way

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	758	67	569	78	63	12	518	402	75	28	1813	433
Future Volume (veh/h)	758	67	569	78	63	12	518	402	75	28	1813	433
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	959	85	720	99	80	15	569	442	82	29	1908	456
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	565	66	563	65	292	55	346	1701	759	455	1421	634
Arrive On Green	0.16	0.39	0.39	0.19	0.19	0.19	0.10	0.48	0.48	0.02	0.40	0.40
Sat Flow, veh/h	3456	170	1441	677	1532	287	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	959	0	805	99	0	95	569	442	82	29	1908	456
Grp Sat Flow(s),veh/h/ln	1728	0	1611	677	0	1819	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	18.0	0.0	43.0	0.0	0.0	4.9	11.0	8.1	3.1	1.1	44.0	26.7
Cycle Q Clear(g_c), s	18.0	0.0	43.0	21.0	0.0	4.9	11.0	8.1	3.1	1.1	44.0	26.7
Prop In Lane	1.00		0.89	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	565	0	630	65	0	347	346	1701	759	455	1421	634
V/C Ratio(X)	1.70	0.00	1.28	1.51	0.00	0.27	1.65	0.26	0.11	0.06	1.34	0.72
Avail Cap(c_a), veh/h	565	0	630	65	0	347	346	1701	759	482	1421	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	33.5	55.0	0.0	38.0	49.5	17.1	15.8	18.7	33.0	27.8
Incr Delay (d2), s/veh	320.7	0.0	137.2	294.2	0.0	0.4	303.7	0.4	0.3	0.1	158.8	6.9
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	32.8	0.0	40.3	7.2	0.0	2.2	19.3	3.4	1.2	0.4	49.6	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	366.7	0.0	170.7	349.2	0.0	38.4	353.2	17.4	16.1	18.8	191.8	34.7
LnGrp LOS	F	A	F	F	A	D	F	B	B	B	F	C
Approach Vol, veh/h	1764				194		1093				2393	
Approach Delay, s/veh	277.3				197.0		192.1				159.8	
Approach LOS	F				F		F				F	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	56.6		47.0	15.0	48.0	22.0	25.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	51.0		43.0	11.0	44.0	18.0	21.0				
Max Q Clear Time (g_c+I1), s	3.1	10.1		45.0	13.0	46.0	20.0	23.0				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			205.7									
HCM 6th LOS			F									

Limestone

6: Textile Way/White Sulphur Road & Jesse Jewell Parkway

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1114	1	42	1953	182	1	8	23	325	9	134
Future Volume (veh/h)	90	1114	1	42	1953	182	1	8	23	325	9	134
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	1173	1	47	2194	204	1	9	26	382	11	158
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	2340	1043	294	2103	938	222	57	163	410	29	412
Arrive On Green	0.03	0.66	0.66	0.59	0.59	0.59	0.13	0.13	0.13	0.11	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	478	3554	1585	1216	424	1226	1781	104	1497
Grp Volume(v), veh/h	95	1173	1	47	2194	204	1	0	35	382	0	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	478	1777	1585	1216	0	1650	1781	0	1601
Q Serve(g_s), s	2.4	20.2	0.0	6.7	71.0	7.2	0.1	0.0	2.3	13.0	0.0	10.3
Cycle Q Clear(g_c), s	2.4	20.2	0.0	18.9	71.0	7.2	0.1	0.0	2.3	13.0	0.0	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.93
Lane Grp Cap(c), veh/h	119	2340	1043	294	2103	938	222	0	220	410	0	440
V/C Ratio(X)	0.80	0.50	0.00	0.16	1.04	0.22	0.00	0.00	0.16	0.93	0.00	0.38
Avail Cap(c_a), veh/h	119	2340	1043	294	2103	938	222	0	220	410	0	440
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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.3	10.5	7.0	17.3	24.5	11.5	45.1	0.0	46.0	44.8	0.0	35.3
Incr Delay (d2), s/veh	30.1	0.2	0.0	0.3	32.1	0.1	0.0	0.0	1.5	27.8	0.0	2.5
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	2.6	7.5	0.0	0.8	37.0	2.5	0.0	0.0	1.0	8.3	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	10.6	7.0	17.6	56.6	11.6	45.1	0.0	47.6	72.6	0.0	37.8
LnGrp LOS	E	B	A	B	F	B	D	A	D	E	A	D
Approach Vol, veh/h		1269			2445			36			551	
Approach Delay, s/veh		14.4			52.1			47.5			61.9	
Approach LOS		B			D			D			E	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	17.0	20.0		83.0		37.0	8.0	75.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	13.0	16.0		79.0		33.0	4.0	71.0				
Max Q Clear Time (g_c+I1), s	15.0	4.3		22.2		12.3	4.4	73.0				
Green Ext Time (p_c), s	0.0	0.1		12.2		0.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			42.2									
HCM 6th LOS			D									

Limestone

7: I-985 southbound & Jesse Jewell Parkway

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑		↑↑
Traffic Volume (veh/h)	0	435	1102	459	1576	0	0	0	0	51	0	731
Future Volume (veh/h)	0	435	1102	459	1576	0	0	0	0	51	0	731
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	0	1870
Adj Flow Rate, veh/h	0	473	0	494	1695	0				68	0	975
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.92				0.75	0.92	0.75
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1328		461	1960	0				641	0	1003
Arrive On Green	0.00	0.37	0.00	0.13	0.55	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	3647	1585	3456	3647	0				1781	0	2790
Grp Volume(v), veh/h	0	473	0	494	1695	0				68	0	975
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0				1781	0	1395
Q Serve(g_s), s	0.0	8.7	0.0	12.0	36.8	0.0				2.3	0.0	31.0
Cycle Q Clear(g_c), s	0.0	8.7	0.0	12.0	36.8	0.0				2.3	0.0	31.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1328		461	1960	0				641	0	1003
V/C Ratio(X)	0.00	0.36		1.07	0.86	0.00				0.11	0.00	0.97
Avail Cap(c_a), veh/h	0	1500		461	2132	0				641	0	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.00	0.66	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	0.0	39.0	17.3	0.0				19.2	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	55.1	2.5	0.0				0.1	0.0	21.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.0	8.5	14.2	0.0				0.9	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.5	0.0	94.1	19.8	0.0				19.3	0.0	50.2
LnGrp LOS	A	C		F	B	A				B	A	D
Approach Vol, veh/h		473	A		2189						1043	
Approach Delay, s/veh		20.5			36.6						48.1	
Approach LOS		C			D						D	
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			16.0	37.6		36.4			53.6			
Change Period (Y+Rc), s			4.0	4.0		4.0			4.0			
Max Green Setting (Gmax), s			12.0	38.0		28.0			54.0			
Max Q Clear Time (g_c+I1), s			14.0	10.7		33.0			38.8			
Green Ext Time (p_c), s			0.0	3.3		0.0			10.8			
Intersection Summary												
HCM 6th Ctrl Delay			37.8									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

8: I-985 northbound & Jesse Jewell Parkway

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 		 			
Traffic Volume (veh/h)	171	323	0	0	1181	42	833	0	107	0	0	0
Future Volume (veh/h)	171	323	0	0	1181	42	833	0	107	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	180	340	0	0	1270	45	926	0	119			
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93	0.90	0.92	0.90			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	371	1866	0	0	1866	832	1334	0	1077			
Arrive On Green	0.53	0.53	0.00	0.00	0.53	0.53	0.39	0.00	0.39			
Sat Flow, veh/h	811	3647	0	0	3647	1585	3456	0	2790			
Grp Volume(v), veh/h	180	340	0	0	1270	45	926	0	119			
Grp Sat Flow(s),veh/h/ln	405	1777	0	0	1777	1585	1728	0	1395			
Q Serve(g_s), s	19.0	4.5	0.0	0.0	23.8	1.2	20.2	0.0	2.5			
Cycle Q Clear(g_c), s	42.8	4.5	0.0	0.0	23.8	1.2	20.2	0.0	2.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	371	1866	0	0	1866	832	1334	0	1077			
V/C Ratio(X)	0.48	0.18	0.00	0.00	0.68	0.05	0.69	0.00	0.11			
Avail Cap(c_a), veh/h	405	2014	0	0	2014	898	1334	0	1077			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.6	11.2	0.0	0.0	15.8	10.4	23.2	0.0	17.7			
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.0	0.9	0.0	1.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.9	1.7	0.0	0.0	9.1	0.4	8.2	0.0	0.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	11.3	0.0	0.0	16.7	10.5	24.7	0.0	17.8			
LnGrp LOS	C	B	A	A	B	B	C	A	B			
Approach Vol, veh/h	520					1315		1045				
Approach Delay, s/veh	18.6					16.4		23.9				
Approach LOS	B					B		C				
Timer - Assigned Phs	2		4					8				
Phs Duration (G+Y+Rc), s	38.7		51.3					51.3				
Change Period (Y+Rc), s	4.0		4.0					4.0				
Max Green Setting (Gmax), s	31.0		51.0					51.0				
Max Q Clear Time (g_c+I1), s	22.2		44.8					25.8				
Green Ext Time (p_c), s	3.0		2.5					11.1				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

Limestone

9: Lakeview Drive & Nottingham Drive/Beverly Road

future a.m.

Intersection	
Intersection Delay, s/veh	74.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	31	2	86	57	342	3	86	32	346	167	9
Future Vol, veh/h	5	31	2	86	57	342	3	86	32	346	167	9
Peak Hour Factor	0.68	0.68	0.68	0.87	0.87	0.87	0.75	0.75	0.75	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	46	3	99	66	393	4	115	43	438	211	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.4	47.3	13.7	118.2
HCM LOS	B	E	B	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	13%	18%	66%
Vol Thru, %	71%	82%	12%	32%
Vol Right, %	26%	5%	71%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	38	485	522
LT Vol	3	5	86	346
Through Vol	86	31	57	167
RT Vol	32	2	342	9
Lane Flow Rate	161	56	557	661
Geometry Grp	1	1	1	1
Degree of Util (X)	0.312	0.119	0.928	1.172
Departure Headway (Hd)	7.37	8.267	6.394	6.387
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	490	436	569	568
Service Time	5.37	6.267	4.394	4.454
HCM Lane V/C Ratio	0.329	0.128	0.979	1.164
HCM Control Delay	13.7	12.4	47.3	118.2
HCM Lane LOS	B	B	E	F
HCM 95th-tile Q	1.3	0.4	11.7	22.8

Limestone

10: Myrtle Street/Quarry Street & Jesse Jewell Parkway

future a.m.

Intersection												
Int Delay, s/veh	77.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	922	32	38	2428	16	9	1	33	14	1	29
Future Vol, veh/h	32	922	32	38	2428	16	9	1	33	14	1	29
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	-	-	-3	-
Peak Hour Factor	95	95	95	93	93	93	51	51	51	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	971	34	41	2611	17	18	2	65	15	1	32
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2628	0	0	1005	0	0	2444	3766	503	3257	3775	1314
Stage 1	-	-	-	-	-	-	1056	1056	-	2702	2702	-
Stage 2	-	-	-	-	-	-	1388	2710	-	555	1073	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	6.94	5.94	6.64
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	5.94	4.94	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	160	-	-	685	-	-	~ 16	4	514	~ 6	8	166
Stage 1	-	-	-	-	-	-	241	300	-	34	70	-
Stage 2	-	-	-	-	-	-	150	44	-	530	352	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	160	-	-	685	-	-	~ 9	3	514	~ 2	6	166
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	3	-	~ 2	6	-
Stage 1	-	-	-	-	-	-	190	236	-	27	66	-
Stage 2	-	-	-	-	-	-	112	41	-	362	277	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.2			\$ 1048.3			\$ 4321.1		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	31	160	-	-	685	-	-	6				
HCM Lane V/C Ratio	2.72	0.211	-	-	0.06	-	-	7.971				
HCM Control Delay (s)	\$ 1048.3	33.4	-	-	10.6	-	-	\$ 4321.1				
HCM Lane LOS	F	D	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	9.9	0.8	-	-	0.2	-	-	7.6				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Limestone

14: South Enota Drive & Robinhood Trail

future a.m.

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	0	2	5	86	3	31	12	358	29	16	659	8
Future Vol, veh/h	0	2	5	86	3	31	12	358	29	16	659	8
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	50	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	82	82	82	95	95	95	98	98	98
Heavy Vehicles, %	2	1	2	1	1	1	2	2	1	1	2	2
Mvmt Flow	0	4	10	105	4	38	13	377	31	16	672	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1129	1142	676	1134	1131	393	680	0	0	408	0	0
Stage 1	708	708	-	419	419	-	-	-	-	-	-	-
Stage 2	421	434	-	715	712	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	6.11	5.51	5.71	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	181	201	453	247	280	695	912	-	-	1156	-	-
Stage 1	426	439	-	689	665	-	-	-	-	-	-	-
Stage 2	610	583	-	516	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	166	195	453	233	272	695	912	-	-	1156	-	-
Mov Cap-2 Maneuver	166	195	-	233	272	-	-	-	-	-	-	-
Stage 1	420	433	-	679	656	-	-	-	-	-	-	-
Stage 2	565	575	-	493	526	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	16.4		27.2		0.3		0.2					
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	912	-	-	329	234	695	1156	-	-			
HCM Lane V/C Ratio	0.014	-	-	0.043	0.464	0.054	0.014	-	-			
HCM Control Delay (s)	9	-	-	16.4	33	10.5	8.2	-	-			
HCM Lane LOS	A	-	-	C	D	B	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.1	2.3	0.2	0	-	-			

Limestone

11: Terrace Street/Community Way & Jesse Jewell Parkway

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	900	23	90	2200	154	9	29	13	76	1	306
Future Volume (veh/h)	280	900	23	90	2200	154	9	29	13	76	1	306
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1870	1870	1885	1870	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	298	957	24	96	2340	164	13	43	19	104	1	419
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.68	0.68	0.68	0.73	0.73	0.73
Percent Heavy Veh, %	1	2	2	1	2	1	1	1	1	1	1	1
Cap, veh/h	261	2705	68	423	2197	988	38	96	32	153	1	261
Arrive On Green	0.11	0.76	0.76	0.62	0.62	0.62	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1795	3542	89	578	3554	1598	0	585	198	1351	4	1594
Grp Volume(v), veh/h	298	480	501	96	2340	164	75	0	0	104	0	420
Grp Sat Flow(s),veh/h/ln	1795	1777	1854	578	1777	1598	783	0	0	1351	0	1598
Q Serve(g_s), s	12.0	9.6	9.6	8.4	68.0	4.8	0.0	0.0	0.0	0.0	0.0	18.0
Cycle Q Clear(g_c), s	12.0	9.6	9.6	8.4	68.0	4.8	18.0	0.0	0.0	18.0	0.0	18.0
Prop In Lane	1.00		0.05	1.00		1.00	0.17		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	261	1357	1416	423	2197	988	167	0	0	153	0	262
V/C Ratio(X)	1.14	0.35	0.35	0.23	1.07	0.17	0.45	0.00	0.00	0.68	0.00	1.61
Avail Cap(c_a), veh/h	261	1357	1416	423	2197	988	167	0	0	153	0	262
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	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	4.2	4.2	9.6	21.0	8.9	40.6	0.0	0.0	47.5	0.0	46.0
Incr Delay (d2), s/veh	98.9	0.2	0.2	0.3	39.3	0.1	8.6	0.0	0.0	21.9	0.0	289.9
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	13.9	2.9	3.0	1.0	37.2	1.6	2.2	0.0	0.0	3.8	0.0	28.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	139.4	4.4	4.4	9.9	60.3	9.0	49.2	0.0	0.0	69.4	0.0	335.9
LnGrp LOS	F	A	A	A	F	A	D	A	A	E	A	F
Approach Vol, veh/h	1279			2600			75			524		
Approach Delay, s/veh	35.8			55.2			49.2			283.0		
Approach LOS	D			E			D			F		
Timer - Assigned Phs	2			4		6		7	8			
Phs Duration (G+Y+Rc), s	22.0			88.0		22.0		16.0	72.0			
Change Period (Y+Rc), s	4.0			4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s	18.0			84.0		18.0		12.0	68.0			
Max Q Clear Time (g_c+I1), s	20.0			11.6		20.0		14.0	70.0			
Green Ext Time (p_c), s	0.0			8.2		0.0		0.0	0.0			
Intersection Summary												
HCM 6th Ctrl Delay												
76.2												
HCM 6th LOS												
E												

Limestone

12: Downey Boulevard & Jesse Jewell Parkway

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	967	13	152	1660	265	67	312	232	279	131	89
Future Volume (veh/h)	150	967	13	152	1660	265	67	312	232	279	131	89
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	1124	15	163	1785	285	81	376	280	294	138	94
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.83	0.83	0.83	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1709	23	319	1737	775	360	671	299	311	425	360
Arrive On Green	0.06	0.48	0.48	0.07	0.49	0.49	0.05	0.19	0.19	0.09	0.23	0.23
Sat Flow, veh/h	1781	3591	48	1781	3554	1585	1781	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	174	556	583	163	1785	285	81	376	280	294	138	94
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1781	1777	1585	1781	1870	1585
Q Serve(g_s), s	4.7	21.5	21.5	4.1	44.0	10.1	3.3	8.6	15.7	8.0	5.5	4.4
Cycle Q Clear(g_c), s	4.7	21.5	21.5	4.1	44.0	10.1	3.3	8.6	15.7	8.0	5.5	4.4
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	846	886	319	1737	775	360	671	299	311	425	360
V/C Ratio(X)	0.97	0.66	0.66	0.51	1.03	0.37	0.22	0.56	0.94	0.95	0.32	0.26
Avail Cap(c_a), veh/h	179	846	886	395	1737	775	369	671	299	311	425	360
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	18.0	18.0	14.1	23.0	14.3	27.3	33.1	36.0	31.9	29.0	28.6
Incr Delay (d2), s/veh	58.9	1.9	1.8	1.3	28.9	0.3	0.3	3.4	37.8	37.1	2.0	1.8
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	4.7	8.7	9.1	1.6	23.8	3.5	1.4	4.0	9.1	5.7	2.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	19.9	19.8	15.4	51.9	14.6	27.6	36.5	73.7	69.0	31.1	30.3
LnGrp LOS	F	B	B	B	F	B	C	D	E	E	C	C
Approach Vol, veh/h	1313			2233			737			526		
Approach Delay, s/veh	27.9			44.5			49.7			52.1		
Approach LOS	C			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	21.0	10.2	46.8	8.6	24.4	9.0	48.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	8.0	17.0	10.0	39.0	5.0	20.0	5.0	44.0				
Max Q Clear Time (g_c+I1), s	10.0	17.7	6.1	23.5	5.3	7.5	6.7	46.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	6.9	0.0	0.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	41.6											
HCM 6th LOS	D											

Limestone

13: South Enota Drive & Sherwood Park Drive/Walgreens access

future a.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	9	61	17	7	5	88	369	25	13	633	88
Future Volume (veh/h)	39	9	61	17	7	5	88	369	25	13	633	88
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	2003	1988	2003	1885	1870	1870
Adj Flow Rate, veh/h	53	12	84	22	9	6	99	415	28	14	696	97
Peak Hour Factor	0.73	0.73	0.73	0.78	0.78	0.78	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	2
Cap, veh/h	246	26	184	198	61	206	504	1417	1210	750	1145	160
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1410	204	1425	588	473	1598	733	1988	1697	954	1606	224
Grp Volume(v), veh/h	53	0	96	31	0	6	99	415	28	14	0	793
Grp Sat Flow(s),veh/h/ln	1410	0	1629	1061	0	1598	733	1988	1697	954	0	1830
Q Serve(g_s), s	1.8	0.0	2.8	0.0	0.0	0.2	4.0	3.8	0.2	0.3	0.0	11.1
Cycle Q Clear(g_c), s	4.6	0.0	2.8	2.8	0.0	0.2	15.1	3.8	0.2	4.1	0.0	11.1
Prop In Lane	1.00		0.88	0.71		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	246	0	210	259	0	206	504	1417	1210	750	0	1304
V/C Ratio(X)	0.22	0.00	0.46	0.12	0.00	0.03	0.20	0.29	0.02	0.02	0.00	0.61
Avail Cap(c_a), veh/h	511	0	516	529	0	506	504	1417	1210	750	0	1304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	20.4	19.5	0.0	19.2	7.5	2.6	2.1	3.4	0.0	3.7
Incr Delay (d2), s/veh	0.4	0.0	1.6	0.2	0.0	0.1	0.9	0.5	0.0	0.0	0.0	2.1
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	0.6	0.0	1.0	0.3	0.0	0.1	0.6	0.8	0.0	0.0	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	21.9	19.7	0.0	19.3	8.4	3.2	2.2	3.4	0.0	5.8
LnGrp LOS	C	A	C	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		149			37			542			807	
Approach Delay, s/veh		22.3			19.7			4.1			5.7	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		10.5		40.0		10.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		17.1		6.6		13.1		4.8				
Green Ext Time (p_c), s		3.3		0.4		6.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			7.1									
HCM 6th LOS			A									

Limestone

15: Park Hill Drive & South Enota Drive

future a.m.

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	2	460	122	296	732	197	316	304	8	72	131	122
Future Volume (veh/h)	2	460	122	296	732	197	316	304	8	72	131	122
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	554	147	315	779	210	343	330	9	76	138	0
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	629	167	356	858	231	380	379	10	201	261	
Arrive On Green	0.44	0.44	0.44	0.12	0.60	0.60	0.12	0.21	0.21	0.05	0.14	0.00
Sat Flow, veh/h	569	1424	378	1781	1419	383	1781	1812	49	1781	1870	1585
Grp Volume(v), veh/h	2	0	701	315	0	989	343	0	339	76	138	0
Grp Sat Flow(s),veh/h/ln	569	0	1802	1781	0	1802	1781	0	1861	1781	1870	1585
Q Serve(g_s), s	0.3	0.0	30.6	7.7	0.0	41.4	10.0	0.0	15.1	3.1	5.9	0.0
Cycle Q Clear(g_c), s	27.6	0.0	30.6	7.7	0.0	41.4	10.0	0.0	15.1	3.1	5.9	0.0
Prop In Lane	1.00		0.21	1.00		0.21	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	154	0	796	356	0	1089	380	0	389	201	261	
V/C Ratio(X)	0.01	0.00	0.88	0.89	0.00	0.91	0.90	0.00	0.87	0.38	0.53	
Avail Cap(c_a), veh/h	154	0	796	417	0	1089	380	0	476	201	348	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.1	0.0	22.0	17.7	0.0	14.9	30.7	0.0	32.9	30.3	34.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	13.4	17.9	0.0	12.5	24.2	0.0	13.8	1.2	1.7	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	0.0	0.0	15.0	4.5	0.0	18.2	4.8	0.0	8.1	1.4	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	0.0	35.4	35.5	0.0	27.4	55.0	0.0	46.7	31.5	36.0	0.0
LnGrp LOS	C	A	D	D	A	C	D	A	D	C	D	
Approach Vol, veh/h		703			1304			682			214	A
Approach Delay, s/veh		35.4			29.4			50.9			34.4	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	14.0	42.0	8.0	22.0		56.0	14.0	16.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	13.0	35.0	4.0	22.0		52.0	10.0	16.0				
Max Q Clear Time (g_c+I1), s	9.7	32.6	5.1	17.1		43.4	12.0	7.9				
Green Ext Time (p_c), s	0.3	1.2	0.0	0.8		4.9	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

16: Park Hill Drive & Lakeview Drive

future a.m.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	285	44	384	513	29	970
Future Volume (veh/h)	285	44	384	513	29	970
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1832	1832	1870	1870	1885	1870
Adj Flow Rate, veh/h	380	59	431	576	30	1010
Peak Hour Factor	0.75	0.75	0.89	0.89	0.96	0.96
Percent Heavy Veh, %	1	1	2	2	1	2
Cap, veh/h	433	386	925	825	309	1150
Arrive On Green	0.25	0.25	0.52	0.52	0.03	0.62
Sat Flow, veh/h	1745	1553	1870	1585	1795	1870
Grp Volume(v), veh/h	380	59	431	576	30	1010
Grp Sat Flow(s),veh/h/ln	1745	1553	1777	1585	1795	1870
Q Serve(g_s), s	12.2	1.7	9.0	16.0	0.4	26.5
Cycle Q Clear(g_c), s	12.2	1.7	9.0	16.0	0.4	26.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	433	386	925	825	309	1150
V/C Ratio(X)	0.88	0.15	0.47	0.70	0.10	0.88
Avail Cap(c_a), veh/h	477	424	925	825	385	1150
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.1	17.2	8.9	10.6	8.2	9.4
Incr Delay (d2), s/veh	15.7	0.2	1.7	4.9	0.1	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.6	3.2	5.6	0.1	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.9	17.4	10.6	15.5	8.3	19.0
LnGrp LOS	D	B	B	B	A	B
Approach Vol, veh/h	439		1007			1040
Approach Delay, s/veh	34.2		13.4			18.7
Approach LOS	C		B			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	5.5	34.5			40.0	18.5
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	4.0	28.0			36.0	16.0
Max Q Clear Time (g_c+I1), s	2.4	18.0			28.5	14.2
Green Ext Time (p_c), s	0.0	4.8			4.4	0.3
Intersection Summary						
HCM 6th Ctrl Delay			19.3			
HCM 6th LOS			B			

Limestone

17: Jesse Jewell Parkway & Retail RIRO

future a.m.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	20	0	1018	2453	19
Future Vol, veh/h	0	20	0	1018	2453	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	80	92	91	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	25	0	1119	2582	20
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1291	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	154	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	154	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	32.9		0		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBT EBLn1		SBT			
Capacity (veh/h)	- 154		-			
HCM Lane V/C Ratio	- 0.162		-			
HCM Control Delay (s)	- 32.9		-			
HCM Lane LOS	- D		-			
HCM 95th %tile Q(veh)	- 0.6		-			

Limestone

18: Retail RIRO & Limestone Parkway

future a.m.

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1362	32	0	1002	0	33
Future Vol, veh/h	1362	32	0	1002	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	92	95	92	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1724	41	0	1055	0	41
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	862
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	256
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	256
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		21.7	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	256	-	-	-		
HCM Lane V/C Ratio	0.161	-	-	-		
HCM Control Delay (s)	21.7	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.6	-	-	-		

Limestone

1: Cleveland Highway & Limestone Parkway

future p.m.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	0	801	14	374	330
Future Volume (veh/h)	9	0	801	14	374	330
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	0	871	15	390	344
Peak Hour Factor	0.67	0.92	0.92	0.92	0.96	0.96
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	0	0	1531	1298	636	1763
Arrive On Green	0.00	0.00	0.82	0.82	0.07	0.94
Sat Flow, veh/h	0	0	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	871	15	390	344
Grp Sat Flow(s),veh/h/ln	0	0	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	11.1	0.1	1.7	0.9
Cycle Q Clear(g_c), s	0.0	0.0	11.1	0.1	1.7	0.9
Prop In Lane	0.00	0.00		1.00	1.00	
Lane Grp Cap(c), veh/h	0	0	1531	1298	636	1763
V/C Ratio(X)	0.00	0.00	0.57	0.01	0.61	0.20
Avail Cap(c_a), veh/h	0	0	1531	1298	924	1763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	2.2	1.2	3.5	0.1
Incr Delay (d2), s/veh	0.0	0.0	1.5	0.0	1.0	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	0.0	0.0	1.7	0.0	0.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	3.7	1.2	4.5	0.4
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		886			734
Approach Delay, s/veh	0.0		3.6			2.6
Approach LOS			A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	8.7	61.3			70.0	0.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	16.0	46.0			66.0	16.0
Max Q Clear Time (g_c+I1), s	3.7	13.1			2.9	0.0
Green Ext Time (p_c), s	1.0	8.1			2.3	0.0
Intersection Summary						
HCM 6th Ctrl Delay			3.2			
HCM 6th LOS			A			

Limestone

97: Cleveland Highway & Limestone Parkway

future p.m.

Intersection						
Int Delay, s/veh	156.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						 
Traffic Vol, veh/h	0	608	801	0	0	704
Future Vol, veh/h	0	608	801	0	0	704
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	92	92	92	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	715	871	0	0	733
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	871	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	~ 349	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	~ 349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	\$ 507	0		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 349		-			
HCM Lane V/C Ratio	- 2.05		-			
HCM Control Delay (s)	- \$ 507		-			
HCM Lane LOS	- F		-			
HCM 95th %tile Q(veh)	- 51		-			
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Limestone

2: Limestone Parkway & Clarks Bridge Road

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	181	146	137	138	20	318	601	465	32	362	15
Future Volume (veh/h)	5	181	146	137	138	20	318	601	465	32	362	15
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	245	197	183	184	27	342	646	500	35	398	16
Peak Hour Factor	0.74	0.74	0.74	0.75	0.75	0.75	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	272	215	385	664	97	490	1599	713	281	1599	713
Arrive On Green	0.28	0.28	0.28	0.07	0.42	0.42	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	9	962	758	1781	1594	234	972	3554	1585	491	3554	1585
Grp Volume(v), veh/h	449	0	0	183	0	211	342	646	500	35	398	16
Grp Sat Flow(s),veh/h/ln	1729	0	0	1781	0	1828	972	1777	1585	491	1777	1585
Q Serve(g_s), s	3.5	0.0	0.0	4.0	0.0	4.6	20.2	7.3	15.2	3.1	4.2	0.3
Cycle Q Clear(g_c), s	15.1	0.0	0.0	4.0	0.0	4.6	24.3	7.3	15.2	10.4	4.2	0.3
Prop In Lane	0.02		0.44	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	551	0	0	385	0	762	490	1599	713	281	1599	713
V/C Ratio(X)	0.82	0.00	0.00	0.48	0.00	0.28	0.70	0.40	0.70	0.12	0.25	0.02
Avail Cap(c_a), veh/h	551	0	0	385	0	762	490	1599	713	281	1599	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	0.0	12.7	0.0	11.5	17.8	11.1	13.3	14.6	10.2	9.2
Incr Delay (d2), s/veh	9.2	0.0	0.0	0.9	0.0	0.2	8.0	0.8	5.7	0.9	0.4	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	6.9	0.0	0.0	1.6	0.0	1.7	5.0	2.6	5.7	0.4	1.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	0.0	13.7	0.0	11.7	25.8	11.9	18.9	15.5	10.6	9.2
LnGrp LOS	C	A	A	B	A	B	C	B	B	B	B	A
Approach Vol, veh/h		449			394			1488			449	
Approach Delay, s/veh		30.0			12.6			17.4			10.9	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		31.0	8.0	21.0		31.0		29.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		27.0	4.0	17.0		27.0		25.0				
Max Q Clear Time (g_c+I1), s		26.3	6.0	17.1		12.4		6.6				
Green Ext Time (p_c), s		0.5	0.0	0.0		2.7		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			17.7									
HCM 6th LOS			B									

Limestone

3: Limestone Parkway & Beverly Road

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	108	226	62	174	124	220	1328	36	49	809	36
Future Volume (veh/h)	47	108	226	62	174	124	220	1328	36	49	809	36
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1870	1885	1870	1870	1870	1870	1885
Adj Flow Rate, veh/h	48	110	231	81	226	161	244	1476	40	55	909	40
Peak Hour Factor	0.98	0.98	0.98	0.77	0.77	0.77	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	1	1	1	1	1	2	1	2	2	2	2	1
Cap, veh/h	79	92	152	144	297	423	396	2132	951	229	2132	959
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	45	345	571	257	1113	1585	596	3554	1585	345	3554	1598
Grp Volume(v), veh/h	389	0	0	307	0	161	244	1476	40	55	909	40
Grp Sat Flow(s),veh/h/ln	961	0	0	1371	0	1585	596	1777	1585	345	1777	1598
Q Serve(g_s), s	3.8	0.0	0.0	0.0	0.0	5.0	22.4	17.0	0.6	7.8	8.2	0.6
Cycle Q Clear(g_c), s	16.0	0.0	0.0	12.2	0.0	5.0	30.6	17.0	0.6	24.8	8.2	0.6
Prop In Lane	0.12		0.59	0.26		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	324	0	0	441	0	423	396	2132	951	229	2132	959
V/C Ratio(X)	1.20	0.00	0.00	0.70	0.00	0.38	0.62	0.69	0.04	0.24	0.43	0.04
Avail Cap(c_a), veh/h	324	0	0	441	0	423	396	2132	951	229	2132	959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	0.0	20.1	0.0	18.0	14.7	8.2	4.9	16.7	6.4	4.9
Incr Delay (d2), s/veh	116.6	0.0	0.0	4.7	0.0	0.6	7.0	1.9	0.1	2.5	0.6	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	14.9	0.0	0.0	4.2	0.0	1.7	3.3	5.3	0.2	0.7	2.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	139.6	0.0	0.0	24.8	0.0	18.5	21.7	10.1	5.0	19.2	7.1	5.0
LnGrp LOS	F	A	A	C	A	B	C	B	A	B	A	A
Approach Vol, veh/h		389			468			1760			1004	
Approach Delay, s/veh		139.6			22.6			11.6			7.7	
Approach LOS		F			C			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.0		20.0		40.0		20.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		32.6		18.0		26.8		14.2				
Green Ext Time (p_c), s		2.9		0.0		4.8		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				25.7								
HCM 6th LOS				C								

Limestone

4: Limestone Parkway & site access/Kroger Access

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	16	300	9	15	101	343	1267	29	158	785	205
Future Volume (veh/h)	235	16	300	9	15	101	343	1267	29	158	785	205
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1885	1870	1870	1885	1885	1870	1870
Adj Flow Rate, veh/h	261	18	333	11	19	126	377	1392	32	184	913	238
Peak Hour Factor	0.90	0.90	0.90	0.80	0.80	0.80	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	1	2	2	1	1	2	2
Cap, veh/h	419	20	379	0	468	400	479	1738	781	295	1444	644
Arrive On Green	0.25	0.25	0.25	0.00	0.25	0.25	0.15	0.49	0.49	0.07	0.41	0.41
Sat Flow, veh/h	1243	82	1516	0	1870	1598	1781	3554	1598	1795	3554	1585
Grp Volume(v), veh/h	261	0	351	0	19	126	377	1392	32	184	913	238
Grp Sat Flow(s),veh/h/ln	1243	0	1598	0	1870	1598	1781	1777	1598	1795	1777	1585
Q Serve(g_s), s	12.4	0.0	13.0	0.0	0.5	3.9	6.8	20.2	0.6	3.7	12.6	6.4
Cycle Q Clear(g_c), s	12.8	0.0	13.0	0.0	0.5	3.9	6.8	20.2	0.6	3.7	12.6	6.4
Prop In Lane	1.00		0.95	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	419	0	400	0	468	400	479	1738	781	295	1444	644
V/C Ratio(X)	0.62	0.00	0.88	0.00	0.04	0.32	0.79	0.80	0.04	0.62	0.63	0.37
Avail Cap(c_a), veh/h	432	0	417	0	732	625	535	1738	781	295	1444	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	22.1	0.0	17.4	18.7	10.9	13.2	8.2	13.0	14.6	12.7
Incr Delay (d2), s/veh	2.7	0.0	18.4	0.0	0.0	0.4	6.9	4.0	0.1	4.0	2.1	1.6
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	3.6	0.0	6.5	0.0	0.2	1.4	2.9	7.6	0.2	1.6	4.9	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	0.0	40.5	0.0	17.5	19.2	17.9	17.2	8.3	17.0	16.7	14.4
LnGrp LOS	C	A	D	A	B	B	B	B	A	B	B	B
Approach Vol, veh/h		612			145			1801			1335	
Approach Delay, s/veh		33.8			18.9			17.1			16.3	
Approach LOS		C			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	34.0	0.0	19.3	13.1	28.9		19.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	30.0	4.0	16.0	11.0	23.0		24.0				
Max Q Clear Time (g_c+I1), s	5.7	22.2	0.0	15.0	8.8	14.6		5.9				
Green Ext Time (p_c), s	0.0	5.5	0.0	0.4	0.3	4.5		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

Limestone

5: Jesse Jewell Parkway & Limestone Parkway/Textile Way

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	687	67	312	44	78	13	913	1387	125	29	1028	615
Future Volume (veh/h)	687	67	312	44	78	13	913	1387	125	29	1028	615
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	763	74	347	66	116	19	922	1401	126	32	1130	676
Peak Hour Factor	0.90	0.90	0.90	0.67	0.67	0.67	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	752	95	447	134	139	23	917	2009	896	181	1136	507
Arrive On Green	0.22	0.33	0.33	0.09	0.09	0.09	0.27	0.57	0.57	0.02	0.32	0.32
Sat Flow, veh/h	3456	286	1342	966	1567	257	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	763	0	421	66	0	135	922	1401	126	32	1130	676
Grp Sat Flow(s),veh/h/ln	1728	0	1629	966	0	1824	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	32.0	0.0	34.2	9.8	0.0	10.7	39.0	41.6	5.5	1.8	46.6	47.0
Cycle Q Clear(g_c), s	32.0	0.0	34.2	9.8	0.0	10.7	39.0	41.6	5.5	1.8	46.6	47.0
Prop In Lane	1.00		0.82	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	752	0	543	134	0	161	917	2009	896	181	1136	507
V/C Ratio(X)	1.01	0.00	0.78	0.49	0.00	0.84	1.01	0.70	0.14	0.18	0.99	1.33
Avail Cap(c_a), veh/h	752	0	576	154	0	199	917	2009	896	206	1136	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	0.0	44.1	65.6	0.0	66.0	54.0	22.9	15.1	32.8	49.9	50.0
Incr Delay (d2), s/veh	36.4	0.0	6.2	2.8	0.0	22.0	31.1	2.0	0.3	0.5	25.4	163.3
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	17.8	0.0	14.8	2.5	0.0	6.0	20.9	17.8	2.1	0.8	24.6	41.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.9	0.0	50.3	68.3	0.0	87.9	85.1	25.0	15.4	33.2	75.3	213.3
LnGrp LOS	F	A	D	E	A	F	F	C	B	C	E	F
Approach Vol, veh/h	1184			201			2449			1838		
Approach Delay, s/veh	78.4			81.5			47.1			125.3		
Approach LOS	E			F			D			F		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	87.1		53.0	43.0	51.0	36.0	17.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	81.0		52.0	39.0	47.0	32.0	16.0				
Max Q Clear Time (g_c+I1), s	3.8	43.6		36.2	41.0	49.0	34.0	12.7				
Green Ext Time (p_c), s	0.0	15.5		2.6	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	80.2											
HCM 6th LOS	F											

Limestone

6: Textile Way/White Sulphur Road & Jesse Jewell Parkway

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	1863	5	22	1676	253	1	10	56	355	12	158
Future Volume (veh/h)	201	1863	5	22	1676	253	1	10	56	355	12	158
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	2192	6	23	1746	264	1	14	81	378	13	168
Peak Hour Factor	0.85	0.85	0.85	0.96	0.96	0.96	0.69	0.69	0.69	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	2168	967	72	1741	777	264	38	221	408	36	461
Arrive On Green	0.08	0.61	0.61	0.49	0.49	0.49	0.16	0.16	0.16	0.11	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	177	3554	1585	1203	239	1383	1781	115	1488
Grp Volume(v), veh/h	236	2192	6	23	1746	264	1	0	95	378	0	181
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	177	1777	1585	1203	0	1622	1781	0	1603
Q Serve(g_s), s	8.0	61.0	0.1	0.0	49.0	10.2	0.1	0.0	5.2	11.0	0.0	8.8
Cycle Q Clear(g_c), s	8.0	61.0	0.1	49.0	49.0	10.2	0.1	0.0	5.2	11.0	0.0	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.85	1.00		0.93
Lane Grp Cap(c), veh/h	215	2168	967	72	1741	777	264	0	259	408	0	497
V/C Ratio(X)	1.10	1.01	0.01	0.32	1.00	0.34	0.00	0.00	0.37	0.93	0.00	0.36
Avail Cap(c_a), veh/h	215	2168	967	72	1741	777	264	0	259	408	0	497
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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.9	19.5	7.6	50.0	25.5	15.6	35.3	0.0	37.5	35.8	0.0	26.8
Incr Delay (d2), s/veh	90.8	22.1	0.0	2.5	22.2	0.3	0.0	0.0	4.0	27.0	0.0	2.1
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	7.8	28.7	0.0	0.6	24.6	3.6	0.0	0.0	2.3	7.0	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.7	41.6	7.6	52.5	47.7	15.9	35.3	0.0	41.4	62.8	0.0	28.9
LnGrp LOS	F	F	A	D	F	B	D	A	D	E	A	C
Approach Vol, veh/h	2434			2033			96			559		
Approach Delay, s/veh	49.3			43.6			41.4			51.9		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	15.0	20.0		65.0		35.0	12.0	53.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	16.0		61.0		31.0	8.0	49.0				
Max Q Clear Time (g_c+I1), s	13.0	7.2		63.0		10.8	10.0	51.0				
Green Ext Time (p_c), s	0.0	0.3		0.0		1.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				47.2								
HCM 6th LOS				D								

Limestone

7: I-985 southbound & Jesse Jewell Parkway

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑		↑↑
Traffic Volume (veh/h)	0	1283	930	165	1386	0	0	0	0	31	0	527
Future Volume (veh/h)	0	1283	930	165	1386	0	0	0	0	31	0	527
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	0	1870
Adj Flow Rate, veh/h	0	1309	0	174	1459	0				36	0	613
Peak Hour Factor	0.92	0.98	0.98	0.95	0.95	0.92				0.86	0.92	0.86
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1483		269	1996	0				543	0	851
Arrive On Green	0.00	0.42	0.00	0.08	0.56	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3647	1585	3456	3647	0				1781	0	2790
Grp Volume(v), veh/h	0	1309	0	174	1459	0				36	0	613
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0				1781	0	1395
Q Serve(g_s), s	0.0	20.4	0.0	2.9	18.3	0.0				0.9	0.0	11.7
Cycle Q Clear(g_c), s	0.0	20.4	0.0	2.9	18.3	0.0				0.9	0.0	11.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1483		269	1996	0				543	0	851
V/C Ratio(X)	0.00	0.88		0.65	0.73	0.00				0.07	0.00	0.72
Avail Cap(c_a), veh/h	0	1540		288	2073	0				543	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.1	0.0	26.9	9.8	0.0				14.8	0.0	18.6
Incr Delay (d2), s/veh	0.0	0.6	0.0	3.1	0.9	0.0				0.1	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.2	0.0	1.3	5.7	0.0				0.3	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.7	0.0	29.9	10.6	0.0				14.8	0.0	21.6
LnGrp LOS	A	B		C	B	A				B	A	C
Approach Vol, veh/h		1309	A		1633						649	
Approach Delay, s/veh		16.7			12.7						21.2	
Approach LOS		B			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			8.7	29.0		22.3		37.7				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			5.0	26.0		17.0		35.0				
Max Q Clear Time (g_c+I1), s			4.9	22.4		13.7		20.3				
Green Ext Time (p_c), s			0.0	2.7		1.0		9.2				
Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

8: I-985 northbound & Jesse Jewell Parkway

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 		 			
Traffic Volume (veh/h)	635	701	0	0	557	53	969	0	183	0	0	0
Future Volume (veh/h)	635	701	0	0	557	53	969	0	183	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	698	770	0	0	633	60	1031	0	195			
Peak Hour Factor	0.91	0.91	0.92	0.92	0.88	0.88	0.94	0.92	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	870	1895	0	0	1895	845	1152	0	930			
Arrive On Green	0.53	0.53	0.00	0.00	0.53	0.53	0.33	0.00	0.33			
Sat Flow, veh/h	1457	3647	0	0	3647	1585	3456	0	2790			
Grp Volume(v), veh/h	698	770	0	0	633	60	1031	0	195			
Grp Sat Flow(s),veh/h/ln	728	1777	0	0	1777	1585	1728	0	1395			
Q Serve(g_s), s	25.9	7.7	0.0	0.0	6.1	1.1	17.0	0.0	3.0			
Cycle Q Clear(g_c), s	32.0	7.7	0.0	0.0	6.1	1.1	17.0	0.0	3.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	870	1895	0	0	1895	845	1152	0	930			
V/C Ratio(X)	0.80	0.41	0.00	0.00	0.33	0.07	0.90	0.00	0.21			
Avail Cap(c_a), veh/h	870	1895	0	0	1895	845	1152	0	930			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.44	0.44	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.3	8.3	0.0	0.0	7.9	6.8	19.0	0.0	14.3			
Incr Delay (d2), s/veh	2.5	0.1	0.0	0.0	0.1	0.0	9.3	0.0	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			
%ile BackOfQ(50%),veh/ln	4.7	2.4	0.0	0.0	1.9	0.3	7.5	0.0	0.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	8.4	0.0	0.0	8.1	6.8	28.3	0.0	14.4			
LnGrp LOS	C	A	A	A	A	A	C	A	B			
Approach Vol, veh/h	1468			693			1226					
Approach Delay, s/veh	14.3			7.9			26.1					
Approach LOS	B			A			C					
Timer - Assigned Phs	2			4			8					
Phs Duration (G+Y+Rc), s	24.0			36.0			36.0					
Change Period (Y+Rc), s	4.0			4.0			4.0					
Max Green Setting (Gmax), s	20.0			32.0			32.0					
Max Q Clear Time (g_c+I1), s	19.0			34.0			8.1					
Green Ext Time (p_c), s	0.6			0.0			4.8					
Intersection Summary												
HCM 6th Ctrl Delay	17.3											
HCM 6th LOS	B											

Limestone

9: Lakeview Drive & Nottingham Drive/Beverly Road

future p.m.

Intersection	
Intersection Delay, s/veh	16.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	38	4	32	47	347	4	39	65	270	38	3
Future Vol, veh/h	8	38	4	32	47	347	4	39	65	270	38	3
Peak Hour Factor	0.64	0.64	0.64	0.83	0.83	0.83	0.80	0.80	0.80	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	13	59	6	39	57	418	5	49	81	293	41	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	19.3	10.5	16.1
HCM LOS	B	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	16%	8%	87%
Vol Thru, %	36%	76%	11%	12%
Vol Right, %	60%	8%	81%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	50	426	311
LT Vol	4	8	32	270
Through Vol	39	38	47	38
RT Vol	65	4	347	3
Lane Flow Rate	135	78	513	338
Geometry Grp	1	1	1	1
Degree of Util (X)	0.217	0.133	0.709	0.553
Departure Headway (Hd)	5.777	6.147	4.974	5.892
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	617	578	724	608
Service Time	3.855	4.238	3.034	3.953
HCM Lane V/C Ratio	0.219	0.135	0.709	0.556
HCM Control Delay	10.5	10.2	19.3	16.1
HCM Lane LOS	B	B	C	C
HCM 95th-tile Q	0.8	0.5	5.9	3.4

Limestone

10: Myrtle Street/Quarry Street & Jesse Jewell Parkway

future p.m.

Intersection												
Int Delay, s/veh	76.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	2442	1	3	1347	22	5	0	24	16	0	32
Future Vol, veh/h	48	2442	1	3	1347	22	5	0	24	16	0	32
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	-	-	-3	-
Peak Hour Factor	83	83	83	91	91	91	58	58	58	75	75	75
Heavy Vehicles, %	1	2	2	2	2	1	2	1	2	1	1	1
Mvmt Flow	58	2942	1	3	1480	24	9	0	41	21	0	43
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1504	0	0	2943	0	0	3805	4569	1472	3085	4557	752
Stage 1	-	-	-	-	-	-	3059	3059	-	1498	1498	-
Stage 2	-	-	-	-	-	-	746	1510	-	1587	3059	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.54	6.52	6.94	6.92	5.92	6.62
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.52	-	5.92	4.92	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.52	-	5.92	4.92	-
Follow-up Hdwy	2.21	-	-	2.22	-	-	3.52	4.01	3.32	3.51	4.01	3.31
Pot Cap-1 Maneuver	446	-	-	119	-	-	~ 1	1	116	~ 9	3	378
Stage 1	-	-	-	-	-	-	12	29	-	166	238	-
Stage 2	-	-	-	-	-	-	372	183	-	148	48	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	446	-	-	119	-	-	~ 1	1	116	~ 5	3	378
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 1	1	-	~ 5	3	-
Stage 1	-	-	-	-	-	-	10	25	-	144	232	-
Stage 2	-	-	-	-	-	-	322	178	-	83	42	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			\$ 4484.9			\$ 1980.5		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	6	446	-	-	119	-	-	15				
HCM Lane V/C Ratio	8.333	0.13	-	-	0.028	-	-	4.267				
HCM Control Delay (s)	\$ 4484.9	14.3	-	-	36.1	-	-	\$ 1980.5				
HCM Lane LOS	F	B	-	-	E	-	-	F				
HCM 95th %tile Q(veh)	7.9	0.4	-	-	0.1	-	-	8.8				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Limestone

14: South Enota Drive & Robinhood Trail

future p.m.

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	8	3	19	49	5	42	11	941	79	29	373	5
Future Vol, veh/h	8	3	19	49	5	42	11	941	79	29	373	5
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	50	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	81	81	81	92	92	92
Heavy Vehicles, %	2	1	2	1	1	1	2	2	1	1	2	2
Mvmt Flow	9	3	21	60	6	51	14	1162	98	32	405	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1714	1760	408	1723	1713	1211	410	0	0	1260	0	0
Stage 1	472	472	-	1239	1239	-	-	-	-	-	-	-
Stage 2	1242	1288	-	484	474	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	6.11	5.51	5.71	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	5.11	4.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	71	85	643	114	146	264	1149	-	-	555	-	-
Stage 1	573	561	-	304	351	-	-	-	-	-	-	-
Stage 2	214	235	-	647	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	79	643	101	136	264	1149	-	-	555	-	-
Mov Cap-2 Maneuver	52	79	-	101	136	-	-	-	-	-	-	-
Stage 1	566	528	-	300	347	-	-	-	-	-	-	-
Stage 2	167	232	-	586	601	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	40		59		0.1		0.8					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1149	-	-	136	103	264	555	-	-			
HCM Lane V/C Ratio	0.012	-	-	0.248	0.639	0.194	0.057	-	-			
HCM Control Delay (s)	8.2	-	-	40	87.8	21.9	11.9	-	-			
HCM Lane LOS	A	-	-	E	F	C	B	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.9	3.2	0.7	0.2	-	-			

Limestone

11: Terrace Street/Community Way & Jesse Jewell Parkway

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	2338	19	47	1303	34	32	2	73	97	1	83
Future Volume (veh/h)	101	2338	19	47	1303	34	32	2	73	97	1	83
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1870	1870	1885	1870	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	117	2719	22	52	1432	37	49	3	112	108	1	92
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.65	0.65	0.65	0.90	0.90	0.90
Percent Heavy Veh, %	1	2	2	1	2	1	1	1	1	1	1	1
Cap, veh/h	311	2746	22	75	2422	1089	95	22	153	225	3	253
Arrive On Green	0.04	0.76	0.76	0.68	0.68	0.68	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1795	3613	29	104	3554	1598	304	139	955	1288	17	1583
Grp Volume(v), veh/h	117	1335	1406	52	1432	37	164	0	0	108	0	93
Grp Sat Flow(s),veh/h/ln	1795	1777	1865	104	1777	1598	1398	0	0	1288	0	1600
Q Serve(g_s), s	1.8	72.6	73.4	2.6	21.5	0.8	6.4	0.0	0.0	0.6	0.0	5.2
Cycle Q Clear(g_c), s	1.8	72.6	73.4	68.2	21.5	0.8	11.5	0.0	0.0	12.2	0.0	5.2
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.68	1.00		0.99
Lane Grp Cap(c), veh/h	311	1350	1417	75	2422	1089	271	0	0	225	0	256
V/C Ratio(X)	0.38	0.99	0.99	0.70	0.59	0.03	0.61	0.00	0.00	0.48	0.00	0.36
Avail Cap(c_a), veh/h	331	1350	1418	75	2422	1089	271	0	0	225	0	256
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	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	11.6	11.7	49.9	8.5	5.2	40.2	0.0	0.0	40.5	0.0	37.5
Incr Delay (d2), s/veh	0.8	21.8	21.8	24.5	0.4	0.0	9.7	0.0	0.0	7.2	0.0	4.0
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	28.5	30.2	1.8	7.3	0.2	4.5	0.0	0.0	3.0	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	33.4	33.5	74.5	8.9	5.2	49.9	0.0	0.0	47.7	0.0	41.4
LnGrp LOS	A	C	C	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	2858			1521			164			201		
Approach Delay, s/veh	32.4			11.0			49.9			44.8		
Approach LOS	C			B			D			D		
Timer - Assigned Phs	2			4		6		7	8			
Phs Duration (G+Y+Rc), s	20.0			80.0		20.0		7.8	72.2			
Change Period (Y+Rc), s	4.0			4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s	16.0			76.0		16.0		5.0	67.0			
Max Q Clear Time (g_c+I1), s	13.5			75.4		14.2		3.8	70.2			
Green Ext Time (p_c), s	0.2			0.6		0.1		0.0	0.0			
Intersection Summary												
HCM 6th Ctrl Delay	26.7											
HCM 6th LOS	C											

Limestone

12: Downey Boulevard & Jesse Jewell Parkway

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1557	39	182	1315	281	48	335	221	365	253	170
Future Volume (veh/h)	197	1557	39	182	1315	281	48	335	221	365	253	170
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	1790	45	198	1429	305	54	376	248	410	284	191
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	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	254	1683	42	194	1616	721	261	533	238	396	526	446
Arrive On Green	0.10	0.47	0.47	0.08	0.45	0.45	0.04	0.15	0.15	0.17	0.28	0.28
Sat Flow, veh/h	1781	3542	89	1781	3554	1585	1781	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	226	895	940	198	1429	305	54	376	248	410	284	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1585	1781	1777	1585	1781	1870	1585
Q Serve(g_s), s	9.2	57.0	57.0	9.0	44.0	15.6	3.1	12.1	18.0	20.0	15.4	11.8
Cycle Q Clear(g_c), s	9.2	57.0	57.0	9.0	44.0	15.6	3.1	12.1	18.0	20.0	15.4	11.8
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	844	881	194	1616	721	261	533	238	396	526	446
V/C Ratio(X)	0.89	1.06	1.07	1.02	0.88	0.42	0.21	0.71	1.04	1.03	0.54	0.43
Avail Cap(c_a), veh/h	292	844	881	194	1616	721	272	533	238	396	526	446
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	31.5	31.5	36.6	29.8	22.1	41.1	48.5	51.0	37.2	36.5	35.2
Incr Delay (d2), s/veh	24.6	48.2	50.0	70.7	6.2	0.4	0.4	7.6	70.1	54.3	3.9	3.0
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	4.8	34.8	36.7	9.6	19.7	5.9	1.4	5.9	11.7	15.8	7.6	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	79.7	81.5	107.4	36.0	22.5	41.5	56.1	121.1	91.5	40.5	38.2
LnGrp LOS	E	F	F	F	D	C	D	E	F	F	D	D
Approach Vol, veh/h	2061			1932			678			885		
Approach Delay, s/veh	77.9			41.2			78.7			63.6		
Approach LOS	E			D			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	22.0	13.0	61.0	8.2	37.8	15.4	58.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	20.0	18.0	9.0	57.0	5.0	33.0	14.0	52.0				
Max Q Clear Time (g_c+I1), s	22.0	20.0	11.0	59.0	5.1	17.4	11.2	46.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.1	0.2	4.7				
Intersection Summary												
HCM 6th Ctrl Delay	62.9											
HCM 6th LOS	E											

Limestone

13: South Enota Drive & Sherwood Park Drive/Walgreens access

future p.m.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	16	112	35	10	27	63	858	59	14	380	35
Future Volume (veh/h)	153	16	112	35	10	27	63	858	59	14	380	35
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	2003	1988	2003	1885	1870	1870
Adj Flow Rate, veh/h	212	22	156	58	17	45	70	953	66	17	458	42
Peak Hour Factor	0.72	0.72	0.72	0.60	0.60	0.60	0.90	0.90	0.90	0.83	0.83	0.83
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	2
Cap, veh/h	312	54	381	287	71	426	554	1193	1018	249	1013	93
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1351	201	1427	677	268	1598	962	1988	1697	558	1688	155
Grp Volume(v), veh/h	212	0	178	75	0	45	70	953	66	17	0	500
Grp Sat Flow(s),veh/h/ln	1351	0	1628	945	0	1598	962	1988	1697	558	0	1843
Q Serve(g_s), s	8.5	0.0	5.4	2.1	0.0	1.3	2.6	22.1	1.0	1.4	0.0	8.9
Cycle Q Clear(g_c), s	16.0	0.0	5.4	7.5	0.0	1.3	11.5	22.1	1.0	23.5	0.0	8.9
Prop In Lane	1.00		0.88	0.77		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	312	0	434	358	0	426	554	1193	1018	249	0	1106
V/C Ratio(X)	0.68	0.00	0.41	0.21	0.00	0.11	0.13	0.80	0.06	0.07	0.00	0.45
Avail Cap(c_a), veh/h	312	0	434	358	0	426	554	1193	1018	249	0	1106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	18.1	19.7	0.0	16.6	9.8	9.2	5.0	18.3	0.0	6.6
Incr Delay (d2), s/veh	5.9	0.0	0.6	0.3	0.0	0.1	0.5	5.6	0.1	0.5	0.0	1.3
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	3.4	0.0	1.9	0.9	0.0	0.4	0.5	8.8	0.3	0.2	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	0.0	18.7	20.0	0.0	16.7	10.2	14.9	5.1	18.8	0.0	7.9
LnGrp LOS	C	A	B	B	A	B	B	B	A	B	A	A
Approach Vol, veh/h	390			120			1089			517		
Approach Delay, s/veh	26.0			18.7			14.0			8.3		
Approach LOS	C			B			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	40.0			20.0			40.0			20.0		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	36.0			16.0			36.0			16.0		
Max Q Clear Time (g_c+I1), s	24.1			18.0			25.5			9.5		
Green Ext Time (p_c), s	6.2			0.0			2.5			0.2		
Intersection Summary												
HCM 6th Ctrl Delay	15.1											
HCM 6th LOS	B											

Limestone

15: Park Hill Drive & South Enota Drive

future p.m.

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	7	658	70	151	615	359	324	168	15	213	334	446
Future Volume (veh/h)	7	658	70	151	615	359	324	168	15	213	334	446
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	693	74	189	769	449	345	179	16	248	388	0
Peak Hour Factor	0.95	0.95	0.95	0.80	0.80	0.80	0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	807	86	270	654	382	276	338	30	369	340	
Arrive On Green	0.49	0.49	0.49	0.07	0.59	0.59	0.12	0.20	0.20	0.10	0.18	0.00
Sat Flow, veh/h	458	1661	177	1781	1107	647	1781	1692	151	1781	1870	1585
Grp Volume(v), veh/h	7	0	767	189	0	1218	345	0	195	248	388	0
Grp Sat Flow(s),veh/h/ln	458	0	1838	1781	0	1754	1781	0	1843	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	40.5	5.6	0.0	65.0	13.0	0.0	10.4	11.0	20.0	0.0
Cycle Q Clear(g_c), s	53.4	0.0	40.5	5.6	0.0	65.0	13.0	0.0	10.4	11.0	20.0	0.0
Prop In Lane	1.00		0.10	1.00		0.37	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	893	270	0	1036	276	0	369	369	340	
V/C Ratio(X)	0.11	0.00	0.86	0.70	0.00	1.18	1.25	0.00	0.53	0.67	1.14	
Avail Cap(c_a), veh/h	65	0	893	277	0	1036	276	0	369	369	340	
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.0	0.0	25.0	22.4	0.0	22.5	34.8	0.0	39.4	34.5	45.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	10.5	7.3	0.0	89.1	139.0	0.0	1.4	4.7	92.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	19.5	2.9	0.0	50.0	16.7	0.0	4.8	1.3	17.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	0.0	35.5	29.7	0.0	111.6	173.7	0.0	40.8	39.2	137.7	0.0
LnGrp LOS	E	A	D	C	A	F	F	A	D	D	F	
Approach Vol, veh/h		774			1407			540			636	A
Approach Delay, s/veh		35.7			100.6			125.7			99.3	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.6	57.4	15.0	26.0		69.0	17.0	24.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	8.0	53.0	11.0	22.0		65.0	13.0	20.0				
Max Q Clear Time (g_c+I1), s	7.6	55.4	13.0	12.4		67.0	15.0	22.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7		0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			89.5									
HCM 6th LOS			F									
Notes												
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.												

Limestone

16: Park Hill Drive & Lakeview Drive

future p.m.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	328	52	1177	251	40	748
Future Volume (veh/h)	328	52	1177	251	40	748
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1832	1832	1870	1870	1885	1870
Adj Flow Rate, veh/h	381	60	1293	276	43	804
Peak Hour Factor	0.86	0.86	0.91	0.91	0.93	0.93
Percent Heavy Veh, %	1	1	2	2	1	2
Cap, veh/h	434	386	1496	315	223	1150
Arrive On Green	0.25	0.25	0.51	0.51	0.03	0.61
Sat Flow, veh/h	1745	1553	3015	615	1795	1870
Grp Volume(v), veh/h	381	60	780	789	43	804
Grp Sat Flow(s),veh/h/ln	1745	1553	1777	1760	1795	1870
Q Serve(g_s), s	12.3	1.8	22.3	23.3	0.6	17.0
Cycle Q Clear(g_c), s	12.3	1.8	22.3	23.3	0.6	17.0
Prop In Lane	1.00	1.00		0.35	1.00	
Lane Grp Cap(c), veh/h	434	386	910	901	223	1150
V/C Ratio(X)	0.88	0.16	0.86	0.88	0.19	0.70
Avail Cap(c_a), veh/h	477	424	910	901	283	1150
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.1	17.2	12.4	12.7	11.5	7.6
Incr Delay (d2), s/veh	15.8	0.2	10.2	11.7	0.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.6	9.6	10.2	0.2	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.0	17.4	22.6	24.3	12.0	11.2
LnGrp LOS	D	B	C	C	B	B
Approach Vol, veh/h	441		1569			847
Approach Delay, s/veh	34.3		23.5			11.2
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.0	34.0			40.0	18.6
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gmax), s	4.0	28.0			36.0	16.0
Max Q Clear Time (g_c+I1), s	2.6	25.3			19.0	14.3
Green Ext Time (p_c), s	0.0	2.3			5.6	0.3
Intersection Summary						
HCM 6th Ctrl Delay			21.5			
HCM 6th LOS			C			

Limestone

17: Jesse Jewell Parkway & Retail RIRO

future p.m.

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑	↗
Traffic Vol, veh/h	0	13	0	2436	1389	15
Future Vol, veh/h	0	13	0	2436	1389	15
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
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	70	99	99	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	19	0	2461	1526	16
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	763	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	347	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	347	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	16	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	347	-	-		
HCM Lane V/C Ratio	-	0.054	-	-		
HCM Control Delay (s)	-	16	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.2	-	-		

Limestone

18: Retail RIRO & Limestone Parkway

future p.m.

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗		↑↑		↗
Traffic Vol, veh/h	1044	18	0	1574	0	22
Future Vol, veh/h	1044	18	0	1574	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	92	91	92	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1160	20	0	1730	0	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	580
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	392
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	392
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		14.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	392	-	-	-		
HCM Lane V/C Ratio	0.075	-	-	-		
HCM Control Delay (s)	14.9	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	0.2	-	-	-		

Board of Education
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Willie Mitchell, Vice Chair
Sammy Smith, Treasurer
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Andy Stewart, Board Member



Jeremy H. Williams, Ed.D.
Superintendent

GAINESVILLE CITY SCHOOL SYSTEM

ONE GAINESVILLE: We will *inspire, nurture, challenge, and prepare* our students.

April 27, 2018

Gainesville Planning & Appeals Board:

Thank you for the opportunity to comment on the proposed Limestone Greenway project under consideration. Upon reviewing the public documents, our comments follow:

- A recent study indicated an abundance of zoned but not developed apartments inside the city; apartments define transiency for students' movement producing a negative effect on academic achievement and family stability. Maintaining the current student to apartment ratio, the projections include an increase of more than 5,000 students over the development of those projects. High density apartments also create undue challenges to our elementary schools' enrollment {we caution any publicity or promotional material suggesting or confirming a single elementary school designation as the Board has the right to assign students in new developments to any elementary school based on space availability}.
- There is general concern relative to the overall density of the proposal, compared to a lighter density commercial district across Limestone and this project's proximity to existing neighborhoods and schools. We suggest a different commercial to residential formula with an overall reduction in the density to preserve green space, lessen traffic/congestion yet offer residents or investors new retail business opportunities.
- The proposed development appears to lack proportional outdoor amenities for fellowship gathering, organized play or public/private use which many residents enjoy. It cannot be determined if there is a nature/walking trail or opportunities for outdoor learning environments, particularly along the creek corridor.
- It appears the proposal does not include or consider a proposal by the Hall County Commission relative to improvements on Lakeview Drive adjacent to Gainesville Middle School which proposes a bike/walking apron promoting pedestrian movement and exercise in lieu of vehicular traffic into the residential road with a cul de sac.
- With respect to bus transportation for students, we express a concern over the apparent lack of bus pull-off aprons with weather-resistant shelters for students assembling for transport.

Thank you.
Gainesville City Board of Education

CITY OF GAINESVILLE

AGENDA REQUEST

Date Submitted: 8/21/2018

Presenter: Matt Tate

Item of Business: Request from **KRM 2016 LLC** for a special use on a 0.82± acre tract located on the north side of Washington Street, west of West Academy Street (a/k/a **520 Washington Street, NW**), having a zoning of Neighborhood Business (N-B).
Ward Number: Four
Tax Parcel Number(s): 01-026-001-046
Request: Five duplex apartments

Meeting Date: 9/11/2018

Purpose of Request:

The applicant is proposing a special use within Neighborhood Business (N-B) zoning to allow five duplex apartments. The property contains a four unit residential structure originally constructed in 1920 that is now in disrepair. According to the applicant's concept plan, each apartment unit will be designed as a two-story residence and approximately 1,200 square feet in size. The exterior of the proposed structures will be four-sided brick with a desired architecture reminiscent of Charleston, South Carolina. Each unit will have two parking spaces and access is proposed from Washington Street. The adjacent properties include the St. Paul United Methodist Church, Gainesville Business Center office complex, Rochester & Associates, a retail strip center and a single-family home for rent.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Planning staff recommended approval with four conditions. See the staff recommendation report for details.

Department Director:

Rusty Ligon

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

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ Staff Recommendation Report	Report
☐ Location Maps	Backup Material
☐ Narrative	Backup Material
☐ Survey	Backup Material
☐ Site Plan	Backup Material
☐ Architectural Renderings	Backup Material
☐ Charleston Style Examples	Backup Material

**GAINESVILLE PLANNING and APPEALS BOARD
STAFF RECOMMENDATION**

Applicant and Property Owner..... KRM 2016 LLC
Location..... 520 Washington Street, NW
Request..... Special use request within N-B zoning
Total Acres 0.82± acre
Ward..... Four
Proposed Use..... Five duplex apartments
Planning Division Staff Recommendation **Approval, with conditions**
Date..... September 11, 2018

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

The applicant is proposing a special use within Neighborhood Business (N-B) zoning to allow five duplex apartments for a total of ten residential units. The property currently contains a four unit residential structure originally constructed in 1920 that is in disrepair. According to the applicant's concept plan, each apartment unit will be designed as a two-story residence and approximately 1,200 square feet in size. The exterior of the proposed structures will be four-sided brick with a desired Charleston architecture. Each unit will provide two parking spaces and access is proposed from Washington Street.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Rochester & Associates	General Business (G-B)
South	Rental home, Retail strip center	Neighborhood Business (N-B)
East	St. Paul United Methodist Church	Neighborhood Business (N-B)
West	Gainesville Business Center office complex	Neighborhood Business (N-B)

▪ **Other Departmental Comments**

There were no other departmental comments regarding this request.

▪ **Zoning History**

There have been no other zoning actions that have taken place within the immediate area during the last ten years.

▪ **Staff Analysis**

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

The proposed residential use appears to be supported by the mixture of surrounding uses and zonings. The surrounding uses include a church, offices, retail, auto sales, single-family and multi-family residential with zonings of Residential-II (R-II), Planned Unit Development (P-U-D), Neighborhood Business (N-B), General Business (G-B) and Central Business (C-B).

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

The proposed use should have minimal affects to the surrounding and nearby properties as the proposed development is small in scale as it includes only 10 residential units. The property currently functions as a residential use consisting of an older, four unit apartment home. Sufficient parking, storm water detention and landscaping will be provided that will improve the function and aesthetics of the property. Traffic generated from the facility should be minimal as the existing driveway is expected to be improved on Washington Street. The applicant should explore acquiring an access easement from the adjacent property owner to the west to help reduce the number of driveway cuts on Washington Street.

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

The Gainesville 2030 Future Development Map for the City of Gainesville places the subject property within the *Mixed Use General* land use category. This category includes areas containing or planned for a mixture of land uses including office, neighborhood retail, and residential.

According to the Character Area map for the City of Gainesville, the subject property is located within the *Central Core* Character Area specifically within the *Downtown/Midtown* subarea. The vision for this area includes additional office and housing to provide a more sustainable mix of uses. Historic preservation and sensitive infill are key to maintaining a strong sense of place. There should be a focus on preservation of existing character through an adaptive reuse where feasible. Land uses supported in the subarea include mixed-use, multi-family residential, commercial, public / institutional, and transportation / communications / utilities.

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

The property is zoned Neighborhood Business (N-B) which is intended for neighborhood scale commercial and office uses, but allows residential where appropriate as a special use. The property has historically functioned as a residential use and could remain as such. The proposed development will provide for much needed quality housing downtown and is within N-B zoning density range of 12 units per acre.

(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?

City water, sewer and public safety services are currently provided to the property. Gainesville Fire Station #1 is located off of Queen City Parkway and is approximately 0.95± miles from the subject property.

The proposal will slightly increase ingress and egress traffic movements along Washington Street. Again, the applicant should explore gaining access from the neighboring driveway to the west. According to the Institute of Transportation Engineers (ITE) Trip Generation Handbook (9th Edition), the duplex apartments on average could generate 67± new trips per day, 6± A.M. and 7± P.M. peak hour trips.

The proposed use will have minimal impact on the Gainesville City School System given there are only 10 residential units proposed. Nearby larger residential developments such as the Towne Creek Apartments have children that attend City schools.

(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?

The Comprehensive Plan identifies the need for quality housing within the downtown area. The subject property is conducive for residential purposes as it is situated within an area that is walkable to numerous office, retail, restaurant and public uses. Development along the Washington Street corridor has consisted of small specialty shops, professional offices, as well as multi-family residential and limited single-family residential.

(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?

Based on the Comprehensive Plan and the adjacent mixture of uses, the proposed special use request with the recommended conditions appears to reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property.

▪ **Additional Special Use Criteria**

(1) The type of street providing access to the subject property is adequate to serve the proposed Special Use.

Washington Street serves as a connector road between the downtown central business district and the Lakeshore Mall/Dawsonville Highway regional shopping district. The existing street is adequate to serve the proposed development. However, the applicant should explore acquiring an access easement from the adjacent property owner to the west to help reduce the number of driveway cuts on Washington Street.

(2) Access into and out of the property adequately provides for traffic and pedestrian safety, the anticipated volume of traffic flow, and access by emergency vehicles.

The applicant's concept plan appears to provide for sufficient access for pedestrian safety, parking and access for emergency vehicles.

(3) Public facilities such as schools, water or sewer utilities, and police or fire protection are adequate to serve the Special Use.

The existing public facilities are adequate to serve the proposed use given its small scale.

(4) Refuse, service, parking and loading areas on the property are located and screened to protect other properties in the area from such adverse effects as noise, light, glare or odor.

The proposed residential use is less intense than the neighboring uses. According to the concept plan, there appears to be sufficient parking and landscape provided to reduce any impacts on adjacent properties. Individual trash receptacles will be provided for each duplex home.

(5) The hours and manner of operation of the Special Use have no adverse effects on other properties in the area.

The proposal is for residential duplex apartments which by nature are considered less intense than some office/commercial uses. The duplex units will be occupied throughout all hours of the day similar to the current use of the property and should have no adverse effects on nearby properties.

(6) The height, size and location of the buildings or other structures proposed on the property are compatible with the height, size or location of buildings or other structures on neighboring properties.

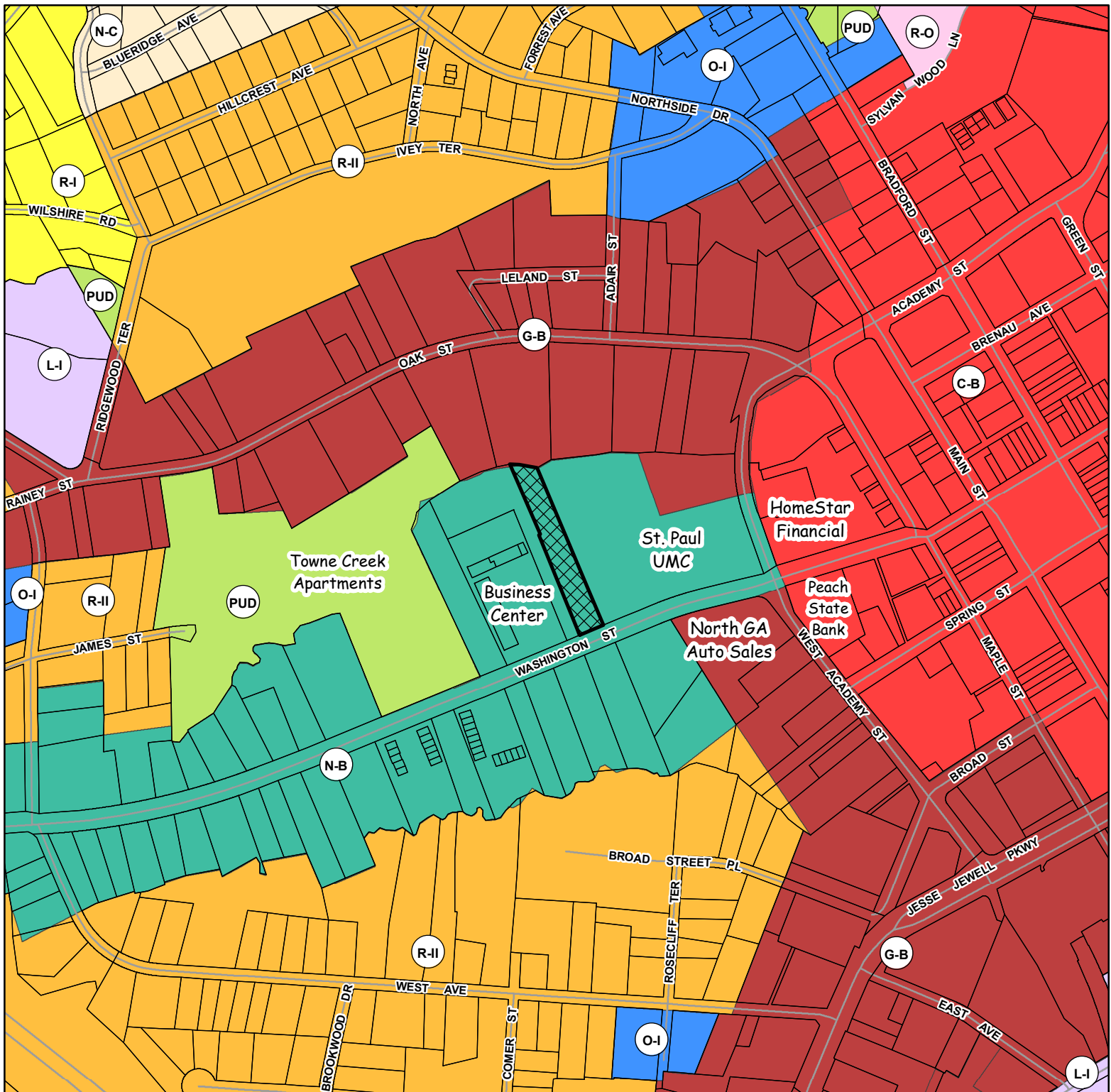
The height, size and location of the proposed structures appear consistent with other structures located along Washington Street which include a variety of residential, office, semi-public and commercial uses.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this Special Use request based on the Comprehensive Plan and the adjacent mixture of uses.

Conditions

1. The proposed duplex structures shall be generally consistent with the standards depicted on the architectural elevations and pictures provided with this special use application to include a mixture of exterior brick, cementitious siding materials and minimum 3:12 pitched roof.
2. Prior to a permit being issued, the developer/property owner shall exhaust all reasonable measures to provide for inter-parcel vehicular access with the adjacent property/access drive located to the west. Documentation shall be provided to the Gainesville Public Works Director in this regard.
3. All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director, and approval of said design shall be required prior to issuance of a building permit. All required access/traffic/sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner.
4. An updated as-built boundary survey/plat of the subject property, indicating all improvements required for the proposed use, shall be recorded prior to obtaining a Certificate of Occupancy.



Applicant:

KRM 2016, LLC

Gainesville Community Development Department

SPECIAL USE REQUEST

 Subject Property



0 240 480 720 960 Feet

1" = 400'



Request:

Special use within Neighborhood Business for five duplex apartments

Subject Area Address:

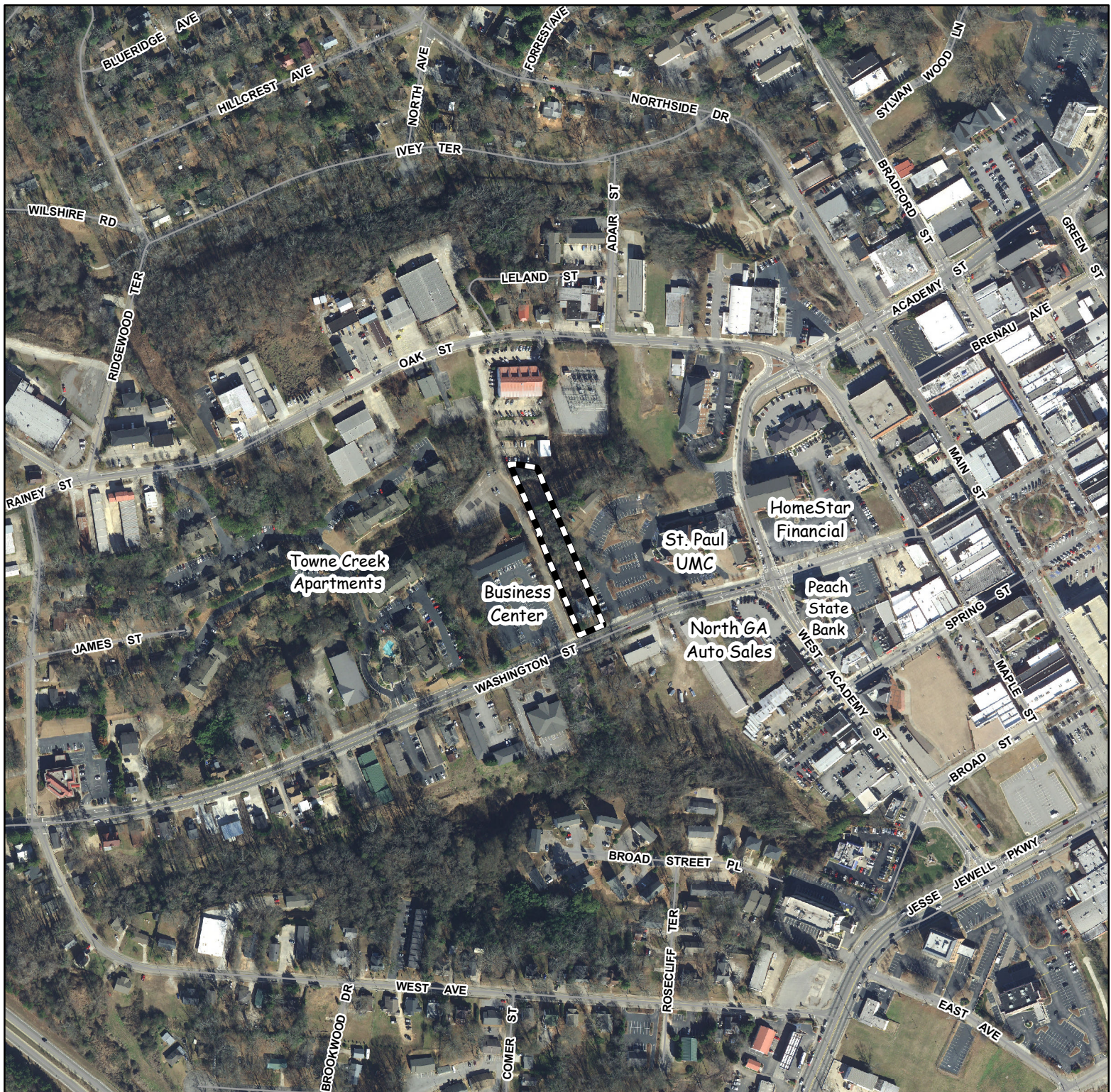
520 Washington Street, NW

Meeting: 9/11/2018

Prepared: 8/13/2018

Tax Parcel:

01-026-001-046



Applicant:

KRM 2016, LLC

Gainesville Community Development Department

SPECIAL USE REQUEST



Subject Property

Aerial from 2015

N



0 240 480 720 960 Feet

1" = 400'



Request:

Special use within Neighborhood Business for five duplex apartments

Subject Area Address:

520 Washington Street, NW

Meeting: 9/11/2018

Prepared: 8/13/2018

Tax Parcel:

01-026-001-046

520 Washington Street

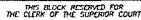
Redevelopment Narrative

The current onsite building was constructed in 1920 as a residential multi-family quadraplex. The legal address is 520 Washington Street NW. and contains .82 acres (35,913 sf). The application for special use is to allow 5 single family duplexes (10 units total) to replace the existing structure. The main purpose for this development is to provide a walkable live/work environment for residents working downtown. There is no zoning change nor are there any negative impacts to adjacent or nearby properties because the usage will not change.

This proposal is compatible with the purpose and intent of the Comprehensive Plan. As Washington Street is predominately residential and currently walkable in design, there will be no excessive impact or burden to public facilities and services. Individual units (around 1200 sf) will have 2 bedrooms thus attracting a rental market of older couples, newlywed couples, and single adults. The tenants will enter and exit on Washington St. and the impact of 10 families will not be significant. The buildings will be 2 story with brick facades on all 4 sides and 2 parking spaces per unit.

Public facilities, schools, water and sewer, police and fire, etc are all adequate to serve this special use. Refuse containers will be properly screened and lighting will be controlled as to not adversely affect others. The height and size of the buildings is consistent with surrounding office and multi-family properties. The final vision for the development is a live/work compatibility, packaged in small quaint units that offer semi-private courtyards for each tenant to enjoy. The desire is to give the development an architectural style reminiscent of Charleston, SC single houses.

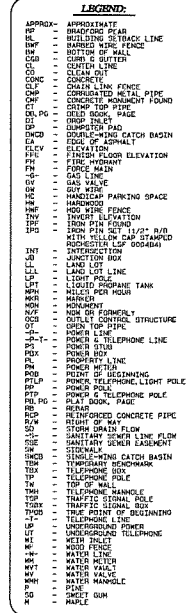
The current structure has long been neglected and is in need of costly repairs thus negating the benefit of rehabilitation. The current 4 rental units will be increased by 6 but the economic investment will improve the curb appeal and offer a lifestyle that encourages walking and biking (not driving). Gainesville is in need of housing close to downtown. While single family houses and apartments are the most common developments, middle housing like duplexes are under-developed.



This survey is a retracement of an existing parcel or parcels of land and does not subdivide or create a new parcel or make any changes to any real property boundaries. The recording information of the documents, including the names of the parties and the names of the created parcels are stated herein. **RECORDATION OF THIS SURVEY DOES NOT IMPLY APPROVAL OF ANY LOCAL JURISDICTION, AVAILABILITY OF RECORDS, COMPLIANCE WITH ANY RECORDING REQUIREMENTS, OR SUITABILITY FOR ANY USE OR PURPOSE OF THE LAND.** Furthermore, the undersigned land surveyor certifies that this plot complies with the minimum technical standards for property boundaries set forth in the Georgia Surveying and Mapping Act of 1997, as amended, and the Georgia Board of Registration for Professional Engineers and Land Surveyors and as set forth in O.C.G.A. 15-6-67.

Robert S. Cleveland 5/22/2018
Registration No. 2894 Date:
Email: rscleveland@rochester-aggoc.com
Rochester LSF #000484

1. THE FIELD DATA DATED 5/17/2018 UPON WHICH THIS PLAN IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 10,000 FEET AND AN ANGLE PRECISION OF ONE ANGLE POINT, AND WAS ADJUSTED USING LEAST SQUARES. THIS PLAN HAS BEEN CALCULATED TO A PRECISION OF ONE FOOT IN 10,000 FEET WITHIN ONE FOOT IN 602,500 FEET. THE EQUIPMENT USED TO OBTAIN THE ANGULAR MEASUREMENTS HEREIN WAS A TOPCON (3DS-305).
2. THE SURVEY WAS CONDUCTED USING A TOTAL STATION TO OBTAIN THIS DATA HAS A GROUND FREQUENCY TRIANGLE RANGING GPS RECEIVER WITH AN ANTENNA HEIGHT OF 1.40 METERS. A WIRELESS NETWORK FROM AN ADJUSTED REAL TIME KINEMATIC NETWORK. THE TECHNIQUE USED TO OBTAIN THE DATA WAS RTK. THE AVERAGE RELATIVE POSITIONAL ACCURACY OBTAINED WAS 0.07 FT. HORIZONTAL. THE AVERAGE RELATIVE POSITIONAL ACCURACY OBTAINED WAS 0.07 FT. VERTICAL. THESE VALUES WERE DERIVED FROM GPS PROCESSING SOFTWARE. THE RESULTS OF THE REAL TIME KINEMATIC CONVENTIONAL SURVEY EQUIPMENT AS DESCRIBED ABOVE.
3. THE UTILITIES SHOWN ARE BASED ON THE ABOVE GROUND VISIBLE EVIDENCE. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN ARE ALL UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT GUARANTEE THE ACCURACY OF THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE SURVEYOR HAS NO KNOWLEDGE OF ANY OTHER UTILITIES IN THE AREA. THIS SURVEY IS FOR THE EXCLUSIVE USE OF THE ENTITIES SHOWN HEREIN. ANY OTHER USE OF THIS SURVEY IS AT THE USER'S RISK.
4. THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS SHOWN ON FLOOD INSURANCE RATE MAP P 1313901006, HALL COUNTY, GEORGIA DATE: APRIL 4, 2010
5. ALL DISTANCES AS SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET
6. THE BEARINGS SHOWN HEREIN WERE CALCULATED FROM ANGLES TURNED.



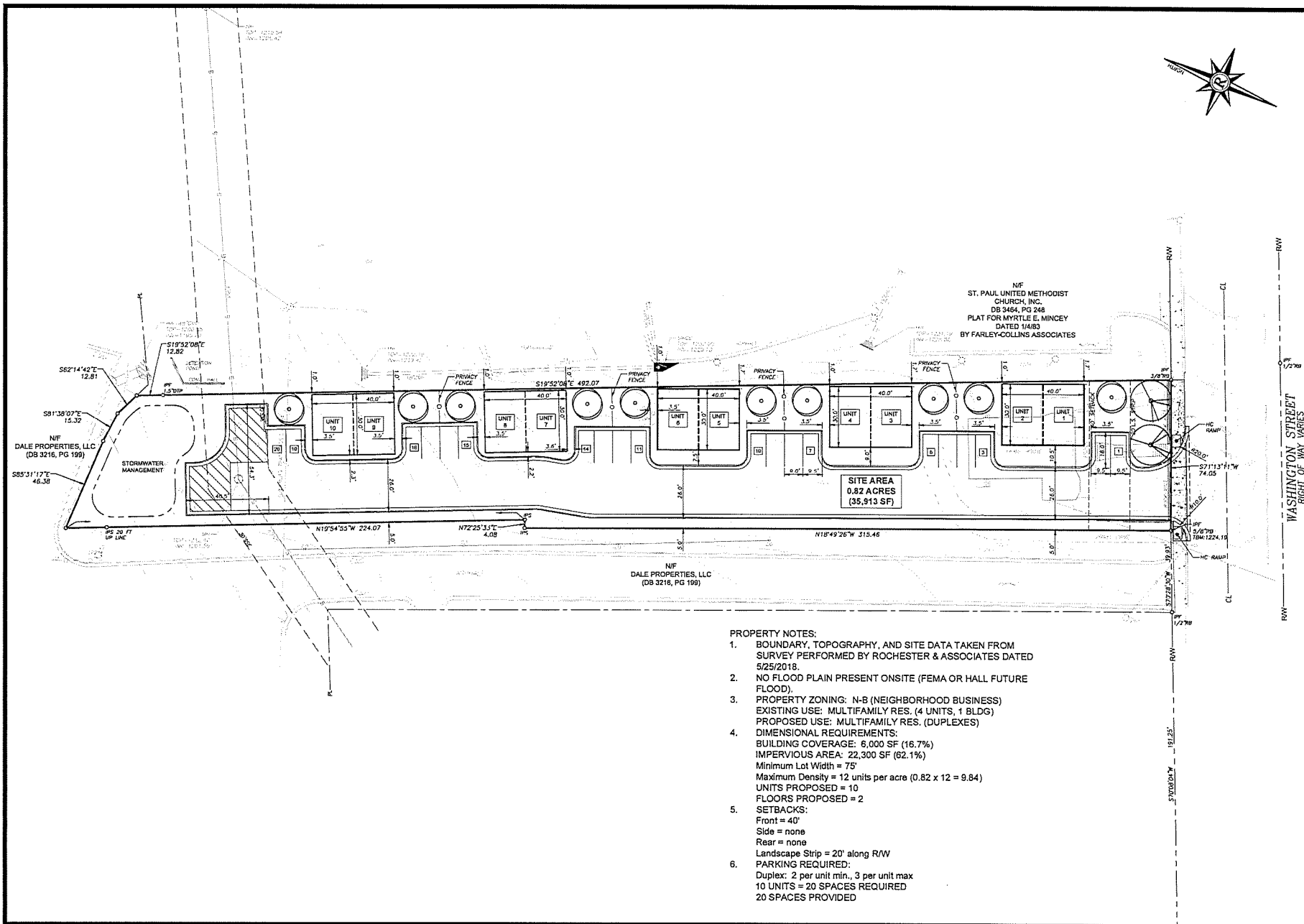
Rochester
& Associates, Inc.
425 Oak Street, N.W. # Gainesville, Georgia 30601
(770) 718-0600 (770) 718-9090 Fax #
www.rochester-assoc.com

520 WASHINGTON STREET
LOCATED IN
LAND LOT 154, 9TH DISTRICT
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

[illegible]

SHEET
1
OF
1

DATE: 5/22/2018
SCALE: 1"=30'
JOB NO: 6210031.DW
FILE NO: 6210031.DW
DRAWN BY: RSC



Rochester & Associates, Inc.
 425 Oak Street N.W. • Gainesville, Georgia 30601
 (770) 718-0000 (770) 718-0090 Fax • www.rochester-assoc.com

SPECIAL USE CONCEPT PLAN FOR

WASHINGTON STREET TRACT

RIGHT OF WAY VARIATION

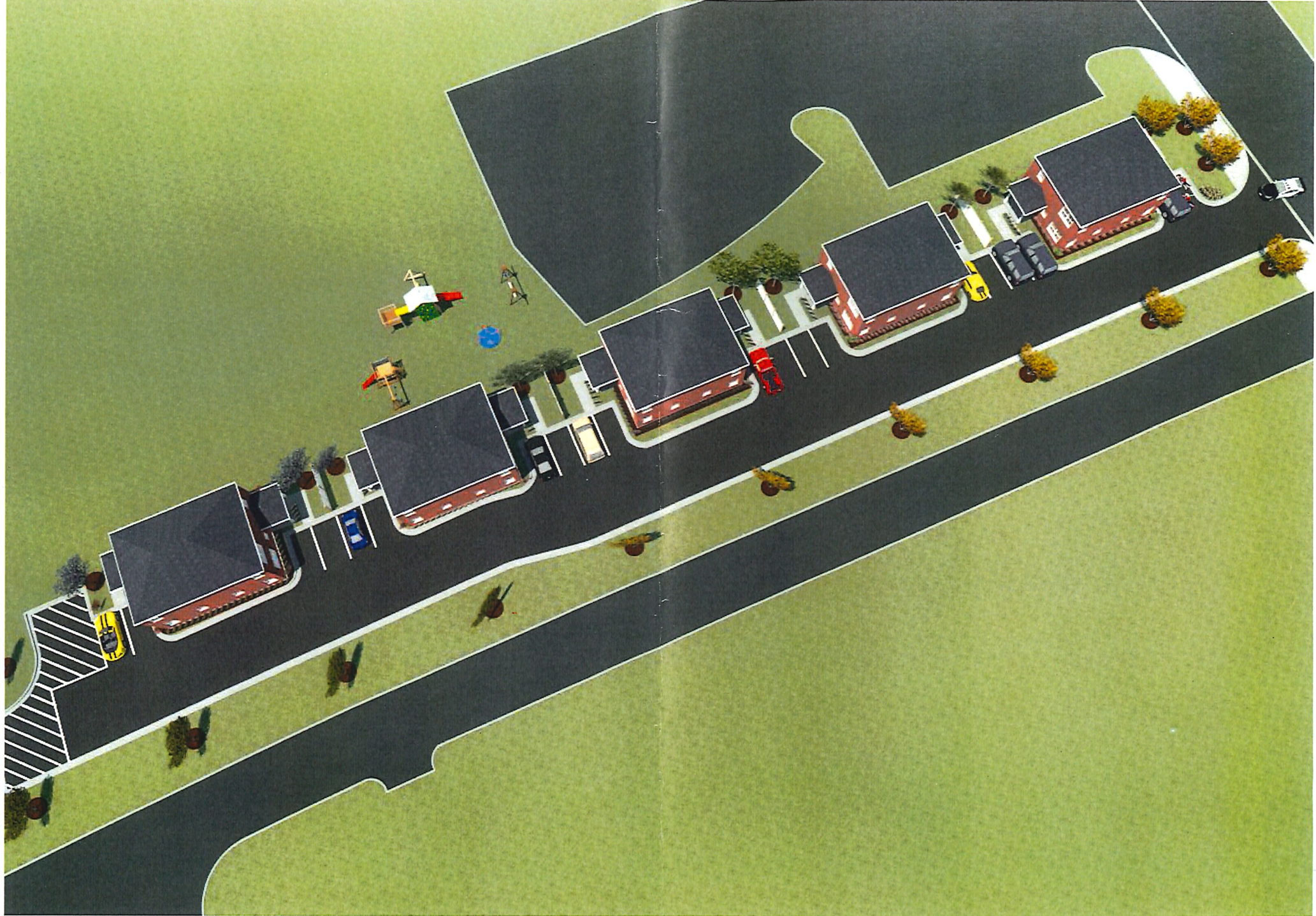
REVISIONS

NO.	DATE	DESCRIPTION
1		

GRAPHIC SCALE

SHEET 1 OF 1

ONE 7/24/2018
 SCALE 1"=20'
 DATE 10.10.2018
 DRAWN BY: ATU







Examples of Charleston Style

