PLANNING COMMISSION AGENDA

OCTOBER 14, 2014
7:00 PM
CITY HALL

A. Roll Call

B. Approval of September 9, 2014 Minutes

C. Old Business: (None)

D. New Business:

1. **<u>RZ2014-001 Oglethorpe</u> – Request to rezone property from R-100 to R-60 and approve associated buffer, setback, and landscape variances in order to develop a 20-lot residential subdivision on 5.13 acres located at 3506 & 3496 Spalding Terrace and 5297 Spalding Drive in Land Lot 286, 6th District, Gwinnett County, Georgia.**

E. City Business Items:

1. **Continued Review and Discussion of City Entryway Features Design Concepts.**

F. Comments by Staff and Planning Commissioners.

1. **Continued Discussion of Permeable Pavers.**

G. Adjournment.

DRAFT COPY

CITY OF PEACHTREE CORNERS
PLANNING COMMISSION
SEPTEMBER 9, 2014

The City of Peachtree Corners held a Planning Commission meeting on Tuesday, September 9, 2014 at 7:00pm. The meeting was held at City Hall, 147 Technology Parkway, Suite 200, Peachtree Corners, GA, 30092. The following were in attendance:

Planning Commission:	Matt Houser, Chairman, Post D Alan Kaplan, Post A Mark Middleton, Post B Mark Willis, Post C Italia Metts, Post E - Absent
Staff:	Diana Wheeler, Community Development Director Kym Chereck, City Clerk

MINUTES:

MOTION TO APPROVE THE MINUTES FROM THE AUGUST 12, 2014 PLANNING COMMISSION.
By: Mark Middleton
Seconded by: Mark Willis
Vote: Passed 4-0 (Middleton, Willis, Houser, Kaplan)

NEW BUSINESS:

SUP2014-004 Crowell Brothers Funeral Home

Request for a Special Use Permit to allow the addition of a crematory at Crowell Brothers Funeral Home, located at 5051 Peachtree Industrial Boulevard; 6th District; Land Lot 270; Parcel 31.

Mrs. Diana Wheeler, Community Development Director, presented the case to the Commission. Mrs. Wheeler provided background information regarding the applicant's request. The applicant is requesting a Special Use Permit to allow a crematory as an accessory use to the existing funeral home. The property is developed with a 10,665 square foot one-story, brick and stucco funeral home building. The applicant's letter of intent indicates that a proposed 106 square-foot accessory crematory would be installed within the north end of the existing building, with no significant changes proposed to the building's footprint or exterior. After review of the applicant's proposal and other relevant information, Staff recommended that if approval of SUP2014-004 is considered, the following conditions should be included:

1. Crematory, as a special use, shall be added to the funeral home facility and limited to a designated location within the existing building.

2. No additional building square footage shall be permitted to accommodate the crematory, and the crematory shall be limited to 1 (one) retort which may occupy no more than 110 square feet of building space within the existing funeral home.

3. Use of the crematory shall be limited to on-site customers only. No cremation services shall be provided for off-site funeral homes.

4. Any chimney associated with the crematory shall be enclosed.

5. All appropriate state and federal rules and regulations required for the crematory shall be observed in its use. The cremation system shall be a "destruction and capture of emissions" type unit, and shall include opacity controls, Intuitive Logic Control systems and oxygen controls.

6. Separate exterior ground or wall signage for the crematory use shall be prohibited.

7. Crematory shall have the same hours of operation as the funeral home. No after-hours use of the crematory shall be permitted.

The applicant's representative, John E. Underwood, Attorney at Law, stated that he has no issue with Staff's conditions.

Chairman Houser asked for public comment concerning this application. Seven people spoke in favor of the application and twenty-one people spoke in opposition of the application.

MOTION IN FAVOR OF THE APPLICATION WITH THE SEVEN CONDITIONS SET FORTH BY STAFF.
By: Mark Middleton
Seconded: Alan Kaplan
Vote: (4-0) Middleton, Kaplan, Houser, Willis)

MOTION TO AMEND STAFF RECOMMENDATION NUMBER SIX (6) TO SPECIFY THAT NO EXTERIOR ADVERTISEMENT OF CREMATORY SERVICES BE PRESENT AT THE CROWELL BROTHERS SITE.
By: Alan Kaplan
Seconded: Matt Houser
Vote: (3-1) (Kaplan, Houser, Willis) (Middleton opposed)

MOTION TO ADD A CONDITION NUMBER EIGHT (8) THAT IF AS A RESULT OF STATE OR BOARD OR OTHER ENTITY INSPECTIONS OF THE RETORT IDENTIFY ANY DEFICIENCIES, THAT THE CREMATORY

WILL NOT BE OPERATED UNTIL SUCH DEFICIENCIES ARE REPAIRED.
By: Alan Kaplan
Seconded: Mark Middleton
Vote: (4-0) (Kaplan, Middleton, Houser, Willis)

Chairman Houser stated that he would like to suggest to the City Council that they consider conducting their own studies on this matter.

CITY BUSINESS ITEMS:

Continued Review and Discussion of City Entryway Features Design Concepts.

Eric Ames and Annetta LaCroix from Pond and Company presented revised designs for the proposed City Entryway Features. The Commission responded that they liked what they saw, but would also like to see some designs utilizing current and future elements. Stated that they would work on those designs and return at a later date.

COMMENTS BY STAFF AND PLANNING COMMISSIONERS:

Discussion of Permeable Pavers

Mrs. Diana Wheeler, Director of Community Development, presented various permeable pavers to be used within the City of Peachtree Corners. The Commission requested that Mrs. Wheeler come back before the Commission at a later date with additional information which includes costs and designs.

The Planning Commission meeting concluded at 10:00 PM.

Approved, Attest:

_____ _____

Matt Houser, Chairman Kym Chereck, City Clerk

RZ2014-001
Oglethorpe

CITY OF PEACHTREE CORNERS
COMMUNITY DEVELOPMENT DEPARTMENT

REZONING ANALYSIS

PLANNING COMMISSION DATE:	OCTOBER 14, 2014
CITY COUNCIL DATE:	NOVEMBER 18, 2014
CASE NUMBER	**RZ2014-001**
APPLICATION REQUEST	REZONE TO R-60 AND APPROVE CONCURRENT VARIANCES
LOCATION	3506 AND 3496 SPALDING TERR. AND 5297 SPALDING DRIVE
PROPERTY SIZE	5.13 ACRES
MAP NUMBER	6-286-038, 6-286-039, 6-286-032
CURRENT ZONING	R-100
FUTURE DEVELOPMENT MAP	CHATTAHOOCHEE RIVER AREA
APPLICANT	PEACHTREE RESIDENTIAL, LLC 7380 MCGINNIS FERRY RD. SUWANEE, GA 30024
CONTACT:	ALEC RICKENBAKER PHONE: 404.597.1759
OWNER:	MATTHEW & TECLA SWEAT CHARLES & JENNIFER MAISE ROY SWEAT
RECOMMENDATION:	IF APPROVAL IS CONSIDERED, CONDITIONS ARE INCLUDED

PROJECT DATA:

The applicant is requesting the rezoning of three parcels totaling 5.13 acres from R-100 (Single Family Residence District) to R-60 (Single Family Residence District) in order to construct 20 detached single-family homes ranging in size from 3,000 to 4,000 square feet. The applicant is also requesting six concurrent variances:

1. Reduce public road frontage requirement to 0 feet for all lots
2. Reduce front setbacks to 10 feet from the back of the curb for all lots
3. Reduce side setbacks for lots 1 through 7 and 15 through 20 to 0 feet
4. Reduce required building separation for lots 8 through 20 to 10 feet
5. Allow private streets to be 23 feet to the back of the curb with on-street parking
6. To encroach into the 50-foot undisturbed stream buffer and 75-foot impervious surface stream setback.

The property is currently developed with three single-family homes on the east side of Spalding Terrace and north side of Spalding Drive. Site plans submitted by the applicant indicate a single access point on Spalding Terrace, with two private internal streets and one private alleyway.

Properties located along both sides of the length of Spalding Terrace, including those immediately to the west and north of the subject property and one adjacent parcel to the south and east of the subject property on Spalding Drive, are zoned R-100. These parcels are developed with single-family homes of similar size and density to those currently located on the subject property.

The Spalding Mill subdivision is adjacent to the subject property to the east, and was rezoned from R-100 to R-60 in 1998. The conditions of this rezoning called for a maximum of 102 single-family homes on 27.12 acres, or density of 3.76 units/acre. The minimum heated floor area per home in Spalding Mill is 2,000 square feet.

Additional nearby properties include the O-I (Office – Institutional) zoned Wesleyan School to the west of Spalding Terrace, and Norcross High School in the City of Norcross to the south across Spalding Drive.

The subject property includes a stream running near the northeast corner of the northernmost parcel. Current stream protection ordinances require a 50-foot undisturbed stream buffer and a 75-foot impervious surface setback. The site plans submitted with this application indicate one parcel (parcel number 12) with a proposed single-family home constructed within 50 feet of the stream.

ZONING STANDARDS:

Zoning Code Section 1702 identifies specific criteria that should be evaluated when considering a zoning decision. These criteria are enumerated as 'A' through 'F', below. Following each item is the applicant's response followed by Staff's comment.

A. Will this proposed rezoning, special use permit, or change in conditions permit a use that is suitable in view of the use and development of adjacent and nearby property?

Applicant's Response: Yes, the proposed rezoning is for medium density single family detached homes.

Staff Comments: The subject property is surrounded by institutional/school and single-family residential areas. The proposed use of medium-density single-family residences is comparable to the subdivision located immediately east, but calls for greater density than the development along the remainder of Spalding Terrace. The proposed development also calls for a significant increase in residential density on the subject property, from 0.58 units/acre to 3.90 units/acre. The maximum allowable density for redevelopment on the property under current zoning conditions would be approximately 2.90 units/acre.

B. Will this proposed rezoning, special use permit, or change in conditions adversely affect the existing use or usability of adjacent or nearby property?

Applicant's Response: No, the properties which are adjacent to the site are zoned for single family detached homes.

Staff Comment: The development of new, single-family homes that would sell for a higher price than the prevailing property values in the area should not adversely impact adjacent or nearby property values. However, the addition of 20 new homes raises concerns about the potential effects that increased traffic and stormwater runoff may have on nearby property. Development of a new residential subdivision may exacerbate the currently suboptimal rush-hour traffic conditions at the intersection of Spalding Terrace and Spalding Drive, and increase impervious surface area for downstream properties that currently suffer from flooding issues. If approval is to be considered, conditions should be included to ensure the long-term mitigation of these potential impacts.

C. Does the property to be affected by a proposed rezoning, special use permit, or change in conditions have reasonable economic use as currently zoned?

Applicant's Response: Because the area is in transition and the site has frontage on Spalding Drive, the use of the property as currently zoned R-100, will not result in a reasonable economic use.

Staff Comment: The site has a reasonable economic use as currently zoned.

D. Will the proposed rezoning, special use permit, or change in conditions result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools?

Applicant's Response: The proposed 20 homes will not cause an excessive or burdensome use on existing facilities. The current road system, particularly Spalding Dr, is heavily used due to surrounding land uses and existing traffic is high at certain times of the day. The proposed 20 homes would be a minor contributor to these issues.

Staff Comment: The proposed development would increase the number of residential lots utilizing Spalding Terrace as an access point from 35 to 52 (20 new units less 3 units to be removed). This will increase traffic by an estimated 24 additional trips in the AM peak hour and 25 trips in the PM peak hour, according to the Traffic Study prepared by A&R Engineering. The study recommends the use of an off-duty police officer to direct traffic at peak hours as a means of mitigating the additional roadway trips.
In addition, school enrollment generation rates estimate that the proposed development will generate 6 elementary school children, 2 middle school students, and 2 high school students. Further, if appropriate conditions to approval are not included, the proposed development may also place an increased burden on stormwater infrastructure. Downstream properties to the north of the subject property currently experience flooding issues, and the developer should meet all conditions regarding impervious surfaces, detention facilities, and stormwater management as required by the City of Peachtree Corners in order to avoid worsening the situation.

E. Is the proposed rezoning, special use permit, or change in conditions in conformity with the policy and intent of the land use plan?

Applicant's Response: To our knowledge the City has not adopted a comprehensive land use plan.

Staff Comment: See "Comprehensive Plan" section analysis below.

F. Are there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposed rezoning, special use permit, or change in conditions?

Applicant's Response: This is an area in transition. Properties in the vicinity have been zoned residential, office, institutional, & schools. Creating a medium density high quality residential community at this location will provide needed housing to the City, create an excellent visual "front door" for the City as one approaches from Norcross, and create some identity and demarcation for the Spalding Terrace neighborhood.

Staff Comment: This area is predominantly single-family residential in use. The two adjoining exceptions, Spalding Mill and Wesleyan School, have been in existence for over 15 years.

COMPREHENSIVE PLAN:

The Peachtree Corners Comprehensive Plan lists the subject property in the "Suburban Neighborhood" Character Area. This area is intended for single-family residential development at "low scales of development that maintain the natural feel of the area." The Comprehensive Plan emphasizes development that is "compatible with adjacent existing character with similar densities and lot sizes" with appropriate transitional areas and the protection of existing trees and open space. While the proposed development is likely to meet these standards in relation to the adjacent R-60 Spalding Mill subdivision, conditions should be put in place to ensure that impacts are minimized on the adjacent and nearby properties with larger lot sizes, lower densities, and current issues with traffic and stormwater management.

The subject property is also located within the "Chattahoochee River Area" on the Gwinnett County Future Development Map. This designation encourages residential development, including estate houses, single-family detached houses, and townhouses and cluster homes. The proposed development would meet these standards.

DEPARTMENT ANALYSIS:

The proposed 5.13-acre site is located on the east side of Spalding Terrace and on the north side of Spalding Drive, directly north of Norcross High School and west of the Wesleyan School. The three-parcel site is currently developed with three single-family homes. The existing R-100 zoning on the property requires a minimum lot size of 15,000 square feet, which indicates that, based on area alone, the subject property could potentially be redeveloped with up to 14 homes without rezoning. However, the existing site conditions would likely make the effective site yield no greater than 10 homes.

These 10 potential homes would generate half the vehicular trips of the proposed 20 lot subdivision development and would, therefore, have half the impact on Spalding Terrace and its existing peak traffic. However, the rezoning process affords the opportunity to require mitigation as a means of offsetting the extra impact. Development under the current zoning does not offer this option. Therefore, development under the current zoning would add fewer homes and fewer vehicle trips, but provide no relief from the incremental traffic impact and the existing traffic problem for existing residents. While the 20 home subdivision would generate twice the number of trips than the current zoning would allow, the off-duty police officer hired at the new subdivision's expense would help all the peak hour traffic on Spalding Terrace including existing residents. (A traffic light at the end of Spalding Terrace is not an available option due to the proximity of the nearby light at Norcross High School.)

Likewise, zoning conditions adopted as part of this application could also help lessen the likelihood of any future water run-off from this site contributing to the existing off-site drainage issues. Although those off-site problems pre-date this application, zoning conditions can impose greater measures for on-site water retention on the applicant's property than the code would normally require for development of the property under the existing zoning.

With regard to the variances requested, most are internal to the site and don't affect adjoining properties. The first five variances requested all pertain to the interior site layout and are needed to accommodate internal private streets. However, the final variance is an encroachment into the stream buffer and, due to its potential negative impacts on downstream properties, would be difficult to justify when considering the existing off-site drainage issues.

RECOMMENDATION:

After review of the applicant's proposal and other relevant information, it is recommended that if approval of RZ2014-001 is considered, the following conditions should be included:

1. The site shall be limited to 19 single-family homes with a minimum of 3,000 square feet of heated floor area. (Lot #12 not included due to stream buffer encroachment.)
2. Approve variances #1 through #5 to accommodate building setbacks and internal streets; Deny the stream buffer variance.
3. The property shall be developed in general conformance with the site plan and elevations submitted with this application to the Community Development Department with revisions to meet these conditions.
4. Developer shall construct on-site stormwater detention facilities such that the runoff rate for the developed condition will be reduced by a factor of 10 percent from the existing condition for the 100 year storm event, subject to the approval of the City of Peachtree Corners Community Development Department. For the purpose of this analysis, the existing condition shall be considered in a natural, forested state.
5. The roof drains for lots 8 thru 14 shall be directed toward the storm drain system in the street and into the detention pond.
6. Developer shall provide a downstream stormwater assessment to a location beyond Spalding Terrace.

7. Walls along the property perimeter which exceed 8 feet in height shall have masonry facing material to match the primary building.
8. The applicant's arborist shall submit a plan to mitigate the impact of construction on the trees on the adjacent Hayes property and adjacent properties in Spalding Mill.
9. A Homeowners Association shall be established to maintain all common areas including private streets, detention ponds, and all stormwater facilities in accordance with Gwinnett County Stormwater Ordinances.
10. The Developer (and subsequently the Homeowners Association) shall be responsible to secure and fund the recommendations proposed in the *Traffic Impact Study for Spalding Drive Development Peachtree Corners, Georgia* prepared by A&R Engineering Inc. and dated August 28, 2014, which include signage and the services of an off-duty police officer to direct traffic in and out of Spalding Terrace during peak traffic periods.

REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
NAME: Peachtree Residential, LLC	NAME: Matthew & Tecla Sweat
ADDRESS: 7380 McGinnis Ferry Rd	ADDRESS: 3496 Spalding Terrace
CITY: Suwanee	CITY: Norcross
STATE: GA ZIP: 30024	STATE: GA ZIP: 30092
PHONE: 770-622-2522	PHONE: 678-358-1140
E-MAIL: arickenbaker@peachtreers.com	E-MAIL: tecla@sweatinstitute.com

CONTACT PERSON: Alec Rickenbaker PHONE: 404-597-1759

CONTACT'S E-MAIL: arickenbaker@peachtreeres.com

APPLICANT IS THE:

☐ OWNER'S AGENT ☐ PROPERTY OWNER ☒ CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): R-100 REQUESTED ZONING DISTRICT: R-ZT

LAND DISTRICT(S): 6 LAND LOT(S): 286 ACREAGE: 1.88

ADDRESS OF PROPERTY: 3496 Spalding Terrace

PROPOSED DEVELOPMENT: Single Family Residence

Staff Use Only This Section

Case Number:_____ **Hearing Date: P/C**_____**C/C** **Received Date:**_____

Fees Paid: _____ **By:** _____

Related Cases & Applicable Conditions:

Description:

APPLICANT'S CERTIFICATION

The undersigned below states under oath that they are authorized to make this application. The undersigned is aware that no application or reapplication affecting the same land shall be acted upon within 12 months from the date of last action by the city council unless waived by the city council. In no case shall an application or reapplication be acted upon in less than six (6) months from the date of last action by the city council.

Signature of Applicant — Date: 3-3-14

Alec Rickenbaker, President
Type or Print Name and Title

Patti W. Seaton — 3-3-14
Signature of Notary Public — Date — Notary Seal

PATTI W SEATON NOTARY EXPIRES GEORGIA FEB. 28, 2018 PUBLIC GWINNETT COUNTY

PROPERTY OWNER'S CERTIFICATION

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2/28/14

Signature of Property Owner — Date: 2/28/2014

Dr Matthew & Tecla Sweet
Type or Print Name and Title

Tina Renee Shotts — February 28 2014
Signature of Notary Public — Date — Notary Seal

TINA RENEE SHOTTS MY COMMISSION EXPIRES NOTARY PUBLIC FEBRUARY 3, 2016 WALTON COUNTY, GEORGIA

VERIFICATION OF CURRENT PAID PROPERTY TAXES FOR REZONING

THE UNDERSIGNED BELOW IS AUTHORIZED TO MAKE THIS APPLICATION. THE UNDERSIGNED CERTIFIES THAT ALL CITY OF PEACHTREE CORNERS PROPERTY TAXES BILLED TO DATE FOR THE PARCEL LISTED BELOW HAVE BEEN PAID IN FULL TO THE TAX COMMISSIONER OF GWINNETT COUNTY, GEORGIA. IN NO CASE SHALL A PUBLIC HEARING APPLICATION BE PROCESSED WITHOUT SUCH PROPERTY VERIFICATION.

A SEPARATE VERIFICATION FORM MUST BE COMPLETED FOR EACH TAX PARCEL INCLUDED IN THE REZONING REQUEST.

PARCEL I.D. NUMBER: 6 - 286 - R 6286 038
(Map Reference Number) District Land Lot Parcel

Signature of Applicant 3-3-14 Date

Alec Rickenbaker, President
Type or Print Name and Title

Tax Commissioners Use Only

(PAYMENT OF ALL PROPERTY TAXES BILLED TO DATE FOR THE ABOVE REFERENCED PARCEL HAVE BEEN VERIFIED AS PAID CURRENT AND CONFIRMED BY THE SIGNATURE BELOW)

NAME TITLE

DATE

REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
NAME: Peachtree Residential, LLC	NAME: Charles & Jennifer Maise
ADDRESS: 7380 McGinnis Ferry Rd	ADDRESS: 3506 Spalding Terrace
CITY: Suwanee	CITY: Norcross
STATE: GA ZIP: 30024	STATE: GA ZIP: 30092
PHONE: 770-622-2522	PHONE: 770-310-6762
E-MAIL: arickenbaker@peachtreers.com	E-MAIL: jmaise@gmail.com

CONTACT PERSON: Alec Rickenbaker PHONE: 404-597-1759

CONTACT'S E-MAIL: arickenbaker@peachtreeres.com

APPLICANT IS THE:

☐ OWNER'S AGENT ☐ PROPERTY OWNER ☒ CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): R-100 REQUESTED ZONING DISTRICT: R-ZT

LAND DISTRICT(S): 6 LAND LOT(S): 286 ACREAGE: 1.61

ADDRESS OF PROPERTY: 5297 Spalding Drive

PROPOSED DEVELOPMENT: Single Family Residence

Staff Use Only This Section

Case Number:_____ **Hearing Date: P/C**_____**C/C** **Received Date:**_____

Fees Paid: _____ **By:** _____

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Description: _____

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Signature of Applicant — Date: 3/3/14

Alec Rickenbaker, President

Type or Print Name and Title

Signature of Notary Public — Date: 3-3-14 — Notary Seal

PATTI W SEATON NOTARY EXPIRES GEORGIA FEB. 28, 2018 PUBLIC GWINNETT COUNTY

PROPERTY OWNER'S CERTIFICATION

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Signature of Property Owner — Date: 2/27/2014

Charles + Jennifer Maise, Owner

Type or Print Name and Title

Signature of Notary Public — Date: 2/27/14 — Notary Seal

MOHINI SALIM NOTARY PUBLIC MY COMMISSION EXPIRES JULY 14, 2015 GWINNETT COUNTY, GEORGIA

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A SEPARATE VERIFICATION FORM MUST BE COMPLETED FOR EACH TAX PARCEL INCLUDED IN THE REZONING REQUEST.

PARCEL I.D. NUMBER: 6 - 286 - R6286 039
(Map Reference Number) District Land Lot Parcel

Signature of Applicant 3-3-14
Date

Alec Rickenbaker, President
Type or Print Name and Title

Tax Commissioners Use Only

(PAYMENT OF ALL PROPERTY TAXES BILLED TO DATE FOR THE ABOVE REFERENCED PARCEL HAVE BEEN VERIFIED AS PAID CURRENT AND CONFIRMED BY THE SIGNATURE BELOW)

NAME TITLE

DATE

REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
NAME: Peachtree Residential, LLC	NAME: Roy Sweat
ADDRESS: 7380 McGinnis Ferry Rd	ADDRESS: 5297 Spalding Drive
CITY: Suwanee	CITY: Norcross
STATE: GA ZIP: 30024	STATE: GA ZIP: 30092
PHONE: 770-622-2522	PHONE: 678-358-1140
E-MAIL: arickenbaker@peachtreers.com	E-MAIL: tecla@sweatinstitute.com

CONTACT PERSON: Alec Rickenbaker PHONE: 404-597-1759

CONTACT'S E-MAIL: arickenbaker@peachtreeres.com

APPLICANT IS THE:

☐ OWNER'S AGENT ☐ PROPERTY OWNER ☒ CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): R-100 REQUESTED ZONING DISTRICT: R-ZT

LAND DISTRICT(S): 6 LAND LOT(S): 286 ACREAGE: 1.80

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Description:

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Signature of Applicant — Date: 3-3-14

Alec Rickenbaker, President
Type or Print Name and Title

Patti W. Seaton — 3-3-14
Signature of Notary Public — Date — Notary Seal

PATTI W SEATON NOTARY EXPIRES GEORGIA FEB. 28, 2018 PUBLIC GWINNETT COUNTY

PROPERTY OWNER'S CERTIFICATION

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x D Ray W. Sweat — 2/28/2014
Signature of Property Owner — Date

D Ray W. Sweat
Type or Print Name and Title

Tina Renee Shotts — May 28, 2014
Signature of Notary Public — Date — Notary Seal

TINA RENEE SHOTTS MY COMMISSION EXPIRES NOTARY PUBLIC FEBRUARY 9, 2018 WALTON COUNTY, GEORGIA

VERIFICATION OF CURRENT PAID PROPERTY TAXES FOR REZONING

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A SEPARATE VERIFICATION FORM MUST BE COMPLETED FOR EACH TAX PARCEL INCLUDED IN THE REZONING REQUEST.

PARCEL I.D. NUMBER: 6 - 286 - R6286 032
(Map Reference Number) District Land Lot Parcel

Signature of Applicant 3-3-14 Date

Alec Rickenbaker, President
Type or Print Name and Title

Tax Commissioners Use Only

(PAYMENT OF ALL PROPERTY TAXES BILLED TO DATE FOR THE ABOVE REFERENCED PARCEL HAVE BEEN VERIFIED AS PAID CURRENT AND CONFIRMED BY THE SIGNATURE BELOW)

NAME TITLE

DATE

VERIFICATION OF CURRENT PAID PROPERTY TAXES FOR REZONING

THE UNDERSIGNED BELOW IS AUTHORIZED TO MAKE THIS APPLICATION. THE UNDERSIGNED CERTIFIES THAT ALL CITY OF PEACHTREE CORNERS PROPERTY TAXES BILLED TO DATE FOR THE PARCEL LISTED BELOW HAVE BEEN PAID IN FULL TO THE TAX COMMISSIONER OF GWINNETT COUNTY, GEORGIA. IN NO CASE SHALL A PUBLIC HEARING APPLICATION BE PROCESSED WITHOUT SUCH PROPERTY VERIFICATION.

A SEPARATE VERIFICATION FORM MUST BE COMPLETED FOR EACH TAX PARCEL INCLUDED IN THE REZONING REQUEST.

PARCEL I.D. NUMBER: 6 - 286 - R6286 032
(Map Reference Number) District Land Lot Parcel

Signature of Applicant 3-3-14 Date

Alec Rickenbaker, President
Type or Print Name and Title

Tax Commissioners Use Only

(PAYMENT OF ALL PROPERTY TAXES BILLED TO DATE FOR THE ABOVE REFERENCED PARCEL HAVE BEEN VERIFIED AS PAID CURRENT AND CONFIRMED BY THE SIGNATURE BELOW)

NAME TITLE

DATE

APPLICANT'S RESPONSE
STANDARDS GOVERNING THE EXERCISE OF THE ZONING POWER

Pursuant to section 1702 of the 2012 zoning resolution, the city council finds that the following standards are relevant in balancing the interest in promoting the public health, safety, morality or general welfare against the right to the unrestricted use of property and shall govern the exercise of the zoning power.

PLEASE RESPOND TO THE FOLLOWING STANDARDS IN THE SPACE PROVIDED OR USE AN ATTACHMENT AS NECESSARY:

A. Will this proposed rezoning, special use permit, or change in conditions permit a use that is suitable in view of the use and development of adjacent and nearby property?

Yes, the proposed rezoning is for medium density single family detached homes.

B. Will this proposed rezoning, special use permit, or change in conditions will adversely affect the existing use or usability of adjacent or nearby property?

No, the properties which are adjacent to the site are zoned for single family detached homes.

C. Does the property to be affected by a proposed rezoning, special use permit, or change in conditions have reasonable economic use as currently zoned?

Because the area is in transition and the site has frontage on Spalding Drive, the use of the property as currently zoned R-100, will not result in a reasonable economic use.

D. Will the proposed rezoning, special use permit, or change in conditions will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools?

The proposed 28 homes will not cause an excessive or burdensome use on existing facilities. The current road system, particularly Spalding Dr, is heavily used due to surrounding land uses and existing traffic is high at certain times of the day. The proposed 28 homes would be a minor contributor to these issues.

E. Will the proposed rezoning, special use permit, or change in conditions is in conformity with the policy and intent of the land use plan?

To our knowledge the City has not adopted a comprehensive land use plan.

F. Are there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposed rezoning, special use permit, or change in conditions?

This is an area in transition. Properties in the vicinity have been zoned residential, office, institutional, & schools. Creating a medium density high quality residential community at this location will provide needed housing to the City, create an excellent visual "front door" for the City as one approaches from Norcross, and create some identity and demarcation for the Spalding Terrace neighborhood.

DISCLOSURE REPORT FORM
CONFLICT OF INTEREST CERTIFICATION/CAMPAIGN CONTRIBUTIONS

WITHIN THE (2) YEARS IMMEDIATELY PRECEDING THE FILING OF THIS ZONING PETITION HAVE YOU, AS THE APPLICANT FOR THE REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS PETITION, OR AN ATTORNEY OR AGENT OF THE APPLICANT FOR THE REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS PETITION, MADE ANY CAMPAIGN CONTRIBUTIONS AGGREGATING $250.00 OR MORE OR MADE GIFTS HAVING AN AGGREGATE VALUE OF $250.00 TO THE MAYOR OR ANY MEMBER OF THE CITY COUNCIL?

CHECK ONE: ☐ YES ☒ NO Alec Rickenbaker
(If yes, please complete the "Campaign Contributions" section below) Print Name

1. CAMPAIGN CONTRIBUTIONS

Name of Government Official	Total Dollar Amount	Date of Contribution	Enumeration and Description of Gift Valued at $250.00 or more

2. THE UNDERSIGNED ACKNOWLEDGES THAT THIS DISCLOSURE IS MADE IN ACCORDANCE WITH THE OFFICIAL CODE OF GEORGIA, SECTION 36-67A-1 ET. SEQ. CONFLICT OF INTEREST IN ZONING ACTIONS, AND THAT THE INFORMATION SET FORTH HEREIN IS TRUE TO THE UNDERSIGNED'S BEST KNOWLEDGE, INFORMATION AND BELIEF.

	3-3-14	Alec Rickenbaker, President
Signature of Applicant	Date	Type or Print Name and Title
Signature of Applicant's Attorney or Representative	Date	Type or Print Name and Title
Signature of Notary	Date	Notary Seal

IMPORTANT! If you do not receive a confirmation of your online payment on screen or by email, contact tax@gwinnettcounty.com. We will contact you as soon as possible.
Thank you.

Tax Account

Parcel ID	Property Type	Last Update
R6286 039	Real Property	3/3/2014 2:51:37 PM

Mailing Address:
MAISE CHARLES E & JENNIFER
3506 SPALDING TER
NORCROSS , GA 30092-2609

Change Mailing Address

Situs:
3506 SPALDING TER

Tax District:
PEACHTREE CORNERS

Legal Description

L4 BA SPALDING ESTATES

Tax Bills

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Due Date	Amount Due
2013	$3,719.79	$3,719.79	$0.00	$0.00	10/3/2013	$0.00
2012	$4,590.45	$4,590.45	$0.00	$0.00	10/15/2012	$0.00
2011	$4,447.34	$4,447.34	$0.00	$0.00	11/15/2011	$0.00
2010	$4,599.11	$4,599.11	$0.00	$0.00	9/22/2010	$0.00
					Total	$0.00

IMPORTANT! If you do not receive a confirmation of your online payment on screen or by email, contact tax@gwinnettcounty.com. We will contact you as soon as possible.
Thank you.

Tax Account

Parcel ID	Property Type	Last Update
R6286 038	Real Property	3/3/2014 10:42:08 AM

Mailing Address:
SWEAT MATTHEW H & TECLA
3496 SPALDING TER
NORCROSS , GA 30092-2607

Change Mailing Address

Situs:
3496 SPALDING TER

Tax District:
PEACHTREE CORNERS

Legal Description

L3 BA SPALDING ESTATES

Tax Bills

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Due Date	Amount Due
2013	$2,775.68	$2,775.68	$0.00	$0.00	10/3/2013	$0.00
2012	$3,584.06	$3,590.39	$0.00	$0.00	9/1/2013	$0.00
2011	$3,502.53	$3,508.87	$0.00	$0.00	9/1/2013	$0.00
2010	$3,627.84	$3,634.25	$0.00	$0.00	9/1/2013	$0.00
					Total	$0.00

IMPORTANT! If you do not receive a confirmation of your online payment on screen or by email, contact tax@gwinnettcounty.com. We will contact you as soon as possible.
Thank you.

Tax Account

Parcel ID	Property Type	Last Update
R6286 032	Real Property	3/3/2014 10:14:17 AM

Mailing Address:
SWEAT ROY W
5297 SPALDING DR
NORCROSS , GA 30092-2604

Change Mailing Address

Situs:
5297 SPALDING DR

Tax District:
PEACHTREE CORNERS

Legal Description

L1 SPALDING DR

Tax Bills

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Due Date	Amount Due
2013	$2,532.19	$2,557.76	$0.00	$0.00	10/3/2013	$0.00
2012	$3,166.41	$3,166.41	$0.00	$0.00	10/15/2012	$0.00
2011	$3,090.06	$3,213.66	$0.00	$0.00	11/15/2011	$0.00
2010	$3,191.46	$3,270.33	$0.00	$0.00	9/22/2010	$0.00
					Total	$0.00

April 29, 2014 Revised 8/29/14

City of Peachtree Corners
147 Technology Parkway NW, Suite 200
Peachtree Corners, GA 30092

RE: Rezoning Application for Oglethorpe

Dear Sirs:

Oglethorpe, Peachtree's newest neighborhood represents the latest thinking in both community design and architecture for this infill location. The 5.1 acre site is master planned with 20 detached single family residential homes. Each home is meticulously designed to reflect the architectural details and style reminiscent of old Savannah Georgia. The homes priced from the mid $400's to the $600's range in square footage from 3,000 to 4,000 square feet.

Many of the homes have 3-car garages to accommodate the upscale buyer. Homes are designed with front and rear entry garages. The garden homes are designed with a rear motor court vehicular access and private garden court yards for each home. There is an emphasis on pedestrian scale at Oglethorpe which is illustrated by an interlinking sidewalk system throughout the neighborhood. The walkable design includes varied home elevations, colors, porches, balconies, fountains, trellises, and specimen trees. Convenient off street parking is spread throughout the community in addition to private garden settings for the individual homes. Oglethorpe boasts a linear park along it's frontage with Spalding Terrace Road which along with the gated entrance, adds to the exclusivity of the neighborhood. The neighborhood plan also illustrates a passive neighborhood park and central mall kiosk at the summit of the property.

The specific lot sizes, building setbacks, sidewalks, street widths and off street parking locations are shown on the attached site plan. In addition, the plan envisions 2 detention ponds to control any increase in storm water runoff. The 25' stream buffer along the existing creek shall remain undisturbed with the 50' buffer acting as a limit for impervious construction. Subject to Gwinnett County and GA-DOT approval, construction access will be limited to Spalding Drive.

Although we've never experienced it, apparently during morning rush hour at the intersection of Spalding Terrace and Spalding Drive there are inconvenient traffic back-ups for the residents living on Spalding Terrace. If the problem is deemed significant we would be willing to participate in the solution as part of the Oglethorpe development.

The land plan and project concept has been designed in collaboration with prominent Roswell architect, Lew Oliver. His award winning company, Whole Town Solutions, has received many awards for community designs of Serenbe in Fulton County and Vickery in South Forsyth County along with numerous home and site designs along the gulf coast. Most recently their newest community design located in Alpharetta Georgia is called Avalon.

Peachtree Residential Properties
John's Creek • 7380 McGinnis Ferry Rd. • Suwanee, GA 30024
Voice 770 622 2522 • Fax 770 622 9171
www.peachtreeresidential.com

The maintenance free living provided to the residents at Oglethorpe allows for full landscape maintenance allowing for a latch and leave lifestyle.

The unique location of Oglethorpe allows for quick access to Peachtree Parkway, Medlock Bridge Road and I-285 as well as the significant employment base at Tech Park. Excellent shopping is just minutes away at the Forum and excellent private and public schools are adjacent to Oglethorpe (Wesleyan School, Norcross High School).

This community represents Peachtree Residential's latest Peachtree Corners community coming on the heels of it's highly successful Tillman Hall neighborhood. Peachtree is a closely held locally owned company with over 25 years of experience building upscale move-up housing in North Atlanta.

Along with our original submittal of April 29 we submitted 3 complete rezoning applications, legal descriptions, surveys, and site plans.

In conjunction with this revised letter we have attached:

- Revised top pages of our 3 rezoning applications reflecting R-60 instead of RZT and an additional sheet describing requested variances.
- A traffic impact study dated 8/28/14 by A&R Engineering.
- A construction cut sheet that illustrates the materials to be used for retaining walls located on lots 9, 10, 13, and 14. Retaining walls for detention ponds A and B will be poured in place concrete screened by evergreen plants.
- A revised Grading and Utility Concept Plan/Site Plan illustrating 20 homes.
- A brief description of the neighborhood covenants and restrictions.

Sincerely,

Alec B. Rickenbaker
President

REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
NAME: Peachtree Residential, LLC	NAME: Matthew & Tecla Sweat
ADDRESS: 7380 McGinnis Ferry Rd	ADDRESS: 3496 Spalding Terrace
CITY: Suwanee	CITY: Norcross
STATE: GA ZIP: 30024	STATE: GA ZIP: 30092
PHONE: 770-622-2522	PHONE: 678-358-1140
E-MAIL: arickenbaker@peachtreers.com	E-MAIL: tecla@sweatinstitute.com

CONTACT PERSON: Alec Rickenbaker PHONE: 404-597-1759

CONTACT'S E-MAIL: arickenbaker@peachtreeres.com

APPLICANT IS THE:

☐ OWNER'S AGENT ☐ PROPERTY OWNER ☒ CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): R-100 REQUESTED ZONING DISTRICT: R-60

LAND DISTRICT(S): 6 LAND LOT(S): 286 ACREAGE: 1.88

ADDRESS OF PROPERTY: 3496 Spalding Terrace

PROPOSED DEVELOPMENT: Single Family Residence

Staff Use Only This Section

Case Number:_____ **Hearing Date: P/C**_____**C/C** **Received Date:**_____

Fees Paid: _____**By:** _____

Related Cases & Applicable Conditions:

Description:

8/29/14

Oglethorpe

Addendum to Rezoning Application for Peachtree Residential, LLC

Applicant requests concurrent variances with rezoning request to R-60:

1. Reduce public road frontage requirement to 0 feet for the lots (private streets)

2. Reduce front setbacks on the lots to 10 feet from back of curb (interior to subdivision)

3. Reduce side setbacks for 1-7 and 15-20 to zero feet (all interior to subdivision)

4. Reduce building separation for lots 8-20 to 10 feet (al interior to subdivision)

5. Private streets to be 23 feet back of curb to Back of curb and on-street parking (not public road standards)

REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
NAME: Peachtree Residential, LLC	NAME: Roy Sweat
ADDRESS: 7380 McGinnis Ferry Rd	ADDRESS: 5297 Spalding Drive
CITY: Suwanee	CITY: Norcross
STATE: GA ZIP: 30024	STATE: GA ZIP: 30092
PHONE: 770-622-2522	PHONE: 678-358-1140
E-MAIL: arickenbaker@peachtreers.com	E-MAIL: tecla@sweatinstitute.com

CONTACT PERSON: Alec Rickenbaker PHONE: 404-597-1759

CONTACT'S E-MAIL: arickenbaker@peachtreeres.com

APPLICANT IS THE:

☐ OWNER'S AGENT ☐ PROPERTY OWNER ☒ CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): R-100 REQUESTED ZONING DISTRICT: R-60

LAND DISTRICT(S): 6 LAND LOT(S): 286 ACREAGE: 1.80

ADDRESS OF PROPERTY: 5297 Spalding Drive

PROPOSED DEVELOPMENT: Single Family Residence

Staff Use Only This Section

Case Number:_____ **Hearing Date: P/C**_____**C/C** **Received Date:**_____

Fees Paid: _____**By:** _____

Related Cases & Applicable Conditions:

Description:

8/29/14

Oglethorpe

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REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
NAME: Peachtree Residential, LLC	NAME: Charles & Jennifer Maise
ADDRESS: 7380 McGinnis Ferry Rd	ADDRESS: 3506 Spalding Terrace
CITY: Suwanee	CITY: Norcross
STATE: GA ZIP: 30024	STATE: GA ZIP: 30092
PHONE: 770-622-2522	PHONE: 770-310-6762
E-MAIL: arickenbaker@peachtreers.com	E-MAIL: jmaise@gmail.com

CONTACT PERSON: Alec Rickenbaker PHONE: 404-597-1759

CONTACT'S E-MAIL: arickenbaker@peachtreeres.com

APPLICANT IS THE:

☐ OWNER'S AGENT ☐ PROPERTY OWNER ☒ CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): R-100 REQUESTED ZONING DISTRICT: R-60

LAND DISTRICT(S): 6 LAND LOT(S): 286 ACREAGE: 1.61

ADDRESS OF PROPERTY: 5297 Spalding Drive

PROPOSED DEVELOPMENT: Single Family Residence

Staff Use Only This Section

Case Number:_____ **Hearing Date: P/C**_____**C/C** **Received Date:**_____

Fees Paid: _____**By:** _____

Related Cases & Applicable Conditions:

Description:

8/29/14

Oglethorpe

Addendum to Rezoning Application for Peachtree Residential, LLC

Applicant requests concurrent variances with rezoning request to R-60:

1. Reduce public road frontage requirement to 0 feet for the lots (private streets)

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3. Reduce side setbacks for 1-7 and 15-20 to zero feet (all interior to subdivision)

4. Reduce building separation for lots 8-20 to 10 feet (al interior to subdivision)

5. Private streets to be 23 feet back of curb to Back of curb and on-street parking (not public road standards)

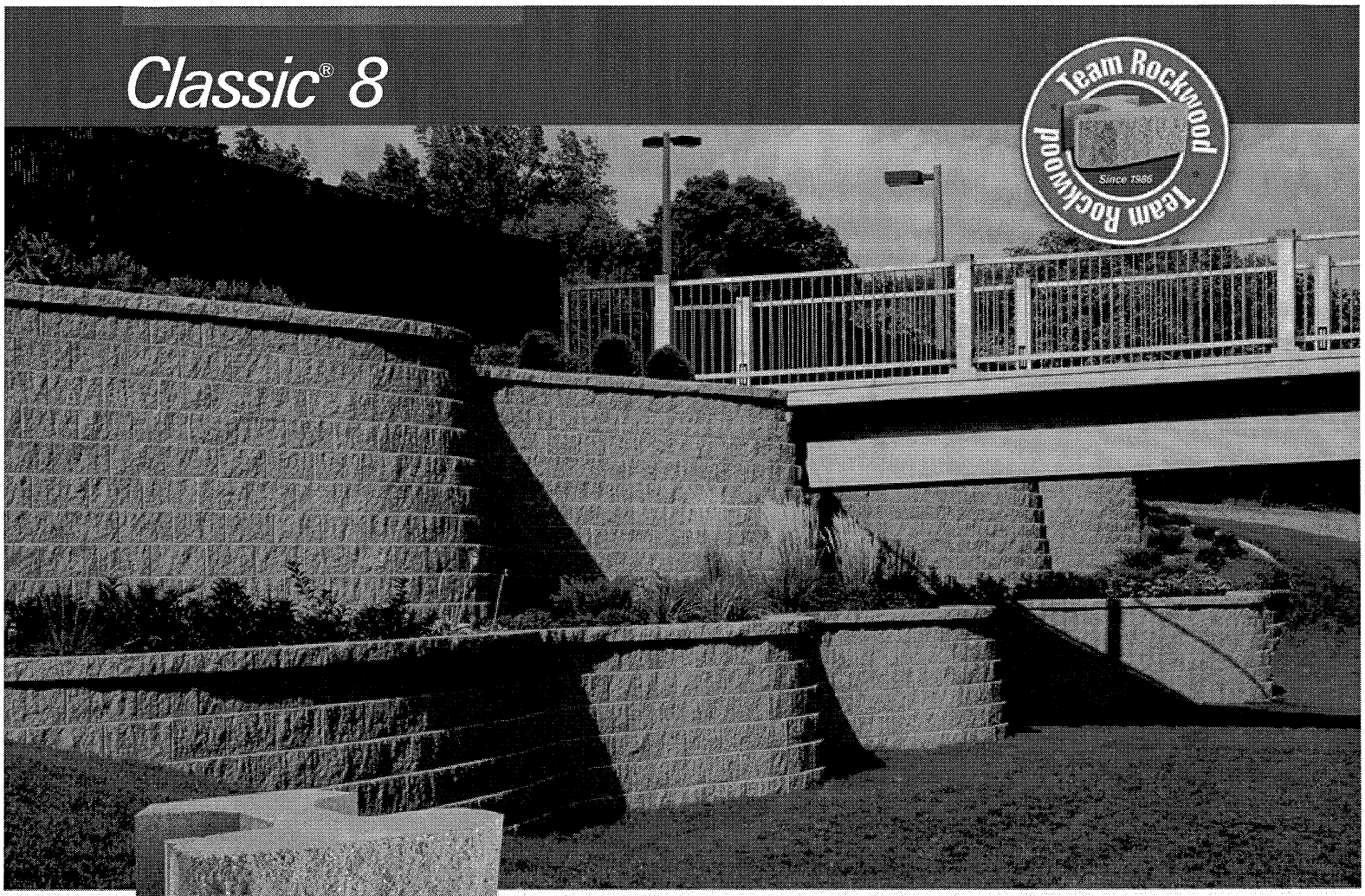
Description of Covenants for Oglethorpe Community

The proposed Oglethorpe community will comprise 20 single-family detached homes, limited access private streets and parking areas, a community stormwater drainage system, and open space. In connection with the development of Oglethorpe, the property will be submitted to a recorded Declaration of Covenants ("Declaration"), which will establish a mandatory membership homeowners association ("Association") to govern the community and will set forth a budgeting process for Association expenses, a system of mandatory common expense assessments, an allocation of membership votes, architectural controls, use restrictions and rules, and the various maintenance obligations of the owners and the Association.

The Association will own the private streets and gated access, the community stormwater drainage system, and any community open space and will be obligated to maintain these areas. The Association will also maintain yards and landscaping in the community, regardless of whether such landscaping is located on a lot. Each homeowner will maintain the other portions of his or her lot, including the dwelling structure, and any utilities exclusively serving the lot. The Association will also be responsible for coordinating and maintaining any traffic calming solutions as required by the City in connection with the development.

8/29/14

Classic® 8



Classic® 8 is the high performance block preferred by architects, builders, developers, and engineers worldwide. It is known for its ease of installation, strength, and versatility. Whether the wall is supporting a retail development or backyard sanctuary, Classic 8 is the best solution for any type of retaining wall application.

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Appearance
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Efficiency

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RETAINING WALLS
A better way.™

Classic® 8

The Advantages of the Classic® System...

It's Fast...
Located on the underside of each Classic® block, the 4" x 2" Anchor Bar creates an automatic setback with the highest shear resistance in the industry. Plus, Classic's fewer pieces, pinless design, and lower weight per square foot reduces construction time, labor costs, and freight charges.

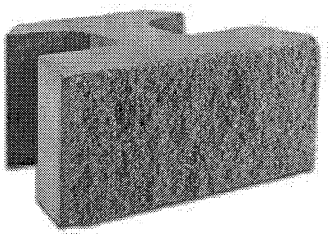
It's Simple...
"One Unit" construction is a vital element of Classic's superior design. 90° corners and half blocks are made simply by removing a portion of the block. No special blocks are required; no special inventories are needed; no shortages occur on the jobsite!

It's Strong...
Upon assembly, Classic blocks automatically create 4" x 5" vertical "stone columns". When layered with grid, the gravel filled "stone columns" provide a multi-point interlock, for a more uniform block-to-grid connection.

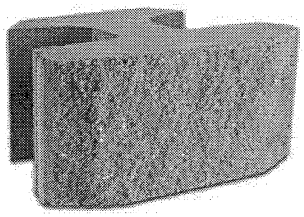
It's Versatile...
Variable setbacks, sharp radius turns, "One Unit" construction, and complete interchangeability are all features of Rockwood's Classic System. The ability to mix various sizes and colors within a wall enhances your imagination without sacrificing structural integrity. Plus, the Anchor Bar allows you to build at any setback you desire – from 0° to 14°, providing the only "true" vertical setback in the industry.

Classic® 8 Blocks

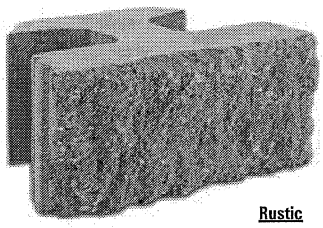
Unit specifications, availability, color, and fascia options vary by manufacturer.
Please contact your nearest Rockwood manufacturer or dealer for more information.



Straight Split
Size: 8" H x 18" W x 12" D
Weight: 80 lbs.



Beveled Split
Size: 8" H x 18" W x 12" D
Weight: 80 lbs.



Rustic
Size: 8" H x 18" W x 12" D
Weight: 80 lbs.

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Rochester, MN 55906

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888.288.4045
phone
507.529.2871
fax
507.529.2879

www.rockwoodwalls.com

Available at:

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Variances requested:

Applicant requests concurrent variances with rezoning request to R-60:

1. Reduce public road frontage requirement to 0 feet for the lots (private streets)

2. Reduce front setbacks on the lots to 10 feet from back of curb (interior to subdivision)

3. Reduce side setbacks for 1-7 and 15-20 to zero feet (all interior to subdivision)

4. Reduce building separation for lots 8-20 to 10 feet (al interior to subdivision)

5. Private streets to be 23 feet back of curb to Back of curb and on-street parking (not public road standards)

6. Encroach into 50' undisturbed stream buffer & encroach into 75' impervious stream setback.

LEGEND

	IRON PIN FOUND (AS NOTED)	RAH	RECORD ANGLE HELD
	PROPERTY CORNER	RDH	RECORD DISTANCE HELD
	CONCRETE MONUMENT FOUND	N/F	NOW OR FORMERLY
	MAILBOX	R/W	RIGHT OF WAY
	SIGN	TC	TOP OF CURB
	TEMPORARY BENCHMARK	FFE	FINISHED FLOOR ELEVATION
	AC UNIT	T.B.M.	TEMPORARY BENCHMARK
	ELECTRIC BOX	C&G	CURB AND GUTTER
	ELECTRIC METER	IPS	1/2" REBAR SET W/CAP
	POWER POLE	℄	CENTER LINE
	CLEAN OUT	INV	INVERT
	CATCH BASINS	PVC	POLYVINYL CHLORIDE PIPE
	CABLE TV BOX	RCP	REINFORCED CONCRETE PIPE
	GAS METER	CMP	CORRUGATE METAL PIPE
	WATER METER	x1080.97	SPOT ELEVATION
	WATER VALVE	--1078--	CONTOUR ELEVATION
	CONIFEROUS TREE	---x---	FENCE LINE
	DECIDUOUS TREE		STORM SEWER LINE
MN	MAGNOLIA TREE	---P---	OVERHEAD POWER LINE
OA	OAK TREE	---T---	OVERHEAD TELEPHONE LINE
PN	PINE TREE	---C---	OVERHEAD CABLE TELEVISION LINE
PO	POPLAR TREE	1495	STREET ADDRESS
P.O.B.	POINT OF BEGINNING	1	ON-STREET PARKING (SPACES)
P.O.C.	POINT OF COMMENCEMENT		

BUILDER PEACHTREE RESIDENTIAL PROPERTIES
7380 McGinnis Ferry Rd.
SUWANEE, GEORGIA 30174
24 HR EMERGENCY CONTACT
ALEC RICKENBAKER
(770) 622-2522

PRPOSED ZONING: R-60

MAXIMUM DENSITY: 4 DU/ACRE
PROPOSED DENSITY: 3.90 DU/ACRE

TAX PARCEL ID: 32, 38, AND 39

SITE AREA:

5.13 ACRES
223,355 SQUARE FEET

LOT SUMMARY:

NUMBER OF LOTS: 20
MINIMUM LOT WIDTH: 60'
MINIMUM LOT SIZE: 7,200 S.F.

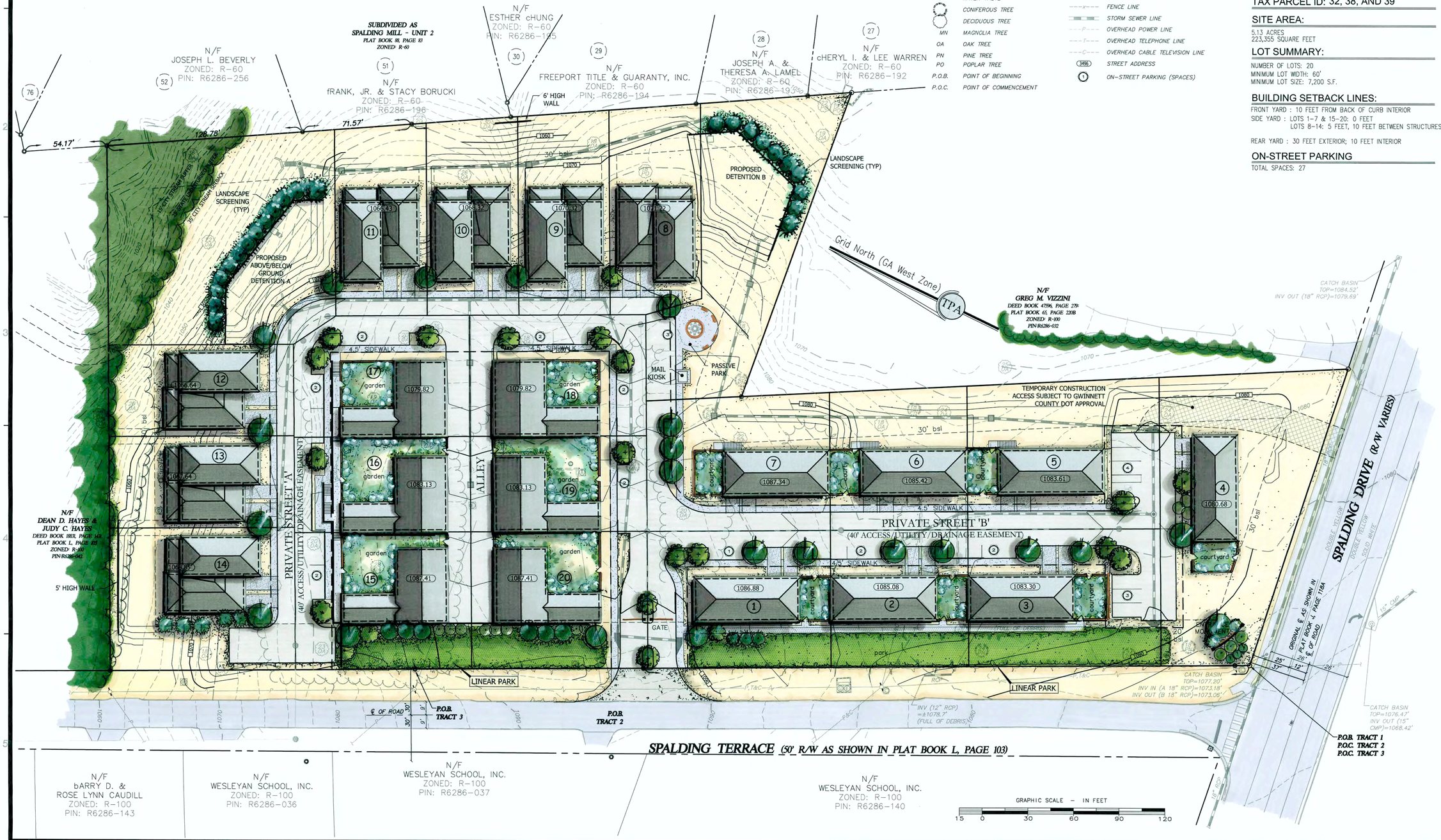
BUILDING SETBACK LINES:

FRONT YARD : 10 FEET FROM BACK OF CURB INTERIOR
SIDE YARD : LOTS 1–7 & 15–20: 0 FEET
LOTS 8–14: 5 FEET, 10 FEET BETWEEN STRUCTURES

REAR YARD : 30 FEET EXTERIOR; 10 FEET INTERIOR

ON-STREET PARKING

TOTAL SPACES: 27



NO.	DATE	DESCRIPTION	BY
8			
7			
6			
5			
4			
3			
2			
1			

REVISIONS

4317 Park Drive, Suite 400
Norcross, Georgia 30093
Phone: (770)416-7511
Fax: (770)416-6759
www.travispruitt.com
Contact Person: Andrew Blakey, PE
Travis Pruitt & Associates, Inc.
ENGINEERS · SURVEYORS · SUBDIVISION · MASTER PLANNERS · LANDSCAPE ARCHITECTS

GRADING AND UTILITY CONCEPT PLAN

OGLETHORPE

LAND LOT 246 ~ 6TH DISTRICT ~ CITY OF PEACHTREE CORNERS ~ GWINNETT COUNTY ~ GEORGIA

For The Firm
Travis Pruitt & Associates, Inc.

DATE: 08/22/14
SCALE: 1" = 30'
CN: OLGLETHORPE
LSV: CONCEPT
JN: 1-13-0374
FN: 157-D-181

SHEET No. 1 OF 1

D:\Civil 3D Projects\130374\Engineering\Dwg\130374PN1-Rendering.dwg , CONCEPT, mhanna, Aug. 26, 14-11:24:21 AM, 1:1

Oglethorpe Neighborhood

Streetscape "A"

Streetscape "B"

Peachtree Residential

& Lew Oliver Inc

LEGEND

	IRON PIN FOUND (AS NOTED)	RAH	RECORD ANGLE HELD
	PROPERTY CORNER	RDH	RECORD DISTANCE HELD
	CONCRETE MONUMENT FOUND	N/F	NOW OR FORMERLY
	MAILBOX	R/W	RIGHT OF WAY
	SIGN	TC	TOP OF CURB
	TEMPORARY BENCHMARK	FFE	FINISHED FLOOR ELEVATION
	AC UNIT	T.B.M.	TEMPORARY BENCHMARK
	ELECTRIC BOX	C&G	CURB AND GUTTER
	ELECTRIC METER	IPS	1/2" REBAR SET W/CAP
	POWER POLE	℄	CENTER LINE
	CLEAN OUT	INV	INVERT
	CATCH BASINS	PVC	POLYVINYL CHLORIDE PIPE
	CABLE TV BOX	RCP	REINFORCED CONCRETE PIPE
	GAS METER	CMP	CORRUGATE METAL PIPE
	WATER METER	x1080.97	SPOT ELEVATION
	WATER VALVE	--1078--	CONTOUR ELEVATION
	CONIFEROUS TREE	---x---	FENCE LINE
	DECIDUOUS TREE		STORM SEWER LINE
MN	MAGNOLIA TREE	---P---	OVERHEAD POWER LINE
OA	OAK TREE	---T---	OVERHEAD TELEPHONE LINE
PN	PINE TREE	---C---	OVERHEAD CABLE TELEVISION LINE
PO	POPLAR TREE	3496	STREET ADDRESS
P.O.B.	POINT OF BEGINNING	1	ON-STREET PARKING (SPACES)
P.O.C.	POINT OF COMMENCEMENT		

BUILDER PEACHTREE RESIDENTIAL PROPERTIES
7380 McGinnis Ferry Rd.
SUWANEE, GEORGIA 30174
24 HR EMERGENCY CONTACT
ALEC RICKENBAKER
(770) 622-2522

NO.	DATE	DESCRIPTION	BY
8			
7			
6			
5			
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2			
1			

REVISIONS

PRPOSED ZONING: R-60

MAXIMUM DENSITY: 4 DU/ACRE
PROPOSED DENSITY: 3.90 DU/ACRE

TAX PARCEL ID: 32, 38, AND 39

SITE AREA:

5.13 ACRES
223,355 SQUARE FEET

LOT SUMMARY:

NUMBER OF LOTS: 20
MINIMUM LOT WIDTH: 60'
MINIMUM LOT SIZE: 7,200 S.F.

BUILDING SETBACK LINES:

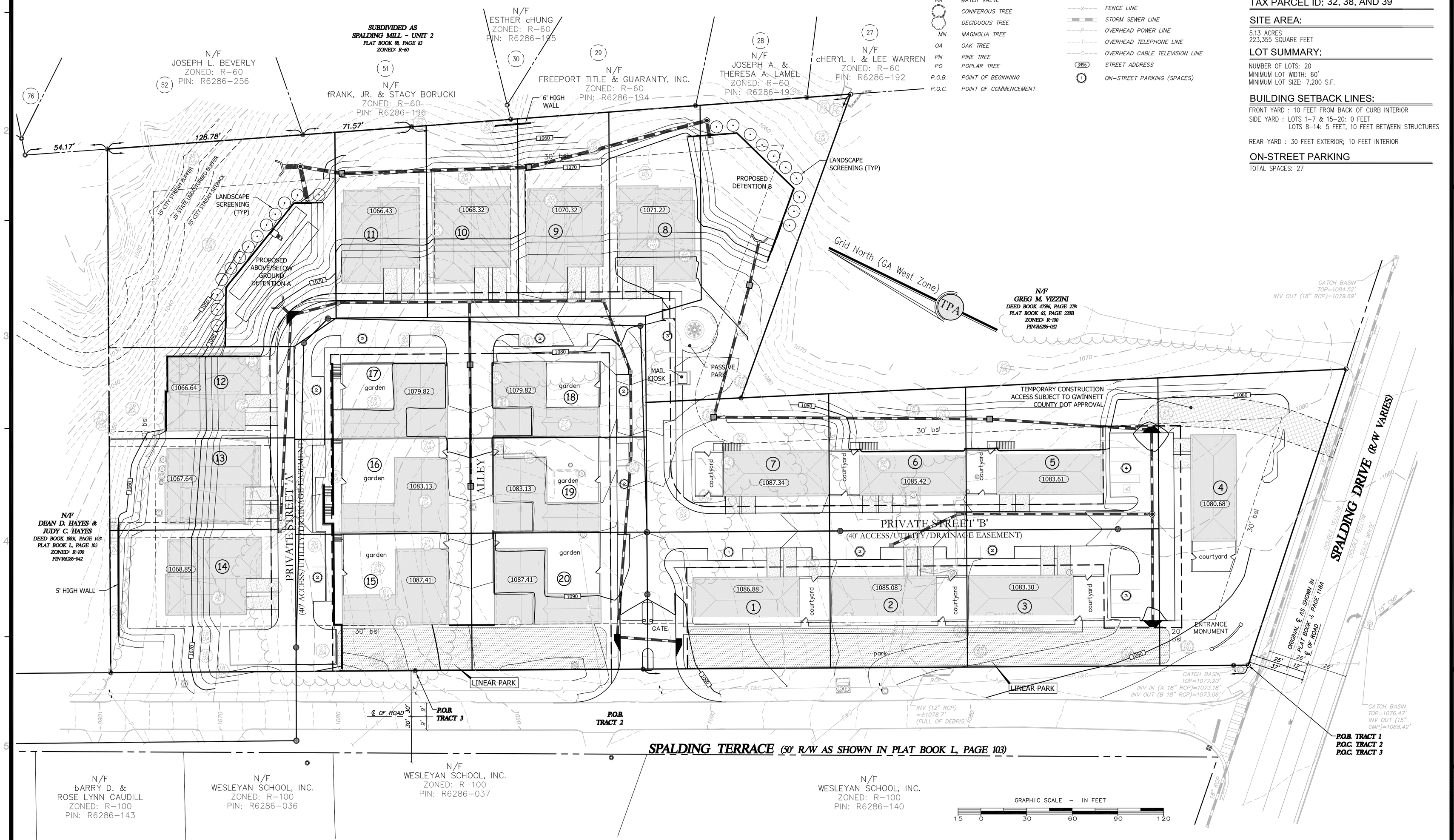
FRONT YARD : 10 FEET FROM BACK OF CURB INTERIOR
SIDE YARD : LOTS 1–7 & 15–20: 0 FEET
LOTS 8–14: 5 FEET, 10 FEET BETWEEN STRUCTURES

REAR YARD : 30 FEET EXTERIOR; 10 FEET INTERIOR

ON-STREET PARKING

TOTAL SPACES: 27

4317 Park Drive, Suite 400
Norcross, Georgia 30093
Phone: (770)416-7511
Fax: (770)416-6759
www.travispruitt.com
Contact Person: Andrew Blakey, PE
Travis Pruitt & Associates, Inc.
CIVIL ENGINEERS · SURVEYORS · LANDSCAPE ARCHITECTS



OGLETHORPE

GRADING AND UTILITY CONCEPT PLAN

LAND LOT 246 ~ 6TH DISTRICT ~ CITY OF PEACHTREE CORNERS ~ GWINNETT COUNTY ~ GEORGIA

For The Firm
Travis Pruitt & Associates, Inc.

DATE: 08/22/14
SCALE: 1" = 30'
CN: OLGLETHORPE
LSV: CONCEPT
JN: 1-13-0374
FN: 157-D-181

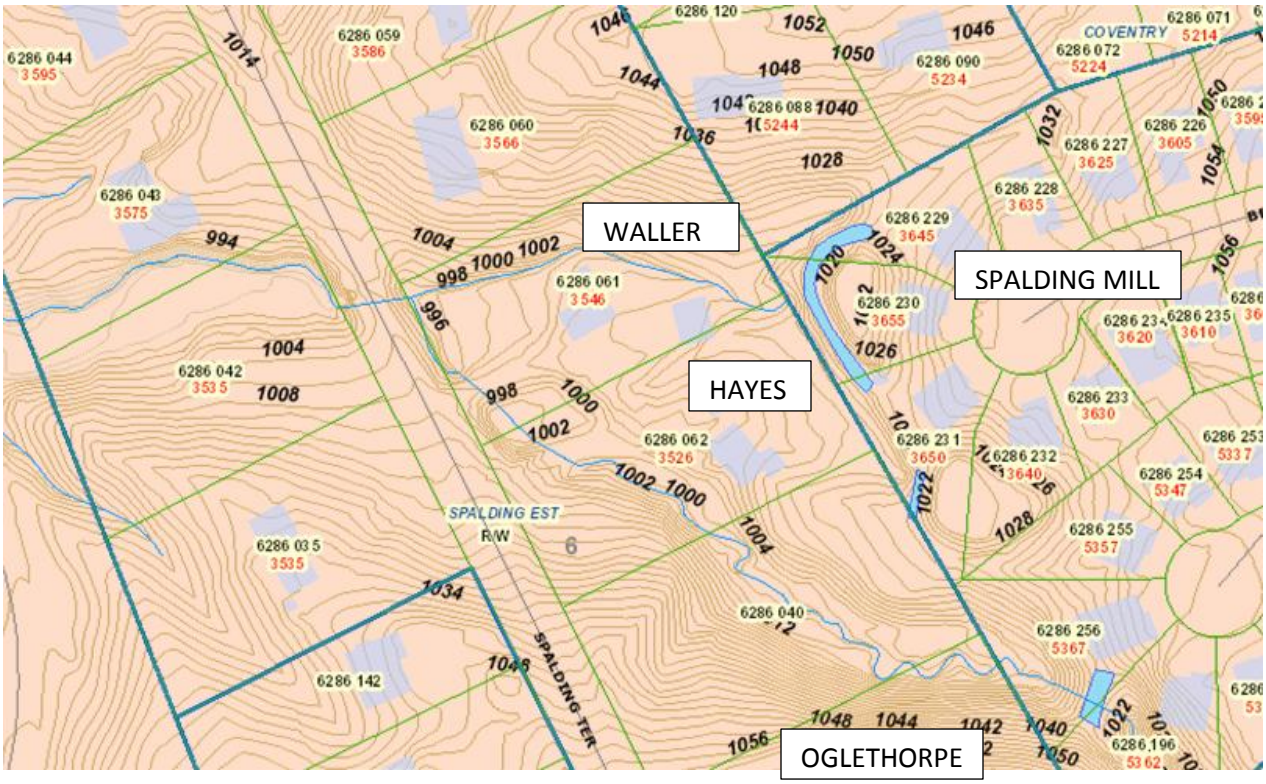
SHEET No. 1 OF 1

D:\Civil 3D Projects\130374\Engineering\Dwg\130374PN1.dwg , CONCEPT, mhanna, Aug. 22, 14-11:02:06 AM, 1:1

Stormwater Summary of Downstream Condition (prepared by City Staff)

We are aware of 2 downstream properties which experience periodic flooding along the existing stream: 3526 Spalding Terrace (Mr. Hayes) and 3546 Spalding Terrace (Ms. Waller). The Hayes also own the vacant property (6286 040) adjacent to the proposed project site. Mr. Hayes is a longtime owner and has stated that the flooding problem started when Spalding Mill subdivision was built in 2000. The 3 detention ponds located in Spalding Mill were inspected by Gwinnett County Department of Water Resources (GCDWR) and were found to be deficient. On January 14, 2014 the 3 owners were issued a Notice to Comply. Michael Williamson PE GCDWR stated that the county does not have the legal ability to enforce compliance as the subdivision pre-dates the current stormwater ordinance. Copies of the 3 notices are in this file.

In 2009 severe flooding blocked access to the Waller and Hayes residences. Ms. Waller spent approximately $25,000 to replace the existing 24 inch pipe under her driveway. Flooding has continued on both properties. In 2013 at Mr. Hayes request, GCDWR analyzed the drainage area and determined that 2- 36 inch pipes are the proper size. GCDWR provided Mr. Hayes with the pipe, Mr. Hayes paid for the labor and this project is complete. Ms. Waller declined to accept the county offer of larger pipes as the installation cost was prohibitive. Since the Waller pipe is downstream and is smaller, there will likely continue to be ponding. The conditions downstream of the Waller property have not been assessed.



Proposed Stormwater conditions:

1. **Developer shall construct on-site stormwater detention facilities such that the runoff rate for the developed condition will be reduced by a factor of 10 percent from the existing condition for the 100 year storm event, subject to the approval of the City of Peachtree Corners Community Development Department. For the purpose of this analysis, the existing condition shall be considered in a natural, forested state.**
2. **The roof drains for lots 8 thru 14 shall be directed toward the storm drain system in the street and into the detention pond.**
3. **Developer shall provide a downstream stormwater assessment to beyond Spalding Terrace.**
4. **The detention pond and all stormwater facilities shall be owned and maintained by the Homeowner's Association in accordance with the Gwinnett County Stormwater Ordinances.**
5. **Walls along the property perimeter which exceed 8 feet in height shall have masonry facing material to match the primary building.**

TRAFFIC IMPACT STUDY
FOR
SPALDING DRIVE DEVELOPMENT
PEACHTREE CORNERS, GEORGIA

Prepared for:

Peachtree Residential Properties
7380 McGinnis Ferry Road
Suwannee, Georgia 30024

Prepared by:

A&R Engineering Inc.
2160 Kingston Court, Suite O
Marietta, GA 30067
Tel: (770) 690-9255 Fax: (770) 690-9210
www.areng.com

August 28, 2014

A & R Project # 14-030

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INTRODUCTION

The purpose of this study is to evaluate the traffic impacts that will result from a proposed residential development located in the northeast corner of the existing intersection of Spalding Drive at Spalding Terrace in Peachtree Corners, Gwinnett County, Georgia. This study will specifically address proposed improvements and recommendations to mitigate traffic concerns at the intersection of Spalding Drive at Spalding Terrace during school peak hours, after the addition of site traffic. The proposed development will consist of 20 units of single-family detached housing and proposes one full-access driveway on Spalding Terrace. The location of the proposed development and the surrounding roadway network is shown in Figure 1.

In this study, the AM and PM peak hours have been analyzed. In addition to the site driveway intersection, this study includes the evaluation of the existing and future traffic operations at the following intersections:

- Spalding Drive @ Technology Parkway / Zach Young Parkway
- Spalding Drive @ Norcross High School Parking Lot Entrance
- Spalding Drive @ Norcross High School Parking Lot Exit
- Spalding Drive @ Norcross High School Bus Exit
- Spalding Drive @ Spalding Terrace
- Spalding Drive @ Norcross High School Bus Entrance

Recommendations to improve traffic operations have been identified, where appropriate.

LOCATION MAP

FIGURE 1

A&R Engineering Inc.

EXISTING FACILITIES

An inventory was performed of the major roadways in the area surrounding the site. The following is a brief description of each of these facilities.

Spalding Drive

Spalding Drive is an east-west, two-lane, undivided roadway with a posted speed limit of 40 mph in the vicinity of the site. Gwinnett County DOT classifies Spalding Drive as an Urban Minor Arterial Street. The AADT on Spalding Drive is 14,090 vehicles per day according to annual GDOT traffic counts.

Technology Parkway

Technology Parkway is a north-south, three-lane roadway with a posted speed limit of 35 mph in the vicinity of the site.

Spalding Terrance

Spalding Terrance is a north-south, two-lane roadway with a posted speed limit of 25 mph in the vicinity of the site.

STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 2000 edition (HCM 2000). Synchro software, which utilizes the HCM 2000 methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

For unsignalized intersections at which the side street or minor street is controlled by a stop sign, the criteria for evaluating traffic operations are the level of service (LOS) for the turning movements at the intersection and the level of service for the overall intersection. Level of service is based on the average controlled delay incurred at the intersection. Controlled delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level of service is assigned a letter designation from A through F. LOS A indicates excellent operations with little delay to motorists, while LOS F exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross safely, resulting in extremely long total delays and long queues. The LOS criteria for two-way stop-controlled and all-way stop-controlled (unsignalized) intersections are given in Table 1.

TABLE 1
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Average Controlled Delay (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: 2000 Highway Capacity Manual

Signalized Intersections

For signalized intersections, it is necessary to evaluate both capacity and level of service in order to evaluate the overall operation of the intersection. The capacity analysis of an intersection is performed by comparing the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This results in a volume/capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available, resulting in a temporary excess of demand. Although the capacity of the entire intersection is not defined, a composite v/c ratio for the sum of the critical lane groups within the intersection is computed. This composite v/c ratio is an indication of the overall intersection sufficiency.

Level of service for a signalized intersection is defined in terms of average controlled delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The LOS criteria for signalized intersections, based on average controlled delay, are shown in Table 2. LOS A indicates operations with very low controlled delay, while LOS F describes operations with extremely high average controlled delay. LOS E is typically considered to be the limit of acceptable delay, and LOS F is considered unacceptable by most drivers.

Table 2
Level of Service Criteria for Signalized Intersections

Level of Service	Controlled Delay Per Vehicle (sec)
A	≤ 10.0
B	> 10.0 and ≤20.0
C	> 20.0 and ≤35.0
D	> 35.0 and ≤55.0
E	> 55.0 and ≤80.0
F	> 80.0

Source: 2000 Highway Capacity Manual

EXISTING TRAFFIC OPERATIONS

Existing peak hour traffic counts and intersection geometric data were collected at the intersections of:

- Spalding Drive @ Technology Parkway / Zach Young Parkway
- Spalding Drive @ Norcross High School Parking Lot Entrance
- Spalding Drive @ Norcross High School Parking Lot Exit
- Spalding Drive @ Norcross High School Bus Exit
- Spalding Drive @ Spalding Terrace
- Spalding Drive @ Norcross High School Bus Entrance

Turning movement counts were collected on Tuesday, May 13, 2014. All turning movement counts were recorded during the AM and Midday school peak hours between 6:30 a.m. to 8:30 a.m. and 2:00 p.m. to 3:00 p.m., respectively, as well as during the PM peak hour of 5:00 p.m. to 6:00 p.m. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2.

Existing traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses are shown in Table 3A. The existing traffic control and lane geometry for the intersections are shown in Figure 3.

TABLE 3A - EXISTING INTERSECTION OPERATIONS (HCM)

Intersection	Traffic Control	AM Peak Hour		Midday		P.M. Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Spalding Dr @ Technology Pkwy	Signalized	D (36.6)	0.91	B (14.7)	0.67	B (18.5)	0.74
Spalding Dr @ Norcross HS Parking Lot Entrance -Westbound Left	One way on Parking Lot Entrance Drwy	A (10.0)	-	A (9.3)	-	B (11.9)	-
Spalding Dr @ Norcross HS Parking Lot Exit	Signalized	B (17.2)	0.79	A (9.1)	0.57	A (2.0)	0.39
Spalding Dr @ Norcross HS Bus Exit -Westbound Left -Northbound Approach	Stop Controlled on Bus Exit	A (8.9) C (17.0)	- -	A (9.9) E (44.4)	- -	B (12.2) C (21.2)	- -
Spalding Dr @ Spalding Terrace -Eastbound Left -Southbound Approach	Stop Controlled on Spalding Terrace	B (10.1) C (22.0)	- -	A (8.4) B (12.6)	- -	A (8.3) B (12.3)	- -
Spalding Dr @ Norcross HS Bus Entrance -Westbound Left -Northbound Approach	Police-controlled during school peak hours	A (9.4) C (15.6)	- -	B (11.2) D (31.8)	- -	B (12.6) C (23.9)	- -

**v/c ratio is not reported for unsignalized intersections*

The results of the existing conditions HCM analysis indicate that the northbound approach to the intersection of Spalding Drive at Norcross High School Bus Exit is experiencing heavy delays during the Midday school peak hour when school is letting out for the day. The other intersections are currently operating at an LOS "D" or better during the AM, Midday, and PM peak hours.

There have been reports of the westbound for traffic for Norcross High School backing outside of the allotted storage through the intersection of Spalding Drive at Spalding Terrace. Unusually long queues could be related to other factors not evaluated by HCM or occurring outside what is considered typical peak times. SimTraffic is a microscopic modeling software that is especially useful for analyzing complex situations like closely spaced intersections with blocking problems, lane change problems, and effects of signals on nearby unsignalized intersections. Computed and averaged delays of simulations of vehicles on the roadway network using SimTraffic are shown in Table 3B, below.

Table 3B - Existing Intersection Operations (SimTraffic)

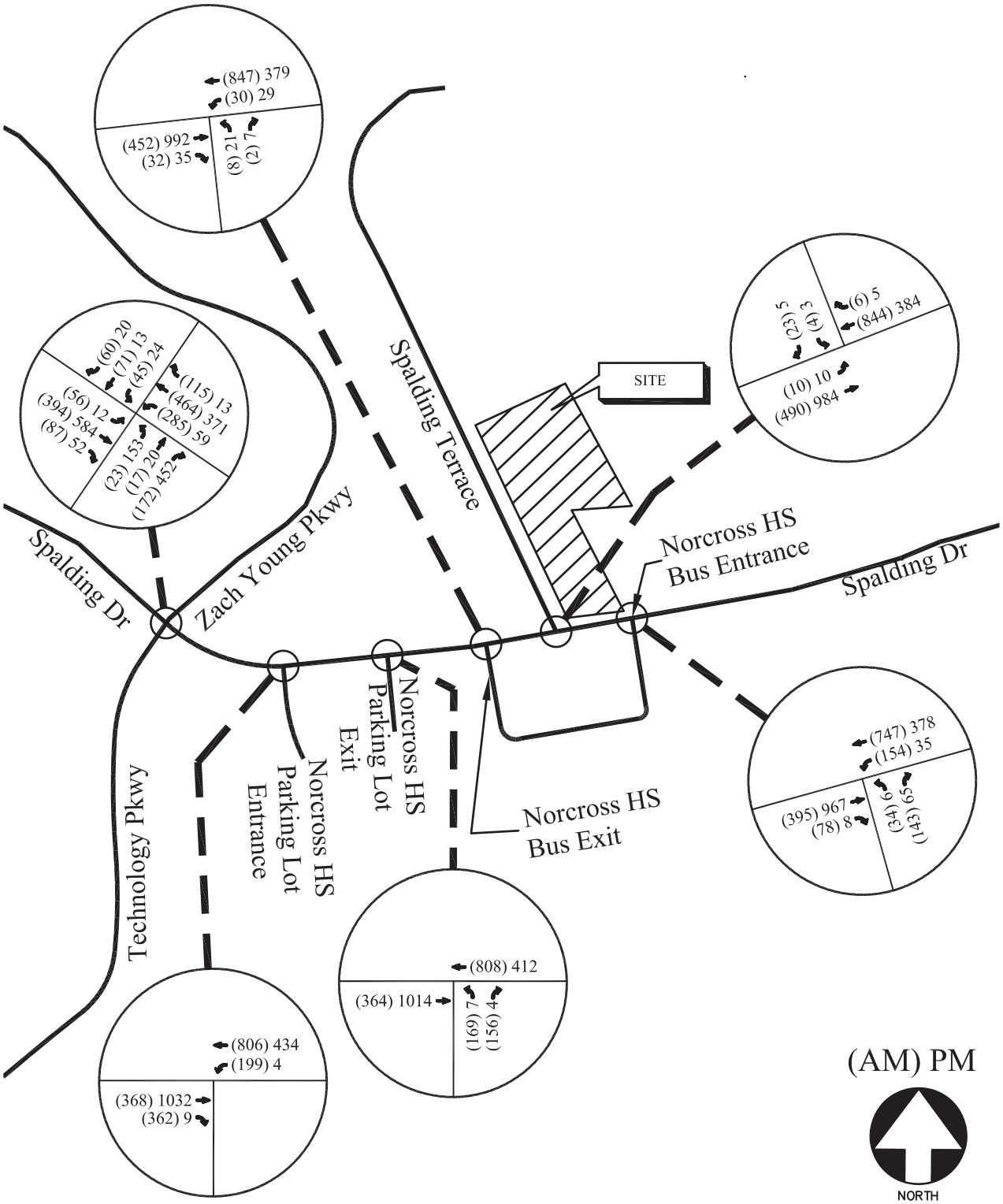
Intersection	Traffic Control	A.M. Peak Hour	Midday	P.M. Peak Hour
		LOS (Delay)	LOS (Delay)	LOS (Delay)
Spalding Dr @ Technology Pkwy	Signalized	A (9.8)	A (6.6)	C (26.5)
Spalding Dr @ Norcross HS Parking Lot Entrance -Westbound Approach	One way entrance on Parking Lot Entrance Drwy	A (6.3)	A (4.9)	A (0)
Spalding Dr @ Norcross HS Parking Lot Exit	Signalized	A (3.6)	A (2.1)	A (2.3)
Spalding Dr @ Norcross HS Bus Exit -Westbound Approach -Northbound Approach	Stop Controlled on Norcross HS Drop-off Entrance	C (27) A (0)	A (8.2) B (13.3)	B (19.3) C (23.1)
Spalding Dr @ Spalding Terrace -Eastbound Approach -Southbound Approach	Stop Controlled on Spalding Terrace	A (0.4) F (154.6)	A (0.8) A (3.7)	A (1.7) A (0.3)
Spalding Dr @ Norcross HS Bus Entrance -Westbound Approach -Northbound Approach	Police-controlled during heavy school peak hours	A (8.7) B (13.8)	A (8.8) A (0.9)	A (8.7) C (23.4)

The results of the SimTraffic analysis in Table 3B reveals large morning delays at the stop-controlled approach to Spalding Drive from Spalding Terrace. Further observations shows that these delays are the result of queues from the westbound through movement being stopped by the signal for the exiting movement from the Norcross High School Parking Lot.

Table 4 - Existing 95th Percentile Queues							
Intersection	Available Storage / Link Distance (ft)	HCM CALCULATION			SIMTRAFFIC SIMULATION		
		AM	Midday	PM	AM	Midday	PM
Spalding Drive @ Zach Young Parkway							
-Northbound Through/Left	200	52	85	97	62	54	146
-Northbound Right	-	0	40	242	72	103	214
-Southbound Through/Left	-	138	18	45	72	27	52
-Southbound Right	150	0	18	7	0	0	0
-Eastbound Left	200	20	6	10	28	25	195
-Eastbound Through/Right	-	313	438	505	206	146	452
-Westbound Left	200	263	27	36	105	55	75
-Westbound Through/Right	420 (to Lot Entrance)	325	171	263	94	101	71
Spalding Dr @ Norcross HS Parking Lot Entrance							
-Eastbound Right	150	0	0	0	0	0	0
-Westbound Left	100	46	12	2	92	38	0
Spalding Dr @ Norcross HS Parking Lot Exit							
-Northbound Left	-	163	53	8	80	98	0
-Northbound Right	-	0	0	4	68	69	0
-Eastbound Through	334 (to Lot Entrance)	78	84	68	89	103	0
-Westbound Through	214 (to Bus Exit)	580	176	61	214	112	0
Spalding Dr @ Norcross HS Bus Exit							
-Northbound Approach	-	5	174	13	27	76	39
-Westbound Through	446 (to Spalding Ter.)	0	0	0	709	43	36
-Westbound Left	446 (to Spalding Ter.)	3	6	7	37	0	0
Spalding Dr @ Spalding Terrace							
-Southbound Approach	-	22	3	2	76	24	22
-Eastbound Left	150	2	1	1	23	25	24
-Westbound Through / Right	340 (to Bus Entrance)	0	0	0	219	0	0
Spalding Dr @ Norcross HS Bus Entrance							
-Northbound Left	50	45	5	5	65	0	27
-Northbound Right	-	52	94	34	0	0	48
-Westbound Through	-	0	0	0	0	0	0
-Westbound Left	200	24	17	11	73	48	40

As shown in Table 4, the HCM queuing results show the westbound left at Technology Pkwy / Zach Young Pkwy and the westbound through movement at the Norcross High Schoool Parking Lot Exit exceed the available storages. A SimTraffic model was used to account for spillover and queues caused by adjacent intersections not seen using HCM alone. Spillover queues can be seen in the westbound direction extending from the Norcross High School Parking Lot Exit past Spalding Terrace, accounting for the delays seen there in the simulation model.

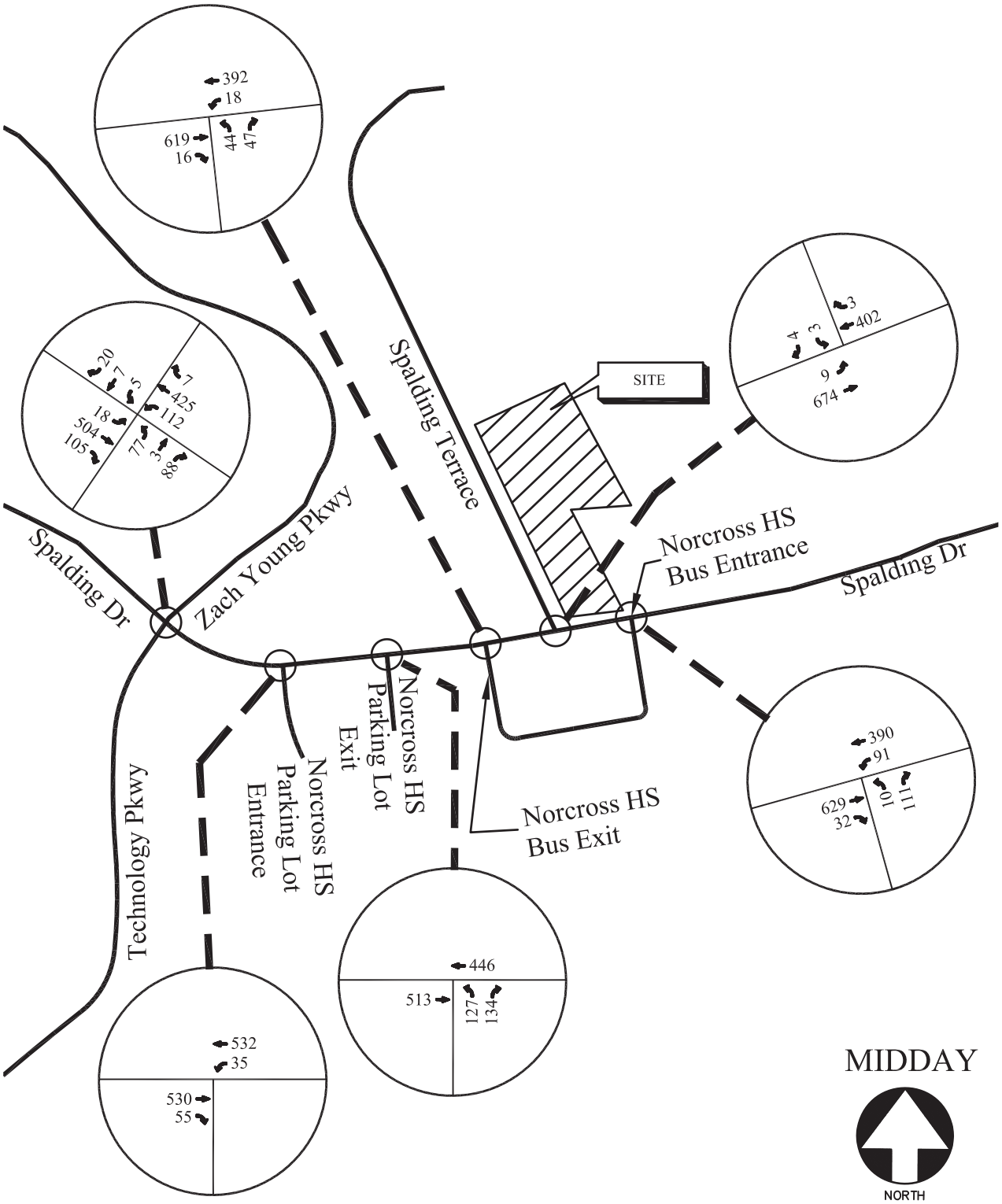
(6:45am - 7:45am) 5:00pm - 6:00pm



EXISTING WEEKDAY PEAK HOUR VOLUMES FIGURE 2

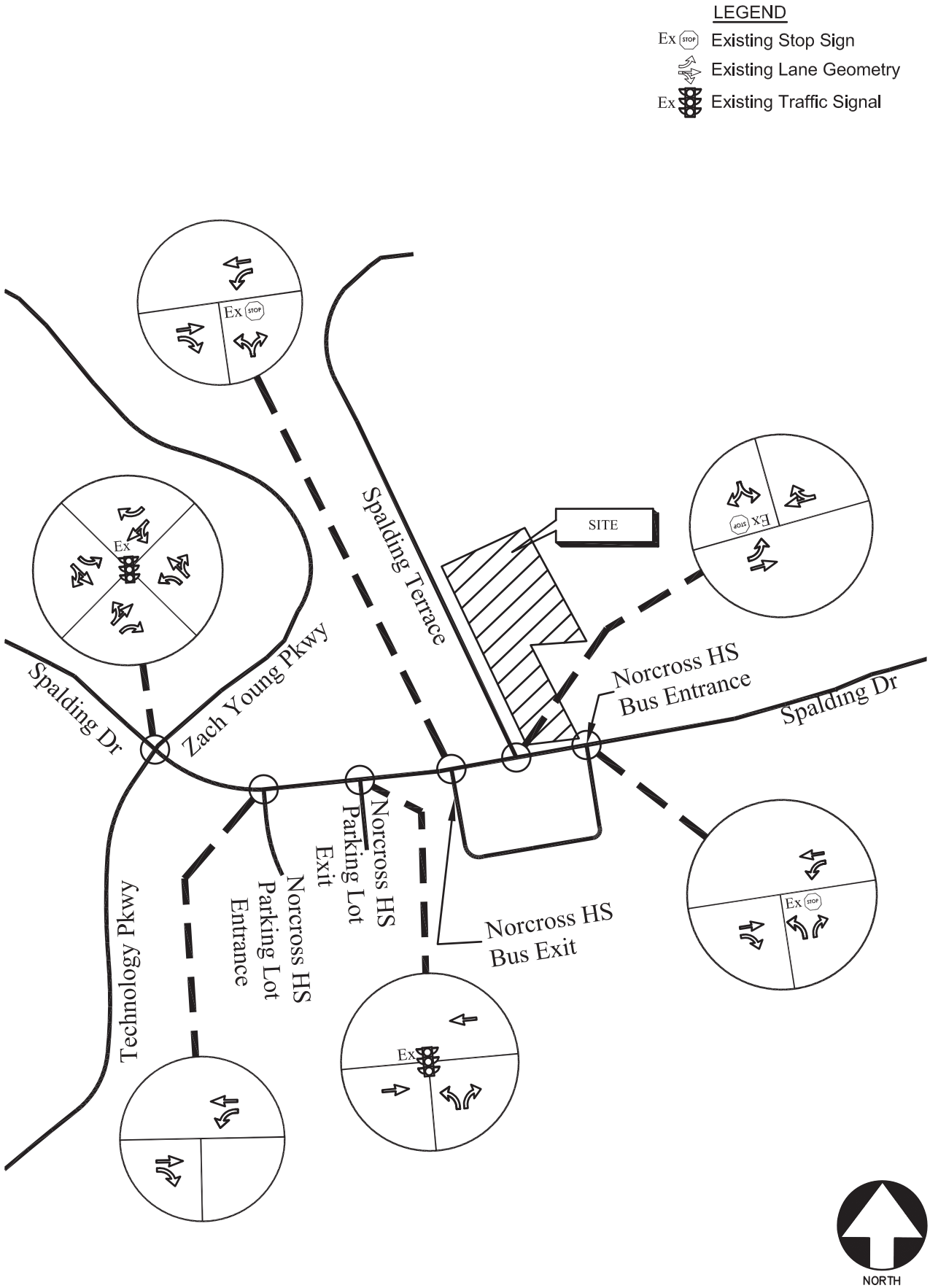
A&R Engineering Inc.

2:00pm - 3:00pm



EXISTING WEEKDAY PEAK HOUR VOLUMES (MIDDAY) FIGURE 3

A&R Engineering Inc.



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 4

A&R Engineering Inc.

PROPOSED DEVELOPMENT

The development is proposed to be located in the northeast corner of the intersection of Spalding Drive at Spalding Terrace. It will consist of 20 units of single-family detached housing and proposes one full-access driveway on Spalding Terrace. A site plan is shown in Figure 5.

Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 9th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Use: *210 – Single Family Detached Housing.* The calculated trip generation for the site is shown in Table 5.

TABLE 5
TRIP GENERATION

Land Use – Size	A.M. Peak Hour			Midday Peak Hour			P.M. Peak Hour			24-Hour
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Two-way
Single-family detached housing – 20 units	6	18	24	13	7	20	16	9	25	239

Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The distribution is shown in Figure 6. The site-generated traffic volumes, shown in Table 5, were assigned to the study area intersections based on this distribution. The new traffic generated by the site volumes for the AM school peak hour and PM peak hour are shown in Figure 7 and Figure 8 for the Midday school peak hour.

HOME TYPE	LOT NUMBERS
MANOR HOMES	1–7
VILLAGE HOMES	8–14
GARDEN HOMES	15–20

LEGEND

	IRON PIN FOUND (AS NOTED)	RAH	RECORD ANGLE HELD
	PROPERTY CORNER	RDH	RECORD DISTANCE HELD
	CONCRETE MONUMENT FOUND	N/F	NOW OR FORMERLY
	MAILBOX	R/W	RIGHT OF WAY
	SIGN	TC	TOP OF CURB
	TEMPORARY BENCHMARK	FFE	FINISHED FLOOR ELEVATION
	AC UNIT	T.B.M.	TEMPORARY BENCHMARK
	ELECTRIC BOX	C&G	CURB AND GUTTER
	ELECTRIC METER	IPS	1/2" REBAR SET W/CAP
	POWER POLE	℄	CENTER LINE
	CLEAN OUT	INV	INVERT
	CATCH BASINS	PVC	POLYVINYL CHLORIDE PIPE
	CABLE TV BOX	RCP	REINFORCED CONCRETE PIPE
	GAS METER	CMP	CORRUGATE METAL PIPE
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	WATER VALVE	---1078---	CONTOUR ELEVATION
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	DECIDUOUS TREE	----S----	STORM SEWER LINE
MN	MAGNOLIA TREE	----P----	OVERHEAD POWER LINE
OA	OAK TREE	----T----	OVERHEAD TELEPHONE LINE
PN	PINE TREE	----C----	OVERHEAD CABLE TELEVISION LINE
PO	POPLAR TREE	3495	STREET ADDRESS
P.O.B.	POINT OF BEGINNING	1	ON-STREET PARKING (SPACES)
P.O.C.	POINT OF COMMENCEMENT		

VARIANCES REQUIRED:

1. REDUCE PUBLIC ROAD FRONTAGE TO 0 FEET.
2. REDUCE FRONT SETBACK TO 10 FEET FROM BACK OF CURB INTERIOR.
3. REDUCE SIDE SETBACKS FOR LOTS 1–7 & 15–20 TO 0 FEET.
4. REDUCE BUILDING SEPARATION FOR LOTS 8–20 TO 10 FEET.
5. PRIVATE STREETS 23' BACK OF CURB TO BACK OF CURB AND ON-STREET PARKING (NOT PUBLIC ROAD STANDARDS).

BUILDER
PEACHTREE RESIDENTIAL PROPERTIES
7380 McGinnis Ferry Rd.
SUWANEE, GEORGIA 30174
24 HR EMERGENCY CONTACT
ALEC RICKENBAKER
(770) 622-2522

PRPOSED ZONING: R-60

MAXIMUM DENSITY: 4 DU/ACRE
PROPOSED DENSITY: 3.90 DU/ACRE

TAX PARCEL ID: 32, 38, AND 39

SITE AREA:

5.13 ACRES
223,355 SQUARE FEET

LOT SUMMARY:

NUMBER OF LOTS: 20
MINIMUM LOT WIDTH: 60'
MINIMUM LOT SIZE: 7,200 S.F.

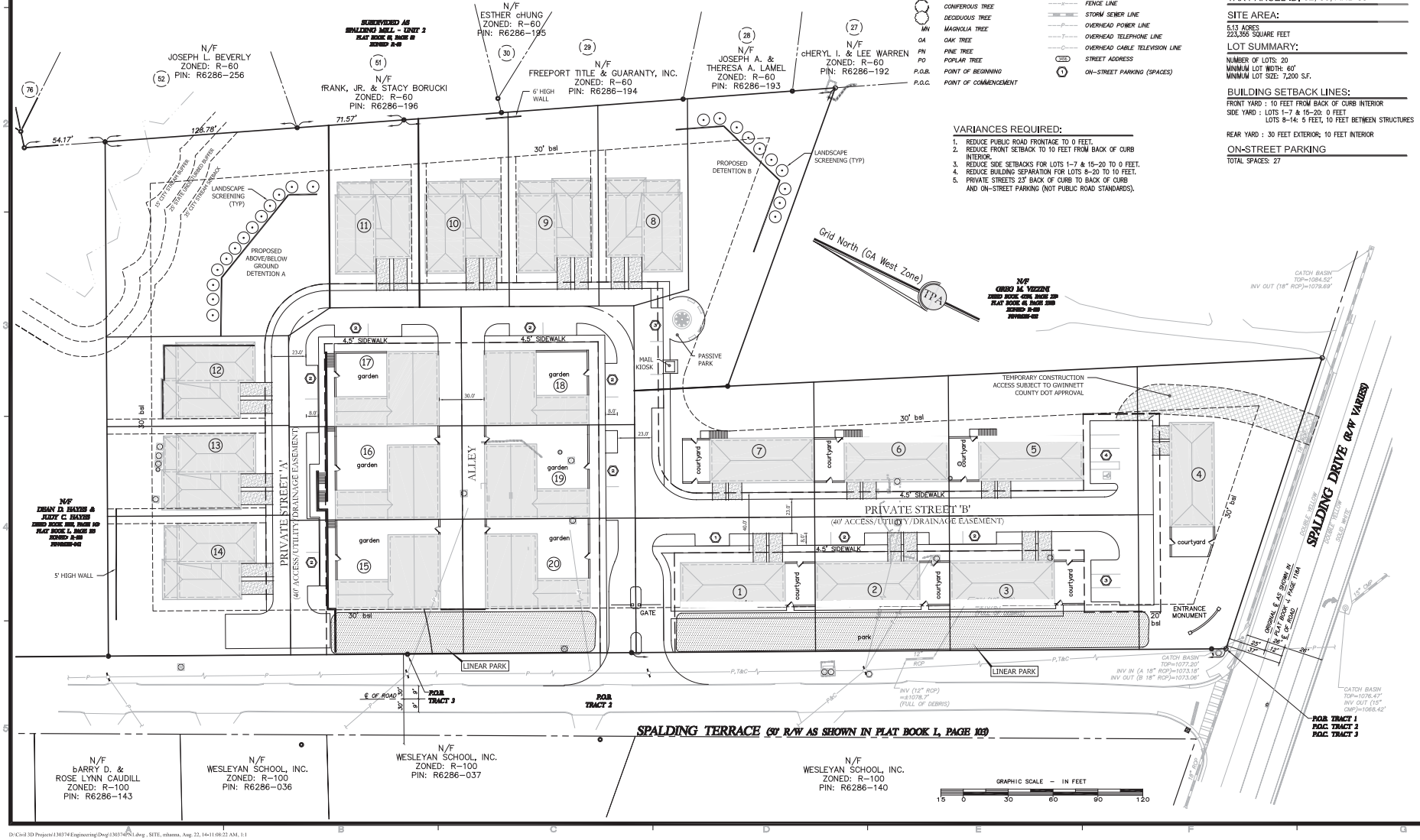
BUILDING SETBACK LINES:

FRONT YARD : 10 FEET FROM BACK OF CURB INTERIOR
SIDE YARD : LOTS 1–7 & 15–20: 0 FEET
LOTS 8–14: 5 FEET, 10 FEET BETWEEN STRUCTURES

REAR YARD : 30 FEET EXTERIOR; 10 FEET INTERIOR

ON-STREET PARKING

TOTAL SPACES: 27



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REVISIONS

4317 Park Drive, Suite 400
Norcross, Georgia 30093
Phone: (770)416-7511
Fax: (770)416-6739
www.travispruitt.com
Consulting Engineers, Outdoor Builders, PE
Travis Pruitt & Associates, Inc.

PRELIMINARY SITE PLAN

OGLETHORPE

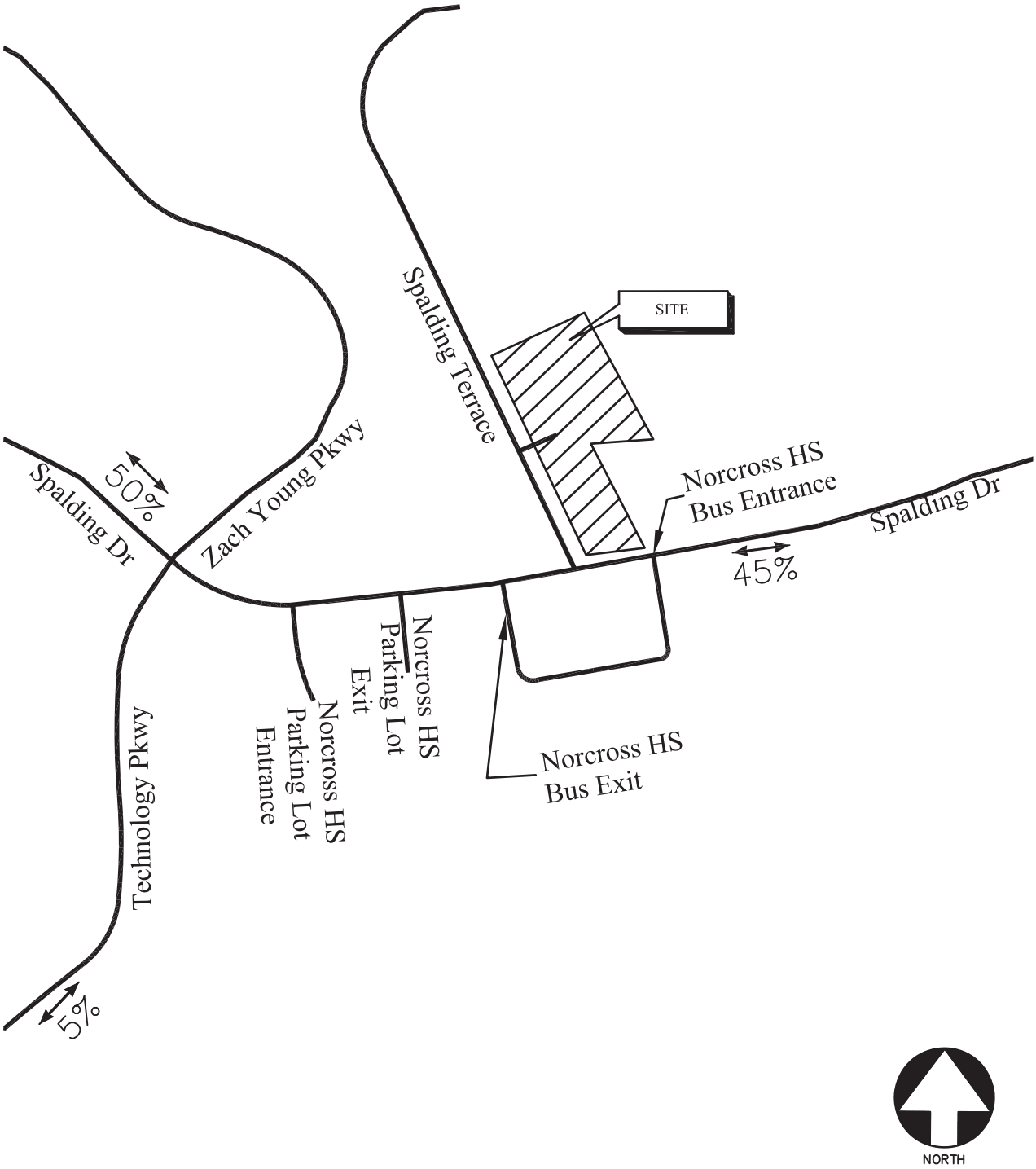
LAND LOT 246 ~ 6TH DISTRICT ~ CITY OF PEACHTREE CORNERS ~ GWINNETT COUNTY ~ GEORGIA

For The Firm
Travis Pruitt & Associates, Inc.

DATE: 08/22/14
SCALE: 1" = 30'
CN: OLGLETHORPE
LSV: CONCEPT
JN: 13-0374
FN: 157-D-181

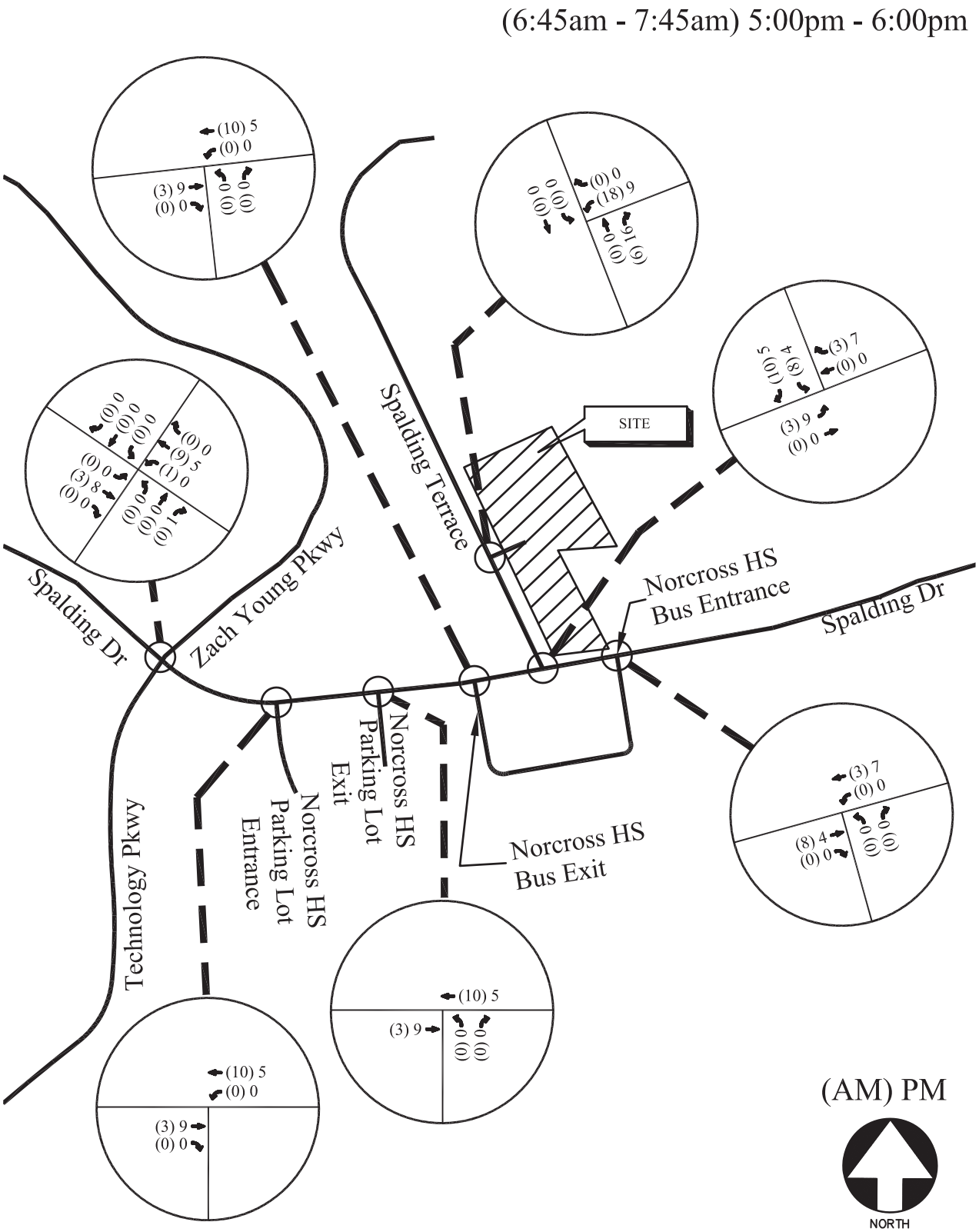
SHEET No. 1 OF 1

D:\Civil 3D Projects\130374\Engineering\Dwg\130374PN1.dwg , SITE, mhanna, Aug. 22, 14-11:08:22 AM, 1:1



TRIP DISTRIBUTION FIGURE 6

A&R Engineering Inc.



SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES FIGURE 7

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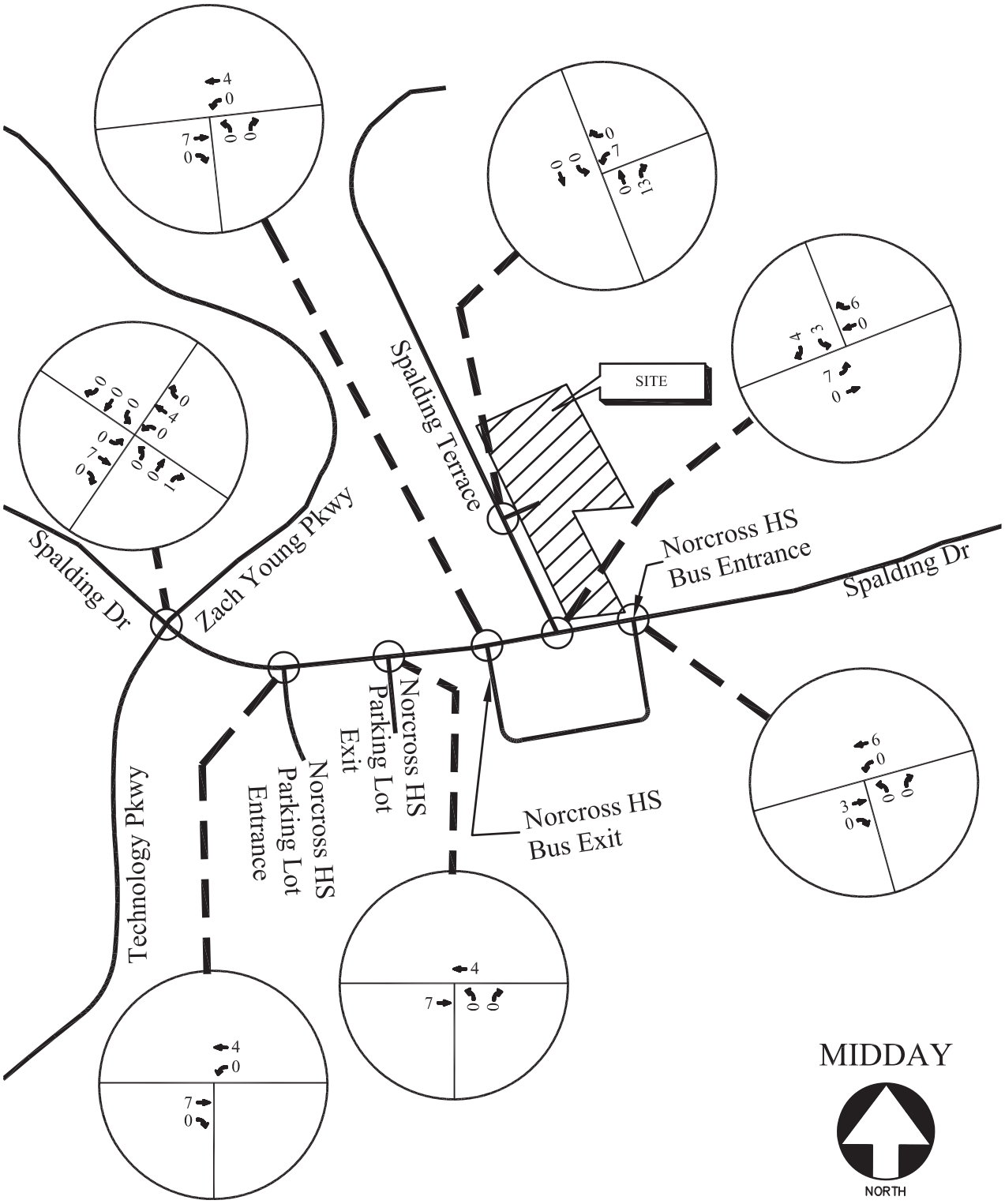
2:00pm - 3:00pm



SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (MIDDAY) FIGURE 8

A&R Engineering Inc.

FUTURE TRAFFIC OPERATIONS

In order to evaluate future traffic operations in this area, a projection was made of future base year traffic volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last several years revealed growth of approximately 1% in the area. This growth factor was applied to the existing traffic volumes on the roadways in order to estimate the future year traffic volumes prior to the addition of site-generated traffic. The site generated traffic volumes (shown in Figures 7 and 8) were added to base traffic volumes to calculate the future traffic volumes. The resulting total future peak hour volumes for the School AM peak hour and PM peak hour are shown in Figure 9, and the future peak hour volumes for the Midday school peak hour are shown in Figure 10. These volumes were used to analyze future traffic operations at all the study intersections. Details on these calculations are provided in the volume worksheets in the Appendix. The results of the future traffic operations analysis are shown in Tables 6A and 6B.

TABLE 6A – FUTURE INTERSECTION OPERATIONS (HCM)

Intersection	Traffic Control	A.M. Peak Hour		Midday Peak Hour		P.M. Peak Hour	
		NO BUILD	BUILD	NO BUILD	BUILD	NO BUILD	BUILD
Spalding Dr @ Technology Pkwy / Zach Young Pkwy	Signalized	D (37.6)	D (38.1)	B (16.9)	B (17.0)	B (19.0)	B (19.3)
Spalding Dr @ Norcross HS Parking Lot Entrance -Westbound Left	One way entrance to Parking Lot	B (10.1)	B (10.1)	A (9.3)	A (9.3)	B (12.0)	B (12.1)
Spalding Dr @ Norcross HS Parking Lot Exit	Signalized	B (17.6)	B (18.0)	A (9.2)	A (9.3)	A (2.0)	A (2.0)
Spalding Dr @ Norcross HS Bus Exit -Northbound Approach -Westbound Left	Stop Controlled on Norcross HS Bus Exit	C (17.2) A (9.0)	C (17.3) A (9.0)	E (45.8) A (10.0)	E (47.6) A (10.0)	C (21.9) B (12.8)	C (21.5) B (13.6)
Spalding Dr @ Spalding Terrace -Eastbound Left -Southbound Approach	Stop Controlled on Spalding Terrace	B (10.2) C (22.3)	B (10.2) D (26.6)	A (8.4) B (12.6)	A (8.5) B (13.1)	A (8.3) B (12.4)	A (8.4) B (13.1)
Spalding Dr @ Norcross HS Bus Entrance -Northbound Approach -Westbound Left	Police-controlled during heavy school peak hours	C (21.0) A (9.5)	C (21.3) A (9.5)	D (31.9) B (11.3)	D (32.4) B (11.4)	C (23.7) B (12.8)	C (24.4) B (12.7)
Spalding Terrace @ Site Drwy -Westbound Approach	Stop Controlled on Site Driveway	-	A (8.8)	-	A (8.7)	-	A (8.7)

**v/c ratio is not reported for unsignalized intersections*

Minor increases in approach delay are anticipated at the study intersections as a result of the added traffic from the proposed site. An HCM analysis shows the northbound approach to the intersection of Spalding Drive at Norcross High School Bus Exit will continue to operate at a level of service "E" during the Midday school peak hour while all other study intersections will continue to operate at a level of service “D” or better during the AM, Midday, and PM peak hours.

As in the existing conditions section of the report, SimTraffic modeling software was also used to determine the amount of delay when accounting for complex situations like closely spaced intersections with blocking problems, lane change problems, and effects of signals on nearby unsignalized intersections. The simulations of the Future condition, after completion of the development, confirm that the intersections will operate similar to the No-Buld conditions. Because of random variation between one simulation and the next, some fluctuations in results are normal. The results of the average delays found for each simulation run are shown in Table 6B, below.

Table 6B – Future Intersection Operations (SimTraffic)

Intersection	Traffic Control	A.M. Peak Hour		Midday Peak Hour		P.M. Peak Hour	
		NO BUILD	BUILD	NO BUILD	BUILD	NO BUILD	BUILD
Spalding Dr @ Technology Pkwy / Zach Young Pkwy	Signalized	B (11.3)	B (15.6)	A (8.6)	A (8.7)	B (16.1)	B (18.2)
Spalding Dr @ Norcross HS Parking Lot Entrance -Westbound Left	One way entrance to Parking Lot	A (7.1)	A (4.9)	A (4.9)	A (4.7)	A (0.0)	B (10.6)
Spalding Dr @ Norcross HS Parking Lot Exit	Signalized	B (17.4)	B (13.3)	A (6.2)	A (6.0)	A (2.0)	A (2.0)
Spalding Dr @ Norcross HS Bus Exit -Northbound Approach -Westbound Left	Stop Controlled on Norcross HS Bus Exit	A (0.0) C (26.6)	A (0.0) D (40.3)	B (10.2) A (2.4)	B (17.4) A (7.4)	C (23.1) A (5.6)	B (13.5) C (15.3)
Spalding Dr @ Spalding Terrace -Eastbound Approach -Southbound Approach	Stop Controlled on Spalding Terrace	A (0.5) F (154.9)	A (0.4) F (175.7)	A (0.6) A (2.4)	A (0.7) A (7.4)	A (0.7) B (12.4)	A (0.9) C (16.2)
Spalding Dr @ Norcross HS Bus Entrance -Northbound Approach -Westbound Left	Police-controlled during heavy school peak hours	C (17.2) A (9.1)	C (24.0) A (8.9)	C (24.0) B (10.5)	B (14.9) B (14.9)	C (28.7) A (8.7)	D (40.6) B (10.0)
Spalding Terrace @ Site Drwy -Westbound Approach	Stop Controlled on Site Driveway	-	A (3.5)	-	A (2.8)	-	A (3.0)

A queuing analysis was also prepared for the future conditions to determine the amount of spillover from school traffic after the development is complete. As in the existing conditions, the 95th percentile queues are reported in Table 7 using HCM calculations and SimTraffic simulation runs.

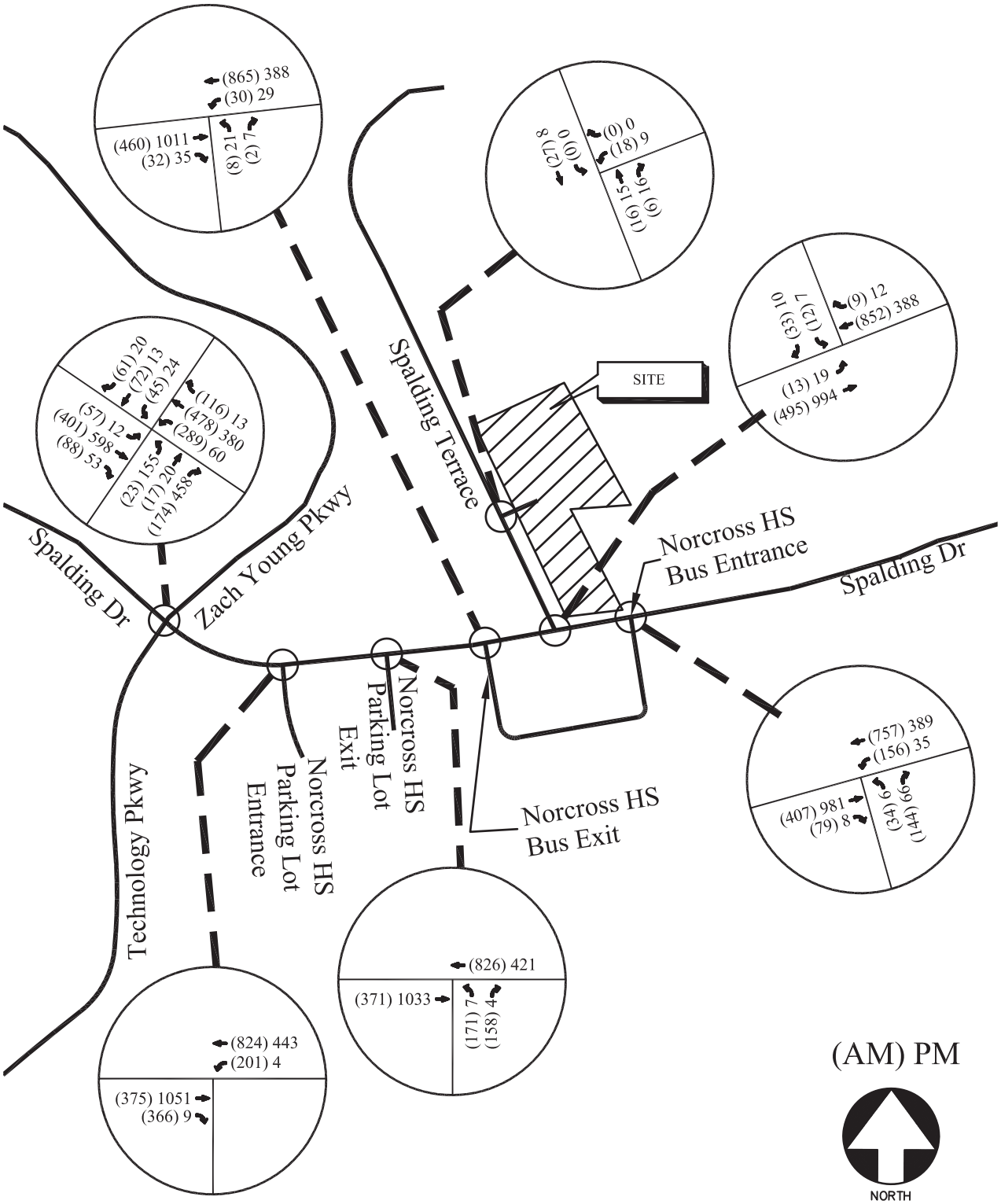
Table 7 - Future 95th Percentile Queues

Intersection	Available Storage / Link Distance (ft)	HCM CALCULATION			SIMTRAFFIC SIMULATION		
		AM	Midday	PM	AM	Midday	PM
Spalding Drive @ Technology Pkwy							
-Northbound Through/Left	-	52	89	103	34	70	267
-Northbound Right	200	0	43	268	49	53	347
-Southbound Through/Left	-	139	20	47	85	44	36
-Southbound Right	150	0	19	7	0	0	0
-Eastbound Left	200	20	7	10	53	17	25
-Eastbound Through/Right	-	320	467	549	393	263	346
-Westbound Left	200	270	28	38	89	69	83
-Westbound Through/Right	420 (to Lot Entrance)	340	179	286	95	77	100
Spalding Dr @ Norcross HS Parking Lot Entrance							
-Eastbound Right	150	0	0	0	0	0	0
-Westbound Left	100	47	13	2	43	39	25
Spalding Dr @ Norcross HS Parking Lot Exit							
-Northbound Left	-	168	54	8	105	53	0
-Northbound Right	-	0	0	4	81	40	0
-Eastbound Through	334 (to Lot Entrance)	80	86	70	66	53	0
-Westbound Through	214 (to Bus Exit)	605	182	63	281	169	0
Spalding Dr @ Norcross HS Bus Exit							
-Northbound Approach	-	5	182	13	24	56	38
-Westbound Through	446 (to Spalding Ter.)	0	0	0	558	0	51
-Westbound Left	446 (to Spalding Ter.)	3	6	8	202	0	0
Spalding Dr @ Spalding Terrace							
-Southbound Approach	-	46	7	6	97	33	51
-Eastbound Left	150	3	2	3	0	0	33
-Westbound Through / Right	340 (to Bus Entrance)	0	0	0	320	0	0
Spalding Dr @ Norcross HS Bus Entrance							
-Northbound Left	50	46	5	5	48	44	30
-Northbound Right	-	54	99	37	0	0	48
-Westbound Through	-	0	0	0	0	0	0
-Westbound Left	200	25	17	11	44	51	32

Just as in the existing conditions, the HCM queuing results show the westbound left at Technology Pkwy / Zach Young Pkwy and the westbound through at the Norcross High School Parking Lot Exit are beyond the available storages. The SimTraffic simulations showed spillover

queues in the westbound direction extending from the Norcross High School Parking Lot Exit past Spalding Terrace. Recommendations are discussed further in the Conclusions and Recommendation section of the report. Recommended traffic control and lane geometry is shown in Figure 11.

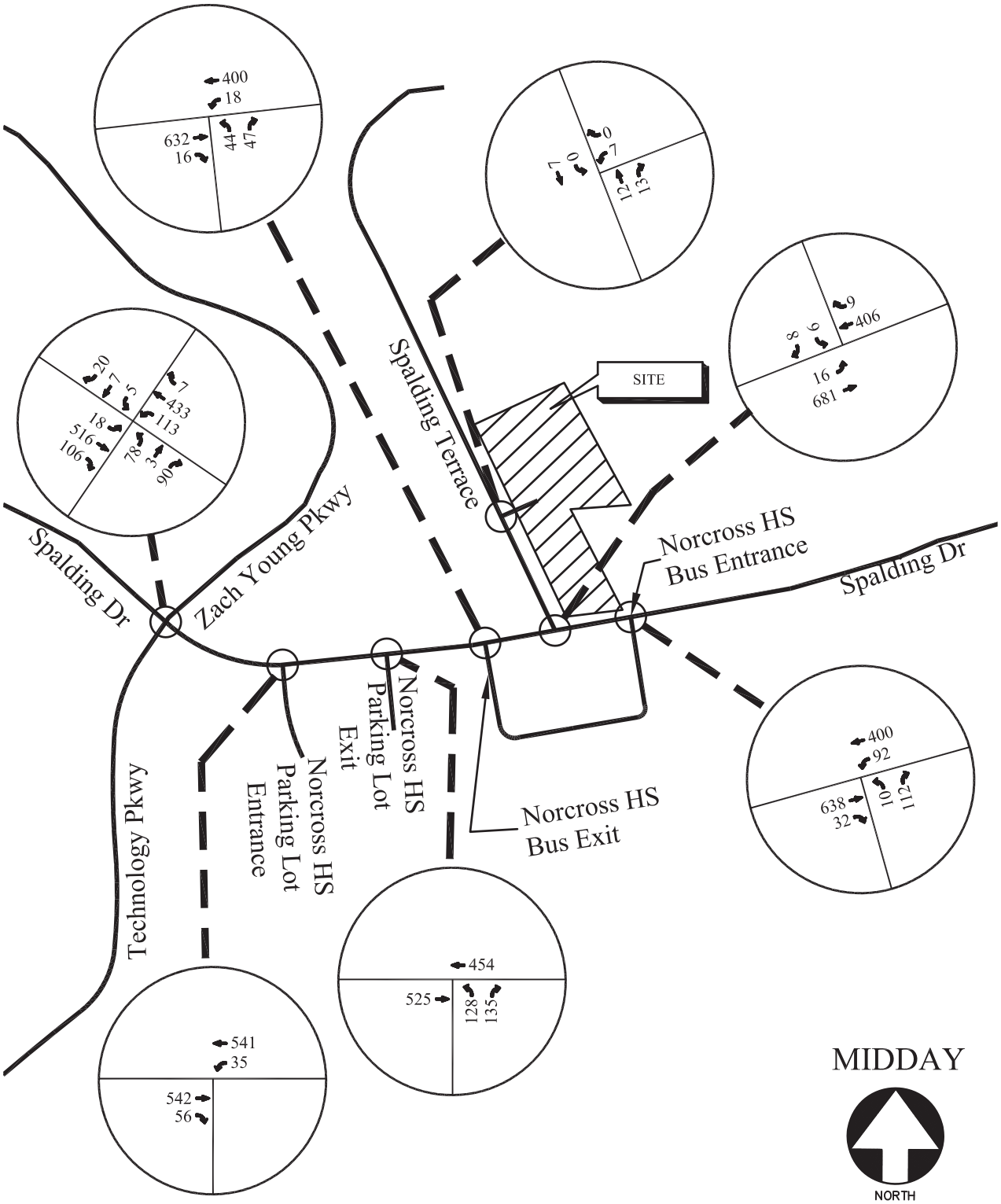
(6:45am - 7:45am) 5:00pm - 6:00pm



FUTURE WEEKDAY PEAK HOUR VOLUMES FIGURE 9

A&R Engineering Inc.

2:00pm - 3:00pm



FUTURE WEEKDAY PEAK HOUR VOLUMES (MIDDAY) FIGURE 10

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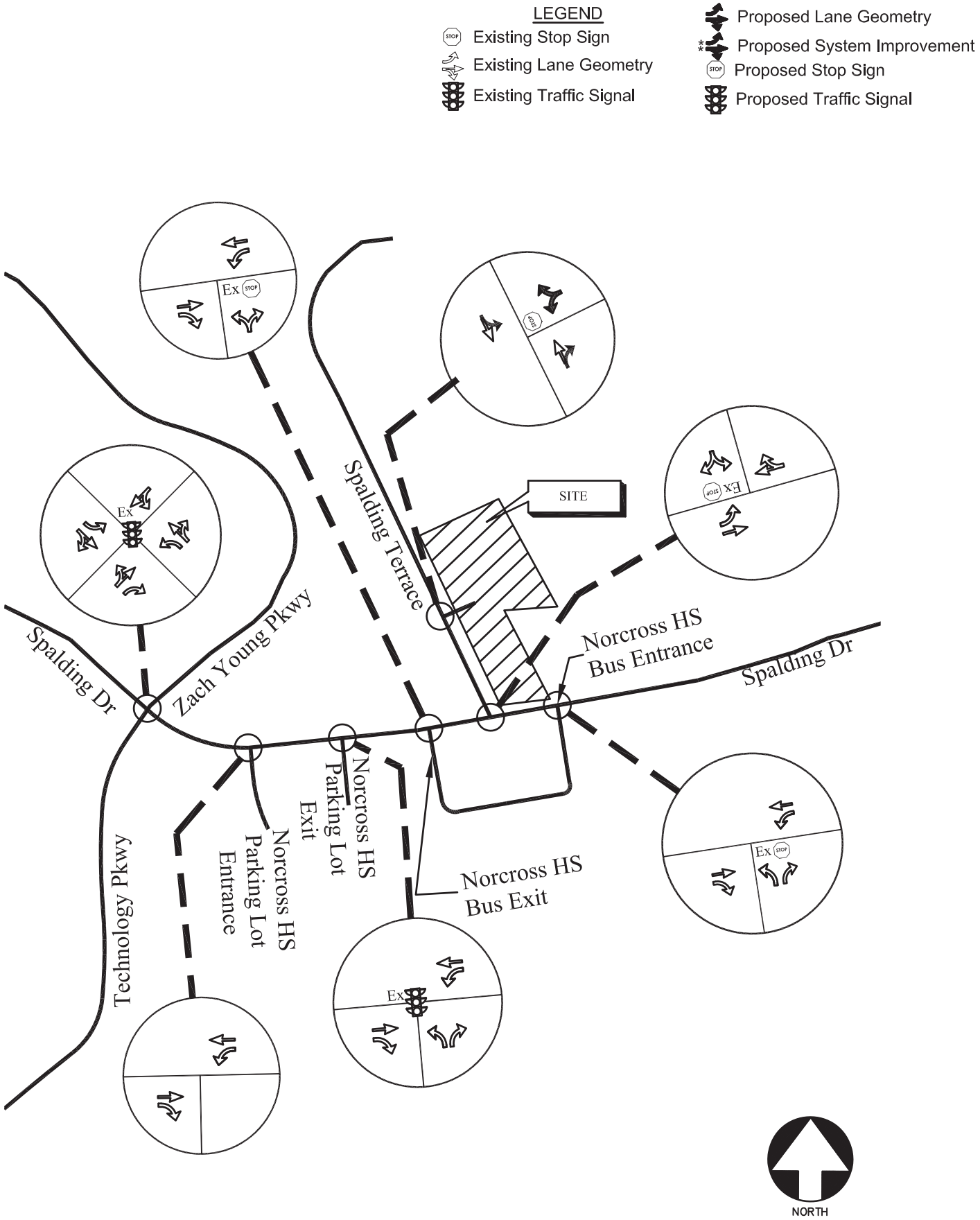

FUTURE TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 11

A&R Engineering Inc.

AUXILIARY LANE REQUIREMENTS

GDOT Turn Lane Requirements and Standards

The GDOT right turn deceleration lane requirements for Spalding Terrace are set forth in the GDOT Regulations for Driveway and Encroachment Control (2009) manual. For a two-lane route with a speed limit of 35 mph and AADT less than 6,000 vehicles, the construction of a right turn deceleration lane is only warranted if the daily site-generated Right Turn Volumes (RTV) meets or exceeds 200 vehicles. Table 8 shows the amount of entering right turns as well as the GDOT requirements for the construction of a right turn deceleration lane.

TABLE 8 - RIGHT TURN DECELERATION LANE ANALYSIS

Movement Type	Daily Volumes		GDOT Requirements for 2 lane routes	
	Peak Hour (AM) [Mid] PM	24-Hour	35 mph or less	ADT < 6000
Northbound Right Turn for Spalding Ter @ Site Drwy	(6) [13] 16	120	200 RTV per day	

Using the data from Table 8, the amount of daily right turn vehicles does not meet the warrants for the construction of a right turn deceleration lane.

Gwinnett County Turn Lane Requirements and Standards

The Gwinnett County requirements for the installation of turn lanes are set forth in Gwinnett County Department of Planning & Development's Development Regulations manual (2010). For the installation of a right turn deceleration lane, Section 6.3.3, Paragraph B states, "A deceleration lane shall be required to be provided at each subdivision street entrance that is provided street access to a Minor Collector Street or Major Thoroughfare." Due to Spalding Terrace's road classification as a residential street, the installation of a right turn deceleration lane into the development would not be warranted by Gwinnett County standards.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to evaluate the impacts of the additional traffic added by the proposed residential development located in the northeast corner of the intersection of Spalding Drive and Spalding Terrace in Peachtree Corners, Georgia and to make recommendations for ways to mitigate traffic at the intersection of Spalding Drive and Spalding Terrace after the addition of site-generated traffic. The proposed development will consist of 20 single-family detached housing units and proposes one full-access driveway on Spalding Terrace.

This study was also used to evaluate the necessary improvements at the intersection of Spalding Drive and Spalding Terrace in order to mitigate existing queuing into the intersection by school traffic during the morning and midday peak hours.

There are no major impacts to the main line approaches along Spalding Drive or the study intersections. The requirements for auxiliary lanes set forth by Gwinnett County and the Georgia Department of Transportation will not be met as the development will not generated enough traffic in a 24-hour period. Therefore, a right turn deceleration lane is not recommended at the intersections of Spalding Terrace and the Site Driveway. In order to help mitigate the amount of queuing into the intersection of Spalding Drive and Spalding Terrace, which blocks traffic from entering and exiting Spalding Terrace, the following improvements are recommended:

- It is recommended that further analysis be conducted for the Spalding Drive corridor in partnership with the City to investigate if changes to signal timing, signage, and / or enforcement could be implemented to creating openings in through traffic for vehicles exiting from Spalding Terrace during the school's morning drop-off period.
- Placement of a regulatory DO NOT BLOCK INTERSECTION sign (R10-7) at the intersection of Spalding Drive and Spalding Terrace to regulate the amount of traffic queuing through the intersection from school traffic.

Appendix

Existing Intersection Traffic Counts

Eastern Drwy
Spalding Terrace (25 mph)
Bus Drwy
Spalding Dr (40 mph)
One way
Parking Exit
One way
Parents Pickup & Drop-off
Technology Pkwy
Technology Pkwy (25 mph)
Average # of Drwy

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TMC Data
Spalding Dr @ Technology Pkwy

6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230001
Site Code : 35230001
Start Date : 5/13/2014
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Technology Pkwy Northbound					Technology Pkwy Southbound					Spalding Dr Eastbound					Spalding 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
06:30 AM	2	1	26	0	29	0	0	4	0	4	1	91	8	0	100	21	84	3	0	108	241
06:45 AM	3	2	69	0	74	2	3	2	0	7	6	162	11	0	179	34	120	3	0	157	417
Total	5	3	95	0	103	2	3	6	0	11	7	253	19	0	279	55	204	6	0	265	658
07:00 AM	6	1	113	0	120	1	3	5	0	9	8	187	9	0	204	68	130	16	0	214	547
07:15 AM	4	4	35	0	43	7	6	6	0	19	19	60	20	0	99	60	118	35	0	213	374
07:30 AM	4	8	12	0	24	14	35	16	0	65	19	75	26	0	120	61	108	46	0	215	424
07:45 AM	9	4	12	0	25	23	27	33	0	83	10	72	32	0	114	96	108	18	0	222	444
Total	23	17	172	0	212	45	71	60	0	176	56	394	87	0	537	285	464	115	0	864	1789
08:00 AM	6	3	22	0	31	5	3	3	0	11	3	85	35	0	123	79	110	3	0	192	357
08:15 AM	5	0	20	0	25	1	2	3	0	6	4	91	47	0	142	77	114	3	0	194	367
*** BREAK ***																					
Total	11	3	42	0	56	6	5	6	0	17	7	176	82	0	265	156	224	6	0	386	724
*** BREAK ***																					
02:00 PM	17	0	24	0	41	1	3	2	0	6	3	123	29	0	155	13	79	3	0	95	297
02:15 PM	25	1	19	0	45	1	0	6	0	7	1	127	26	0	154	15	81	1	0	97	303
02:30 PM	16	1	24	0	41	1	2	6	0	9	3	131	21	0	155	15	117	0	0	132	337
02:45 PM	19	1	21	0	41	2	2	6	0	10	11	123	29	0	163	69	148	3	0	220	434
Total	77	3	88	0	168	5	7	20	0	32	18	504	105	0	627	112	425	7	0	544	1371
*** BREAK ***																					
05:00 PM	46	4	102	0	152	3	3	3	0	9	2	152	15	0	169	12	87	2	0	101	431
05:15 PM	45	1	115	0	161	6	3	6	0	15	6	144	12	0	162	13	95	3	0	111	449
05:30 PM	33	5	122	0	160	7	3	2	0	12	0	147	16	0	163	15	102	2	0	119	454
05:45 PM	29	10	113	0	152	8	4	9	0	21	4	141	9	0	154	19	87	6	0	112	439
Total	153	20	452	0	625	24	13	20	0	57	12	584	52	0	648	59	371	13	0	443	1773
Grand Total	269	46	849	0	1164	82	99	112	0	293	100	1911	345	0	2356	667	1688	147	0	2502	6315
Apprch %	23.1	4	72.9	0		28	33.8	38.2	0		4.2	81.1	14.6	0		26.7	67.5	5.9	0		
Total %	4.3	0.7	13.4	0	18.4	1.3	1.6	1.8	0	4.6	1.6	30.3	5.5	0	37.3	10.6	26.7	2.3	0	39.6	

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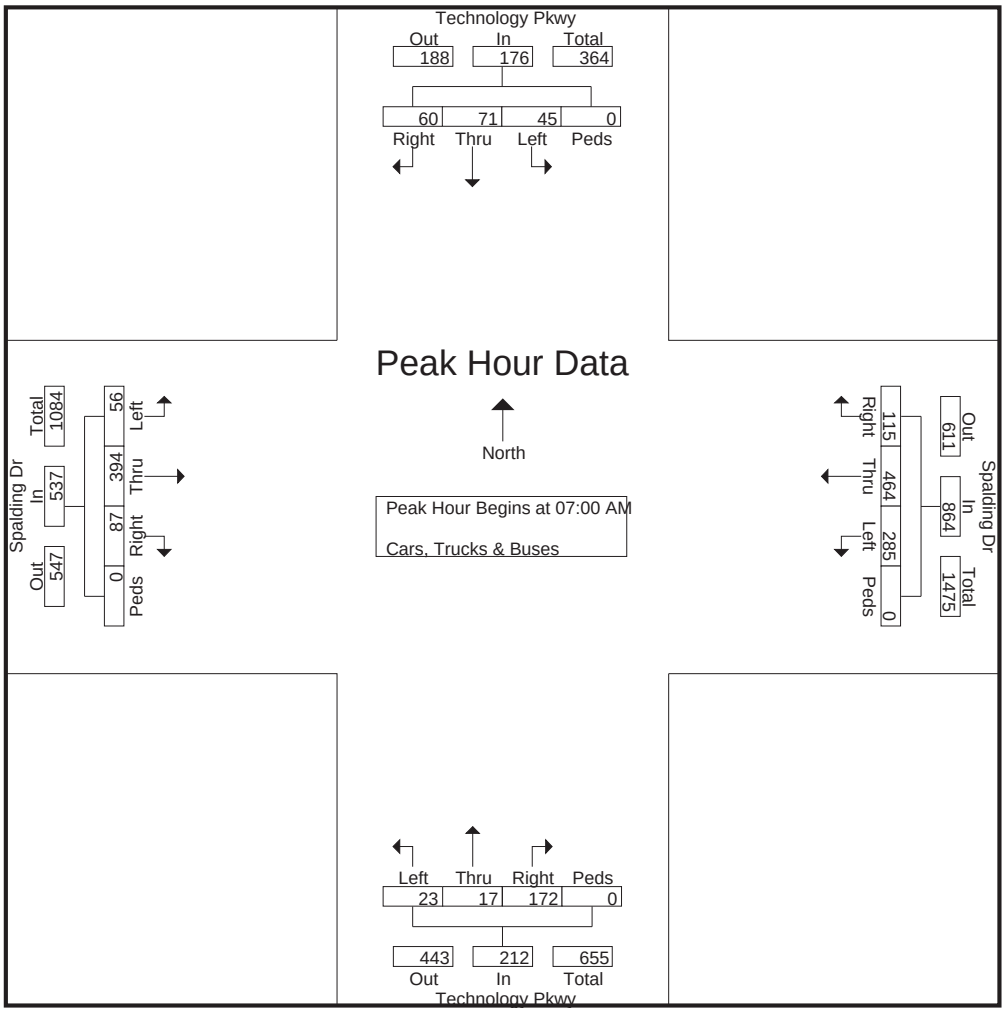
TMC Data
Spalding Dr @ Technology Pkwy

6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230001
Site Code : 35230001
Start Date : 5/13/2014
Page No : 2

	Technology Pkwy Northbound					Technology Pkwy Southbound					Spalding Dr Eastbound					Spalding 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 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	6	1	**113**	0	**120**	1	3	5	0	9	8	**187**	9	0	**204**	68	**130**	16	0	214	**547**
07:15 AM	4	4	35	0	43	7	6	6	0	19	**19**	60	20	0	99	60	118	35	0	213	374
07:30 AM	4	**8**	12	0	24	14	**35**	16	0	65	19	75	26	0	120	61	108	**46**	0	215	424
07:45 AM	**9**	4	12	0	25	**23**	27	**33**	0	**83**	10	72	**32**	0	114	**96**	108	18	0	**222**	444
Total Volume	23	17	172	0	212	45	71	60	0	176	56	394	87	0	537	285	464	115	0	864	1789
% App. Total	10.8	8	81.1	0		25.6	40.3	34.1	0		10.4	73.4	16.2	0		33	53.7	13.3	0		
PHF	.639	.531	.381	.000	.442	.489	.507	.455	.000	.530	.737	.527	.680	.000	.658	.742	.892	.625	.000	.973	.818



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File Name : 35230001
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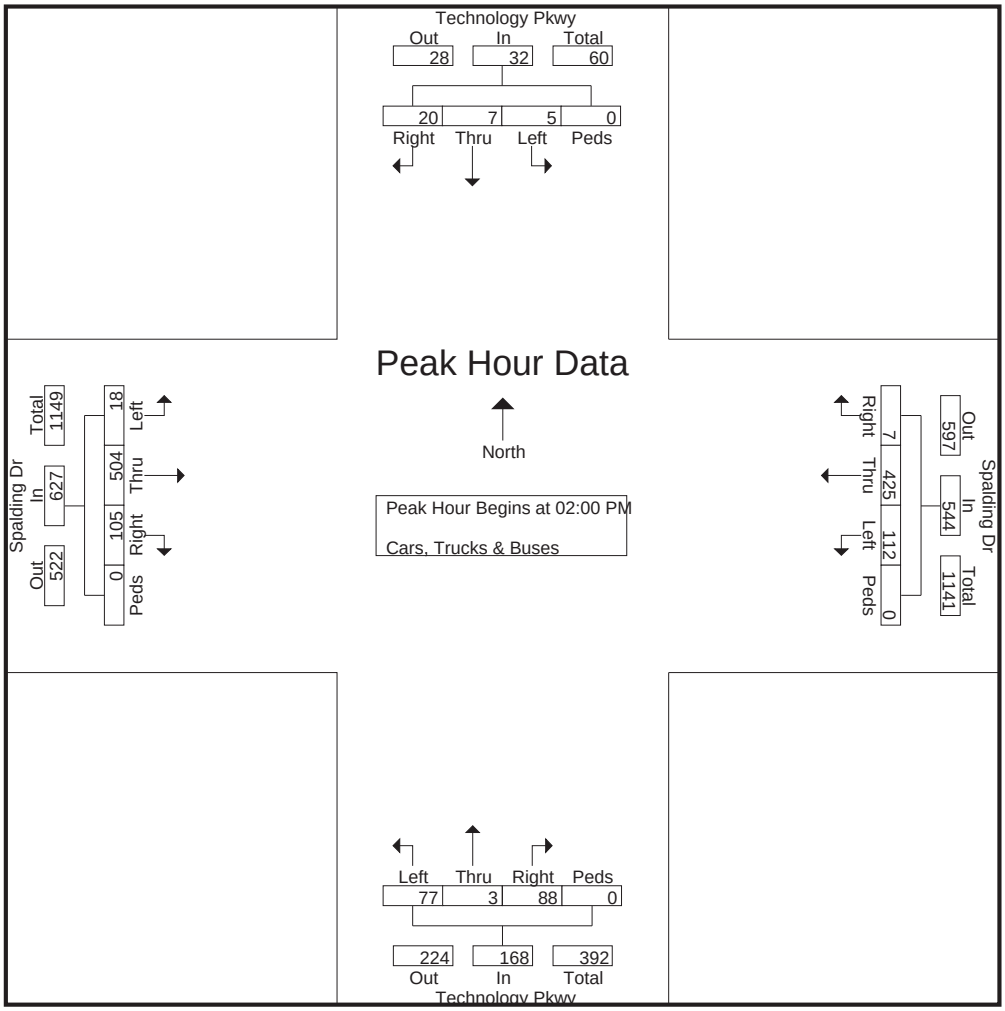
Start Date : 5/13/2014
Page No : 3

	Technology Pkwy Northbound					Technology Pkwy Southbound					Spalding Dr Eastbound					Spalding 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 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	17	0	**24**	0	41	1	**3**	2	0	6	3	123	**29**	0	155	13	79	**3**	0	95	297
02:15 PM	**25**	**1**	19	0	**45**	1	0	**6**	0	7	1	127	26	0	154	15	81	1	0	97	303
02:30 PM	16	1	24	0	41	1	2	6	0	9	3	**131**	21	0	155	15	117	0	0	132	337
02:45 PM	19	1	21	0	41	**2**	2	6	0	**10**	**11**	123	29	0	**163**	**69**	**148**	3	0	**220**	**434**
Total Volume	77	3	88	0	168	5	7	20	0	32	18	504	105	0	627	112	425	7	0	544	1371
% App. Total	45.8	1.8	52.4	0		15.6	21.9	62.5	0		2.9	80.4	16.7	0		20.6	78.1	1.3	0		
PHF	.770	.750	.917	.000	.933	.625	.583	.833	.000	.800	.409	.962	.905	.000	.962	.406	.718	.583	.000	.618	.790



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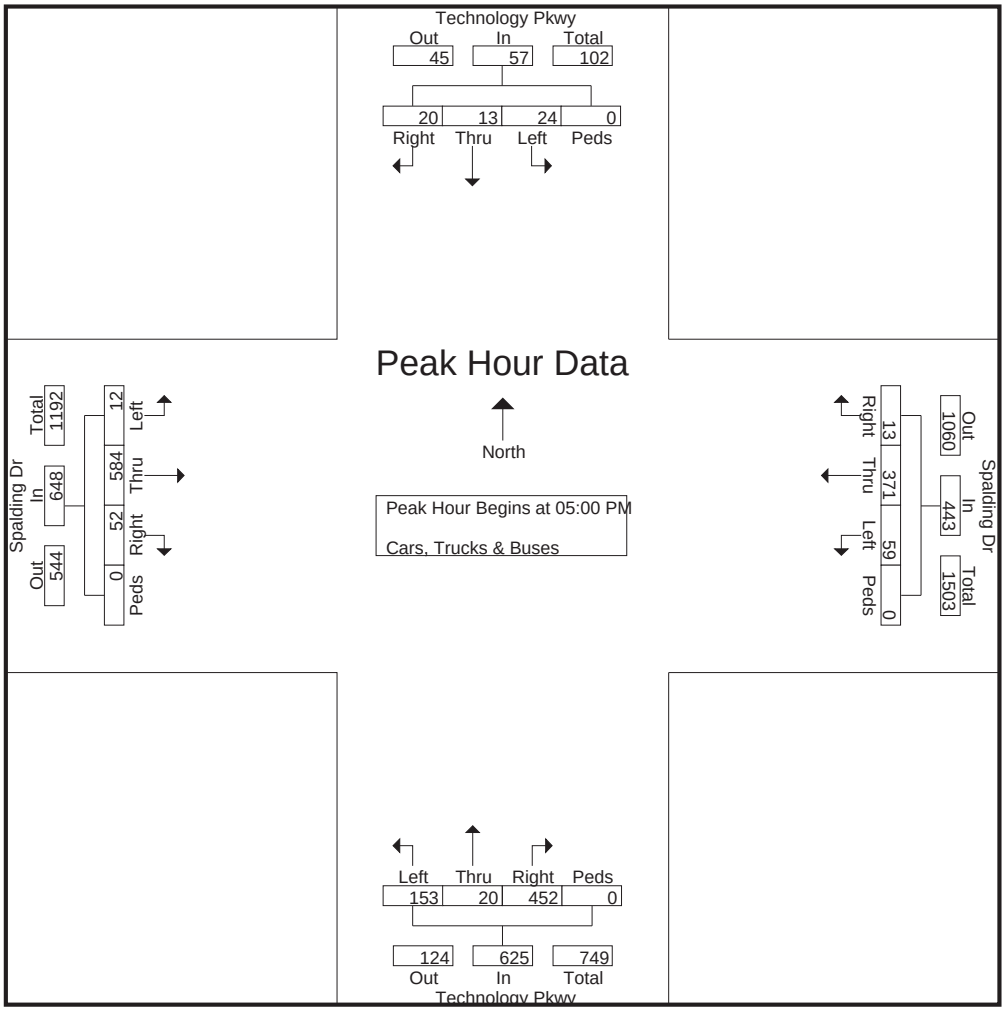
	Technology Pkwy Northbound					Technology Pkwy Southbound					Spalding Dr Eastbound					Spalding Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**46**	4	102	0	152	3	3	3	0	9	2	**152**	15	0	**169**	12	87	2	0	101	431
05:15 PM	45	1	115	0	**161**	6	3	6	0	15	**6**	144	12	0	162	13	95	3	0	111	449
05:30 PM	33	5	**122**	0	160	7	3	2	0	12	0	147	**16**	0	163	15	**102**	2	0	**119**	**454**
05:45 PM	29	**10**	113	0	152	**8**	**4**	**9**	0	**21**	4	141	9	0	154	**19**	87	**6**	0	112	439
Total Volume	153	20	452	0	625	24	13	20	0	57	12	584	52	0	648	59	371	13	0	443	1773
% App. Total	24.5	3.2	72.3	0		42.1	22.8	35.1	0		1.9	90.1	8	0		13.3	83.7	2.9	0		
PHF	.832	.500	.926	.000	.970	.750	.813	.556	.000	.679	.500	.961	.813	.000	.959	.776	.909	.542	.000	.931	.976



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TMC Data
Spalding Dr @ Norcross High School
Pickup-Drop off Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230002
Site Code : 35230002
Start Date : 5/13/2014
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Pickup-Drop off Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	79	32	0	111	25	103	0	0	128	239
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	91	118	0	209	60	161	0	0	221	430
Total	0	0	0	0	0	0	0	0	0	0	0	170	150	0	320	85	264	0	0	349	669
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	88	206	0	294	112	207	0	0	319	613
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	92	34	0	126	21	234	0	0	255	381
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	97	4	0	101	6	204	0	0	210	311
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	119	2	0	121	0	208	0	0	208	329
Total	0	0	0	0	0	0	0	0	0	0	0	396	246	0	642	139	853	0	0	992	1634
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	108	4	0	112	20	195	0	0	215	327
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	74	6	0	80	2	198	0	0	200	280
*** BREAK ***																					
Total	0	0	0	0	0	0	0	0	0	0	0	182	10	0	192	22	393	0	0	415	607
*** BREAK ***																					
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	141	3	0	144	2	95	0	0	97	241
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	129	7	0	136	7	106	0	0	113	249
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	134	31	0	165	17	112	0	0	129	294
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	126	14	0	140	9	219	0	0	228	368
Total	0	0	0	0	0	0	0	0	0	0	0	530	55	0	585	35	532	0	0	567	1152
*** BREAK ***																					
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	254	1	0	255	1	103	0	0	104	359
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	267	3	0	270	0	117	0	0	117	387
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	258	4	0	262	3	113	0	0	116	378
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	253	1	0	254	0	101	0	0	101	355
Total	0	0	0	0	0	0	0	0	0	0	0	1032	9	0	1041	4	434	0	0	438	1479
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2310	470	0	2780	285	2476	0	0	2761	5541
Apprch %	0	0	0	0		0	0	0	0		0	83.1	16.9	0		10.3	89.7	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	41.7	8.5	0	50.2	5.1	44.7	0	0	49.8	

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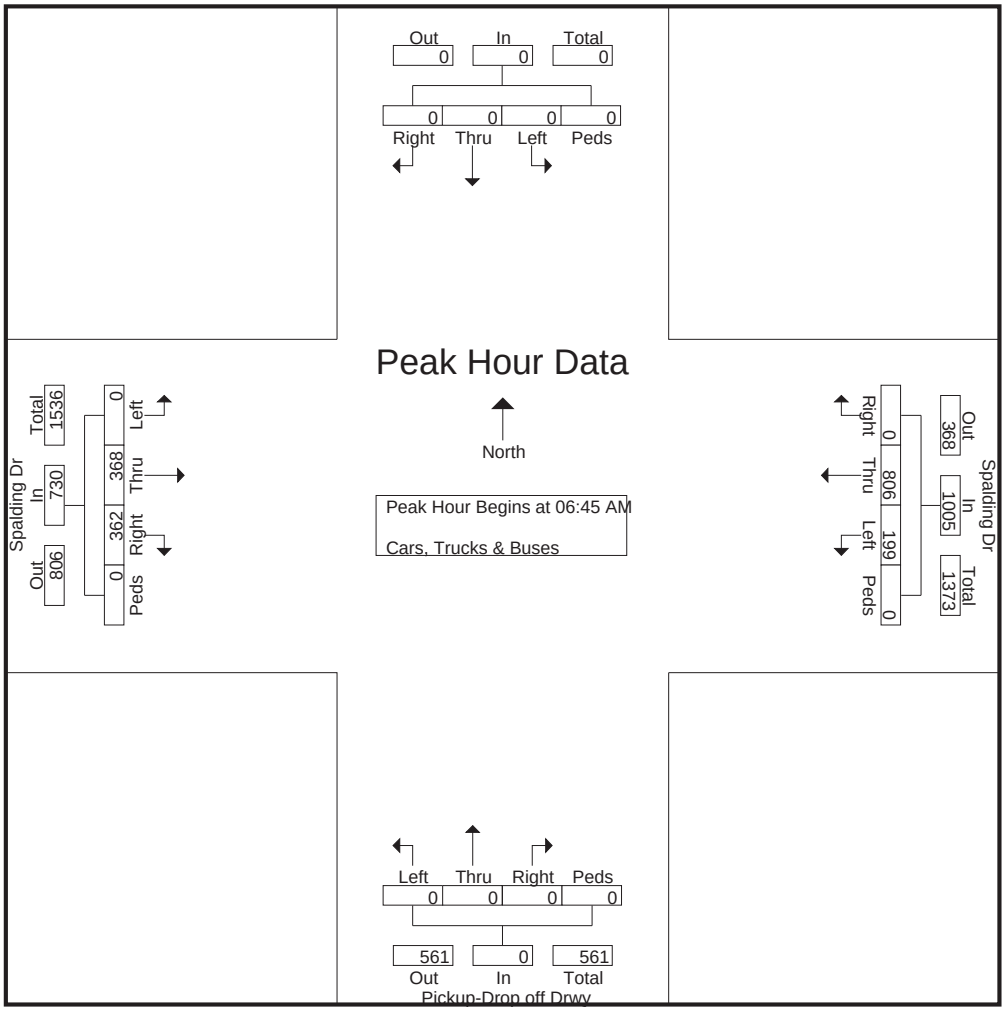
TMC Data
Spalding Dr @ Norcross High School
Pickup-Drop off Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230002
Site Code : 35230002
Start Date : 5/13/2014
Page No : 2

	Pickup-Drop off Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	91	118	0	209	60	161	0	0	221	430
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	88	**206**	0	**294**	**112**	207	0	0	**319**	**613**
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	92	34	0	126	21	**234**	0	0	255	381
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	**97**	4	0	101	6	204	0	0	210	311
Total Volume	0	0	0	0	0	0	0	0	0	0	0	368	362	0	730	199	806	0	0	1005	1735
% App. Total	0	0	0	0		0	0	0	0		0	50.4	49.6	0		19.8	80.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.948	.439	.000	.621	.444	.861	.000	.000	.788	.708



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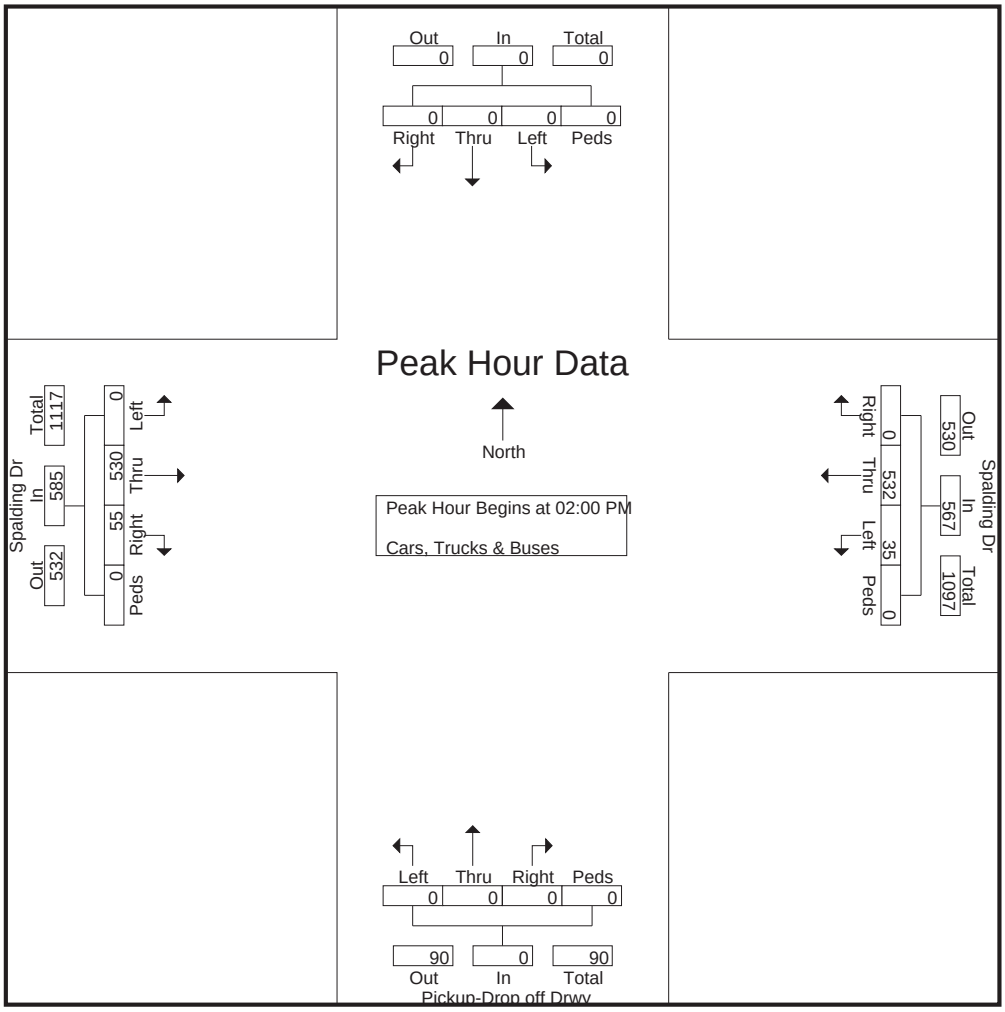
TMC Data
Spalding Dr @ Norcross High School
Pickup-Drop off Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230002
Site Code : 35230002
Start Date : 5/13/2014
Page No : 3

	Pickup-Drop off Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	**141**	3	0	144	2	95	0	0	97	241
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	129	7	0	136	7	106	0	0	113	249
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	134	**31**	0	**165**	**17**	112	0	0	129	294
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	126	14	0	140	9	**219**	0	0	**228**	**368**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	530	55	0	585	35	532	0	0	567	1152
% App. Total	0	0	0	0		0	0	0	0		0	90.6	9.4	0		6.2	93.8	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.940	.444	.000	.886	.515	.607	.000	.000	.622	.783



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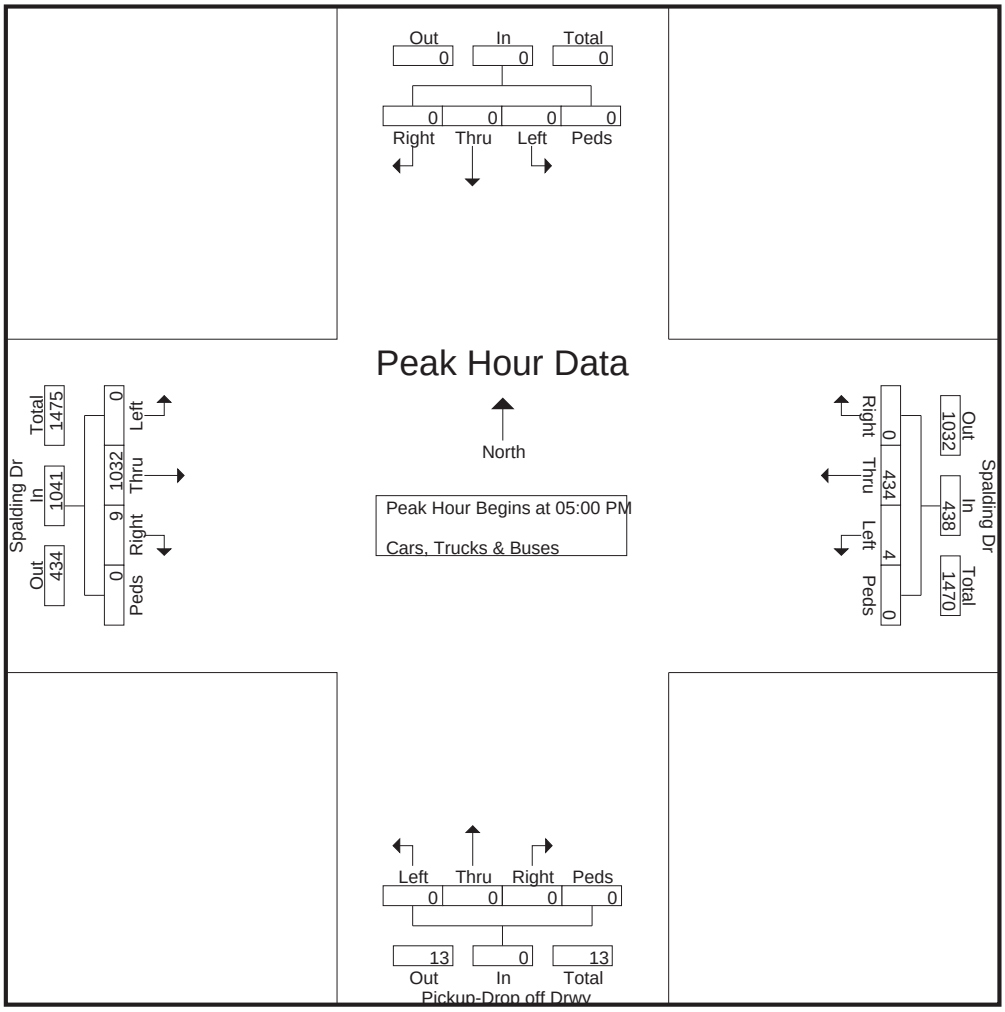
TMC Data
Spalding Dr @ Norcross High School
Pickup-Drop off Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230002
Site Code : 35230002
Start Date : 5/13/2014
Page No : 4

	Pickup-Drop off Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	254	1	0	255	1	103	0	0	104	359
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	**267**	3	0	**270**	0	**117**	0	0	**117**	**387**
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	258	**4**	0	262	**3**	113	0	0	116	378
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	253	1	0	254	0	101	0	0	101	355
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1032	9	0	1041	4	434	0	0	438	1479
% App. Total	0	0	0	0		0	0	0	0		0	99.1	0.9	0		0.9	99.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.966	.563	.000	.964	.333	.927	.000	.000	.936	.955



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TMC Data
Spalding Dr @ Norcross High School
Parking Exit Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230003
Site Code : 35230003
Start Date : 5/13/2014
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Parking Exit Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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
06:30 AM	16	0	17	0	33	0	0	0	0	0	0	74	0	0	74	0	126	0	0	126	233
06:45 AM	48	0	50	0	98	0	0	0	0	0	0	79	0	0	79	0	167	0	0	167	344
Total	64	0	67	0	131	0	0	0	0	0	0	153	0	0	153	0	293	0	0	293	577
07:00 AM	85	0	78	0	163	0	0	0	0	0	0	93	0	0	93	0	237	0	0	237	493
07:15 AM	31	0	27	0	58	0	0	0	0	0	0	89	0	0	89	0	199	0	0	199	346
07:30 AM	5	0	1	0	6	0	0	0	0	0	0	103	0	0	103	0	205	0	0	205	314
07:45 AM	0	0	2	0	2	0	0	0	0	0	0	107	0	0	107	0	217	0	0	217	326
Total	121	0	108	0	229	0	0	0	0	0	0	392	0	0	392	0	858	0	0	858	1479
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	94	0	0	94	0	177	0	0	177	271
08:15 AM	1	0	3	0	4	0	0	0	0	0	0	78	0	0	78	0	210	0	0	210	292
*** BREAK ***																					
Total	1	0	3	0	4	0	0	0	0	0	0	172	0	0	172	0	387	0	0	387	563
*** BREAK ***																					
02:00 PM	2	0	2	0	4	0	0	0	0	0	0	149	0	0	149	0	100	0	0	100	253
02:15 PM	11	0	6	0	17	0	0	0	0	0	0	124	0	0	124	0	87	0	0	87	228
02:30 PM	43	0	37	0	80	0	0	0	0	0	0	120	0	0	120	0	125	0	0	125	325
02:45 PM	71	0	89	0	160	0	0	0	0	0	0	120	0	0	120	0	134	0	0	134	414
Total	127	0	134	0	261	0	0	0	0	0	0	513	0	0	513	0	446	0	0	446	1220
*** BREAK ***																					
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	255	0	0	255	0	105	0	0	105	361
05:15 PM	2	0	1	0	3	0	0	0	0	0	0	258	0	0	258	0	108	0	0	108	369
05:30 PM	3	0	2	0	5	0	0	0	0	0	0	254	0	0	254	0	102	0	0	102	361
05:45 PM	1	0	1	0	2	0	0	0	0	0	0	247	0	0	247	0	97	0	0	97	346
Total	7	0	4	0	11	0	0	0	0	0	0	1014	0	0	1014	0	412	0	0	412	1437
Grand Total	320	0	316	0	636	0	0	0	0	0	0	2244	0	0	2244	0	2396	0	0	2396	5276
Apprch %	50.3	0	49.7	0		0	0	0	0		0	100	0	0		0	100	0	0		
Total %	6.1	0	6	0	12.1	0	0	0	0	0	0	42.5	0	0	42.5	0	45.4	0	0	45.4	

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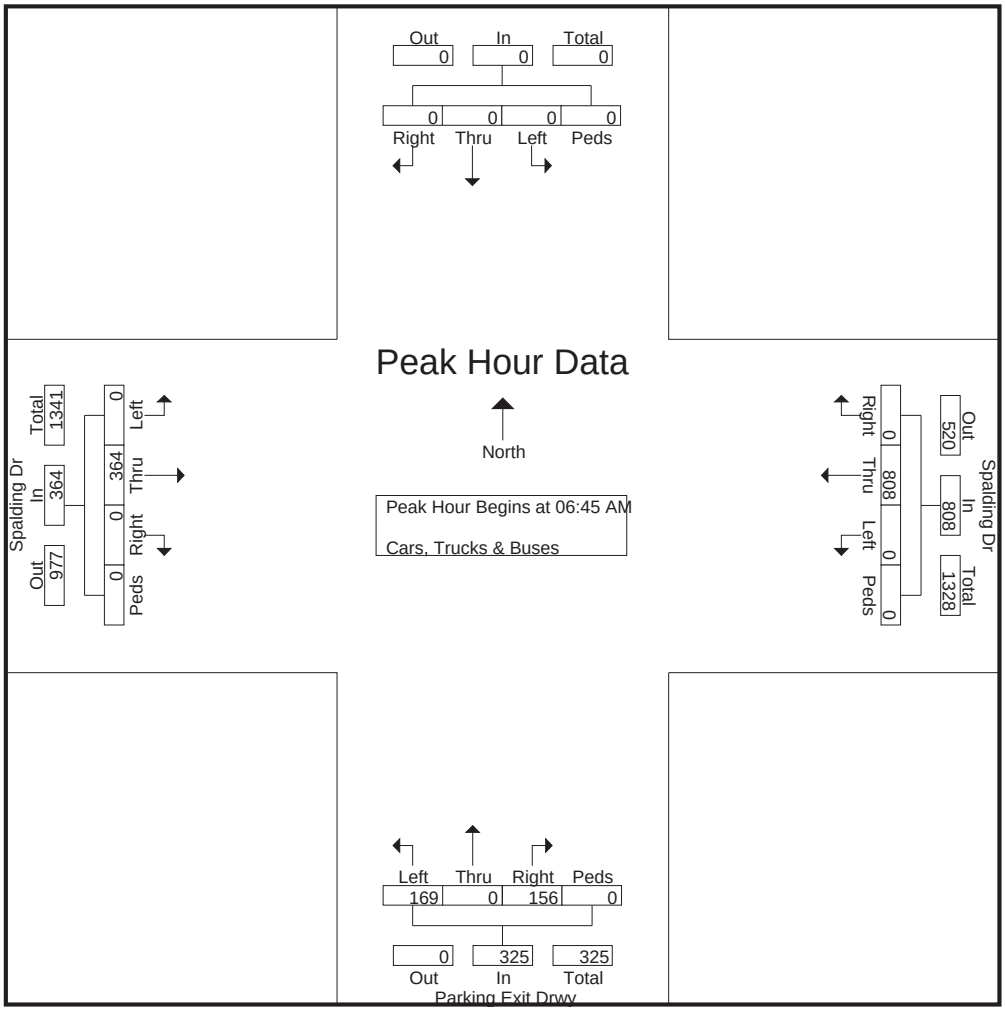
TMC Data
Spalding Dr @ Norcross High School
Parking Exit Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230003
Site Code : 35230003
Start Date : 5/13/2014
Page No : 2

	Parking Exit Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	48	0	50	0	98	0	0	0	0	0	0	79	0	0	79	0	167	0	0	167	344
07:00 AM	**85**	0	**78**	0	**163**	0	0	0	0	0	0	93	0	0	93	0	**237**	0	0	**237**	**493**
07:15 AM	31	0	27	0	58	0	0	0	0	0	0	89	0	0	89	0	199	0	0	199	346
07:30 AM	5	0	1	0	6	0	0	0	0	0	0	**103**	0	0	**103**	0	205	0	0	205	314
Total Volume	169	0	156	0	325	0	0	0	0	0	0	364	0	0	364	0	808	0	0	808	1497
% App. Total	52	0	48	0		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.497	.000	.500	.000	.498	.000	.000	.000	.000	.000	.000	.883	.000	.000	.883	.000	.852	.000	.000	.852	.759



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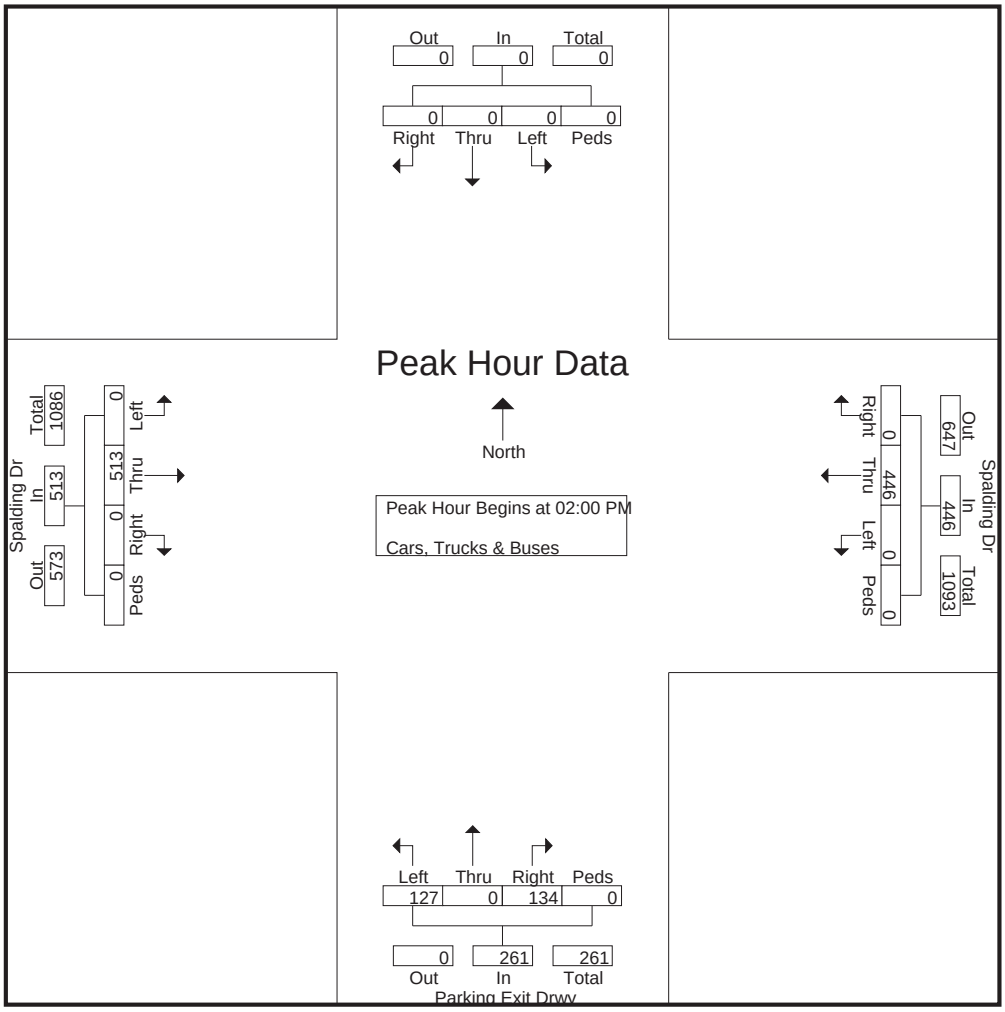
TMC Data
Spalding Dr @ Norcross High School
Parking Exit Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230003
Site Code : 35230003
Start Date : 5/13/2014
Page No : 3

	Parking Exit Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	2	0	2	0	4	0	0	0	0	0	0	**149**	0	0	**149**	0	100	0	0	100	253
02:15 PM	11	0	6	0	17	0	0	0	0	0	0	124	0	0	124	0	87	0	0	87	228
02:30 PM	43	0	37	0	80	0	0	0	0	0	0	120	0	0	120	0	125	0	0	125	325
02:45 PM	**71**	0	**89**	0	**160**	0	0	0	0	0	0	120	0	0	120	0	**134**	0	0	**134**	**414**
Total Volume	127	0	134	0	261	0	0	0	0	0	0	513	0	0	513	0	446	0	0	446	1220
% App. Total	48.7	0	51.3	0		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.447	.000	.376	.000	.408	.000	.000	.000	.000	.000	.000	.861	.000	.000	.861	.000	.832	.000	.000	.832	.737



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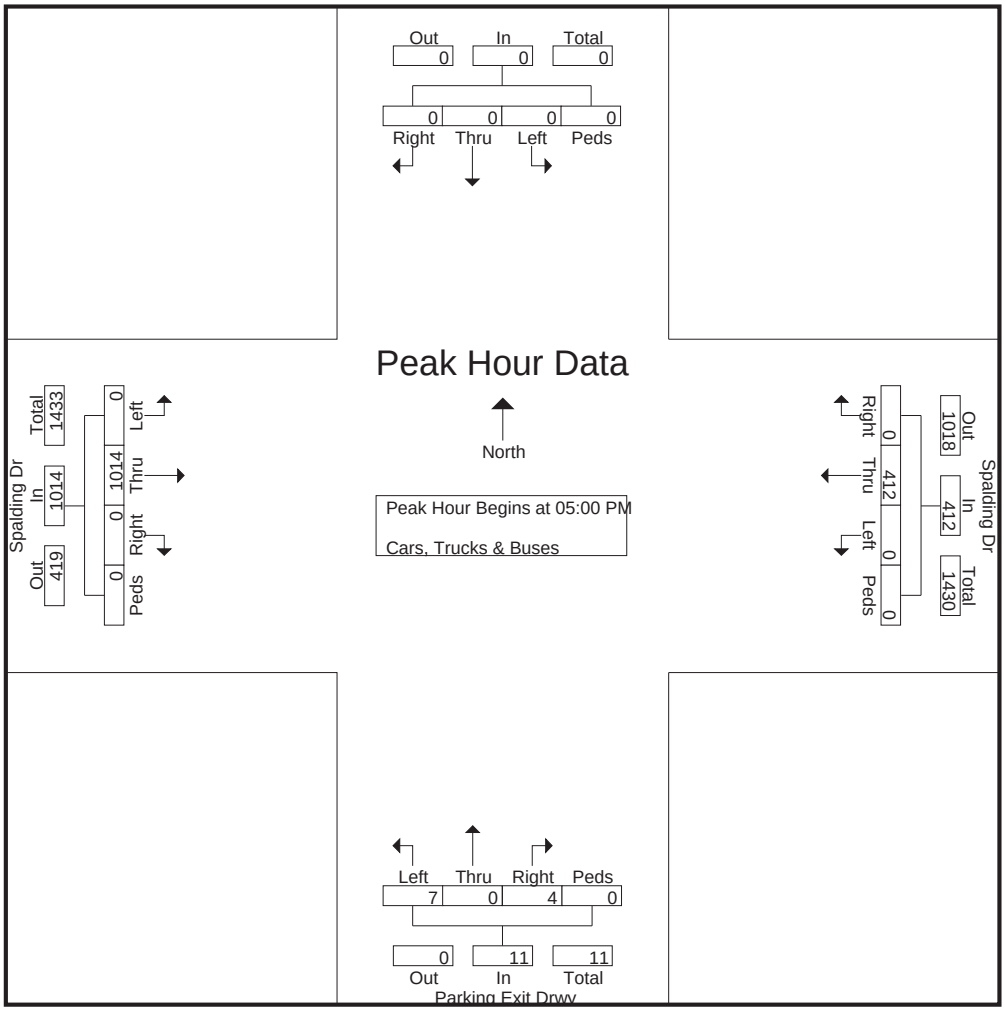
TMC Data
Spalding Dr @ Norcross High School
Parking Exit Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230003
Site Code : 35230003
Start Date : 5/13/2014
Page No : 4

	Parking Exit Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	255	0	0	255	0	105	0	0	105	361
05:15 PM	2	0	1	0	3	0	0	0	0	0	0	**258**	0	0	**258**	0	**108**	0	0	**108**	**369**
05:30 PM	**3**	0	**2**	0	**5**	0	0	0	0	0	0	254	0	0	254	0	102	0	0	102	361
05:45 PM	1	0	1	0	2	0	0	0	0	0	0	247	0	0	247	0	97	0	0	97	346
Total Volume	7	0	4	0	11	0	0	0	0	0	0	1014	0	0	1014	0	412	0	0	412	1437
% App. Total	63.6	0	36.4	0		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.583	.000	.500	.000	.550	.000	.000	.000	.000	.000	.000	.983	.000	.000	.983	.000	.954	.000	.000	.954	.974



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TMC Data
Spalding Dr @ Norcross High School
Bus Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230004
Site Code : 35230004
Start Date : 5/13/2014
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Bus Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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
06:30 AM	4	0	3	0	7	0	0	0	0	0	0	75	19	0	94	30	109	0	0	139	240
06:45 AM	2	0	3	0	5	0	0	0	0	0	0	108	21	0	129	21	163	0	0	184	318
Total	6	0	6	0	12	0	0	0	0	0	0	183	40	0	223	51	272	0	0	323	558
07:00 AM	0	0	1	0	1	0	0	0	0	0	0	153	5	0	158	4	233	0	0	237	396
07:15 AM	4	0	0	0	4	0	0	0	0	0	0	116	15	0	131	10	199	0	0	209	344
07:30 AM	4	0	1	0	5	0	0	0	0	0	0	85	7	0	92	8	204	0	0	212	309
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	98	5	0	103	8	211	0	0	219	322
Total	8	0	2	0	10	0	0	0	0	0	0	452	32	0	484	30	847	0	0	877	1371
08:00 AM	3	0	0	0	3	0	0	0	0	0	0	107	4	0	111	4	205	0	0	209	323
08:15 AM	4	0	0	0	4	0	0	0	0	0	0	84	6	0	90	10	193	0	0	203	297
*** BREAK ***																					
Total	7	0	0	0	7	0	0	0	0	0	0	191	10	0	201	14	398	0	0	412	620
*** BREAK ***																					
02:00 PM	1	0	1	0	2	0	0	0	0	0	0	139	2	0	141	3	92	0	0	95	238
02:15 PM	5	0	3	0	8	0	0	0	0	0	0	130	3	0	133	1	87	0	0	88	229
02:30 PM	2	0	4	0	6	0	0	0	0	0	0	153	0	0	153	0	119	0	0	119	278
02:45 PM	36	0	39	0	75	0	0	0	0	0	0	197	11	0	208	14	94	0	0	108	391
Total	44	0	47	0	91	0	0	0	0	0	0	619	16	0	635	18	392	0	0	410	1136
*** BREAK ***																					
05:00 PM	4	0	2	0	6	0	0	0	0	0	0	240	7	0	247	6	87	0	0	93	346
05:15 PM	6	0	2	0	8	0	0	0	0	0	0	246	9	0	255	6	102	0	0	108	371
05:30 PM	3	0	1	0	4	0	0	0	0	0	0	251	7	0	258	6	97	0	0	103	365
05:45 PM	8	0	2	0	10	0	0	0	0	0	0	255	12	0	267	11	93	0	0	104	381
Total	21	0	7	0	28	0	0	0	0	0	0	992	35	0	1027	29	379	0	0	408	1463
Grand Total	86	0	62	0	148	0	0	0	0	0	0	2437	133	0	2570	142	2288	0	0	2430	5148
Apprch %	58.1	0	41.9	0		0	0	0	0		0	94.8	5.2	0		5.8	94.2	0	0		
Total %	1.7	0	1.2	0	2.9	0	0	0	0	0	0	47.3	2.6	0	49.9	2.8	44.4	0	0	47.2	

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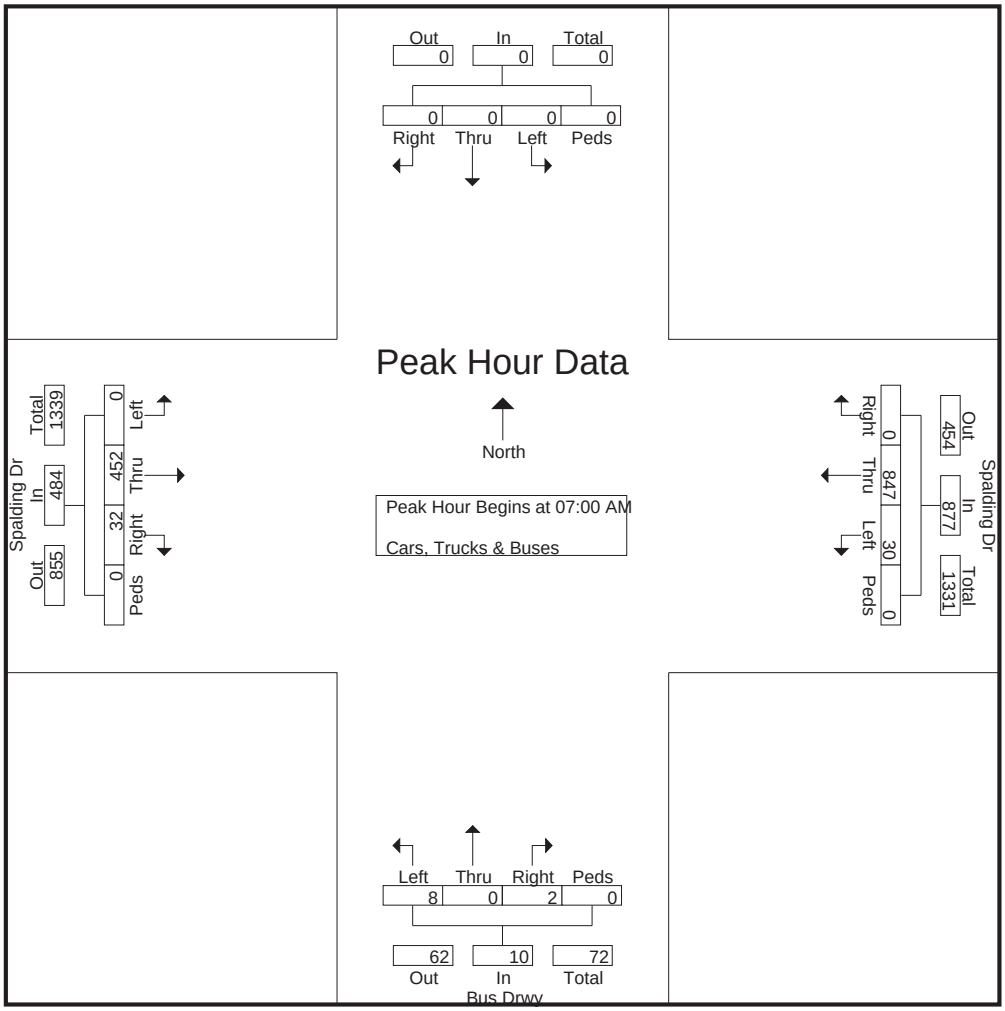
TMC Data
Spalding Dr @ Norcross High School
Bus Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230004
Site Code : 35230004
Start Date : 5/13/2014
Page No : 2

	Bus Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	**1**	0	1	0	0	0	0	0	0	**153**	5	0	**158**	4	**233**	0	0	**237**	**396**
07:15 AM	**4**	0	0	0	4	0	0	0	0	0	0	116	**15**	0	131	**10**	199	0	0	209	344
07:30 AM	4	0	1	0	**5**	0	0	0	0	0	0	85	7	0	92	8	204	0	0	212	309
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	98	5	0	103	8	211	0	0	219	322
Total Volume	8	0	2	0	10	0	0	0	0	0	0	452	32	0	484	30	847	0	0	877	1371
% App. Total	80	0	20	0		0	0	0	0		0	93.4	6.6	0		3.4	96.6	0	0		
PHF	.500	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.739	.533	.000	.766	.750	.909	.000	.000	.925	.866



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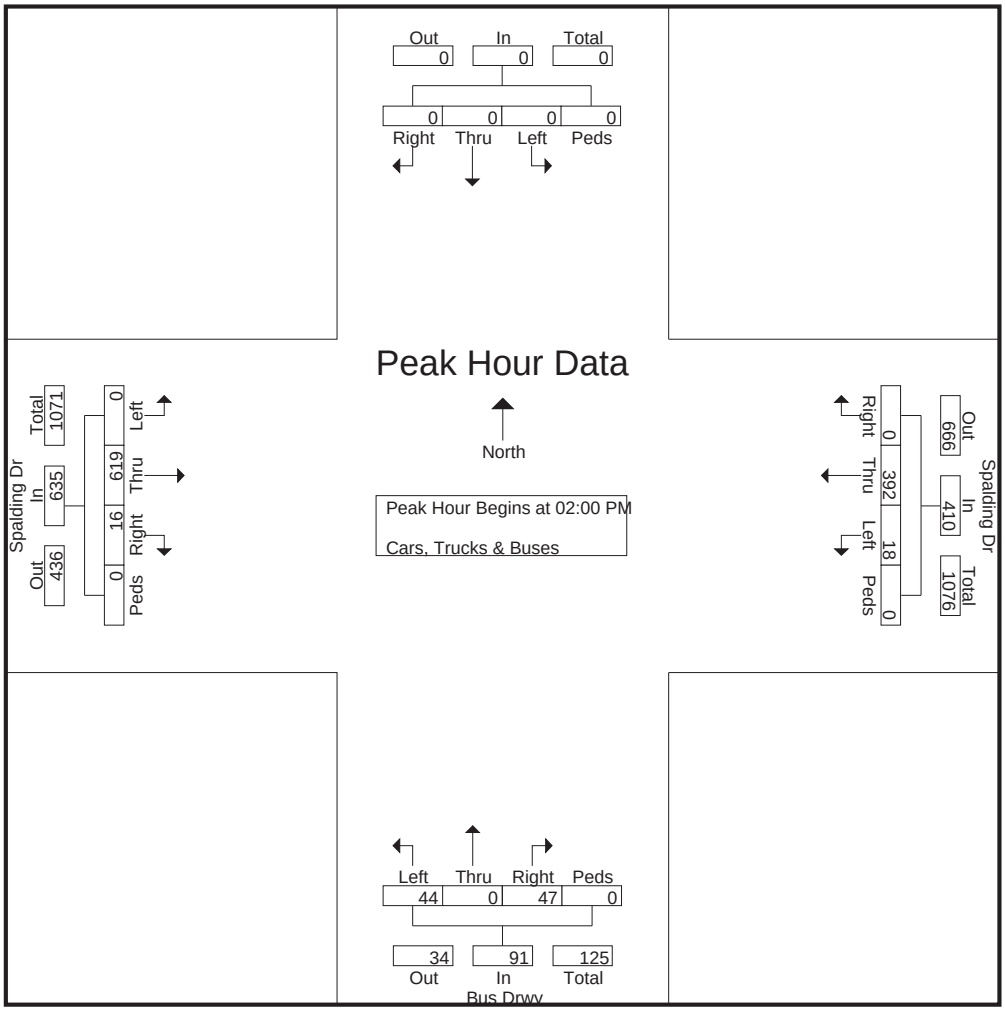
TMC Data
Spalding Dr @ Norcross High School
Bus Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230004
Site Code : 35230004
Start Date : 5/13/2014
Page No : 3

	Bus Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	1	0	1	0	2	0	0	0	0	0	0	139	2	0	141	3	92	0	0	95	238
02:15 PM	5	0	3	0	8	0	0	0	0	0	0	130	3	0	133	1	87	0	0	88	229
02:30 PM	2	0	4	0	6	0	0	0	0	0	0	153	0	0	153	0	**119**	0	0	**119**	278
02:45 PM	**36**	0	**39**	0	**75**	0	0	0	0	0	0	**197**	**11**	0	**208**	**14**	94	0	0	108	**391**
Total Volume	44	0	47	0	91	0	0	0	0	0	0	619	16	0	635	18	392	0	0	410	1136
% App. Total	48.4	0	51.6	0		0	0	0	0		0	97.5	2.5	0		4.4	95.6	0	0		
PHF	.306	.000	.301	.000	.303	.000	.000	.000	.000	.000	.000	.786	.364	.000	.763	.321	.824	.000	.000	.861	.726



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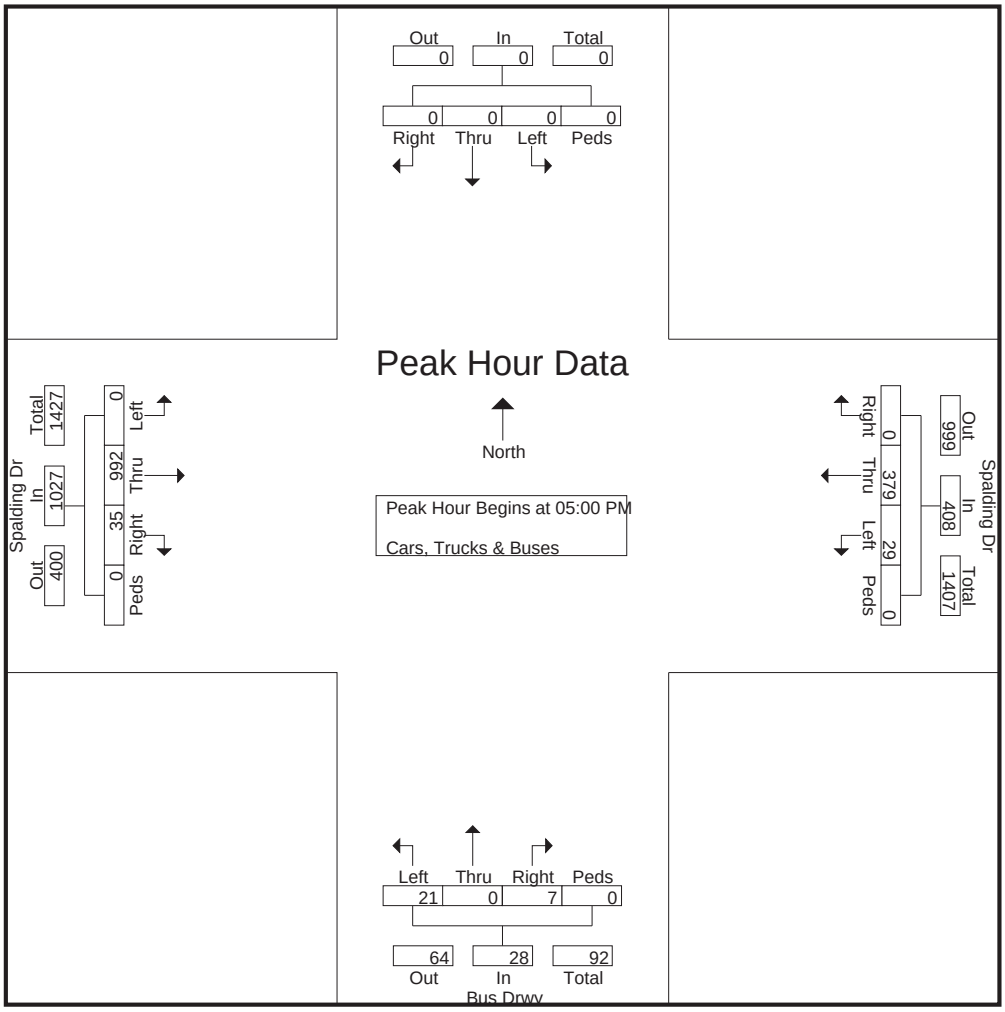
TMC Data
Spalding Dr @ Norcross High School
Bus Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230004
Site Code : 35230004
Start Date : 5/13/2014
Page No : 4

	Bus Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	4	0	**2**	0	6	0	0	0	0	0	0	240	7	0	247	6	87	0	0	93	346
05:15 PM	6	0	2	0	8	0	0	0	0	0	0	246	9	0	255	6	**102**	0	0	**108**	371
05:30 PM	3	0	1	0	4	0	0	0	0	0	0	251	7	0	258	6	97	0	0	103	365
05:45 PM	**8**	0	2	0	**10**	0	0	0	0	0	0	**255**	**12**	0	**267**	**11**	93	0	0	104	**381**
Total Volume	21	0	7	0	28	0	0	0	0	0	0	992	35	0	1027	29	379	0	0	408	1463
% App. Total	75	0	25	0		0	0	0	0		0	96.6	3.4	0		7.1	92.9	0	0		
PHF	.656	.000	.875	.000	.700	.000	.000	.000	.000	.000	.000	.973	.729	.000	.962	.659	.929	.000	.000	.944	.960



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TMC Data
Spalding Dr @ Spalding Terrace

6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230005
Site Code : 35230005
Start Date : 5/13/2014
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Northbound					Spalding Terrace Southbound					Spalding Dr Eastbound					Spalding 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
06:30 AM	0	0	0	0	0	1	0	0	0	1	0	76	0	0	76	0	148	0	0	148	225
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	84	0	0	84	0	158	0	0	158	242
Total	0	0	0	0	0	1	0	0	0	1	0	160	0	0	160	0	306	0	0	306	467
07:00 AM	0	0	0	0	0	3	0	6	0	9	5	145	0	0	150	0	196	1	0	197	356
07:15 AM	0	0	0	0	0	0	0	13	0	13	5	142	0	0	147	0	231	4	0	235	395
07:30 AM	0	0	0	0	0	1	0	2	0	3	0	100	0	0	100	0	203	0	0	203	306
07:45 AM	0	0	0	0	0	0	0	2	0	2	0	103	0	0	103	0	214	1	0	215	320
Total	0	0	0	0	0	4	0	23	0	27	10	490	0	0	500	0	844	6	0	850	1377
08:00 AM	0	0	0	0	0	0	0	2	0	2	0	97	0	0	97	0	210	0	0	210	309
08:15 AM	0	0	0	0	0	3	0	1	0	4	1	86	0	0	87	0	218	0	0	218	309
*** BREAK ***																					
Total	0	0	0	0	0	3	0	3	0	6	1	183	0	0	184	0	428	0	0	428	618
*** BREAK ***																					
02:00 PM	0	0	0	0	0	1	0	0	0	1	1	150	0	0	151	0	99	1	0	100	252
02:15 PM	0	0	0	0	0	0	0	0	0	0	1	131	0	0	132	0	84	1	0	85	217
02:30 PM	0	0	0	0	0	2	0	1	0	3	4	142	0	0	146	0	118	1	0	119	268
02:45 PM	0	0	0	0	0	0	0	3	0	3	3	251	0	0	254	0	101	0	0	101	358
Total	0	0	0	0	0	3	0	4	0	7	9	674	0	0	683	0	402	3	0	405	1095
*** BREAK ***																					
05:00 PM	0	0	0	0	0	0	0	2	0	2	1	247	0	0	248	0	105	4	0	109	359
05:15 PM	0	0	0	0	0	1	0	1	0	2	3	235	0	0	238	0	87	0	0	87	327
05:30 PM	0	0	0	0	0	2	0	1	0	3	5	249	0	0	254	0	95	1	0	96	353
05:45 PM	0	0	0	0	0	0	0	1	0	1	1	253	0	0	254	0	97	0	0	97	352
Total	0	0	0	0	0	3	0	5	0	8	10	984	0	0	994	0	384	5	0	389	1391
Grand Total	0	0	0	0	0	14	0	35	0	49	30	2491	0	0	2521	0	2364	14	0	2378	4948
Apprch %	0	0	0	0		28.6	0	71.4	0		1.2	98.8	0	0		0	99.4	0.6	0		
Total %	0	0	0	0	0	0.3	0	0.7	0	1	0.6	50.3	0	0	50.9	0	47.8	0.3	0	48.1	

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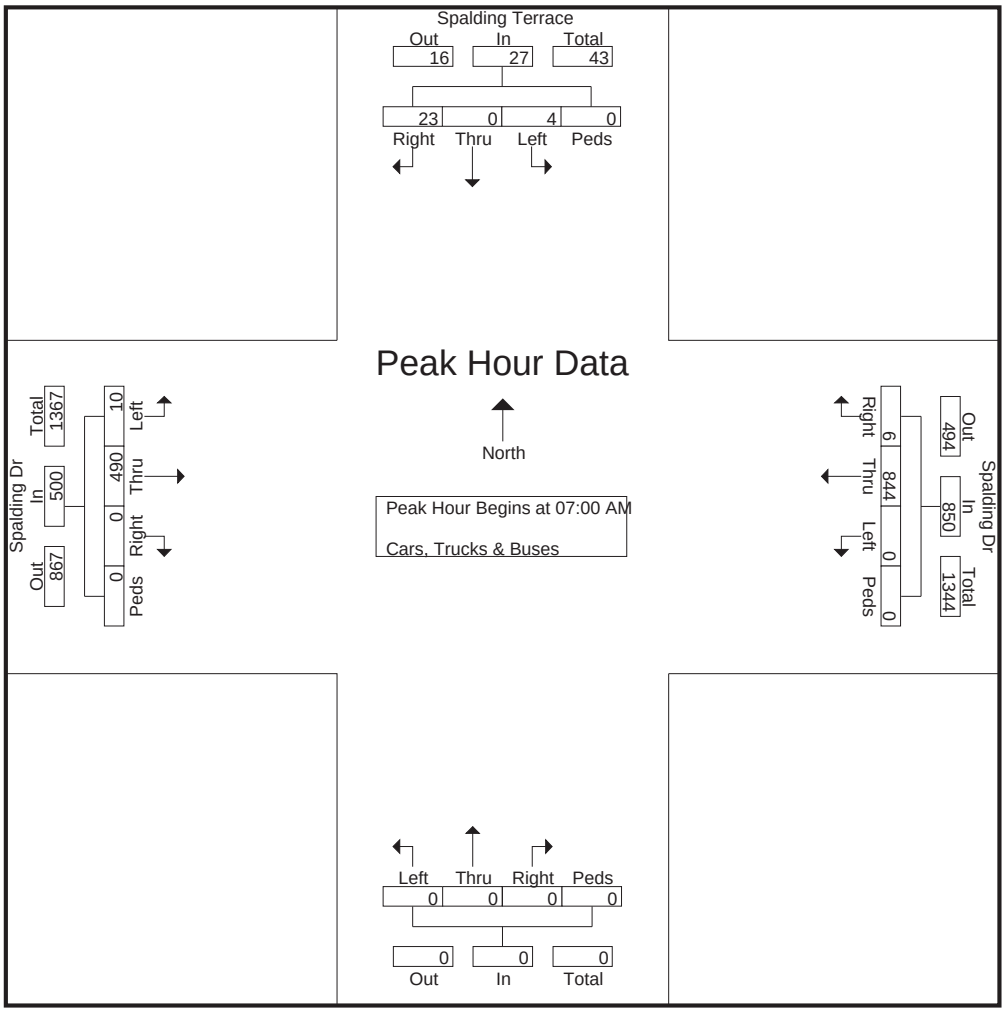
TMC Data
Spalding Dr @ Spalding Terrace

6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230005
Site Code : 35230005
Start Date : 5/13/2014
Page No : 2

	Northbound					Spalding Terrace Southbound					Spalding Dr Eastbound					Spalding 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 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	**3**	0	6	0	9	**5**	**145**	0	0	**150**	0	196	1	0	197	356
07:15 AM	0	0	0	0	0	0	0	**13**	0	**13**	5	142	0	0	147	0	**231**	**4**	0	**235**	**395**
07:30 AM	0	0	0	0	0	1	0	2	0	3	0	100	0	0	100	0	203	0	0	203	306
07:45 AM	0	0	0	0	0	0	0	2	0	2	0	103	0	0	103	0	214	1	0	215	320
Total Volume	0	0	0	0	0	4	0	23	0	27	10	490	0	0	500	0	844	6	0	850	1377
% App. Total	0	0	0	0		14.8	0	85.2	0		2	98	0	0		0	99.3	0.7	0		
PHF	.000	.000	.000	.000	.000	.333	.000	.442	.000	.519	.500	.845	.000	.000	.833	.000	.913	.375	.000	.904	.872



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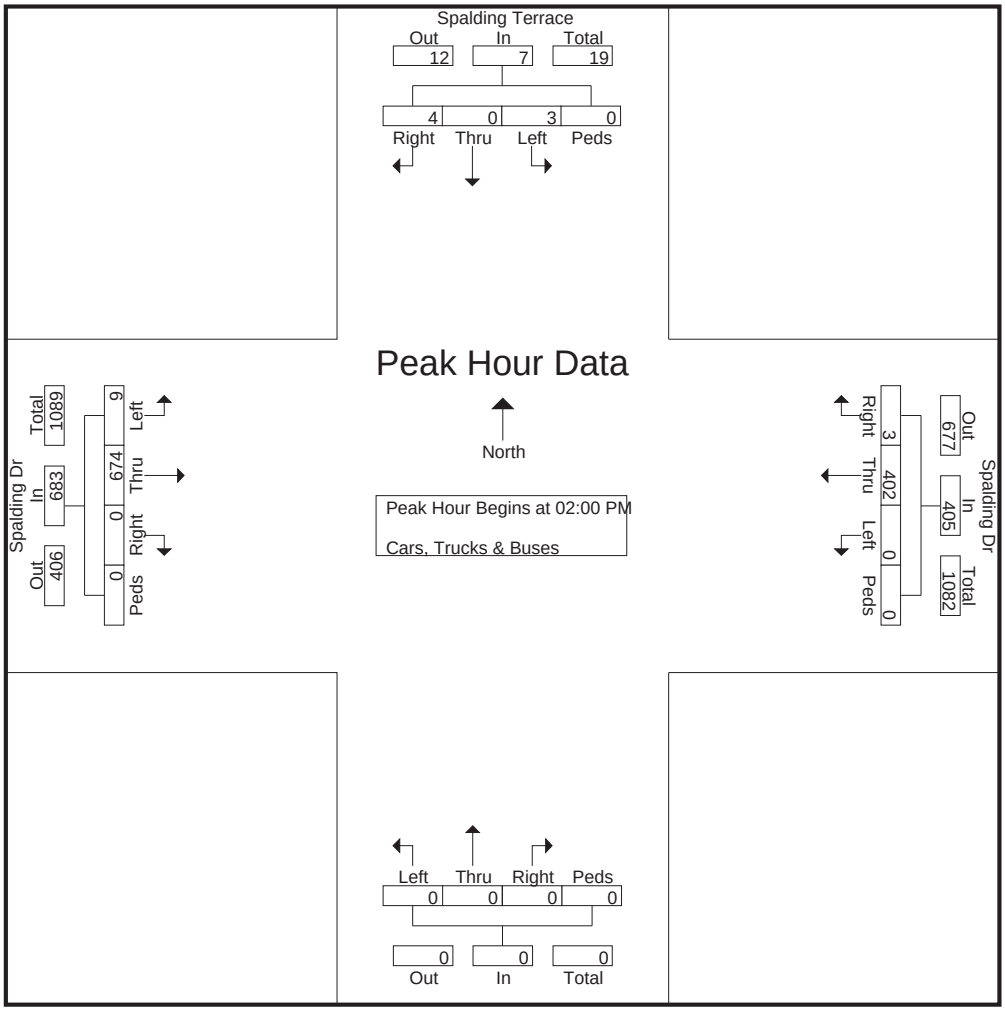
TMC Data
Spalding Dr @ Spalding Terrace

6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230005
Site Code : 35230005
Start Date : 5/13/2014
Page No : 3

	Northbound					Spalding Terrace Southbound					Spalding Dr Eastbound					Spalding 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 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	0	0	0	0	0	1	0	0	0	1	1	150	0	0	151	0	99	**1**	0	100	252
02:15 PM	0	0	0	0	0	0	0	0	0	0	1	131	0	0	132	0	84	1	0	85	217
02:30 PM	0	0	0	0	0	**2**	0	1	0	**3**	**4**	142	0	0	146	0	**118**	1	0	**119**	268
02:45 PM	0	0	0	0	0	0	0	**3**	0	3	3	**251**	0	0	**254**	0	101	0	0	101	**358**
Total Volume	0	0	0	0	0	3	0	4	0	7	9	674	0	0	683	0	402	3	0	405	1095
% App. Total	0	0	0	0		42.9	0	57.1	0		1.3	98.7	0	0		0	99.3	0.7	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.333	.000	.583	.563	.671	.000	.000	.672	.000	.852	.750	.000	.851	.765



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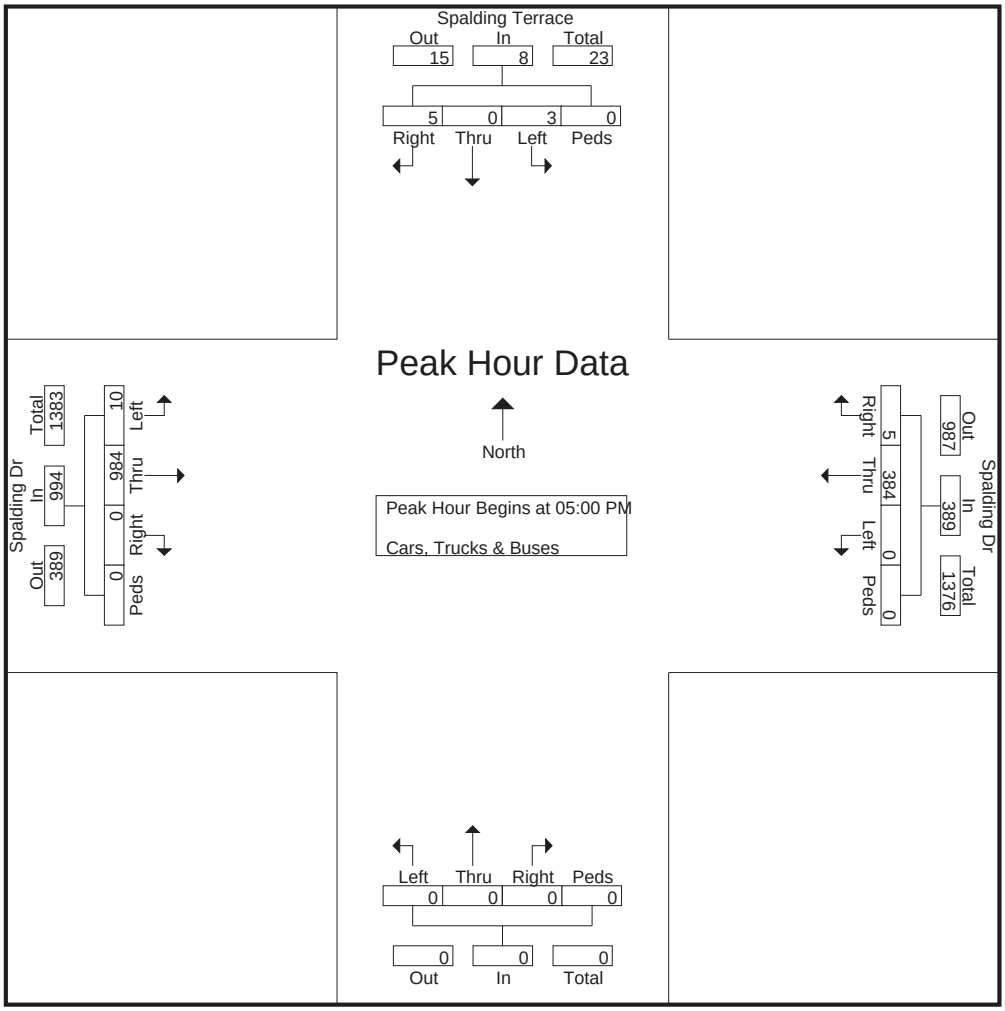
TMC Data
Spalding Dr @ Spalding Terrace

6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230005
Site Code : 35230005
Start Date : 5/13/2014
Page No : 4

	Northbound					Spalding Terrace Southbound					Spalding Dr Eastbound					Spalding 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 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	**2**	0	2	1	247	0	0	248	0	**105**	**4**	0	**109**	**359**
05:15 PM	0	0	0	0	0	1	0	1	0	2	3	235	0	0	238	0	87	0	0	87	327
05:30 PM	0	0	0	0	0	**2**	0	1	0	**3**	**5**	249	0	0	**254**	0	95	1	0	96	353
05:45 PM	0	0	0	0	0	0	0	1	0	1	1	**253**	0	0	254	0	97	0	0	97	352
Total Volume	0	0	0	0	0	3	0	5	0	8	10	984	0	0	994	0	384	5	0	389	1391
% App. Total	0	0	0	0		37.5	0	62.5	0		1	99	0	0		0	98.7	1.3	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.625	.000	.667	.500	.972	.000	.000	.978	.000	.914	.313	.000	.892	.969



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TMC Data
Spalding Dr @ Norcross High School
Eastern Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230006
Site Code : 35230006
Start Date : 5/13/2014
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Eastern Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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
06:30 AM	5	0	23	0	28	0	0	0	0	0	0	58	22	0	80	29	146	0	0	175	283
06:45 AM	8	0	30	0	38	0	0	0	0	0	0	89	40	0	129	66	184	0	0	250	417
Total	13	0	53	0	66	0	0	0	0	0	0	147	62	0	209	95	330	0	0	425	700
07:00 AM	18	0	62	0	80	0	0	0	0	0	0	121	28	0	149	61	195	0	0	256	485
07:15 AM	5	0	39	0	44	0	0	0	0	0	0	98	10	0	108	24	172	0	0	196	348
07:30 AM	3	0	12	0	15	0	0	0	0	0	0	87	0	0	87	3	196	0	0	199	301
07:45 AM	1	0	9	0	10	0	0	0	0	0	0	110	2	0	112	2	224	0	0	226	348
Total	27	0	122	0	149	0	0	0	0	0	0	416	40	0	456	90	787	0	0	877	1482
08:00 AM	1	0	11	0	12	0	0	0	0	0	0	91	1	0	92	2	190	0	0	192	296
08:15 AM	1	0	10	0	11	0	0	0	0	0	0	83	2	0	85	2	215	0	0	217	313
*** BREAK ***																					
Total	2	0	21	0	23	0	0	0	0	0	0	174	3	0	177	4	405	0	0	409	609
*** BREAK ***																					
02:00 PM	1	0	10	0	11	0	0	0	0	0	0	142	3	0	145	24	99	0	0	123	279
02:15 PM	1	0	19	0	20	0	0	0	0	0	0	120	21	0	141	33	85	0	0	118	279
02:30 PM	4	0	32	0	36	0	0	0	0	0	0	138	4	0	142	20	108	0	0	128	306
02:45 PM	4	0	50	0	54	0	0	0	0	0	0	229	4	0	233	14	98	0	0	112	399
Total	10	0	111	0	121	0	0	0	0	0	0	629	32	0	661	91	390	0	0	481	1263
*** BREAK ***																					
05:00 PM	1	0	23	0	24	0	0	0	0	0	0	235	4	0	239	6	105	0	0	111	374
05:15 PM	0	0	14	0	14	0	0	0	0	0	0	249	2	0	251	4	84	0	0	88	353
05:30 PM	1	0	17	0	18	0	0	0	0	0	0	247	1	0	248	8	98	0	0	106	372
05:45 PM	4	0	11	0	15	0	0	0	0	0	0	236	1	0	237	17	91	0	0	108	360
Total	6	0	65	0	71	0	0	0	0	0	0	967	8	0	975	35	378	0	0	413	1459
Grand Total	58	0	372	0	430	0	0	0	0	0	0	2333	145	0	2478	315	2290	0	0	2605	5513
Apprch %	13.5	0	86.5	0		0	0	0	0		0	94.1	5.9	0		12.1	87.9	0	0		
Total %	1.1	0	6.7	0	7.8	0	0	0	0	0	0	42.3	2.6	0	44.9	5.7	41.5	0	0	47.3	

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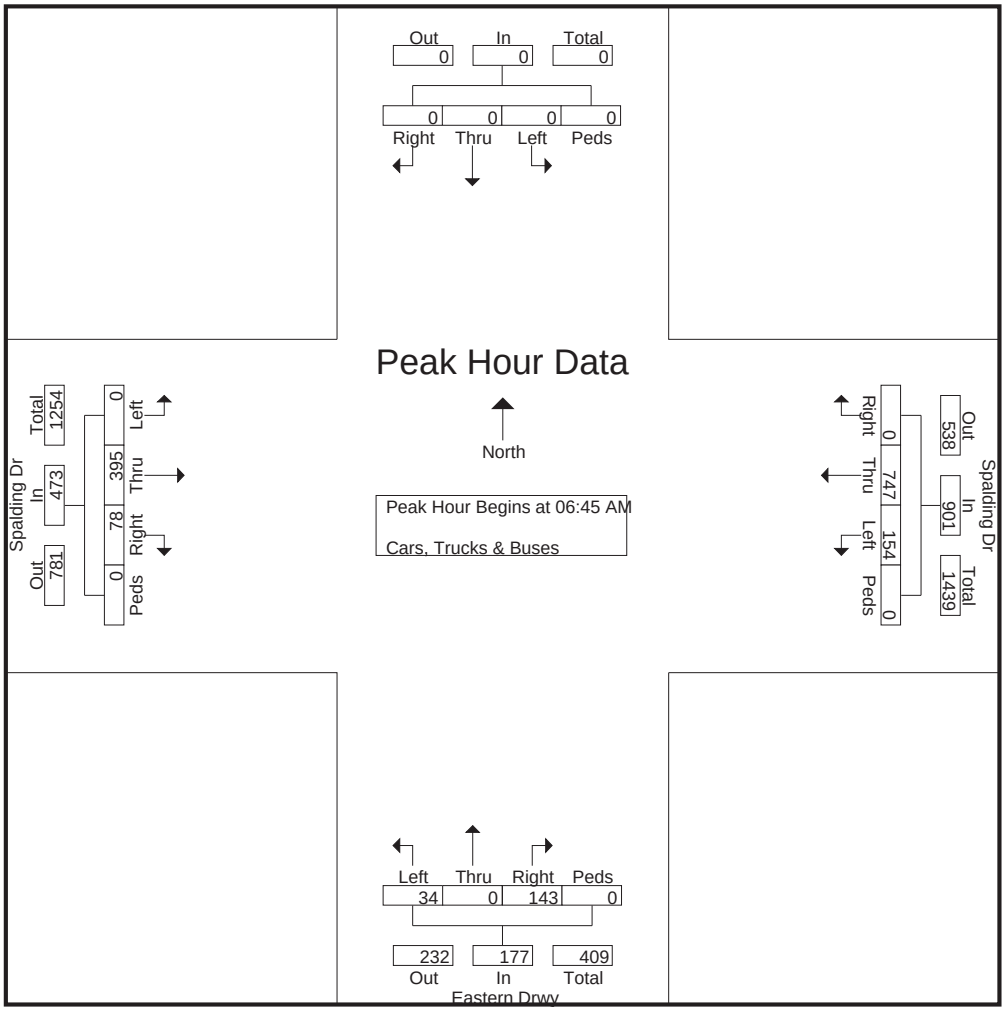
TMC Data
Spalding Dr @ Norcross High School
Eastern Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230006
Site Code : 35230006
Start Date : 5/13/2014
Page No : 2

	Eastern Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	8	0	30	0	38	0	0	0	0	0	0	89	**40**	0	129	**66**	184	0	0	250	417
07:00 AM	**18**	0	**62**	0	**80**	0	0	0	0	0	0	**121**	28	0	**149**	61	195	0	0	**256**	**485**
07:15 AM	5	0	39	0	44	0	0	0	0	0	0	98	10	0	108	24	172	0	0	196	348
07:30 AM	3	0	12	0	15	0	0	0	0	0	0	87	0	0	87	3	**196**	0	0	199	301
Total Volume	34	0	143	0	177	0	0	0	0	0	0	395	78	0	473	154	747	0	0	901	1551
% App. Total	19.2	0	80.8	0		0	0	0	0		0	83.5	16.5	0		17.1	82.9	0	0		
PHF	.472	.000	.577	.000	.553	.000	.000	.000	.000	.000	.000	.816	.488	.000	.794	.583	.953	.000	.000	.880	.799



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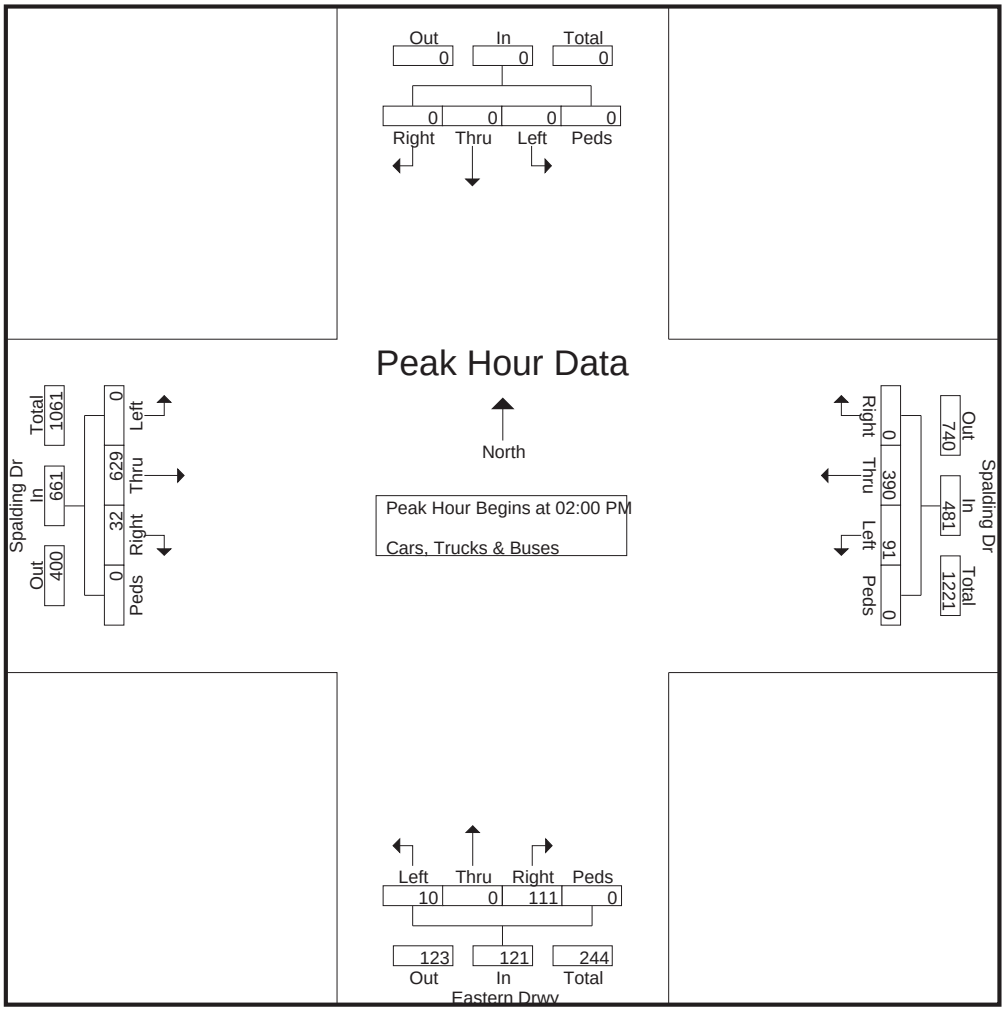
TMC Data
Spalding Dr @ Norcross High School
Eastern Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230006
Site Code : 35230006
Start Date : 5/13/2014
Page No : 3

	Eastern Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	1	0	10	0	11	0	0	0	0	0	0	142	3	0	145	24	99	0	0	123	279
02:15 PM	1	0	19	0	20	0	0	0	0	0	0	120	**21**	0	141	**33**	85	0	0	118	279
02:30 PM	**4**	0	32	0	36	0	0	0	0	0	0	138	4	0	142	20	**108**	0	0	**128**	306
02:45 PM	4	0	**50**	0	**54**	0	0	0	0	0	0	**229**	4	0	**233**	14	98	0	0	112	**399**
Total Volume	10	0	111	0	121	0	0	0	0	0	0	629	32	0	661	91	390	0	0	481	1263
% App. Total	8.3	0	91.7	0		0	0	0	0		0	95.2	4.8	0		18.9	81.1	0	0		
PHF	.625	.000	.555	.000	.560	.000	.000	.000	.000	.000	.000	.687	.381	.000	.709	.689	.903	.000	.000	.939	.791



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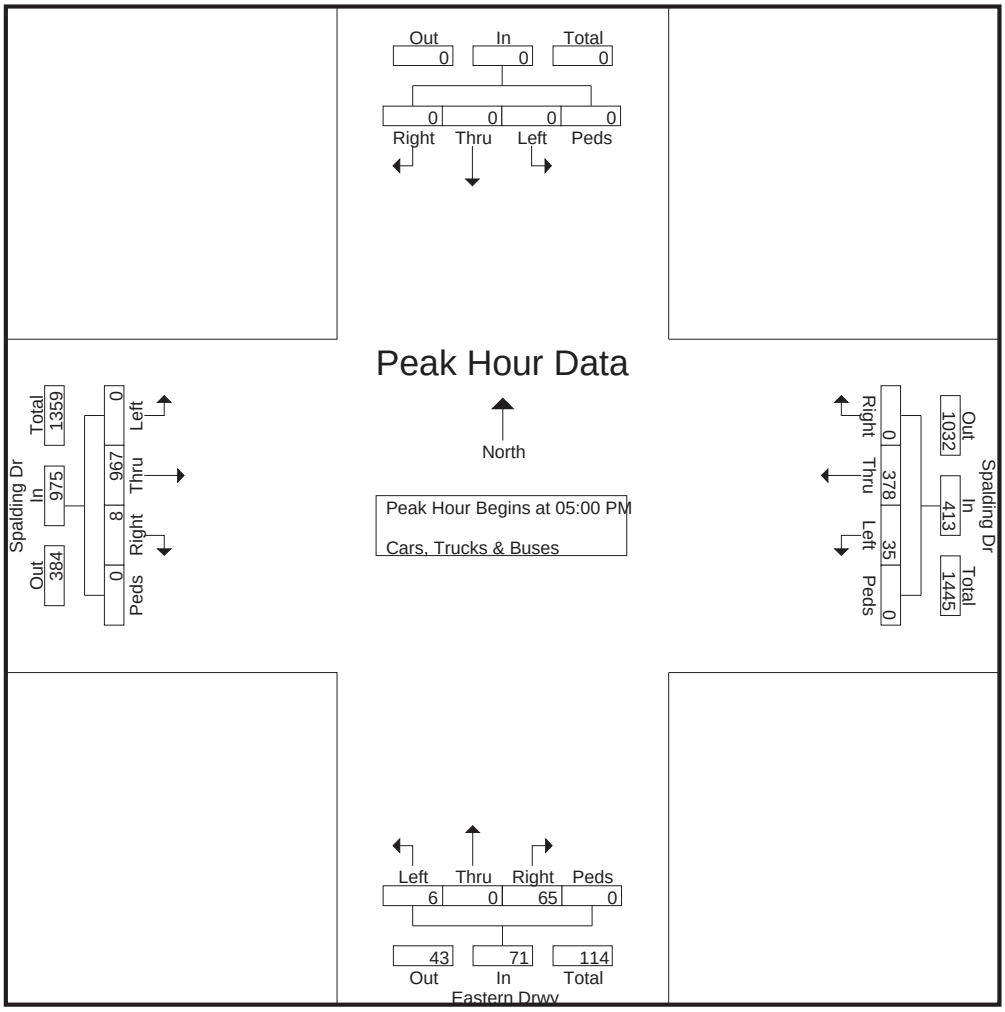
TMC Data
Spalding Dr @ Norcross High School
Eastern Drwy
6.30-8.30am | 2-3pm I 5-6pm

File Name : 35230006
Site Code : 35230006
Start Date : 5/13/2014
Page No : 4

	Eastern Drwy Northbound					Southbound					Spalding Dr Eastbound					Spalding 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 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	**23**	0	**24**	0	0	0	0	0	0	235	**4**	0	239	6	**105**	0	0	**111**	**374**
05:15 PM	0	0	14	0	14	0	0	0	0	0	0	**249**	2	0	**251**	4	84	0	0	88	353
05:30 PM	1	0	17	0	18	0	0	0	0	0	0	247	1	0	248	8	98	0	0	106	372
05:45 PM	**4**	0	11	0	15	0	0	0	0	0	0	236	1	0	237	**17**	91	0	0	108	360
Total Volume	6	0	65	0	71	0	0	0	0	0	0	967	8	0	975	35	378	0	0	413	1459
% App. Total	8.5	0	91.5	0		0	0	0	0		0	99.2	0.8	0		8.5	91.5	0	0		
PHF	.375	.000	.707	.000	.740	.000	.000	.000	.000	.000	.000	.971	.500	.000	.971	.515	.900	.000	.000	.930	.975



Existing Intersection Analysis - HCM

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	56	394	285	464	23	17	172	45	71	60
Lane Group Flow (vph)	76	871	385	706	0	68	453	0	231	130
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	67.0	28.0	87.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	6.7%	55.8%	23.3%	72.5%	20.8%	20.8%	20.8%	20.8%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.18	0.96	0.86	0.56		0.37	0.75		0.84	0.34
Control Delay	7.4	48.1	50.6	10.5		49.6	16.8		71.3	10.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	7.4	48.1	50.6	10.5		49.6	16.8		71.3	10.0
Queue Length 50th (ft)	13	583	230	236		46	40		173	0
Queue Length 95th (ft)	20	313	263	325		52	0		138	0
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	433	1085	466	1390		207	627		309	417
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.18	0.80	0.83	0.51		0.33	0.72		0.75	0.31

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	394	87	285	464	115	23	17	172	45	71	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	1.00
Satd. Flow (prot)	1770	1822		1770	1790			1815	1583		1826	1583
Flt Permitted	0.40	1.00		0.07	1.00			0.56	1.00		0.84	1.00
Satd. Flow (perm)	739	1822		126	1790			1045	1583		1564	1583
Peak-hour factor, PHF	0.74	0.53	0.68	0.74	0.89	0.62	0.64	0.53	0.38	0.49	0.51	0.46
Adj. Flow (vph)	76	743	128	385	521	185	36	32	453	92	139	130
RTOR Reduction (vph)	0	5	0	0	11	0	0	0	323	0	0	107
Lane Group Flow (vph)	76	866	0	385	695	0	0	68	130	0	231	23
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	58.0	55.0		82.5	75.5			19.2	19.2		19.2	19.2
Effective Green, g (s)	58.0	55.0		82.5	75.5			19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.53	0.50		0.75	0.69			0.18	0.18		0.18	0.18
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	419	913		447	1232			183	277		274	277
v/s Ratio Prot	0.00	c0.48		c0.18	0.39							
v/s Ratio Perm	0.09			0.46				0.07	0.08		c0.15	0.01
v/c Ratio	0.18	0.95		0.86	0.56			0.37	0.47		0.84	0.08
Uniform Delay, d1	12.7	26.0		34.1	8.7			39.9	40.7		43.8	37.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	18.3		15.5	0.6			1.3	1.3		20.4	0.1
Delay (s)	12.9	44.2		49.6	9.3			41.2	41.9		64.2	38.0
Level of Service	B	D		D	A			D	D		E	D
Approach Delay (s)		41.7			23.5			41.8			54.7	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	368	362	199	806	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.44	0.44	0.86	0.92	0.92
Hourly flow rate (vph)	387	823	452	937	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked					0.62	
vC, conflicting volume			387		2229	387
vC1, stage 1 conf vol					387	
vC2, stage 2 conf vol					1842	
vCu, unblocked vol			387		2670	387
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	100
cM capacity (veh/h)			1171		40	661

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	387	823	452	937
Volume Left	0	0	452	0
Volume Right	0	823	0	0
cSH	1700	1700	1171	1700
Volume to Capacity	0.23	0.48	0.39	0.55
Queue Length 95th (ft)	0	0	46	0
Control Delay (s)	0.0	0.0	10.0	0.0
Lane LOS			A	
Approach Delay (s)	0.0		3.3	
Approach LOS				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	364	808	169	156
Lane Group Flow (vph)	414	951	338	312
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.20	0.86	0.68	0.47
Control Delay	7.1	21.6	35.6	6.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.1	21.6	35.6	6.2
Queue Length 50th (ft)	38	303	131	0
Queue Length 95th (ft)	78	580	163	0
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3211	1690	898	957
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.56	0.38	0.33

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 75.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	364	0	0	808	169	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.88	0.92	0.92	0.85	0.50	0.50
Adj. Flow (vph)	414	0	0	951	338	312
RTOR Reduction (vph)	0	0	0	0	0	223
Lane Group Flow (vph)	414	0	0	951	338	89
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	44.7			44.7	21.1	21.1
Effective Green, g (s)	44.7			44.7	21.1	21.1
Actuated g/C Ratio	0.61			0.61	0.29	0.29
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2144			1128	506	453
v/s Ratio Prot	0.12			c0.51	c0.19	
v/s Ratio Perm						0.06
v/c Ratio	0.19			0.84	0.67	0.20
Uniform Delay, d1	6.5			11.7	23.3	19.9
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.0			5.9	3.3	0.2
Delay (s)	6.5			17.6	26.6	20.2
Level of Service	A			B	C	C
Approach Delay (s)	6.5			17.6	23.5	
Approach LOS	A			B	C	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	452	32	30	847	8	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.53	0.75	0.91	0.50	0.50
Hourly flow rate (vph)	611	60	40	931	16	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.93		0.93	0.93
vC, conflicting volume			611		1622	611
vC1, stage 1 conf vol					611	
vC2, stage 2 conf vol					1011	
vCu, unblocked vol			541		1631	541
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			96		95	99
cM capacity (veh/h)			953		292	502

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	611	60	40	931	20
Volume Left	0	0	40	0	16
Volume Right	0	60	0	0	4
cSH	1700	1700	953	1700	319
Volume to Capacity	0.36	0.04	0.04	0.55	0.06
Queue Length 95th (ft)	0	0	3	0	5
Control Delay (s)	0.0	0.0	8.9	0.0	17.0
Lane LOS			A		C
Approach Delay (s)	0.0		0.4		17.0
Approach LOS					C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	490	844	6	4	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.84	0.91	0.38	0.33	0.44
Hourly flow rate (vph)	20	583	927	16	12	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked						
vC, conflicting volume	943				1267	935
vC1, stage 1 conf vol					935	
vC2, stage 2 conf vol					332	
vCu, unblocked vol	943				1267	935
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	80
cM capacity (veh/h)	723				319	267

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	20	292	292	943	64
Volume Left	20	0	0	0	12
Volume Right	0	0	0	16	52
cSH	723	1700	1700	1700	275
Volume to Capacity	0.03	0.17	0.17	0.55	0.23
Queue Length 95th (ft)	2	0	0	0	22
Control Delay (s)	10.1	0.0	0.0	0.0	22.0
Lane LOS	B				C
Approach Delay (s)	0.3			0.0	22.0
Approach LOS					C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	395	78	154	747	34	143
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.49	0.58	0.95	0.47	0.58
Hourly flow rate (vph)	482	159	266	786	72	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked						
vC, conflicting volume			482		1799	482
vC1, stage 1 conf vol					482	
vC2, stage 2 conf vol					1317	
vCu, unblocked vol			482		1799	482
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			75		60	58
cM capacity (veh/h)			1081		180	585

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	482	159	266	786	247
Volume Left	0	0	266	0	0
Volume Right	0	159	0	0	247
cSH	1700	1700	1081	1700	585
Volume to Capacity	0.28	0.09	0.25	0.46	0.42
Queue Length 95th (ft)	0	0	24	0	52
Control Delay (s)	0.0	0.0	9.4	0.0	15.6
Lane LOS			A		C
Approach Delay (s)	0.0		2.4		Err
Approach LOS					F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	18	504	112	425	77	3	88	5	7	20
Lane Group Flow (vph)	44	640	273	602	0	104	96	0	20	24
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	72.0	25.0	89.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	6.7%	60.0%	20.8%	74.2%	19.2%	19.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.09	0.85	0.47	0.47		0.42	0.26		0.07	0.08
Control Delay	5.8	29.5	9.5	8.7		32.9	9.1		27.4	13.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	5.8	29.5	9.5	8.7		32.9	9.1		27.4	13.2
Queue Length 50th (ft)	4	197	28	125		33	0		6	0
Queue Length 95th (ft)	6	438	27	171		85	40		18	18
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	469	1711	803	1833		484	632		590	587
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.09	0.37	0.34	0.33		0.21	0.15		0.03	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 60.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	504	105	112	425	7	77	3	88	5	7	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.97		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (prot)	1770	1813		1770	1857			1777	1583		1826	1583
Flt Permitted	0.44	1.00		0.16	1.00			0.72	1.00		0.88	1.00
Satd. Flow (perm)	814	1813		292	1857			1341	1583		1636	1583
Peak-hour factor, PHF	0.41	0.96	0.91	0.41	0.72	0.58	0.77	0.75	0.92	0.62	0.58	0.83
Adj. Flow (vph)	44	525	115	273	590	12	100	4	96	8	12	24
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	83	0	0	21
Lane Group Flow (vph)	44	632	0	273	601	0	0	104	13	0	20	3
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	29.1	27.1		46.0	40.0			8.5	8.5		8.5	8.5
Effective Green, g (s)	29.1	27.1		46.0	40.0			8.5	8.5		8.5	8.5
Actuated g/C Ratio	0.47	0.43		0.74	0.64			0.14	0.14		0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	410	786		567	1188			182	215		222	215
v/s Ratio Prot	0.00	c0.35		c0.11	0.32							
v/s Ratio Perm	0.05			0.24				c0.08	0.01		0.01	0.00
v/c Ratio	0.11	0.80		0.48	0.51			0.57	0.06		0.09	0.02
Uniform Delay, d1	9.4	15.4		7.3	6.0			25.3	23.5		23.6	23.4
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	6.0		0.6	0.3			4.3	0.1		0.2	0.0
Delay (s)	9.6	21.3		7.9	6.3			29.6	23.6		23.8	23.4
Level of Service	A	C		A	A			C	C		C	C
Approach Delay (s)		20.6			6.8			26.7			23.6	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	530	55	35	532	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.44	0.25	0.61	0.92	0.92
Hourly flow rate (vph)	564	125	140	872	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked			0.75		0.86	0.75
vC, conflicting volume			564		1716	564
vC1, stage 1 conf vol					564	
vC2, stage 2 conf vol					1152	
vCu, unblocked vol			256		1190	256
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	100
cM capacity (veh/h)			985		218	589

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	564	125	140	872
Volume Left	0	0	140	0
Volume Right	0	125	0	0
cSH	1700	1700	985	1700
Volume to Capacity	0.33	0.07	0.14	0.51
Queue Length 95th (ft)	0	0	12	0
Control Delay (s)	0.0	0.0	9.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		1.3	
Approach LOS				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	513	446	127	134
Lane Group Flow (vph)	597	537	282	353
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.40	0.69	0.46	0.48
Control Delay	8.6	14.3	13.4	5.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.6	14.3	13.4	5.6
Queue Length 50th (ft)	36	73	40	9
Queue Length 95th (ft)	84	176	53	0
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3539	1863	1689	1524
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.29	0.17	0.23

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 37.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	513	0	0	446	127	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.86	0.92	0.92	0.83	0.45	0.38
Adj. Flow (vph)	597	0	0	537	282	353
RTOR Reduction (vph)	0	0	0	0	0	183
Lane Group Flow (vph)	597	0	0	537	282	170
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	15.8			15.8	13.1	13.1
Effective Green, g (s)	15.8			15.8	13.1	13.1
Actuated g/C Ratio	0.43			0.43	0.36	0.36
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1515			798	628	562
v/s Ratio Prot	0.17			c0.29	c0.16	
v/s Ratio Perm						0.11
v/c Ratio	0.39			0.67	0.45	0.30
Uniform Delay, d1	7.3			8.5	9.1	8.6
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.2			2.2	0.5	0.3
Delay (s)	7.4			10.7	9.6	8.9
Level of Service	A			B	A	A
Approach Delay (s)	7.4			10.7	9.2	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	36.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	619	16	18	392	44	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.36	0.32	0.82	0.31	0.30
Hourly flow rate (vph)	784	44	56	478	142	157
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.83		0.83	0.83
vC, conflicting volume			784		1374	784
vC1, stage 1 conf vol					784	
vC2, stage 2 conf vol					591	
vCu, unblocked vol			640		1349	640
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			93		59	60
cM capacity (veh/h)			787		348	396

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	784	44	56	478	299
Volume Left	0	0	56	0	142
Volume Right	0	44	0	0	157
cSH	1700	1700	787	1700	372
Volume to Capacity	0.46	0.03	0.07	0.28	0.80
Queue Length 95th (ft)	0	0	6	0	174
Control Delay (s)	0.0	0.0	9.9	0.0	44.4
Lane LOS			A		E
Approach Delay (s)	0.0		1.0		44.4
Approach LOS					E

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	9	674	402	3	3	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.56	0.67	0.85	0.75	0.38	0.33
Hourly flow rate (vph)	16	1006	473	4	8	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked						
vC, conflicting volume	477				1010	475
vC1, stage 1 conf vol					475	
vC2, stage 2 conf vol					535	
vCu, unblocked vol	477				1010	475
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	1082				443	536

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	16	503	503	477	20
Volume Left	16	0	0	0	8
Volume Right	0	0	0	4	12
cSH	1082	1700	1700	1700	495
Volume to Capacity	0.01	0.30	0.30	0.28	0.04
Queue Length 95th (ft)	1	0	0	0	3
Control Delay (s)	8.4	0.0	0.0	0.0	12.6
Lane LOS	A				B
Approach Delay (s)	0.1			0.0	12.6
Approach LOS					B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	629	32	91	390	10	111
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.69	0.38	0.69	0.90	0.62	0.56
Hourly flow rate (vph)	912	84	132	433	16	198
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			0.90		0.90	0.90
vC, conflicting volume			912		1609	912
vC1, stage 1 conf vol					912	
vC2, stage 2 conf vol					697	
vCu, unblocked vol			845		1621	845
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			81		94	39
cM capacity (veh/h)			711		281	326

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	912	84	132	433	198
Volume Left	0	0	132	0	0
Volume Right	0	84	0	0	198
cSH	1700	1700	711	1700	326
Volume to Capacity	0.54	0.05	0.19	0.25	0.61
Queue Length 95th (ft)	0	0	17	0	94
Control Delay (s)	0.0	0.0	11.2	0.0	31.8
Lane LOS			B		D
Approach Delay (s)	0.0		2.6		Err
Approach LOS					F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	12	584	59	371	153	20	452	24	13	20
Lane Group Flow (vph)	24	672	76	432	0	224	486	0	48	36
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	65.0	10.0	67.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	6.7%	54.2%	8.3%	55.8%	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.05	0.84	0.24	0.45		0.55	0.72		0.11	0.07
Control Delay	8.1	28.0	9.3	13.1		28.4	17.1		21.5	8.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	8.1	28.0	9.3	13.1		28.4	17.1		21.5	8.4
Queue Length 50th (ft)	3	219	11	77		73	63		13	0
Queue Length 95th (ft)	10	505	36	263		97	242		45	7
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	479	1590	322	1628		912	1153		974	1072
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.05	0.42	0.24	0.27		0.25	0.42		0.05	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 65.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	584	52	59	371	13	153	20	452	24	13	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1770	1836		1770	1847			1789	1583		1803	1583
Flt Permitted	0.46	1.00		0.16	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	855	1836		289	1847			1362	1583		1454	1583
Peak-hour factor, PHF	0.50	0.96	0.81	0.78	0.91	0.54	0.83	0.50	0.93	0.75	0.81	0.56
Adj. Flow (vph)	24	608	64	76	408	24	184	40	486	32	16	36
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	198	0	0	25
Lane Group Flow (vph)	24	669	0	76	430	0	0	224	288	0	48	11
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	31.6	30.4		38.2	33.7			19.8	19.8		19.8	19.8
Effective Green, g (s)	31.6	30.4		38.2	33.7			19.8	19.8		19.8	19.8
Actuated g/C Ratio	0.47	0.46		0.57	0.51			0.30	0.30		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	422	837		265	933			404	470		432	470
v/s Ratio Prot	0.00	c0.36		c0.02	0.23							
v/s Ratio Perm	0.03			0.14				0.16	c0.18		0.03	0.01
v/c Ratio	0.06	0.80		0.29	0.46			0.55	0.61		0.11	0.02
Uniform Delay, d1	9.4	15.5		10.0	10.6			19.7	20.2		17.1	16.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	5.4		0.6	0.4			1.6	2.4		0.1	0.0
Delay (s)	9.5	20.9		10.6	11.0			21.4	22.5		17.2	16.6
Level of Service	A	C		B	B			C	C		B	B
Approach Delay (s)		20.5			10.9			22.2			16.9	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1032	9	4	434	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.56	0.33	0.93	0.92	0.92
Hourly flow rate (vph)	1064	16	12	467	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked			0.69		0.72	0.69
vC, conflicting volume			1064		1555	1064
vC1, stage 1 conf vol					1064	
vC2, stage 2 conf vol					491	
vCu, unblocked vol			871		1429	871
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			536		262	243

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	1064	16	12	467
Volume Left	0	0	12	0
Volume Right	0	16	0	0
cSH	1700	1700	536	1700
Volume to Capacity	0.63	0.01	0.02	0.27
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	0.0	0.0	11.9	0.0
Lane LOS			B	
Approach Delay (s)	0.0		0.3	
Approach LOS				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	1014	412	7	4
Lane Group Flow (vph)	1035	434	12	8
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	98.0	98.0	22.0	22.0
Total Split (%)	81.7%	81.7%	18.3%	18.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.31	0.25	0.03	0.02
Control Delay	1.3	1.5	13.6	9.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.3	1.5	13.6	9.8
Queue Length 50th (ft)	0	0	1	0
Queue Length 95th (ft)	68	61	8	4
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3539	1863	1111	997
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.23	0.01	0.01

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 30.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1014	0	0	412	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.98	0.92	0.92	0.95	0.58	0.50
Adj. Flow (vph)	1035	0	0	434	12	8
RTOR Reduction (vph)	0	0	0	0	0	8
Lane Group Flow (vph)	1035	0	0	434	12	0
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	24.5			24.5	0.9	0.9
Effective Green, g (s)	24.5			24.5	0.9	0.9
Actuated g/C Ratio	0.73			0.73	0.03	0.03
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2596			1367	48	43
v/s Ratio Prot	c0.29			0.23	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.40			0.32	0.25	0.01
Uniform Delay, d1	1.7			1.5	15.9	15.8
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.1	2.7	0.0
Delay (s)	1.8			1.7	18.6	15.9
Level of Service	A			A	B	B
Approach Delay (s)	1.8			1.7	17.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	33.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	992	35	29	379	21	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.73	0.66	0.93	0.66	0.88
Hourly flow rate (vph)	1023	48	44	408	32	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.63		0.63	0.63
vC, conflicting volume			1023		1518	1023
vC1, stage 1 conf vol					1023	
vC2, stage 2 conf vol					495	
vCu, unblocked vol			740		1529	740
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			92		88	97
cM capacity (veh/h)			544		262	262

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1023	48	44	408	40
Volume Left	0	0	44	0	32
Volume Right	0	48	0	0	8
cSH	1700	1700	544	1700	262
Volume to Capacity	0.60	0.03	0.08	0.24	0.15
Queue Length 95th (ft)	0	0	7	0	13
Control Delay (s)	0.0	0.0	12.2	0.0	21.2
Lane LOS			B		C
Approach Delay (s)	0.0		1.2		21.2
Approach LOS					C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	984	384	5	3	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.97	0.91	0.31	0.38	0.62
Hourly flow rate (vph)	20	1014	422	16	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked					1.00	
vC, conflicting volume	438				977	430
vC1, stage 1 conf vol					430	
vC2, stage 2 conf vol					547	
vCu, unblocked vol	438				971	430
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				98	99
cM capacity (veh/h)	1118				453	573

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	20	507	507	438	16
Volume Left	20	0	0	0	8
Volume Right	0	0	0	16	8
cSH	1118	1700	1700	1700	507
Volume to Capacity	0.02	0.30	0.30	0.26	0.03
Queue Length 95th (ft)	1	0	0	0	2
Control Delay (s)	8.3	0.0	0.0	0.0	12.3
Lane LOS	A				B
Approach Delay (s)	0.2			0.0	12.3
Approach LOS					B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	967	8	35	378	6	65
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.50	0.52	0.90	0.38	0.71
Hourly flow rate (vph)	997	16	67	420	16	92
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			0.55		0.55	0.55
vC, conflicting volume			997		1552	997
vC1, stage 1 conf vol					997	
vC2, stage 2 conf vol					555	
vCu, unblocked vol			579		1594	579
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			88		94	67
cM capacity (veh/h)			543		258	281

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	997	16	67	420	92
Volume Left	0	0	67	0	0
Volume Right	0	16	0	0	92
cSH	1700	1700	543	1700	281
Volume to Capacity	0.59	0.01	0.12	0.25	0.33
Queue Length 95th (ft)	0	0	11	0	34
Control Delay (s)	0.0	0.0	12.6	0.0	23.9
Lane LOS			B		C
Approach Delay (s)	0.0		1.7		Err
Approach LOS					F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Existing Intersection Analysis - SimTraffic

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	12.3	15.8	7.0	11.1	7.2	3.2	12.0	13.8	5.1	12.3	13.0	4.7

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	9.8

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	2.6	4.2	6.3	3.2	3.6

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Delay / Veh (s)	7.3	28.6	6.1	4.8	16.8

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	All
Delay / Veh (s)	1.7	2.3	27.0	47.1		29.0

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Delay / Veh (s)	18.4	0.4	8.9	1.3	7.1	154.6	8.0

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.6	1.8	8.7	5.4	13.8	0.6	4.5

Total Network Performance

Delay / Veh (s)	43.0

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	21	203	111	91	51	73	75
Average Queue (ft)	15	123	68	54	26	43	44
95th Queue (ft)	28	206	105	94	62	72	72
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	93
Average Queue (ft)	41
95th Queue (ft)	92
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	0
Queuing Penalty (veh)	2

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	90	82	232	71	65
Average Queue (ft)	43	54	227	54	45
95th Queue (ft)	86	89	235	80	68
Link Distance (ft)	334		214	139	139
Upstream Blk Time (%)			37		
Queuing Penalty (veh)			319		
Storage Bay Dist (ft)		280			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	30	523	28
Average Queue (ft)	12	366	8
95th Queue (ft)	37	709	27
Link Distance (ft)		446	236
Upstream Blk Time (%)		28	
Queuing Penalty (veh)		243	
Storage Bay Dist (ft)	150		
Storage Blk Time (%)		40	
Queuing Penalty (veh)		12	

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	27	246	69
Average Queue (ft)	5	62	36
95th Queue (ft)	23	219	76
Link Distance (ft)		339	450
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB
Directions Served	L	L
Maximum Queue (ft)	80	53
Average Queue (ft)	39	33
95th Queue (ft)	73	65
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	50
Storage Blk Time (%)		1
Queuing Penalty (veh)		2

Network Summary

Network wide Queuing Penalty: 578

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBT	SBR	All
Delay / Veh (s)	7.8	8.0	5.0	5.9	4.4	0.2	15.8	6.5	8.3	4.3	6.6

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	2.1	2.9	4.9	2.0	2.1

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Delay / Veh (s)	7.4	7.0	7.8	3.4	6.8

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	2.3	2.3	8.2	1.3	13.3	3.6	2.7

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	SBR	All
Delay / Veh (s)	4.7	0.8	0.3	3.7	0.6

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Delay / Veh (s)	0.7	1.3	8.8	1.4	0.9	1.5

Total Network Performance

Delay / Veh (s)	16.2

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	20	136	50	95	50	99	31
Average Queue (ft)	11	101	36	44	27	58	6
95th Queue (ft)	25	146	55	101	54	103	27
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	38
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	90	94	115	96	69
Average Queue (ft)	55	51	78	54	44
95th Queue (ft)	90	103	112	98	69
Link Distance (ft)	334		214	139	139
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		280			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	30	76
Average Queue (ft)	23	47
95th Queue (ft)	43	76
Link Distance (ft)		236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	29	28
Average Queue (ft)	6	6
95th Queue (ft)	25	24
Link Distance (ft)		450
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB
Directions Served	L
Maximum Queue (ft)	51
Average Queue (ft)	33
95th Queue (ft)	48
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	200
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	28.9	44.1	38.4	15.1	6.2	23.7	26.7	40.3	20.7	26.2	10.0	3.2

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	26.5

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBT	All
Delay / Veh (s)	3.0	3.0	0.6	2.3

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	All
Delay / Veh (s)	0.7	0.3	0.6

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	1.2	1.1	19.3	1.1	23.1	2.3	1.8

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	SBL	All
Delay / Veh (s)	1.7	0.8	0.3	9.9	0.7

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.7	1.0	8.7	1.0	23.4	1.2	1.2

Total Network Performance

Delay / Veh (s)	31.1

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	224	457	73	73	156	210	53
Average Queue (ft)	53	383	52	44	75	152	32
95th Queue (ft)	195	452	75	71	146	214	52
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		43				1	
Queuing Penalty (veh)		5				1	

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	29	28
Average Queue (ft)	15	17
95th Queue (ft)	36	39
Link Distance (ft)		236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	28	26
Average Queue (ft)	6	5
95th Queue (ft)	24	22
Link Distance (ft)		450
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	31	56
Average Queue (ft)	17	6	11
95th Queue (ft)	40	27	48
Link Distance (ft)			324
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	200	50	
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Network Summary

Network wide Queuing Penalty: 7

Future No-Build Intersection Analysis - HCM

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	57	398	288	469	23	17	174	45	72	61
Lane Group Flow (vph)	77	880	389	714	0	68	458	0	233	133
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	67.0	28.0	87.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	6.7%	55.8%	23.3%	72.5%	20.8%	20.8%	20.8%	20.8%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.18	0.96	0.87	0.57		0.38	0.77		0.85	0.34
Control Delay	7.5	48.9	52.8	10.6		50.3	17.9		73.1	10.0
Queue Delay	0.0	0.0	0.0	0.2		0.0	0.0		0.0	0.0
Total Delay	7.5	48.9	52.8	10.8		50.3	17.9		73.1	10.0
Queue Length 50th (ft)	13	595	238	241		47	47		177	0
Queue Length 95th (ft)	20	317	269	331		52	0		139	0
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	431	1063	457	1377		198	620		303	414
Starvation Cap Reductn	0	0	0	175		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.18	0.83	0.85	0.59		0.34	0.74		0.77	0.32

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 110.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	398	88	288	469	116	23	17	174	45	72	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	1.00
Satd. Flow (prot)	1770	1822		1770	1790			1815	1583		1827	1583
Flt Permitted	0.39	1.00		0.07	1.00			0.55	1.00		0.84	1.00
Satd. Flow (perm)	733	1822		124	1790			1024	1583		1567	1583
Peak-hour factor, PHF	0.74	0.53	0.68	0.74	0.89	0.62	0.64	0.53	0.38	0.49	0.51	0.46
Adj. Flow (vph)	77	751	129	389	527	187	36	32	458	92	141	133
RTOR Reduction (vph)	0	5	0	0	11	0	0	0	321	0	0	110
Lane Group Flow (vph)	77	875	0	389	703	0	0	68	137	0	233	23
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	59.2	56.2		84.0	77.0			19.4	19.4		19.4	19.4
Effective Green, g (s)	59.2	56.2		84.0	77.0			19.4	19.4		19.4	19.4
Actuated g/C Ratio	0.53	0.50		0.75	0.69			0.17	0.17		0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	417	919		445	1237			178	276		273	276
v/s Ratio Prot	0.00	c0.48		c0.19	0.39							
v/s Ratio Perm	0.09			0.47				0.07	0.09		c0.15	0.01
v/c Ratio	0.18	0.95		0.87	0.57			0.38	0.50		0.85	0.08
Uniform Delay, d1	12.8	26.3		35.0	8.7			40.7	41.6		44.6	38.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	19.0		17.1	0.6			1.4	1.4		21.9	0.1
Delay (s)	13.0	45.3		52.1	9.4			42.1	43.0		66.5	38.7
Level of Service	B	D		D	A			D	D		E	D
Approach Delay (s)		42.7			24.4			42.9			56.4	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	111.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	372	366	201	814	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.44	0.44	0.86	0.92	0.92
Hourly flow rate (vph)	392	832	457	947	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked					0.62	
vC, conflicting volume			392		2252	392
vC1, stage 1 conf vol					392	
vC2, stage 2 conf vol					1860	
vCu, unblocked vol			392		2717	392
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	100
cM capacity (veh/h)			1167		38	657

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	392	832	457	947
Volume Left	0	0	457	0
Volume Right	0	832	0	0
cSH	1700	1700	1167	1700
Volume to Capacity	0.23	0.49	0.39	0.56
Queue Length 95th (ft)	0	0	47	0
Control Delay (s)	0.0	0.0	10.1	0.0
Lane LOS			B	
Approach Delay (s)	0.0		3.3	
Approach LOS				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	368	816	171	158
Lane Group Flow (vph)	418	960	342	316
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.20	0.86	0.69	0.47
Control Delay	7.1	21.9	36.7	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.1	21.9	36.7	6.3
Queue Length 50th (ft)	39	314	136	0
Queue Length 95th (ft)	80	590	168	0
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3191	1680	883	948
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.57	0.39	0.33

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 76.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	368	0	0	816	171	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.88	0.92	0.92	0.85	0.50	0.50
Adj. Flow (vph)	418	0	0	960	342	316
RTOR Reduction (vph)	0	0	0	0	0	226
Lane Group Flow (vph)	418	0	0	960	342	90
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	45.8			45.8	21.4	21.4
Effective Green, g (s)	45.8			45.8	21.4	21.4
Actuated g/C Ratio	0.61			0.61	0.28	0.28
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2155			1135	504	450
v/s Ratio Prot	0.12			c0.52	c0.19	
v/s Ratio Perm						0.06
v/c Ratio	0.19			0.85	0.68	0.20
Uniform Delay, d1	6.5			11.9	23.9	20.4
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.0			6.0	3.6	0.2
Delay (s)	6.6			17.8	27.5	20.6
Level of Service	A			B	C	C
Approach Delay (s)	6.6			17.8	24.2	
Approach LOS	A			B	C	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	457	32	30	855	8	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.53	0.75	0.91	0.50	0.50
Hourly flow rate (vph)	618	60	40	940	16	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.93		0.93	0.93
vC, conflicting volume			618		1637	618
vC1, stage 1 conf vol					618	
vC2, stage 2 conf vol					1020	
vCu, unblocked vol			548		1648	548
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			96		94	99
cM capacity (veh/h)			947		289	497

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	618	60	40	940	20
Volume Left	0	0	40	0	16
Volume Right	0	60	0	0	4
cSH	1700	1700	947	1700	315
Volume to Capacity	0.36	0.04	0.04	0.55	0.06
Queue Length 95th (ft)	0	0	3	0	5
Control Delay (s)	0.0	0.0	9.0	0.0	17.2
Lane LOS			A		C
Approach Delay (s)	0.0		0.4		17.2
Approach LOS					C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	495	852	6	4	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.84	0.91	0.38	0.33	0.44
Hourly flow rate (vph)	20	589	936	16	12	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked						
vC, conflicting volume	952				1279	944
vC1, stage 1 conf vol					944	
vC2, stage 2 conf vol					335	
vCu, unblocked vol	952				1279	944
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	80
cM capacity (veh/h)	717				315	263

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	20	295	295	952	64
Volume Left	20	0	0	0	12
Volume Right	0	0	0	16	52
cSH	717	1700	1700	1700	272
Volume to Capacity	0.03	0.17	0.17	0.56	0.24
Queue Length 95th (ft)	2	0	0	0	23
Control Delay (s)	10.2	0.0	0.0	0.0	22.3
Lane LOS	B				C
Approach Delay (s)	0.3			0.0	22.3
Approach LOS					C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	399	79	156	754	34	144
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.49	0.58	0.95	0.47	0.58
Hourly flow rate (vph)	487	161	269	794	72	248
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked						
vC, conflicting volume			487		1818	487
vC1, stage 1 conf vol					487	
vC2, stage 2 conf vol					1332	
vCu, unblocked vol			487		1818	487
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			75		59	57
cM capacity (veh/h)			1076		176	581

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	487	161	269	794	72	248
Volume Left	0	0	269	0	72	0
Volume Right	0	161	0	0	0	248
cSH	1700	1700	1076	1700	176	581
Volume to Capacity	0.29	0.09	0.25	0.47	0.41	0.43
Queue Length 95th (ft)	0	0	25	0	46	53
Control Delay (s)	0.0	0.0	9.5	0.0	39.0	15.7
Lane LOS			A		E	C
Approach Delay (s)	0.0		2.4		21.0	
Approach LOS					C	

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	18	509	113	429	78	3	89	5	7	20
Lane Group Flow (vph)	44	646	276	608	0	105	97	0	20	24
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	69.0	26.0	87.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	6.7%	57.5%	21.7%	72.5%	20.8%	20.8%	20.8%	20.8%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.10	0.91	0.52	0.52		0.45	0.27		0.07	0.08
Control Delay	6.1	36.1	13.0	9.5		34.9	9.6		28.4	13.5
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	6.1	36.1	13.0	9.5		34.9	9.6		28.4	13.5
Queue Length 50th (ft)	4	207	35	129		35	0		6	0
Queue Length 95th (ft)	6	457	27	176		89	42		19	19
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	435	1663	737	1809		477	625		593	578
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.10	0.39	0.37	0.34		0.22	0.16		0.03	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 64.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	509	106	113	429	7	78	3	89	5	7	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.97		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (prot)	1770	1813		1770	1857			1777	1583		1826	1583
Flt Permitted	0.43	1.00		0.13	1.00			0.72	1.00		0.90	1.00
Satd. Flow (perm)	809	1813		246	1857			1341	1583		1670	1583
Peak-hour factor, PHF	0.41	0.96	0.91	0.41	0.72	0.58	0.77	0.75	0.92	0.62	0.58	0.83
Adj. Flow (vph)	44	530	116	276	596	12	101	4	97	8	12	24
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	80	0	0	20
Lane Group Flow (vph)	44	638	0	276	607	0	0	105	17	0	20	4
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	29.2	27.1		46.1	40.0			11.1	11.1		11.1	11.1
Effective Green, g (s)	29.2	27.1		46.1	40.0			11.1	11.1		11.1	11.1
Actuated g/C Ratio	0.45	0.42		0.71	0.61			0.17	0.17		0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	393	754		525	1139			228	269		284	269
v/s Ratio Prot	0.00	c0.35		c0.12	0.33							
v/s Ratio Perm	0.05			0.25				c0.08	0.01		0.01	0.00
v/c Ratio	0.11	0.85		0.53	0.53			0.46	0.06		0.07	0.02
Uniform Delay, d1	10.2	17.2		9.9	7.2			24.4	22.7		22.7	22.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	8.7		1.0	0.5			1.5	0.1		0.1	0.0
Delay (s)	10.3	25.8		10.8	7.7			25.8	22.8		22.8	22.5
Level of Service	B	C		B	A			C	C		C	C
Approach Delay (s)		24.8			8.7			24.4			22.7	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	535	56	35	537	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.44	0.25	0.61	0.92	0.92
Hourly flow rate (vph)	569	127	140	880	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked			0.74		0.84	0.74
vC, conflicting volume			569		1729	569
vC1, stage 1 conf vol					569	
vC2, stage 2 conf vol					1160	
vCu, unblocked vol			235		1191	235
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	100
cM capacity (veh/h)			980		215	592

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	569	127	140	880
Volume Left	0	0	140	0
Volume Right	0	127	0	0
cSH	1700	1700	980	1700
Volume to Capacity	0.33	0.07	0.14	0.52
Queue Length 95th (ft)	0	0	12	0
Control Delay (s)	0.0	0.0	9.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		1.3	
Approach LOS				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	518	450	128	135
Lane Group Flow (vph)	602	542	284	355
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.40	0.69	0.46	0.48
Control Delay	8.7	14.6	13.5	5.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.7	14.6	13.5	5.7
Queue Length 50th (ft)	40	80	41	10
Queue Length 95th (ft)	85	179	54	0
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3539	1863	1686	1521
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.29	0.17	0.23

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 38.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	518	0	0	450	128	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.86	0.92	0.92	0.83	0.45	0.38
Adj. Flow (vph)	602	0	0	542	284	355
RTOR Reduction (vph)	0	0	0	0	0	180
Lane Group Flow (vph)	602	0	0	542	284	175
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	16.1			16.1	13.4	13.4
Effective Green, g (s)	16.1			16.1	13.4	13.4
Actuated g/C Ratio	0.43			0.43	0.36	0.36
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1519			800	632	566
v/s Ratio Prot	0.17			c0.29	c0.16	
v/s Ratio Perm						0.11
v/c Ratio	0.40			0.68	0.45	0.31
Uniform Delay, d1	7.4			8.6	9.2	8.7
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.2			2.3	0.5	0.3
Delay (s)	7.5			10.9	9.7	9.0
Level of Service	A			B	A	A
Approach Delay (s)	7.5			10.9	9.3	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	37.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	625	16	18	396	44	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.36	0.32	0.82	0.31	0.30
Hourly flow rate (vph)	791	44	56	483	142	157
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.83		0.83	0.83
vC, conflicting volume			791		1387	791
vC1, stage 1 conf vol					791	
vC2, stage 2 conf vol					595	
vCu, unblocked vol			648		1364	648
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			93		59	60
cM capacity (veh/h)			780		344	391

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	791	44	56	483	299
Volume Left	0	0	56	0	142
Volume Right	0	44	0	0	157
cSH	1700	1700	780	1700	368
Volume to Capacity	0.47	0.03	0.07	0.28	0.81
Queue Length 95th (ft)	0	0	6	0	178
Control Delay (s)	0.0	0.0	10.0	0.0	45.8
Lane LOS			A		E
Approach Delay (s)	0.0		1.0		45.8
Approach LOS					E

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	9	681	406	3	3	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.56	0.67	0.85	0.75	0.38	0.33
Hourly flow rate (vph)	16	1016	478	4	8	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked						
vC, conflicting volume	482				1020	480
vC1, stage 1 conf vol					480	
vC2, stage 2 conf vol					540	
vCu, unblocked vol	482				1020	480
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	1077				440	532

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	16	508	508	482	20
Volume Left	16	0	0	0	8
Volume Right	0	0	0	4	12
cSH	1077	1700	1700	1700	492
Volume to Capacity	0.01	0.30	0.30	0.28	0.04
Queue Length 95th (ft)	1	0	0	0	3
Control Delay (s)	8.4	0.0	0.0	0.0	12.6
Lane LOS	A				B
Approach Delay (s)	0.1			0.0	12.6
Approach LOS					B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	635	32	92	394	10	112
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.69	0.38	0.69	0.90	0.62	0.56
Hourly flow rate (vph)	920	84	133	438	16	200
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			920		1625	920
vC1, stage 1 conf vol					920	
vC2, stage 2 conf vol					704	
vCu, unblocked vol			850		1640	850
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			81		94	38
cM capacity (veh/h)			703		276	321

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	920	84	133	438	16	200
Volume Left	0	0	133	0	16	0
Volume Right	0	84	0	0	0	200
cSH	1700	1700	703	1700	276	321
Volume to Capacity	0.54	0.05	0.19	0.26	0.06	0.62
Queue Length 95th (ft)	0	0	17	0	5	98
Control Delay (s)	0.0	0.0	11.3	0.0	18.8	33.0
Lane LOS			B		C	D
Approach Delay (s)	0.0		2.6		31.9	
Approach LOS					D	

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	12	590	60	375	155	20	457	24	13	20
Lane Group Flow (vph)	24	680	77	436	0	227	491	0	48	36
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	64.0	10.0	66.0	46.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	6.7%	53.3%	8.3%	55.0%	38.3%	38.3%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.05	0.84	0.24	0.46		0.55	0.73		0.11	0.07
Control Delay	8.4	28.9	9.7	13.5		28.7	18.1		21.8	8.3
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	8.4	28.9	9.7	13.5		28.7	18.1		21.8	8.3
Queue Length 50th (ft)	3	226	11	80		75	70		14	0
Queue Length 95th (ft)	10	529	38	275		101	258		46	8
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	474	1557	316	1593		914	1153		975	1075
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.05	0.44	0.24	0.27		0.25	0.43		0.05	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 67.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	590	53	60	375	13	155	20	457	24	13	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1770	1836		1770	1847			1789	1583		1803	1583
Flt Permitted	0.45	1.00		0.15	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	844	1836		281	1847			1361	1583		1453	1583
Peak-hour factor, PHF	0.50	0.96	0.81	0.78	0.91	0.54	0.83	0.50	0.93	0.75	0.81	0.56
Adj. Flow (vph)	24	615	65	77	412	24	187	40	491	32	16	36
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	192	0	0	25
Lane Group Flow (vph)	24	677	0	77	434	0	0	227	299	0	48	11
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	32.5	31.3		39.1	34.6			20.5	20.5		20.5	20.5
Effective Green, g (s)	32.5	31.3		39.1	34.6			20.5	20.5		20.5	20.5
Actuated g/C Ratio	0.48	0.46		0.57	0.51			0.30	0.30		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	418	841		259	936			408	475		436	475
v/s Ratio Prot	0.00	c0.37		c0.02	0.23							
v/s Ratio Perm	0.03			0.15				0.17	c0.19		0.03	0.01
v/c Ratio	0.06	0.80		0.30	0.46			0.56	0.63		0.11	0.02
Uniform Delay, d1	9.6	15.9		10.4	10.9			20.1	20.6		17.3	16.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	5.6		0.6	0.4			1.6	2.6		0.1	0.0
Delay (s)	9.7	21.5		11.0	11.2			21.7	23.2		17.4	16.9
Level of Service	A	C		B	B			C	C		B	B
Approach Delay (s)		21.1			11.2			22.8			17.2	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	68.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1042	9	4	438	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.56	0.33	0.93	0.92	0.92
Hourly flow rate (vph)	1074	16	12	471	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked			0.69		0.71	0.69
vC, conflicting volume			1074		1569	1074
vC1, stage 1 conf vol					1074	
vC2, stage 2 conf vol					495	
vCu, unblocked vol			881		1443	881
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			528		257	238

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	1074	16	12	471
Volume Left	0	0	12	0
Volume Right	0	16	0	0
cSH	1700	1700	528	1700
Volume to Capacity	0.63	0.01	0.02	0.28
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	0.0	0.0	12.0	0.0
Lane LOS			B	
Approach Delay (s)	0.0		0.3	
Approach LOS				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	1024	416	7	4
Lane Group Flow (vph)	1045	438	12	8
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	98.0	98.0	22.0	22.0
Total Split (%)	81.7%	81.7%	18.3%	18.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.32	0.25	0.03	0.02
Control Delay	1.3	1.5	13.7	9.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.3	1.5	13.7	9.8
Queue Length 50th (ft)	0	0	1	0
Queue Length 95th (ft)	69	62	8	4
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3539	1863	1110	996
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.24	0.01	0.01

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 30.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1024	0	0	416	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.98	0.92	0.92	0.95	0.58	0.50
Adj. Flow (vph)	1045	0	0	438	12	8
RTOR Reduction (vph)	0	0	0	0	0	8
Lane Group Flow (vph)	1045	0	0	438	12	0
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	24.5			24.5	0.9	0.9
Effective Green, g (s)	24.5			24.5	0.9	0.9
Actuated g/C Ratio	0.73			0.73	0.03	0.03
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2596			1367	48	43
v/s Ratio Prot	c0.30			0.24	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.40			0.32	0.25	0.01
Uniform Delay, d1	1.7			1.6	15.9	15.8
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.1	2.7	0.0
Delay (s)	1.8			1.7	18.6	15.9
Level of Service	A			A	B	B
Approach Delay (s)	1.8			1.7	17.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	33.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1002	35	29	383	21	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.73	0.66	0.93	0.66	0.88
Hourly flow rate (vph)	1033	48	44	412	32	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.51		0.51	0.51
vC, conflicting volume			1033		1533	1033
vC1, stage 1 conf vol					1033	
vC2, stage 2 conf vol					500	
vCu, unblocked vol			588		1564	588
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		87	97
cM capacity (veh/h)			505		250	261

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1033	48	44	412	40
Volume Left	0	0	44	0	32
Volume Right	0	48	0	0	8
cSH	1700	1700	505	1700	252
Volume to Capacity	0.61	0.03	0.09	0.24	0.16
Queue Length 95th (ft)	0	0	7	0	14
Control Delay (s)	0.0	0.0	12.8	0.0	21.9
Lane LOS			B		C
Approach Delay (s)	0.0		1.2		21.9
Approach LOS					C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	994	388	5	3	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.97	0.91	0.31	0.38	0.62
Hourly flow rate (vph)	20	1025	426	16	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked					0.99	
vC, conflicting volume	443				987	434
vC1, stage 1 conf vol					434	
vC2, stage 2 conf vol					552	
vCu, unblocked vol	443				973	434
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				98	99
cM capacity (veh/h)	1114				452	570

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	20	512	512	443	16
Volume Left	20	0	0	0	8
Volume Right	0	0	0	16	8
cSH	1114	1700	1700	1700	504
Volume to Capacity	0.02	0.30	0.30	0.26	0.03
Queue Length 95th (ft)	1	0	0	0	2
Control Delay (s)	8.3	0.0	0.0	0.0	12.4
Lane LOS	A				B
Approach Delay (s)	0.2			0.0	12.4
Approach LOS					B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	977	8	35	382	6	66
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.50	0.52	0.90	0.38	0.71
Hourly flow rate (vph)	1007	16	67	424	16	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			0.51		0.51	0.51
vC, conflicting volume			1007		1566	1007
vC1, stage 1 conf vol					1007	
vC2, stage 2 conf vol					559	
vCu, unblocked vol			531		1630	531
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			87		94	67
cM capacity (veh/h)			527		252	279

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	1007	16	67	424	16	93
Volume Left	0	0	67	0	16	0
Volume Right	0	16	0	0	0	93
cSH	1700	1700	527	1700	252	279
Volume to Capacity	0.59	0.01	0.13	0.25	0.06	0.33
Queue Length 95th (ft)	0	0	11	0	5	35
Control Delay (s)	0.0	0.0	12.8	0.0	20.2	24.2
Lane LOS			B		C	C
Approach Delay (s)	0.0		1.8		23.7	
Approach LOS					C	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

Future No-Build Intersection Analysis - SimTraffic

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	17.0	18.8	6.8	11.4	7.5	5.1	15.3	16.6	6.6	14.6	14.2	5.0

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	11.3

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	3.0	5.0	7.1	3.7	4.1

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Delay / Veh (s)	10.4	27.8	6.4	3.5	17.4

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	All
Delay / Veh (s)	2.0	2.9	26.6	39.5		25.1

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	SBL	SBR	All
Delay / Veh (s)	3.1	0.5	4.0	6.9	154.9	4.8

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.5	1.5	9.1	5.0	17.2	0.6	4.4

Total Network Performance

Delay / Veh (s)	41.1

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	21	160	72	95	51	91	70
Average Queue (ft)	16	119	55	67	26	50	44
95th Queue (ft)	29	162	70	119	62	87	70
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	90
Average Queue (ft)	49
95th Queue (ft)	102
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	0
Queuing Penalty (veh)	2

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	114	116	232	72	48
Average Queue (ft)	52	60	222	63	36
95th Queue (ft)	112	113	244	79	56
Link Distance (ft)	334		214	139	139
Upstream Blk Time (%)			34		
Queuing Penalty (veh)			296		
Storage Bay Dist (ft)		280			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	30	523	28
Average Queue (ft)	6	292	8
95th Queue (ft)	26	621	27
Link Distance (ft)		446	236
Upstream Blk Time (%)		15	
Queuing Penalty (veh)		127	
Storage Bay Dist (ft)	150		
Storage Blk Time (%)		39	
Queuing Penalty (veh)		12	

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	26	127	69
Average Queue (ft)	5	25	36
95th Queue (ft)	22	109	76
Link Distance (ft)		339	450
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB
Directions Served	L	L
Maximum Queue (ft)	79	53
Average Queue (ft)	43	38
95th Queue (ft)	76	71
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	50
Storage Blk Time (%)		8
Queuing Penalty (veh)		11

Network Summary

Network wide Queuing Penalty: 448

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Delay / Veh (s)	10.0	10.5	10.2	6.0	5.0	1.3	20.4	7.4	12.0	6.7	8.6

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	2.1	2.8	4.9	1.9	2.1

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Delay / Veh (s)	5.5	7.8	5.2	4.4	6.2

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBT	NBL	NBR	All
Delay / Veh (s)	1.9	2.7	1.1	10.2	3.1	1.9

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBT	WBT	SBR	All
Delay / Veh (s)	0.6	0.4	2.4	0.6

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.8	1.2	10.5	2.4	24.0	7.1	3.3

Total Network Performance

Delay / Veh (s)	18.6

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	21	207	53	117	50	52	31
Average Queue (ft)	8	111	39	66	37	34	16
95th Queue (ft)	25	195	57	143	54	49	39
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		1					
Queuing Penalty (veh)		0					

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	28
Average Queue (ft)	6
95th Queue (ft)	24
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	54	53	136	28	90
Average Queue (ft)	39	37	88	28	39
95th Queue (ft)	59	71	150	28	83
Link Distance (ft)	334		214	139	139
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		280			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Spalding Dr & Bus Drwy

Movement	NB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	32
95th Queue (ft)	46
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	SB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	6
95th Queue (ft)	24
Link Distance (ft)	450
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	70	31	120
Average Queue (ft)	35	19	59
95th Queue (ft)	64	44	147
Link Distance (ft)			324
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	200	50	
Storage Blk Time (%)		0	9
Queuing Penalty (veh)		0	1

Network Summary

Network wide Queuing Penalty: 1

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	15.5	20.5	18.5	12.7	6.9	12.7	17.9	19.4	18.3	22.4	8.3	3.2

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	16.1

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBT	All
Delay / Veh (s)	2.6	2.9	0.6	2.0

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	All
Delay / Veh (s)	0.4	0.3	0.4

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	1.0	1.0	5.6	1.3	23.1	2.3	1.5

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	All
Delay / Veh (s)	1.8	0.7	0.3	0.6

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.6	1.0	8.7	1.1	28.7	0.9	1.1

Total Network Performance

Delay / Veh (s)	20.7

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	21	261	54	115	86	198	53
Average Queue (ft)	12	178	43	67	49	138	32
95th Queue (ft)	28	285	62	115	90	194	52
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		7				0	
Queuing Penalty (veh)		1				0	

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	29	28
Average Queue (ft)	15	17
95th Queue (ft)	35	39
Link Distance (ft)		236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Spalding Dr & Spalding Terrace

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	31	56
Average Queue (ft)	23	6	11
95th Queue (ft)	42	27	48
Link Distance (ft)			324
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	200	50	
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Network Summary

Network wide Queuing Penalty: 1

Future Build Intersection Analysis - HCM

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	57	401	289	478	23	17	174	45	72	61
Lane Group Flow (vph)	77	886	391	724	0	68	458	0	233	133
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	67.0	28.0	87.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	6.7%	55.8%	23.3%	72.5%	20.8%	20.8%	20.8%	20.8%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.18	0.97	0.87	0.58		0.38	0.77		0.85	0.34
Control Delay	7.5	49.6	53.5	10.7		50.5	18.1		73.7	10.0
Queue Delay	0.0	0.0	0.0	0.3		0.0	0.0		0.0	0.0
Total Delay	7.5	49.6	53.5	11.0		50.5	18.1		73.7	10.0
Queue Length 50th (ft)	13	603	240	247		47	47		177	0
Queue Length 95th (ft)	20	320	270	340		52	0		139	0
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	428	1053	454	1366		196	617		300	411
Starvation Cap Reductn	0	0	0	173		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.18	0.84	0.86	0.61		0.35	0.74		0.78	0.32

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	401	88	289	478	116	23	17	174	45	72	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	1.00
Satd. Flow (prot)	1770	1822		1770	1791			1815	1583		1827	1583
Flt Permitted	0.39	1.00		0.07	1.00			0.55	1.00		0.84	1.00
Satd. Flow (perm)	727	1822		123	1791			1021	1583		1567	1583
Peak-hour factor, PHF	0.74	0.53	0.68	0.74	0.89	0.62	0.64	0.53	0.38	0.49	0.51	0.46
Adj. Flow (vph)	77	757	129	391	537	187	36	32	458	92	141	133
RTOR Reduction (vph)	0	5	0	0	10	0	0	0	321	0	0	110
Lane Group Flow (vph)	77	881	0	391	714	0	0	68	137	0	233	23
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	59.6	56.6		84.6	77.6			19.5	19.5		19.5	19.5
Effective Green, g (s)	59.6	56.6		84.6	77.6			19.5	19.5		19.5	19.5
Actuated g/C Ratio	0.53	0.50		0.75	0.69			0.17	0.17		0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	414	920		445	1240			178	275		273	275
v/s Ratio Prot	0.00	c0.48		c0.19	0.40							
v/s Ratio Perm	0.09			0.47				0.07	0.09		c0.15	0.01
v/c Ratio	0.19	0.96		0.88	0.58			0.38	0.50		0.85	0.08
Uniform Delay, d1	12.9	26.6		35.4	8.8			41.0	41.9		44.9	38.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	19.8		17.6	0.7			1.4	1.4		21.9	0.1
Delay (s)	13.1	46.4		53.0	9.5			42.3	43.3		66.8	38.9
Level of Service	B	D		D	A			D	D		E	D
Approach Delay (s)		43.7			24.7			43.2			56.7	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	112.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	375	366	201	824	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.44	0.44	0.86	0.92	0.92
Hourly flow rate (vph)	395	832	457	958	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked					0.61	
vC, conflicting volume			395		2267	395
vC1, stage 1 conf vol					395	
vC2, stage 2 conf vol					1872	
vCu, unblocked vol			395		2761	395
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	100
cM capacity (veh/h)			1164		36	654

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	395	832	457	958
Volume Left	0	0	457	0
Volume Right	0	832	0	0
cSH	1700	1700	1164	1700
Volume to Capacity	0.23	0.49	0.39	0.56
Queue Length 95th (ft)	0	0	47	0
Control Delay (s)	0.0	0.0	10.1	0.0
Lane LOS			B	
Approach Delay (s)	0.0		3.3	
Approach LOS				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	371	826	171	158
Lane Group Flow (vph)	422	972	342	316
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.20	0.87	0.69	0.47
Control Delay	7.1	22.5	37.2	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.1	22.5	37.2	6.3
Queue Length 50th (ft)	40	326	139	0
Queue Length 95th (ft)	80	605	168	0
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3178	1673	870	938
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.58	0.39	0.34

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 77.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	371	0	0	826	171	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.88	0.92	0.92	0.85	0.50	0.50
Adj. Flow (vph)	422	0	0	972	342	316
RTOR Reduction (vph)	0	0	0	0	0	226
Lane Group Flow (vph)	422	0	0	972	342	90
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	46.6			46.6	21.6	21.6
Effective Green, g (s)	46.6			46.6	21.6	21.6
Actuated g/C Ratio	0.61			0.61	0.28	0.28
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2164			1139	502	449
v/s Ratio Prot	0.12			c0.52	c0.19	
v/s Ratio Perm						0.06
v/c Ratio	0.20			0.85	0.68	0.20
Uniform Delay, d1	6.5			12.0	24.2	20.7
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.0			6.4	3.8	0.2
Delay (s)	6.6			18.4	28.0	21.0
Level of Service	A			B	C	C
Approach Delay (s)	6.6			18.4	24.6	
Approach LOS	A			B	C	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	76.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	460	32	30	865	8	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.53	0.75	0.91	0.50	0.50
Hourly flow rate (vph)	622	60	40	951	16	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.93		0.93	0.93
vC, conflicting volume			622		1652	622
vC1, stage 1 conf vol					622	
vC2, stage 2 conf vol					1031	
vCu, unblocked vol			552		1664	552
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			96		94	99
cM capacity (veh/h)			943		286	494

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	622	60	40	951	20
Volume Left	0	0	40	0	16
Volume Right	0	60	0	0	4
cSH	1700	1700	943	1700	312
Volume to Capacity	0.37	0.04	0.04	0.56	0.06
Queue Length 95th (ft)	0	0	3	0	5
Control Delay (s)	0.0	0.0	9.0	0.0	17.3
Lane LOS			A		C
Approach Delay (s)	0.0		0.4		17.3
Approach LOS					C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	13	495	852	9	12	33
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.84	0.91	0.38	0.33	0.44
Hourly flow rate (vph)	26	589	936	24	36	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked						
vC, conflicting volume	960				1295	948
vC1, stage 1 conf vol					948	
vC2, stage 2 conf vol					347	
vCu, unblocked vol	960				1295	948
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				88	71
cM capacity (veh/h)	712				312	262

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	26	295	295	960	111
Volume Left	26	0	0	0	36
Volume Right	0	0	0	24	75
cSH	712	1700	1700	1700	276
Volume to Capacity	0.04	0.17	0.17	0.56	0.40
Queue Length 95th (ft)	3	0	0	0	46
Control Delay (s)	10.2	0.0	0.0	0.0	26.6
Lane LOS	B				D
Approach Delay (s)	0.4			0.0	26.6
Approach LOS					D

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	407	79	156	757	34	144
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.49	0.58	0.95	0.47	0.58
Hourly flow rate (vph)	496	161	269	797	72	248
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			1.00		1.00	1.00
vC, conflicting volume			496		1831	496
vC1, stage 1 conf vol					496	
vC2, stage 2 conf vol					1335	
vCu, unblocked vol			496		1831	496
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			75		59	57
cM capacity (veh/h)			1067		175	574

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	496	161	269	797	72	248
Volume Left	0	0	269	0	72	0
Volume Right	0	161	0	0	0	248
cSH	1700	1700	1067	1700	175	574
Volume to Capacity	0.29	0.09	0.25	0.47	0.41	0.43
Queue Length 95th (ft)	0	0	25	0	46	54
Control Delay (s)	0.0	0.0	9.5	0.0	39.4	16.0
Lane LOS			A		E	C
Approach Delay (s)	0.0		2.4		21.3	
Approach LOS					C	

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	0	16	6	0	27
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	0	17	7	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	50	21			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	50	21			24	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	959	1057			1591	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	24	29
Volume Left	20	0	0
Volume Right	0	7	0
cSH	959	1700	1591
Volume to Capacity	0.02	0.01	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.8	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.8	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	18	516	113	433	78	3	90	5	7	20
Lane Group Flow (vph)	44	654	276	613	0	105	98	0	20	24
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	69.0	26.0	87.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	6.7%	57.5%	21.7%	72.5%	20.8%	20.8%	20.8%	20.8%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.10	0.91	0.53	0.53		0.45	0.28		0.07	0.08
Control Delay	6.1	36.4	13.4	9.5		35.2	9.6		28.8	13.5
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	6.1	36.4	13.4	9.5		35.2	9.6		28.8	13.5
Queue Length 50th (ft)	4	211	36	131		35	0		6	0
Queue Length 95th (ft)	7	467	28	179		89	43		20	19
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	436	1657	732	1805		473	622		590	574
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.10	0.39	0.38	0.34		0.22	0.16		0.03	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 64.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	516	106	113	433	7	78	3	90	5	7	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.97		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (prot)	1770	1813		1770	1857			1777	1583		1826	1583
Flt Permitted	0.43	1.00		0.13	1.00			0.72	1.00		0.90	1.00
Satd. Flow (perm)	806	1813		242	1857			1341	1583		1670	1583
Peak-hour factor, PHF	0.41	0.96	0.91	0.41	0.72	0.58	0.77	0.75	0.92	0.62	0.58	0.83
Adj. Flow (vph)	44	538	116	276	601	12	101	4	98	8	12	24
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	81	0	0	20
Lane Group Flow (vph)	44	646	0	276	612	0	0	105	17	0	20	4
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	29.8	27.7		46.7	40.6			11.2	11.2		11.2	11.2
Effective Green, g (s)	29.8	27.7		46.7	40.6			11.2	11.2		11.2	11.2
Actuated g/C Ratio	0.45	0.42		0.71	0.62			0.17	0.17		0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	395	762		519	1144			228	269		284	269
v/s Ratio Prot	0.00	c0.36		c0.12	0.33							
v/s Ratio Perm	0.05			0.26				c0.08	0.01		0.01	0.00
v/c Ratio	0.11	0.85		0.53	0.54			0.46	0.06		0.07	0.02
Uniform Delay, d1	10.1	17.2		10.2	7.2			24.6	22.9		23.0	22.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	8.7		1.1	0.5			1.5	0.1		0.1	0.0
Delay (s)	10.3	25.9		11.3	7.7			26.1	23.0		23.1	22.8
Level of Service	B	C		B	A			C	C		C	C
Approach Delay (s)		24.9			8.8			24.6			22.9	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	542	56	35	541	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.44	0.25	0.61	0.92	0.92
Hourly flow rate (vph)	577	127	140	887	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked			0.73		0.84	0.73
vC, conflicting volume			577		1743	577
vC1, stage 1 conf vol					577	
vC2, stage 2 conf vol					1167	
vCu, unblocked vol			235		1198	235
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	100
cM capacity (veh/h)			973		212	587

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	577	127	140	887
Volume Left	0	0	140	0
Volume Right	0	127	0	0
cSH	1700	1700	973	1700
Volume to Capacity	0.34	0.07	0.14	0.52
Queue Length 95th (ft)	0	0	13	0
Control Delay (s)	0.0	0.0	9.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		1.3	
Approach LOS				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	525	454	128	135
Lane Group Flow (vph)	610	547	284	355
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.41	0.69	0.46	0.48
Control Delay	8.7	14.6	13.6	5.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.7	14.6	13.6	5.9
Queue Length 50th (ft)	41	82	42	10
Queue Length 95th (ft)	86	182	54	0
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3539	1863	1683	1519
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.29	0.17	0.23

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 38.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	525	0	0	454	128	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.86	0.92	0.92	0.83	0.45	0.38
Adj. Flow (vph)	610	0	0	547	284	355
RTOR Reduction (vph)	0	0	0	0	0	176
Lane Group Flow (vph)	610	0	0	547	284	179
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	16.3			16.3	13.5	13.5
Effective Green, g (s)	16.3			16.3	13.5	13.5
Actuated g/C Ratio	0.43			0.43	0.36	0.36
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1526			803	632	565
v/s Ratio Prot	0.17			c0.29	c0.16	
v/s Ratio Perm						0.11
v/c Ratio	0.40			0.68	0.45	0.32
Uniform Delay, d1	7.4			8.7	9.3	8.8
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.2			2.4	0.5	0.3
Delay (s)	7.6			11.1	9.8	9.1
Level of Service	A			B	A	A
Approach Delay (s)	7.6			11.1	9.4	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	37.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	632	16	18	400	44	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.36	0.32	0.82	0.31	0.30
Hourly flow rate (vph)	800	44	56	488	142	157
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.83		0.83	0.83
vC, conflicting volume			800		1400	800
vC1, stage 1 conf vol					800	
vC2, stage 2 conf vol					600	
vCu, unblocked vol			657		1380	657
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			93		58	59
cM capacity (veh/h)			773		341	386

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	800	44	56	488	299
Volume Left	0	0	56	0	142
Volume Right	0	44	0	0	157
cSH	1700	1700	773	1700	363
Volume to Capacity	0.47	0.03	0.07	0.29	0.82
Queue Length 95th (ft)	0	0	6	0	182
Control Delay (s)	0.0	0.0	10.0	0.0	47.6
Lane LOS			B		E
Approach Delay (s)	0.0		1.0		47.6
Approach LOS					E

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	16	681	406	9	6	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.56	0.67	0.85	0.75	0.38	0.33
Hourly flow rate (vph)	29	1016	478	12	16	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked						
vC, conflicting volume	490				1049	484
vC1, stage 1 conf vol					484	
vC2, stage 2 conf vol					565	
vCu, unblocked vol	490				1049	484
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	95
cM capacity (veh/h)	1070				427	529

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	29	508	508	490	40
Volume Left	29	0	0	0	16
Volume Right	0	0	0	12	24
cSH	1070	1700	1700	1700	483
Volume to Capacity	0.03	0.30	0.30	0.29	0.08
Queue Length 95th (ft)	2	0	0	0	7
Control Delay (s)	8.5	0.0	0.0	0.0	13.1
Lane LOS	A				B
Approach Delay (s)	0.2			0.0	13.1
Approach LOS					B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	638	32	92	400	10	112
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.69	0.38	0.69	0.90	0.62	0.56
Hourly flow rate (vph)	925	84	133	444	16	200
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			925		1636	925
vC1, stage 1 conf vol					925	
vC2, stage 2 conf vol					711	
vCu, unblocked vol			854		1652	854
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			81		94	37
cM capacity (veh/h)			700		274	319

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	925	84	133	444	16	200
Volume Left	0	0	133	0	16	0
Volume Right	0	84	0	0	0	200
cSH	1700	1700	700	1700	274	319
Volume to Capacity	0.54	0.05	0.19	0.26	0.06	0.63
Queue Length 95th (ft)	0	0	17	0	5	99
Control Delay (s)	0.0	0.0	11.4	0.0	18.9	33.4
Lane LOS			B		C	D
Approach Delay (s)	0.0		2.6		32.4	
Approach LOS					D	

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	0	12	13	0	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	0	13	14	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	28	20			27	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28	20			27	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	987	1058			1587	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	27	8
Volume Left	8	0	0
Volume Right	0	14	0
cSH	987	1700	1587
Volume to Capacity	0.01	0.02	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.7	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	12	598	60	380	155	20	458	24	13	20
Lane Group Flow (vph)	24	688	77	442	0	227	492	0	48	36
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm		Perm
Protected Phases	1	6	5	2		4			8	
Permitted Phases	6		2		4		4	8		8
Detector Phase	1	6	5	2	4	4	4	8	8	8
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	64.0	10.0	66.0	46.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	6.7%	53.3%	8.3%	55.0%	38.3%	38.3%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.05	0.85	0.25	0.46		0.54	0.73		0.11	0.07
Control Delay	8.7	29.4	10.0	13.7		29.1	18.6		22.2	8.5
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	8.7	29.4	10.0	13.7		29.1	18.6		22.2	8.5
Queue Length 50th (ft)	4	233	12	83		76	74		14	0
Queue Length 95th (ft)	10	549	38	286		103	268		47	7
Internal Link Dist (ft)		503		392		905			530	
Turn Bay Length (ft)	200		200							150
Base Capacity (vph)	469	1539	310	1574		903	1140		963	1062
Starvation Cap Reductn	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.05	0.45	0.25	0.28		0.25	0.43		0.05	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 68.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Spalding Dr & Wesleyan Drwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	598	53	60	380	13	155	20	458	24	13	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1770	1836		1770	1848			1789	1583		1803	1583
Flt Permitted	0.45	1.00		0.15	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	831	1836		274	1848			1361	1583		1454	1583
Peak-hour factor, PHF	0.50	0.96	0.81	0.78	0.91	0.54	0.83	0.50	0.93	0.75	0.81	0.56
Adj. Flow (vph)	24	623	65	77	418	24	187	40	492	32	16	36
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	188	0	0	25
Lane Group Flow (vph)	24	685	0	77	440	0	0	227	304	0	48	11
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	33.3	32.1		39.9	35.4			21.0	21.0		21.0	21.0
Effective Green, g (s)	33.3	32.1		39.9	35.4			21.0	21.0		21.0	21.0
Actuated g/C Ratio	0.48	0.46		0.57	0.51			0.30	0.30		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	414	847		254	940			411	478		439	478
v/s Ratio Prot	0.00	c0.37		c0.02	0.24							
v/s Ratio Perm	0.03			0.15				0.17	c0.19		0.03	0.01
v/c Ratio	0.06	0.81		0.30	0.47			0.55	0.64		0.11	0.02
Uniform Delay, d1	9.7	16.1		10.7	11.0			20.4	21.0		17.5	17.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	5.7		0.7	0.4			1.6	2.8		0.1	0.0
Delay (s)	9.8	21.8		11.4	11.4			22.0	23.8		17.7	17.1
Level of Service	A	C		B	B			C	C		B	B
Approach Delay (s)		21.4			11.4			23.2			17.4	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1051	9	4	443	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.56	0.33	0.93	0.92	0.92
Hourly flow rate (vph)	1084	16	12	476	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	472			396		
pX, platoon unblocked			0.68		0.71	0.68
vC, conflicting volume			1084		1584	1084
vC1, stage 1 conf vol					1084	
vC2, stage 2 conf vol					501	
vCu, unblocked vol			890		1456	890
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			520		253	233

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	1084	16	12	476
Volume Left	0	0	12	0
Volume Right	0	16	0	0
cSH	1700	1700	520	1700
Volume to Capacity	0.64	0.01	0.02	0.28
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	0.0	0.0	12.1	0.0
Lane LOS			B	
Approach Delay (s)	0.0		0.3	
Approach LOS				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBR
Lane Configurations				
Volume (vph)	1033	421	7	4
Lane Group Flow (vph)	1054	443	12	8
Turn Type				Perm
Protected Phases	6	2	4	
Permitted Phases				4
Detector Phase	6	2	4	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	98.0	98.0	22.0	22.0
Total Split (%)	81.7%	81.7%	18.3%	18.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	None	None
v/c Ratio	0.32	0.25	0.03	0.02
Control Delay	1.3	1.5	13.7	9.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.3	1.5	13.7	9.8
Queue Length 50th (ft)	0	0	1	0
Queue Length 95th (ft)	70	63	8	4
Internal Link Dist (ft)	316	200	107	
Turn Bay Length (ft)				
Base Capacity (vph)	3539	1863	1109	995
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.24	0.01	0.01

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 30.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Spalding Dr & Parking Lot Exit

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1033	0	0	421	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			1863	1770	1583
Peak-hour factor, PHF	0.98	0.92	0.92	0.95	0.58	0.50
Adj. Flow (vph)	1054	0	0	443	12	8
RTOR Reduction (vph)	0	0	0	0	0	8
Lane Group Flow (vph)	1054	0	0	443	12	0
Turn Type						Perm
Protected Phases	6			2	4	
Permitted Phases						4
Actuated Green, G (s)	24.5			24.5	0.9	0.9
Effective Green, g (s)	24.5			24.5	0.9	0.9
Actuated g/C Ratio	0.73			0.73	0.03	0.03
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2596			1367	48	43
v/s Ratio Prot	c0.30			0.24	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.41			0.32	0.25	0.01
Uniform Delay, d1	1.7			1.6	15.9	15.8
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.1	2.7	0.0
Delay (s)	1.8			1.7	18.6	15.9
Level of Service	A			A	B	B
Approach Delay (s)	1.8			1.7	17.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	33.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1011	35	29	388	21	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.73	0.66	0.93	0.66	0.88
Hourly flow rate (vph)	1042	48	44	417	32	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	280					
pX, platoon unblocked			0.29		0.29	0.29
vC, conflicting volume			1042		1547	1042
vC1, stage 1 conf vol					1042	
vC2, stage 2 conf vol					505	
vCu, unblocked vol			0		1666	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		87	97
cM capacity (veh/h)			463		247	309

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1042	48	44	417	40
Volume Left	0	0	44	0	32
Volume Right	0	48	0	0	8
cSH	1700	1700	463	1700	258
Volume to Capacity	0.61	0.03	0.09	0.25	0.15
Queue Length 95th (ft)	0	0	8	0	13
Control Delay (s)	0.0	0.0	13.6	0.0	21.5
Lane LOS			B		C
Approach Delay (s)	0.0		1.3		21.5
Approach LOS					C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	19	994	388	12	7	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.97	0.91	0.31	0.38	0.62
Hourly flow rate (vph)	38	1025	426	39	18	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		781				
pX, platoon unblocked					1.00	
vC, conflicting volume	465				1034	446
vC1, stage 1 conf vol					446	
vC2, stage 2 conf vol					588	
vCu, unblocked vol	465				1028	446
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	97
cM capacity (veh/h)	1093				427	560

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	38	512	512	465	35
Volume Left	38	0	0	0	18
Volume Right	0	0	0	39	16
cSH	1093	1700	1700	1700	480
Volume to Capacity	0.03	0.30	0.30	0.27	0.07
Queue Length 95th (ft)	3	0	0	0	6
Control Delay (s)	8.4	0.0	0.0	0.0	13.1
Lane LOS	A				B
Approach Delay (s)	0.3			0.0	13.1
Approach LOS					B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	981	8	35	389	6	66
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.50	0.52	0.90	0.38	0.71
Hourly flow rate (vph)	1011	16	67	432	16	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1184					
pX, platoon unblocked			0.56		0.56	0.56
vC, conflicting volume			1011		1578	1011
vC1, stage 1 conf vol					1011	
vC2, stage 2 conf vol					567	
vCu, unblocked vol			626		1640	626
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			87		94	66
cM capacity (veh/h)			534		252	271

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	1011	16	67	432	16	93
Volume Left	0	0	67	0	16	0
Volume Right	0	16	0	0	0	93
cSH	1700	1700	534	1700	252	271
Volume to Capacity	0.59	0.01	0.13	0.25	0.06	0.34
Queue Length 95th (ft)	0	0	11	0	5	37
Control Delay (s)	0.0	0.0	12.7	0.0	20.2	25.1
Lane LOS			B		C	D
Approach Delay (s)	0.0		1.7		24.4	
Approach LOS					C	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	9	0	15	16	0	8
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	0	16	17	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	34	25			34	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34	25			34	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	980	1051			1578	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	34	9
Volume Left	10	0	0
Volume Right	0	17	0
cSH	980	1700	1578
Volume to Capacity	0.01	0.02	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.7	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Future Build Intersection Analysis - SimTraffic

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	23.7	38.5	23.9	9.6	5.2	3.2	16.3	30.4	5.5	19.6	11.0	5.4

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	15.6

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	2.7	5.0	4.9	3.3	3.8

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Delay / Veh (s)	6.2	20.6	6.5	4.1	13.3

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	All
Delay / Veh (s)	2.0	1.2	40.3	27.1		18.1

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Delay / Veh (s)	3.6	0.4	10.1	5.2	175.7	89.1	9.1

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.8	1.5	8.9	4.1	24.0	0.9	3.6

7: Site Driveway & Spalding Terrace Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Delay / Veh (s)	3.5	0.1	0.1	0.1	1.0

Total Network Performance

Delay / Veh (s)	37.2

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	58	415	93	91	29	52	75
Average Queue (ft)	15	221	55	56	11	35	58
95th Queue (ft)	53	393	89	95	34	49	85
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		13					
Queuing Penalty (veh)		7					

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	31
Average Queue (ft)	18
95th Queue (ft)	43
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	53	77	234	98	72
Average Queue (ft)	27	39	184	59	51
95th Queue (ft)	66	70	281	105	81
Link Distance (ft)	334		214	139	139
Upstream Blk Time (%)			23		
Queuing Penalty (veh)			199		
Storage Bay Dist (ft)		280			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	174	463	27
Average Queue (ft)	73	209	5
95th Queue (ft)	202	558	24
Link Distance (ft)		445	236
Upstream Blk Time (%)		14	
Queuing Penalty (veh)		128	
Storage Bay Dist (ft)	150		
Storage Blk Time (%)	0	25	
Queuing Penalty (veh)	0	7	

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	WB	SB
Directions Served	TR	LR
Maximum Queue (ft)	283	91
Average Queue (ft)	106	55
95th Queue (ft)	320	97
Link Distance (ft)	339	392
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB
Directions Served	L	L
Maximum Queue (ft)	32	51
Average Queue (ft)	19	34
95th Queue (ft)	44	48
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	50
Storage Blk Time (%)		3
Queuing Penalty (veh)		5

Intersection: 7: Site Driveway & Spalding Terrace

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	18
95th Queue (ft)	42
Link Distance (ft)	198
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 347

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	11.7	14.0	7.3	7.7	3.4	0.0	16.3	11.6	7.0	18.8	19.3	4.6

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	8.7

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	2.3	3.5	4.7	1.9	2.2

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Delay / Veh (s)	4.4	8.0	6.1	3.3	6.0

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	1.9	1.4	0.9	1.4	17.4	2.3	2.3

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBT	WBT	WBR	SBR	All
Delay / Veh (s)	0.5	0.4	0.0	7.4	0.5

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.7	1.2	7.3	1.8	14.9	0.6	1.7

7: Site Driveway & Spalding Terrace Performance by movement

Movement	WBL	NBT	SBT	All
Delay / Veh (s)	2.8	0.1	0.1	1.0

Total Network Performance

Delay / Veh (s)	17.2

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	20	223	70	75	73	50	31
Average Queue (ft)	4	127	41	36	32	27	19
95th Queue (ft)	17	263	69	77	70	53	44
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		3					
Queuing Penalty (veh)		1					

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	30
Average Queue (ft)	17
95th Queue (ft)	39
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	50	52	184	50	43
Average Queue (ft)	27	32	87	39	26
95th Queue (ft)	53	63	169	53	40
Link Distance (ft)	334		214	139	139
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		280			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Spalding Dr & Bus Drwy

Movement	NB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	37
95th Queue (ft)	56
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	SB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	33
Link Distance (ft)	381
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB
Directions Served	L	L
Maximum Queue (ft)	47	31
Average Queue (ft)	26	19
95th Queue (ft)	51	44
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 7: Site Driveway & Spalding Terrace

Movement	WB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	134
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay / Veh (s)	11.9	19.7	7.4	14.5	5.3	0.2	21.1	16.9	28.0	25.0	17.9	4.6

1: Spalding Dr & Wesleyan Drwy Performance by movement

Movement	All
Delay / Veh (s)	18.2

2: Spalding Dr & Parent Pickup/Drop-off Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Delay / Veh (s)	2.4	4.2	10.6	0.6	1.9

3: Spalding Dr & Parking Lot Exit Performance by movement

Movement	EBT	WBT	All
Delay / Veh (s)	0.5	0.4	0.4

4: Spalding Dr & Bus Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.7	1.1	15.3	0.5	13.5	2.2	1.0

5: Spalding Dr & Spalding Terrace Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Delay / Veh (s)	4.5	0.9	0.4	0.0	16.2	4.9	0.9

6: Spalding Dr & Eastern Drwy Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Delay / Veh (s)	0.9	1.1	10.0	1.3	40.6	1.2	1.5

7: Spalding Terrace & Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Delay / Veh (s)	3.0	0.1	0.3	0.0	0.9

Total Network Performance

Delay / Veh (s)	23.8

Intersection: 1: Spalding Dr & Wesleyan Drwy

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LT
Maximum Queue (ft)	21	327	74	91	299	353	31
Average Queue (ft)	8	232	46	70	113	209	12
95th Queue (ft)	25	346	83	100	267	347	36
Link Distance (ft)		549		420		948	577
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		200		200		
Storage Blk Time (%)		11				10	
Queuing Penalty (veh)		1				17	

Intersection: 2: Spalding Dr & Parent Pickup/Drop-off

Movement	WB
Directions Served	L
Maximum Queue (ft)	28
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Spalding Dr & Parking Lot Exit

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 4: Spalding Dr & Bus Drwy

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	53	28
Average Queue (ft)	16	16
95th Queue (ft)	51	38
Link Distance (ft)		236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Spalding Dr & Spalding Terrace

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	28	47
Average Queue (ft)	11	26
95th Queue (ft)	33	51
Link Distance (ft)		391
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Spalding Dr & Eastern Drwy

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	31	56
Average Queue (ft)	27	10	11
95th Queue (ft)	32	30	48
Link Distance (ft)			324
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	200	50	
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Intersection: 7: Spalding Terrace &

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	158
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 19

Traffic Volume Worksheets

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

1. Spalding Dr @Technology Pkwy

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	23	17	172	212	45	71	60	176	56	394	87	537	285	464	115	864
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
Base Condition:	23	17	174	214	45	72	61	178	57	398	88	543	288	469	116	873
Total New Trips	0	0	0	0	0	0	0	0	0	3	0	3	1	9	0	10
Future Traffic Volumes:	23	17	174	214	45	72	61	178	57	401	88	546	289	478	116	883

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	153	20	452	625	24	13	20	57	12	584	52	648	59	371	13	443
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
Base Condition:	155	20	457	632	24	13	20	57	12	590	53	655	60	375	13	448
Total New Trips	0	0	1	1	0	0	0	0	0	8	0	8	0	5	0	5
Future Traffic Volumes:	155	20	458	633	24	13	20	57	12	598	53	663	60	380	13	453

Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	77	3	88	168	5	7	20	32	18	504	105	627	112	425	7	544
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
Base Condition:	78	3	89	170	5	7	20	32	18	509	106	633	113	429	7	549
Total New Trips	0	0	1	1	0	0	0	0	0	7	0	7	0	4	0	4
Future Traffic Volumes:	78	3	90	171	5	7	20	32	18	516	106	640	113	433	7	553

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

2. Spalding Dr@School Drop off

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	0	0	0	0	0	368	362	730	199	806	0	1005
Growth Factor (%):	0	0	0		0	0	0		1	1	1		1	1	1	
Base Condition:	0	0	0	0	0	0	0	0	0	372	366	738	201	814	0	1015
Total New Trips	0	0	0	0	0	0	0	0	0	3	0	3	0	10	0	10
Future Traffic Volumes:	0	0	0	0	0	0	0	0	0	375	366	741	201	824	0	1025

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	0	0	0	0	0	1032	9	1041	4	434	0	438
Growth Factor (%):	0	0	0		0	0	0		1	1	1		1	1	1	
Base Condition:	0	0	0	0	0	0	0	0	0	1042	9	1051	4	438	0	442
Total New Trips	0	0	0	0	0	0	0	0	0	9	0	9	0	5	0	5
Future Traffic Volumes:	0	0	0	0	0	0	0	0	0	1051	9	1060	4	443	0	447

Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	0	0	0	0	0	530	55	585	35	532	0	567
Growth Factor (%):	0	0	0		0	0	0		1	1	1		1	1	1	
Base Condition:	0	0	0	0	0	0	0	0	0	535	56	591	35	537	0	572
Total New Trips	0	0	0	0	0	0	0	0	0	7	0	7	0	4	0	4
Future Traffic Volumes:	0	0	0	0	0	0	0	0	0	542	56	598	35	541	0	576

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

3. Spalding Dr@School Exit Drwy

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	169	0	156	325	0	0	0	0	0	364	0	364	0	808	0	808
Growth Factor (%):	1	1	1		0	0	0		1	1	1		1	1	1	
Base Condition:	171	0	158	329	0	0	0	0	0	368	0	368	0	816	0	816
Total New Trips	0	0	0	0	0	0	0	0	0	3	0	3	0	10	0	10
Future Traffic Volumes:	171	0	158	329	0	0	0	0	0	371	0	371	0	826	0	826

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	7	0	4	11	0	0	0	0	0	1014	0	1014	0	412	0	412
Growth Factor (%):	1	1	1		0	0	0		1	1	1		1	1	1	
Base Condition:	7	0	4	11	0	0	0	0	0	1024	0	1024	0	416	0	416
Total New Trips	0	0	0	0	0	0	0	0	0	9	0	9	0	5	0	5
Future Traffic Volumes:	7	0	4	11	0	0	0	0	0	1033	0	1033	0	421	0	421

Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	127	0	134	261	0	0	0	0	0	513	0	513	0	446	0	446
Growth Factor (%):	1	1	1		0	0	0		1	1	1		0	1	1	
Base Condition:	128	0	135	263	0	0	0	0	0	518	0	518	0	450	0	450
Total New Trips	0	0	0	0	0	0	0	0	0	7	0	7	0	4	0	4
Future Traffic Volumes:	128	0	135	263	0	0	0	0	0	525	0	525	0	454	0	454

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

4. Spalding Dr@School Bus Drwy

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	8	0	2	10	0	0	0	0	0	452	32	484	30	847	0	877
Growth Factor (%):	1	0	1		0	0	0		0	1	1		1	1	0	
Base Condition:	8	0	2	10	0	0	0	0	0	457	32	489	30	855	0	885
Total New Trips	0	0	0	0	0	0	0	0	0	3	0	3	0	10	0	10
Future Traffic Volumes:	8	0	2	10	0	0	0	0	0	460	32	492	30	865	0	895

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	21	0	7	28	0	0	0	0	0	992	35	1027	29	379	0	408
Growth Factor (%):	1	0	1		0	0	0		0	1	1		1	1	0	
Base Condition:	21	0	7	28	0	0	0	0	0	1002	35	1037	29	383	0	412
Total New Trips	0	0	0	0	0	0	0	0	0	9	0	9	0	5	0	5
Future Traffic Volumes:	21	0	7	28	0	0	0	0	0	1011	35	1046	29	388	0	417

Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	44	0	47	91	0	0	0	0	0	619	16	635	18	392	0	410
Growth Factor (%):	1	0	1		0	0	0		0	1	1		1	1	0	
Base Condition:	44	0	47	91	0	0	0	0	0	625	16	641	18	396	0	414
Total New Trips	0	0	0	0	0	0	0	0	0	7	0	7	0	4	0	4
Future Traffic Volumes:	44	0	47	91	0	0	0	0	0	632	16	648	18	400	0	418

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

5.Spalding Dr@Spalding Terrance

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	4	0	23	27	10	490	0	500	0	844	6	850
Growth Factor (%):	0	0	0		1	0	1		1	1	0		0	1	1	
Base Condition:	0	0	0	0	4	0	23	27	10	495	0	505	0	852	6	858
Total New Trips	0	0	0	0	8	0	10	18	3	0	0	3	0	0	3	3
Future Traffic Volumes:	0	0	0	0	12	0	33	45	13	495	0	508	0	852	9	861

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	3	0	5	8	10	984	0	994	0	384	5	389
Growth Factor (%):	0	0	0		1	0	1		1	1	0		0	1	1	
Base Condition:	0	0	0	0	3	0	5	8	10	994	0	1004	0	388	5	393
Total New Trips	0	0	0	0	4	0	5	9	9	0	0	9	0	0	7	7
Future Traffic Volumes:	0	0	0	0	7	0	10	17	19	994	0	1013	0	388	12	400

Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	3	0	4	7	9	674	0	683	0	402	3	405
Growth Factor (%):	0	0	0		1	0	1		1	1	0		0	1	1	
Base Condition:	0	0	0	0	3	0	4	7	9	681	0	690	0	406	3	409
Total New Trips	0	0	0	0	3	0	4	7	7	0	0	7	0	0	6	6
Future Traffic Volumes:	0	0	0	0	6	0	8	14	16	681	0	697	0	406	9	415

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

6. Spalding Dr@School Main Drwy

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	34	0	143	177	0	0	0	0	0	395	78	473	154	747	0	901
Growth Factor (%):	1	0	1		0	0	0		0	1	1		1	1	0	
Base Condition:	34	0	144	178	0	0	0	0	0	399	79	478	156	754	0	910
Total New Trips	0	0	0	0	0	0	0	0	0	8	0	8	0	3	0	3
Future Traffic Volumes:	34	0	144	178	0	0	0	0	0	407	79	486	156	757	0	913

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	6	0	65	71	0	0	0	0	0	967	8	975	35	378	0	413
Growth Factor (%):	1	0	1		0	0	0		0	1	1		1	1	0	
Base Condition:	6	0	66	72	0	0	0	0	0	977	8	985	35	382	0	417
Total New Trips	0	0	0	0	0	0	0	0	0	4	0	4	0	7	0	7
Future Traffic Volumes:	6	0	66	72	0	0	0	0	0	981	8	989	35	389	0	424

Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	10	0	111	121	0	0	0	0	0	629	32	661	91	390	0	481
Growth Factor (%):	1	0	1		0	0	0		0	1	1		1	1	0	
Base Condition:	10	0	112	122	0	0	0	0	0	635	32	667	92	394	0	486
Total New Trips	0	0	0	0	0	0	0	0	0	3	0	3	0	6	0	6
Future Traffic Volumes:	10	0	112	122	0	0	0	0	0	638	32	670	92	400	0	492

14-030 Spalding Drive Development

Traffic Volumes
Future Conditions

A&R Engineering
August 2014

7.Spalding Terrance @ Site Drwy

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	16	0	16	0	27	0	27	0	0	0	0	0	0	0	0
Growth Factor (%):	0	1	1		0	1	0		0	1	0		1	1	1	
Base Condition:	0	16	0	16	0	27	0	27	0	0	0	0	0	0	0	0
Total New Trips	0	0	6	6	0	0	0	0	0	0	0	0	18	0	0	18
Future Traffic Volumes:	0	16	6	22	0	27	0	27	0	0	0	0	18	0	0	18

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	15	0	15	0	8	0	8	0	0	0	0	0	0	0	0
Growth Factor (%):	0	1	1		0	1	0		0	1	0		1	1	1	
Base Condition:	0	15	0	15	0	8	0	8	0	0	0	0	0	0	0	0
Total New Trips	0	0	16	16	0	0	0	0	0	0	0	0	9	0	0	9
Future Traffic Volumes:	0	15	16	31	0	8	0	8	0	0	0	0	9	0	0	9

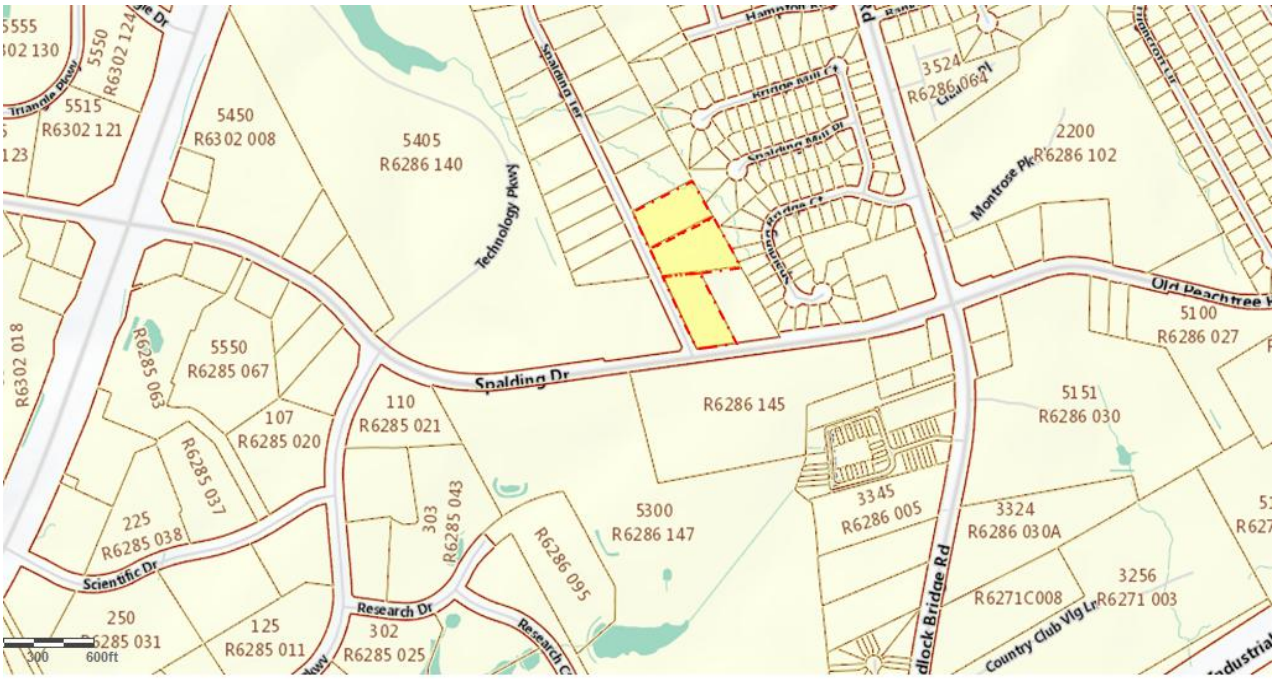
Mid-Day Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	12	0	12	0	7	0	7	0	0	0	0	0	0	0	0
Growth Factor (%):	0	1	1		0	1	0		0	1	0		1	1	1	
Base Condition:	0	12	0	12	0	7	0	7	0	0	0	0	0	0	0	0
Total New Trips	0	0	13	13	0	0	0	0	0	0	0	0	7	0	0	7
Future Traffic Volumes:	0	12	13	25	0	7	0	7	0	0	0	0	7	0	0	7

CITY OF PEACHTREE CORNERS
COMMUNITY DEVELOPMENT
147 Technology Parkway, Suite 200, Peachtree Corners, GA 30092
Tel: 678.691.1200 | www.cityofpeachtreecornersga.com

PUBLIC HEARING

OGLETHORPE



CASE NUMBER:	RZ2014-001		
HEARING DATES:	**PLANNING COMMISSION**	**CITY COUNCIL 1ST READING**	**CITY COUNCIL 2ND READING**
	10/14/14	10/21/14	11/18/14
PROPERTY ADDRESS:	3496 & 3506 Spalding Terrace and 5297 Spalding Drive		

Permeable Pavers

COST COMPARISON FOR PERMEABLE PAVERS

Introduction

It is true that Permeable Paver systems may incur a higher cost in the initial stages of installation, but you will find that in the long term, the overall costs will even out when you compare it to the more conventional methods of paving. Unlike other types of pavers, Permeable Pavers will reduce the costs entailed in obtaining piping for underground drainage purposes and other storm water systems.

Overall you will find that permeable or pervious pavers can actually save you money on things such as: investments in reservoirs, maintenance and repair of storm water drainage systems, and storm sewer extensions.

Commercial Savings

When you consider some of the larger, commercial types of Permeable Pavers installations, such as parking lots for shopping malls, contractors can save quite a lot of money. They can use the permeable pavers as the storm water management system, rather than having to have both the paved surface and a storm water drain. They save time on the actual installation process and save money on the materials and components they need to make sure that the surface is well drained. Then in turn, the client will save money as well! Therefore, you can save on land costs and construction costs, while gaining the benefits of flood prevention and recharging the ground water. It is indeed a win-win situation!

surface is well drained. Then in turn, the client will save money as well!

Therefore, you can save on land costs and construction costs, while gaining the benefits of flood prevention and recharging the ground water. It is indeed a win-win situation!

COST COMPARISON

It is difficult to obtain accurate site costs and life-cycle costs for Permeable Pavements, for so many factors need to be taken into consideration. But there is a general cost comparison for the common types of Pervious Pavers.

Asphalt: Asphalt tends to cost between 50c and $1 per square foot of installed pavement. This sounds quite cheap, but it does not include the costs of any storm water management systems or drainage piping.

Grass/Gravel Pavers: Grass and gravel pavers can range in the price bracket starting at around $1.50 and up to about $5.75, per square foot of installed pavement.

Porous Concrete: Porous concrete can cost anything from $2.00 up to about $6.50, per square foot of installed pavement.

Interlocking Concrete Paver Blocks: Interlocking concrete pavers range in price from $5.00 to about $10.00 per square foot of installed pavement.

A more accurate cost comparison can be defined if one takes into consideration the added costs of storm water management systems. When you add these costs to the Asphalt pavement, it will end up costing between $9.50 and $11.50 per square foot of installed pavement. So when you estimate the cost of a type of paver, you must calculate the water management costs also, because a Permeable Paver will provide these requirements automatically.

What is the cost of permeable pavement?

Although costs are constantly changing some types of permeable pavement can be compared using the data from a 2009 EPA study (Reference 10)

Pavement	Paved Area	Quote ($)	Quote ($)	Quote ($ sq yd)	Quote ($ sq yd)
	(sq ft)	Highest	Lowest	Highest	Lowest
Hot Mix Asphalt	36,225	98,600	92,620	24.50	23.01
Porous Asphalt	5,328	28,650	18,352	48,40	31.00
Porous Pavers	5,328	67,960	61,755	114.80	104.32
Porous Concrete	7,988	63,200	53,919	71.21	60.75

Source: Permeable Pavement Research –Edison New Jersey, Amy Rowe EPA National Risk Management Research Laboratory Final proposed costs reported by Kirit Shaw, S Services, Inc, June 2009 (2)

City of San Francisco Green Ordinance includes the following requirement for parking lots:

- → one street tree for every 20 feet of street right-of-way.
  See street tree details on previous page.

- → one interior tree for every 5 parking spaces. these interior trees should be of a size and species where canopies could be expected to shade 50% of the lot within 15 years.

- → Street trees must be both climate appropriate species as defined in the public Works and must be compatible with the water use requirements of Administrative code chapter 63. interior plantings need only be compatible with the water use requirements of Administrative code chapter 63.

- → provide a minimum of 20% permeable surfaces.

City of Peachtree Corners Zoning Code includes the following:

Sec. 1001.3 Improvement of Off-Street Parking Lots.

All off-street parking lots shall meet the following standards:
a. They shall be graded to insure proper drainage, installed on a minimum 4-inch gravel aggregate base with a minimum 2-inch asphalt topping or other approved surface of, concrete, porous concrete, or porous asphalt. An approved porous concrete, porous asphalt or grassed paving system shall be used for surplus parking. Grassed paving spaces shall be located on the perimeter edge of a parking lot.

b. Each parking space, except for grassed paving systems, shall be clearly marked by a painted stripe no less than three (3) inches wide running the length of each of the longer sides of the space or by curbing or by other acceptable method which clearly
marks and delineates the parking space within the parking lot.