Planning Commission Members
District 1: Alan Patterson
District 2: Tamecca Neely
District 3: Charles Deese, Chair
District 4: James Barnett, Vice-Chair
District 5:
District 6: Sheila Hinson
District 7: Ben Levine

County Attorney
John K. DuBose III

Clerk to Planning Commission
Jennifer Bryan

Development Services Director
Rox Burhans

May 17, 2022	6:00 PM	101 North Main Street Lancaster, SC 29720

LANCASTER COUNTY PLANNING COMMISSION
County Council Chambers, County Administration Building, 101 North Main Street, Lancaster, SC 29720

Planning Commission monthly meeting AGENDA

1. **Call to Order Regular Meeting and Roll Call Vote**

2. **Approval of the Agenda**

3. **Citizen's Comments**

   [Lancaster County welcomes comments and input from citizens who may not be able to attend meetings in person. Written comments may be submitted via mail to ATTN: Jennifer Bryan, Post Office Box 1809, Lancaster, SC, 29721, by email to Jennifer Bryan at jbryan@lancastersc.org or by online submission by selecting the "Citizens Comments" quick link located on the County website homepage at https://www.mylancastersc.org/. Comments must be no longer than approximately 3 minutes when read aloud. Comments received will be acknowledged during the Citizens Comments portion of the meeting. Comments will need to be received prior to 4:00 p.m. on the day of the meeting. Please use the same link above in order to submit input/comments for Public Hearings.]

4. **Approve Minutes**

   a. March 15, 2022 Regular Minutes

   Item forwarded to this agenda: insufficient votes for quorum at 4/7/22, 4/19/22, and 5/5/2022 meetings.

   b. May 5, 2022 Regular Minutes

5. **Public Items**

   a. RZ-2021-2803 Two Capital Partners a/k/a Tadlock*

   Application by Two Capital Partners to rezone 5 parcels comprising approximately 50.7 acres located at and adjacent to 9224 Tadlock Drive (TM#s 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, 0010-00-052.03) from Neighborhood Business (NB) and General Business (GB) to Regional Business (RB) district, to facilitate a development with mixed commercial and multi-family residential uses. Accompanied by Development Agreement.

   b. DA-2021-2803 Two Capital Partners*

   Application by Two Capital Partners for a Development Agreement for 5 parcels comprising approximately 50.7 acres located at and adjacent to 9224 Tadlock Drive (TM#s 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, 0010-00-052.03), to facilitate a development with

mixed commercial and multi-family residential uses.

c. RZ-2022-0672 Purser*

Application by Nathaniel B. Purser to rezone 1 acre parcel at 7984 Taxahaw Road (TM# 0093-00-004.04) from Rural Business (RUB) to Agricultural Residential (AR) zoning district, for the purpose of converting a former commercial building into a residence.

6. New Business

a. Discussion & Information: Interim Ordinance

b. Overview of next month's Agenda

c. Other

7. Adjourn

The Planning Commission makes a recommendation to County Council on these items. Recommendations made at this meeting are tentatively scheduled for consideration by County Council in the following month. County Council agendas are posted online at https://lancastersc.novusagenda.com/agendapublic/meetingsresponsive.aspx

****The Planning Commission makes the final decision on these items.***

***Anyone requiring special services to attend this meeting should contact 285-1565 at least 24 hours in advance of this meeting. Lancaster County Planning Commission agendas are posted at the Lancaster County Administration Building and are available on the Website:* www.mylancastersc.org**

Meetings are live streamed and can be found by using the following link: https://mylancastersc.org/boards___commissions/planning_commission/planning_commission_meetings.php

Agenda Item Summary

Ordinance # / Resolution #: March 15, 2022 Regular Minutes
Contact Person / Sponsor: J. Bryan
Department: Planning
Date Requested to be on Agenda: 5/17/2022

Issue for Consideration:

Points to Consider:

Recommendation:

ATTACHMENTS:

Description	Upload Date	Type
March 15, 2022 Regular Minutes	3/16/2022	Exhibit

MEMBERS OF LANCASTER COUNTY PLANNING COMMISSION
CHARLES DEESE, DISTRICT 3, CHAIRMAN
JAMES BARNETT, DISTRICT 4, VICE-CHAIRMAN
TAMECCA NEELY, DISTRICT 2
, DISTRICT 5
SHEILA HINSON, DISTRICT 6
ALAN PATTERSON, DISTRICT 1
BEN LEVINE, DISTRICT 7
CLERK: JENNIFER BRYAN

MINUTES
Lancaster County Planning Commission
March 15, 2022 6:00 p.m.

Chairman Deese called the meeting to order at 6:00 p.m.

1. **ROLL CALL**: Quorum is present (Four Commissioners)

Commissioners Present:

Tamecca Neely	James Barnett
Charles Keith Deese	Alan Patterson

Absent: Ben Levine, Sheila Hinson

No appointment has yet been made to fill District 5 seat. (Redistricting in progress)

Staff Present:

Rox Burhans, Development Services Director
Ashley Davis, Senior Planner
Robert Tefft, Senior Planner — Clerk: Jennifer Bryan

Others present: Billy Mosteller, Council member District 3
County Attorney John DuBose

The following press were notified of the meeting by email in accordance with the Freedom of Information Act: The Lancaster News, Kershaw News Era, The Rock Hill Herald, The Fort Mill Times, Cable News 2, Channel 9, and the local Government Channel. The agenda was also posted in the lobby of the County Administration Building for the required length of time, and was published on the County website.

2. APPROVE AGENDA

Chairman Deese called for a motion to approve the Agenda.
Llewellyn Development has withdrawn; **Motion to Approve agenda with item 5a withdrawn**, by **James Barnett**; 2nd by **Alan Patterson.**
Called vote: 4:0. Motion approved unanimously.

3. CITIZEN'S COMMENTS [see Sign-In sheet attached] none signed in**.**

4. APPROVE MINUTES

a. February 15, 2022 Regular Minutes

Chairman Deese called for a motion to approve February 15, 2022 Regular Minutes as written. Motion to Approve by **Alan Patterson**; 2nd by **James Barnett**.
Called vote: 4:0. Motion approved unanimously

b. March 3, 2022 Workshop Minutes

Chairman Deese stated that as Commissioner Tamecca Neely was absent on March 3, there was not a quorum to vote on approval of March 3, 2022 Workshop Minutes.
Item is continued to the next meeting.

5. PUBLIC ITEMS

a. RZ-2021-2975 Llewellyn Development LLC

Application by Llewellyn Development LLC to rezone approximately 37.9 acres of land located at 10695, 10681, and 10749 Harrisburg Road from Low Density Residential (LDR) District to Medium Density Residential (MDR) District.

Item withdrawn by applicant prior to meeting.

b. MX-2020-2051 The Lodges

Application by NR Property Owners LLC to approve a Master Development Plan and Preliminary Plat for approximately 38.88 acres of land located at the north side of Fort Mill Highway, approximately 325 feet east of Rosemont Drive (TM#s 0006-00-086.00, 0006-00-087.00, 0006-00-087.03, and 0006-00-087.04) for a 261-unit multi-family development.

Staff Presentation: Robert Tefft, Senior Planner, presented the application consistent with the staff report. Staff Recommendations: Conditional approval, subject to addressing remaining TRC/Evolve and staff comments.

Questions to staff: **Alan Patterson** asked if sidewalks connect to nearby commercial areas.

Comment from applicant(s): **Kevin Murphy** (Charlotte NC) The revised plan has same number of bedrooms and no changes to the footprint of buildings from prior plan, the changes are all through interior reconfiguration. Sidewalk extends to property line.

R. Tefft and **A. Davis** reviewed aerial views on-line, and concluded that sidewalks do connect to nearby commercial districts.

Questions from Commissioners: **Alan Patterson** asked if new impact fees would apply to this resubmission; attorney **John DuBose** said that they might apply to the additional units proposed [difference between original plan 217 and proposed 261], but details are still being worked out about how fees or a percentage thereof will be assessed.

Public Hearing: (See attachments: Sign-in Sheets) none signed in.

Chairman Deese closed Public hearing and called for a motion on item **MX-2020-2051 The Lodges.**
Motion to approve subject to stated conditions (page 4 of Staff Report), by Tamecca Neely; 2nd by James Barnett.
Discussion: none
Called vote: 4:0. **Motion is approved unanimously**.
This item does not require a hearing by County Council.

a. **RZ-2022-0175 Gabriel Jon Hardy**
   Application by Gabriel Jon Hardy to rezone approximately 38.92 acres located at the northwest corner of intersection of Hwy 9 and Catoe Road (TM# 0069-00-071.00) from Low Density Residential (LDR) to Medium Density Residential (MDR) district.

Staff Presentation: Ashley Davis, Senior Planner, presented the applications consistent with the staff report. TIA will come in with preliminary plat. LCWSD is working with applicant on sewer service to proposed development. Staff Recommendations: approval.
Questions to staff: none.

Comment from applicant(s): **Jon Hardy** (Lancaster resident): concurs with staff presentation; plan on bringing water and sewer service from Hollybrook; in response to comment by Chairman Deese, notes that sewer upgrade presents some challenges due to steep grade and wetlands.

Questions from Commissioners: **James Barnett** thanked applicant for bringing a project to southern part of County.

Public Hearing: (See attachments: Sign-in Sheets) none signed in.

Chairman Deese closed Public hearing and called for a motion on item **RZ-2022-0175 Gabriel Jon Hardy**
Motion to approve by James Barnett; 2nd by Tamecca Neely.
Discussion: **Alan Patterson** thanked developer for paying attention to connectivity, especially in southern part of the county.

Called vote: 4:0. **Motion is approved unanimously**.
Chairman Deese stated the item will go to County Council for consideration, and applicants will be notified of time and date.

6. **NEW BUSINESS**

a. **Overview of Next Month's Agenda**: per discussion at 3/3 workshop, April agenda will be split between two meetings:
April 7, 2022 at 5:00 p.m.: preliminary plat, Kershaw text amendment, and Heath Springs rezoning.
April 19, 2022 at 5:00 p.m.: rezoning and development agreement for Arbor Walk; preliminary plat for Edgewater Sunset Pointe (863 lots); possibly the presentation on Interim Ordinance, but not confirmed.

b. **Other**:
Comprehensive Plan (Ashley Davis): external website and survey are now live; over 60 responses so far on survey. Focus area meetings are next. Commissioners requested a weekly update on survey responses.

UDO (Robert Tefft): finalizing Interim Ordinance for presentation in April/May.

7. **ADJOURN**

Motion to adjourn by James Barnett; 2nd by Alan Patterson. Approved by unanimous consent. Adjourned at 6:29 p.m.

Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

Item 3: CITIZEN'S COMMENTS

General Comments or comments on matters not on tonight's agenda.

Council Chambers
101 N. Main Street, Lancaster South Carolina
Tuesday, March 15, 2022

Citizens are allowed 3 minutes per person to speak. Everyone speaking before Council will be required to do so in a civil manner. Council will not tolerate personal attacks on individual Council Members, County Staff or any person or group. Racial slurs will not be permitted. Council's number one priority is to conduct business for the citizens of this county.

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Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

WITHDRAWN

Item 5a: RZ-2021-2975 Llewellyn Development LLC

Application by Llewellyn Development to rezone 3 parcels totaling approximately 37.9 acres (TM#s 0003-00-043.00, 0003-00-043.02, & 0003-00-044.00) located at 10695, 10681 & 10749 Harrisburg Road, from Low Density Residential (LDR) to Medium Density Residential (MDR) zoning district for the purpose of developing a single-family residential neighborhood.

Council Chambers
101 N. Main Street, Lancaster South Carolina
Tuesday, March 15, 2022

Citizens are allowed 3 minutes per person to speak. Everyone speaking before Council will be required to do so in a civil manner. Council will not tolerate personal attacks on individual Council Members, County Staff or any person or group. Racial slurs will not be permitted. Council's number one priority is to conduct business for the citizens of this county.

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Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

Item 5b: MX-2020-2051 The Lodges

Application by NR Property Owners LLC to approve a Master Development Plan and Preliminary Plat for approximately 38.88 acres of land located at the north side of Fort Mill Highway, approximately 325 feet east of Rosemont Drive (TM#s 0006-00-086.00, 0006-00-087.00, 0006-00-087.03, and 0006-00-087.04) for a 261-unit multi-family development.

Council Chambers
101 N. Main Street, Lancaster South Carolina
Tuesday, March 15, 2022

Citizens are allowed 3 minutes per person to speak. Everyone speaking before Council will be required to do so in a civil manner. Council will not tolerate personal attacks on individual Council Members, County Staff or any person or group. Racial slurs will not be permitted. Council's number one priority is to conduct business for the citizens of this county.

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Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

Item 5c: RZ-2022-0175 Gabriel Jon Hardy

Application by Gabriel Jon Hardy to rezone approximately 38.92 acres located at the northwest corner of intersection of Hwy 9 and Catoe Road (TM# 0069-00-071.00) from Low Density Residential (LDR) to Medium Density Residential (MDR) district.

Council Chambers
101 N. Main Street, Lancaster South Carolina
Tuesday, March 15, 2022

Citizens are allowed 3 minutes per person to speak. Everyone speaking before Council will be required to do so in a civil manner. Council will not tolerate personal attacks on individual Council Members, County Staff or any person or group. Racial slurs will not be permitted. Council's number one priority is to conduct business for the citizens of this county.

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Agenda Item Summary

Ordinance # / Resolution #: Thursday, May 5, 2022 Regular Minutes
Contact Person / Sponsor: J. Bryan
Department: Planning
Date Requested to be on Agenda: 5/17/2022

Issue for Consideration:

Points to Consider:

Recommendation:

ATTACHMENTS:

Description	Upload Date	Type
Thursday, May 5, 2022 Regular Minutes	5/6/2022	Exhibit

MEMBERS OF LANCASTER COUNTY PLANNING COMMISSION
CHARLES DEESE, DISTRICT 3, CHAIRMAN
JAMES BARNETT, DISTRICT 4, VICE-CHAIRMAN
TAMECCA NEELY, DISTRICT 2
, DISTRICT 5
SHEILA HINSON, DISTRICT 6
ALAN PATTERSON, DISTRICT 1
BEN LEVINE, DISTRICT 7
CLERK: JENNIFER BRYAN

MINUTES
Lancaster County Planning Commission
May 5, 2022 5:00 p.m.

Chairman Deese called the meeting to order at 5:00 p.m.

1. **ROLL CALL**: Quorum is present (5 Commissioners)

Commissioners Present:
Tamecca Neely Ben Levine James Barnett
Sheila Hinson Charles Keith Deese

Absent: Alan Patterson

No appointment has yet been made to fill District 5 seat.

Staff Present:
Rox Burhans Clerk: Jennifer Bryan
Ashley Davis

The following press were notified of the meeting by email in accordance with the Freedom of Information Act: The Lancaster News, Kershaw News Era, The Rock Hill Herald, The Fort Mill Times, Cable News 2, Channel 9, and the local Government Channel. The agenda was also posted in the lobby of the County Administration Building for the required length of time, and was published on the County website.

2. APPROVE AGENDA

Chairman Deese called for a motion to approve the Agenda.
Motion to Amend Agenda to defer items **5a: RZ-2022-0387** and **5b: DA-20220387** (Arbor Walk Rezoning and Development Agreement respectively) per applicant's request, by James Barnett; 2nd by Sheila Hinson.
Discussion: no questions.
Called vote: 5:0. **Motion approved unanimously**
Motion to Approve amended agenda by James Barnett; 2nd by Sheila Hinson.
Called vote: 5:0. **Motion approved unanimously**.

3. CITIZEN'S COMMENTS [see Sign-In sheet attached]

Chairman Deese opened the floor to comments from the public. None signed in; floor was closed to Citizens' Comments.

4. APPROVE MINUTES

a. March 15, 2022 Regular Minutes

Item forwarded to this agenda: insufficient votes for a quorum at 4/7/2022 and 4/19/2022 meetings.

Chairman Deese called for a motion to approve; Commissioner Levine noted that both he and Sheila Hinson had been absent for the March 15, 2022 meeting, therefore there were insufficient votes for a quorum. **Item is deferred to May 17, 2022 meeting**.

b. April 19, 2022 Regular Minutes

Chairman Deese called for a motion to approve April 19, 2022 Regular Minutes as written. Motion to Approve by Ben Levine; 2nd by Sheila Hinson. Commissioner Neely abstains as absent from the meeting in question.
Called vote: 4:0**. Motion approved**.

5. PUBLIC ITEMS

a. RZ-2022-0387 Arbor Walk

Application by Arbor Walk, LLC to rezone approximately 112.5 acres located at or adjacent to 2991 Vance Baker Road (TM# 0009-00-015.00) from Low Density Residential (LDR) to Medium Density Residential- Cluster Subdivision Overlay (MDR-CSO) to create a 233-lot single-family residential development.
APPLICANT REQUESTED DEFERRAL TO JUNE 21, 2022

b. DA-2022-0387 Arbor Walk

Application by Arbor Walk, LLC for a Development Agreement for approximately 112.5 acres located at or adjacent to 2991 Vance Baker Road (TM# 0009-00-015.00) to create a 233-lot single-family residential development. [*Presented conjointly with item b) DA-2022-0387*]
APPLICANT REQUESTED DEFERRAL TO JUNE 21, 2022

c. RZ-2022-0355 Couch

Application by Robert Glenn Couch to rezone approximately 0.728 acres located at or adjacent to 547 Old Dixie Road (TM# 081D-0B-011.00) from Rural Neighborhood (RN) to General Business (GB), to allow construction of a salon and boutique.

Staff Presentation: Rox Burhans, Development Services Director, presented the application consistent with the staff report by Robert Tefft.
Staff Recommendations: Approval (no conditions).

Questions to staff: none.

Comment from applicant(s): not present.

Public Hearing: (See attachments: Sign-in Sheets) none signed in
[NOTE: Public Hearing was inadvertently skipped; Chairman Deese returned to this item for Public Hearing after item 5d was presented.]
Chairman Deese called for a motion on item 5c: **RZ-2022-0355**.
Motion to approve by Sheila Hinson; 2nd by James Barnett.

Discussion:
T. Neely asked if in cases such as this where the Future Land Use designation (Urban or Transitional) reflects potential annexation to City of Lancaster, there was any conversation with City planners. **R. Burhans** responded that the City does not at present have a Comprehensive Plan with Future Land Use designations, so such conversations do not routinely take place, but that in cases where annexation might further the applicant's proposed use, staff does encourage applicants to consult with City planning and zoning. City representatives are involved in aspects of the current Comprehensive Plan update, and the cooperative role may expand in the future.

Called vote: 5:0. **Motion is approved unanimously**.
Chairman Deese stated the item will go to County Council for consideration, and applicants will be notified of time and date.

d. RZ-2022-0412 Coulston

Application by Earl Coulston to rezone approximately 43.67 acres located at or adjacent to the southeast corner of Fork Hill Road and Little Dude Avenue (TM# 0141-00-024.00) from High Density Residential (HDR) to Medium Density Residential (MDR) district, for the purpose of creating a single-family residential development.

Staff Presentation: Ashley Davis, Senior Planner, presented the application consistent with the staff report. Staff Recommendations: Approval (no conditions).

Questions to staff:
B. Levine asked if staff knew why the parcel was zoned HDR. A. Davis responded that remaining documentation suggests that there were proposals or discussions at the time to develop the property as workforce housing for Haile Gold Mine. Chairman Deese confirmed that such use had been proposed but that developers never actually submitted plans subsequent to those discussions.

Comment from applicant(s): [**See 2 attached letters from Town of Kershaw**]

Dale Robertson (Kershaw SC): Mr. Robertson is a partner in R & C Investments, owns the property with Mr. Coulston. He provided copies of letters from the Town of Kershaw regarding utility infrastructure and the town government's support for the proposed project, and described the pressing need for housing in the Kershaw area.

Questions from Commissioners:
S. Hinson agreed that there is a desperate need for housing in Kershaw.

Public Hearing: (See attachments: Sign-in Sheets). None signed in.
Chairman Deese closed Public hearing and called for a motion on item 5d:
RZ-2022-0412.
Motion to approve by Sheila Hinson; 2nd by Ben Levine.

Discussion: none.

Called vote: 5:0. **Motion is approved unanimously**.
Chairman Deese stated the item will go to County Council for consideration, and applicants will be notified of time and date.

6. NEW BUSINESS

a. Overview of Next Month's Agenda;

Rox Burhans reviewed upcoming agenda for May 17, 2022:
One large rezoning with associated DA [Two Capital Partners a/k/a Tadlock, RZ/DA-2021-2803] and another smaller rezoning [RZ-2022-0672 Purser]. The Interim Ordinance [UDO-TA-2021-2980] will be presented at the June 2 meeting, to be held as a voting meeting for that purpose.

- Chairman Deese asked that an agenda item for May 17 be created under New Business for general discussion of the Interim Ordinance

b. Other

Comprehensive Plan Presentation: [see attached images of presentation slides]
Representatives from Benchmark (consultants) presented baseline data research and results of survey, and discussed the process going forward.

7. ADJOURN

Motion to Adjourn by James Barnett; 2nd by Ben Levine. Approved by unanimous consent. Meeting adjourned at **5:57 PM**.

Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

Item 3: CITIZEN'S COMMENTS

General Comments or comments on matters not on tonight's agenda.



Council Chambers
101 N. Main Street, Lancaster South Carolina
Thursday, May 5, 2022

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Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

Item 5c: RZ-2022-0355 Couch

Application by Robert Glenn Couch to rezone approximately 0.728 acres located at or adjacent to 547 Old Dixie Road (TM# 081D-0B-011.00) from Rural Neighborhood (RN) to General Business (GB), to allow construction of a salon and boutique.

Council Chambers
101 N. Main Street, Lancaster South Carolina
Thursday, May 5, 2022

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Lancaster County
South Carolina

PLANNING COMMISSION
Public Hearing Sign In Sheet

Item 5d: RZ-2022-0412 Coulston

Application by Earl Coulston to rezone approximately 43.67 acres located at or adjacent to the southeast corner of Fork Hill Road and Little Dude Avenue (TM# 0141-00-024.00) from High Density Residential (HDR) to Medium Density Residential (MDR) district, for the purpose of creating a single-family residential development.

Council Chambers
101 N. Main Street, Lancaster South Carolina
Thursday, May 5, 2022

Citizens are allowed 3 minutes per person to speak. Everyone speaking before Council will be required to do so in a civil manner. Council will not tolerate personal attacks on individual Council Members, County Staff or any person or group. Racial slurs will not be permitted. Council's number one priority is to conduct business for the citizens of this county.

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TOWN OF KERSHAW

Continued Progress,
A Goal

Community Pride,
A Reality

Monday, December 13, 2021

Earl Coulston
8332 Regent Parkway
Fort Mill, SC 29715

Dear Mr. Coulston,

This letter is to inform you that the Town of Kershaw has the capacity to provide sewer services for your proposed improvements to the property located at the corner of Little Dude Ave. and Fork Hill Road, parcel ID number 0141-00-024.00. It is the towns understanding the proposed usage for this property is to build 115 single family residences. The Town of Kershaw has the capacity to provide sewer services if the following conditions are met:

1. The owner/developer agrees to fund all cost associated with upgrade and/or installation of new sewer infrastructure to include but not limited to the upgrade and or installation of existing infrastructure such as force main lines and existing sewer lines.
2. The owner/developer agrees to fund all cost associated with upgrade and/or installation of new pump/lift stations.
3. The owner/developer/engineer shall provide the town with all engineering drawings or maps at no cost to the town.
4. All executed easements necessary for the installation of the system(s) shall be dedicated to the Town of Kershaw at no cost prior to acceptance. Certified plats shall be provided to the Town of Kershaw when requested.
5. No liability whatsoever for injuries/damages resulting from system(s) installation shall be transferred to the Town and the owner/developer/engineer shall keep in force and effect all necessary liability insurance necessary to indemnify the Town should it be sued for such.
6. The developer will provide the names and contact details of all contractors responsible for the installation of the system(s).

To reiterate, The Town of Kershaw Wastewater Treatment Plant does have the capacity to provide services for the current proposed number of units for this project. Should the details of the project change, please communicate these changes to us as soon as possible so that we can reevaluate capacity.

Please feel free to contact me with any questions or concerns.

Sincerely,

Ryan McLemore
Administrator
Town of Kershaw

TOWN OF KERSHAW

Continued Progress,
A Goal

Community Pride,
A Reality

Lancaster County Planning Commission
P.O. Box 1809
Lancaster, SC 29720

RE: RZ-2022-0412

Dear Commissioners,

The Town of Kershaw would like to express its support for the rezoning of property located at the corner of Fork Hill Rd. and Little Dude Ave., (TM# 0141-00-024.00). Although this property is not located within the cooperate limits of the town of Kershaw, we believe the planned development will have a significant impact not only for the Town of Kershaw but for the southern end of Lancaster County as well. This area is in dire need of more housing, and this will be a welcoming venture.

Thank you all for you time and consideration on this rezoning issue.

Sincerely,

Ryan McLemore
Administrator
Town of Kershaw

113 South Hampton St. • P.O. Box 145 • Kershaw, SC 29067 • Telephone: (803) 475-6065 • Facsimile: (803)475-4405
RECYCLED PAPER

Lancaster 2040
COMPREHENSIVE PLAN



Planning Commission Meeting
May 5, 2022

Purpose of the Plan

- Community Vision for the Future of Lancaster County
- Guide for land use and development throughout the County
- Guide for capital investments and community initiatives
- Compliance with the Comprehensive Planning Enabling Act of 1994
- Particular focus on:

Growth Management Strategies	Recreation and Open Space
Transportation	Economic Development
Loss of Agricultural and Rural Lands	Community Beautification
Natural Resource Extraction	Panhandle, Greater Lancaster, Southern Lancaster

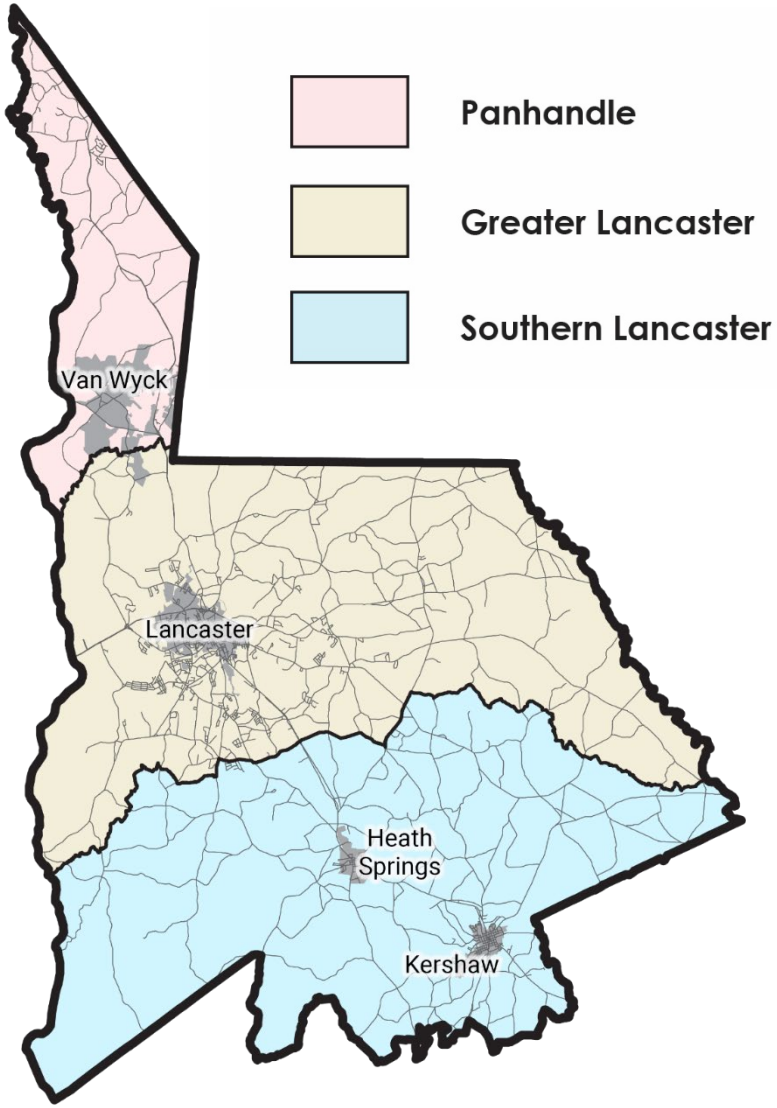
Steering Committee Guidance

- 15 members appointed by the County Council
- Intended to act as an advisory body to the consultant and County staff
- Review and discuss information, ideas, and recommendations
- Assist with public outreach and engagement
- Give final recommendation to the Plan prior to advancing to the Planning Commission and County Council
- Will meet approximately 12 times during the process

Have already held 4 meetings

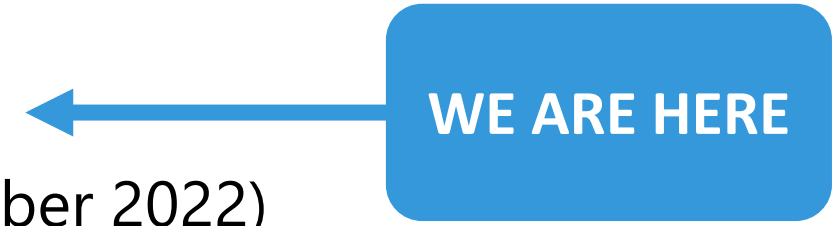
Planning Areas

- 3 Distinct Geographic Areas
- Panhandle, Greater Lancaster, Southern Lancaster
- Planning Area Focus Groups for Each Area
- One member from each Focus Group on Steering Committee
- Provide specific input on the Planning Areas as the process moves forward
- Will meet approximately 5 times with each Focus Group



Scope of Work and Timeline

- **5 major phases to be completed over 21 months**
  - Baseline Review (March 2022)
  - Key Topic Exploration (September 2022)
  - Prepare Area Plans (November 2022)
  - Prepare Full Plan (March 2023)
  - Adoption Process (Adopted by July 2023)



Public Engagement Plan

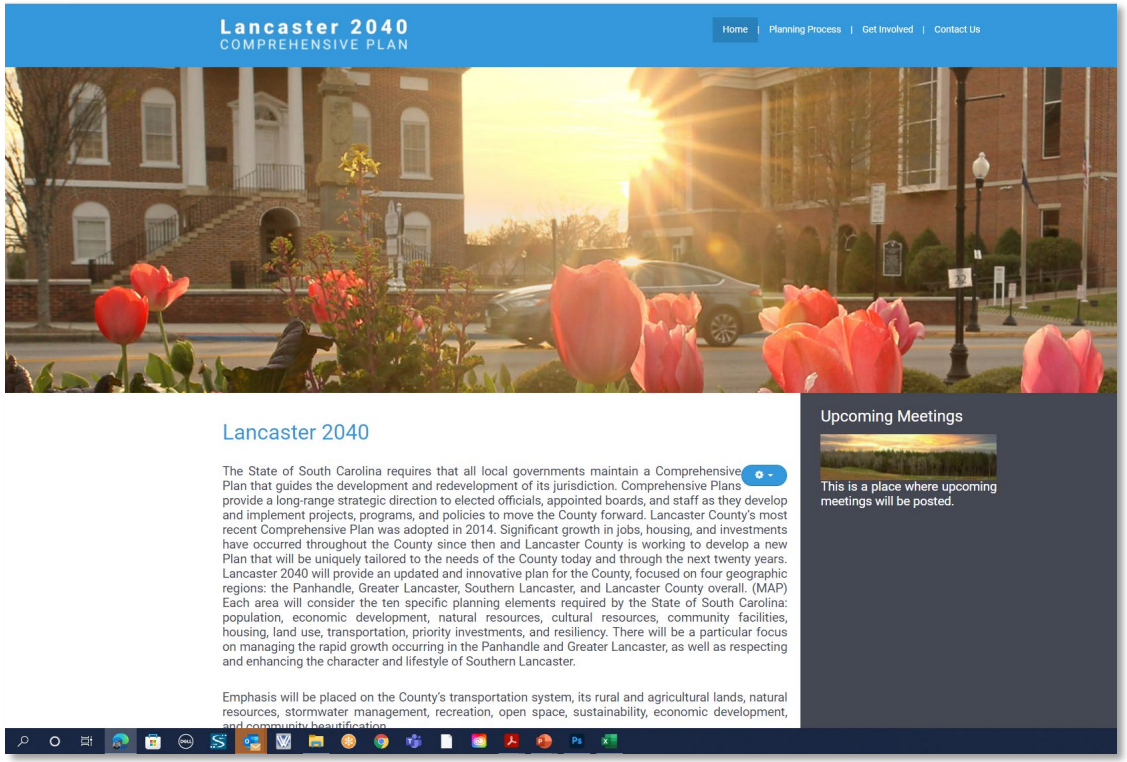
- Steering Committee Engagement (12x)
- Focus Group Engagement (5x – for each Planning Area)
- Planning Commission (4x)
- County Council (6x)
- Listening Sessions
- General Public Meetings (10x)

Listening Sessions

- Approximately 40 people were interviewed in small groups
  - February 10th & 11th in-person
  - February 23rd & 24th by phone
- Variety of Groups and Expertise
  - Public Works, EMS, Coroner's Office, MUSC (Hospital), Non-Profit Groups, Sheriff, Emergency Management, Developers, County Schools, USC Lancaster, County Planning / Development, Utility Providers, Parks and Recreation, Economic Development, City of Lancaster, Town of Van Wyck

Public Outreach

- **Digital Engagement**
  - Website (Lancaster2040.com)
  - Project Updates
  - Community Survey
  - Interactive Engagement Tools
  - Social Media
  - Email Lists
- **Traditional Outreach**
  - Local media outlets
  - Press Releases



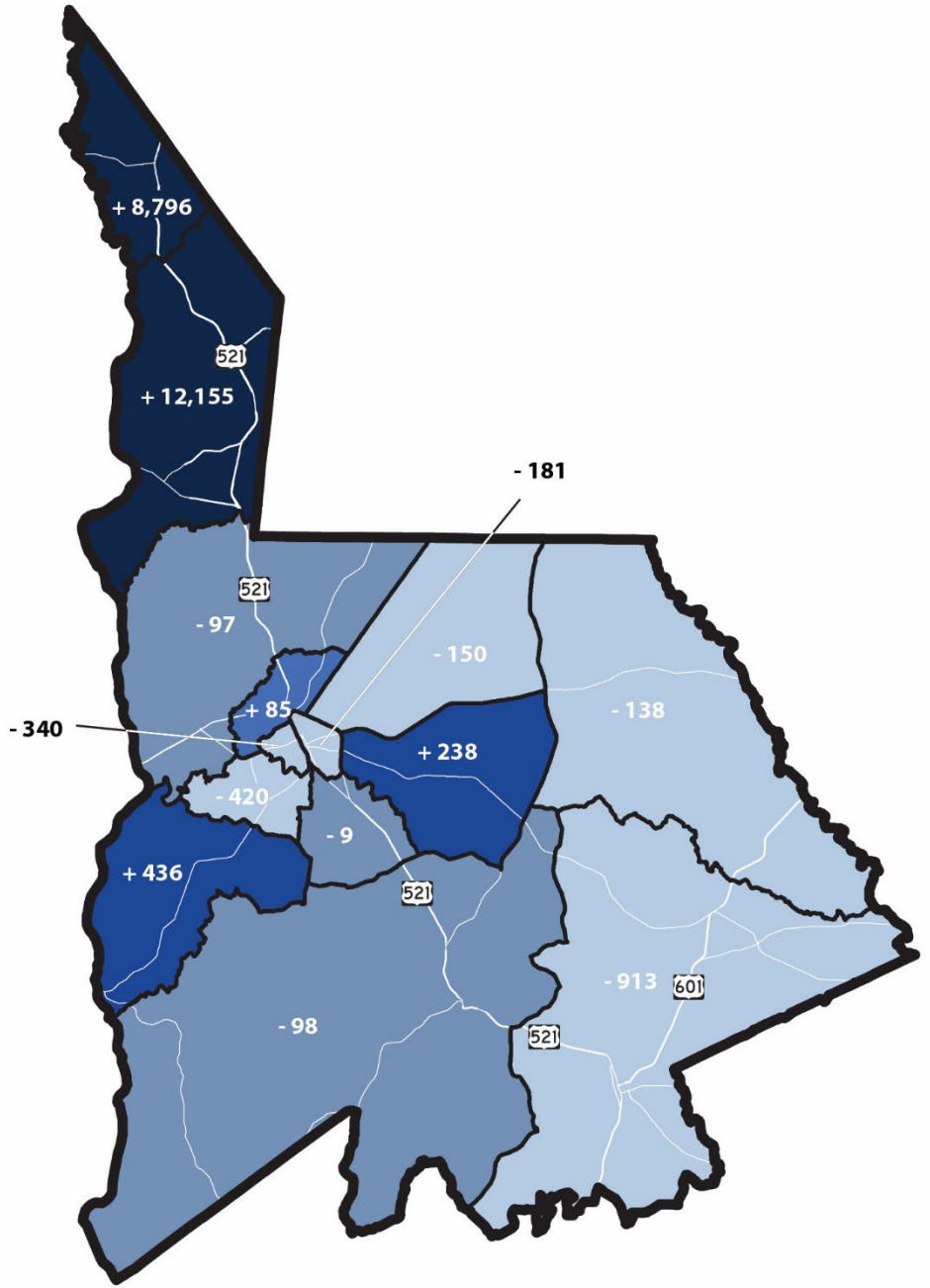
Public Engagement Updates

- Online Engagement
  - 1,945 survey participants
  - 3,637 website views
  - 1,172 unique users visited Lancaster2040.com
  - 112 people have joined the email update list
  - 8,500 people reached through Facebook ads
    - 850 actual engagements through Facebook

Baseline Information Review

Population Change

- The County as a whole is growing fast
- Although not at the same rate county-wide



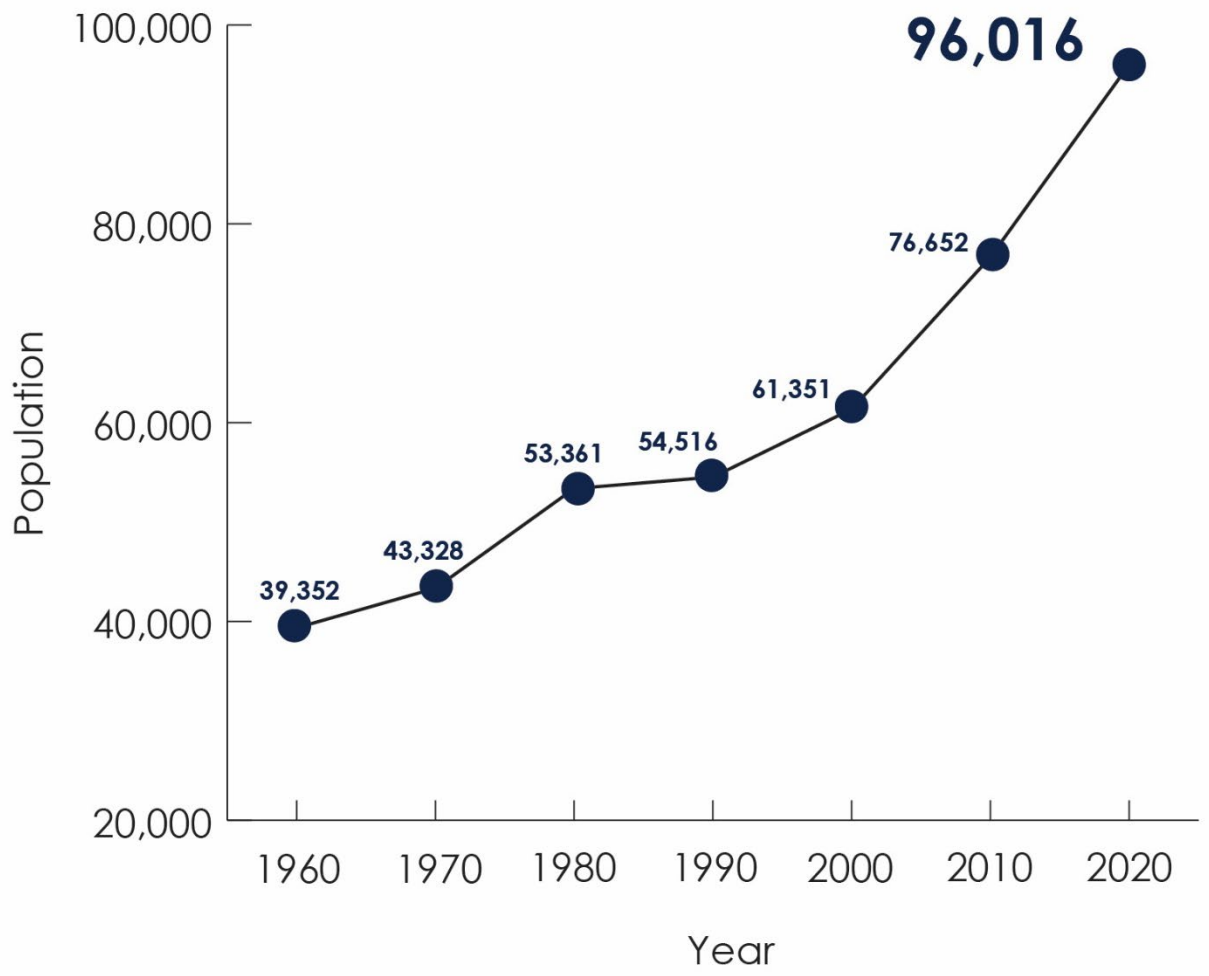
2010 – 2020 Population Change
(by Census Tract)

- Growth of more than 500 people
- Growth of 100 - 500 people
- Growth of up to 100 people
- Decrease of up to 100 people
- Decrease of More than 100 people

Source: United States Census

Population Change

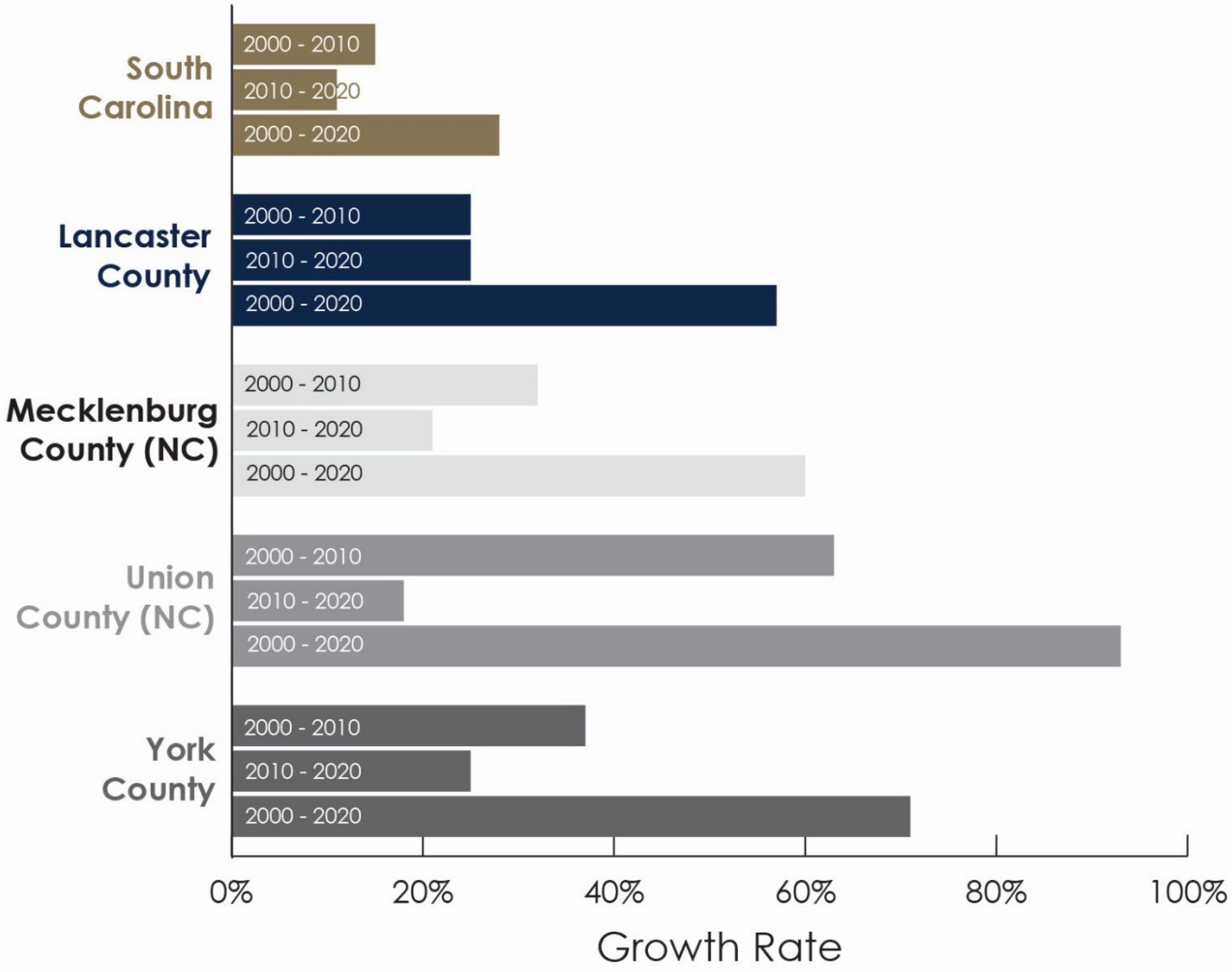
- 56,600+ new residents in 50 years
- Greatest growth occurring in last 20 years



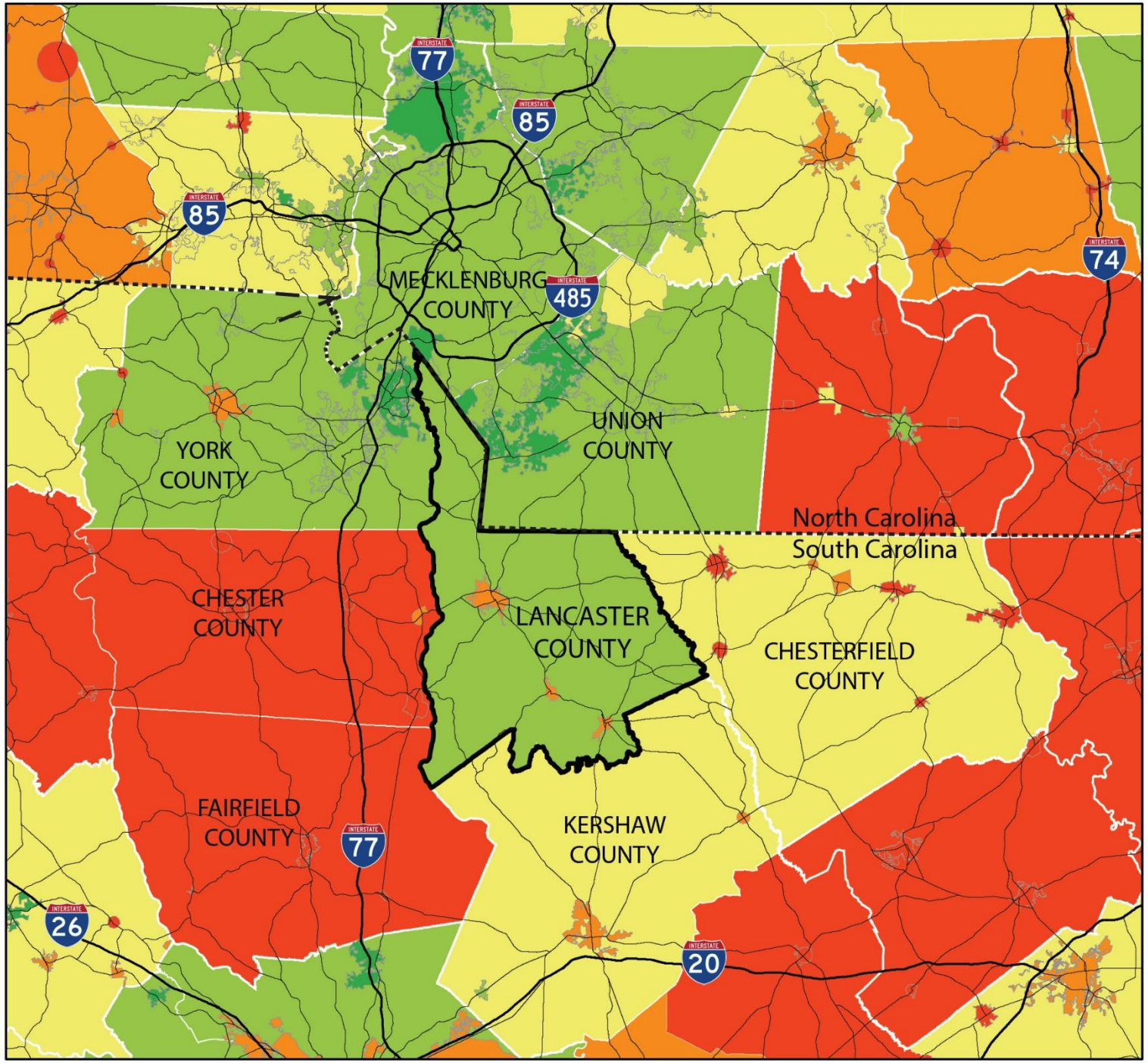
Source: United States Census

Population Growth Comparisons

- Population growth rate around 60% in last 20 years
- Generally comparable to the region as a whole
  - Slightly ahead from 2010 - 2020
- Growing twice as fast as the State



Source: United States Census



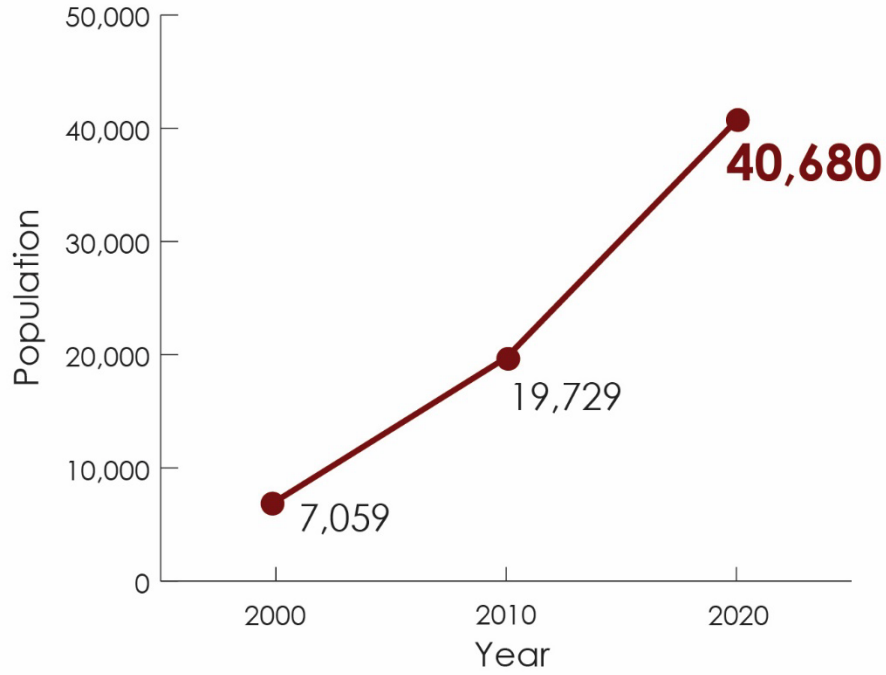
2000 - 2020 Population Change

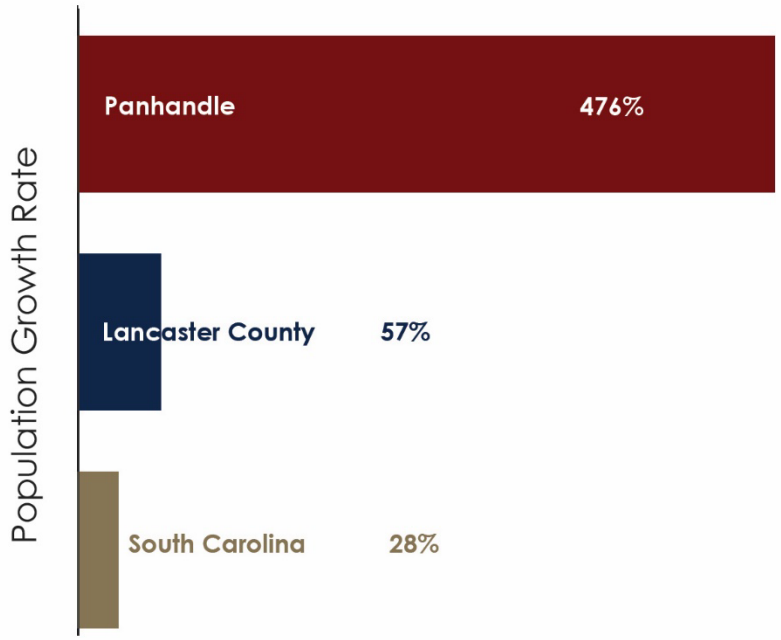
- Lost Population
- 0 - 5% Growth Rate
- 6 - 30% Growth Rate
- 31 - 100% Growth Rate
- 100% or Greater Growth

Regional Population Change

Panhandle Population

- Fastest growing region in the County
- 33,000+ new residents in 20 years

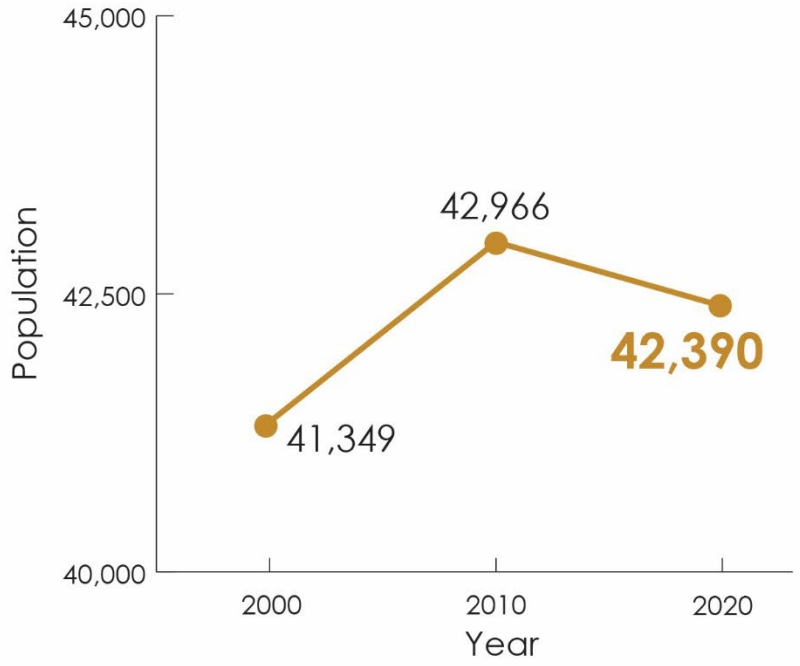


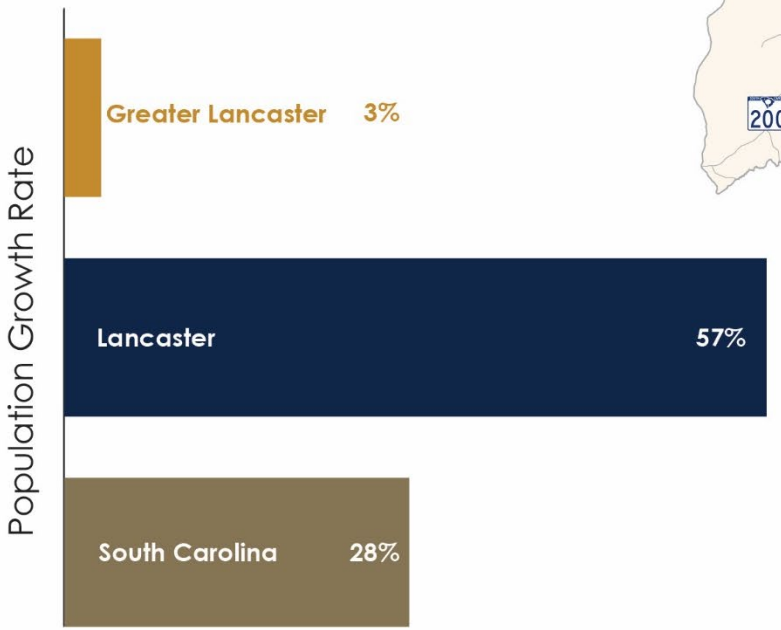


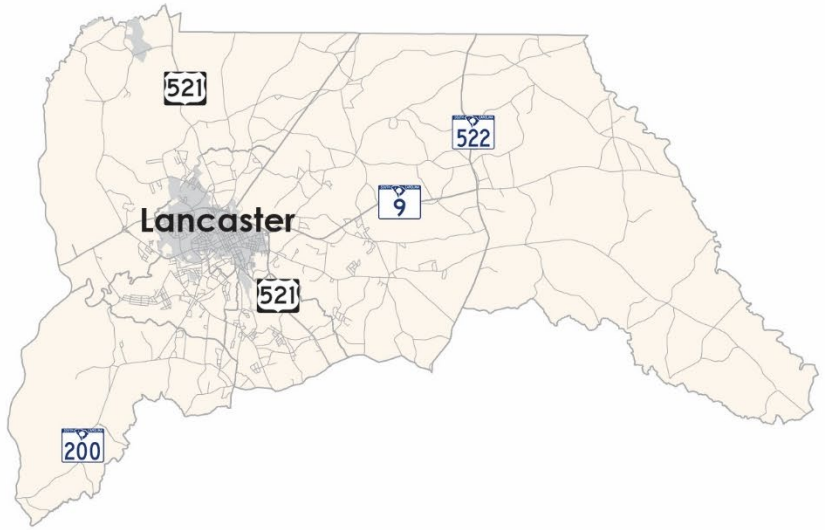
Source: United States Census

Greater Lancaster Population

- 1,000+ new residents in 20 years



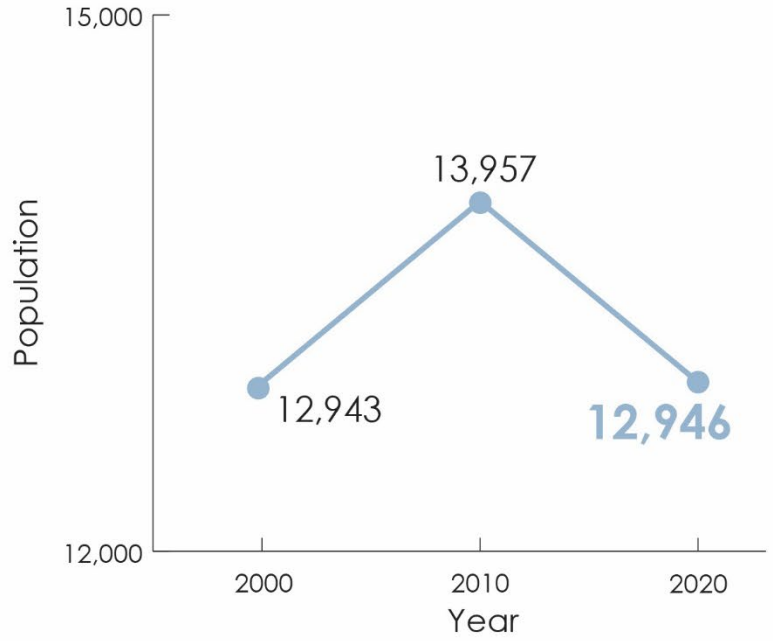


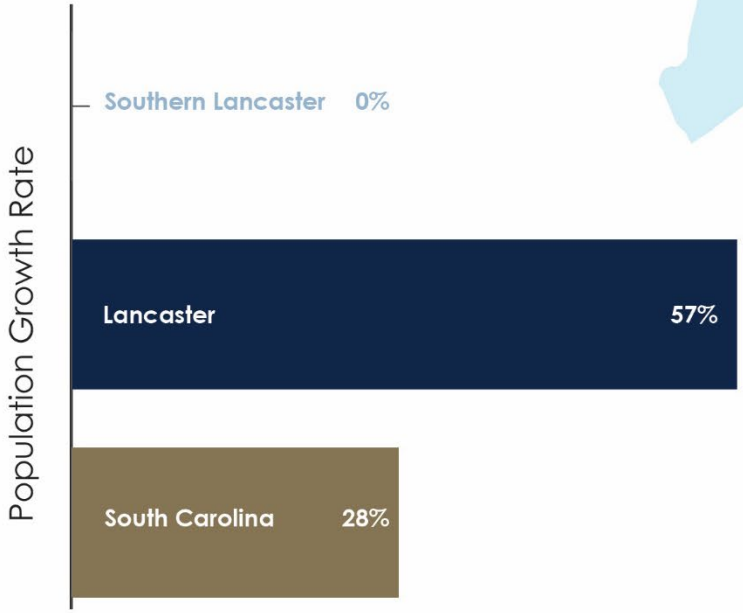


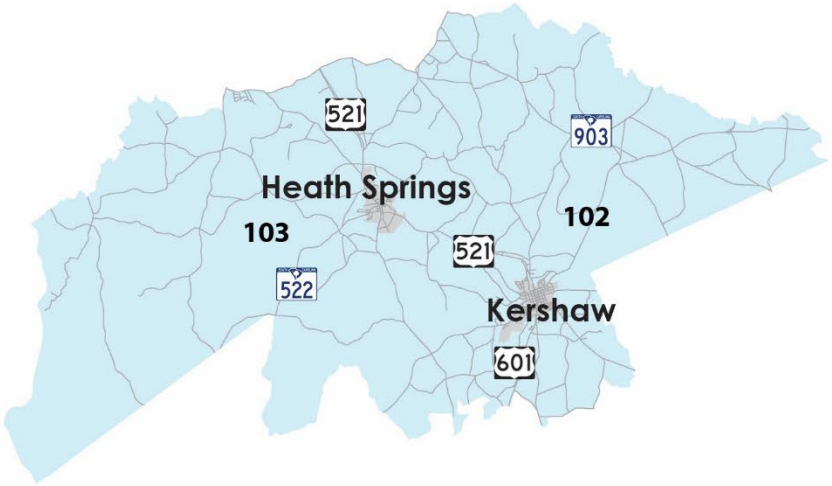
Source: United States Census

Southern Lancaster Population

- Static Population for 20 Years

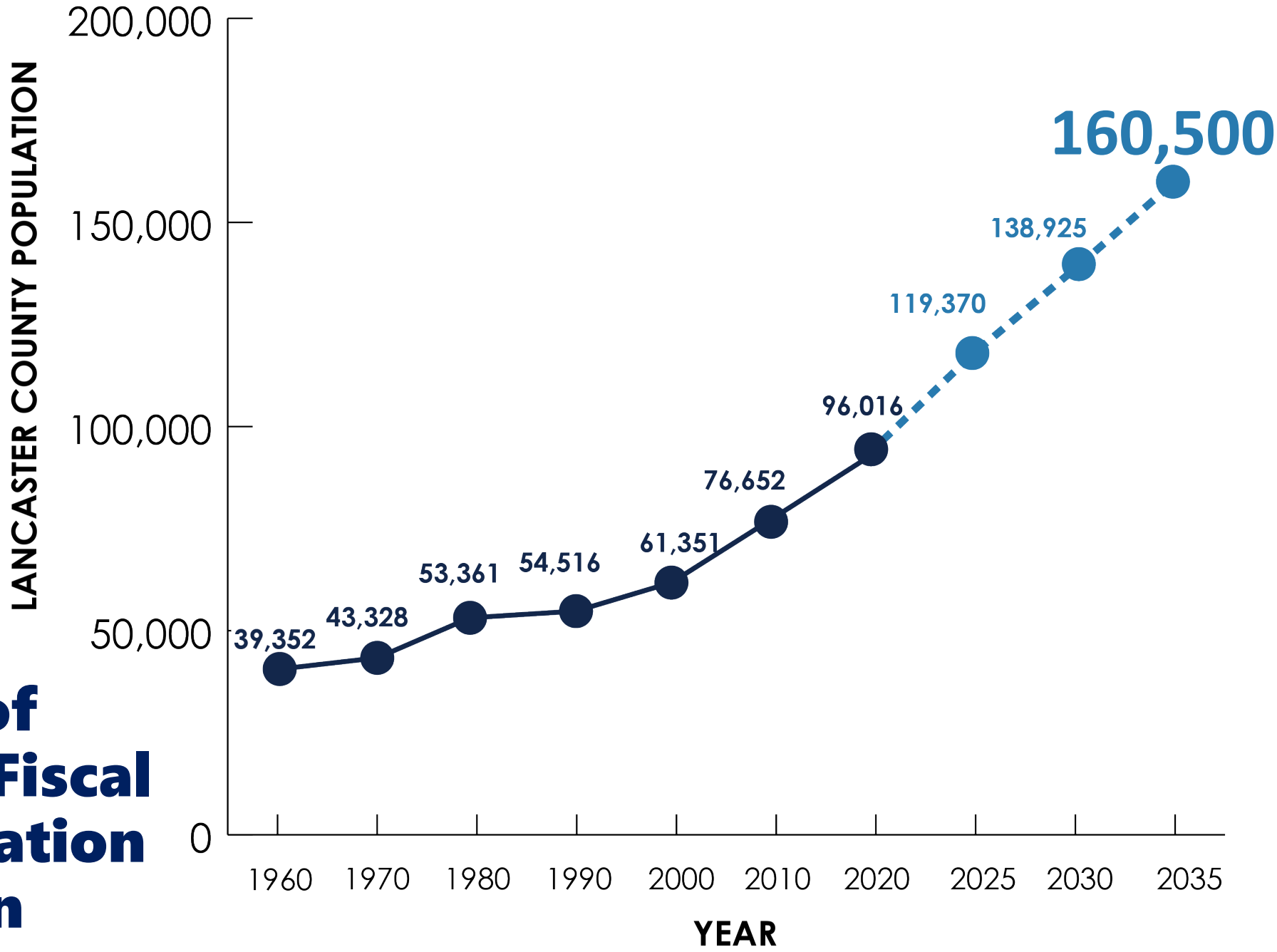






Source: United States Census

SC Dept. of Revenue and Fiscal Affairs Population Projection



Where do people travel to work?



84.4% DROVE ALONE TO WORK



6.1% WORKED FROM HOME

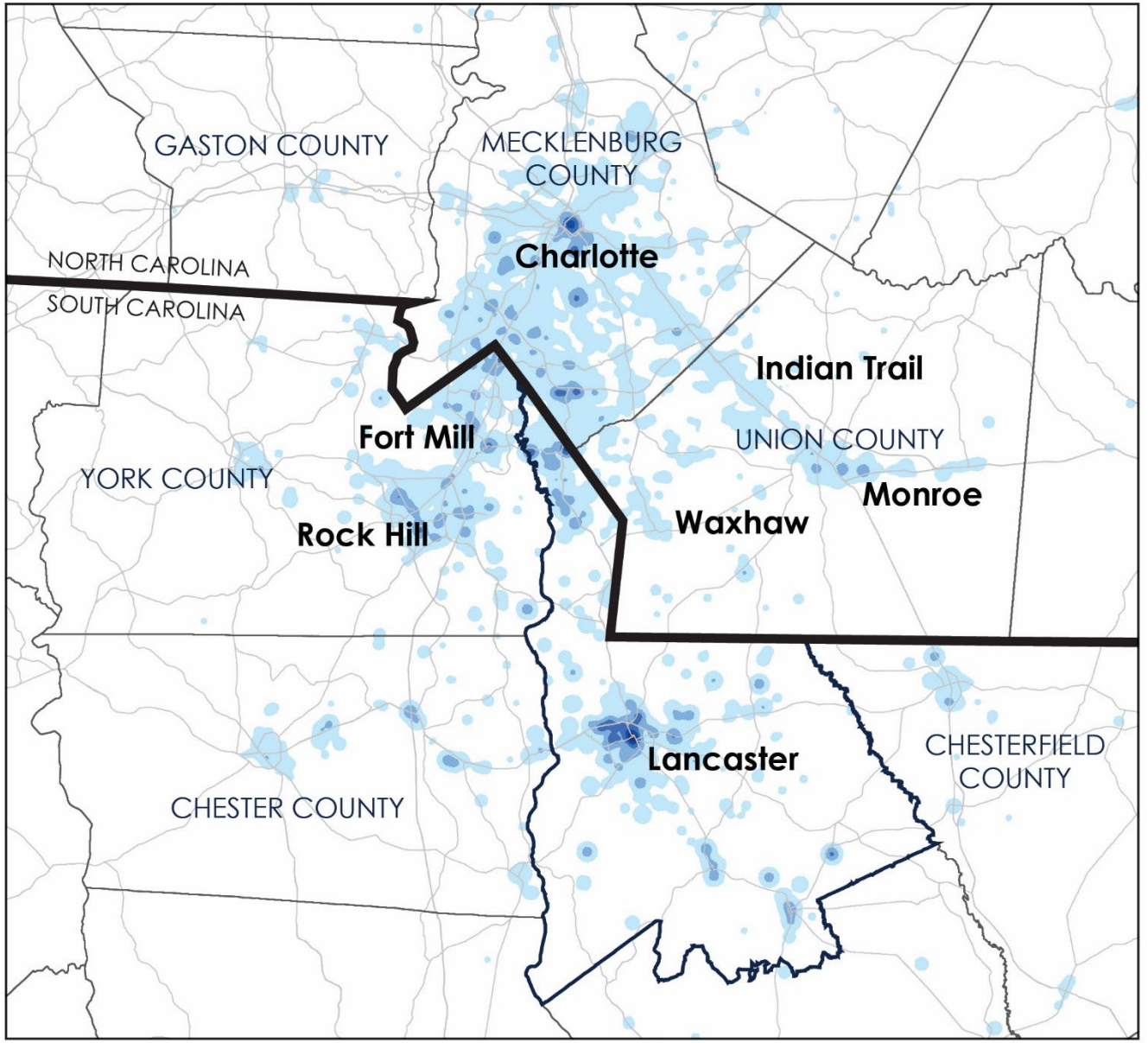
30.5 minutes

AVERAGE COMMUTE

LOCATION OF EMPLOYMENT

Fewer Jobs

More Jobs



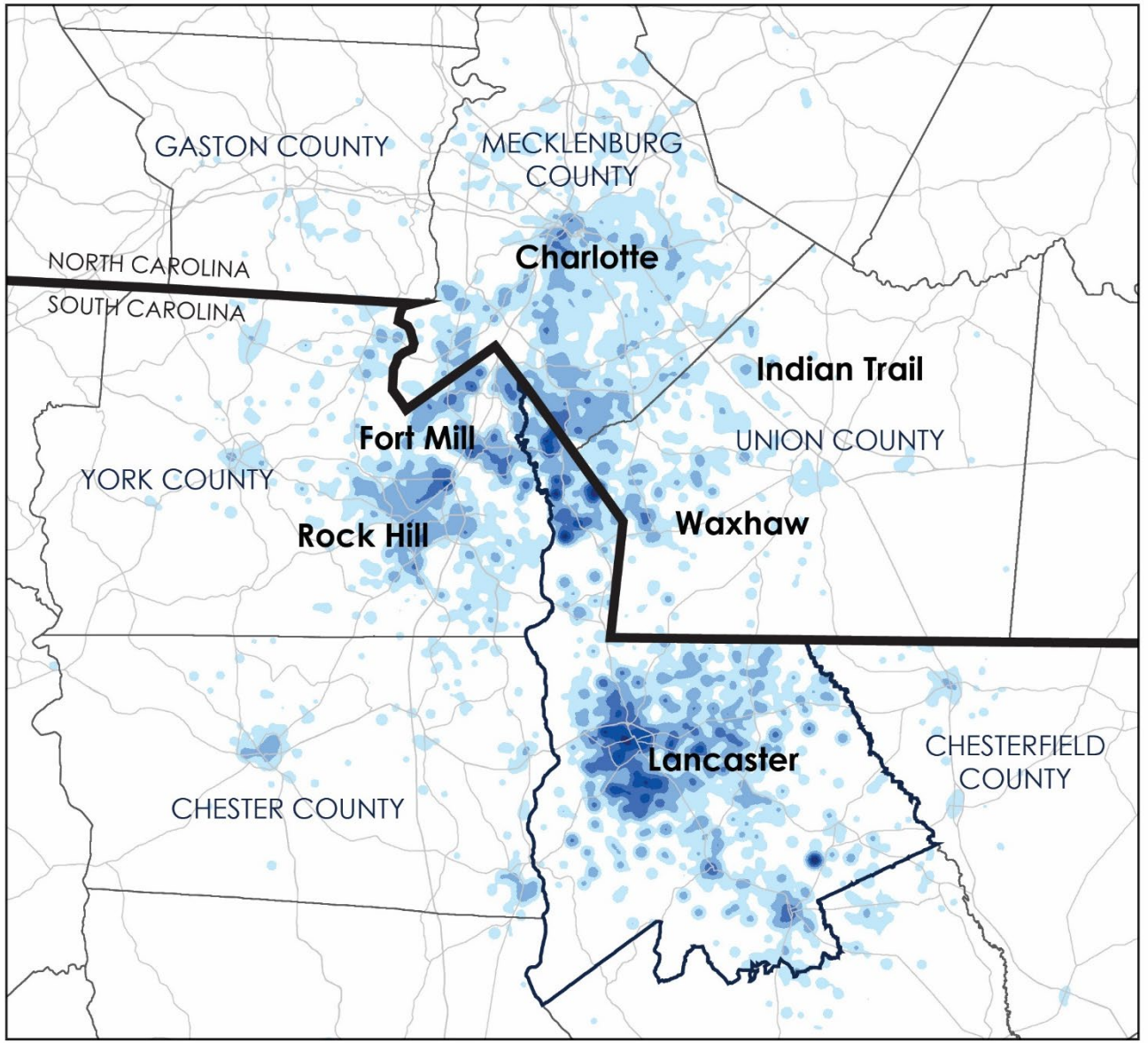
Source: American Community Survey (2019)

County Commutes



Where do people who work in Lancaster County live?

- Strong concentrations in Lancaster County
- A large number of employees also live in Rock Hill, Fort Mill, southern Mecklenburg County, and western Union County

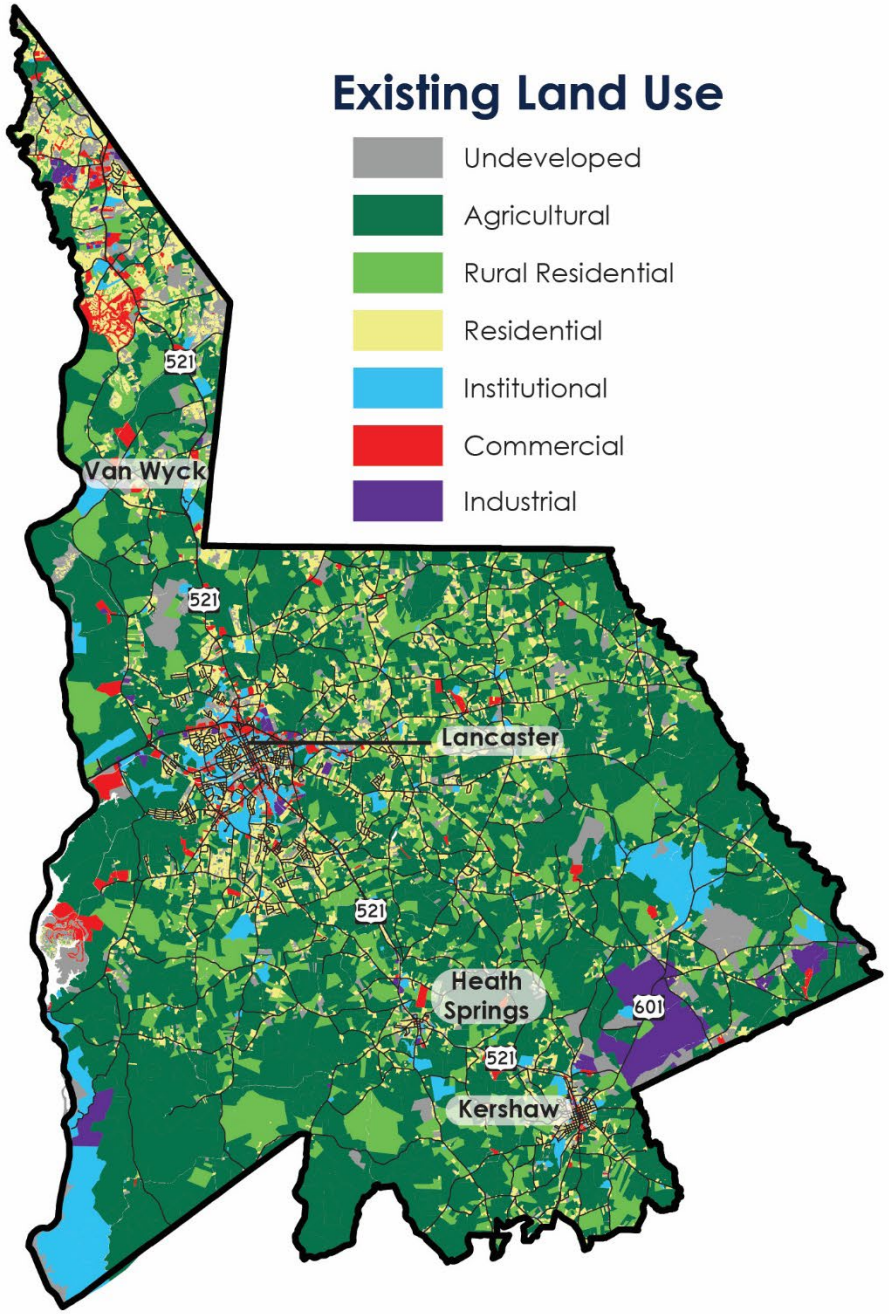


Source: American Community Survey (2019)

Existing Land Use

- A high percentage of land use is considered agriculture (55%)
- Significant amount of land is also Rural Residential (homes on 10 acres or greater)

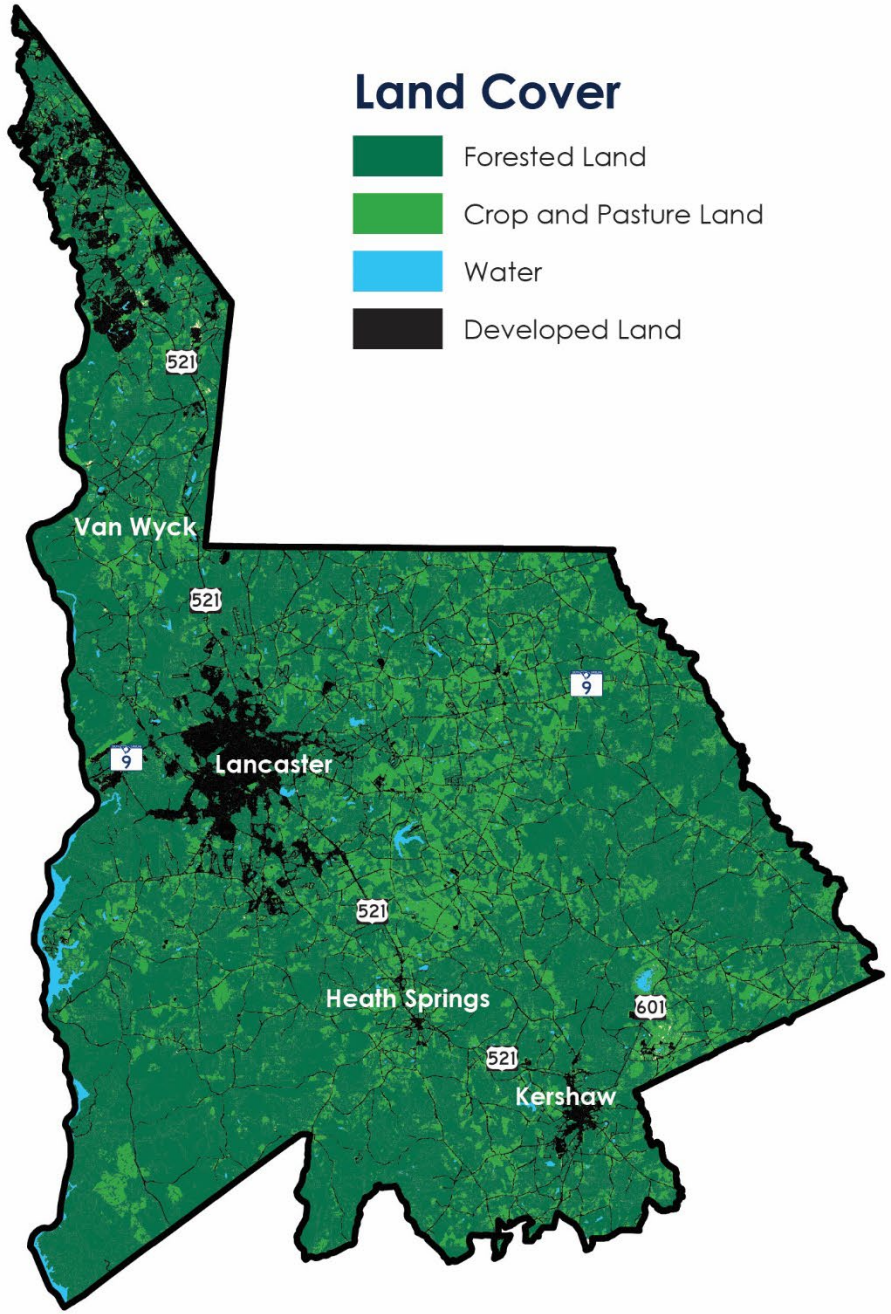
GENERALIZED LAND USE	TOTAL ACREAGE	% OF AREA
Undeveloped	21,878	6.4%
Agricultural	188,144	54.9%
Rural Residential	62,273	18.2%
Residential	37,186	10.8%
Institutional	18,133	5.3%
Commercial	7,750	2.2%
Industrial	7,569	2.2%



Source: Lancaster County Property Appraiser

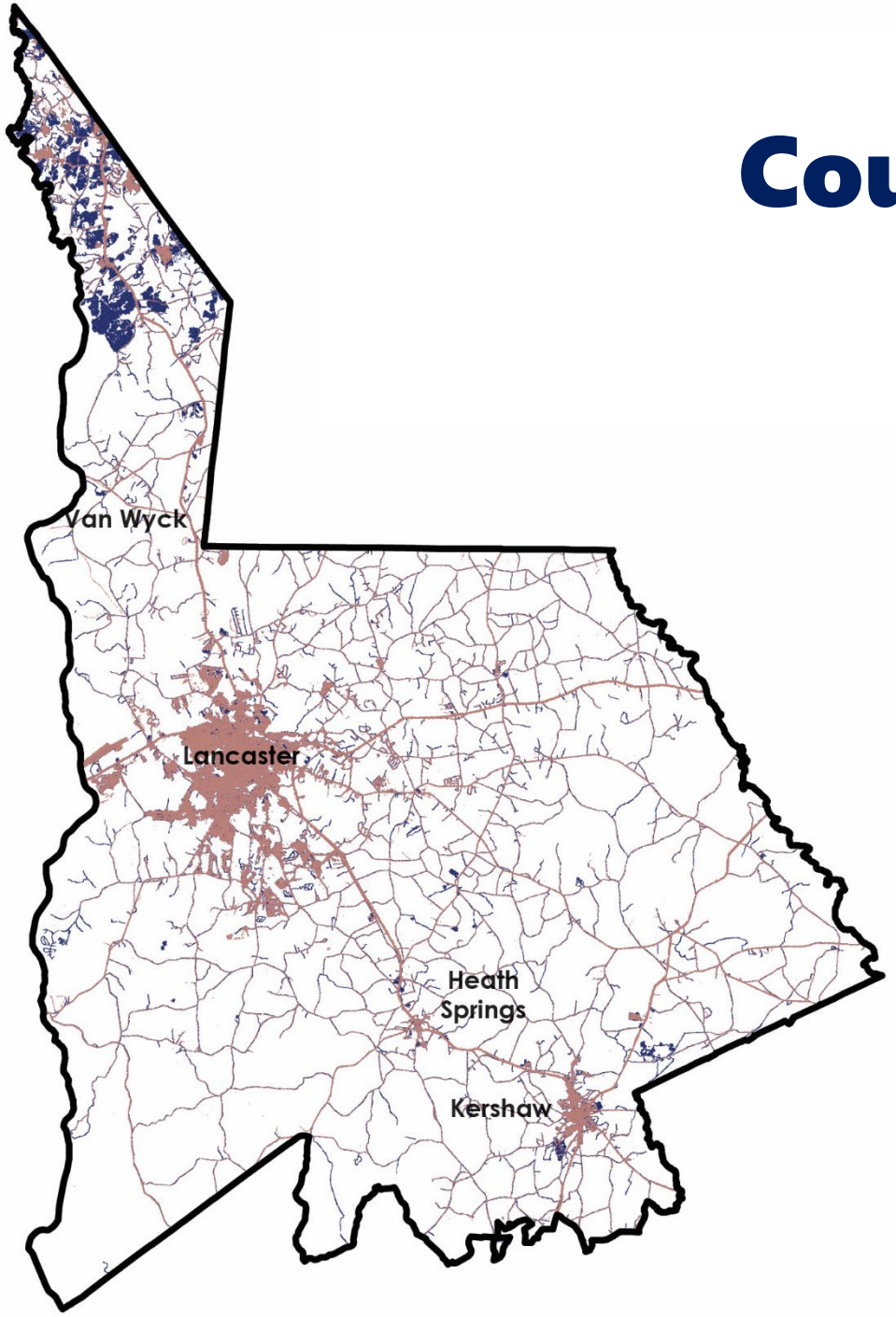
Land Cover

- Most of the land is considered forested, crop, or pasture land
- Development is largely concentrated in Panhandle, and in (and around) the municipalities of Lancaster, Heath Springs, and Kershaw



Source: United States Department of Agriculture

County - Change in Land Cover

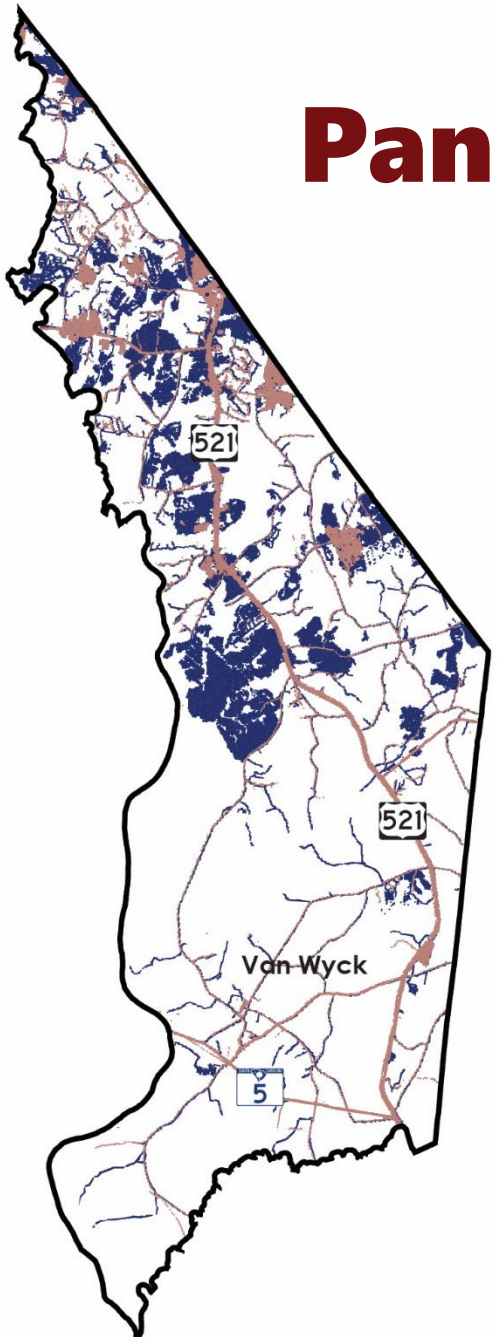


Developed Land (2010)

Land Developed Since 2010

LAND COVER	PERCENT OF TOTAL AREA (2010)	PERCENT OF TOTAL AREA (2020)	CHANGE IN PERCENT OF AREA (2010 - 2020)
Forested Land	69.6%	74.2%	+ 4.7%
Crop Land	2.3%	3.9%	+ 1.6%
Pasture Land	19.4%	10.7%	- 8.7%
Water	1.3%	1.5%	+ 0.2%
Developed Land	7.4%	9.7%	+ 2.2%

Panhandle - Change in Land Cover



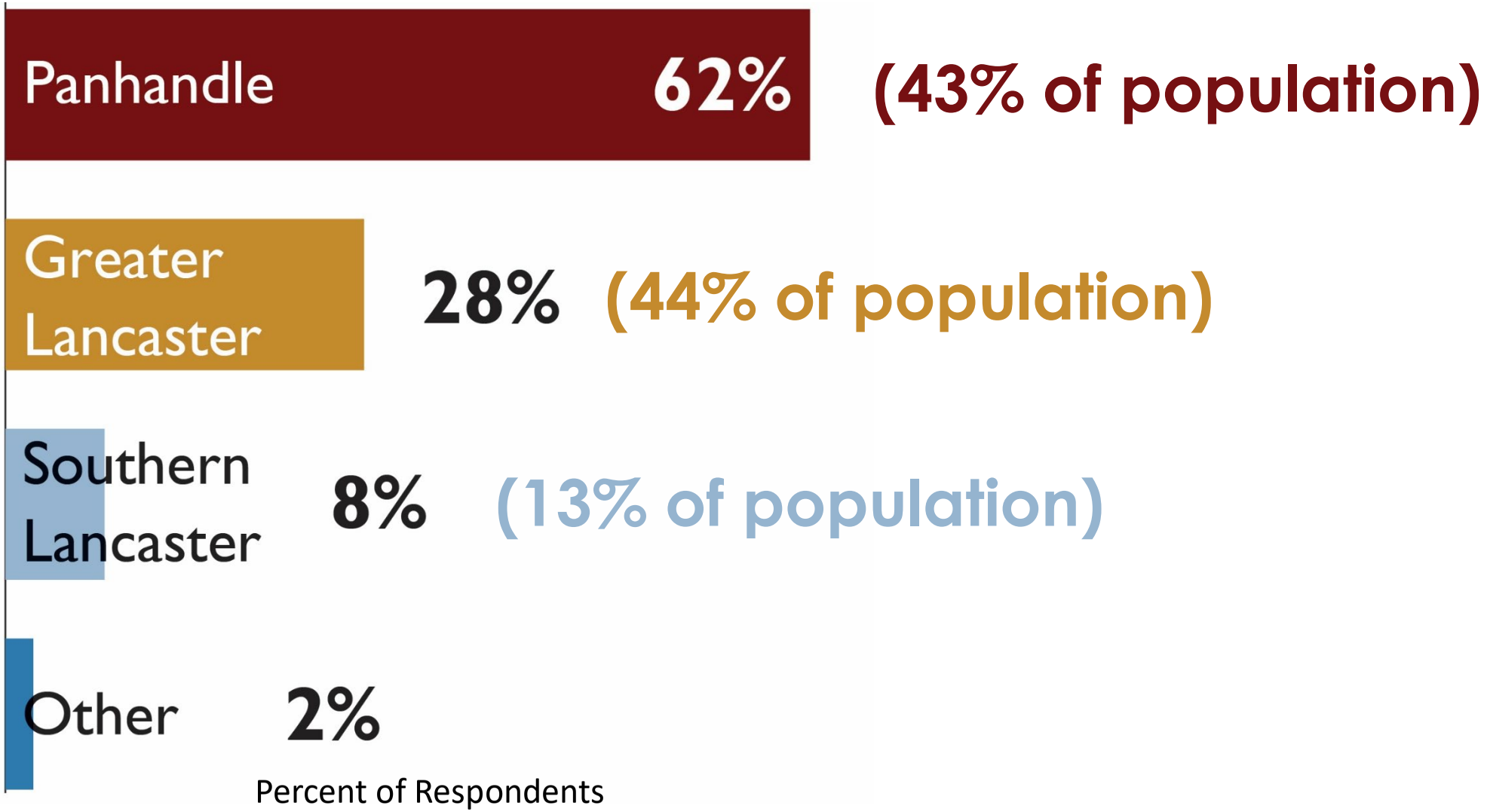
Developed Land (2010)

Land Developed Since 2010

LAND COVER	% OF AREA (2010)	% OF AREA (2020)	CHANGE IN AREA (2010 - 2020)
Forested	72.2%	68.8%	- 3.4%
Crop	2.8%	2.9%	+ 0.1%
Pasture	16.3%	7.8%	- 8.5%
Water	1.5%	1.6%	+ 0.1%
Developed	7.2%	18.9%	+ 11.7%

Community Survey Results

Question 1: Which part of the County do you live in?



Response Rates Compared to Population

Town of Van Wyck	3% of respondents	1% of population
City of Lancaster	13% of respondents	9% of population
Town of Heath Springs	1% of respondents	1% of population
Town of Kershaw	1% of respondents	2% of population

Question 5: Which issues are of most concern to you?

#1 Concern

Growth & Development

#2 Concern

Traffic Congestion

#3 Concern

Schools / Education

#4 Concern

Public Infrastructure

#5 Concern

Public Safety

#6 Concern

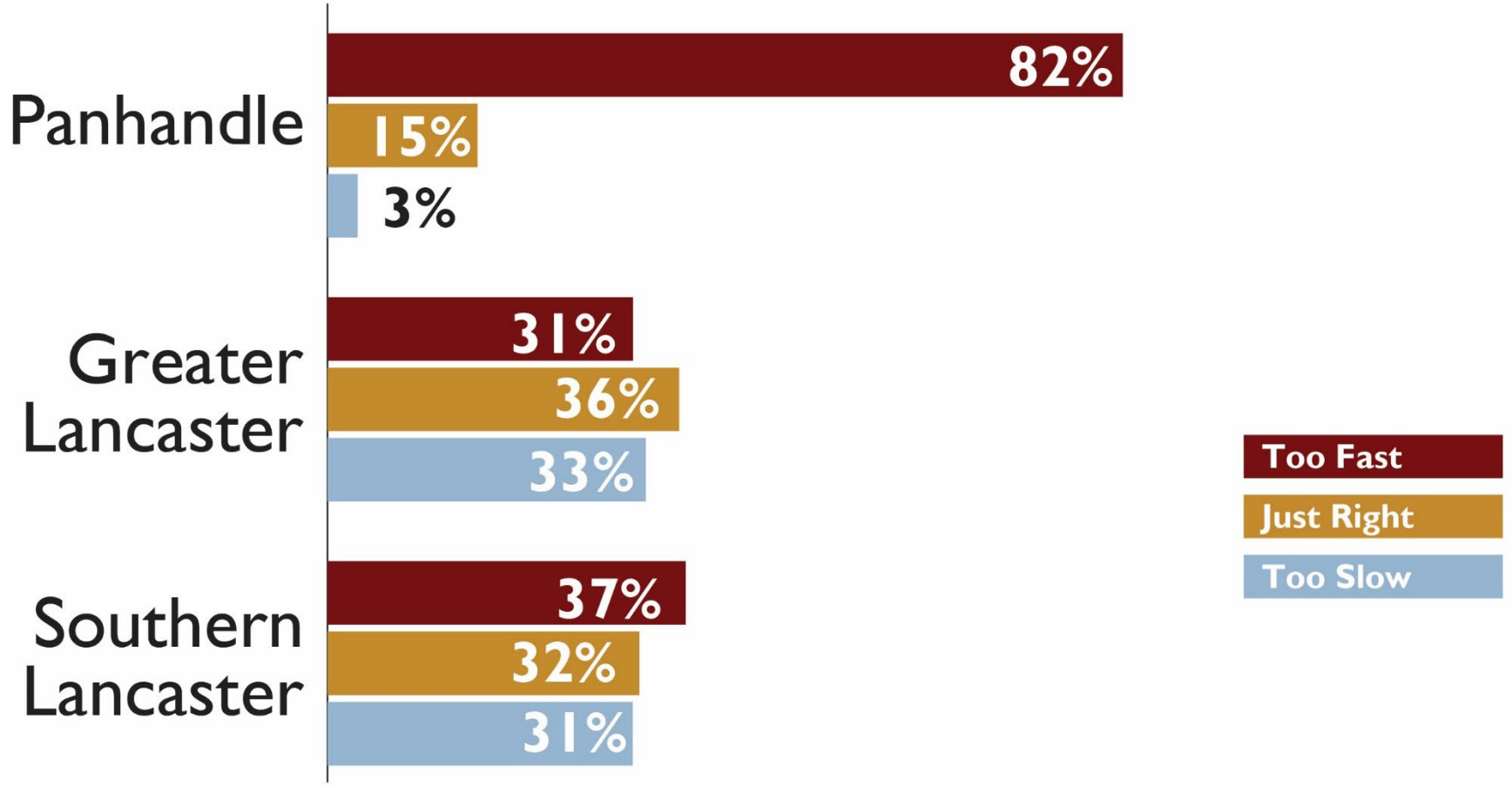
Community Appearance

Question 6: What is your perception of the recent pace of growth?

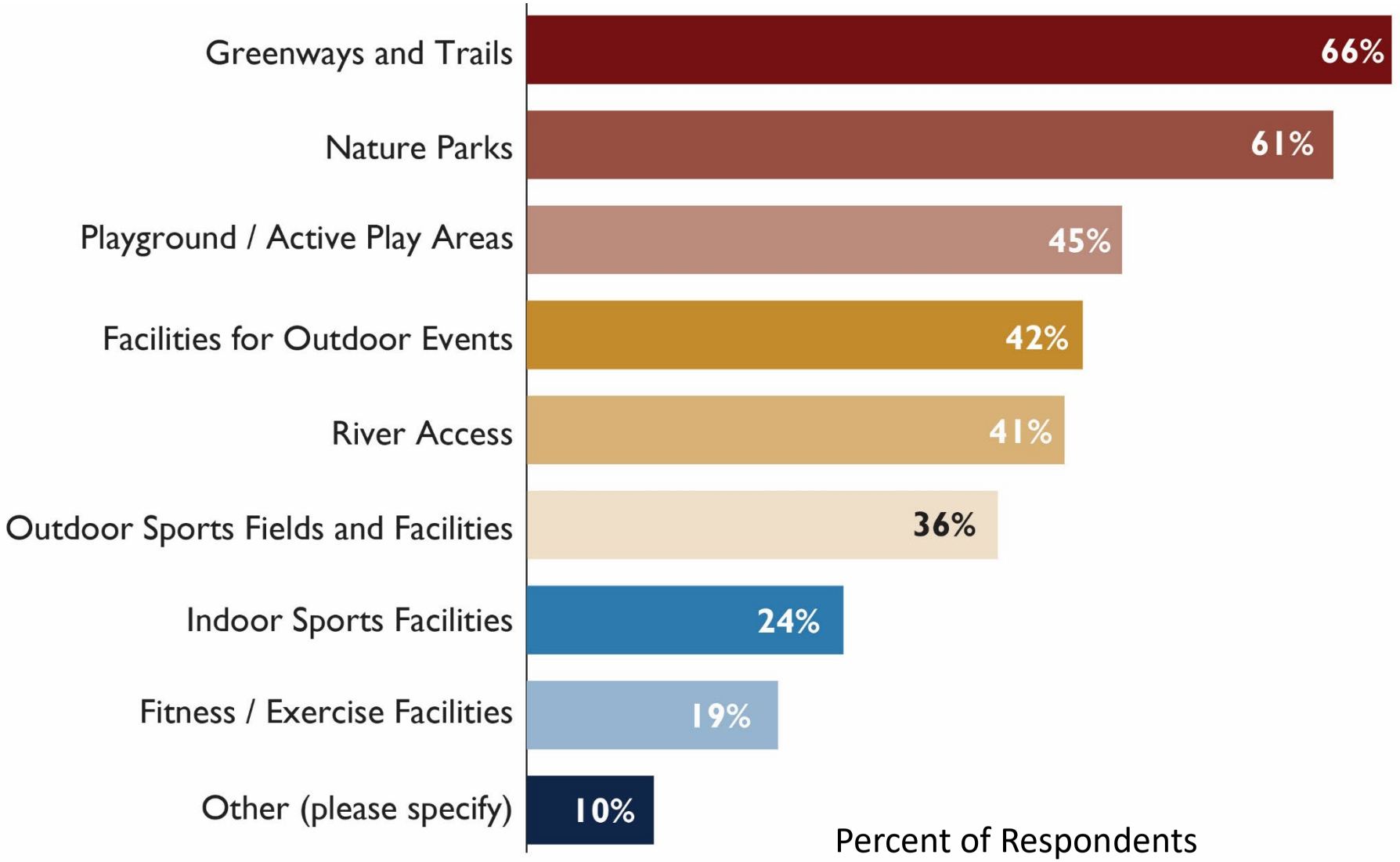








Question 11: What types of recreation facilities would you like to see?



Question 11: What types of recreation facilities would you like to see?

PANHANDLE	GREATER LANCASTER	SOUTHERN LANCASTER
#1 Greenways and Trails	#1 Nature Parks	#1 Facilities for Outdoor Events
#2 Nature Parks	#2 Facilities for Outdoor Events	#2 Nature Parks
#3 River Access	#3 Playground / Active Play Areas	#3 Playground / Active Play Areas

Question 18: How would you describe Lancaster County to a friend?

DESCRIPTION	# OF RESPONSES
Growing / Developing	346
Crowded / Overdeveloped	295
Friendly / Welcoming	247
Beautiful / Pretty / Appealing	240
Outdated / Behind	144
Calm / Comfortable / Peaceful	140
Country / Rural	137
Lacking...(funds, infrastructure, green, etc.)	133
Close to Charlotte / Convenient / Central	126
Affordable / Low Cost of Living	113

Question 19: What are the most important topics for a long range plan?

TOPIC	# OF RESPONSES
Traffic Management	629
Growth Management	507
Education / Schools	475
Parks / Recreation / Open Spaces	325
Commercial Development	270
Economic Development / Employment	228
Infrastructure	205
Police Protection / Crime / Safety	174
Road Maintenance	173
Bike Lanes / Sidewalks / Multi-use Paths	115

Question 20: Please describe your vision for the future of Lancaster County

VISION	# OF RESPONSES
Control Growth / Slow Down Development	326
Build / Improve Roads	295
Parks / Greenspaces	222
Improve Schools	199
Encourage More Commercial Businesses	172
Stricter Zoning / Design Regulations	132
Economic Development	117
Keep Small Town Feel	105
Improve Aesthetic Appearance	103
Improve / Support Public Safety	99

Emerging Themes

Emerging Themes

- Transportation
- Economic Development
- Growth Management
- Recreation
- Community Appearance
- Education
- Equity
- Environmental Quality

Upcoming Activities

Upcoming Activities

- Council Meeting Presentation: May 11th
- Steering Committee Meeting: June 6th
- Public Kick-off Meetings in June (Tentative)
  - June 9th (Greater Lancaster and Southern Lancaster Areas)
  - June 14th (Panhandle Area)

Lancaster 2040
COMPREHENSIVE PLAN



Planning Commission Meeting
May 5, 2022

Agenda Item Summary

Ordinance # / Resolution #: RZ-2021-2803 Two Capital Partners a/k/a Tadlock
Contact Person / Sponsor: R. Tefft
Department: Planning
Date Requested to be on Agenda: 5/17/2022

Issue for Consideration:

Points to Consider:

Recommendation:

ATTACHMENTS:

Description	Upload Date	Type
RZ-2021-2803 Staff Report	5/10/2022	Exhibit
Application	5/10/2022	Exhibit
Zoning Map	5/10/2022	Exhibit

PROPOSAL: Request to rezone five parcels of land comprising approximately 50.77 acres from Neighborhood Business (NB) District and General Business (GB) District to Regional Business (RB) District, as well as an associated Development Agreement.

PROPERTY LOCATION: 9224 Tadlock Drive (TM#s 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03)

CURRENT ZONING: Neighborhood Business (NB), and General Business (GB) Districts

PROPOSED ZONING: Regional Business (RB) District

PROPERTY OWNERS: Sisbro, LLC; The Howie Family Trust; Joseph E. Howie, Amy D. Howie; and Howard James Howie, Dianna B. Howie

APPLICANT: Wes Taubel, Two Capitol Partners

COUNCIL DISTRICT: District 7, Brian Carnes

OVERVIEW:

Proposal

The applicant has requested to rezone five parcels totaling approximately 50.77 acres on the west side of Charlotte Highway from the Neighborhood Business (NB) and General Business (GB) Districts to the Regional Business (RB) District. Pursuant to the sketch plan submitted along with the application, this rezoning is intended to facilitate the development of a mixed use project consisting of two commercial outparcels along Charlotte Highway, and a 238-unit multi-family apartment development located toward the interior of the site.

Summary of Adjacent Zoning and Uses

The subject parcels are surrounded by residential, commercial, and industrially zoned parcels. To the north is Light Industrial with Institutional (INS), Neighborhood Business (NB), and Urban Residential (UR) further beyond. To the south is Low Density Residential (LDR) with INS further beyond. To the east is GB with RB across Charlotte Highway. To the west is LDR.

Adjacent Property	Jurisdiction	Zoning District	Use
North	Lancaster County	LI	Northfield Drive Industrial Park
South	Lancaster County	LDR	Single-Family Residential
East	Lancaster County	GB, RB	Vacant; Crossridge
West	Lancaster County	LDR	Single-Family Residential

ANALYSIS & FINDINGS:

Zoning Districts

Pursuant to Unified Development Ordinance (UDO) Section 2.3, the current NB District *"is generally located on thoroughfares and provides opportunities for the provision of neighborhood services that serve as an acceptable transition to generally auto-dependent neighborhoods."* Additionally, that same Section notes that the current GB District *"is generally located on thoroughfares and provides opportunities for the provision of offices, services, and retail goods in proximity to generally auto-dependent, community neighborhoods. The regulations for this district are intended to accommodate the predominately auto-oriented pattern of existing development while encouraging the transition to pedestrian-friendly, mixed-use areas that avoid strip commercial development."*

Pursuant to UDO Section 2.3, the requested RB District *"is generally located on the major thoroughfares in the community and provides opportunities for the provision of offices, services, and retail goods to meet the surrounding region. The regulations for this district are intended to accommodate the predominately auto-oriented pattern of existing development until such time that transportation network is retrofitted to accommodate more urban development patterns."*

Compatibility with Surrounding Area

In this area the west side of Charlotte Highway is predominantly residential in character, but with smaller commercial parcels fronting the corridor. The east side, however, is comprised of larger commercial developments and parcels that have been approved for large mixed-use development. The proposed rezoning and development agreement would facilitate development that is consistent with this established land use pattern.

RELATIONSHIP TO PUBLIC PLANS

Lancaster County Comprehensive Plan Consistency

Pursuant to the adopted Comprehensive Plan, the Future Land Use Category of the subject parcel is Neighborhood Mixed Use, which corresponds to the Walkable Neighborhood Community Type, which the Comprehensive Plan describes as follows:

> *The Community Type "Walkable Neighborhood" is synonymous with the Place Type "Mixed-Use Neighborhood." This is due to its very specific characteristics that set it apart from most other Place Types by virtue of its deliberately structured mix of dwelling types in a development context that often operates through the separation of uses, densities and/or land value. This Place Type and Community Type has its roots in the traditional character of American communities during the early part of the 20th century, and has been revived in recent decades as a relevant option for future development.*

The Comprehensive Plan further establishes several possible land use considerations representing typical development in this Community Type which are depicted in the table below.

Walkable Neighborhood: Land Use Considerations		
Single-Family Detached Home	Single-Family Attached Home (Townhome / Duplex)	Condominium / Apartment
Neighborhood Commercial	Restaurant	Professional Offices
Government Building	Church	School
Community Park / Pocket Park	Natural Area	

The development proposal that would be facilitated by this rezoning application and associated Development Agreement will result in a project that is consistent with the adopted Comprehensive Plan.

INFRASTRUCTURE CONSIDERATIONS

Transportation

The applicant hired Kimley-Horn and Associates, Inc., to conduct a Traffic Impact Analysis (TIA) to review vehicular traffic impacts as a result of the proposed development, and to identify transportation improvements that may be required to accommodate these impacts. The following intersections were studied, and improvements recommended as developer mitigation:

Intersection Studied	Developer Mitigation
US 521 and Sandal Brook Road/Corporate Center Way	▪ None.
US 521 and Northfield Drive	▪ None.
US 521 and Crossridge Boulevard/Access 1	▪ Construction of the eastbound approach of Access 1 to include a single ingress lane, two egress lanes with a shared left/through turn lane and exclusive right-turn lane with 100 feet of storage, and a 100-foot internal protected stem (IPS) with stop control. ▪ Construction of a northbound left-turn lane along US 521 with 150 feet of storage.
US 521 and Dobys Bridge Road/Worldreach Drive	▪ None.
US 521 and River Road/Collins Road	▪ None.
US 521 and Access 2	▪ Construction of the eastbound approach of Access 2 to include a single ingress lane, a single right-out egress lane, and a 60-foot IPS with stop control. ▪ Removal of the existing median cut along US 521 at Access 2.

Public Utilities

The Lancaster County Water and Sewer District (LCWSD) has provided the following comment with regard to this proposed rezoning:

- *Sewer improvements, including a lift station will be needed to serve this site with sewer.*
- *LCWSD has an existing 24" and 18" forcemain that will need to be connected to the proposed forcemain needed for this site.*

Public Schools

The Lancaster County School District (LCSD) has not provided comments for this development proposal.

PHOTOS OF PROJECT AREA:



Aerial of subject property



Looking southeast from intersection of Barberville and Harrisburg Roads



Looking west from Harrisburg Road



Looking west from Harrisburg Road

STAFF RECOMMENDATION:

REZONING

Staff recommends **approval** of the request to rezone five parcels of land comprising approximately 50.77 acres from Neighborhood Business (NB) District and General Business (GB) District to Regional Business (RB) District, pursuant to the following findings of fact:

1. That the subject parcels consist of approximately 50.77 acres of land generally located at or adjacent to 9224 Tadlock Drive;
2. That the subject parcels consist of TM# 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03;

3. That the subject parcels have a Future Land Use Category of Neighborhood Mixed Use, and a Community Type of Walkable Neighborhood;
4. That the subject parcels are currently zoned either NB or GB District; and
5. That the subject parcels are all proposed to be rezoned RB District, which is compatible with the existing Neighborhood Mixed Use Future Land Use Category.

DEVELOPMENT AGREEMENT

Staff recommends **approval** of the Development Agreement with Two Capitol Partners in accordance with Unified Development Ordinance Section 9.2.18 for a proposed 238-unit (5.8 dwelling units per acre) multifamily apartment and 9.77-acre nonresidential development located on approximately 50.77 acres of land, pursuant to the following findings of fact:

1. That the subject parcels consist of approximately 50.77 acres of land generally located at or adjacent to 9224 Tadlock Drive;
2. That the subject parcels consist of TM# 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03;
3. That the subject parcels would be rezoned from either NB or GB District to RB District;
4. That, should this rezoning be approved, the subject parcels would be developed with two commercial outparcels totaling 7.22 acres, and 238 multi-family dwellings; and
5. That the development proposal would have a residential density of 5.8 dwelling units per acre.

ATTACHMENTS:

1. Rezoning Applications
2. Location Map/ Zoning Map

STAFF CONTACT:

Robert Tefft, Senior Planner
rtefft@lancastersc.net | 803-416-9394

Planning Department
P.O. Box 1809, 101 N. Main Street, Lancaster, SC 29721
Phone: 803.285.6005, planning@lancastercountysc.net
www.mylancastersc.org

ZONING MAP AMENDMENT APPLICATION

SUBMITTAL REQUIREMENTS

- Completed Application
- Signatures of Applicant and Property Owner
- Deed and survey plat or boundary survey
- Fees associated with review

GENERAL INFORMATION

Property Address Tadlock Drive & Charlotte Highway

City Indian Land State SC Zip 29707 Tax Parcel ID See Attached List

Current Zoning NB & GB Current Use Mix Commercial, Residential & Vacant

Proposed Zoning RB Total Acres _____

Project Description Rezone 5 Parcels to Provide for Mix of Commercial and Multi-Family Development Opportunities

Surrounding Property Description Site is surrounded by industrial uses to the north and mix of commercial and residential to the south. Future non-residential/commercial exists opposite side Charlotte Highway.

CONTACT INFORMATION

Applicant Name Two Capital Partners

Address One Buckhead Plaza, 3060 Peachtree Road NW, Suite 960

City Atlanta State GA Zip 30305 Phone 404-926-1538

Fax N/A Email wtaubel@twocapitalpartners.com

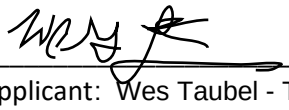
Property Owner Name Various - See Attached List

Address _____

City _____ State _____ Zip _____ Phone _____

Fax _____ Email _____

I hereby certify that I have read this application and the information supplied herein is true and correct to the best of my knowledge. I agree to comply with all applicable County ordinances and state laws related to the use and development of the land. I further certify that I am the property owner, or his/her authorized agent, or the subject property. I understand that falsifying any information herein may result in rejection or denial of this request.



Applicant: Wes Taubel - Two Capital Partners — Date: 01/17/21

(See Attached Notarized Forms) — Property Owner(s) — Date

Attach owner's notarized written authorization with property information if the applicant is not the owner.

LANCASTER COUNTY OFFICE USE ONLY

Application Number _____ Date Received _____Receipt Number _____

Amount Paid _____ Check Number _____ Cash Amount _____

Received By _____ Planning Commission Meeting Date _____

SCHEDULE/PROCESS 1. **Submit Application**

- The deadline for this application is at least 45 days prior to the Planning Commission meeting, held every third Tuesday of the month.
- Once an application is submitted, it is placed on the Planning Commission agenda for the following month.
- An application withdrawal should be made in writing and received prior to public notice in order to receive a refund.
- Rezoning Application Fee – single parcel $435.00
- Rezoning Application Fee – multi parcel $610.00

2. **Planning Commission**

- Conducts a public hearing on the application to receive input from Lancaster County citizens, applicant, and other interested parties.
- Reviews the application to ensure it is consistent with the Lancaster County Unified Development Ordinance, Comprehensive Plan, and all adopted County plans.
- Makes a recommendation to the County Council.

3. **County Council**

- Approves, denies, or submits application to the Planning Commission for further study.
- Action requires three readings for approval.
- Subsequent to final County Council action on rezoning, notice of action will be provided to the applicant, owner, and adjacent property owners.
- If applicant would like to request a special presentation, please notify the County Clerk @ (803) 416-9307 before 5:00pm on the first Monday of the month to make arrangements.

PARCEL & PROPERTY OWNER LIST

PID: 0010-00-051.00
Ex. Zoning: NB
SISBRO LLC
9224 Tadlock Drive
Indian Land, SC 29707
P:
E:

PID: 0010-00-052.00
Ex. Zoning: GB
THE HOWIE FAMILY TRUST
172 Greenshore Way
Indian Land, SC 29707
P:
E:

PID: 0010-00-052.01
Ex. Zoning: GB
JOSEPH E. HOWIE, TRUSTEE
AMY D. HOWIE, TRUSTEE
8565 Charlotte Highway
Indian Land, SC 29707
P:
E:

PID: 0010-00-052.02
Ex. Zoning: GB
HOWARD JAMES HOWIE, TRUSTEE
DIANNA B. HOWIE, TRUSTEE
6149 E. Menlo Lane
Inverness, FL 34452
P:
E:

PID: 0010-00-052.03
Ex. Zoning: GB
HOWARD JAMES HOWIE, TRUSTEE
DIANNA B. HOWIE, TRUSTEE
6149 E. Menlo Lane
Inverness, FL 34452
P:
E:

9224 TADLOCK DR - INDIAN LAND, SC

SKETCH PLAN REVIEW

NOVEMBER 19, 2021

PREPARED FOR:

TWO CAPITAL PARTNERS

NILES BOLTON ASSOCIATES

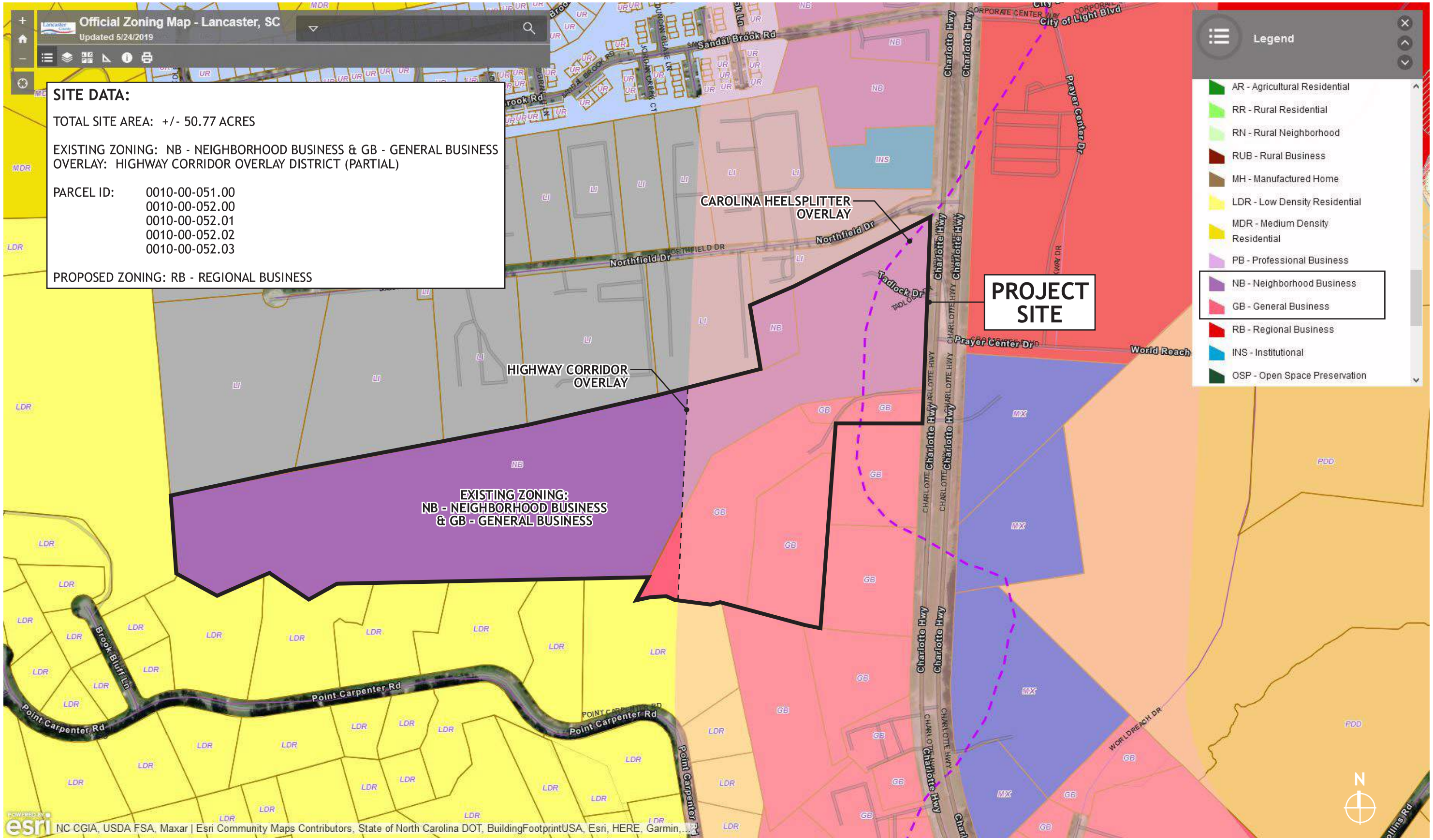
Location Map

9224 Tadlock Dr - Indian Land, SC



Zoning Map

9224 Tadlock Dr - Indian Land, SC



Existing Conditions

9224 Tadlock Dr - Indian Land, SC

SITE DATA:

TOTAL SITE AREA: +/- 50.77 ACRES

ZONING NOTES:
EXISTING ZONING: NB - NEIGHBORHOOD BUSINESS & GB - GENERAL BUSINESS
PROPOSED ZONING: RB - REGIONAL BUSINESS
OVERLAY: HIGHWAY CORRIDOR OVERLAY DISTRICT (PARTIAL)
CAROLINA HEEL SPLITTER OVERLAY (PARTIAL)



Conceptual Site Plan

9224 Tadlock Dr - Indian Land, SC

ZONING NOTES:

EXISTING ZONING: NB - NEIGHBORHOOD BUSINESS & GB - GENERAL BUSINESS
PROPOSED ZONING: RB - REGIONAL BUSINESS
OVERLAY: HIGHWAY CORRIDOR OVERLAY DISTRICT (PARTIAL)
CAROLINA HEEL SPLITTER OVERLAY (PARTIAL)

DISTRICT DEVELOPMENT STANDARDS:
MAX DENSITY: 8 UNITS PER ACRE
FRONT SETBACK: 50' (HIGHWAY CORRIDOR OVERLAY - CAN BE REDUCED TO 25')
STREET SIDE/SECONDARY FRONT SETBACK: 15'
SIDE SETBACK: 15'
REAR SETBACK: 15'
MAX BLDG HT: 50'

BUFFER YARD TYPES:
RB ZONE ADJACENT TO LI ZONE - NO BUFFER REQ
RB ZONE ADJACENT TO LDR ZONE - TYPE C BUFFER REQ (40')
RB ZONE ADJACENT TO GB ZONE - TYPE A OR B REQ (10' OR 20')

ALLEY ACCESS RESIDENTIAL LOTS: WITH PROVISION OF ALLEY ACCESS, RESIDENTIAL LOTS MAY FRONT UPON A PUBLIC OPEN SPACE, BUT ACCESS SHALL BE OF SUFFICIENT DESIGN TO ALLOW FOR THE PROVISION OF EMERGENCY SERVICES.

ASSUMED RIGHT-OF-WAY: WHERE NO RIGHT-OF-WAY EXISTS, IF THE RIGHT-OF-WAY IS ONLY INCLUSIIVE OF THE STREET PAVEMENT, THE THE FRONT SETBACK SHALL BE MEASURED FROM AN ASSUMED RIGHT-OF-WAY LINE THAT IS PARALLEL TO THE EDGE OF THE PAVEMENT AND SETBACK A MINIMUM OF 10 FEET. THIS CALCULATION IS FOR SETBACK PURPOSES ONLY AND DOES NOT REPRESENT ANY EXPRESSED OR IMPLIED TAKING OF PROPERTY.

CONCEPTUAL DEVELOPMENT SUMMARY:

TOTAL SITE AREA: +/- 50.77 ACRES

TOTAL ACREAGE TO BE REZONED: +/- 41.00 ACRES
TOTAL ACREAGE TO REMAIN COMMERCIAL ZONING: +/- 9.77 ACRES

TOTAL COMMERCIAL OUTPARCELS: +/- 7.22 ACRES

TOTAL DWELLING-MULTIFAMILY: 238 UNITS (5.80 UNITS PER ACRE)
(90) 24' UNITS + (148) 20' UNITS
- 41 BLDGS AT 3 ST

PARKING: 2 SPACES/UNIT

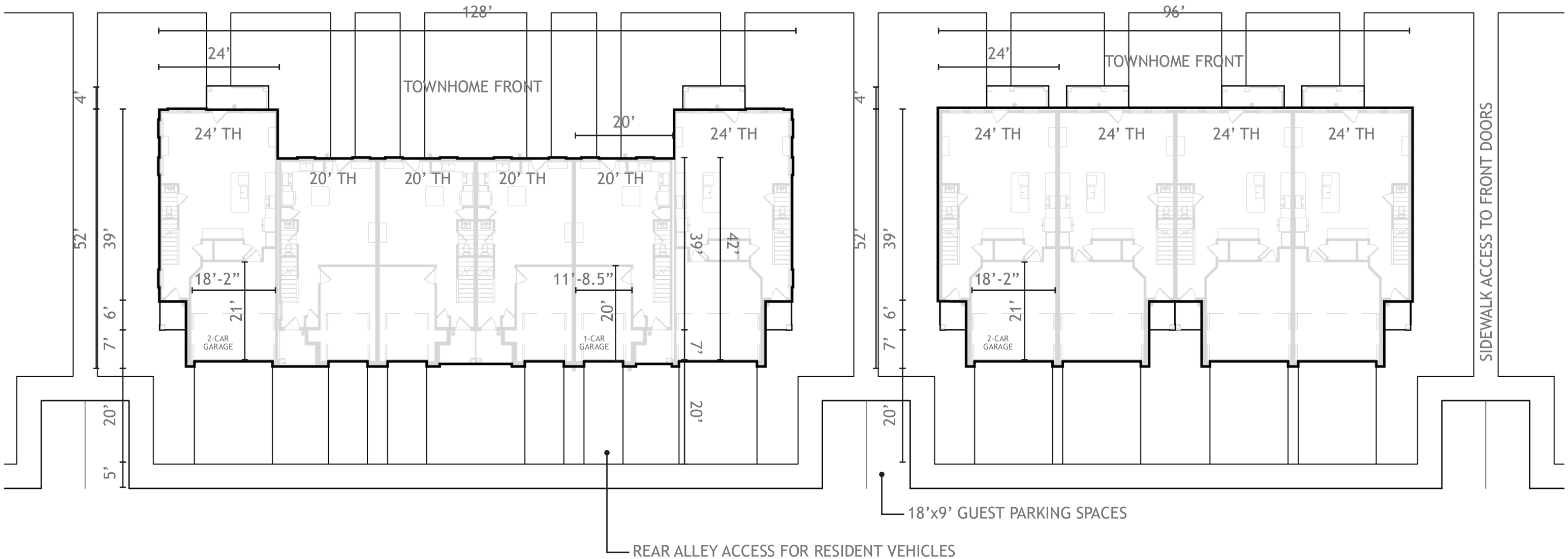
CLUBHOUSE & AMENITIES: +/- 7,500 SF



TOPO IS FROM GIS - LOCATION APPROXIMATE

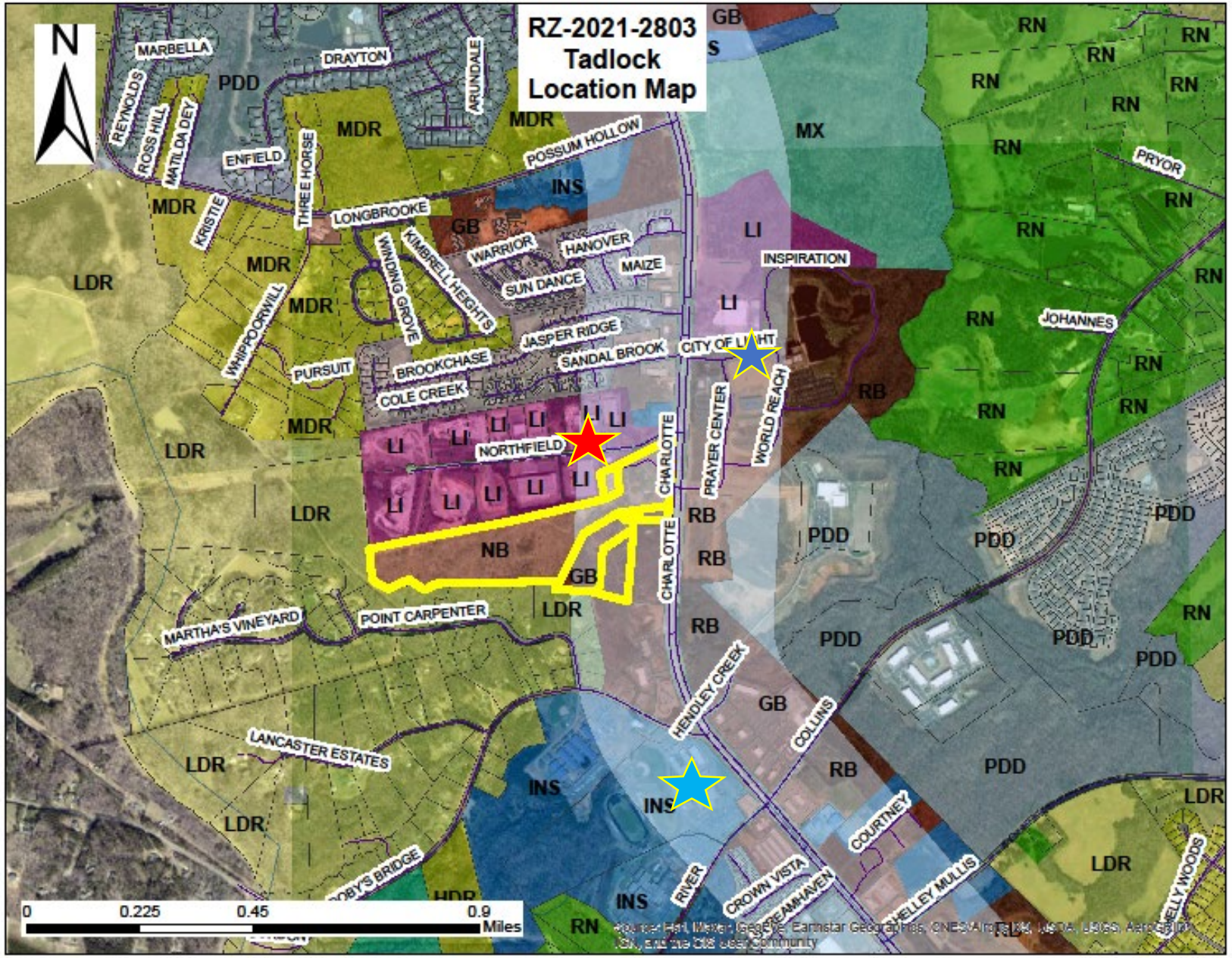
Townhome Building Dimensions

9224 Tadlock Dr - Indian Land, SC



6 UNIT TOWNHOME BUILDING
(2) 24’ TH + (4) 20’ TH
1” = 20’

2 UNIT TOWNHOME BUILDING
(4) 24’ TH
1” = 20’



Lancaster County
South Carolina

Proposal:
Request to rezone from NB/GB to RB

Legend:

- Subject Property
- Crossridge
- Perimeter 521 Commerce Park
- Indian Land Intermediate School

Agenda Item Summary

Ordinance # / Resolution #: DA-2021-2803 Two Capital Partners
Contact Person / Sponsor: R. Burhans
Department: Planning
Date Requested to be on Agenda: 5/17/2022

Issue for Consideration:

Points to Consider:

Recommendation:

ATTACHMENTS:

Description	Upload Date	Type
Summary Memo	5/10/2022	Ordinance
Draft Development Agreement	5/10/2022	Exhibit
Concept Plan	5/10/2022	Ordinance
TIA	5/10/2022	Ordinance

PROPOSAL:	Application by Two Capital Partners to approve a Development Agreement with Lancaster County in accordance with Unified Development Ordinance Section 9.2.18 for a proposed 238-unit, multifamily apartment development and two commercial outparcels located on approximately 50.77 acres of land located at 9224 Tadlock Drive (TM#s 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03). This application is associated with the companion Zoning Map Amendment case # RZ-2021-2803.
COUNCIL DISTRICT:	District 7, Brian Carnes

The applicant submitted the proposed Development Agreement enclosed with this memo. The Development Agreement reflects the requirements of UDO Section 9.2.18 including, but not limited to: legal description, duration of agreement, description of uses, and traffic impact analysis (TIA). The Development Agreement is being proposed voluntarily and is not required as part of the associated Reginal Business District rezoning request.

The Development Agreement must first be reviewed by the Planning Commission who is required to hold one public hearing. The second and final public hearing is tentatively scheduled to occur before County Council on June 13, 2022 (first reading of the ordinance).

The applicant and County representatives continue to discuss the terms of the Development Agreement.

ATTACHMENTS:

1. Draft Development Agreement
2. Concept Plan
3. TIA Document

STAFF CONTACT:

Rox Burhans, Development Services Director
rburhans@lancastersc.net | 803-416-9422

----------(Space above this line for recording use)----------

STATE OF SOUTH CAROLINA	**)**	**DEVELOPMENT AGREEMENT**
	)	
COUNTY OF LANCASTER	**)**	_____

This **DEVELOPMENT AGREEMENT** (the "Agreement") is made and entered into as of the _____ day of _____ 2022 ("Agreement Date"), by and between Two Capital Developer, LLC, a Georgia limited liability company ("Developer"), and the **COUNTY OF LANCASTER** (the "County"), a body politic and corporate, a political subdivision of the State of South Carolina.

R E C I T A L S

WHEREAS, Developer has obtained the contractual right to acquire certain real property consisting of approximately 50.77 acres, more or less, located in the County and known as the Tadlock development and more fully described in Section 1.04 of this Agreement ("Property") and thus has an equitable interest therein;

WHEREAS, Developer has submitted an application to the County requesting that Tax Parcel Nos. 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03, comprising the Property, be rezoned to Regional Business (RB) District;

WHEREAS, Developer and County have determined that it is in the best interests of the County and Developer to enter into this Agreement to set forth the terms and conditions of the development in order to achieve a well-coordinated, planned development, reasonably mitigate any project impacts to the community and achieve predictability to the County and the Developer on the scope and terms of the development;

WHEREAS, the Developer desires to obtain from the County in connection with the development, and the County is willing to provide, assurances: (1) that the Property will be zoned Regional Business (RB) District for the duration of this Agreement; (2) that upon receipt of its development and construction permits it may proceed with the planned development and construction; and (3) that the development rights will be vested for the duration of this Agreement;

WHEREAS, in connection with the proposed development, Developer and County recognize that the scope and term of the planned development under this Agreement accomplish the statutory aims of comprehensive, orderly planning and development within the County, thus providing benefits to the citizens of the County and providing public benefits through, among other

things, the donation of funds or financing of those public facilities and services described and identified in this Agreement.

NOW, THEREFORE, in consideration of the foregoing and the terms and conditions set forth in this Agreement, the receipt and sufficiency of such consideration being acknowledged by the parties, and pursuant to the South Carolina Local Government Development Agreement Act, codified as Sections 6-31-10 to -160, Code of Laws of South Carolina 1976, as amended (the "Act") and the Development Agreement Ordinance for Lancaster County, South Carolina ("Ordinance No. 663"), the parties to this Agreement, intending to be legally bound to a development agreement in accordance with the Act and Ordinance No. 663, agree as follows:

ARTICLE I

GENERAL

Section 1.01. Incorporation. The above recitals are incorporated in this Agreement as if the recitals were set out in this Agreement in its entirety. The findings contained in the Act are incorporated into this Agreement as if it were set out in this Agreement in its entirety.

Section 1.02. Definitions. (A) As used in this Agreement:

(1) "Act" means the South Carolina Local Government Development Agreement Act, codified as Sections 6-31-10 to -160, Code of Laws of South Carolina 1976, as amended.

(2) "Agreement" means this Development Agreement.

(2A) "Agreement Date" means _____2022.

(3) "Comprehensive Plan" means the master plan for the County and the official map adopted pursuant to S.C: Code §§ 6-29-510 through 6-29-530, inclusive, as amended from time to time, including the Lancaster County Comprehensive Plan adopted December 14, 2014 and updated and amended on July 20, 2020, and further updated by adoption of the Southern Panhandle Small Area plan by Ordinance No. 2021-1704 on February 8, 2021 and by adoption of the Small Area Plan Extension by Ordinance No. 2021-1758 on September 13, 2021.

(4) "County" means the County of Lancaster, a body politic and corporate, a political subdivision of the State of South Carolina.

(5) "County Council" means the governing body of the County.

(6) "Developer" means Two Capital Developer, LLC, aa Georgia limited liability company, and its successors in title to the Property who undertake Development of the Property or who are transferred Development Rights.

(7) "Development Rights" means the right of the Developer to develop all or part of the Property in accordance with this Agreement.

(8) "Laws and Land Development Regulations" means the County's current applicable rules and regulations governing development of real property in force as of the Agreement Date, including the UDO as amended through the Agreement Date, as evidenced by Exhibits E and E-1 through E-5 attached hereto and incorporated herein by reference.

(9) "Ordinance No. 663" means Ordinance No. 663 of the County which is cited as the Development Agreement Ordinance for Lancaster County, South Carolina.

(10) "Ordinance No. 2022-_____" means Ordinance No. 2022-_____ of the County, zoning Tax Parcel Nos.0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03, comprising the Property, to Regional Business (RB) District, a copy of which is attached hereto as Exhibit E-1.

(11) "Ordinance No. 2022-_____" means Ordinance No. 2022-_____ of the County approving this Agreement, a copy of which is attached hereto as Exhibit E-2.

(12) "Parties" means County and Developer.

(13) "Property" means the land, and any improvements thereon, described in Section 1.04.

(14) "UDO" means the Lancaster County Unified Development Ordinance adopted by the County Council of Lancaster County, as amended through the Agreement Date, a copy of which is attached hereto as Exhibit E-4.

(B) Unless the context clearly indicates otherwise, terms not otherwise defined in this Agreement have the meanings set forth in the Act and Ordinance No. 663 or the UDO.

Section 1.03. Parties. The parties to this Agreement are County and Developer.

Section 1.04. Property. This Agreement applies to five (5) parcels of land identified as Tax Map Nos.0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03, and these parcels are reflected in Exhibit A-1 (legal descriptions) and A-2 (plats), attached hereto and incorporated herein by reference as if these exhibits were set out in this Agreement in their entirety.

Section 1.05. Zoning. Four parcels comprising the Property are currently zoned General Business (GB) District (Tax Parcel Nos. 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03 and one parcel comprising the Property is currently zoned Neighborhood Business (NB) District (Tax Parcel No. 0010-00-051.00), and all are anticipated to be rezoned Regional Business (RB) District pursuant to Ordinance No. 2022- _____.

Section 1.06. Development Program.

(A) The UDO provides for the development uses on the Property, including population densities, building intensities and height.

(B) The development of the Property must meet all applicable standards contained in the UDO as of the Agreement Date. In the event of conflict between the standards contained in the UDO as of the Agreement Date and this Agreement, the terms of the UDO control. The Development Program for the Property with the mixed use of up to 238 townhome style multi-family dwelling units and commercial outparcels totaling between six (6) and eight (8) acres is set forth in Exhibit B.

Section 1.07. Development Schedule.

(A) The estimated development schedule for the Property is set forth on Exhibit C, attached hereto and incorporated herein by reference as if the exhibit were set out in this Agreement in its entirety.

(B) County and Developer acknowledge that the development schedule is an estimate. The failure of the Developer to meet a commencement or completion date does not, in and of itself, constitute a material breach of this Agreement, but must be judged based on the totality of the circumstances. The development schedule is a planning and forecasting tool only. County and Developer acknowledge that actual development is likely to take place at a different pace than set forth in the development schedule because of future market forces.

(C) County agrees that if Developer requests an adjustment to the development schedule, including commencement dates and interim completion dates, then the dates must be modified if the Developer is able to demonstrate and establish that there is good cause to modify those dates. "Good cause" includes, but is not limited to, changes in market conditions.

(D) Periodic adjustments to the development schedule do not require a formal amendment to this Agreement and are not considered a major modification. To adjust the development schedule, the Developer shall submit a proposed adjustment to the Clerk to Council who shall forward copies of the proposed adjustment to each member of County Council. The proposed adjustment must be accompanied by an explanation and justification. The proposed adjustment is effective sixty (60) days from receipt by the Clerk to Council unless the County Council has disapproved the proposed adjustment by passage of a resolution to that effect within the sixty (60) day period.

Section 1.08. Relationship of Parties. This Agreement creates a contractual relationship among the Parties. This Agreement is not intended to create, and does not create, the relationship of partnership, joint venture, or any other relationship wherein any one of the parties may be held responsible for the acts of any other party. This Agreement is not intended to create, and does not create, a relationship whereby any one of the parties may be rendered liable in any manner for the

debts or obligations of any other party, to any person or entity whatsoever, whether the debt or obligation arises under this Agreement or outside of this Agreement.

Section 1.09. Benefits and Burdens.

(A) The Parties agree that the burdens of this Agreement are binding upon, and the benefits of this Agreement shall inure to, all successors in interests to the Parties to this Agreement.

(B) Except for the owners and lessees of completed residences on individual lots who are the end users and not developers thereof and the owners and lessees of individual lots, who are not developers and who intend to build a residence on the lot for the owner or lessee to occupy, any purchaser or other successor in title is responsible for performance of Developer's obligations pursuant to this Agreement as to the portion of the Property so transferred. Developer must give notice to the County of the transfer of property to a developer in the manner prescribed in Section 3.05.

(C) Developer acknowledges and agrees that it and its successors and assigns (*i*) are responsible for the development of the Property if and when Developer acquires title to and Development Rights for the Property, and (*ii*) if Developer develops the Property, Developer will develop the Property in accordance with the terms and conditions of this Agreement.

Section 1.10. Term. The term of this Agreement commences on the Agreement Date and terminates ten (10) years thereafter.

Section 1.11. Required Information. Ordinance No. 663 requires a development agreement to include certain information. Exhibit D contains the required information or identifies where the information may be found in this Agreement. Exhibit D is incorporated herein by reference as if the exhibit were set out in this Agreement in its entirety.

ARTICLE II

REPRESENTATIONS AND WARRANTIES

Section 2.01. Representations and Warranties of County.

(A) The County has found that the development permitted by this Agreement is consistent with the County's Comprehensive Plan and UDO.

(B) The County has approved this Agreement by adoption of Ordinance No. 2022-_____ in accordance with the procedural requirements of the Act, Ordinance No. 663 and any other applicable state law.

(C) The County represents that prior to the final reading of Ordinance No. 2022-_____ that at least two public hearings were held after publication of the required notice and the publication of a notice of intent to consider a proposed development agreement.

Section 2.02. Representations and Warranties of Developer.

(A) Developer represents that the number of acres of highland contained in the Property is greater than twenty-five acres and that the highlands equal approximately fifty and 71/100 acres (50.71).

(B) Developer represents that, as of the Agreement Date, it has contractual rights to acquire the Property and thus has an equitable interest therein.

(C) Developer represents and warrants that the execution, delivery and performance by the respective individual or entity signing this Agreement on behalf of the party has been duly authorized and approved by all requisite action on the part of Developer.

ARTICLE III

DEVELOPMENT RIGHTS

Section 3.01. Vested Right to Develop.

(A) County agrees that the Developer, upon receipt of its development permits as identified in Section 3.04, may proceed to develop the Property according to the terms and conditions of this Agreement, including the Master Development Plan described in Section 1.06(B), the UDO, and the other Laws and Land Development Regulations. The right of Developer to develop the Property as set forth in this Agreement is deemed vested with Developer for the term of this Agreement when the Developer has complied with all of the requirements of Section 5.19 of this Agreement.

(B) County agrees that the specific Laws and Land Development Regulations in force as of the Agreement Date, including the UDO, as set forth in Exhibits E and E-1 through E-5 to this Agreement, attached hereto and incorporated herein by reference as if the exhibit were set out in this Agreement in its entirety, shall govern all aspects of the development of the Property, according to the terms and standards as stated in this Agreement, for the term of this Agreement.

(C) The Developer has a vested right to proceed with the development of the Property in accordance with the zoning classification set forth in Ordinance No. 2022- _____, the UDO, the other Laws and Land Development Regulations, and the terms of this Agreement, including without limitation the Development Program, when the Developer has complied with all of the requirements of Section 5.19 of this Agreement.

(D) To the extent that this Agreement may contain zoning and development standards which conflict with existing zoning and development standards, including zoning and development standards contained in the UDO, the standards contained in this Agreement supersede all other standards and this Agreement is deemed controlling.

(E) The Developer acknowledges that financial guarantees will not be accepted for water, sewer and storm water infrastructure and the water, sewer and storm water infrastructure must be installed, tested and in acceptable condition before final plat approval. All of the townhouse style multi-family units are intended to be designated in a single parcel on the final plat but the six (6) to eight (8) acres of commercial may be subdivided into outparcels.

Section 3.02. Effect on Vested Rights Act and County Ordinance No. 673. The Parties agree that vested rights conferred upon Developer in this Agreement are not affected by the provisions of the Vested Rights Act, codified as S.C. Code §§ 6-29-1510 to -1560, Code of Laws of South Carolina 1976, as amended, or the provisions of Ordinance No. 673, the County's ordinance relating to the Vested Rights Act. In addition, subject to the provisions of Section 3.03(A) of this Agreement, all rights and prerogatives accorded Developer by this Agreement shall immediately also constitute vested rights for the development of the Property including vested rights pursuant to the Vested Rights Act and the provisions of Ordinance No. 673, for the term of this Agreement and the maximum period for vesting rights under the Vesting Rights Act. Section 3.03(A) of this Agreement does not abrogate any rights either preserved by S.C. Code § 6-31-140, Ordinance No. 663, Ordinance No. 673, the UDO, or that may have vested pursuant to common law and otherwise in the absence of a development agreement.

Section 3.03. Applicability of Subsequently Adopted Laws and Land Development Regulations.

(A) It is recognized that laws and regulations will periodically change. However, the laws applicable to the development of the Property during the Term of this Agreement shall be the Laws and Land Development Regulations in effect on the Agreement Date as set forth on Exhibits E and E1 – E5, except as expressly provided otherwise in this Agreement.

Subject to the provisions of S.C. Code § 6-31-140, the County shall not apply subsequently adopted laws or regulations to the Property or the Project unless the County has held a public hearing and has determined: (1) the proposed subsequent laws or regulations are not in conflict with the Current Laws and Land Development Regulations governing the Agreement and do not prevent the development of the Property set forth in this Agreement; (2) the proposed subsequent laws or land development regulations are essential to the public health, safety, or welfare and the proposed subsequent laws or land development regulations expressly state that they apply to a development that is subject to a development agreement; (3) the proposed subsequent laws or land development regulations are specifically anticipated and provided for in this Agreement; (4) substantial changes have occurred in pertinent conditions existing at the time of approval of this Agreement which changes, if not addressed by the County, would pose a serious threat to the public health, safety, or welfare; or (5) this Agreement is based on substantially and materially inaccurate information supplied by Developer.

(B) Notwithstanding the provisions of subsection (A) of this section, the County agrees that if County Council imposes a moratorium or other similar restriction that would curtail or hinder the rate at which development can occur, then the moratorium or other similar restriction shall not apply to the Development of the Property.

(C) Developer agrees to comply with any county-wide storm water regulations, building, housing, electrical, plumbing, and gas codes adopted by County Council after the Agreement Date and in force at the time plans for buildings are submitted to the County for review. Nothing in this Agreement is intended to supersede or contravene the requirements of any storm water, building, housing, electrical, plumbing, or gas code adopted by County Council.

Section 3.04. Development Permits.

(A) Developer agrees to obtain all local development permits for the development of the Property. Local development permits, approvals and processes, some of which may have been obtained or complied with as of the Agreement Date, include, but are not limited to:

(1) Site plan or preliminary plan approval;
(2) Civil plan approval;
(3) Final plat approval;
(4) Zoning permits;
(5) Building permits; and
(6) Sign permits.

(B) The failure of this Agreement to address a particular permit, condition, term, or restriction does not relieve the Developer of the necessity of complying with the law governing the permitting requirements, conditions, terms or restrictions.

Section 3.05. Transfer of Development Rights.

(A) Developer may, at its sole discretion, transfer its Development Rights to other developers. The transferring Developer must give notice to the County of the transfer of any Development Rights. The notice to the County must include the identity and address of the transferring Developer, the identity and address of the acquiring Developer, the acquiring Developer's contact person, the location and number of acres of the Property associated with the transfer and the number of residential units or commercial acreage subject to the transfer. Any Developer acquiring Development Rights is required to file with the County an acknowledgment of this Agreement and the transfer of Development Rights is effective only when the County receives a commitment from the acquiring Developer to be bound by it. In the event of the sale, transfer, or other conveyance of all or a portion of the Property and compliance with the conditions set forth herein, Developer shall be released from any further obligations with respect to this Agreement as to the portion of the Property so transferred, and the transferee shall be considered as substituted as Developer under the Agreement as to the portion of the Property so transferred.

(B) This provision does not apply: (i) to the purchaser or other successor in title to Developer who is the owner or lessee of a completed residence and is the end user and not the developer thereof or who is the owner or lessee of an individual lot, who is not a developer and who intends to build a residence on the lot for the owner or lessee to occupy; (ii) to any mortgage lender either as the result of foreclosure of any mortgage secured by any portion of the Property

or any other transfer in lieu of foreclosure; (iii) to any third party purchaser at such a foreclosure; or (iv) to any third party purchaser of such mortgage lender's interest subsequent to the mortgage lender's acquiring ownership of any portion of the Property as set forth above. Furthermore, nothing contained herein shall prevent, hinder or delay any transfer of any portion of the Property to any such mortgage lender or subsequent purchaser. Except as set forth herein, any such mortgage lender or subsequent purchaser shall be bound by and shall receive the benefits from this Agreement as the successor in title to Developer.

ARTICLE IV

DEDICATIONS AND FEES AND RELATED AGREEMENTS

Section 4.01. Purpose of Article. The Parties understand and agree that Development of the Property imposes certain burdens and costs on the County, including those for certain services and infrastructure improvements. Eventually, *ad valorem* taxes collected from the property may meet or exceed the burdens and costs placed upon the County, but certain initial costs and capital expenditures are now required that are not to be funded by any increase in taxes paid by existing residents of the County. The purpose of this article is to identify the matters agreed upon to be provided by the Developer to mitigate such burdens and costs.

Section 4.01A. Facilities for Development. Subject to compliance with applicable laws, all provisions of this Agreement and prior approval of construction plans by the County or other applicable governmental entity, Developer, at its cost and expense, shall install the requisite infrastructure, including transportation, water, and sanitary sewer infrastructure, for its Development of the Property, pursuant to Section 4.04 below and the Development Program set forth on Exhibit B as such Development proceeds pursuant to Exhibit C. Notwithstanding any provision herein to the contrary, Developer hereby assures the County that adequate infrastructure shall be available concurrent with the impacts of Development of the Property.

Section 4.01B. Payment for School District. On September 13, 2021, the County adopted Ordinance No. 2021-1761 establishing development impact fees for public school facilities ("School Impact Fees"), which impact fees were implemented as of January 1, 2022 and shall apply to the Property. County and Developer agree that no additional school funds are required pursuant to this Agreement because the School Impact Fees already address the impact that the development of the property will have on the public school facilities.

Section 4.01C. Funds for Public Safety. On July 21, 2021, the County adopted Ordinances establishing development impact fees for facility improvements for Fire (Ordinance No. 2021-1722), Emergency Medical Services (Ordinance No. 2021-1723), Sheriff (Ordinance No. 2021-1724) and Parks and Recreation (Ordinance No. 2021-1725) (collectively, the "County Public Safety Impact Fees"), which impact fees were implemented as of October 1, 2021 and shall apply to the Property. County and Developer agree that no additional public safety funds are required pursuant to this Agreement because the County Public Safety Impact Fees already address the impact that the development of the property will have on the public safety facilities.

Section 4.01D. Fee Schedule Annual Update. The developer fees set forth in Section 4.01B and Section 4.01C (collectively "Developer Fees") shall be the amount of School Impact Fees and County Public Safety Impact fees effective as of the date of payment.

Section 4.01E. Future Impact Fees. Developer's right set forth herein are vested and thus Developer shall not be subject to any future impact fees or costs imposed by the County.

Section 4.02. Payment of Costs. Upon submission of appropriate documentation of the expenditure, Developer agrees to reimburse the County, not later than October 1, 2022, for the County's reasonable unreimbursed actual costs related to this Agreement. The foregoing cost reimbursement is capped at ten thousand dollars ($10,000.00) and is limited to County payments to third-party vendors and service providers that have not been otherwise reimbursed from the fee paid by Developer pursuant to Section 10 of Ordinance No. 663.

Section 4.03. Other Charges or Fees.

(A) Nothing in this Agreement shall be construed as relieving Developer from the payment of any fees or charges in effect at the time of collection as may be assessed by entities other than the County.

(B) Developer is subject to the payment of any and all present or future fees enacted by the County that are of County-wide application and that relate to the County's costs of processing applications, issuing development permits, reviewing plans, conducting inspections or similar type processing costs.

Section 4.04. Infrastructure and Services.

The Parties recognize that the majority of the direct costs associated with the Development of the Property will be borne by Developer, and many necessary infrastructure improvements and services will be provided by Developer or other governmental or quasi-governmental entities, and not by the County. For clarification, the Parties make specific note of and acknowledge the following:

(A) Roads. (1)(a) Developer is responsible for the construction and costs of all roads, whether for public or private use, within the Property including but not limited to any necessary entrance and intersection improvements as required by the South Carolina Department of Transportation related to the development of the Property. All roads must be constructed in accordance with the County's road standards. The road improvements are expected to be implemented on a schedule consistent with the development of the Property as contained in the development schedule and as necessary to serve the development. Developer is also responsible for maintenance of all roads that are not public roads. Pursuant to Ordinance 2014-1299, Developer acknowledges that County will only accept as public roads those roads constructed in full compliance with the UDO and providing connectivity to the county road system or serving as a necessary component for the proper development of the county road system. County will not accept the roads within the Property into the County road system for any other purpose, including,

but not limited to, maintenance. Developer may transfer the ownership of the roads and its obligations for the roads to a homeowners' or property owners' association or similar organization.

(b) Developer shall cause to be prepared a traffic impact analysis conducted and sealed by a licensed South Carolina professional engineer (if not already prepared at time of Agreement). Any road improvements, which are determined to be necessary, based on the results of the traffic impact analysis, shall be incorporated into the final site plan prior to County approval and the Developer is responsible for all costs of the road improvements. The traffic impact analysis shall be reviewed by the County and in conjunction with the South Carolina Department of Transportation. If a County-level traffic planner is not available to review the traffic impact analysis at the time of submittal, the County may choose to hire a third-party consultant to assist in this review. The cost of the traffic impact analysis, including any additional reviews requested by the County, shall be paid by the Developer. Improvements set forth in the traffic impact analysis may be installed based on a phasing study prepared by a licensed South Carolina professional engineer at the expense of Developer. The installation of new traffic signals or improvements to existing traffic signals shall be based on warrant studies conducted by a licensed South Carolina professional engineer at established specific times and at the expense of Developer.

(B) Potable Water, Sewage Treatment and Disposal. Potable water, sewage treatment and disposal will all be supplied to the Property by the Lancaster County Water and Sewer District. Developer will construct, or cause to be constructed, all necessary water and sewer service infrastructure within the Property and the water and sewer service infrastructure will be maintained by the provider. County is not responsible for any construction, treatment, maintenance, or costs associated with water or sewer service or water and sewer service infrastructure to or within the Property. The water and sewer service infrastructure is expected to be implemented on a schedule consistent with the development of the Property as contained in the development schedule and as necessary to serve the development. Developer acknowledges that County has no authority or responsibility for providing potable water services or sewer services in the County and that the Lancaster County Water and Sewer District is a governmental entity separate and distinct from the County.

(C) Storm Water Management. Developer will construct or cause to be constructed all storm water runoff and drainage improvements within the Property required by the development of the Property and such infrastructure will be maintained by Developer or a homeowners' association. County is not responsible for any construction, maintenance or costs associated with the storm water runoff and drainage for the Property. Storm water management improvements are expected to be implemented on a schedule consistent with the development of the Property as contained in the development schedule and as necessary to serve the development.

(D) Solid Waste Collection. The County shall provide solid waste collection to the Property on the same basis as is provided to other residents and businesses within the County. It is understood and acknowledged that the County does not presently provide solid waste collection or disposal for single, multi-family or commercial developments. Residential units shall be served by a private waste hauling company.

(E) Fire Services. The Property is in the Pleasant Valley Fire Department service area and fire services will be provided by the Pleasant Valley Fire Department, or its successor entities. Developer acknowledges that the Pleasant Valley Fire Department provides services using volunteers.

(F) School Services. Public school services are now provided by the Lancaster County School District. Developer acknowledges that County has no authority or responsibility for providing public school services in the County.

ARTICLE V

MISCELLANEOUS

Section 5.01. Notices. Any notice, election, demand, request or other communication to be provided under this Agreement shall be in writing and shall be effective (*i*) when delivered to the party named below, (*ii*) when deposited with the United States Postal Service, certified mail, return receipt requested, postage prepaid, or (*iii*) when deposited in Federal Express (or any other reputable national "next day" delivery service) addressed as follows (or addressed to such other address as any party shall have previously furnished in writing to the other party), except where the terms hereof require receipt rather than sending of any notice, in which case such provision shall control:

To the County:
County of Lancaster
Attn: County Administrator
101 N. Main St. (29720)
P.O. Box 1809 (29721)
Lancaster, SC

With a Copy to:
County of Lancaster
Attn: County Attorney
101 N. Main St. (29720)
P.O. Box 1809 (29721)
Lancaster, SC

And to Developer:
Two Capital Developer, LLC
Attn: Wes Taubel
3445 Peachtree Rd, NE
Suite 465
Atlanta, GA 30326

With a Copy to:
Spencer & Spencer
Attn: W. Chaplin Spencer, Jr.
226 East Main Street, Suite 200
P.O. Box 790
Rock Hill, SC 29731

Section 5.02. Amendments.

(A) This Agreement may be amended or cancelled by mutual consent of the Parties to the Agreement or by their successors in interest. An amendment to this Agreement must be in writing. No statement, action or agreement made after the Agreement Date shall be effective to change, amend, waive, modify, discharge, terminate or effect an abandonment of this Agreement in whole or in part unless such statement, action or agreement is in writing and signed by the party against whom the change, amendment, waiver, modification, discharge, termination or abandonment is sought to be enforced.

(B) An amendment to this Agreement with the exceptions identified on Exhibit B must be processed and considered in the same manner as set forth in Ordinance No. 663 for a proposed development agreement. Any amendment to this Agreement other than as set forth on Exhibit B constitutes a major modification and the major modification may occur only after public notice and a public hearing by the County Council.

(C) This Agreement must be modified or suspended as may be necessary to comply with any state or federal laws or regulations enacted after the Agreement Date which prevents or precludes compliance with one or more of the provisions of this Agreement but only to the extent necessary to effectuate compliance with the state or federal law.

(D) Anything to the contrary contained herein notwithstanding, in the event Developer or its successors or assigns elects not to or otherwise does not acquire the Property at any time, Developer may so notify the County in writing and upon such notification and written request by Developer to terminate this Agreement, this Agreement shall terminate and Developer shall not be considered in breach of this Agreement and the parties shall have no further obligations to one another.

Section 5.03. Periodic Review. At least every twelve (12) months, the Development Services Director for the County or the designee of the Development Services Director for the County, must review compliance with this Agreement by the Developer. At the time of review the Developer must demonstrate good faith compliance with the terms of the Agreement.

Section 5.04. Breach of Agreement.

(A) If, as a result of the periodic review provided in Section 5.03 of this Agreement or at any other time, the Development Services Director for the County, or their designee, finds and determines that the Developer has committed a material breach of the terms or conditions of this Agreement, the Development Services Director for the County shall serve notice in writing, within a reasonable time after the periodic review, upon the Developer setting forth with reasonable particularity the nature of the breach and the evidence supporting the finding and determination, and providing the Developer a reasonable time in which to cure the material breach.

(B) If the Developer fails to cure the material breach within a reasonable time and is not proceeding expeditiously and with diligence to cure the breach, then the County Council may unilaterally terminate or modify this Agreement. Prior to terminating or modifying this Agreement as provided in this section, the County Council must first give the Developer the opportunity (*i*) to rebut the finding and determination, or (*ii*) to consent to amend the Agreement to meet the concerns of the County Council with respect to the findings and determinations.

Section 5.05. Enforcement. The Parties shall each have the right to enforce the terms, provisions and conditions of this Agreement, if not cured within the applicable cure period, by any remedy available at law or in equity, including specific performance, and the right to recover attorney's fees and costs associated with enforcement.

Section 5.06. No Third Party Beneficiary. The provisions of this Agreement may be enforced only by the Parties. No other persons shall have any rights hereunder.

Section 5.07. Recording of Agreement. The Parties agree that Developer shall record this Agreement with the County Register of Deeds within fourteen (14) days of the date of execution of this Agreement.

Section 5.08. Administration of Agreement. County is the only local government that is a party to this Agreement and the County is responsible for the Agreement's administration.

Section 5.09. Effect of Annexation and Incorporation. The Parties agree that this Agreement remains in effect if the Property is, in whole or in part, included in a newly-incorporated municipality or is annexed into a municipality. The Parties acknowledge that upon incorporation or annexation the application and duration of this Agreement is controlled by Section 6-31-110 of the Act. County reserves the right to enter into an agreement with the newly-incorporated municipality or the annexing municipality for the administration and enforcement of this Agreement after the date of incorporation or annexation.

Section 5.10. Estoppel Certificate. Any of the Parties may, at any time, and from time to time, deliver written notice to the other party requesting the party to certify in writing (*i*) that this Agreement is in full force and effect, (*ii*) that this Agreement has not been amended or modified, or if so amended, identifying the amendments, and (*iii*) whether, to the knowledge of the party, the requesting party is in default or claimed default in the performance of its obligation under this Agreement, and, if so, describing the nature and amount, if any, of any such default or claimed default, and (*iv*) whether, to the knowledge of the party, any event has occurred or failed to occur which, with the passage of time or the giving of notice, or both, would constitute a default and, if so, specifying each such event.

Section 5.11. Entire Agreement. This Agreement sets forth, and incorporates by reference all of the agreements, conditions, and understandings among the Parties relative to the Property and its Development and there are no promises, agreements, conditions or understandings, oral or written, expressed or implied, among the Parties relative to the matters addressed in this Agreement other than as set forth or as referred to in this Agreement.

Section 5.12. Covenant to Sign other Documents. County and Developer acknowledge that consummation of the transactions contemplated by this Agreement may require the execution contemporaneously with the execution of this Agreement and thereafter of certain documents in addition to this Agreement and County and Developer agree to cooperate with the execution thereof.

Section 5.13. Construction of Agreement. The Parties agree that each party and its counsel have reviewed and revised this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not apply in the interpretation of this Agreement or any amendments or exhibits to this Agreement.

Section 5.14. Assignment. The rights, obligations, duties and responsibilities devolved by this Agreement on or to the Developer are assignable to any other person, firm, corporation or entity except that the assignment must conform to the requirements of Section 1.09 and Section 3.05. This Agreement shall also be binding on the County and all future County Councils for the duration of this Agreement, even if the County Council members change.

Section 5.15. Governing Law; Jurisdiction; and Venue.

(A) This Agreement is governed by the laws of the State of South Carolina.

(B) The Parties agree that the jurisdiction and venue for disputes relating to this Agreement is Lancaster County, South Carolina which is within the Sixth (6^{th}) Judicial Circuit of the State of South Carolina.

Section 5.16. Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed an original, and such counterparts shall constitute but one and the same instrument.

Section 5.17. Eminent Domain. Nothing contained in this Agreement shall limit, impair or restrict the County's right and power of eminent domain under the laws of the State of South Carolina.

Section 5.18. Severability. If any provision in this Agreement or the application of any provision of this Agreement is held invalid, the invalidity shall apply only to the invalid provision, and the remaining provisions of this Agreement, and the application of this Agreement or any other provision of this Agreement, shall remain in full force and effect. However, if the invalid provision would prevent or materially impair Developer's right or ability to complete performance of this Agreement, the Parties agree to use their best efforts to renegotiate that provision in order for Developer to complete performance of this Agreement.

Section 5.19. When Agreement takes Effect. This Agreement is dated as of the Agreement Date and takes effect when (*i*) the County and Developer have each executed the Agreement, and (*ii*) the Developer has delivered to the County Administrator clocked-in copies,

with book and page numbers, of the recorded deeds conveying the Property to Developer. If the County Administrator has not received clocked-in copies of the deeds conveying the Property to Developer by 5:00 p.m., _Month__Date__Year_____, then this Agreement is automatically terminated without further action of either the County or Developer. The obligation of the Developer pursuant to Section 4.02 is effective on the date the last Party to sign this Agreement executes this Agreement and the obligations imposed on Developer pursuant to Section 4.02 survives the termination of this Agreement pursuant to this Section.

Section 5.20. General Terms and Conditions.

(A) Agreements to Run with the Land. This Agreement shall be recorded against the Property as described in Exhibit A-1 and shown on Exhibit A-2. The agreements contained herein shall be deemed to run with the land.

(B) No Waiver. Failure of a Party hereto to exercise any right hereunder shall not be deemed a waiver of any such right and shall not affect the right of such Party to exercise at some future time said right or any other right it may have hereunder.

(C) Merger. This Agreement, coupled with its Exhibits which are incorporated herein by reference, shall state the final and complete expression of the Parties' intentions with respect to the matters set forth herein. All prior negotiations and representations are superseded and merged herein.

SIGNATURES FOLLOW ON NEXT PAGE.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date below found.

WITNESSES:

_____

_____

DEVELOPER:

Two Capital Developer, LLC,
A Georgia limited liability corporation

By:_____
Name: _____
Title: _____

STATE OF _____)
) ACKNOWLEDGMENT
COUNTY OF _____)

I, _____, a Notary Public for the State of _____, do hereby certify that _____, by _____, its _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and seal this ___day of _____ 2022.

_____ (SEAL)
Notary Public for State of _____
My commission expires:_____
Print Name: _____

WITNESSES:

COUNTY:

COUNTY OF LANCASTER,
SOUTH CAROLINA

_____ By: _____
Steve Harper, Chair, County Council

_____ Date: _____

_____ By: _____
Billy Mosteller, Secretary, County Council

_____ Date: _____

STATE OF SOUTH CAROLINA)
) ACKNOWLEDGMENT
COUNTY OF LANCASTER_)

I, _____, a Notary Public for the State of South Carolina, do hereby certify that Lancaster County, by Steve Harper, its Chair, County Council, and Billy Mosteller, its Secretary, County Council personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and seal this ___day of _____ 2022.

_____ (SEAL)
Notary Public for State of _____
My commission expires:_____
Print Name: _____

Exhibit A

PROPERTY DESCRIPTION.

Parcel 1 – Tax Parcel No. 0010-00-051.00

ALL that certain, piece, parcel or lot of land, together with the buildings and improvements thereon, situate, lying and being in Indian Land Township, Lancaster County, South Carolina, containing 38.898 Acres, more or less, described and designated on a plat entitled "PROPERTY SURVEY FOR SISBRO, LLC" prepared by Hucks and Associates, PC dated January 20, 2021 and recorded in Book Plat 2021 page 17-18 in the Office of the Clerk of Court for Lancaster County, which plat is by reference made a part hereof.

Parcel 2 – Tax Parcel No. 0010-00-052.00

All that certain piece, parcel or tract of land situated and being in Indian Land Township, State and County aforesaid, lying and being on the West side of U. S. Highway #521, described as follows, to wit: Beginning at a point on said U. S. Highway #521 and running thence with line of S. N. Workman N. 69-45 W. 600 ft. to an iron; thence S. 61-40 W. 315 ft. to an iron; thence S. 34-43 W. 709 ft. to an iron; thence with line of Alexander N. 81-34 E. 132 ft.; thence S. 85 - 02 E. 165 ft. to an iron; thence with line of Gunter S. 62-32 E. 447 ft. to La Farge corner; thence with La Farge, et als, line N. 9-51 E. 840 ft. to Rosenbeck corner; thence with Rosenbeck line S. 78-59 E. 420 ft. to point on U. S. Highway #521; thence with U. S. Highway #521 N. 8-26 E. 210 ft. to the beginning. Being bounded on the North and West by lands of S. N. Workman, on the South by lands of Alexander and Gunter and on the East by lands of La Farge, Lima, Rosenbeck and U. S. Highway #521. Containing 11 3/5 Acres, more or less, as shown on plat of same made by L. E. Carothers, Surveyor, Sept. 20, 1951.

Parcel 3– Tax Parcel No. 0010-00-052.01

All that certain piece, parcel or tract of land containing two (2) acres, more or less, with improvements thereon, lying, being and situate in Indian Land Township, Lancaster County, South Carolina, and being described as follows: BEGINNING at a point approximately 574.8 feet northwest of U. S. Highway 521, and running from said point South 28-29-28 East 276.51 feet to a point; thence South 61-33-43 West 313.79 feet to a point; thence North 28-30-00 West 277.10 feet to a point; thence North 61-40-10 East 313.91 feet to the point of beginning, all of which is more accurately shown on a Plat of Property of Carol M. Deese and Joseph E. Howie, prepared by W. C. White, R.L.S., on October 15, 1985, and recorded as Plat Number 7353 in the Office of the Clerk of Court for Lancaster County, South Carolina.

ALSO:
All that certain piece, parcel or piece of property containing .16 acre, more or less, with improvements thereon, lying, being and situate in Indian Land Township, Lancaster County, South Carolina and described as follows: BEGINNING at a point set on the southeastern side of a 20 foot wide right of way, 500 feet more or less southwest of the juncture of U. S. Highway 521, running thence form said point, S 10 19 20 W 111.06 feet to a point; thence N 79 40 21 W 10.91 feet to a point; thence N 28 00 07 W 169.40 feet E, 118.01 feet to the point of beginning, all of which is shown as Tract A on a Plat of Property of James E. Howie prepared by Dwayne J. Jordan, PLS, on November 1, 2001, revised March 29, 2002 and recorded herewith as Plat #002-349, Office of the Clerk of Court for Lancaster County, South Carolina.

ALSO:
All that certain piece, parcel or tract of land containing 4.16 acres, more or less, lying, being and situate in Indian Land Township, Lancaster County, South Carolina, and being described as follows: BEGINNING at a point set on the southwestern property line of grantees existing property and running with said line N 28 03 50 W 277.10 feet to a point; thence S 35 03 08 W 709.33 feet to a point; thence N 87 41 57 E 142.42 feet; S 79 29 55 E 164.92 feet; S 61 52 44 E 167.64 feet to a point; thence N 13 33 03 E 279.31 feet to a point; thence N 06 47 20 E 169.17 feet to the point of beginning all of which is shown as Tract C on a Plat of Property of James E. Howie prepared by Dwayne J. Jordan, PLS on November 1, 2001, revised March 29, 2002 and recorded herewith as Plat #2002-349, Office of the Clerk of Court for Lancaster County, South Carolina.

Parcel 4– Tax Parcel No. 0010-00-052.02

ALSO All that certain piece, parcel or lot of land containing .52 acre, ore or less, with improvements thereon, lying, being and situate in Indian Land Township, Lancaster County, South Carolina and being described as follows: BEGINNING at a point set 332.8 feet, more or less, west of the center of U. S. Highway 521 on the western side of a 20 foot wide right of way and running thence from side point with the right of way S 42 46 W 181.96 feet to a point; thence N 69 24 W 118.05 feet to a point; thence N 28 29 30 W 107.00 feet to a point; thence S 89 36 00 E 285.10 feet to the point of beginning.
Grantor also grants and conveys unto Grantees, their heirs and assigns a 20 foot wide right of way for ingress and egress extending from Tract A as above described to and from U. S. Highway 521.
All of which is more accurately shown as Tract A on plat of property of James E. Howie to be conveyed to Howard James Howie and Dianna Bailey Howie prepared by Robert E. Rembert, RLS on August 8, 1997 and recorded herewith as Plat #98-8, in the Office of the Clerk of Court for Lancaster County, South Carolina.

Parcel 5– Tax Parcel No. 0010-00-052.03

All that certain piece, parcel or lot of land containing two (2) acres, more or less, lying, being and situate in Indian Land Township, Lancaster County, South Carolina and being described as follows: BEGINNING at a point at common line of A. L. Wilson, Edna H. Keels and grantor at the southern side of land and running thence A.A. Wilson line S 10 00 20 W 174.68 feet; S 9 53 45 W 229.95 feet to a point; thence N 62 18 15 W 275.00 feet to a point; thence N 13 06 15 E 279.47 feet to a point; thence S 89 40 E 250.00 feet to the point of beginning.
Grantor also grants and conveys unto Grantees, their heirs and assigns, a 20 foot wide right of way for ingress and egress from the above described property to and from U. S. Highway 521.
All of which is more accurately shown as Tract B on a plat of property of James E. Howie to be conveyed to Howard James Howie and Dianna Bailey Howie prepared by Robert E. Rembert, RLS on August 8, 1997 and recorded herewith as Plat #98-8, Office of the Clerk of Court for Lancaster County, South Carolina.

ALSO All that certain piece, parcel or piece of property containing 1.46 acres, more or less, with improvements thereon, lying, being and situate in Indian Land Township, Lancaster County, South Carolina and described as follows: BEGINNING at a point at the northwestern corner of grantee's existing property line and running thence N 08 47 20 E 169.17 feet to a point; thence N 61 51 E 313.79 feet to a point; thence S 79 40 21 E 10.91 feet to a point; thence S 10 19 20 W 432.86 feet to a point; thence N 89 17 41 W 250.07 feet to the point of beginning; all of which is shown as Tract B on a Plat of Property of James E. Howie prepared by Dwayne J. Jordan, PLS, on November 1, 2001, revised March 29, 2002 and recorded herewith as Plat #2002-349, Office of the Clerk of Court for Lancaster County, South Carolina.

Exhibit A-2

Plat(s)

Exhibit B

Development Program

1. *Conceptual Site Plan:* The Conceptual Site Plan attached hereto as Exhibit B-1 shall serve as the general guide for the location of roads, buildings, and other development features. The Property shall be generally developed consistent with the approved Conceptual Site Plan located on Exhibit B-1 unless otherwise modified consistent with the terms of the Agreement.
2. *Zoning District*: The Property, once rezoned, will be located in the Regional Business (RB) zoning district and shall be developed consistent with the provisions of the UDO as applicable for this district.
3. *Permitted Uses*: The Property shall be permitted to be developed with all uses permitted within the Regional Business (RB) District as set forth in the UDO and not identified as being prohibited.
4. *Dimensional Requirements:* The Property shall be permitted to be developed in accordance with the criteria with respect to minimum parcel sizes, open space, population densities, building intensities, setbacks, height, parking, buffers, fencing, signage, impervious coverage, and other dimensional requirements or building development standards as applicable to the Regional Business (RB) District as set forth in the UDO.
5. *Design Review and Approval*. Development of the Property shall be subject to review by the County's Zoning Administrator and the Technical Review Committee, as applicable, as set forth in the UDO.
6. *Transportation:*
   a. Offsite Improvements:
      i. Traffic Impact Analysis (TIA): Provided by Developer and prepared by Kimley-Horn Associates, Inc. dated February 2022 .
      ii. South Carolina Department of Transportation and the County have accepted the TIA as submitted and have not required offsite improvements at this time.
   b. Onsite Improvements:
      i. South Carolina Department of Transportation and the County have accepted the TIA as submitted.
         a. US 521 and Access 1:
            i. Construction of eastbound approach to include a single ingress lane, two egress lands with shared / through turn lane and exclusive right turn lane with 100 feet of storage, and a 100-foot protect stem (IPS) with stop control
            ii. Construct northbound left turn lane along US 521 into the site with 150 feet of storage (Crossbridge Boulevard intersection)
         b. US 521 and Access 2:
            i. Developer is seeking approval with a waiver of driveway spacing distance for lower access and if granted will add a right-in / right-out and closing of the existing median. If denied, Developer will seek and provide alternative access as required by the South Carolina Department of Transportation.

ii. *Internal Streets/ROW*: All internal streets shall be privately maintained by Developer or his/her assigns. All streets shall be constructed in accordance with County standards and inspected by the County throughout the development process. Construction testing results and as-built surveys of all constructed roads shall also be required.

iii. *Traffic Calming:* None required

iv. *Walkway Connections:* Developer shall install a pedestrian walkway along the frontage of the Property and US 521as shown on Exhibit B-1.

v. *Overflow Neighborhood Parking:* None required.

7. *Sewer*: Developer will bring sanitary sewer lines to the Property through adjacent properties and will install a semi-regional pump station and forcemain on the Property to connect to serve the Property, which pump station and forcemain will be dedicated to the Lancaster County Water and Sewer District.

Modification of Development Program: It is recognized that periodic modifications to the Development Program may be needed to address market conditions, environmental challenges, and other elements. The following will outline the processes for Minor, Moderate, and Major Modifications to Exhibit B. Modifications to other sections of the Agreement will be processed in accordance with those provisions.

a. Minor Modifications: "Minor Modifications" are defined as those modifications that reflect minor adjustments to the site layout caused by environmental features, adaptations to comply with regulatory requirements, and other changes considered incidental by County staff. Generally, Minor Modifications shall only be to the Site Plan and not to a specific development standard set forth within Exhibit B. The Planning Director shall determine what shall constitute a Minor Modification and have the authority to administratively approve such.

b. Moderate Modifications: "Moderate Modifications" are those modifications to the Conceptual Site Plan that are not caused by environmental features, adaptations to comply with regulatory requirements, and are not considered by County staff to be incidental changes. Moderate Modifications may be approved by the County Council after a review and recommendation is provided by County Staff. Approved Moderate Modifications shall be recorded by the Developer and made an amendment to Exhibit B.

c. Major Modifications: "Major Modifications" are those that do not qualify as either a Minor or Moderate Modification, such as the addition of new external access point to the public road system. Major Modifications must be processed and considered in the same manner as set forth in Ordinance No. 663 for a proposed development agreement.

Exhibit B-1

Conceptual Site Plan

[Attached]

Exhibit C

Development Schedule

Years	Residential
1	0 units
2	100 units
3	138 units
4	0 units
5	0 units
Total	238 units

Commercial development will be market dependent but not expected until after completion of the residential units. Commercial acreage is between six (6) and eight (8) acres on the outer parcels as depicted on the Site Plan.

This Development Schedule is an estimate. The provisions of Section 1.07 of this Agreement apply to this exhibit.

NOTE: County and Developer acknowledge that development of the Property is limited to 238 residential units.

THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK.

Exhibit D

Required Information

The Act and Ordinance No. 663 require a development agreement to include certain information. The following information is provided in conformance with the Act and Ordinance No. 663.

(A) *a legal description of the property subject to the agreement and the names of the property's legal and equitable owners.* The legal description of the Property is set forth in Exhibit A. As of the Agreement Date, (i) Joseph E. Howie and Amy D. Howie, Trustees of the Joseph E. Howie and Amy D. Howie Living Trust and (ii) Sisbro, LLC are the legal and equitable owners of the Property, except to the extent that Developer has contractual rights to acquire the Property.

(B) *the duration of the agreement which must comply with Code Section 6-31-40.* See Section 1.10.

(C) *a representation by the developer of the number of acres of highland contained in the property subject to the agreement.* See Section 2.02.

(D) *the then current zoning of the property and a statement, if applicable, of any proposed re-zoning of the property.* See Section 1.05.

(E) *the development uses that would be permitted on the property pursuant to the agreement, including population densities, building intensities and height.* See Section 1.06 and Exhibit B.

(F) *a description of the public facilities that will service the development, including who provides the facilities, the date any new facilities, if needed, will be constructed, and a schedule to assure public facilities are available concurrent with the impacts of the development construction timeline for those facilities. If the agreement provides that the County shall provide certain public facilities, the agreement shall provide that the delivery date of the public facilities will be tied to defined completion percentages or other defined performance standards to be met by the developer.* See Article IV.

(G) *a description, where appropriate, of any reservation or dedication of land for public purposes and any provisions to protect environmentally sensitive property as may be required or permitted pursuant to laws in effect at the time of entering into the agreement.* Developer agrees to comply with all applicable environmental laws.

(H) *a description of all local development permits approved or needed to be approved for the development of the property together with a statement indicating that the failure of the agreement to address a particular permit, condition, term, or restriction does not relieve the developer of the necessity of complying with the law governing the permitting requirements, conditions, terms or restrictions.* See Section 3.04.

(I) *a finding that the development permitted or proposed is consistent, or will be consistent by the time of execution of the agreement, with the County's comprehensive plan and land development regulations.* See Section 2.01(A).

(J) *a description of any conditions, terms, restrictions, or other requirements determined to be necessary by the local government for the public health, safety, or welfare of its citizens.* See Article IV.

(K) *a description, where appropriate, of any provisions for the preservation and restoration of historic structures.* Developer agrees to comply with all laws applicable to the preservation and restoration of historic structures within the Property.

(L) *a development schedule including commencement dates and interim completion dates at no greater than five year intervals.* See Section 1.07 and Exhibit C.

(M) *if more than one local government is made party to the agreement, a provision stating which local government is responsible for the overall administration of the agreement.* See Section 5.08.

(N) *a listing of the laws and land development regulations that will apply to the development of the property subject to the agreement, including citation to specific ordinance numbers or portions of the County Code of Ordinances or both.* See Sections 3.01, 3.03 and Exhibits E and E-1 – E-5.

(O) *a provision, consistent with Code Section 6-31-80, addressing the circumstances under which laws and land development regulations adopted subsequent to the execution of the agreement apply to the property subject to the agreement.* See Section 3.03.

(P) *a provision stating whether the agreement continues to apply to the property or portions of it that are annexed into a municipality or included in a newly-incorporated area and, if so, that the provisions of Code Section 6-31-110 apply.* See Section 5.09.

(Q) *a provision that the agreement may be amended or cancelled by mutual consent of the parties to the agreement or their successors in interest.* See Section 5.02.

(R) *a provision that if the amendment constitutes a major modification of the agreement, the major modification may occur only after public notice and a public hearing by the council, provided that, for purposes of this item, a "major modification" means: (i) significant changes to the development scheduled time-frames set forth in the agreement; (ii) density modifications; (iii) land use changes; (iv) any major miscalculations of infrastructure or facility needs which create demand deficiencies; or (v) any significant deviation from the development as contained in the agreement.* See Section 5.02.

(S) *a provision that if the developer requests an amendment to the development schedule, including commencement dates and interim completion dates, then the dates must be modified by the council if the developer is able to demonstrate and establish that there is good cause to modify those dates.* See Sections 1.07 and 5.02.

(T) *a provision that the agreement must be modified or suspended as may be necessary to comply with any state or federal laws or regulations enacted after the agreement is entered into which prevents or precludes compliance with one or more of the provisions of the agreement.* See Section 5.02

(U) *a provision for periodic review, consistent with the provisions of Section 8 of Ordinance No. 663.* See Section 5.03.

(V) *a provision addressing the effects of a material breach of the agreement, consistent with the provisions of Section 9 of Ordinance No. 663.* See Section 5.04.

(W) *a provision that the developer, within fourteen days after the County enters into the agreement, will record the agreement with the County Register of Deeds.* See Section 5.07.

(X) *a provision that the burdens of the agreement are binding upon, and the benefits of the agreement shall inure to, all successors in interest to the parties to the agreement.* See Section 1.09(A).

(Y) *a provision addressing the conditions and procedures by which the agreement may be assigned.* See Section 1.09, Section 3.05 and Section 5.14.

(Z) *a traffic impact analysis prepared in accordance with UDO Chapter 6.8 and SCDOT standards.* See Section 4.04.

Exhibit E

Laws and Land Development Regulations

1. Ordinance No. 2022-_____ zoning properties subject to the Development Agreement to Regional Business (RB) District attached hereto as Exhibit-1.
2. Ordinance No. 2022-_____, approving this Development Agreement attached hereto as Exhibit E-2.
3. The Development Agreement Ordinance for Lancaster County, South Carolina: Ordinance No. 663, a copy of which is attached hereto as Exhibit E-3.
4. Unified Development Ordinance of Lancaster County (UDO): Ordinance No. 309, as amended as of the Agreement Date. The UDO includes Ordinance No. 328, as amended, as of the Agreement Date and which is cited as the Land Development Regulations of Lancaster County, a copy of which attached hereto as Exhibit E-4.
5. Land Development Regulations of Lancaster County: See Unified Development Ordinance of Lancaster County.
6. Lancaster County Manual of Specification and Standard Details, See Appendix C to the UDO.

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Exhibit E-1

Ordinance No. 2022-_____

[Rezoning Ordinance - Attached]

Exhibit E-2

Ordinance No. 2022-_____

[Ordinance Approving Development Agreement - Attached]

Exhibit E-3

The Development Agreement Ordinance, Ordinance No. 663

[Attached]

Exhibit E-4

The UDO

[The UDO, updated to the effective date of the Ordinance 2022-_____, will be signed by County and Developer, and maintained by Lancaster County Development Services]

Exhibit E-5

Lancaster County Manual of Specification and Standard Details, See Appendix C to the UDO.

PROPOSAL:	Application by Two Capital Partners to approve a Development Agreement with Lancaster County in accordance with Unified Development Ordinance Section 9.2.18 for a proposed 238-unit, multifamily apartment development and two commercial outparcels located on approximately 50.77 acres of land located at 9224 Tadlock Drive (TM#s 0010-00-051.00, 0010-00-052.00, 0010-00-052.01, 0010-00-052.02, and 0010-00-052.03). This application is associated with the companion Zoning Map Amendment case # RZ-2021-2803.
COUNCIL DISTRICT:	District 7, Brian Carnes

The applicant submitted the proposed Development Agreement enclosed with this memo. The Development Agreement reflects the requirements of UDO Section 9.2.18 including, but not limited to: legal description, duration of agreement, description of uses, and traffic impact analysis (TIA). The Development Agreement is being proposed voluntarily and is not required as part of the associated Reginal Business District rezoning request.

The Development Agreement must first be reviewed by the Planning Commission who is required to hold one public hearing. The second and final public hearing is tentatively scheduled to occur before County Council on June 13, 2022 (first reading of the ordinance).

The applicant and County representatives continue to discuss the terms of the Development Agreement.

ATTACHMENTS:

1. Draft Development Agreement
2. Concept Plan
3. TIA Document

STAFF CONTACT:

Rox Burhans, Development Services Director
rburhans@lancastersc.net | 803-416-9422

Tadlock

Transportation Impact Analysis

Lancaster County, South Carolina

Prepared for:

R. Joe Harris & Associates, Inc.

March 2022

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Kimley»Horn

Traffic Impact Analysis for
Tadlock
Lancaster County, South Carolina

Prepared for:

R. Joe Harris & Associates, Inc.
Tega Cay, South Carolina

Prepared by:

Kimley-Horn and Associates, Inc.
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Charlotte, North Carolina 28202
(704) 333-5131





03/04/2022

March 2022
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1.0 Executive Summary

The purpose of this Traffic Impact Analysis (TIA) is to review vehicular traffic impacts as a result of the proposed Tadlock development. The primary objectives of the study are:

- To estimate trip generation and distribution for the proposed development.
- To perform intersection capacity analyses for the identified study area.
- To determine the potential traffic impacts of the proposed development.
- To develop recommendations for needed roadway and operational improvements to accommodate the proposed development's traffic impacts.

The proposed site is located west of US 521, near Tadlock Drive in Lancaster County, South Carolina. As currently envisioned, the proposed development consists of 238 apartments expected to be built-out in 2024. Based on the current site plan, access to the site is proposed via two connections to US 521, one full-movement and one right-in right-out (RIRO).

Per the Lancaster County Unified Development Ordinance (UDO) Section 6.8, the impact of the development was analyzed for the year after the development is expected to be at full occupancy. Therefore, this TIA evaluates the traffic operations under 2021 existing conditions, 2025 background conditions (without the proposed development), and 2025 build-out conditions (with the proposed development) during the AM and PM peak hours. Through coordination with Lancaster County and South Carolina Department of Transportation (SCDOT) staff, the following study intersections are included:

1. US 521 and Sandal Brook Road/Corporate Center Way
2. US 521 and Northfield Drive
3. US 521 and Crossridge Boulevard/Access 1
4. US 521 and Dobys Bridge Road/Worldreach Drive
5. US 521 and River Road/Collins Road
6. US 521 and Access 2

For purposes of this study, US 521 is referenced as north/south, while all side streets are referenced as east/west.

Kimley-Horn was retained to determine the potential traffic impacts of this development (in accordance with the traffic study guidelines in the *SCDOT Access and Roadside Management Standards (ARMS) Manual* and the Lancaster County UDO Section 6.8), and to identify transportation improvements that may be required to accommodate these impacts. Based on the analyses contained herein, the following improvements are recommended as developer mitigation:

US 521 and Access 1

- Construction of the eastbound approach of Access 1 to include a single ingress lane, two egress lanes with a shared left/through turn lane and exclusive right-turn lane with 100 feet of storage, and a 100-foot internal protected stem (IPS) with stop control.
- Construction of a northbound left-turn lane along US 521 with 150 feet of storage.

US 521 and Access 2

- Construction of the eastbound approach of Access 2 to include a single ingress lane, a single right-out egress lane, and a 60-foot IPS with stop control.
- Removal of the existing median cut along US 521 at Access 2.

The transportation improvements for the study intersections are subject to approval by SCDOT and Lancaster County. All additions and attachments to State and County roadway system shall be

properly permitted, designed, and constructed in conformance to standards maintained by the agencies.

2.0 Introduction

The proposed site is located west of US 521 near Tadlock Drive in Lancaster County, South Carolina. **Figure 2.1** shows the site location and study area.

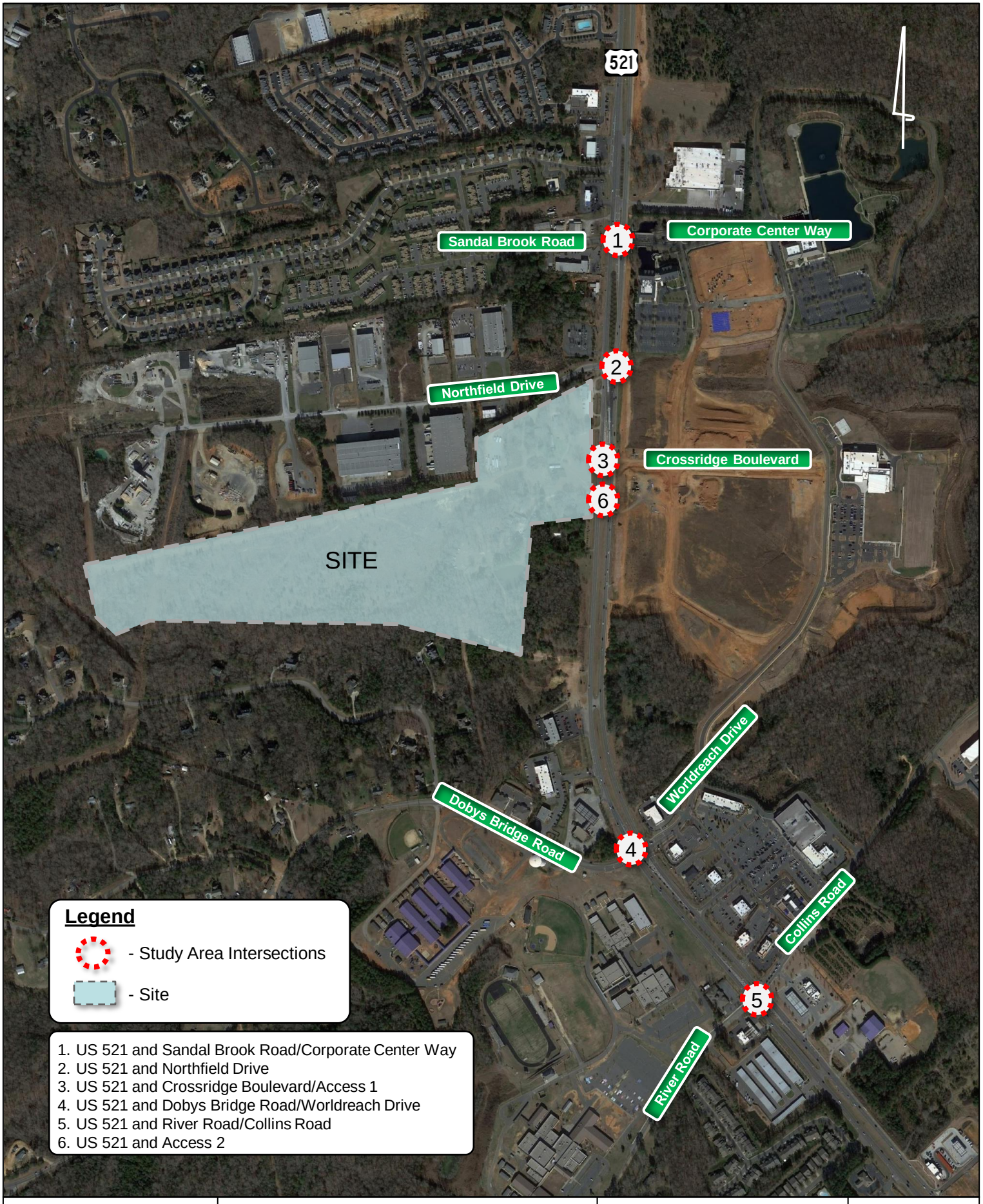
As currently envisioned, the proposed development consists of 238 apartments expected to be built-out in 2024. Based on the current site plan, access to the site is proposed via two connections to US 521 at existing median breaks. Based on input from SCDOT, the northern access (Access 1) aligned with Crossridge Boulevard will be full-movement and the southern access (Access 2) will be limited to right-in right-out (RIRO) operation by closing the existing median break there. **Figure 2.2** shows the proposed site plan for the development.

Per the Lancaster County UDO Section 6.8, the impact of the development was analyzed for the year after the development is expected to be at full occupancy. Therefore, this TIA evaluates the traffic operations under 2021 existing conditions, 2025 background conditions (without the proposed development), and 2025 build-out conditions (with the proposed development) during the AM and PM peak hours. Through coordination with Lancaster County and SCDOT staff, the following existing study intersections are included:

1. US 521 and Sandal Brook Road/Corporate Center Way
2. US 521 and Northfield Drive
3. US 521 and Crossridge Boulevard
4. US 521 and Dobys Bridge Road/Worldreach Drive
5. US 521 and River Road/Collins Road

For purposes of this study, US 521 is referenced as north/south at all study intersections, with Sandal Brook Road, Corporate Center Way, Northfield Drive, Crossridge Boulevard, Dobys Bridge Road, Worldreach Drive, River Road, Collins Road, Access 1, and Access 2 referenced as east/west.

Kimley-Horn was retained to determine the potential traffic impacts of this development (in accordance with the traffic study guidelines in the *SCDOT ARMS Manual* and the Lancaster County UDO Section 6.8) and to identify transportation improvements that may be required to accommodate these impacts.



Kimley»Horn	Tadlock Traffic Impact Analysis	Site Location	Figure 2.1

Kimley»Horn

Tadlock
Traffic Impact Analysis

Site Plan

Figure
2.2

Conceptual Site Plan

9224 Tadlock Dr - Indian Land, SC



TWO CAPITAL PARTNERS | NOVEMBER 19, 2021

NILES BOLTON ASSOCIATES

3.0 Existing Traffic Conditions

Existing traffic conditions were coordinated with Lancaster County and SCDOT staff and collected through field observations and turning-movement counts to establish the existing conditions baseline analysis.

3.1 STUDY AREA

The study area for this TIA consists of the following existing intersections:

1. US 521 and Sandal Brook Road/Corporate Center Way
2. US 521 and Northfield Drive
3. US 521 and Crossridge Boulevard
4. US 521 and Dobys Bridge Road/Worldreach Drive
5. US 521 and River Road/Collins Road

Figure 3.1 shows the current roadway geometry at the study intersections. The primary roadways in the vicinity of the site are described in **Table 3.1** in terms of 2019 SCDOT annual average daily traffic (AADT) volumes in vehicles per day (vpd) available online, facility type and state functional classifications, and posted speed limits in miles per hour (mph).

Table 3.1- Study Area Roadways

Roadway	Section type	2019 AADT	Posted speed limit
US 521	4-lane divided principal arterial	39,700 N of Sandal Brook Road 32,000 N of Dobys Bridge Road 19,500 S of Collins Road	45 mph throughout study area with a 35-mph school zone at Dobys Bridge
Sandal Brook Road	2-lane undivided local road	Not available	25 mph
Corporate Center Way	4-lane divided local road	Not available	Not posted
Crossridge Boulevard	4-lane divided local road	Not available	Not posted
Dobys Bridge Road	2-lane undivided major collector	9,800 W of US 521	35 mph
Worldreach Drive	2-lane undivided local road	Not available	Not posted
River Road	2-lane undivided local road	Not available	35 mph
Collins Road	2-lane undivided major collector	Not available	35 mph

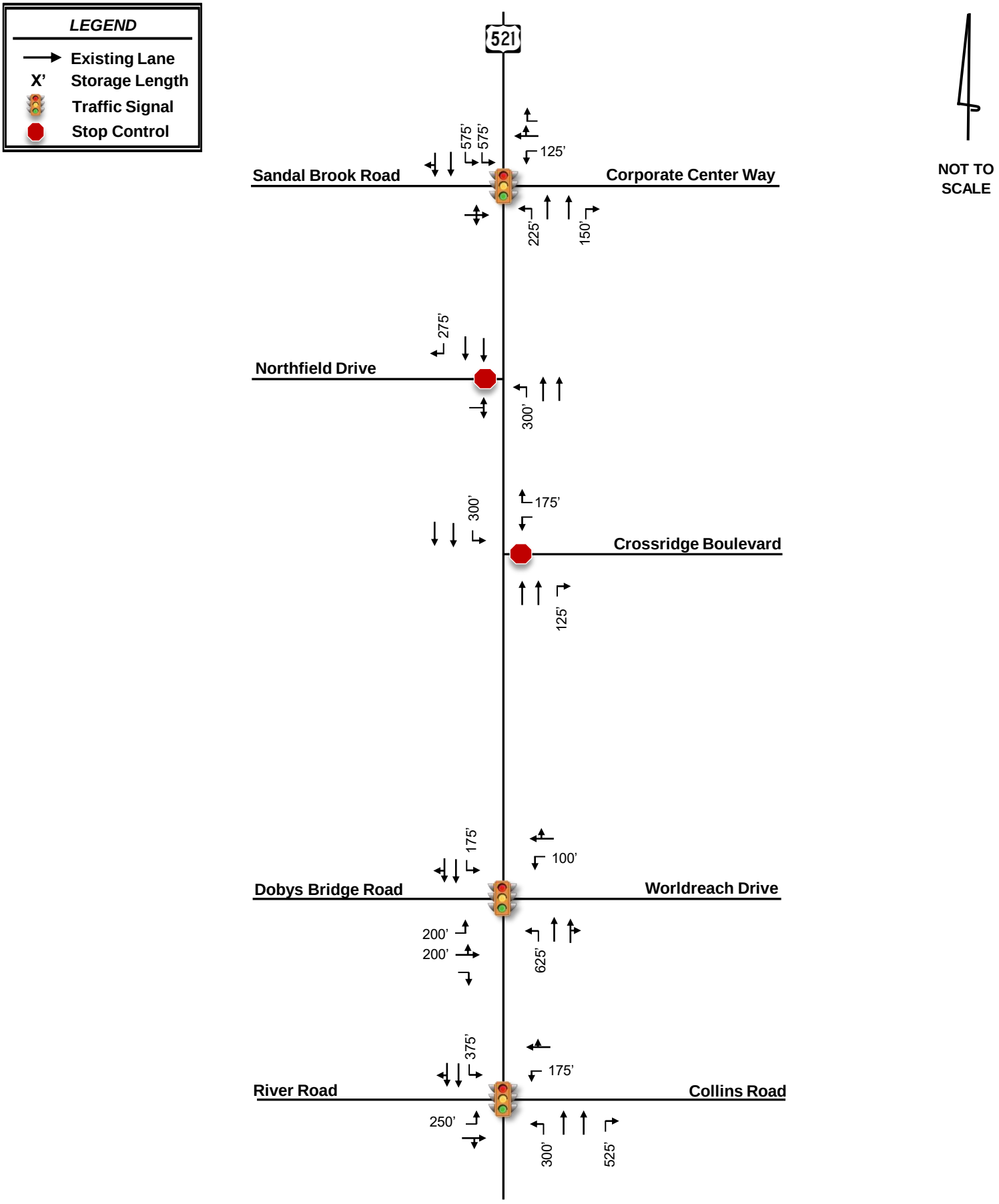
3.2 EXISTING TRAFFIC CONDITIONS

AM (7:00-9:00) and PM (4:00-6:00) peak-period intersection turning-movement counts were collected by Quality Counts LLC on Wednesday, December 15, 2021 at the following intersections:

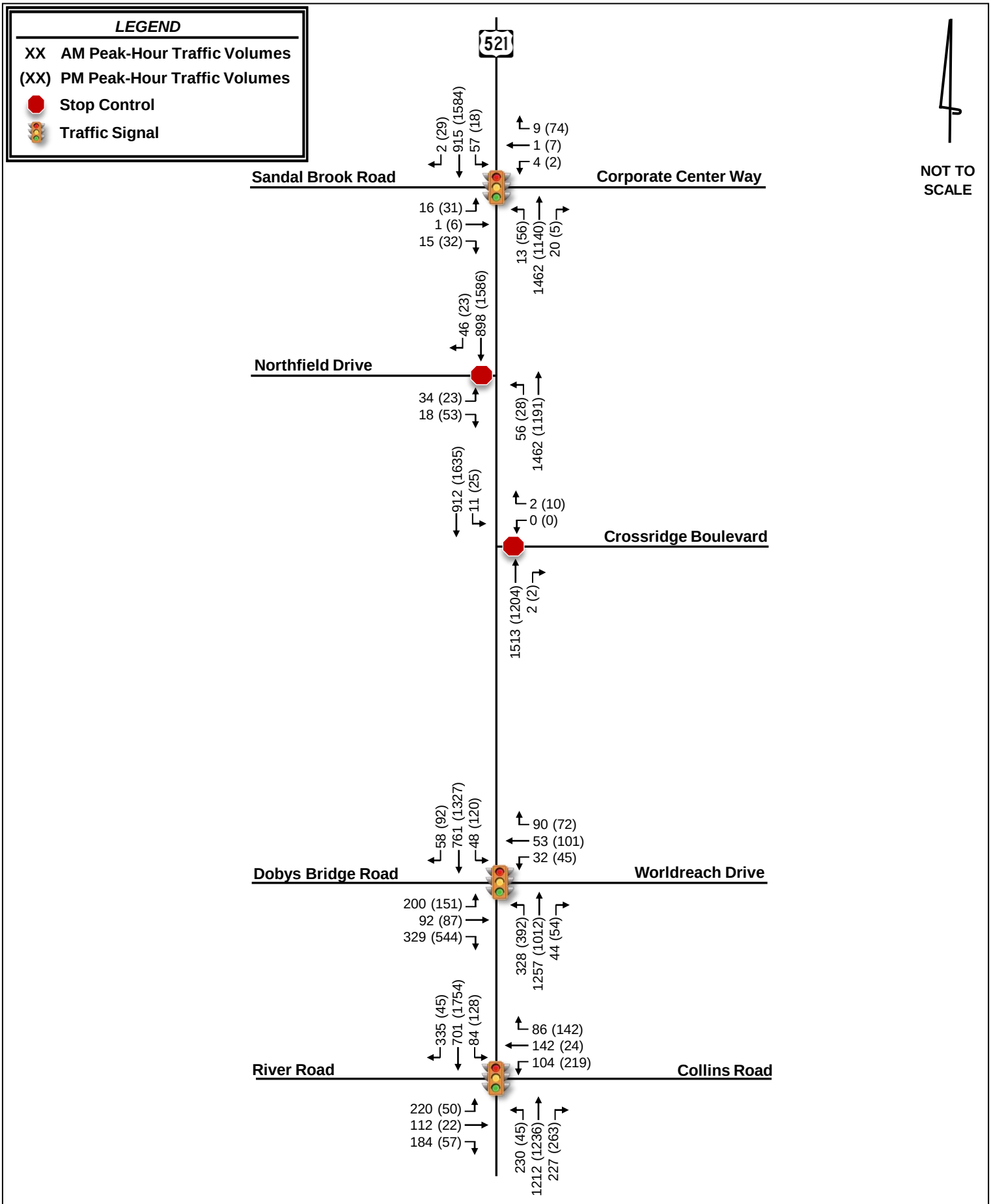
1. US 521 and Sandal Brook Road/Corporate Center Way
2. US 521 and Northfield Drive
3. US 521 and Crossridge Boulevard
4. US 521 and Dobys Bridge Road/Worldreach Drive
5. US 521 and River Road/Collins Road

Volume balancing was not performed between the study area intersections due to the presence of streets/driveways.

Figure 3.2 shows the 2021 existing AM and PM peak-hour traffic volumes. Raw peak-hour intersection turning-movement count data is provided in the **Appendix**.



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**Existing Roadway Laneage**	**Figure 3.1**



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**2021 Existing Peak-Hour Traffic Volumes**	**Figure 3.2**

4.0 Background Traffic Conditions

Projected background (non-project) traffic is defined as the expected growth or change in traffic volumes on the surrounding roadway network between the year the existing counts were collected and the expected build-out year absent the construction and opening of the proposed project. This includes both non-specific general growth based on historical increase in local traffic volumes (historical growth) and growth in traffic volumes caused by specific approved developments within the relative vicinity of the proposed development.

4.1 HISTORICAL GROWTH TRAFFIC

Historical growth is the increase in existing traffic volumes due to usage increases and non-specific growth throughout the area, and accounts for growth that is independent of specific approved off-site developments or planned transportation projects. Historical growth traffic is calculated using an annual growth rate, which is applied to the existing traffic volumes up to the future horizon year. Based on coordination with SCDOT and Lancaster County staff, the existing 2021 peak-hour traffic volumes were grown by an annual growth rate of 4% per year to the study's 2025 horizon year. Growth rate calculations can be seen in **Table 4.1**.

Table 4.1- Historical Growth Rate Calculations

SCDOT AADT			
	2019	2009	Growth Rate (2009-2019)
US 521 (north of Red Ventures Drive)	39,700	30,200	2.8%
US 521 (south of Crossridge Blvd)	32,000	22,400	3.6%
Dobys Bridge Road	9,800	4,300	8.6%
Average			***5.0%***

4.2 APPROVED OFFSITE DEVELOPMENT TRAFFIC

Based on agency coordination, one approved offsite development within the vicinity of this study area was included in the 2025 background traffic. The development, land uses and intensities, build-out percentage, and committed improvements based on its associated approved TIA and agency confirmation are outlined in **Table 4.2**.

Offsite approved development traffic volumes were taken directly from its respective TIA and factored as appropriate given the approximate build-out percentages. Existing intersection splits were used to carry and assign volumes appropriately at study area intersections that were not included in the approved TIA. Approved development data and calculations are included in the **Appendix.**

Table 4.2 – Approved Off-Site Developments

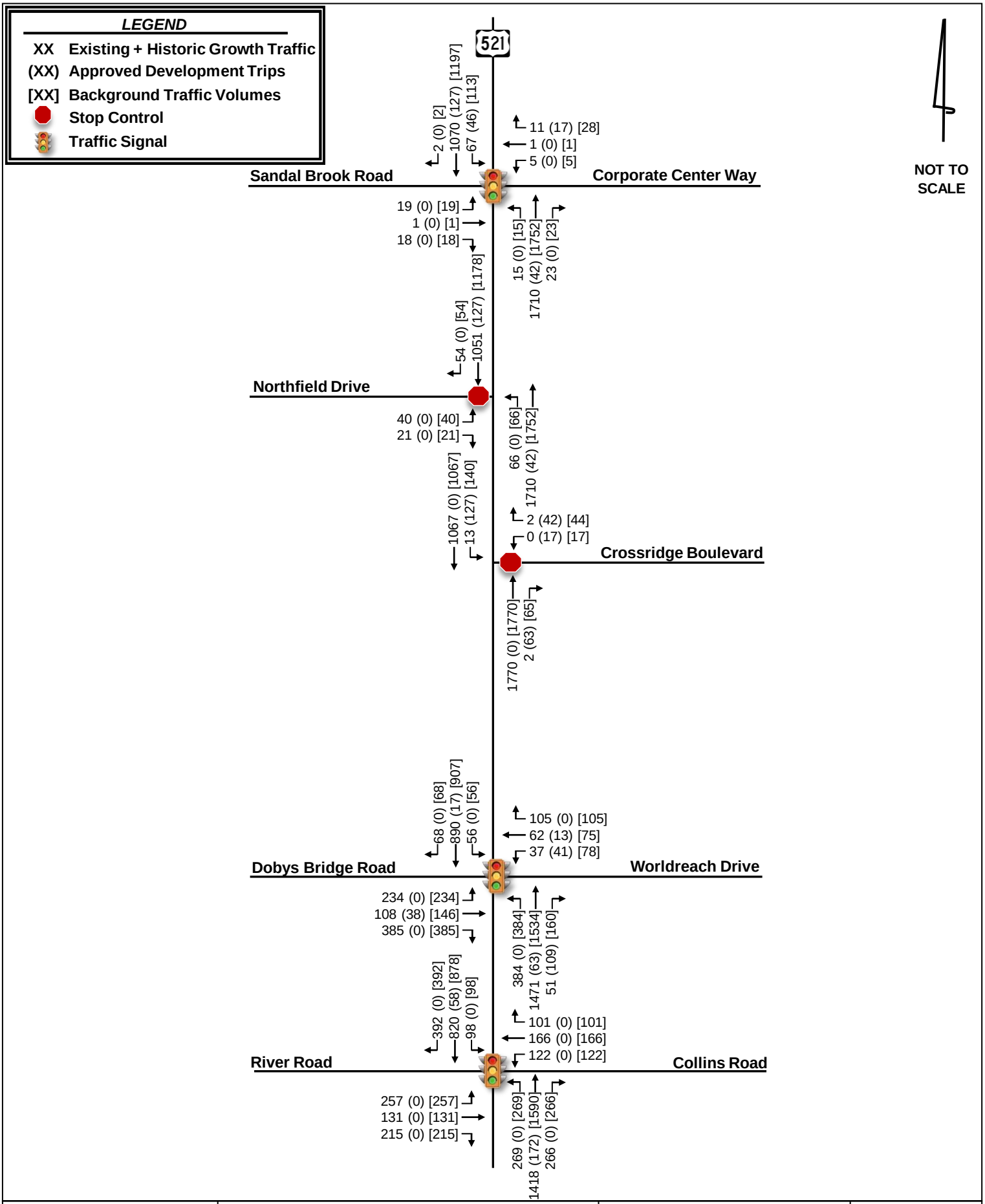
Development	Land Use/Intensity	% Built (2021/2025)	Build-out Year	TIA	Required Improvements
CrossRidge	-75,000 SF YMCA -100 room business hotel -270,000 SF office -38,000 SF retail	0%/100%	2023	6-19	**US 521 and Crossridge Boulevard:** -Extend SBL to 312' **US 521 and Dobys Bridge Road/Worldreach Drive:** -Extend SBL to 200'

4.3 PLANNED TRANSPORTATION PROJECTS

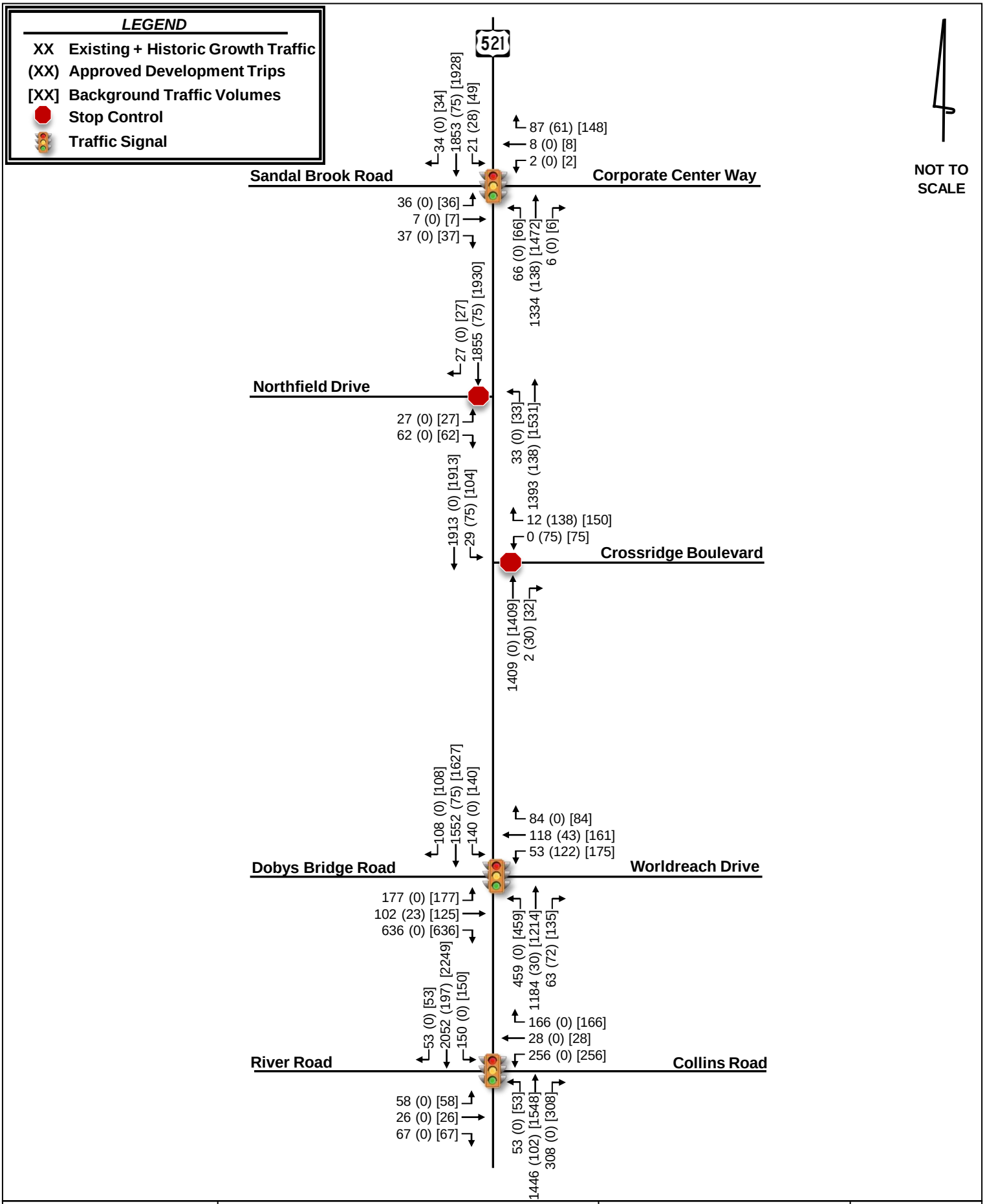
Based on coordination with SCDOT and Lancaster County staff, no additional planned transportation projects are included in the study.

4.4 2025 BACKGROUND TRAFFIC

2025 background traffic consists of existing 2021 traffic, 2025 historical growth traffic, and approved development traffic. **Figures 4.1 and 4.2** show the 2025 background AM and PM peak-hour traffic volumes, respectively.



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**2025 Background AM Peak-Hour Traffic Volumes**	**Figure 4.1**



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**2025 Background PM Peak-Hour Traffic Volumes**	**Figure 4.2**

5.0 Site Traffic Volume Development

Site traffic developed for this TIA is defined as the vehicle trips expected to be generated and added to the study area by the construction of the proposed development, and the distribution and assignment of that traffic within the identified study area.

5.1 TRAFFIC GENERATION

The traffic generation potential of the proposed development was determined using the trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 10th Edition) for 238 apartments.

Table 5.1 summarizes the projected trip generation for the proposed development.

Table 1 - Trip Generation

ITE LUC	Land Use	Intensity		Daily	AM Peak Hour			PM Peak Hour			Peak Hour Type/Data Source
					Total	In	Out	Total	In	Out	
221	Multifamily Housing Mid-Rise - (Apartments)	238	DU	1,295	80	21	59	102	62	40	Adj Street/ITE Eqn
	Subtotal			**1,295**	**80**	**21**	**59**	**102**	**62**	**40**	

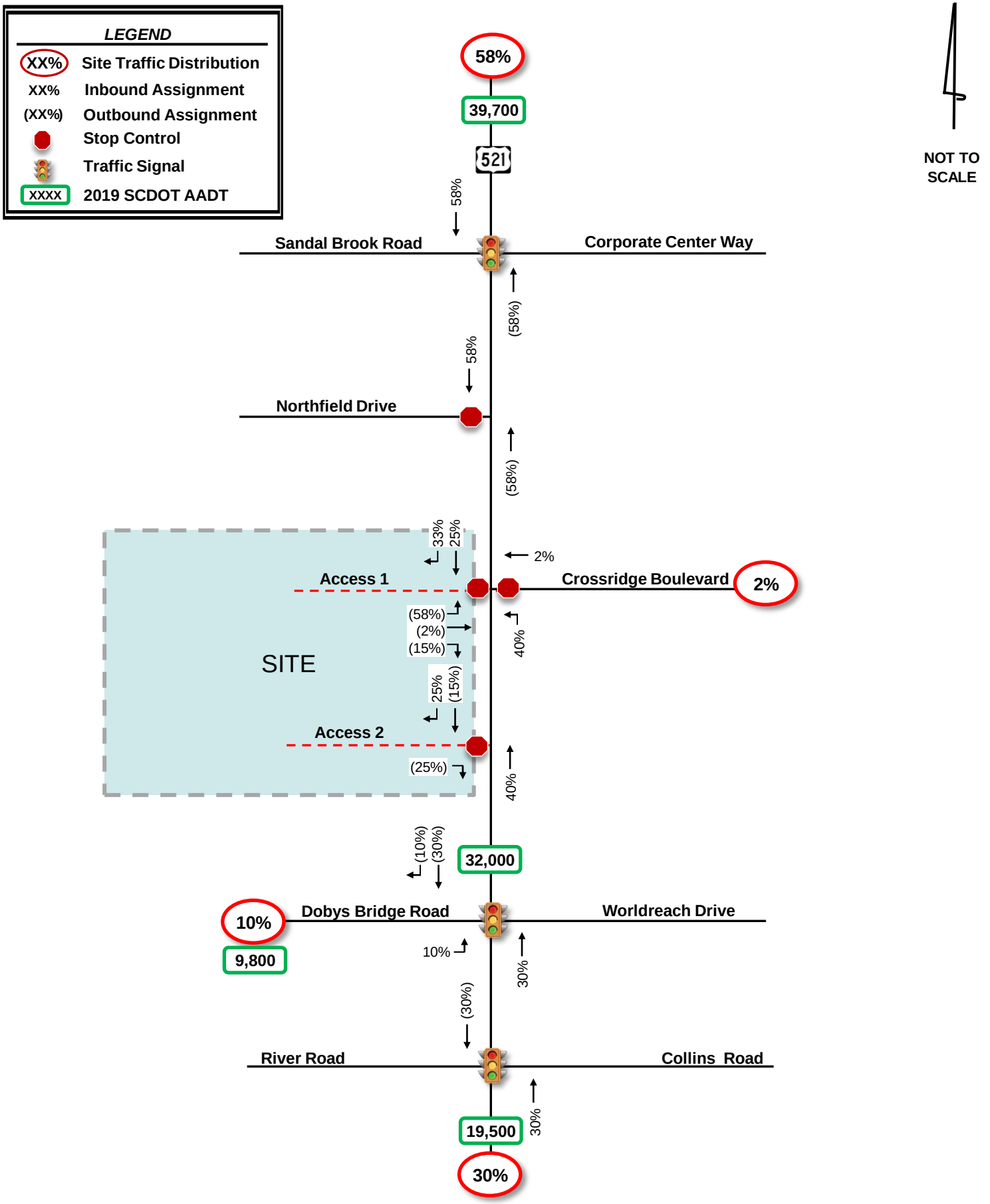
5.2 SITE TRAFFIC DISTRIBUTION AND ASSIGNMENT

The proposed development's trips were assigned to the surrounding network based on AADT data, approved development distribution, and the proposed site layout. The overall site traffic distribution and assignment, approved by SCDOT and Lancaster County staff, are shown in **Figure 5.1**.

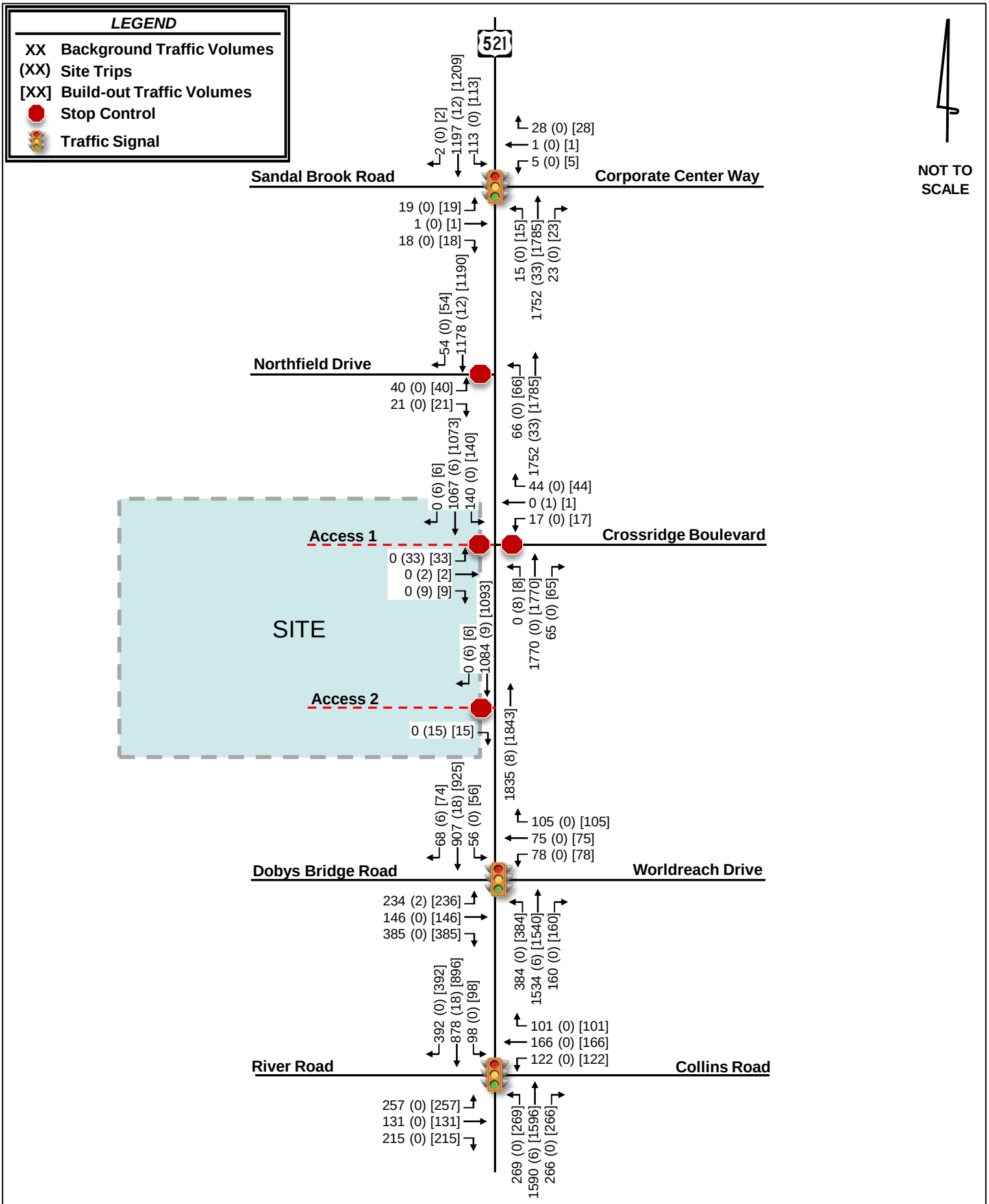
5.3 2025 BUILD-OUT TRAFFIC VOLUMES

The 2025 build-out traffic volumes include the assignment of the projected site traffic generation and 2025 background traffic volumes. **Figures 5.2 and 5.3** show the projected 2025 build-out traffic volumes for the AM and PM peak-hours, respectively.

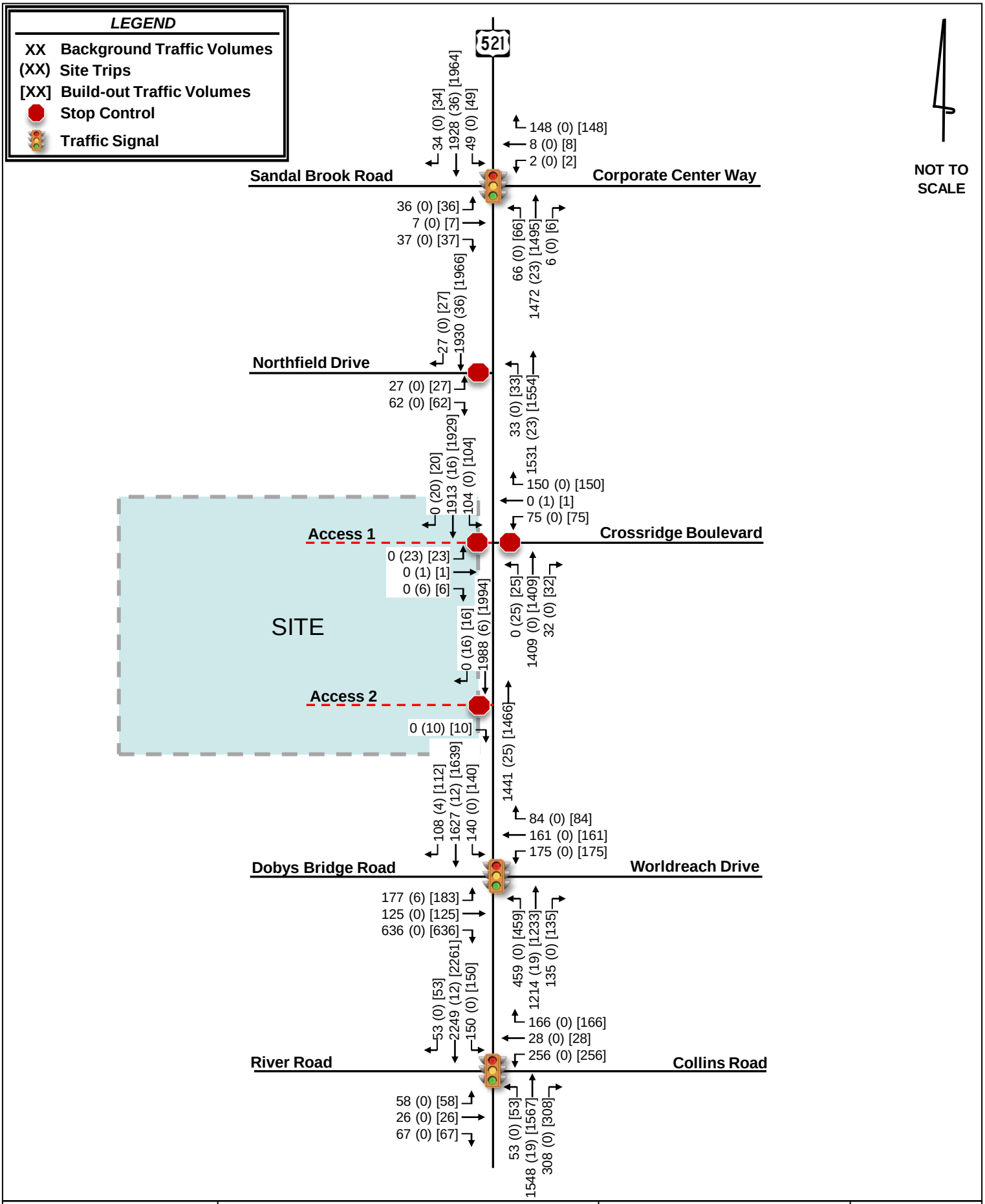
Intersection volume development worksheets for study area intersections are provided in the **Appendix**.



Kimley»Horn	Tadlock Traffic Impact Analysis	Site Traffic Distribution and Assignment	Figure 5.1



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**2025 Build-out AM Peak-Hour Traffic Volumes**	**Figure 5.2**



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**2025 Build-out PM Peak-Hour Traffic Volumes**	**Figure 5.3**

6.0 Capacity Analysis

Capacity analyses were performed for the AM and PM peak hours using Synchro Version 10 software to determine the operating characteristics at the signalized and stop-controlled intersections of the adjacent street network and to evaluate the impacts of the proposed development. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment, or through a particular intersection, within a specified period of time under prevailing operational, geometric and controlling conditions within a set time duration.

The *Highway Capacity Manual* (HCM) defines level of service (LOS) as a "quantitative stratification of a performance measure or measures representing quality of service" and is used to "translate complex numerical performance results into a simple A-F system representative of travelers' perceptions of the quality of service provided by a facility or service". The HCM defines six levels of service, LOS A through LOS F, with A having the best operating conditions from the traveler's perspective and F having the worst. However, it must be understood that "the LOS letter result hides much of the complexity of facility performance", and that "the appropriate LOS for a given system element in the community is a decision for local policy makers". According to the HCM, "for cost, environmental impact, and other reasons, roadways are typically designed not to provide LOS A conditions during peak periods but instead to provide some lower LOS that balances individual travelers' desires against society's desires and financial resources. Nevertheless, during low-volume periods of the day, a system element may operate at LOS A."

LOS for a two-way stop-controlled (TWSC) intersection is determined by the control delay at the side-street approaches, typically during the highest volume periods of the day, the AM and PM peak periods. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. With respect to field measurements, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. It is typical for stop sign-controlled side streets and driveways intersecting major streets to experience long delays during peak hours, particularly for left-turn movements. The majority of the traffic moving through the intersection on the major street experiences little or no delay.

LOS for signalized intersections is reported for the intersection as a whole, also typically during the highest volume periods of the day, the AM and PM peak periods. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

Table 6.0-A and **6.0-B** list the LOS control delay thresholds published in the HCM for unsignalized and signalized intersections, respectively, as well as the unsignalized operational descriptions assumed herein.

Table 6.0-A Level-of-Service Control Delay Thresholds for Unsignalized Intersections		
Level-of-Service	**Average Control Delay per Vehicle [sec/veh]**	
A	≤ 10	Short Delays
B	> 10 – 15	
C	> 15 – 25	
D	> 25 – 35	Moderate Delays
E	> 35 – 50	
F	> 50	Long Delays

Table 6.0-B Level-of-Service Control Delay Thresholds for Signalized Intersections	
Level-of-Service	**Control Delay per Vehicle [sec/veh]**
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

SCDOT staff provided the signal plans and time of day plans for the signalized study area intersections of US 521 and Dobys Bridge Road/Worldreach Drive and US 521 and River Road/Collins Road, which were used in the development of the existing conditions Synchro network. The cycle lengths, splits, and offsets included in the time-of-day plans were used for the existing conditions network. Under future year conditions, cycle lengths were maintained, and the splits were optimized. It should be noted that with the pedestrian timings included, the split times on the side streets were shorter than the minimum splits, recognizing that the pedestrian phase would not be called during every cycle. For the signalized study intersection of US 521 and Sandal Brook Road/Corporate Center Way, cycle lengths and splits were optimized in each analysis scenario.

Signal and time of day plans for the study intersections are included in the **Appendix**.

Peak hour factors (PHFs) were taken directly from the count data for the existing conditions scenario. A PHF of 0.9 was assumed for future year analyses during the AM and PM peak hours. Heavy vehicle percentages were taken directly from field observations, subject to a two-percent minimum.

Capacity analyses were performed for the 2021 existing traffic conditions, 2025 background traffic conditions, and 2025 build-out traffic conditions. Reports generated by Synchro Version 10 software are included in the **Appendix.** SimTraffic queueing/blocking reports for the build-out improved scenario are also included in the **Appendix**.

Mitigation for traffic impacts caused by the proposed development were noted and recommended based on Lancaster County and SCDOT mitigation requirements. When determining the proposed development's traffic impact to the study area intersections, the 2025 background and 2025 build-out conditions were compared.

Based on Lancaster County guidelines “for collector or local streets, Level-of-Service (LOS) C or better shall be maintained. On any arterial or higher order street, a LOS D or better shall be maintained. Where the existing LOS is below these standards, the traffic impact analysis shall identify those improvements required to ensure that development related traffic demands result in no net reduction in LOS, and identify additional improvements needed to raise the level of service to the standards on the applicable street to the adopted LOS standard.” For the purposes of this TIA, the capacity analyses identifying additional improvements needed to raise the LOS to the adopted standards is referred to as “Build IMP Target LOS.”

Based on the SCDOT *ARMS* Manual, the TIA ‘should include proposed improvements or access management techniques that will mitigate any significant changes in the levels of service.’ For the purposes of this TIA, “significant changes” were assumed where the overall intersection or stop-controlled approach delay increases by more than 25% or drops by one or more LOS grade between 2025 background and 2025 build-out conditions.

6.1 US 521 AND SANDAL BROOK ROAD/CORPORATE CENTER WAY

Table 6.1 summarizes the LOS, control delay (seconds), and 95th percentile queue lengths at the signalized intersection.

Table 6.1 - US 521 and Sandal Brook Road/Corporate Center Way											
Condition	Measure	EB	WB			NB			SB		Intersection
		EBLTR	WBL	WBTR	WBR	NBL	NBT	NBR	SBL	SBTR	LOS (Delay)
AM Peak Hour											
2021 Existing	LOS (Delay)	C (27.4)	B (17.8)			C (23.6)			B (14.8)		C (20.3)
	Synchro 95th Q	5'	12'	3'	0'	22'	#682'	0'	35'	308'	
2025 Background	LOS (Delay)	D (38.0)	B (20.0)			C (27.1)			B (16.6)		C (22.8)
	Synchro 95th Q	53'	19'	25'	0'	37'	#974'	0'	81'	467'	
2025 Build-out	LOS (Delay)	D (38.1)	B (20.0)			C (28.1)			B (16.7)		C (23.4)
	Synchro 95th Q	53'	19'	25'	0'	37'	#1005'	0'	81'	474'	
PM Peak Hour											
2021 Existing	LOS (Delay)	E (67.8)	B (13.2)			C (21.7)			D (35.8)		C (30.7)
	Synchro 95th Q	65'	7'	20'	0'	78'	419'	0'	14'	#757'	
2025 Background	LOS (Delay)	E (64.0)	B (15.6)			C (25.0)			D (52.5)		D (40.0)
	Synchro 95th Q	#129'	11'	65'	0'	#133'	633'	0'	45'	#1195'	
2025 Build-out	LOS (Delay)	E (76.1)	B (17.3)			C (23.7)			D (52.2)		D (39.7)
	Synchro 95th Q	#145'	11'	67'	0'	#147'	643'	0'	48'	#1263'	
Background Storage			125'			225'		150'	575'		
# 95th percentile volume exceeds capacity, queue may be longer											

Table 6.1 shows that the overall intersection currently operates at LOS C during both peak hours. Under 2025 background and build-out conditions, the overall intersection is expected to operate at LOS C during the AM peak hour and LOS D during the PM peak hour. It is noted that overall intersection delay decreases slightly from background conditions to build-out conditions due to the addition of only major street through traffic, which experiences less delay than side street approaches and left-turn movements. Therefore, the increase in through movement trips drops the weighted average of delay experienced at the signal. Since the proposed development is not expected to degrade LOS, and delay is not increased by more than 25%, no developer improvements are recommended.

6.2 US 521 AND NORTHFIELD DRIVE

Table 6.2 summarizes the LOS, control delay, and 95th percentile queue lengths at the unsignalized intersection.

Table 6.2 - US 521 and Northfield Drive							
Condition	Measure	EB	NB		SB		Intersection
		EBLR	NBL	NBT	SBT	SBR	LOS (Delay)
AM Peak Hour							
2021 Existing	LOS (Delay)	F (61.4)	A (0.8)		A (0.0)		-
	Synchro 95th Q	63'	15'	0'	0'	0'	
2025 Background	LOS (Delay)	F (130.0)	A (0.5)		A (0.0)		-
	Synchro 95th Q	100'	15'	0'	0'	0'	
2025 Build-out	LOS (Delay)	F (139.9)	A (0.5)		A (0.0)		-
	Synchro 95th Q	105'	15'	0'	0'	0'	
2025 Build-out IMP Target LOS	LOS (Delay)	C (23.0)	A (8.1)		A (4.6)		A (7.0)
	Synchro 95th Q	46'	35'	358'	167'	9'	
PM Peak Hour							
2021 Existing	LOS (Delay)	F (58.1)	A (0.6)		A (0.0)		-
	Synchro 95th Q	110'	10'	0'	0'	0'	
2025 Background	LOS (Delay)	F (138.1)	A (0.5)		A (0.0)		-
	Synchro 95th Q	138'	15'	0'	0'	0'	
2025 Build-out	LOS (Delay)	F (157.7)	A (0.5)		A (0.0)		-
	Synchro 95th Q	148'	15'	0'	0'	0'	
2025 Build-out IMP Target LOS	LOS (Delay)	C (27.2)	A (7.7)		B (12.9)		B (11.0)
	Synchro 95th Q	68'	31'	261'	#553'	7'	
Background Storage			300'			275'	

95th percentile volume exceeds capacity, queue may be longer

As shown in Table 6.2, the stop-controlled eastbound approach of Northfield Drive currently operates with long delays during both peak hours and is expected to continue to operate with long delays during both peak hours under 2025 background and build-out conditions. Since the proposed development is not expected to degrade LOS, and delay is not increased by more than 25%, no developer improvements are recommended.

Per Lancaster County guidelines, if the existing LOS is below the threshold identified (LOS D for principal arterials), the TIA "shall identify additional improvements needed to raise the level of service on the applicable street to the adopted LOS standard." The following improvement would be necessary to achieve LOS D for the side street:

- Installation of a traffic signal.

6.3 US 521 AND CROSSRIDGE BOULEVARD/ACCESS 1

Table 6.3 summarizes the LOS, control delay, and 95th percentile queue lengths at the unsignalized intersection.

Table 6.3 - US 521 and Crossridge Boulevard/Access 1											
Condition	Measure	EB		WB		NB			SB		Intersection
		EBLT	EBR	WBLT	WBR	NBL	NBT	NBR	SBL	SBTR	LOS (Delay)
AM Peak Hour											
2021 Existing	LOS (Delay)	-		C (16.2)		A (0.0)			A (0.3)		-
	Synchro 95th Q	-	-	0'	3'	-	0'	0'	3'	0'	
2025 Background	LOS (Delay)	-		E (48.8)		A (0.0)			A (5.3)		-
	Synchro 95th Q	-	-	35'	18'	-	0'	0'	103'	0'	
2025 Build-out	LOS (Delay)	F (291.4)		F (74.5)		A (0.1)			A (5.2)		-
	Synchro 95th Q	113'	-	50'	18'	0'	0'	0'	103'	0'	
2025 Build-out IMP	LOS (Delay)	F (289.9)		F (77.2)		A (0.1)			A (5.2)		-
	Synchro 95th Q	103'	3'	50'	18'	0'	0'	0'	103'	0'	
2025 Build-out IMP Target LOS	LOS (Delay)	F (84.0)		D (38.7)		A (4.3)			C (21.7)		B (12.8)
	Synchro 95th Q	#95'	-	49'	44'	-	315'	6'	#219'	119'	
PM Peak Hour											
2021 Existing	LOS (Delay)	-		B (14.3)		A (0.0)			A (0.3)		-
	Synchro 95th Q	-	-	0'	5'	-	0'	0'	5'	0'	
2025 Background	LOS (Delay)	-		F (91.2)		A (0.0)			A (0.9)		-
	Synchro 95th Q	-	-	150'	65'	-	0'	0'	28'	0'	
2025 Build-out	LOS (Delay)	F ($3945.7)		F ($1252.9)		A (9.4)			A (0.9)		-
	Synchro 95th Q	143'	-	298'	65'	10'	0'	0'	28'	0'	
2025 Build-out IMP	LOS (Delay)	F ($786.4)		F (236.8)		A (0.4)			A (0.9)		-
	Synchro 95th Q	103'	3'	220'	65'	10'	0'	0'	28'	0'	
2025 Build-out IMP Target LOS	LOS (Delay)	C (26.5)		D (36.4)		B (11.5)			B (16.3)		B (15.7)
	Synchro 95th Q	35'	-	#78'	#126'	-	300'	5'	#65'	435'	
Background Storage					175'			125'	300'		
# 95th percentile volume exceeds capacity, queue may be longer											
$ Delay Exceeds 300s											

As shown in Table 6.3, the stop-controlled westbound approach of Crossridge Boulevard currently operates with short delays during both peak hours. Under 2025 background conditions, the westbound approach is expected to operate with moderate delays during the AM peak hour and long delays during the PM peak hour. When the Site Access 1 connection (eastbound leg) is added to the intersection in 2025 build-out conditions, both the eastbound and westbound approaches are expected to operate with long delays during both peak hours. Given the eastbound LOS degradation in the AM peak hour and expected increase in delay during both peak hours, identification of potential mitigation improvements is required. The following improvements were considered to mitigate the impact of the proposed site:

- Construction of an eastbound right-turn lane along Access 1.
- Construction of a northbound left-turn lane along US 521.

With these improvements in place, the stop-controlled approaches are expected to continue operating with long delays during both peak hours, but with substantially less delay during the PM peak hour. It is noted that side street delays would not be improved with the addition of a southbound right-turn lane. The significant volume of traffic along US 521 in the AM and PM peak hours makes the left-turn movement difficult for vehicles exiting on both approaches. It is noted that the right-turning traffic at Access 1 may also utilize the RIRO approach of Access 2 and U-turn at the median break south of Access 2 during the peak hours.

While the Synchro 95th queue on Access 1 is anticipated to be 103 feet, the SimTraffic max queue is expected to be long. This is due to Synchro accounting for 2-stage movement while the SimTraffic

model does not. The 2-stage movement allows the eastbound left-turning traffic to cross the southbound approach and utilize the median to wait for an opening in the northbound approach. Allowing this movement makes the Synchro 95th queue more realistic than the SimTraffic max queue. Based on the SCDOT *ARMS* Manual, the minimum throat length for unsignalized intersections with two exit lanes is 50 feet. Therefore, upon review of the Synchro 95th queue of 103 feet, a 100-foot IPS is recommended along the eastbound approach.

Upon review of the SimTraffic microsimulation, the maximum northbound left-turning queue is 62 feet. Therefore, SCDOT's minimum left-turn lane storage length of 150 feet is recommended. Additionally, the maximum eastbound right-turn queue is 96 feet. Therefore, a right-turn lane with 100 feet of storage is recommended.

Due to the long side street delays, a preliminary peak-hour signal warrant assessment (Warrant 3) was conducted and can be found in the **Appendix**. The peak-hour warrant was met for the PM peak hour only. Therefore, a signal would not likely meet full eight-hour warrants typically required by SCDOT. However, Access 1 may potentially warrant a traffic signal when the commercial outparcels are developed in the future.

Per Lancaster County guidelines, if the existing LOS is below the threshold identified (LOS D for principal arterials), the TIA "shall identify additional improvements needed to raise the level of service on the applicable street to the adopted LOS standard." The following improvement would be necessary to achieve LOS D for the side streets:

- Installation of a traffic signal.

6.4 US 521 AND DOBYS BRIDGE ROAD/WORLDREACH DRIVE

Table 6.4 summarizes the LOS, control delay, and 95th percentile queue lengths at the signalized intersection.

Table 6.4 - US 521 and Dobys Bridge Road/Worldreach Drive

Condition	Measure	EB			WB		NB		SB		Intersection
		EBL	EBT	EBR	WBL	WBTR	NBL	NBTR	SBL	SBTR	LOS (Delay)
AM Peak Hour											
2021 Existing	LOS (Delay)	D (53.0)			E (62.5)		D (42.0)		D (42.6)		D (46.1)
	Synchro 95th Q	174'	234'	161'	56'	173'	m#308'	m#765'	40'	454'	
2025 Background	LOS (Delay)	F (84.7)			F (96.0)		D (41.5)		D (44.3)		D (53.6)
	Synchro 95th Q	#377'	#376'	360'	128'	#299'	m305'	m479'	44'	536'	
2025 Build-out	LOS (Delay)	E (59.9)			F (150.1)		D (45.9)		D (46.0)		D (55.0)
	Synchro 95th Q	#328'	#333'	361'	#148'	#333'	m310'	m#505'	45'	#559'	
2025 Build-out IMP Target LOS	LOS (Delay)	C (26.3)			E (57.9)		C (33.5)		D (35.4)		C (34.2)
	Synchro 95th Q	#267'	183'	0'	91'	#235'	m227'	349'	47'	351'	
PM Peak Hour											
2021 Existing	LOS (Delay)	F (83.8)			F (146.9)		D (40.8)		F (93.4)		E (75.3)
	Synchro 95th Q	#253'	#296'	#812'	98'	#419'	#723'	311'	77'	#1147'	
2025 Background	LOS (Delay)	F (206.8)			F (190.1)		E (61.5)		F (145.2)		F (130.4)
	Synchro 95th Q	#426'	#436'	#1294'	#411'	#604'	#955'	371'	141'	#1603'	
2025 Build-out	LOS (Delay)	F (215.5)			F (190.1)		E (64.7)		F (143.8)		F (132.5)
	Synchro 95th Q	#436'	#447'	#1304'	#411'	#604'	#967'	391'	148'	#1613'	
2025 Build-out IMP Target LOS	LOS (Delay)	C (27.5)			F (91.1)		D (44.3)		D (52.6)		D (48.1)
	Synchro 95th Q	#314'	233'	0'	265'	#501'	#429'	236'	134'	852'	
Background Storage		200'	200'		100'		625'		200'		

Exceeds storage

95th percentile volume exceeds capacity, queue may be longer

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

Table 6.4 shows that the overall intersection currently operates at LOS D during the AM peak hour and LOS E during the PM peak hour. Under 2025 background and build-out conditions, the overall intersection is expected to operate at LOS D during the AM peak hour and LOS F during the PM peak hour. Since the proposed development is not expected to degrade LOS, and delay is not increased by more than 25%, no developer improvements are recommended.

Per Lancaster County guidelines, if the existing LOS is below the threshold identified (LOS D for principal arterials), the TIA "shall identify additional improvements needed to raise the level of service on the applicable street to the adopted LOS standard." The following improvements were identified to achieve LOS D for the overall intersection:

- An additional northbound left-turn lane along US 521 to create dual northbound left-turn lanes with 625 feet of storage each. This would require an additional receiving lane.
- An additional northbound through lane and receiving lane along US 521.
- An additional southbound through lane and receiving lane along US 521.
- A free-flow eastbound right-turn lane and additional receiving lane.
- Restriping of the eastbound approach to include an exclusive left-turn, through-lane, and right-turn lane.
- Dallas Permitted + Protected phasing for the eastbound left-turn and westbound left-turn movements.

6.5 US 521 AND RVER ROAD/COLLINS ROAD

Table 6.5 summarizes the LOS, control delay, and 95th percentile queue lengths at the signalized intersection.

Table 6.5 - US 521 and River Road/Collins Road

Condition	Measure	EB		WB		NB			SB		Intersection
		EBL	EBTR	WBL	WBTR	NBL	NBT	NBR	SBL	SBTR	LOS (Delay)
AM Peak Hour											
2021 Existing	LOS (Delay)	D (48.2)		F (134.9)		D (40.6)			C (25.2)		D (46.9)
	Synchro 95th Q	#271'	276'	#165'	#352'	#279'	#723'	50'	m82'	#387'	
2025 Background	LOS (Delay)	F (83.7)		F (128.1)		E (68.4)			C (29.6)		E (63.8)
	Synchro 95th Q	#407'	358'	#238'	#462'	#406'	#1003'	47'	m71'	#723'	
2025 Build-out	LOS (Delay)	F (83.7)		F (128.1)		E (69.4)			C (31.2)		E (64.6)
	Synchro 95th Q	#407'	358'	#238'	#462'	#406'	#1008'	47'	m72'	#743'	
2025 Build-out IMP Target LOS	LOS (Delay)	D (46.0)		E (72.2)		D (38.7)			C (27.9)		D (39.2)
	Synchro 95th Q	#336'	315'	168'	#402'	#371'	561'	54'	m121'	229'	
PM Peak Hour											
2021 Existing	LOS (Delay)	D (37.3)		E (77.2)		C (23.7)			B (14.0)		C (25.5)
	Synchro 95th Q	90'	54'	372'	93'	45'	786'	18'	m50'	m568'	
2025 Background	LOS (Delay)	D (43.3)		F (107.8)		C (27.1)			E (75.0)		E (58.6)
	Synchro 95th Q	112'	98'	#584'	220'	68'	933'	42'	m75'	m448'	
2025 Build-out	LOS (Delay)	D (44.6)		F (113.1)		C (27.4)			E (75.6)		E (59.4)
	Synchro 95th Q	113'	98'	#593'	214'	69'	954'	42'	m76'	m436'	
2025 Build-out IMP Target LOS	LOS (Delay)	C (32.9)		E (67.6)		C (25.5)			B (14.9)		C (24.2)
	Synchro 95th Q	101'	81'	#458'	159'	72'	640'	55'	m156'	268'	
Background Storage		250'		175'		300'		525'	375'		

Exceeds storage

95th percentile volume exceeds capacity, queue may be longer

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

Table 6.5 shows that the overall intersection currently operates at LOS D during the AM peak hour and LOS C during the PM peak hour. Under 2025 background and build-out conditions, the overall intersection is expected to operate at LOS E during both peak hours. Since the proposed development is not expected to degrade LOS, and delay is not increased by more than 25%, no developer improvements are recommended.

Per Lancaster County guidelines, if the existing LOS is below the threshold identified (LOS D for principal arterials), the TIA "shall identify additional improvements needed to raise the level of service on the applicable street to the adopted LOS standard." The following improvements were identified to achieve LOS D for the overall intersection:

- An additional northbound through lane and receiving lane along US 521.
- An additional southbound through lane and receiving lane along US 521.

6.6 US 521 AND ACCESS 2

Table 6.6 summarizes the LOS, control delay, and 95th percentile queue lengths at the proposed RIRO intersection.

Table 6.6 - US 521 and Access 2

Condition	Measure	EB	NB	SB
		EBR	NBT	SBTR
AM Peak Hour				
2025 Build-out	LOS (Delay)	B (13.6)	A (0.0)	A (0.0)
	Synchro 95th Q	3'	0'	0'
PM Peak Hour				
2025 Build-out	LOS (Delay)	C (23.9)	A (0.0)	A (0.0)
	Synchro 95th Q	5'	0'	0'

As shown in Table 6.6, the stop-controlled eastbound right-out only approach of Access 2 is expected to operate with short delays during both peak hours. Therefore, no improvements beyond the construction of Access 2 to include a single ingress lane and single egress lane, are recommended for capacity purposes.

Based on the SCODT *ARMS* Manual, the minimum throat length for unsignalized intersections with one exit lane is 30 feet. The longest SimTraffic maximum queue is expected to be 59 feet for the eastbound approach. Therefore, a 60-foot IPS is recommended along the eastbound approach of Access 2.

7.0 Auxiliary Turn Lane Warrants

Warrants for additional turn-lane improvements for unsignalized intersections beyond those necessary for capacity were determined based on a review of the figures 9.5-B and 9.5-E found on pages 9.5 (3) and 9.5 (7) in the *2017 SCDOT Highway Design Manual*. The results of the warrants for left and right-turn lanes under 2025 background and build-out conditions are summarized below and included in the **Appendix**.

The following turn lanes are warranted under 2025 build-out conditions:

US 521 and Access 1

- Northbound left-turn lane should be considered (warranted in both peaks)

Based on review of the SimTraffic simulation with the northbound left-turn lane included, the maximum left-turn queue is expected to be 62 feet. Therefore, based on review of the SimTraffic queues and SCDOT ARMS minimum storage lengths for left-turn lanes, a northbound left-turn lane with 150 feet of storage is recommended.

8.0 Conclusions

Based on the analyses contained herein, the following transportation improvements are recommended as developer mitigation:

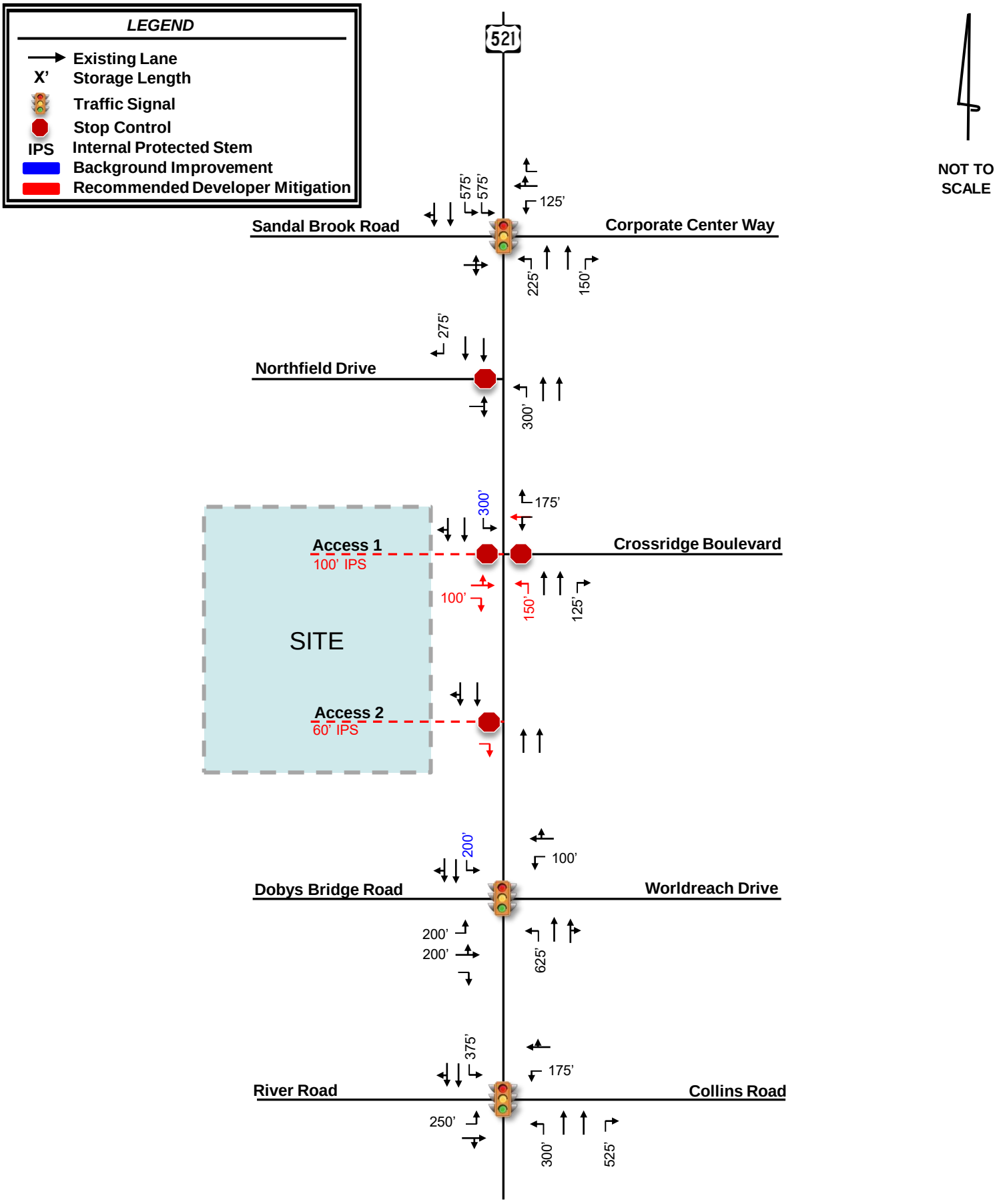
US 521 and Access 1

- Construction of the eastbound approach of Access 1 to include a single ingress lane, two egress lanes with a shared left/through turn lane and exclusive right-turn lane with 100 feet of storage, and a 100-foot IPS with stop control.
- Construction of a northbound left-turn lane along US 521 with 150 feet of storage.

US 521 and Access 2

- Construction of the eastbound approach of Access 2 to include a single ingress lane, a single right-out egress lane, and a 60-foot IPS with stop control.
- Removal of the existing median cut along US 521 at Access 2.

The recommended developer mitigation is shown in **Figure 8.1**. The transportation improvements for the study intersections are subject to approval by SCDOT and Lancaster County. All additions and attachments to State and County roadway system shall be properly permitted, designed, and constructed in conformance to standards maintained by the agencies.



Kimley»Horn	**Tadlock Traffic Impact Analysis**	**Recommended Developer Mitigation**	**Figure 8.1**

Appendix

Scoping Correspondence

Hogarth, Will

From: Richard, Elizabeth
Sent: Monday, January 31, 2022 2:56 PM
To: Hogarth, Will
Subject: FW: [EXTERNAL] RE: Tadlock TIA- additional parameters confirmation

Elizabeth Richard
Kimley-Horn | 200 South Tryon Street, Suite 200, Charlotte, NC 28202
Direct: 980 296 0806 | www.kimley-horn.com

From: Massey, Amy <Amy.Massey@kimley-horn.com>
Sent: Thursday, January 27, 2022 6:12 PM
To: Stephen Blackwelder <sblackwelder@lancastersc.net>; Love, Allison C. <LoveAC@scdot.org>
Cc: Matney, Laura <Laura.Matney@kimley-horn.com>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>; Gamble, David D. <GambleDD@scdot.org>
Subject: RE: [EXTERNAL] RE: Tadlock TIA- additional parameters confirmation

Thank you both!

Thank you,
Amy

Amy Massey, PE
Kimley-Horn
704-287-3304

From: Stephen Blackwelder <sblackwelder@lancastersc.net>
Sent: Thursday, January 27, 2022 3:14 PM
To: Love, Allison C. <LoveAC@scdot.org>; Massey, Amy <Amy.Massey@kimley-horn.com>
Cc: Matney, Laura <Laura.Matney@kimley-horn.com>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>; Gamble, David D. <GambleDD@scdot.org>
Subject: RE: [EXTERNAL] RE: Tadlock TIA- additional parameters confirmation

We can concur with that.

Lancaster County
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NOTICE: All email correspondence to and from this address may be subject to public disclosure under the SC Freedom of Information Act.

From: Love, Allison C. <LoveAC@scdot.org>
Sent: Thursday, January 27, 2022 2:47 PM
To: Massey, Amy <Amy.Massey@kimley-horn.com>; Stephen Blackwelder <sblackwelder@lancastersc.net>
Cc: Matney, Laura <Laura.Matney@kimley-horn.com>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>; Gamble, David D. <GambleDD@scdot.org>
Subject: [EXTERNAL] RE: Tadlock TIA- additional parameters confirmation

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—IT Helpdesk, support.lancastercountysc.net

Amy,

The Department agrees with the assignment and distribution. If Lancaster County agrees, I would support using a lower growth rate of 4%.

Thank you,

Allison C. Love, AICP
Assistant District Permit Engineer – District 4
SC Department of Transportation
(803) 385-4261

Safety 1st – Live By It!
Let 'em Work, Let 'em Live!

From: Massey, Amy <Amy.Massey@kimley-horn.com>
Sent: Wednesday, January 19, 2022 10:04 AM
To: Love, Allison C. <LoveAC@scdot.org>; Stephen Blackwelder <sblackwelder@lancastersc.net>
Cc: Matney, Laura <Laura.Matney@kimley-horn.com>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>; Gamble, David D. <GambleDD@scdot.org>
Subject: Tadlock TIA- additional parameters confirmation

*** This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. ***

Good morning Stephen and Allison,

Hope yall are doing well!

We have the attached distribution/assignment for you on page 3 of the pdf. Do you find it reasonable?
For growth rate, we are planning to use 5% per the calcs below, if that makes sense.

SCDOT AADT			
	2019	2009	Growth Rate (2009-2019)
US 521 (north of Red Ventures Drive)	39,700	30,200	2.8%
US 521 (south of Crossridge Blvd)	32,000	22,400	3.6%
Dobys Bridge Road	9,800	4,300	8.6%
Average			*5.0%*

Thank you,
Amy

Amy Massey, PE
Kimley-Horn
704-287-3304

From: Massey, Amy <Amy.Massey@kimley-horn.com>
Sent: Friday, December 17, 2021 10:13 AM
To: Stephen Blackwelder <sblackwelder@lancastersc.net>; Love, Allison C. <LoveAC@scdot.org>
Cc: Gamble, David D. <GambleDD@scdot.org>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>
Subject: RE: [EXTERNAL] RE: Tadlock TIA scope request

Thanks Stephen!

With counts having already been collected and no current occupancy, we will plan to assign all of the Crossridge traffic in the background and build-out conditions for this TIA.

Merry Christmas!

Thank you,
Amy

Amy Massey, PE
Kimley-Horn
704-287-3304

From: Stephen Blackwelder <sblackwelder@lancastersc.net>
Sent: Friday, December 17, 2021 8:56 AM
To: Massey, Amy <Amy.Massey@kimley-horn.com>; Love, Allison C. <LoveAC@scdot.org>
Cc: Gamble, David D. <GambleDD@scdot.org>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>
Subject: RE: [EXTERNAL] RE: Tadlock TIA scope request

I agree with the intersection for study.
FYI Cross Ridge has a three story 120,000+ SF commercial building currently under construction. The shell building is actually nearing completion. I am not sure about timelines for upfitting and actual occupancy.
There are several other proposed development inside Cross Ridge, but none of them are yet to be approved for construction.

Stephen Blackwelder, *Environmental Compliance Manager*
Stormwater

Lancaster County Government
8451 Charlotte Highway
Indian Land, SC 29707

P: (803) 548-2406 F: (877) 636-3050
C: (803) 288-7775
sblackwelder@lancastersc.net

www.mylancastersc.org

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NOTICE: All email correspondence to and from this address may be subject to public disclosure under the SC Freedom of Information Act.

From: Massey, Amy <Amy.Massey@kimley-horn.com>
Sent: Thursday, December 16, 2021 2:59 PM
To: Love, Allison C. <LoveAC@scdot.org>; Stephen Blackwelder <sblackwelder@lancastersc.net>
Cc: Gamble, David D. <GambleDD@scdot.org>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>
Subject: [EXTERNAL] RE: Tadlock TIA scope request

THIS IS AN EXTERNAL E-MAIL — Use caution when clicking on links as they could open malicious websites.
—IT Helpdesk, support.lancastercountysc.net

Thanks Allison!

Stephen, we'll look forward to County input as well.

Thank you,
Amy

Amy Massey, PE
Kimley-Horn
704-287-3304

From: Love, Allison C. <LoveAC@scdot.org>
Sent: Wednesday, December 15, 2021 4:29 PM
To: Massey, Amy <Amy.Massey@kimley-horn.com>
Cc: Gamble, David D. <GambleDD@scdot.org>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>; Stephen Blackwelder <sblackwelder@lancastersc.net>
Subject: RE: Tadlock TIA scope request

Amy,

The study intersections are acceptable.

The Department recommends removing the southern median cut, designing the southern site access to be RI/RO, and constructing a northbound offset left-turn lane on US 521 at the northern site access.

Thank you,

Allison C. Love, AICP
Assistant District Permit Engineer – District 4
SC Department of Transportation
(803) 385-4261

Safety 1st – Live By It!
Let 'em Work, Let 'em Live!

From: Massey, Amy <Amy.Massey@kimley-horn.com>
Sent: Monday, December 6, 2021 4:05 PM
To: Love, Allison C. <LoveAC@scdot.org>; Stephen Blackwelder <sblackwelder@lancastersc.net>
Cc: Gamble, David D. <GambleDD@scdot.org>; Richard, Elizabeth <Elizabeth.Richard@kimley-horn.com>
Subject: Tadlock TIA scope request

*** This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. ***

Hi Stephen and Allison,

We have 238 apartments with 2 full movement accesses proposed to 521 at existing median breaks (one of which is Crossridge), and a residential build-out of 2024. See attached for reference, although it's apartments not townhomes. The commercial parcels out front would be retained by the existing sellers and unknown, so not included in this TIA.

Thinking that we model after CrossRidge TIA, which included the following study intersections with US 521:

- Sandal Brook/Corporate Center
- Northfield
- CrossRidge
- Dobys/Worldreach
- River/Collins

Also, believe we'd include CrossRidge as an approved development. Any others?

Thank you,
Amy

Amy Massey, PE
Kimley-Horn
704-287-3304

From: Love, Allison C. <LoveAC@scdot.org>
Sent: Wednesday, April 1, 2020 12:00 PM
To: Massey, Amy <Amy.Massey@kimley-horn.com>; Rox Burhans <RBurhans@lancastersc.net>
Subject: RE: Potential Indian Land site- TIA question

Hey Amy,

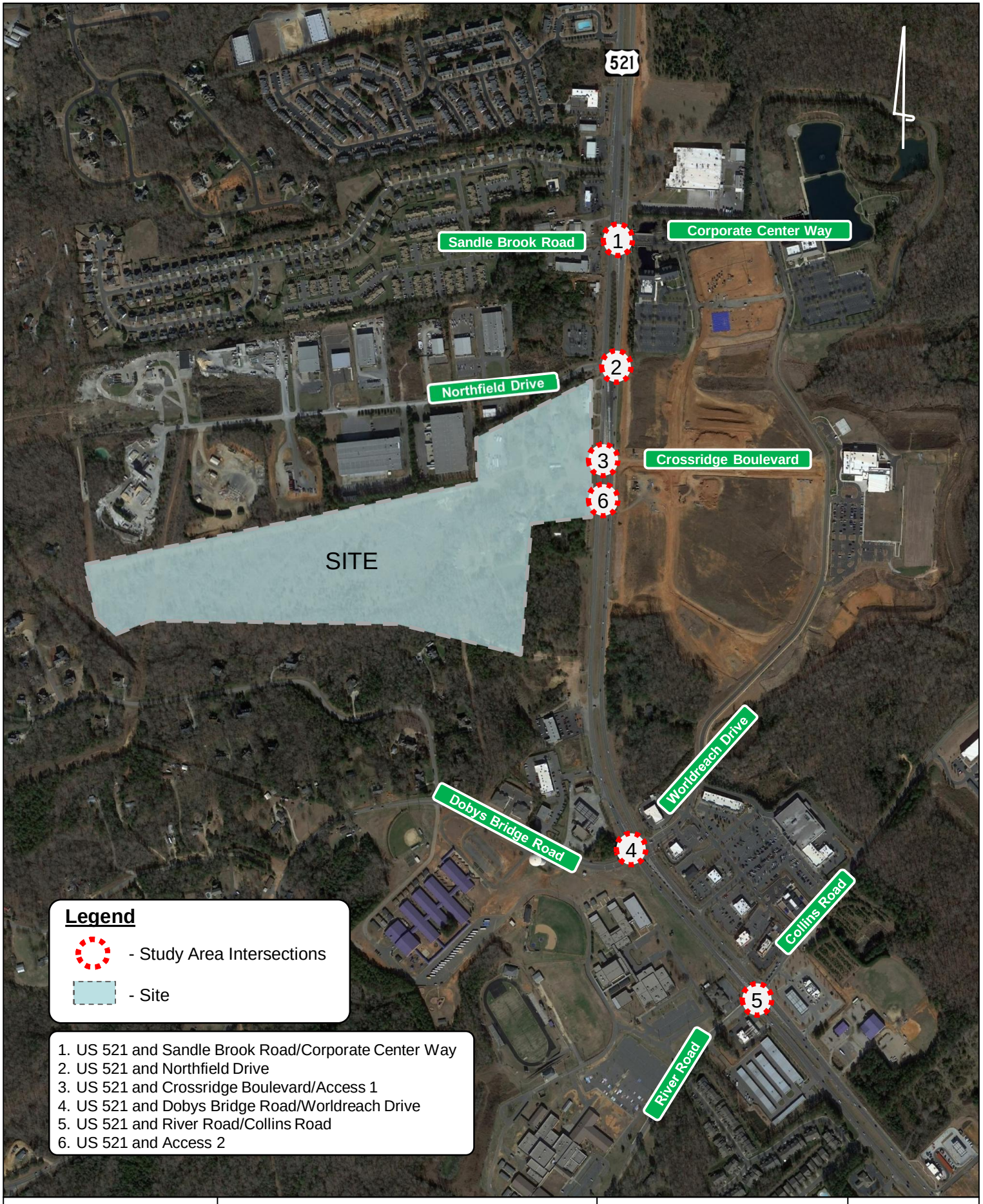
Conceptual Site Plan

9224 Tadlock Dr - Indian Land, SC

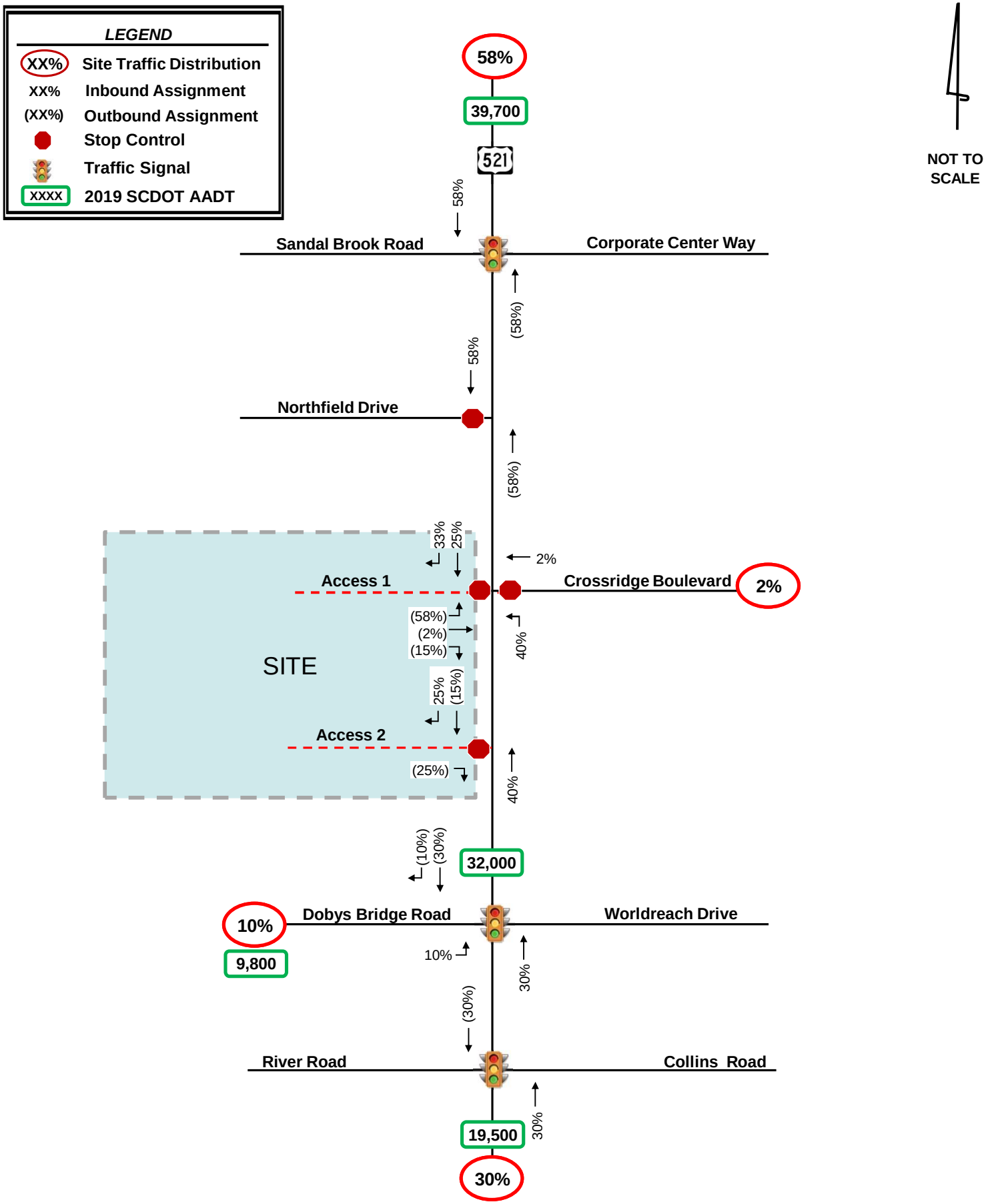
TWO CAPITAL PARTNERS | NOVEMBER 19, 2021

NILES BOLTON ASSOCIATES

Kimley»Horn	**Tadlock Traffic Impact Analysis**	**Site Plan**	**Figure 1**



Kimley»Horn	Tadlock Traffic Impact Analysis	Study Area/ Site Location	Figure 2



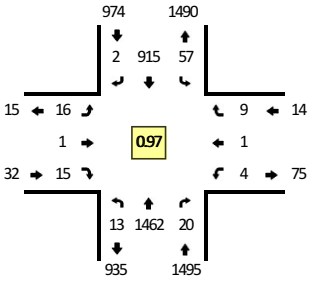
Kimley»Horn	Tadlock Traffic Impact Analysis	Site Trip Distribution and Assignment	Figure 3

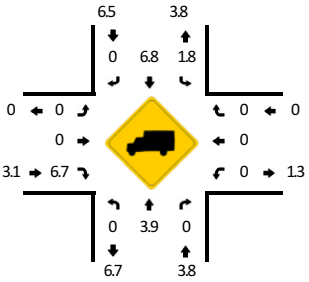
Turning Movement Counts

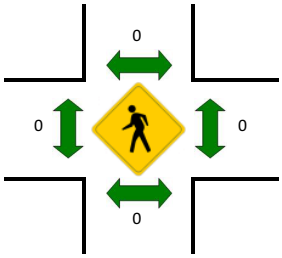
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

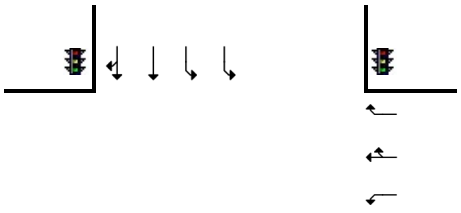
LOCATION: 2.US 521 -- Sandal Brook Rd/Corporate Center Way | **QC JOB #:** 15659103
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

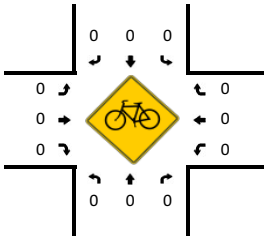
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

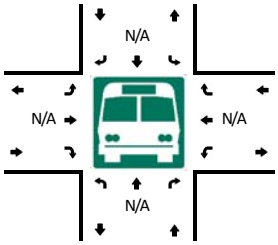




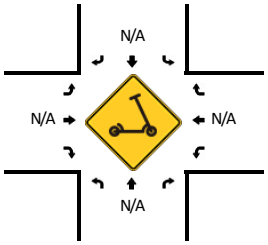












15-Min Count Period Beginning At	2.US 521 (Northbound)				2.US 521 (Southbound)				Sandal Brook Rd/Corporate Center Way (Eastbound)				Sandal Brook Rd/Corporate Center Way (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	334	0	0	13	237	1	0	3	0	5	0	0	0	1	0	595	
7:15 AM	1	382	4	0	7	214	0	1	6	0	4	0	1	1	0	0	621	
7:30 AM	6	394	3	0	10	219	1	1	5	1	2	0	1	0	4	0	647	
7:45 AM	3	353	9	0	19	241	1	0	2	0	5	0	1	0	3	0	637	2500
8:00 AM	2	333	4	1	18	241	0	1	3	0	4	0	1	0	2	0	610	2515
8:15 AM	1	296	2	0	14	262	1	0	2	1	2	0	0	0	0	0	581	2475
8:30 AM	0	252	0	1	5	292	1	0	7	0	5	0	0	0	3	0	566	2394
8:45 AM	0	283	1	1	11	289	0	0	0	0	4	0	0	0	4	0	593	2350

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	1576	12	0	40	876	4	4	20	4	8	0	4	0	16	0	2588
Heavy Trucks	0	48	0		4	80	0		0	0	0		0	0	0		132
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

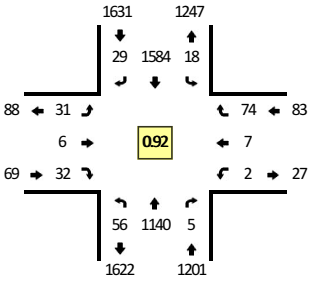
Comments:

Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

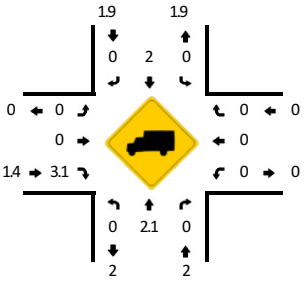
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

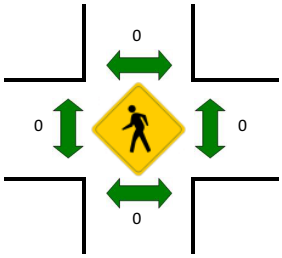
LOCATION: 2.US 521 -- Sandal Brook Rd/Corporate Center Way | **QC JOB #:** 15659104
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

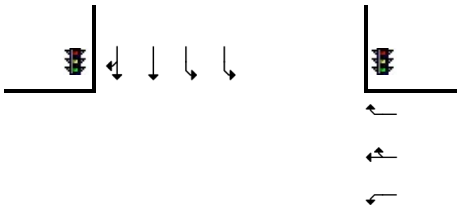
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

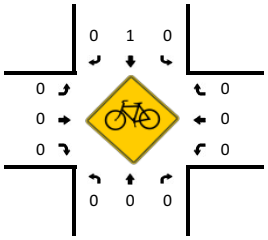


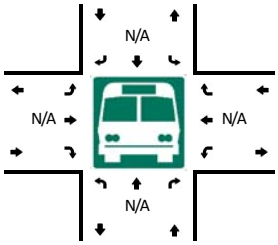




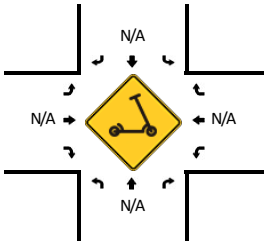












15-Min Count Period Beginning At	2.US 521 (Northbound)				2.US 521 (Southbound)				Sandal Brook Rd/Corporate Center Way (Eastbound)				Sandal Brook Rd/Corporate Center Way (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	16	240	0	0	12	408	8	1	5	1	7	0	1	1	20	0	720	
4:15 PM	12	270	0	0	5	389	9	0	15	3	22	0	3	2	5	0	735	
4:30 PM	9	259	1	0	4	381	4	0	4	2	2	0	1	0	13	0	680	
4:45 PM	13	271	0	0	1	391	10	1	1	0	8	0	1	2	16	0	715	2850
5:00 PM	16	301	1	0	8	413	9	1	18	3	14	0	0	3	26	0	813	2943
5:15 PM	14	309	3	4	3	399	6	0	8	1	8	0	0	2	19	0	776	2984
5:30 PM	9	277	1	1	1	348	11	3	4	0	6	0	0	2	9	0	672	2976
5:45 PM	13	263	0	1	7	386	7	2	11	1	17	0	0	1	14	0	723	2984

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	1204	4	0	32	1652	36	4	72	12	56	0	0	12	104	0	3252
Heavy Trucks	0	32	0		0	52	0		0	0	0		0	0	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

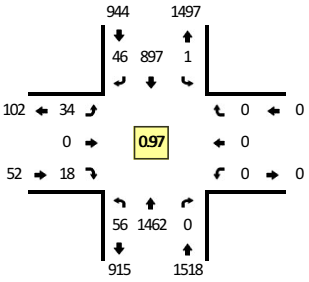
Comments:

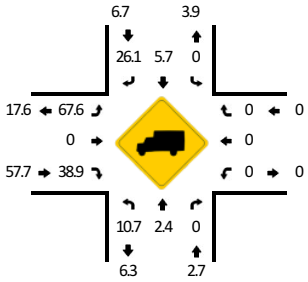
Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

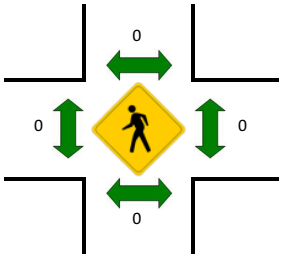
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

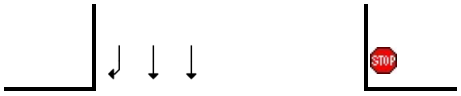
LOCATION: 3.US 521 -- Northfield Dr | **QC JOB #:** 15659105
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

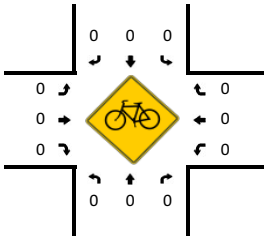
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

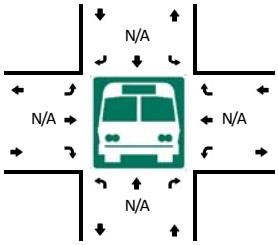




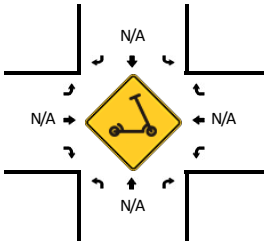












15-Min Count Period Beginning At	3.US 521 (Northbound)				3.US 521 (Southbound)				Northfield Dr (Eastbound)				Northfield Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	331	0	1	0	232	12	0	3	0	3	0	0	0	0	0	589	
7:15 AM	11	382	0	0	0	201	15	0	11	0	4	0	0	0	0	0	624	
7:30 AM	14	385	0	0	0	212	8	0	5	0	5	0	0	0	0	0	629	
7:45 AM	26	358	0	0	0	235	12	1	7	0	6	0	0	0	0	0	645	2487
8:00 AM	5	337	0	0	0	249	11	0	11	0	3	0	0	0	0	0	616	2514
8:15 AM	4	293	0	0	0	242	11	0	5	0	3	0	0	0	0	0	558	2448
8:30 AM	1	257	0	0	0	292	5	1	5	0	4	0	0	0	0	0	565	2384
8:45 AM	10	247	0	0	0	282	9	1	22	0	14	0	0	0	0	0	585	2324

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	1432	0	0	0	940	48	4	28	0	24	0	0	0	0	0	2580
Heavy Trucks	8	36	0		0	60	12		28	0	12		0	0	0		156
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

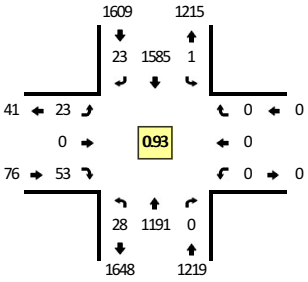
Comments:

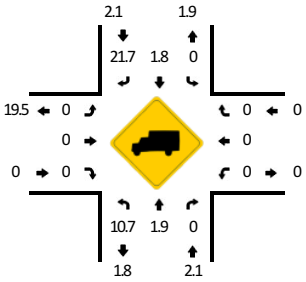
Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

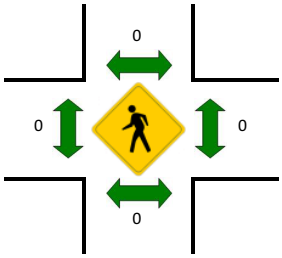
LOCATION: 3.US 521 -- Northfield Dr | **QC JOB #:** 15659106
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

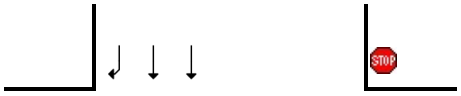
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

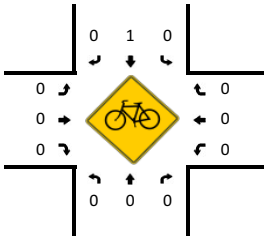


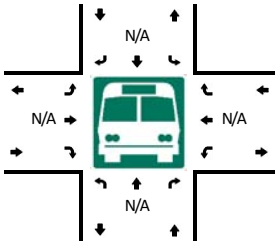


Quality Counts
DATA THAT DRIVES COMMUNITIES

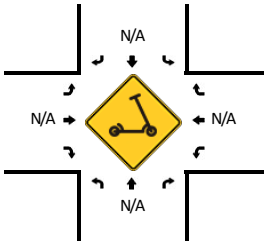












15-Min Count Period Beginning At	3.US 521 (Northbound)				3.US 521 (Southbound)				Northfield Dr (Eastbound)				Northfield Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	244	0	1	0	404	9	0	12	0	21	0	0	0	0	0	699	
4:15 PM	8	268	0	2	0	402	10	2	12	0	12	0	0	0	0	0	716	
4:30 PM	4	270	0	3	0	374	4	0	3	0	11	0	0	0	0	0	669	
4:45 PM	3	277	0	1	0	396	2	1	4	0	8	0	0	0	0	0	692	2776
5:00 PM	2	324	0	4	0	415	5	0	7	0	9	0	0	0	0	0	766	2843
5:15 PM	9	320	0	2	0	400	12	0	9	0	25	0	0	0	0	0	777	2904
5:30 PM	1	273	0	4	0	350	1	1	4	0	8	0	0	0	0	0	642	2877
5:45 PM	3	278	0	0	0	400	1	1	1	0	4	0	0	0	0	0	688	2873

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	1280	0	8	0	1600	48	0	36	0	100	0	0	0	0	0	3108
Heavy Trucks	8	4	0		0	24	4		0	0	0		0	0	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

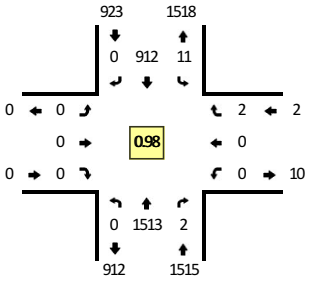
Type of peak hour being reported: Intersection Peak

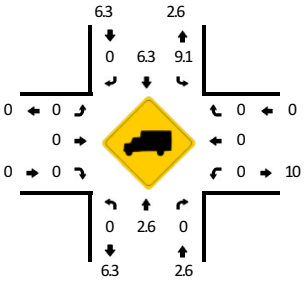
Method for determining peak hour: Total Entering Volume

LOCATION: 4.US 521 -- Prayer Center Dr
CITY/STATE: Lancaster, SC

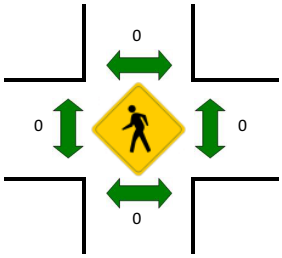
QC JOB #: 15659107
DATE: Wed, Dec 15 2021

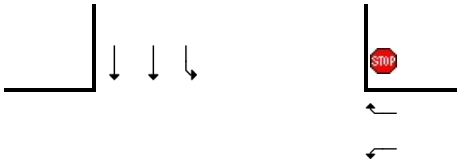
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

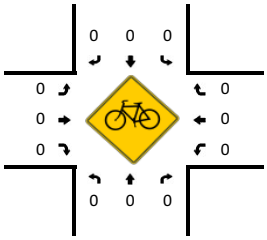


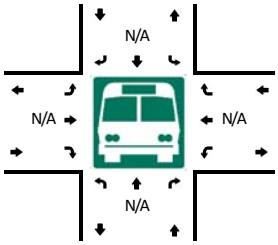


Quality Counts
DATA THAT DRIVES COMMUNITIES

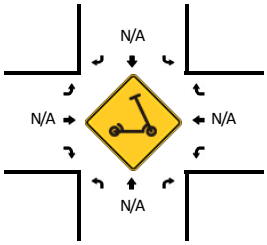












15-Min Count Period Beginning At	4.US 521 (Northbound)				4.US 521 (Southbound)				Prayer Center Dr (Eastbound)				Prayer Center Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	336	0	0	0	232	0	1	0	0	0	0	0	0	3	0	572	
7:15 AM	0	397	1	0	3	212	0	0	0	0	0	0	0	0	2	0	615	
7:30 AM	0	400	1	0	2	211	0	1	0	0	0	0	0	0	0	0	615	
7:45 AM	0	378	0	0	2	241	0	2	0	0	0	0	0	0	0	0	623	2425
8:00 AM	0	338	0	0	1	248	0	0	0	0	0	0	0	0	0	0	587	2440
8:15 AM	0	291	1	0	3	250	0	1	0	0	0	0	0	0	3	0	549	2374
8:30 AM	0	259	0	0	0	297	0	0	0	0	0	0	0	0	0	0	556	2315
8:45 AM	0	257	1	0	3	292	0	1	0	0	0	0	0	0	0	0	554	2246

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1512	0	0	8	964	0	8	0	0	0	0	0	0	0	0	2492
Heavy Trucks	0	44	0		4	64	0		0	0	0		0	0	0		112
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

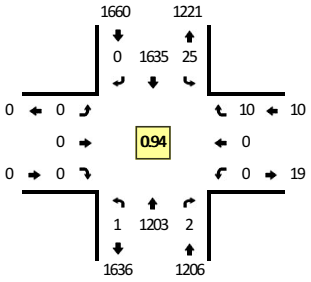
Report generated on 12/23/2021 12:31 PM

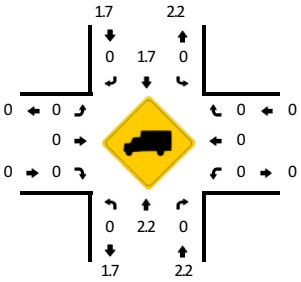
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

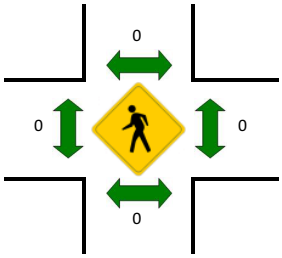
LOCATION: 4.US 521 -- Prayer Center Dr | **QC JOB #:** 15659108
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

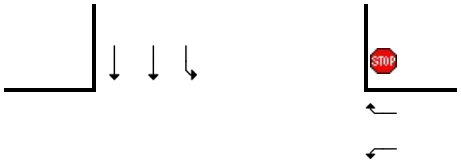
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

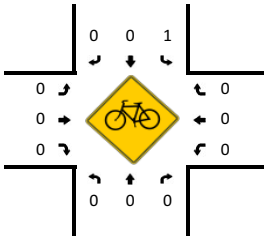


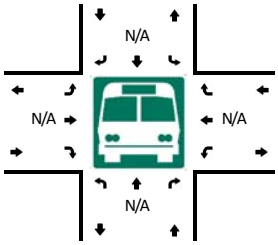


Quality Counts
DATA THAT DRIVES COMMUNITIES

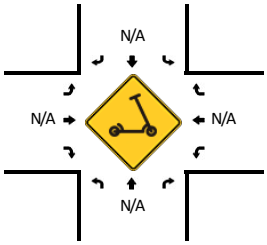












15-Min Count Period Beginning At	4.US 521 (Northbound)				4.US 521 (Southbound)				Prayer Center Dr (Eastbound)				Prayer Center Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	244	1	0	4	417	0	4	0	0	0	0	0	0	1	0	671	
4:15 PM	0	270	1	0	3	416	0	3	0	0	0	0	0	0	4	0	697	
4:30 PM	0	275	0	0	3	396	0	2	0	0	0	0	0	0	1	0	677	
4:45 PM	0	279	0	1	6	387	0	1	0	0	0	0	0	0	5	0	679	2724
5:00 PM	0	328	0	0	0	418	0	3	0	0	0	0	0	0	3	0	752	2805
5:15 PM	0	321	2	0	8	434	0	2	0	0	0	0	0	0	1	0	768	2876
5:30 PM	0	279	0	0	6	350	0	1	0	0	0	0	1	0	6	0	643	2842
5:45 PM	0	271	0	0	4	402	0	2	0	0	0	0	0	0	3	0	682	2845

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1284	8	0	32	1736	0	8	0	0	0	0	0	0	4	0	3072
Heavy Trucks	0	8	0		0	20	0		0	0	0		0	0	0		28
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

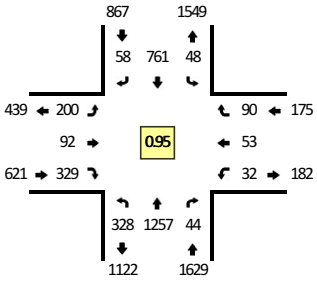
Comments:

Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

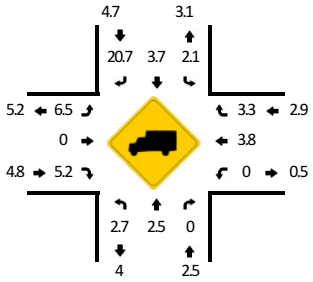
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

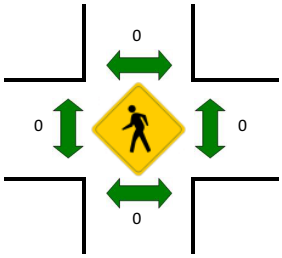
LOCATION: 5.US 521 -- Dobys Bridge Rd/Worldreach Dr | **QC JOB #:** 15659109
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

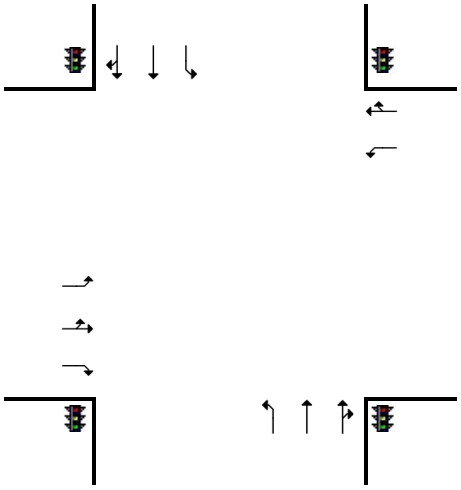
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

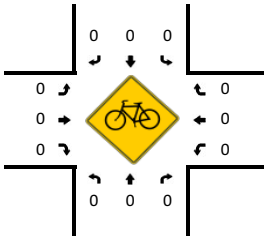


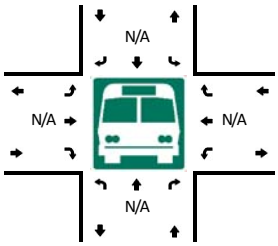


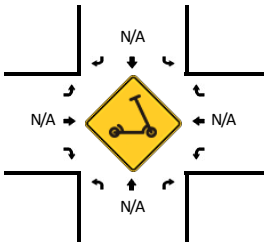












15-Min Count Period Beginning At	5.US 521 (Northbound)				5.US 521 (Southbound)				Dobys Bridge Rd/Worldreach Dr (Eastbound)				Dobys Bridge Rd/Worldreach Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	48	237	4	1	8	190	17	0	91	25	102	0	5	14	8	0	750	
7:15 AM	81	291	6	0	13	178	10	1	93	34	116	0	8	14	22	0	867	
7:30 AM	83	346	14	0	10	192	12	0	44	19	84	0	3	11	15	0	833	
7:45 AM	77	337	15	0	17	185	16	0	32	18	65	0	9	16	20	0	807	3257
8:00 AM	87	283	9	0	6	206	20	1	31	21	64	0	12	12	33	0	785	3292
8:15 AM	70	248	12	0	16	221	15	2	27	20	72	0	9	18	21	0	751	3176
8:30 AM	69	214	15	1	26	250	22	1	22	11	72	0	10	14	17	0	744	3087
8:45 AM	67	234	8	1	20	242	14	2	15	25	87	0	5	5	11	0	736	3016

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	324	1164	24	0	52	712	40	4	372	136	464	0	32	56	88	0	3468
Heavy Trucks	0	32	0		0	16	4		8	0	8		0	0	4		72
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

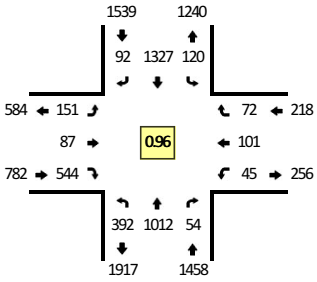
Comments:

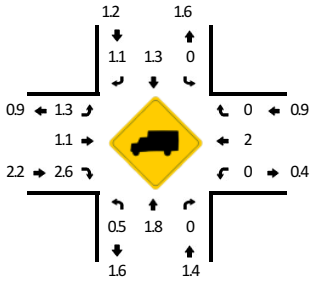
Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

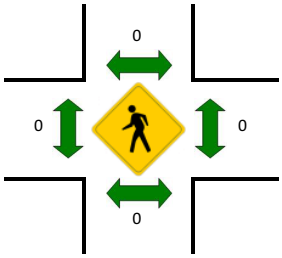
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

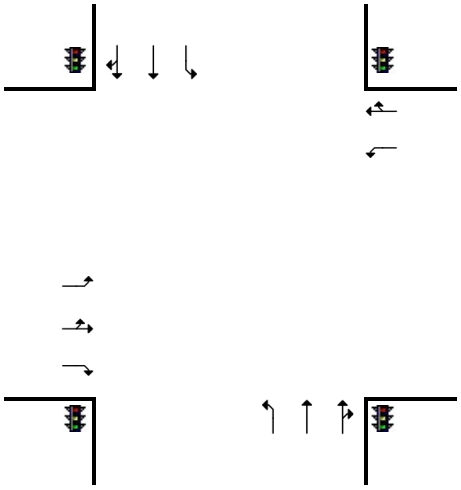
LOCATION: 5.US 521 -- Dobys Bridge Rd/Worldreach Dr | **QC JOB #:** 15659110
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

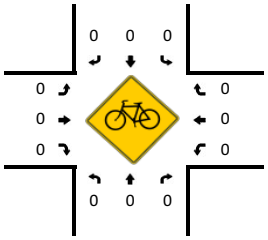
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

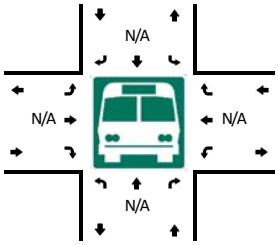


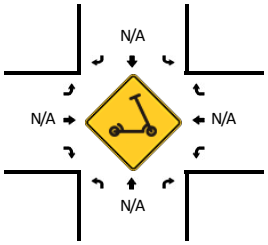












15-Min Count Period Beginning At	5.US 521 (Northbound)				5.US 521 (Southbound)				Dobys Bridge Rd/Worldreach Dr (Eastbound)				Dobys Bridge Rd/Worldreach Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	61	201	6	0	30	375	11	3	27	19	112	0	26	18	16	0	905	
4:15 PM	71	226	14	0	37	371	5	1	35	17	123	0	18	22	14	0	954	
4:30 PM	98	243	7	2	24	339	2	1	29	28	127	0	17	16	18	0	951	
4:45 PM	97	228	14	0	37	335	9	1	33	20	136	0	3	23	20	0	956	3766
5:00 PM	109	286	18	0	32	316	25	0	43	24	131	0	16	29	14	0	1043	3904
5:15 PM	99	274	12	0	26	357	24	1	28	24	135	0	9	25	22	0	1036	3986
5:30 PM	87	218	9	1	26	331	25	1	45	18	143	0	10	25	15	0	954	3989
5:45 PM	96	234	15	0	31	323	18	3	35	21	135	0	10	22	21	0	964	3997

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	436	1144	72	0	128	1264	100	0	172	96	524	0	64	116	56	0	4172
Heavy Trucks	4	36	0		0	16	0		8	0	12		0	4	0		80
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

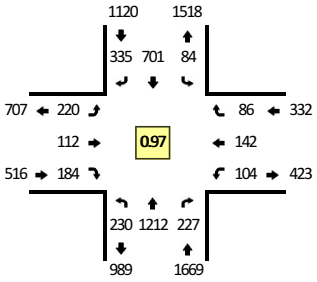
Comments:

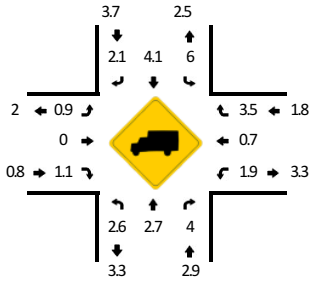
Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

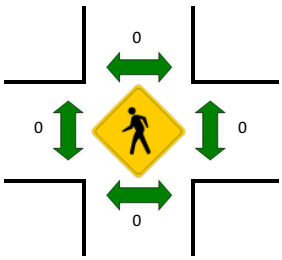
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

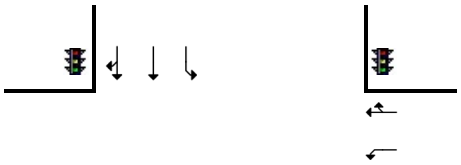
LOCATION: 6.US 521 -- River Rd/Collins Rd | **QC JOB #:** 15659111
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

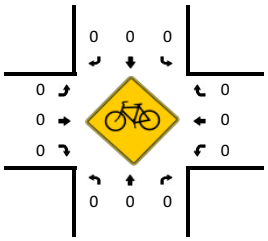
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

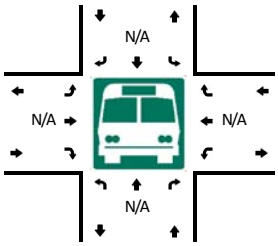


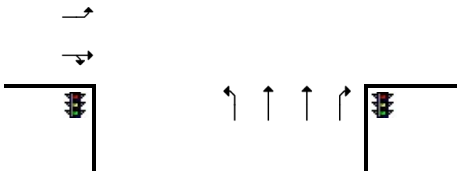


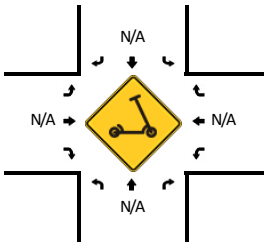












15-Min Count Period Beginning At	6.US 521 (Northbound)				6.US 521 (Southbound)				River Rd/Collins Rd (Eastbound)				River Rd/Collins Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	62	277	44	0	31	149	107	0	4	1	2	0	12	47	13	0	749	
7:15 AM	53	301	54	0	29	194	80	0	34	13	29	0	23	29	21	0	860	
7:30 AM	61	341	53	0	24	186	70	0	58	28	34	0	32	23	30	0	940	
7:45 AM	50	304	61	0	11	165	86	0	66	34	56	0	24	41	22	0	920	3469
8:00 AM	66	266	59	0	20	156	99	0	62	37	65	0	25	49	13	0	917	3637
8:15 AM	42	204	47	0	18	215	67	0	80	44	65	0	26	25	26	0	859	3636
8:30 AM	17	253	47	0	20	300	20	0	33	17	33	0	45	12	14	0	811	3507
8:45 AM	7	245	52	0	19	302	12	0	6	4	8	0	54	0	27	0	736	3323

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	244	1364	212	0	96	744	280	0	232	112	136	0	128	92	120	0	3760
Heavy Trucks	4	20	12		0	32	8		8	0	0		0	0	8		92
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

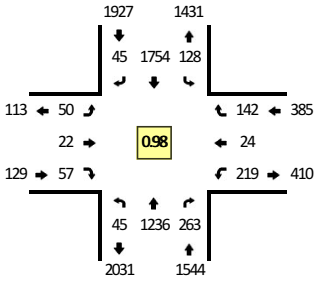
Comments:

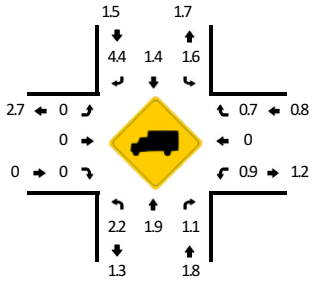
Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

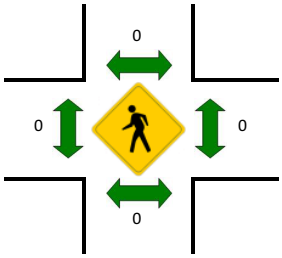
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

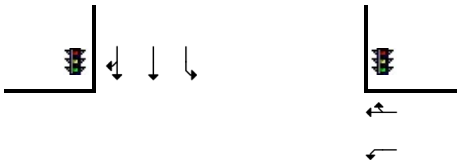
LOCATION: 6.US 521 -- River Rd/Collins Rd | **QC JOB #:** 15659112
CITY/STATE: Lancaster, SC | **DATE:** Wed, Dec 15 2021

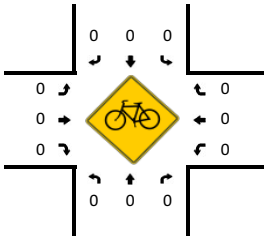
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

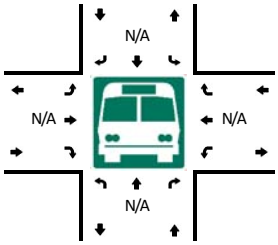


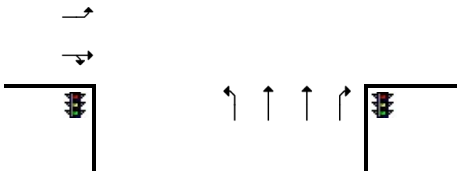


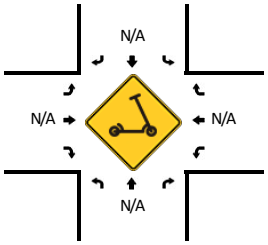












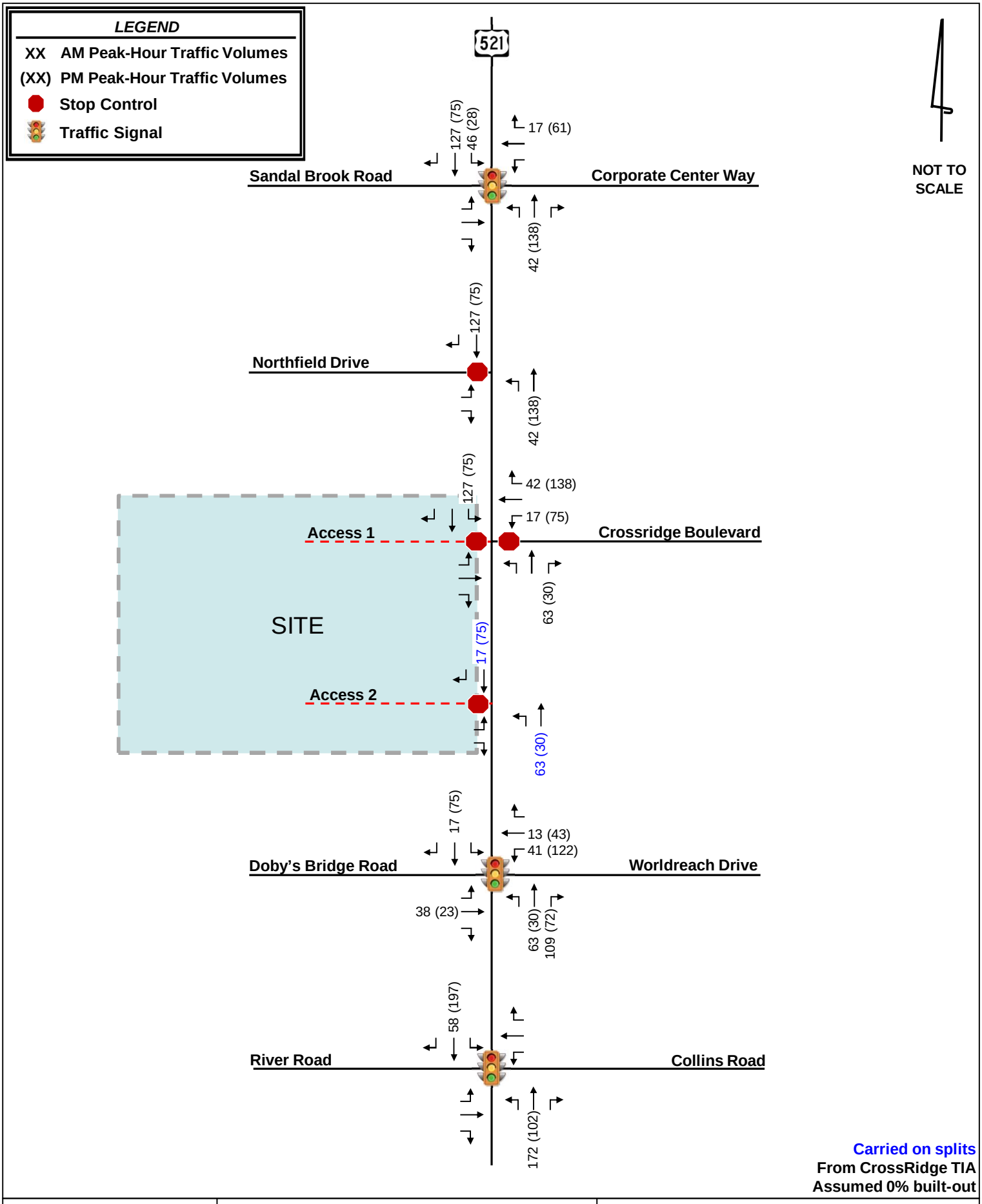
15-Min Count Period Beginning At	6.US 521 (Northbound)				6.US 521 (Southbound)				River Rd/Collins Rd (Eastbound)				River Rd/Collins Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	240	55	1	28	476	12	1	20	10	26	0	60	2	10	0	948	
4:15 PM	7	257	54	0	25	464	19	1	22	7	12	0	61	1	17	0	947	
4:30 PM	19	278	51	0	35	432	16	2	11	8	15	0	49	11	33	0	960	
4:45 PM	6	318	84	1	24	444	10	1	13	4	17	0	51	3	28	0	1004	3859
5:00 PM	6	345	73	0	26	431	7	0	12	3	16	0	58	7	34	0	1018	3929
5:15 PM	13	295	55	0	40	447	12	0	14	7	9	0	61	3	47	0	1003	3985
5:30 PM	14	263	58	0	38	424	9	0	15	8	23	0	58	6	36	0	952	3977
5:45 PM	18	284	61	0	34	407	16	0	8	3	7	0	54	3	32	0	927	3900

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	1380	292	0	104	1724	28	0	48	12	64	0	232	28	136	0	4072
Heavy Trucks	4	28	4		4	36	0		0	0	0		0	0	0		76
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

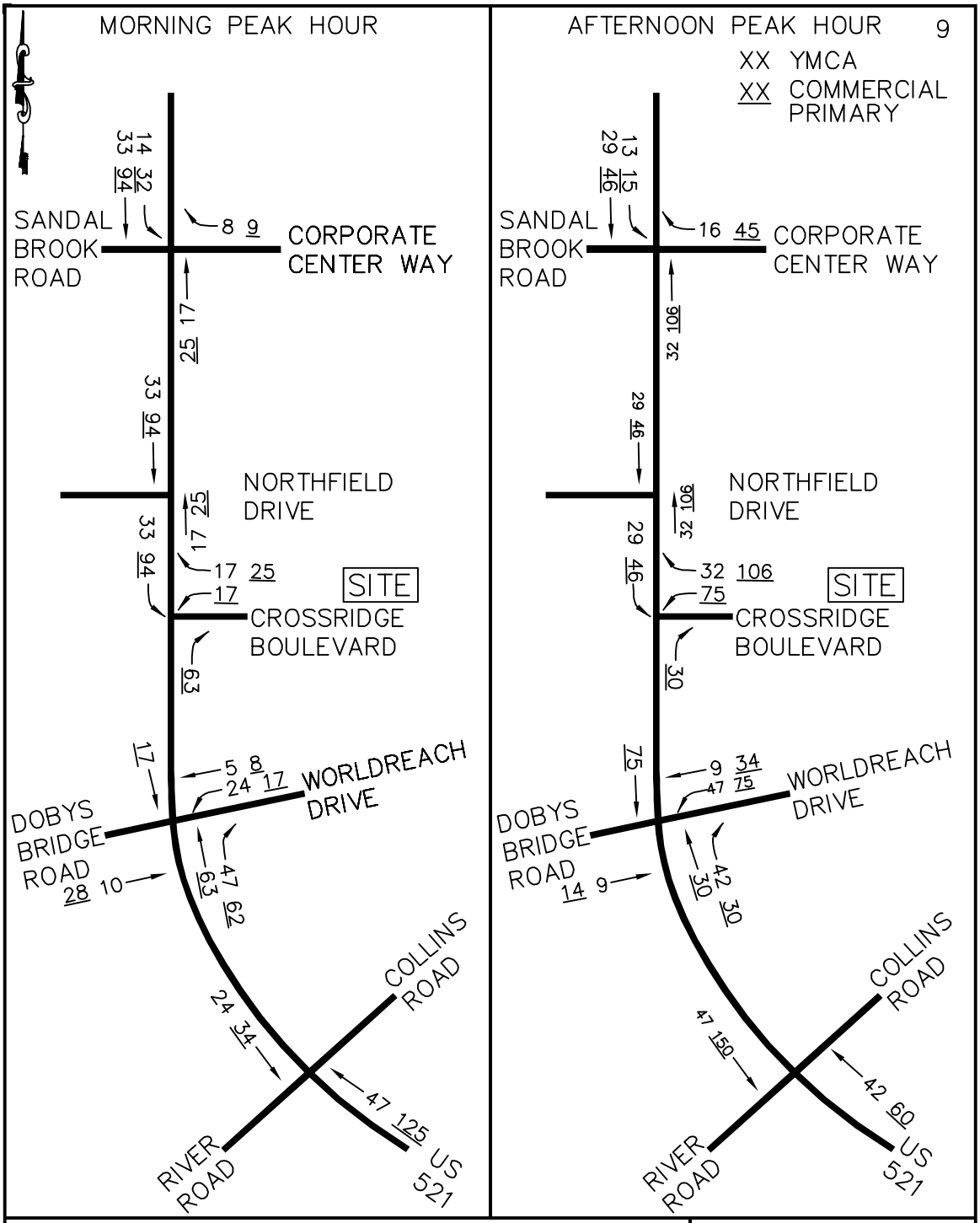
Comments:

Report generated on 12/23/2021 12:31 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Approved Developments



Kimley»Horn	Tadlock Traffic Impact Analysis	CrossRidge Approved Development



YMCA + COMMERCIAL PEAK HOUR SITE TRIPS	18-013ST-GGS.DWG Figure 5 6/8/19
CROSSRIDGE TRAFFIC IMPACT STUDY INDIAN LAND, SOUTH CAROLINA	Sprague & Sprague Consulting Engineers

Intersection Volume Development

INTERSECTION VOLUME DEVELOPMENT

US 521 and Sandal Brook Road/Corporate Center Way
AM PEAK HOUR

	US 521 Northbound				US 521 Southbound				Sandal Brook Road Eastbound				Corporate Center Way Westbound			
Description	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	13	1,462	20	0	57	915	2	0	16	1	15	0	4	1	9	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	13	1,462	20	0	57	915	2	0	16	1	15	0	4	1	9	0
2021 Existng PHF	0.54	0.93	0.56	0.90	0.75	0.95	0.50	0.90	0.67	0.25	0.75	0.90	1.00	0.25	0.56	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	4%	2%	2%	4%	7%	2%	2%	2%	2%	7%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #1	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	15	1,710	23	0	67	1,070	2	0	19	1	18	0	5	1	11	0
Crossridge	0	42	0	0	46	127	0	0	0	0	0	0	0	0	17	0
Approved Development Trips	0	42	0	0	46	127	0	0	0	0	0	0	0	0	17	0
2025 Background Traffic	15	1,752	23	0	113	1,197	2	0	19	1	18	0	5	1	28	0
Percent Inbound Assignment	0%	0%	0%	0%	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	34	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Project Trips (Total)	0	33	0	0	0	12	0	0	0	0	0	0	0	0	0	0
2025 Buildout Total	15	1,785	23	0	113	1,209	2	0	19	1	18	0	5	1	28	0

PM PEAK HOUR

	US 521 Northbound				US 521 Southbound				Sandal Brook Road Eastbound				Corporate Center Way Westbound			
Description	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	56	1,140	5	0	18	1,584	29	0	31	6	32	0	2	7	74	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	56	1,140	5	0	18	1,584	29	0	31	6	32	0	2	7	74	0
2021 PHF	0.78	0.92	0.42	0.90	0.50	0.96	0.73	0.90	0.43	0.50	0.57	0.90	0.50	0.58	0.71	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #1	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	66	1,334	6	0	21	1,853	34	0	36	7	37	0	2	8	87	0
Crossridge	0	138	0	0	28	75	0	0	0	0	0	0	0	0	61	0
Approved Development Trips	0	138	0	0	28	75	0	0	0	0	0	0	0	0	61	0
2025 Background Traffic	66	1,472	6	0	49	1,928	34	0	36	7	37	0	2	8	148	0
Percent Inbound Assignment	0%	0%	0%	0%	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	23	0	0	0	36	0	0	0	0	0	0	0	0	0	0
Project Trips (Total)	0	23	0	0	0	36	0	0	0	0	0	0	0	0	0	0
2025 Buildout Total	66	1,495	6	0	49	1,964	34	0	36	7	37	0	2	8	148	0

INTERSECTION VOLUME DEVELOPMENT

US 521 and Northfield Drive
AM PEAK HOUR

	US 521 Northbound				US 521 Southbound				Northfield Drive Eastbound				- Westbound			
Description	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	56	1,462	0	0	0	898	46	0	34	0	18	0	0	0	0	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	56	1,462	0	0	0	898	46	0	34	0	18	0	0	0	0	0
2021 Existng PHF	0.54	0.95	0.90	0.90	0.90	0.90	0.77	0.90	0.77	0.90	0.75	0.90	0.90	0.90	0.90	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	**11%**	2%	2%	2%	2%	6%	**26%**	2%	**68%**	2%	**39%**	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #2	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	66	1,710	0	0	0	1,051	54	0	40	0	21	0	0	0	0	0
Crossridge	0	42	0	0	0	127	0	0	0	0	0	0	0	0	0	0
Approved Development Trips	0	42	0	0	0	127	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic	66	1,752	0	0	0	1,178	54	0	40	0	21	0	0	0	0	0
Percent Inbound Assignment	0%	0%	0%	0%	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	34	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Project Trips (Total)	0	33	0	0	0	12	0	0	0	0	0	0	0	0	0	0
2025 Buildout Total	66	1,785	0	0	0	1,190	54	0	40	0	21	0	0	0	0	0

PM PEAK HOUR

	US 521 Northbound				US 521 Southbound				Northfield Drive Eastbound				- Westbound			
Description	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	28	1,191	0	0	0	1,586	23	0	23	0	53	0	0	0	0	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	28	1,191	0	0	0	1,586	23	0	23	0	53	0	0	0	0	0
2021 PHF	0.64	0.92	0.90	0.90	0.90	0.96	0.48	0.90	0.64	0.90	0.53	0.90	0.90	0.90	0.90	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	**11%**	2%	2%	2%	2%	2%	**22%**	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #2	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	33	1,393	0	0	0	1,855	27	0	27	0	62	0	0	0	0	0
Crossridge	0	138	0	0	0	75	0	0	0	0	0	0	0	0	0	0
Approved Development Trips	0	138	0	0	0	75	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic	33	1,531	0	0	0	1,930	27	0	27	0	62	0	0	0	0	0
Percent Inbound Assignment	0%	0%	0%	0%	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	23	0	0	0	36	0	0	0	0	0	0	0	0	0	0
Project Trips (Total)	0	23	0	0	0	36	0	0	0	0	0	0	0	0	0	0
2025 Buildout Total	33	1,554	0	0	0	1,966	27	0	27	0	62	0	0	0	0	0

INTERSECTION VOLUME DEVELOPMENT

US 521 and Access 1/Crossridge Boulevard
AM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				Access 1 Eastbound				Crossridge Boulevard Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	0	1,513	2	0	11	912	0	0	0	0	0	0	0	0	2	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	0	1,513	2	0	11	912	0	0	0	0	0	0	0	0	2	0
2021 Existng PHF	0.90	0.95	0.50	0.90	0.69	0.92	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	3%	2%	2%	18%	6%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #3	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	0	1,770	2	0	13	1,067	0	0	0	0	0	0	0	0	2	0
Crossridge	0	0	63	0	127	0	0	0	0	0	0	0	17	0	42	0
Approved Development Trips	0	0	63	0	127	0	0	0	0	0	0	0	17	0	42	0
2025 Background Traffic	0	1,770	65	0	140	1,067	0	0	0	0	0	0	17	0	44	0
Percent Inbound Assignment	40%	0%	0%	0%	0%	25%	30%	0%	0%	0%	0%	0%	0%	2%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	0%	0%	0%	55%	2%	15%	0%	0%	0%	0%	0%
Project Trips	8	0	0	0	0	5	6	0	32	1	9	0	0	0	0	0
Project Trips (Total)	8	0	0	0	0	6	6	0	33	2	9	0	0	1	0	0
2025 Buildout Total	8	1,770	65	0	140	1,073	6	0	33	2	9	0	17	1	44	0

PM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				Access 1 Eastbound				Crossridge Boulevard Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	0	1,204	2	0	25	1,635	0	0	0	0	0	0	0	0	10	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	0	1,204	2	0	25	1,635	0	0	0	0	0	0	0	0	10	0
2021 PHF	0.90	0.92	0.25	0.90	0.63	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.50	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #3	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	0	1,409	2	0	29	1,913	0	0	0	0	0	0	0	0	12	0
Crossridge	0	0	30	0	75	0	0	0	0	0	0	0	75	0	138	0
Approved Development Trips	0	0	30	0	75	0	0	0	0	0	0	0	75	0	138	0
2025 Background Traffic	0	1,409	32	0	104	1,913	0	0	0	0	0	0	75	0	150	0
Percent Inbound Assignment	40%	0%	0%	0%	0%	25%	30%	0%	0%	0%	0%	0%	0%	2%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	0%	0%	0%	55%	2%	15%	0%	0%	0%	0%	0%
Project Trips	25	0	0	0	0	16	19	0	22	1	6	0	0	1	0	0
Project Trips (Total)	25	0	0	0	0	16	20	0	23	1	6	0	0	1	0	0
2025 Buildout Total	25	1,409	32	0	104	1,929	20	0	23	1	6	0	75	1	150	0

INTERSECTION VOLUME DEVELOPMENT

US 521 and Doby's Bridge Road/Worldreach Drive
AM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				Doby's Bridge Road Eastbound				Worldreach Drive Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	328	1,257	44	0	48	761	58	0	200	92	329	0	32	53	90	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	328	1,257	44	0	48	761	58	0	200	92	329	0	32	53	90	0
2021 Existng PHF	0.94	0.91	0.73	0.90	0.71	0.92	0.73	0.90	0.54	0.68	0.71	0.90	0.67	0.83	0.68	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	3%	3%	2%	2%	2%	4%	**21%**	2%	7%	2%	5%	2%	2%	4%	3%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #4	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	384	1,471	51	0	56	890	68	0	234	108	385	0	37	62	105	0
Crossridge	0	63	109	0	0	17	0	0	0	38	0	0	41	13	0	0
Approved Development Trips	0	63	109	0	0	17	0	0	0	38	0	0	41	13	0	0
2025 Background Traffic	384	1,534	160	0	56	907	68	0	234	146	385	0	78	75	105	0
Percent Inbound Assignment	0%	30%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	30%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	6	0	0	0	18	6	0	2	0	0	0	0	0	0	0
Project Trips (Total)	0	6	0	0	0	18	6	0	2	0	0	0	0	0	0	0
2025 Buildout Total	384	1,540	160	0	56	925	74	0	236	146	385	0	78	75	105	0

PM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				Doby's Bridge Road Eastbound				Worldreach Drive Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	392	1,012	54	0	120	1,327	92	0	151	87	544	0	45	101	72	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	392	1,012	54	0	120	1,327	92	0	151	87	544	0	45	101	72	0
2021 PHF	0.90	0.89	0.75	0.90	0.88	0.93	0.92	0.90	0.84	0.91	0.95	0.90	0.70	0.87	0.82	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #4	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	459	1,184	63	0	140	1,552	108	0	177	102	636	0	53	118	84	0
Crossridge	0	30	72	0	0	75	0	0	0	23	0	0	122	43	0	0
Approved Development Trips	0	30	72	0	0	75	0	0	0	23	0	0	122	43	0	0
2025 Background Traffic	459	1,214	135	0	140	1,627	108	0	177	125	636	0	175	161	84	0
Percent Inbound Assignment	0%	30%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	30%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	19	0	0	0	12	4	0	6	0	0	0	0	0	0	0
Project Trips (Total)	0	19	0	0	0	12	4	0	6	0	0	0	0	0	0	0
2025 Buildout Total	459	1,233	135	0	140	1,639	112	0	183	125	636	0	175	161	84	0

INTERSECTION VOLUME DEVELOPMENT

US 521 and River Road/Collins Road
AM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				River Road Eastbound				Collins Road Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	230	1,212	227	0	84	701	335	0	220	112	184	0	104	142	86	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	230	1,212	227	0	84	701	335	0	220	112	184	0	104	142	86	0
2021 Existng PHF	0.87	0.89	0.93	0.90	0.72	0.90	0.85	0.90	0.83	0.76	0.71	0.90	0.81	0.72	0.72	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	3%	3%	4%	2%	6%	4%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #5	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	269	1,418	266	0	98	820	392	0	257	131	215	0	122	166	101	0
Crossridge	0	172	0	0	0	58	0	0	0	0	0	0	0	0	0	0
Approved Development Trips	0	172	0	0	0	58	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic	269	1,590	266	0	98	878	392	0	257	131	215	0	122	166	101	0
Percent Inbound Assignment	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	6	0	0	0	18	0	0	0	0	0	0	0	0	0	0
Project Trips (Total)	0	6	0	0	0	18	0	0	0	0	0	0	0	0	0	0
2025 Buildout Total	269	1,596	266	0	98	896	392	0	257	131	215	0	122	166	101	0

PM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				River Road Eastbound				Collins Road Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	45	1,236	263	0	128	1,754	45	0	50	22	57	0	219	24	142	0
Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	45	1,236	263	0	128	1,754	45	0	50	22	57	0	219	24	142	0
2021 PHF	0.59	0.90	0.78	0.90	0.80	0.98	0.70	0.90	0.89	0.69	0.84	0.90	0.90	0.55	0.76	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #5	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	53	1,446	308	0	150	2,052	53	0	58	26	67	0	256	28	166	0
Crossridge	0	102	0	0	0	197	0	0	0	0	0	0	0	0	0	0
Approved Development Trips	0	102	0	0	0	197	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic	53	1,548	308	0	150	2,249	53	0	58	26	67	0	256	28	166	0
Percent Inbound Assignment	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips	0	19	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Project Trips (Total)	0	19	0	0	0	12	0	0	0	0	0	0	0	0	0	0
2025 Buildout Total	53	1,567	308	0	150	2,261	53	0	58	26	67	0	256	28	166	0

INTERSECTION VOLUME DEVELOPMENT

US 521 and Access 2
AM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				Access 2 Eastbound				- Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
2021 Existing Traffic	0	1,515	0	0	0	912	0	0	0	0	0	0	0	0	0	0
2021 Existng PHF	0.90	0.95	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	3%	2%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #1	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	0	1,772	0	0	0	1,067	0	0	0	0	0	0	0	0	0	0
Crossridge	0	63	0	0	0	17	0	0	0	0	0	0	0	0	0	0
Approved Development Trips	0	63	0	0	0	17	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic	0	1,835	0	0	0	1,084	0	0	0	0	0	0	0	0	0	0
Percent Inbound Assignment	0%	40%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%
Project Trips	0	8	0	0	0	9	5	0	0	0	15	0	0	0	0	0
Project Trips (Total)	0	8	0	0	0	9	6	0	0	0	15	0	0	0	0	0
2025 Buildout Total	0	1,843	0	0	0	1,093	6	0	0	0	15	0	0	0	0	0

PM PEAK HOUR

Description	US 521 Northbound				US 521 Southbound				Access 2 Eastbound				- Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
2021 Existing Traffic	0	1,206	0	0	0	1,635	0	0	0	0	0	0	0	0	0	0
2021 PHF	0.90	0.92	0.90	0.90	0.90	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
2025 PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Growth Factor #1	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
2025 Background Traffic (No AD)	0	1,411	0	0	0	1,913	0	0	0	0	0	0	0	0	0	0
Crossridge	0	30	0	0	0	75	0	0	0	0	0	0	0	0	0	0
Approved Development Trips	0	30	0	0	0	75	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic	0	1,441	0	0	0	1,988	0	0	0	0	0	0	0	0	0	0
Percent Inbound Assignment	0%	40%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%
Project Trips	0	25	0	0	0	6	16	0	0	0	10	0	0	0	0	0
Project Trips (Total)	0	25	0	0	0	6	16	0	0	0	10	0	0	0	0	0
2025 Buildout Total	0	1,466	0	0	0	1,994	16	0	0	0	10	0	0	0	0	0

Signal Plans

ID: 4458
Name: US 521 @ Inspiration Network (mm40.97)
Configuration: Standard

Param	Phs 1	Phs 2	Phs 3	Phs 4	Phs 5	Phs 6	Phs 7	Phs 8	Phs 9	Phs 10	Phs 11
Walk	0	0	0	0	0	0	0	0	0	0	0
Ped Clearance	0	0	0	0	0	0	0	0	0	0	0
Min Green	8	15	0	8	8	15	0	8	0	0	0
Passage	3	3.1	0	3	3	3.1	0	3	0	0	0
Max1	20	60	0	15	15	60	0	30	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0
Yellow	5.4	5.4	0	3.9	5.4	5.4	0	3.9	4	4	4
Red	2.6	2.6	0	2.7	2.6	2.6	0	2.7	2	2	2
Red Revert	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0
Startup	RED	GREEN	RED	RED	RED	GREEN	RED	RED	RED	RED	RED
Enable	On	On	Off	On	On	On	Off	On	Off	Off	Off
Auto Entry	Off	Off	Off	Off	Off	Off	Off	On	Off	Off	Off
Auto Exit	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off
Non Act1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Non Act2	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Lock Call	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off
Min Recall	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off
Max Recall	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Ped Recall	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Soft Recall	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off
Sim Gap Enable	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off
Guar Passage	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Rest In Walk	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Cond Service	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Add Init Calc	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Ring	1	1	1	1	2	2	1	1	0	0	0
Concur 1	5	5	0	0	1	1	0	0	0	0	0
Concur 2	6	6	0	0	2	2	0	0	0	0	0
Concur 3	0	0	0	0	0	0	0	0	0	0	0
Concur 4	0	0	0	0	0	0	0	0	0	0	0
Concur 5	0	0	0	0	0	0	0	0	0	0	0
Concur 6	0	0	0	0	0	0	0	0	0	0	0
Concur 7	0	0	0	0	0	0	0	0	0	0	0
Concur 8	0	0	0	0	0	0	0	0	0	0	0

Phs 12	Phs 13	Phs 14	Phs 15	Phs 16
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4	4	4	4	4
2	2	2	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
RED	RED	RED	RED	RED
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
Off	Off	Off	Off	Off
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

— SIGNAL EQUIPMENT —

PROPOSED 8 PHASE FULLY ACTUATED STANDARD
2070 CONTROLLER WITH FLASHER, SIGNAL MONITOR UNIT,
AND BASE-MOUNTED 332A CABINET.

8 MODEL 222, (2)-CHANNEL VEHICLE DETECTOR UNITS

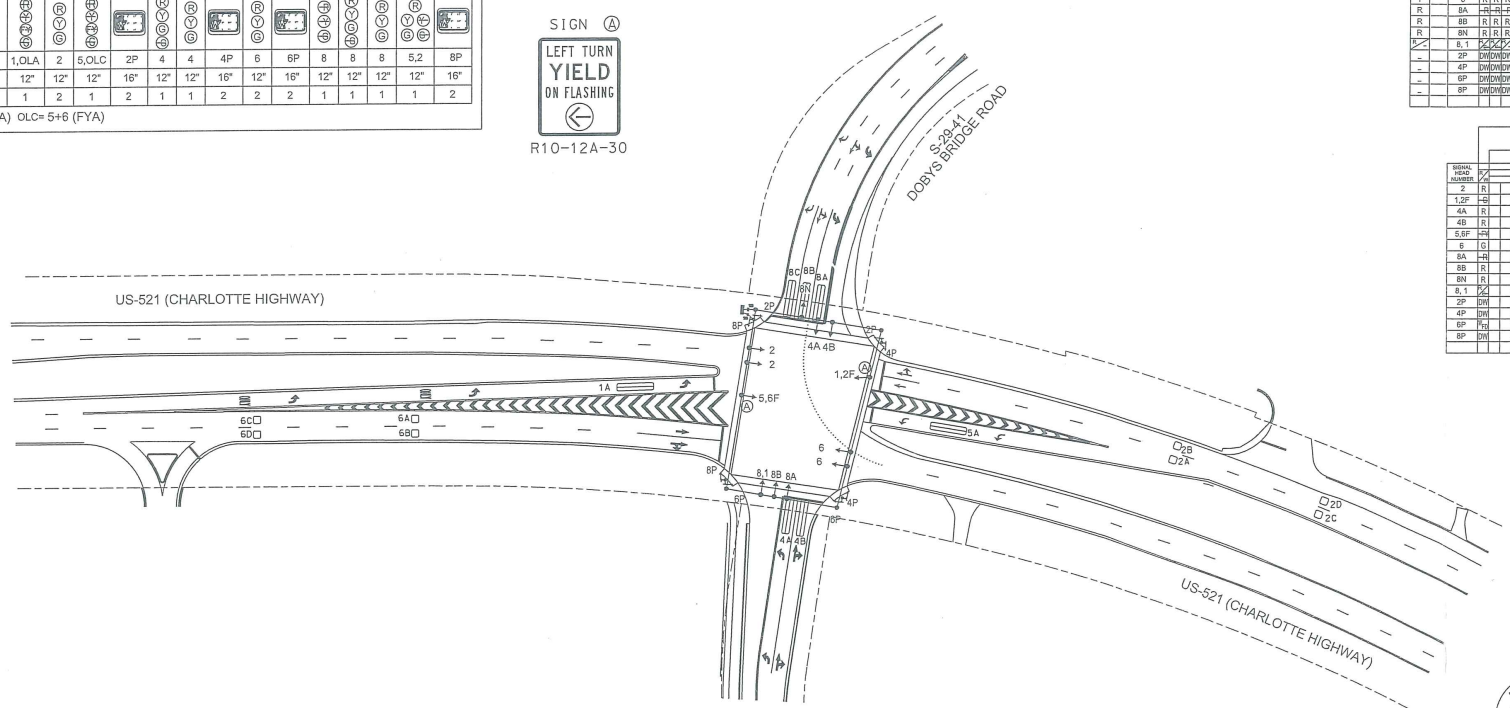
SIGNAL NUMBER	1,2F	2	5,6F	2P	4A	4B	4P	6	6P	8A	8B	8N	8,1	8P
LENS														
PHASE	1,OLA	2	5,OLC	2P	4	4	4P	6	6P	8	8	8	5,2	8P
SIZE	12"	12"	12"	16"	12"	12"	16"	12"	16"	12"	12"	12"	12"	16"
QUANTITY	1	2	1	2	1	1	2	2	2	1	1	1	1	2

OLA=1+2 (FYA) OLC= 5+6 (FYA)

1,2F
OLA RED
OLA YELLOW
OLA GREEN
Ø1 GREEN

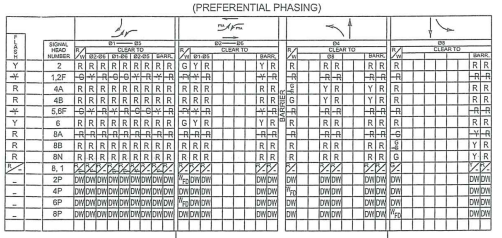
5,6F
OLC RED
OLC YELLOW
OLC GREEN
Ø5 GREEN

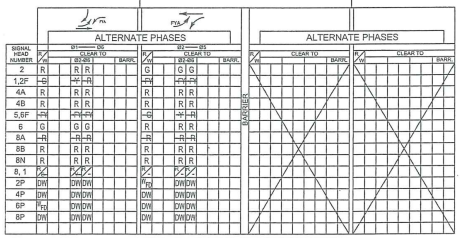
SIGN (A)
LEFT TURN
YIELD
ON FLASHING
R10-12A-30



0 50 100 150

SIGNAL DISPLAY SEQUENCE
(PREFERENTIAL PHASING)

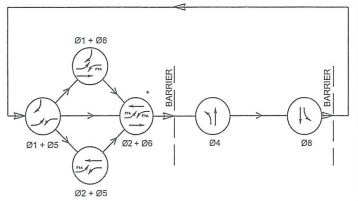




SIGNAL TIMINGS

Phase Timings	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
Min Green	8	10		8	8	10		8
Gap, Ext	3.0	4.0		3.0	3.0	4.0		3.0
Max 1	20	60		40	20	60		40
Max 2								
Yel Clearance	3.0	4.6		3.0	3.0	4.6		4.2
Red Clearance	3.6	2.0		3.5	3.6	2.0		2.8
Walk		7		7		7		7
Ped Clearance		27		35		25		35
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Recall	OFF	MIN		OFF	OFF	MIN		OFF

NEMA PHASING



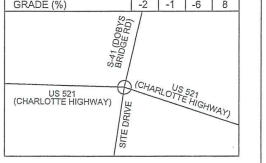
NOTE: ACTUATED PHASES HAVING NO CALL, SHALL BE SKIPPED

* N-S STREET COORDINATED PEDESTRIAN PHASE UPON ACTUATION ONLY

FLASHING OPERATION

FED. ROAD DIV. NO.	STATE	COUNTY	FILE NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	LANCASTER			S-41		

	US 521	US 521	S-41	SITE DR
APPROACH DIRECTION	NB	SB	EB	WB
SIGNAL DESIGN SPEED	45	45	35	25
GRADE (%)	-2	-1	-6	8



DATE	REVISIONS
4-15	REVISE Ø8 SIGNAL HEADS
6-15	FYA

DESIGNED	DKS
DRAWN	DKS
CHECKED	DWC
REVIEWED	DWC
RECOMMENDED	MGS

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DISTRICT 4 TRAFFIC ENGINEERING
CHESTER, S.C.

SUBJECT TITLE: TRAFFIC SIGNAL

SPECIFIC LOCATION: US-521 (CHARLOTTE HIGHWAY) & S-29-41 (DOBYS BRIDGE ROAD)

CITY: INDIAN LAND COUNTY: LANCASTER

APPROVED BY: DISTRICT TRAFFIC ENGINEER

SCALE	DATE	SHEET NO.	INDEX NO.
—	6/15	1 OF 1	29-521-41

TS 4448

QSeq

Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green								
Gap, Ext								
Max 1								
Max 2								
Yel Clear								
Red Clear								
Walk								
Ped Clear								
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time to Reduce								
Reduced By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X		X		X		X
Min Recall		X				X		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry				X				X
Auto Flash Exit		X				X		
Dual Entry		X				X		
Enable Simul Gap		X				X		
Gaurantee Pass.								
Rest in Walk								
Condition Serv.								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								
Options [1.1.3]	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Pha				8				4
Conflicting Pha								
Omit Yellow								
Ped Delay								
Grn/Red Delay								

pat#	Cyc	Off	Split	Seq
1	130	0	1	1
2	120	0	2	1
3	130	0	3	1
4				
5				
6				
7				
8				
9				
10				
11				
12				

Split		1	2	3	4	5	6	7	8
1	Coord	26	50		24	21	55		30
am	6						Max		
2	Coord	23	51		21	20	54		25
avg	6						Max		
3	Coord	25	55		23	20	60		27
pm	6						Max		
4	Coord								
	6								
5	Coord								
	6								
	Coord								
	6								
7	Coord								
	6								
8	Coord								
	2		Max				Max		
9	Coord								
	2		Max				Max		
10	Coord								
	2		Max				Max		
11	Coord								
	2		Max				Max		
12	Coord								
	2		Max				Max		

Split		1	2	3	4	5	6	7	8
13	Coord								
	2		Max				Max		
14	Coord								
	2		Max				Max		
15	Coord								
	2		Max				Max		
16	Coord								
	2		Max				Max		
17	Coord								
	2		Max				Max		
18	Coord								
	2		Max				Max		
19	Coord								
	2		Max				Max		
20	Coord								
	2		Max				Max		
21	Coord								
	2		Max				Max		
22	Coord								
	2		Max				Max		
23	Coord								
	2		Max				Max		
24	Coord								
	2		Max				Max		

DayPlan1 M-F			
	Hour	Min	Act
1	0	0	99
2	6	0	1
3	9	0	2
4	14	0	3
5	19	0	2
6	23	0	99
7			
8			

DayPlan2 Sat&Sun			
	Hour	Min	Act
1	0	0	99
2	7		2
3	23		99
4			
5			
6			
7			
8			

DayPlan3			
	Hour	Min	Act
1			
2			
3			
4			
5			
6			
7			
8			

Notes

Phase 4 & 8 are split phase

Ring/Startup [1.1.4]			
Phs	Ring	Start	Enable
1	1	RED	1
2	1	Green	1
3	1	RED	1
4	1	RED	1
5	2	RED	1
6	2	Green	1
7	2	RED	1
8	2	RED	1

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX INH
Force-off	Float
Closed Loop	ON
Stop-in-Walk	ON
Auto Rest	ON
Expand Splt	OFF
Ped Recycle	No Recycle
Before	Timed
After	Timed

Auto Flash [1.4.1]	
Auto Flash	PH OVER
Flash Yel	4
Flash Red	2

Unit Params [1.2.1]	
Phase Mode	STD8
IO mode	Mode 0
Loc Flsh Start	ON
Start Flash(s)	0
Star ALLRed	0
Yellow < 3	OFF
Display Time	15
Red Revert	4
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	OFF
Auto Ped Clear	OFF
SDLC Retry	0

System: US 521 Indianland

Intersection: US 521 @ Dobys Bridge #4448

Act 99 = free

— SIGNAL EQUIPMENT —

SCDOT SUPPLIED 8 PHASE FULLY ACTUATED STANDARD
2070 CONTROLLER WITH FLASHER, SIGNAL MONITOR UNIT,
AND SCDOT SUPPLIED BASE-MOUNTED 332 CABINET.

8 SCDOT SUPPLIED MODEL 222,
(2)-CHANNEL VEHICLE DETECTOR UNITS

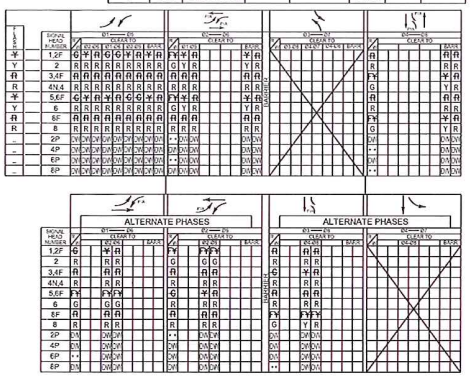
SIGNAL NUMBER	1,2	2	2P	3,4F	4	4N	4P	5,6	6	6P	8F	8	8P
LENS	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G
PHASE	1,OLA	2	2	3,OLB	4	4	4	5,OLC	6	6	OLD	8	8
SIZE	12"	12"	16"	12"	12"	12"	16"	12"	12"	16"	12"	12"	16"
QUANTITY	1	2	2	1	2	1	2	1	2	2	1	2	2

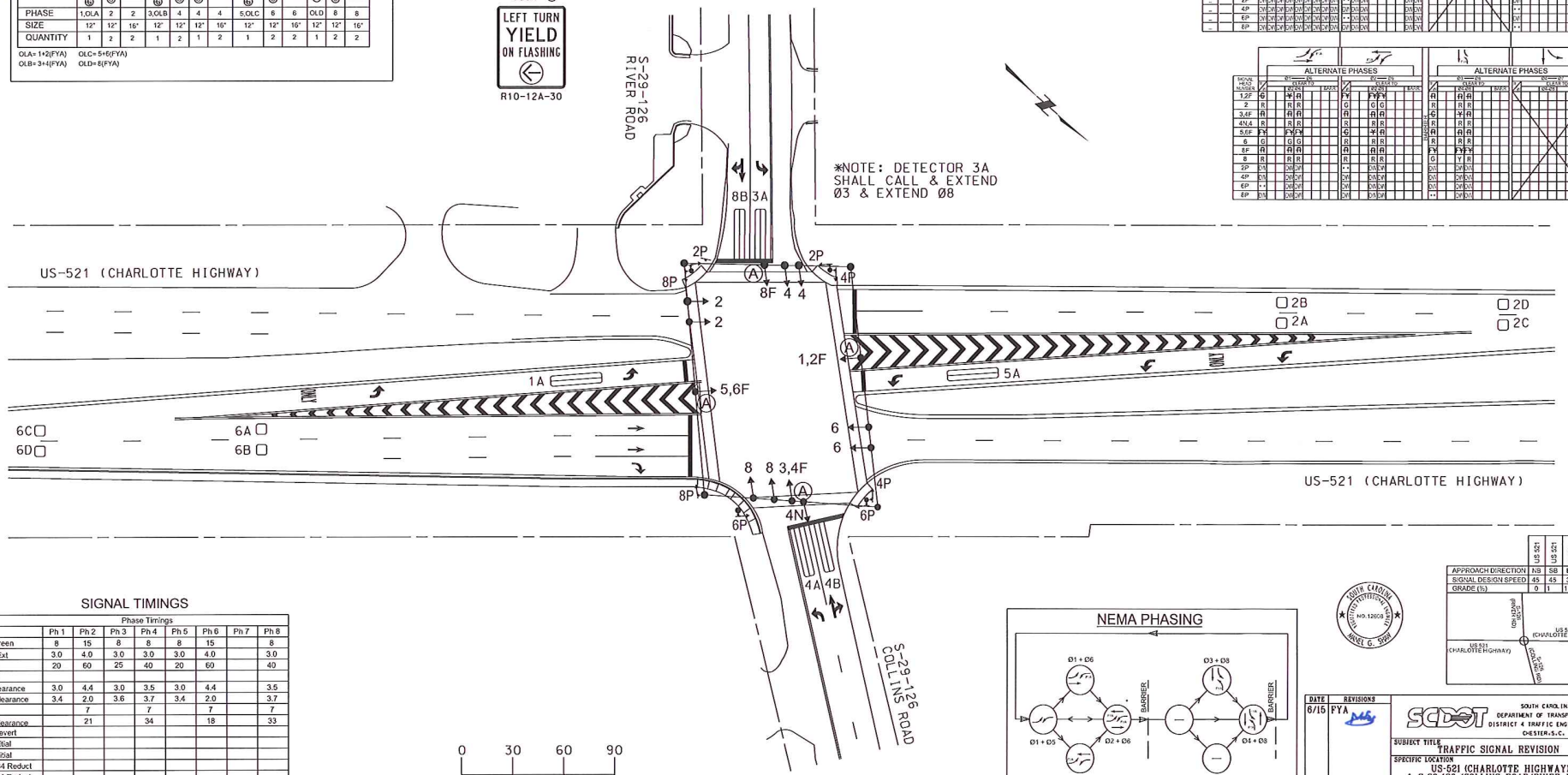
OLA= 1+2(FYA) OLC= 5+6(FYA)
OLB= 3+4(FYA) OLD= 8(FYA)

1,2F	3,4F	5,6F	8F
OLA RED (R)	OLB RED (R)	OLC RED (R)	OLD RED (R)
OLA YELLOW (Y)	OLB YELLOW (Y)	OLC YELLOW (Y)	OLD YELLOW (Y)
OLA GREEN (FY)	OLB GREEN (FY)	OLC GREEN (FY)	OLD GREEN (FY)
Ø1 GREEN (G)	Ø3 GREEN (G)	Ø5 GREEN (G)	

SIGN (A)
LEFT TURN
YIELD
ON FLASHING
R10-12A-30

FED. ROAD D.V. NO.	STATE	COUNTY	FILE NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	LANCASTER			S-126		





SIGNAL TIMINGS

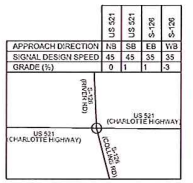
	Phase Timings							
	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
Min Green	8	15	8	8	8	15		8
Gap, Ext	3.0	4.0	3.0	3.0	3.0	4.0		3.0
Max 1	20	60	25	40	20	60		40
Max 2								
Yel Clearance	3.0	4.4	3.0	3.5	3.0	4.4		3.5
Red Clearance	3.4	2.0	3.6	3.7	3.4	2.0		3.7
Walk		7		7		7		7
Ped Clearance		21		34		18		33
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Recall	OFF	MIN		OFF	OFF	MIN		OFF

NEMA PHASING

NOTE: ACTUATED PHASES HAVING NO CALL SHALL BE SKIPPED
*N-S STREET COORDINATED
PEDESTRIAN PHASE UPON ACTUATION ONLY

FLASHING OPERATION

APPROACH DIRECTION	NB	SB	EB	WB
SIGNAL DESIGN SPEED	45	45	35	35
GRADE (%)	0	1	1	-3



DATE	REVISIONS
6/15	FYA

DESIGNED DKS
DRAWN DKS
RECOMMENDED MGS
CONSTRUCTED

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DISTRICT 4 TRAFFIC ENGINEERING
CHESTER, S.C.

SUBJECT TITLE: TRAFFIC SIGNAL REVISION
SPECIFIC LOCATION: US-521 (CHARLOTTE HIGHWAY) & S-29-126 (COLLINS ROAD/RIVER ROAD)
CITY: INDIAN LAND COUNTY: LANCASTER
APPROVED BY: Mark G. Shaw
DISTRICT 4 TRAFFIC ENGINEER

SCALE	DATE	SHEET NO.	INDEX NO.
	6/15	OF	29-521-126

STD8

Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green								
Gap, Ext								
Max 1								
Max 2								
Yel Clear								
Red Clear								
Walk								
Ped Clear								
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time to Reduce								
Reduced By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X		X
Min Recall		X				X		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry				X				X
Auto Flash Exit		X				X		
Dual Entry		X		X		X		X
Enable Simul Gap		X		X		X		X
Gaurantee Pass.								
Rest in Walk								
Condition Serv.								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								
Options [1.1.3]	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Pha								
Conflicting Pha								
Omit Yellow								
Ped Delay								
Grn/Ped Delay								

pat#	Cyc	Off	Split	Seq
1	130	3	1	1
2	120	5	2	1
3	130	3	3	1
4				
5				
6				
7				
8				
9				
10				
11				
12				

pat#	Cyc	Off	Split	Seq
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

pat#	Cyc	Off	Split	Seq
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				

pat#	Cyc	Off	Split	Seq
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				

Split	1	2	3	4	5	6	7	8
1 Coord	25	56	24	25	20	61		49
am 2		Max						
2 Coord	22	53	20	25	22	53		45
avg 2		Max						
3 Coord	22	60	25	23	22	60		48
pm 2		Max						
4 Coord								
2								
5 Coord								
2								
6 Coord								
2								
7 Coord								
2								
8 Coord								
2		Max				Max		
9 Coord								
2		Max				Max		
10 Coord								
2		Max				Max		
11 Coord								
2		Max				Max		
12 Coord								
2		Max				Max		

Split	1	2	3	4	5	6	7	8
13 Coord								
2		Max				Max		
14 Coord								
2		Max				Max		
15 Coord								
2		Max				Max		
16 Coord								
2		Max				Max		
17 Coord								
2		Max				Max		
18 Coord								
2		Max				Max		
19 Coord								
2		Max				Max		
20 Coord								
2		Max				Max		
21 Coord								
2		Max				Max		
22 Coord								
2		Max				Max		
23 Coord								
2		Max				Max		
24 Coord								
2		Max				Max		

DayPlan1 M-F	Hour	Min	Act
1	0	0	99
2	6	0	1
3	9	0	2
4	14	0	3
5	19	0	2
6	23	0	99
7			
8			

DayPlan2 Sat&Sun	Hour	Min	Act
1	0	0	99
2	7		2
3	23		99
4			
5			
6			
7			
8			

DayPlan3	Hour	Min	Act
1			
2			
3			
4			
5			
6			
7			
8			

Notes

Ring/Startup [1.1.4]			
Phs	Ring	Start	Enable
1	1	RED	1
2	1	Green	1
3	1	RED	1
4	1	RED	1
5	2	RED	1
6	2	Green	1
7	2	RED	1
8	2	RED	1

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX INH
Force-off	Float
Closed Loop	ON
Stop-in-Walk	ON
Auto Rest	ON
Expand Splt	OFF
Ped Recycle	No Recycle
Before	Timed
After	Timed

Auto Flash [1.4.1]	
Auto Flash	PH OVER
Flash Yel	4
Flash Red	2

Unit Params [1.2.1]	
Phase Mode	STD8
IO mode	Mode 0
Loc Flsh Start	ON
Start Flash(s)	0
Star ALLRed	0
Yellow < 3	OFF
Display Time	15
Red Revert	4
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	OFF
Auto Ped Clear	OFF
SDLC Retry	0

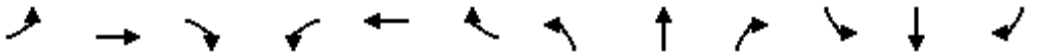
System: US 521 Indianland

Intersection: US 521 @ River-Collins #4451

Act 99 = free

Intersection Capacity Analysis

2021 Existing Conditions



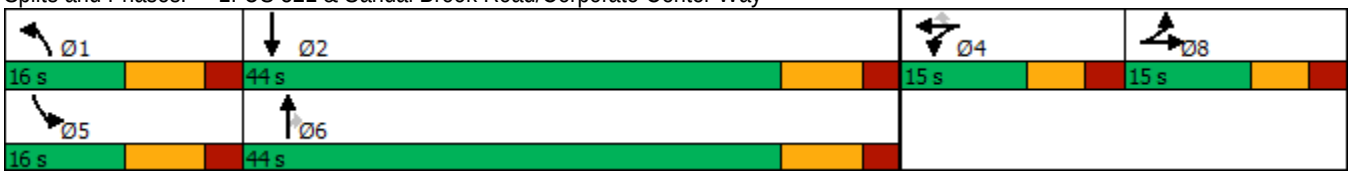
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1	15	4	1	9	13	1462	20	57	915	2
Future Volume (vph)	16	1	15	4	1	9	13	1462	20	57	915	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	13	12	13	13	12	12
Storage Length (ft)	0		0	125		0	225		150	575		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			75			150			300		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.944			0.910	0.850			0.850		0.999	
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1738	0	1770	1610	1504	1829	3471	1636	3479	3371	0
Flt Permitted		0.976		0.950			0.950			0.950		
Satd. Flow (perm)	0	1738	0	1770	1610	1504	1829	3471	1636	3479	3371	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			6	238			221		1	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1038			1040			805			1074	
Travel Time (s)		28.3			28.4			12.2			16.3	
Peak Hour Factor	0.67	0.25	0.75	1.00	0.25	0.56	0.54	0.93	0.56	0.75	0.95	0.50
Heavy Vehicles (%)	2%	2%	7%	2%	2%	2%	2%	4%	2%	4%	7%	2%
Adj. Flow (vph)	24	4	20	4	4	16	24	1572	36	76	963	4
Shared Lane Traffic (%)						39%						
Lane Group Flow (vph)	0	48	0	4	10	10	24	1572	36	76	967	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Detector Phase	8	8		4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	14.6		14.6	14.6	14.6	16.0	23.0	23.0	16.0	23.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	16.0	44.0	44.0	16.0	44.0	
Total Split (%)	16.7%	16.7%		16.7%	16.7%	16.7%	17.8%	48.9%	48.9%	17.8%	48.9%	
Maximum Green (s)	8.4	8.4		8.4	8.4	8.4	8.0	36.0	36.0	8.0	36.0	
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	5.4	5.4	5.4	5.4	5.4	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.6		6.6	6.6	6.6	8.0	8.0	8.0	8.0	8.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		8.3		8.2	8.2	8.2	8.2	43.9	43.9	8.2	52.7	
Actuated g/C Ratio		0.11		0.11	0.11	0.11	0.11	0.58	0.58	0.11	0.70	
v/c Ratio		0.23		0.02	0.06	0.03	0.12	0.78	0.03	0.20	0.41	
Control Delay		27.4		36.8	27.8	0.2	37.5	23.9	0.1	36.5	13.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		27.4		36.8	27.8	0.2	37.5	23.9	0.1	36.5	13.2	
LOS		C		D	C	A	D	C	A	D	B	

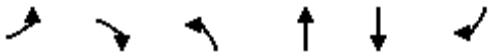
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		27.4			17.8			23.6			14.8	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		12		2	2	0	10	342	0	17	82	
Queue Length 95th (ft)		5		12	3	0	22	#682	0	35	308	
Internal Link Dist (ft)		958			960			725			994	
Turn Bay Length (ft)				125			225		150	575		
Base Capacity (vph)		217		203	190	383	200	2022	1045	380	2362	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.22		0.02	0.05	0.03	0.12	0.78	0.03	0.20	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 75.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 521 & Sandal Brook Road/Corporate Center Way





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	18	56	1462	898	46
Future Volume (vph)	34	18	56	1462	898	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.952					0.850
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1111	0	1626	3539	3406	1324
Flt Permitted	0.969		0.950			
Satd. Flow (perm)	1111	0	1626	3539	3406	1324
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.77	0.75	0.54	0.95	0.90	0.77
Heavy Vehicles (%)	68%	39%	11%	2%	6%	26%
Adj. Flow (vph)	44	24	104	1539	998	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	104	1539	998	60
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	18	56	1462	898	46
Future Vol, veh/h	34	18	56	1462	898	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	275
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	75	54	95	90	77
Heavy Vehicles, %	68	39	11	2	6	26
Mvmt Flow	44	24	104	1539	998	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1976	499	1058	0	-	0
Stage 1	998	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Critical Hdwy	8.16	7.68	4.32	-	-	-
Critical Hdwy Stg 1	7.16	-	-	-	-	-
Critical Hdwy Stg 2	7.16	-	-	-	-	-
Follow-up Hdwy	4.18	3.69	2.31	-	-	-
Pot Cap-1 Maneuver	~ 25	430	603	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	430	603	-	-	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	166	-	-	-	-	-
Stage 2	206	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	61.4	0.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	603	-	128	-	-
HCM Lane V/C Ratio	0.172	-	0.532	-	-
HCM Control Delay (s)	12.2	-	61.4	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	2.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	2	1513	2	11	912
Future Volume (vph)	0	2	1513	2	11	912
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	175		125	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				150	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	3505	1583	1530	3406
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	3505	1583	1530	3406
Link Speed (mph)	25		45			45
Link Distance (ft)	1007		336			581
Travel Time (s)	27.5		5.1			8.8
Peak Hour Factor	0.90	0.25	0.95	0.50	0.69	0.92
Heavy Vehicles (%)	2%	2%	3%	2%	18%	6%
Adj. Flow (vph)	0	8	1593	4	16	991
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	8	1593	4	16	991
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	1513	2	11	912
Future Vol, veh/h	0	2	1513	2	11	912
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	175	-	125	300	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	25	95	50	69	92
Heavy Vehicles, %	2	2	3	2	18	6
Mvmt Flow	0	8	1593	4	16	991

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2121	797	0	-	1593	0
Stage 1	1593	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.46	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.38	-
Pot Cap-1 Maneuver	43	329	-	0	340	-
Stage 1	152	-	-	0	-	-
Stage 2	556	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	41	329	-	-	340	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	152	-	-	-	-	-
Stage 2	530	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	329	340	-
HCM Lane V/C Ratio	-	-	0.024	0.047	-
HCM Control Delay (s)	-	0	16.2	16.1	-
HCM Lane LOS	-	A	C	C	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

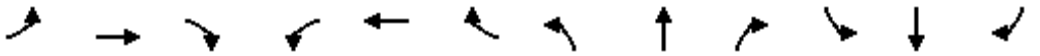
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	92	329	32	53	90	328	1257	44	48	761	58
Future Volume (vph)	200	92	329	32	53	90	328	1257	44	48	761	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	175		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.899			0.994			0.987	
Flt Protected	0.950	0.977		0.950			0.950			0.950		
Satd. Flow (prot)	1651	1740	1531	1642	1534	0	1829	3520	0	1838	3282	0
Flt Permitted	0.950	0.977		0.950			0.152			0.067		
Satd. Flow (perm)	1651	1740	1531	1642	1534	0	293	3520	0	130	3282	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			226		66			4				
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1027			1075			1156			2153	
Travel Time (s)		20.0			29.3			22.5			41.9	
Peak Hour Factor	0.54	0.68	0.71	0.67	0.83	0.68	0.94	0.91	0.73	0.71	0.92	0.73
Heavy Vehicles (%)	7%	2%	5%	2%	4%	3%	3%	3%	2%	2%	4%	21%
Adj. Flow (vph)	370	135	463	48	64	132	349	1381	60	68	827	79
Shared Lane Traffic (%)	33%											
Lane Group Flow (vph)	248	257	463	48	196	0	349	1441	0	68	906	0
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	49.0	49.0	14.6	48.5	48.5		14.6	38.6		14.6	40.6	
Total Split (s)	30.0	30.0	26.0	24.0	24.0		26.0	55.0		21.0	50.0	
Total Split (%)	23.1%	23.1%	20.0%	18.5%	18.5%		20.0%	42.3%		16.2%	38.5%	
Maximum Green (s)	23.0	23.0	19.4	17.5	17.5		19.4	48.4		14.4	43.4	
Yellow Time (s)	4.2	4.2	3.0	3.0	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8	3.6	3.5	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	6.6	6.5	6.5		6.6	6.6		6.6	6.6	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	22.0	22.0	49.4	15.1	15.1		66.2	60.6		67.5	45.8	
Actuated g/C Ratio	0.17	0.17	0.38	0.12	0.12		0.51	0.47		0.52	0.35	
v/c Ratio	0.89	0.87	0.64	0.25	0.83		0.90	0.88		0.38	0.78	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	84.3	80.9	20.6	54.4	64.5		55.9	38.7		22.4	44.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	84.3	80.9	20.6	54.4	64.5		55.9	38.7		22.4	44.2	
LOS	F	F	C	D	E		E	D		C	D	
Approach Delay		53.0			62.5			42.0			42.6	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	214	222	162	37	107		250	410		27	368	
Queue Length 95th (ft)	174	234	161	56	173		m#308	m#765		40	454	
Internal Link Dist (ft)		947			995			1076			2073	
Turn Bay Length (ft)	200			100			625			175		
Base Capacity (vph)	292	308	721	221	263		389	1644		261	1156	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.85	0.83	0.64	0.22	0.75		0.90	0.88		0.26	0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 155			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 46.1		Intersection LOS: D	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive





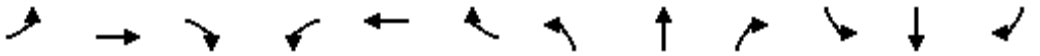
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	112	184	104	142	86	230	1212	227	84	701	335
Future Volume (vph)	220	112	184	104	142	86	230	1212	227	84	701	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.904			0.944				0.850		0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1787	0	1796	1778	0	1869	3388	1553	1807	3302	0
Flt Permitted	0.220			0.292			0.078			0.069		
Satd. Flow (perm)	421	1787	0	552	1778	0	153	3388	1553	131	3302	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72			19				244		79	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			1156	
Travel Time (s)		20.6			20.7			15.7			17.5	
Peak Hour Factor	0.83	0.76	0.71	0.81	0.72	0.72	0.87	0.89	0.93	0.72	0.90	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	3%	4%	6%	4%	2%
Adj. Flow (vph)	265	147	259	128	197	119	264	1362	244	117	779	394
Shared Lane Traffic (%)												
Lane Group Flow (vph)	265	406	0	128	316	0	264	1362	244	117	1173	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	47.2		47.2	48.2		14.4	31.4	31.4	14.4	34.4	
Total Split (s)	24.0	49.0		49.0	25.0		25.0	61.0	61.0	20.0	56.0	
Total Split (%)	18.5%	37.7%		37.7%	19.2%		19.2%	46.9%	46.9%	15.4%	43.1%	
Maximum Green (s)	17.4	41.8		41.8	17.8		18.6	54.6	54.6	13.6	49.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	35.8	41.8		41.8	18.2		68.2	58.0	58.0	68.2	51.2	
Actuated g/C Ratio	0.28	0.32		0.32	0.14		0.52	0.45	0.45	0.52	0.39	
v/c Ratio	0.89	0.65		0.72	1.20		0.87	0.90	0.29	0.58	0.87	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	66.2	36.5		63.6	163.8		61.6	43.1	3.7	40.7	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.2	36.5		63.6	163.8		61.6	43.1	3.7	40.7	23.6	
LOS	E	D		E	F		E	D	A	D	C	
Approach Delay		48.2			134.9			40.6			25.2	
Approach LOS		D			F			D			C	
Queue Length 50th (ft)	176	243		95	~313		164	543	0	62	183	
Queue Length 95th (ft)	#271	276		#165	#352		#279	#723	50	m82	#387	
Internal Link Dist (ft)		980			983			954			1076	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	304	623		177	264		327	1511	828	247	1347	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.87	0.65		0.72	1.20		0.81	0.90	0.29	0.47	0.87	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 3 (2%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 46.9		Intersection LOS: D	
Intersection Capacity Utilization 89.9%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 521 & River Road/Collins Road





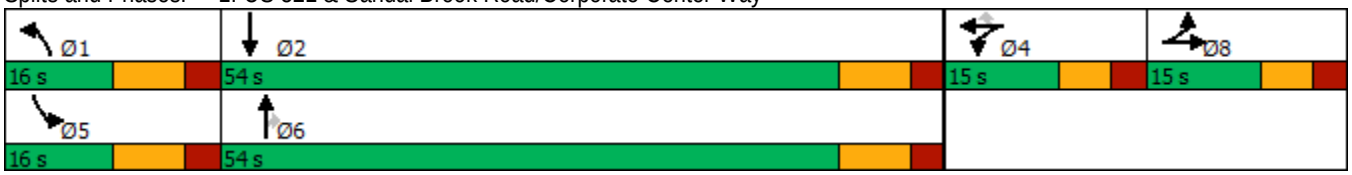
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	6	32	2	7	74	56	1140	5	18	1584	29
Future Volume (vph)	31	6	32	2	7	74	56	1140	5	18	1584	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	13	12	13	13	12	12
Storage Length (ft)	0		0	125		0	225		150	575		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			75			150			300		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.946			0.881	0.850			0.850		0.996	
Flt Protected		0.975		0.950			0.950			0.950		
Satd. Flow (prot)	0	1768	0	1770	1559	1504	1829	3539	1636	3547	3525	0
Flt Permitted		0.975		0.950			0.950			0.950		
Satd. Flow (perm)	0	1768	0	1770	1559	1504	1829	3539	1636	3547	3525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			47	214			199		3	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1038			1040			805			1074	
Travel Time (s)		28.3			28.4			12.2			16.3	
Peak Hour Factor	0.43	0.50	0.57	0.50	0.58	0.71	0.78	0.92	0.42	0.50	0.96	0.73
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	12	56	4	12	104	72	1239	12	36	1650	40
Shared Lane Traffic (%)						45%						
Lane Group Flow (vph)	0	140	0	4	59	57	72	1239	12	36	1690	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Detector Phase	8	8		4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	14.6		14.6	14.6	14.6	16.0	23.0	23.0	16.0	23.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	16.0	54.0	54.0	16.0	54.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%	15.0%	16.0%	54.0%	54.0%	16.0%	54.0%	
Maximum Green (s)	8.4	8.4		8.4	8.4	8.4	8.0	46.0	46.0	8.0	46.0	
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	5.4	5.4	5.4	5.4	5.4	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.6		6.6	6.6	6.6	8.0	8.0	8.0	8.0	8.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		8.4		8.1	8.1	8.1	8.0	52.8	52.8	8.0	49.7	
Actuated g/C Ratio		0.09		0.08	0.08	0.08	0.08	0.55	0.55	0.08	0.52	
v/c Ratio		0.80		0.03	0.34	0.18	0.47	0.64	0.01	0.12	0.93	
Control Delay		67.8		42.5	22.8	1.2	54.9	19.9	0.0	43.7	35.6	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		67.8		42.5	22.8	1.2	54.9	19.9	0.0	43.7	35.6	
LOS		E		D	C	A	D	B	A	D	D	

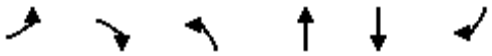
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		67.8			13.2			21.7			35.8	
Approach LOS		E			B			C			D	
Queue Length 50th (ft)		72		2	7	0	45	331	0	11	~612	
Queue Length 95th (ft)		65		7	20	0	78	419	0	14	#757	
Internal Link Dist (ft)		958			960			725			994	
Turn Bay Length (ft)				125			225		150	575		
Base Capacity (vph)		178		154	179	326	152	1936	985	295	1816	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.79		0.03	0.33	0.17	0.47	0.64	0.01	0.12	0.93	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 96.5			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 30.7		Intersection LOS: C	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 521 & Sandal Brook Road/Corporate Center Way





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	53	28	1191	1586	23
Future Volume (vph)	23	53	28	1191	1586	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.901					0.850
Flt Protected	0.987		0.950			
Satd. Flow (prot)	1657	0	1626	3539	3539	1368
Flt Permitted	0.987		0.950			
Satd. Flow (perm)	1657	0	1626	3539	3539	1368
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.64	0.53	0.64	0.92	0.96	0.48
Heavy Vehicles (%)	2%	2%	11%	2%	2%	22%
Adj. Flow (vph)	36	100	44	1295	1652	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	44	1295	1652	48
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.0%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	53	28	1191	1586	23
Future Vol, veh/h	23	53	28	1191	1586	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	275
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	53	64	92	96	48
Heavy Vehicles, %	2	2	11	2	2	22
Mvmt Flow	36	100	44	1295	1652	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2388	826	1700	0	-	0
Stage 1	1652	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.32	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.31	-	-	-
Pot Cap-1 Maneuver	~ 28	315	333	-	-	-
Stage 1	141	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 24	315	333	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	122	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	58.1	0.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	333	-	194	-	-
HCM Lane V/C Ratio	0.131	-	0.701	-	-
HCM Control Delay (s)	17.4	-	58.1	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0.4	-	4.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	10	1204	2	25	1635
Future Volume (vph)	0	10	1204	2	25	1635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	175		125	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				150	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	3539	1583	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	3539	1583	1770	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1007		336			581
Travel Time (s)	27.5		5.1			8.8
Peak Hour Factor	0.90	0.50	0.92	0.25	0.63	0.94
Adj. Flow (vph)	0	20	1309	8	40	1739
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	20	1309	8	40	1739
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	1204	2	25	1635
Future Vol, veh/h	0	10	1204	2	25	1635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	175	-	125	300	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	50	92	25	63	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	1309	8	40	1739

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2259	655	0	-	1309	0
Stage 1	1309	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	35	409	-	0	524	-
Stage 1	217	-	-	0	-	-
Stage 2	336	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	32	409	-	-	524	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	310	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0.3
HCM LOS	B		

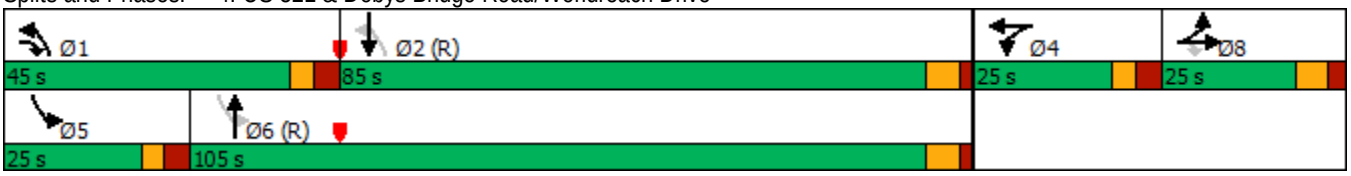
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	409	524	-
HCM Lane V/C Ratio	-	-	0.049	0.076	-
HCM Control Delay (s)	-	0	14.3	12.4	-
HCM Lane LOS	-	A	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	87	544	45	101	72	392	1012	54	120	1327	92
Future Volume (vph)	151	87	544	45	101	72	392	1012	54	120	1327	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	175		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.935			0.991			0.990	
Flt Protected	0.950	0.984		0.950			0.950			0.950		
Satd. Flow (prot)	1732	1794	1561	1642	1616	0	1847	3542	0	1838	3404	0
Flt Permitted	0.950	0.984		0.950			0.051			0.161		
Satd. Flow (perm)	1732	1794	1561	1642	1616	0	99	3542	0	311	3404	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			103		17			6				
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		1027			1075			1156			2153	
Travel Time (s)		20.0			29.3			17.5			32.6	
Peak Hour Factor	0.84	0.91	0.95	0.70	0.87	0.82	0.90	0.89	0.75	0.88	0.93	0.92
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	180	96	573	64	116	88	436	1137	72	136	1427	100
Shared Lane Traffic (%)	25%											
Lane Group Flow (vph)	135	141	573	64	204	0	436	1209	0	136	1527	0
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	49.0	49.0	14.6	48.5	48.5		14.6	38.6		14.6	40.6	
Total Split (s)	25.0	25.0	45.0	25.0	25.0		45.0	105.0		25.0	85.0	
Total Split (%)	13.9%	13.9%	25.0%	13.9%	13.9%		25.0%	58.3%		13.9%	47.2%	
Maximum Green (s)	18.0	18.0	38.4	18.5	18.5		38.4	98.4		18.4	78.4	
Yellow Time (s)	4.2	4.2	3.0	3.0	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8	3.6	3.5	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	6.6	6.5	6.5		6.6	6.6		6.6	6.6	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	17.0	17.0	63.4	18.5	18.5		117.8	107.7		117.8	78.4	
Actuated g/C Ratio	0.09	0.09	0.35	0.10	0.10		0.65	0.60		0.65	0.44	
v/c Ratio	0.83	0.83	0.93	0.38	1.13		0.97	0.57		0.47	1.03	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	115.5	115.6	68.2	82.6	167.1		110.7	15.6		15.2	80.4	
Queue Delay	0.0	0.0	0.3	0.0	0.0		0.0	0.0		0.0	20.0	
Total Delay	115.5	115.6	68.5	82.6	167.1		110.7	15.6		15.2	100.4	
LOS	F	F	E	F	F		F	B		B	F	
Approach Delay		83.8			146.9			40.8			93.4	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	167	174	563	72	~259		490	214		52	~1011	
Queue Length 95th (ft)	#253	#296	#812	98	#419		#723	311		77	#1147	
Internal Link Dist (ft)		947			995			1076			2073	
Turn Bay Length (ft)	200			100			625			175		
Base Capacity (vph)	173	179	616	168	181		448	2122		371	1482	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	2	0	0		0	0		0	71	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.78	0.79	0.93	0.38	1.13		0.97	0.57		0.37	1.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 155			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 75.3		Intersection LOS: E	
Intersection Capacity Utilization 100.0%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	22	57	219	24	142	45	1236	263	128	1754	45
Future Volume (vph)	50	22	57	219	24	142	45	1236	263	128	1754	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.898			0.879				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1775	0	1796	1662	0	1888	3421	1583	1878	3502	0
Flt Permitted	0.231			0.675			0.037			0.119		
Satd. Flow (perm)	442	1775	0	1276	1662	0	74	3421	1583	235	3502	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			102				337		3	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			1156	
Travel Time (s)		20.6			20.7			15.7			17.5	
Peak Hour Factor	0.89	0.69	0.84	0.90	0.55	0.76	0.59	0.90	0.78	0.80	0.98	0.70
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%
Adj. Flow (vph)	56	32	68	243	44	187	76	1373	337	160	1790	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	100	0	243	231	0	76	1373	337	160	1854	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	47.2		47.2	48.2		14.4	31.4	31.4	14.4	34.4	
Total Split (s)	20.0	57.0		57.0	37.0		25.0	98.0	98.0	25.0	98.0	
Total Split (%)	11.1%	31.7%		31.7%	20.6%		13.9%	54.4%	54.4%	13.9%	54.4%	
Maximum Green (s)	13.4	49.8		49.8	29.8		18.6	91.6	91.6	18.6	91.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	34.2	38.8		38.8	25.0		121.2	108.3	108.3	121.2	111.6	
Actuated g/C Ratio	0.19	0.22		0.22	0.14		0.67	0.60	0.60	0.67	0.62	
v/c Ratio	0.35	0.23		0.88	0.73		0.52	0.67	0.31	0.58	0.85	

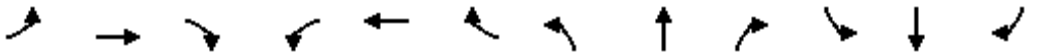
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	59.8	24.6		98.7	54.5		39.8	27.9	2.7	20.3	13.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.4	
Total Delay	59.8	24.6		98.7	54.5		39.8	27.9	2.7	20.3	13.5	
LOS	E	C		F	D		D	C	A	C	B	
Approach Delay		37.3			77.2			23.7			14.0	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	54	39		281	153		31	551	0	42	380	
Queue Length 95th (ft)	90	54		372	93		45	786	18	m50	m568	
Internal Link Dist (ft)		980			983			954			1076	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	191	533		353	361		239	2057	1086	333	2172	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	59	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.29	0.19		0.69	0.64		0.32	0.67	0.31	0.48	0.88	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 25.5		Intersection LOS: C	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 521 & River Road/Collins Road



2025 Background Conditions



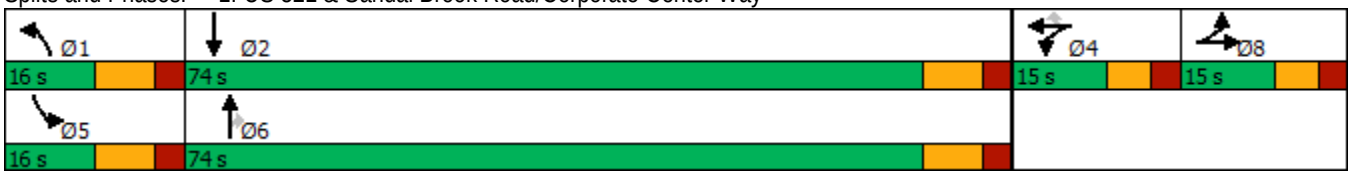
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1	18	5	1	28	15	1752	23	113	1197	2
Future Volume (vph)	19	1	18	5	1	28	15	1752	23	113	1197	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	13	12	13	13	12	12
Storage Length (ft)	0		0	125		0	225		150	575		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			75			150			300		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.936			0.859	0.850			0.850			
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1718	0	1770	1520	1504	1829	3471	1636	3479	3374	0
Flt Permitted		0.976		0.950			0.950			0.950		
Satd. Flow (perm)	0	1718	0	1770	1520	1504	1829	3471	1636	3479	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			15	178			165			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1038			1040			805			1074	
Travel Time (s)		28.3			28.4			12.2			16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	7%	2%	2%	2%	2%	4%	2%	4%	7%	2%
Adj. Flow (vph)	21	1	20	6	1	31	17	1947	26	126	1330	2
Shared Lane Traffic (%)						49%						
Lane Group Flow (vph)	0	42	0	6	16	16	17	1947	26	126	1332	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Detector Phase	8	8		4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	14.6		14.6	14.6	14.6	16.0	23.0	23.0	16.0	23.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	16.0	74.0	74.0	16.0	74.0	
Total Split (%)	12.5%	12.5%		12.5%	12.5%	12.5%	13.3%	61.7%	61.7%	13.3%	61.7%	
Maximum Green (s)	8.4	8.4		8.4	8.4	8.4	8.0	66.0	66.0	8.0	66.0	
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	5.4	5.4	5.4	5.4	5.4	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.6		6.6	6.6	6.6	8.0	8.0	8.0	8.0	8.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		8.2		8.1	8.1	8.1	8.1	69.1	69.1	8.1	83.2	
Actuated g/C Ratio		0.07		0.07	0.07	0.07	0.07	0.63	0.63	0.07	0.76	
v/c Ratio		0.29		0.05	0.13	0.06	0.13	0.89	0.02	0.49	0.52	
Control Delay		38.0		53.2	27.1	0.4	54.5	27.2	0.0	58.1	12.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		38.0		53.2	27.1	0.4	54.5	27.2	0.0	58.1	12.7	
LOS		D		D	C	A	D	C	A	E	B	

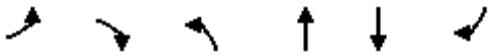
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		38.0			20.0			27.1			16.6	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		16		4	1	0	13	~788	0	49	251	
Queue Length 95th (ft)		53		19	25	0	37	#974	0	81	467	
Internal Link Dist (ft)		958			960			725			994	
Turn Bay Length (ft)				125			225		150	575		
Base Capacity (vph)		151		137	131	281	135	2187	1092	257	2559	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.28		0.04	0.12	0.06	0.13	0.89	0.02	0.49	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 109.7			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 22.8		Intersection LOS: C	
Intersection Capacity Utilization 79.4%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 521 & Sandal Brook Road/Corporate Center Way





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	21	66	1752	1178	54
Future Volume (vph)	40	21	66	1752	1178	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.954					0.850
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1110	0	1626	3539	3406	1324
Flt Permitted	0.968		0.950			
Satd. Flow (perm)	1110	0	1626	3539	3406	1324
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	68%	39%	11%	2%	6%	26%
Adj. Flow (vph)	44	23	73	1947	1309	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	73	1947	1309	60
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.6%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	21	66	1752	1178	54
Future Vol, veh/h	40	21	66	1752	1178	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	275
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	68	39	11	2	6	26
Mvmt Flow	44	23	73	1947	1309	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2429	655	1369	0	-	0
Stage 1	1309	-	-	-	-	-
Stage 2	1120	-	-	-	-	-
Critical Hdwy	8.16	7.68	4.32	-	-	-
Critical Hdwy Stg 1	7.16	-	-	-	-	-
Critical Hdwy Stg 2	7.16	-	-	-	-	-
Follow-up Hdwy	4.18	3.69	2.31	-	-	-
Pot Cap-1 Maneuver	~ 10	331	453	-	-	-
Stage 1	124	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 8	331	453	-	-	-
Mov Cap-2 Maneuver	62	-	-	-	-	-
Stage 1	104	-	-	-	-	-
Stage 2	166	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	130	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	453	-	86	-	-
HCM Lane V/C Ratio	0.162	-	0.788	-	-
HCM Control Delay (s)	14.5	-	130	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	44	1770	65	140	1067
Future Volume (vph)	17	44	1770	65	140	1067
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	175		125	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				150	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3505	1583	1530	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3505	1583	1530	3406
Link Speed (mph)	25		45			45
Link Distance (ft)	1007		336			581
Travel Time (s)	27.5		5.1			8.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	2%	18%	6%
Adj. Flow (vph)	19	49	1967	72	156	1186
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	49	1967	72	156	1186
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.0%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

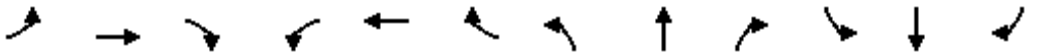
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	44	1770	65	140	1067
Future Vol, veh/h	17	44	1770	65	140	1067
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	175	-	125	300	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	2	18	6
Mvmt Flow	19	49	1967	72	156	1186

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2872	984	0	-	1967	0
Stage 1	1967	-	-	-	-	-
Stage 2	905	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.46	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.38	-
Pot Cap-1 Maneuver	~ 13	248	-	0	236	-
Stage 1	95	-	-	0	-	-
Stage 2	355	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 4	248	-	-	236	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	95	-	-	-	-	-
Stage 2	120	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.8	0	5.3
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	50	248	236	-
HCM Lane V/C Ratio	-	0.378	0.197	0.659	-
HCM Control Delay (s)	-	115.4	23	45.6	-
HCM Lane LOS	-	F	C	E	-
HCM 95th %tile Q(veh)	-	1.4	0.7	4.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



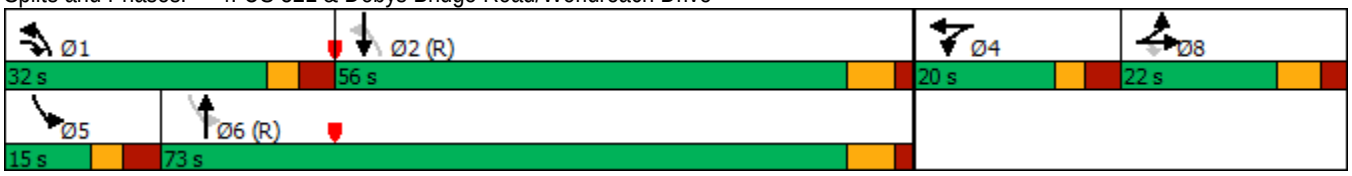
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	146	385	78	75	105	384	1534	160	56	907	68
Future Volume (vph)	234	146	385	78	75	105	384	1534	160	56	907	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	200		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.912			0.986			0.989	
Flt Protected	0.950	0.988		0.950			0.950			0.950		
Satd. Flow (prot)	1651	1780	1531	1642	1555	0	1829	3494	0	1838	3297	0
Flt Permitted	0.950	0.988		0.950			0.099			0.059		
Satd. Flow (perm)	1651	1780	1531	1642	1555	0	191	3494	0	114	3297	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			103		44			12				
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1027			1075			1156			2153	
Travel Time (s)		20.0			29.3			22.5			41.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	5%	2%	4%	3%	3%	3%	2%	2%	4%	21%
Adj. Flow (vph)	260	162	428	87	83	117	427	1704	178	62	1008	76
Shared Lane Traffic (%)	20%											
Lane Group Flow (vph)	208	214	428	87	200	0	427	1882	0	62	1084	0
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	15.0	15.0	14.6	14.5	14.5		14.6	26.6		14.6	26.6	
Total Split (s)	22.0	22.0	32.0	20.0	20.0		32.0	73.0		15.0	56.0	
Total Split (%)	16.9%	16.9%	24.6%	15.4%	15.4%		24.6%	56.2%		11.5%	43.1%	
Maximum Green (s)	15.0	15.0	25.4	13.5	13.5		25.4	66.4		8.4	49.4	
Yellow Time (s)	4.2	4.2	3.0	3.0	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8	3.6	3.5	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	6.6	6.5	6.5		6.6	6.6		6.6	6.6	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	15.0	15.0	47.4	13.5	13.5		74.8	69.6		76.1	49.4	
Actuated g/C Ratio	0.12	0.12	0.36	0.10	0.10		0.58	0.54		0.59	0.38	
v/c Ratio	1.09	1.04	0.69	0.51	1.00		1.00	1.00		0.36	0.87	

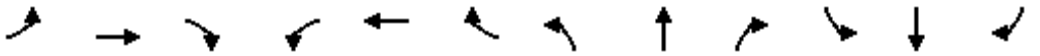
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	145.4	129.8	32.7	66.5	108.9		56.3	38.2		17.9	45.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	145.4	129.8	32.7	66.5	108.9		56.3	38.2		17.9	45.9	
LOS	F	F	C	E	F		E	D		B	D	
Approach Delay		84.7			96.0			41.5			44.3	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	~207	~205	234	71	135		327	~886		19	440	
Queue Length 95th (ft)	#377	#376	360	128	#299		m305	m479		44	536	
Internal Link Dist (ft)		947			995			1076			2073	
Turn Bay Length (ft)	200			100			625			200		
Base Capacity (vph)	190	205	623	170	200		429	1877		178	1252	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	1.09	1.04	0.69	0.51	1.00		1.00	1.00		0.35	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 53.6 Intersection LOS: D
Intersection Capacity Utilization 97.1% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive





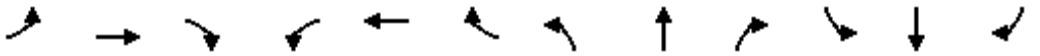
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	131	215	122	166	101	269	1590	266	98	878	392
Future Volume (vph)	257	131	215	122	166	101	269	1590	266	98	878	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.907			0.943				0.850		0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1793	0	1796	1776	0	1869	3388	1553	1807	3315	0
Flt Permitted	0.225			0.281			0.071			0.063		
Satd. Flow (perm)	431	1793	0	531	1776	0	140	3388	1553	120	3315	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			20				296		70	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			1156	
Travel Time (s)		20.6			20.7			15.7			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	3%	4%	6%	4%	2%
Adj. Flow (vph)	286	146	239	136	184	112	299	1767	296	109	976	436
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	385	0	136	296	0	299	1767	296	109	1412	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	15.2		15.2	15.2		14.4	21.4	21.4	14.4	21.4	
Total Split (s)	20.0	45.0		45.0	25.0		22.0	70.0	70.0	15.0	63.0	
Total Split (%)	15.4%	34.6%		34.6%	19.2%		16.9%	53.8%	53.8%	11.5%	48.5%	
Maximum Green (s)	13.4	37.8		37.8	17.8		15.6	63.6	63.6	8.6	56.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	31.8	37.8		37.8	17.8		72.2	63.8	63.8	72.2	56.6	
Actuated g/C Ratio	0.24	0.29		0.29	0.14		0.56	0.49	0.49	0.56	0.44	
v/c Ratio	1.15	0.68		0.88	1.14		1.05	1.06	0.32	0.62	0.95	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	141.6	40.7		92.3	144.6		104.2	73.4	3.0	38.8	28.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	141.6	40.7		92.3	144.6		104.2	73.4	3.0	38.8	28.9	
LOS	F	D		F	F		F	E	A	D	C	
Approach Delay		83.7			128.1			68.4			29.6	
Approach LOS		F			F			E			C	
Queue Length 50th (ft)	~228	242		109	~276		~219	~864	0	52	231	
Queue Length 95th (ft)	#407	358		#238	#462		#406	#1003	47	m71	#723	
Internal Link Dist (ft)		980			983			954			1076	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	248	566		154	260		285	1663	912	178	1482	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	1.15	0.68		0.88	1.14		1.05	1.06	0.32	0.61	0.95	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 24 (18%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 63.8		Intersection LOS: E	
Intersection Capacity Utilization 103.0%		ICU Level of Service G	
Analysis Period (min) 15			
~	Volume exceeds capacity, queue is theoretically infinite.		
	Queue shown is maximum after two cycles.		
#	95th percentile volume exceeds capacity, queue may be longer.		
	Queue shown is maximum after two cycles.		
m	Volume for 95th percentile queue is metered by upstream signal.		

Splits and Phases: 5: US 521 & River Road/Collins Road





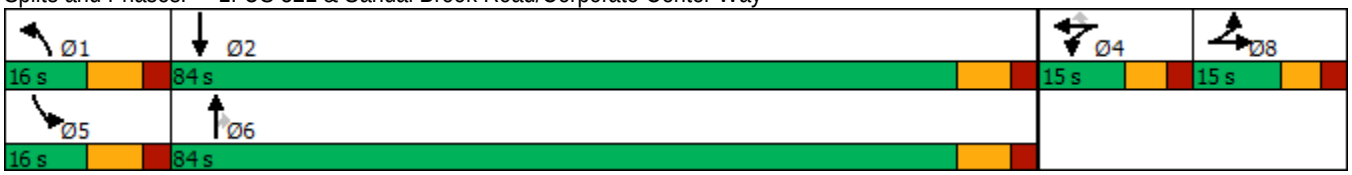
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	7	37	2	8	148	66	1472	6	49	1928	34
Future Volume (vph)	36	7	37	2	8	148	66	1472	6	49	1928	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	13	12	13	13	12	12
Storage Length (ft)	0		0	125		0	225		150	575		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			75			150			300		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.938			0.865	0.850			0.850		0.997	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1758	0	1770	1531	1504	1829	3539	1636	3547	3529	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1758	0	1770	1531	1504	1829	3539	1636	3547	3529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			79	164			153		2	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1038			1040			805			1074	
Travel Time (s)		28.3			28.4			12.2			16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	40	8	41	2	9	164	73	1636	7	54	2142	38
Shared Lane Traffic (%)						48%						
Lane Group Flow (vph)	0	89	0	2	88	85	73	1636	7	54	2180	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Detector Phase	8	8		4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	14.6		14.6	14.6	14.6	16.0	23.0	23.0	16.0	23.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	16.0	84.0	84.0	16.0	84.0	
Total Split (%)	11.5%	11.5%		11.5%	11.5%	11.5%	12.3%	64.6%	64.6%	12.3%	64.6%	
Maximum Green (s)	8.4	8.4		8.4	8.4	8.4	8.0	76.0	76.0	8.0	76.0	
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	5.4	5.4	5.4	5.4	5.4	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.6		6.6	6.6	6.6	8.0	8.0	8.0	8.0	8.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		8.3		8.2	8.2	8.2	8.0	76.2	76.2	8.0	76.2	
Actuated g/C Ratio		0.07		0.06	0.06	0.06	0.06	0.60	0.60	0.06	0.60	
v/c Ratio		0.64		0.02	0.51	0.34	0.63	0.77	0.01	0.24	1.02	
Control Delay		64.0		57.5	26.2	3.7	83.3	22.5	0.0	60.9	52.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		64.0		57.5	26.2	3.7	83.3	22.5	0.0	60.9	52.3	
LOS		E		E	C	A	F	C	A	E	D	

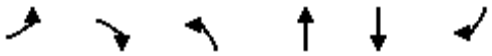
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		64.0			15.6			25.0			52.5	
Approach LOS		E			B			C			D	
Queue Length 50th (ft)		53		2	7	0	61	529	0	22	~1052	
Queue Length 95th (ft)		#129		11	65	0	#133	633	0	45	#1195	
Internal Link Dist (ft)		958			960			725			994	
Turn Bay Length (ft)				125			225		150	575		
Base Capacity (vph)		140		117	175	253	115	2132	1046	224	2127	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.64		0.02	0.50	0.34	0.63	0.77	0.01	0.24	1.02	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 126.5			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 40.0		Intersection LOS: D	
Intersection Capacity Utilization 78.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 521 & Sandal Brook Road/Corporate Center Way





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	62	33	1531	1930	27
Future Volume (vph)	27	62	33	1531	1930	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.906					0.850
Flt Protected	0.985		0.950			
Satd. Flow (prot)	1662	0	1626	3539	3539	1368
Flt Permitted	0.985		0.950			
Satd. Flow (perm)	1662	0	1626	3539	3539	1368
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	11%	2%	2%	22%
Adj. Flow (vph)	30	69	37	1701	2144	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	37	1701	2144	30
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.3%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	62	33	1531	1930	27
Future Vol, veh/h	27	62	33	1531	1930	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	275
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	11	2	2	22
Mvmt Flow	30	69	37	1701	2144	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3069	1072	2174	0	-	0
Stage 1	2144	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.32	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.31	-	-	-
Pot Cap-1 Maneuver	~ 9	216	213	-	-	-
Stage 1	75	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 7	216	213	-	-	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	62	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	138.1	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	213	-	108	-	-
HCM Lane V/C Ratio	0.172	-	0.916	-	-
HCM Control Delay (s)	25.4	-	138.1	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	5.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	75	150	1409	32	104	1913
Future Volume (vph)	75	150	1409	32	104	1913
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	175		125	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				150	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1007		336			581
Travel Time (s)	27.5		5.1			8.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	167	1566	36	116	2126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	167	1566	36	116	2126
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.1

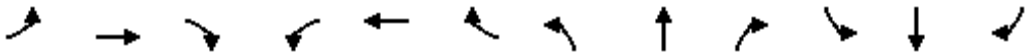
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	150	1409	32	104	1913
Future Vol, veh/h	75	150	1409	32	104	1913
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	175	-	125	300	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	167	1566	36	116	2126

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2861	783	0	-	1566	0
Stage 1	1566	-	-	-	-	-
Stage 2	1295	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 13	337	-	0	418	-
Stage 1	158	-	-	0	-	-
Stage 2	221	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 9	337	-	-	418	-
Mov Cap-2 Maneuver	~ 77	-	-	-	-	-
Stage 1	158	-	-	-	-	-
Stage 2	160	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	91.2	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	77	337	418	-
HCM Lane V/C Ratio	-	1.082	0.495	0.276	-
HCM Control Delay (s)	-	222.3	25.7	16.9	-
HCM Lane LOS	-	F	D	C	-
HCM 95th %tile Q(veh)	-	6	2.6	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

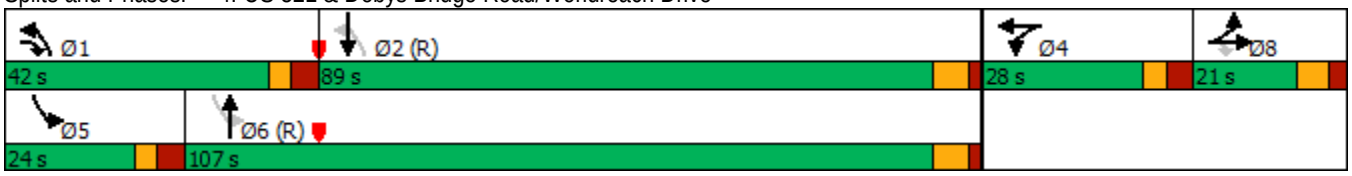


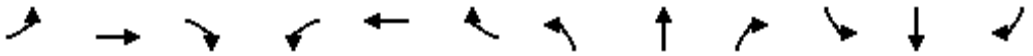
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	125	636	175	161	84	459	1214	135	140	1627	108
Future Volume (vph)	177	125	636	175	161	84	459	1214	135	140	1627	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	200		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.949			0.985			0.991	
Flt Protected	0.950	0.991		0.950			0.950			0.950		
Satd. Flow (prot)	1732	1806	1561	1642	1640	0	1847	3521	0	1838	3407	0
Flt Permitted	0.950	0.991		0.950			0.049			0.088		
Satd. Flow (perm)	1732	1806	1561	1642	1640	0	95	3521	0	170	3407	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			61		12			11				
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		1027			1075			1156			2153	
Travel Time (s)		20.0			29.3			17.5			32.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	197	139	707	194	179	93	510	1349	150	156	1808	120
Shared Lane Traffic (%)	16%											
Lane Group Flow (vph)	165	171	707	194	272	0	510	1499	0	156	1928	0
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	15.0	15.0	14.6	14.5	14.5		14.6	26.6		14.6	26.6	
Total Split (s)	21.0	21.0	42.0	28.0	28.0		42.0	107.0		24.0	89.0	
Total Split (%)	11.7%	11.7%	23.3%	15.6%	15.6%		23.3%	59.4%		13.3%	49.4%	
Maximum Green (s)	14.0	14.0	35.4	21.5	21.5		35.4	100.4		17.4	82.4	
Yellow Time (s)	4.2	4.2	3.0	3.0	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8	3.6	3.5	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	6.6	6.5	6.5		6.6	6.6		6.6	6.6	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.0	14.0	56.4	21.5	21.5		117.8	105.3		117.8	82.4	
Actuated g/C Ratio	0.08	0.08	0.31	0.12	0.12		0.65	0.58		0.65	0.46	
v/c Ratio	1.23	1.22	1.33	0.99	1.32		1.26	0.73		0.69	1.24	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	215.5	210.9	203.8	137.9	227.4		188.4	18.1		35.0	153.4	
Queue Delay	0.0	0.0	0.1	0.0	0.0		0.0	0.1		0.0	0.7	
Total Delay	215.5	210.9	203.8	137.9	227.4		188.4	18.3		35.0	154.1	
LOS	F	F	F	F	F		F	B		C	F	
Approach Delay		206.8			190.1			61.5			145.2	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~251	~258	~1032	233	~401		~711	263		59	~1477	
Queue Length 95th (ft)	#426	#436	#1294	#411	#604		#955	371		141	#1603	
Internal Link Dist (ft)		947			995			1076			2073	
Turn Bay Length (ft)	200			100			625			200		
Base Capacity (vph)	134	140	531	196	206		406	2064		276	1559	
Starvation Cap Reductn	0	0	0	0	0		0	75		0	0	
Spillback Cap Reductn	0	0	4	0	0		0	0		0	284	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	1.23	1.22	1.34	0.99	1.32		1.26	0.75		0.57	1.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 66 (37%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 130.4		Intersection LOS: F	
Intersection Capacity Utilization 117.9%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive



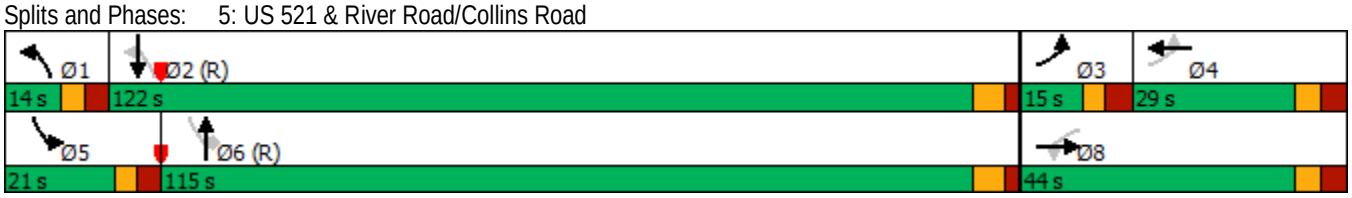


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	26	67	256	28	166	53	1548	308	150	2249	53
Future Volume (vph)	58	26	67	256	28	166	53	1548	308	150	2249	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.892			0.872				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1763	0	1796	1649	0	1888	3421	1583	1878	3509	0
Flt Permitted	0.218			0.662			0.035			0.058		
Satd. Flow (perm)	418	1763	0	1252	1649	0	70	3421	1583	115	3509	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			115				342		3	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			1156	
Travel Time (s)		20.6			20.7			15.7			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%
Adj. Flow (vph)	64	29	74	284	31	184	59	1720	342	167	2499	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	103	0	284	215	0	59	1720	342	167	2558	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	15.2		15.2	15.2		14.4	21.4	21.4	14.4	21.4	
Total Split (s)	15.0	44.0		44.0	29.0		14.0	115.0	115.0	21.0	122.0	
Total Split (%)	8.3%	24.4%		24.4%	16.1%		7.8%	63.9%	63.9%	11.7%	67.8%	
Maximum Green (s)	8.4	36.8		36.8	21.8		7.6	108.6	108.6	14.6	115.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	30.8	36.8		36.8	21.9		123.2	110.2	110.2	123.2	115.6	
Actuated g/C Ratio	0.17	0.20		0.20	0.12		0.68	0.61	0.61	0.68	0.64	
v/c Ratio	0.47	0.25		1.11	0.71		0.48	0.82	0.31	0.81	1.13	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	70.8	26.2		152.3	49.0		33.5	31.8	2.1	45.7	76.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.1	
Total Delay	70.8	26.2		152.3	49.0		33.5	31.8	2.1	45.7	76.9	
LOS	E	C		F	D		C	C	A	D	E	
Approach Delay		43.3			107.8			27.1			75.0	
Approach LOS		D			F			C			E	
Queue Length 50th (ft)	63	38		~382	116		19	826	0	111	~1828	
Queue Length 95th (ft)	112	98		#584	220		68	933	42	m75	m448	
Internal Link Dist (ft)		980			983			954			1076	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	136	411		255	301		124	2094	1101	222	2254	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	69	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.47	0.25		1.11	0.71		0.48	0.82	0.31	0.75	1.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 56 (31%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 58.6		Intersection LOS: E	
Intersection Capacity Utilization 114.0%		ICU Level of Service H	
Analysis Period (min) 15			
~	Volume exceeds capacity, queue is theoretically infinite.		
	Queue shown is maximum after two cycles.		
#	95th percentile volume exceeds capacity, queue may be longer.		
	Queue shown is maximum after two cycles.		
m	Volume for 95th percentile queue is metered by upstream signal.		

Splits and Phases: 5: US 521 & River Road/Collins Road



2025 Build-out Conditions

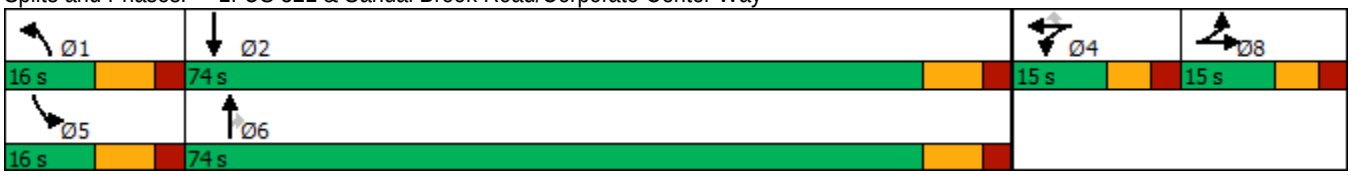
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1	18	5	1	28	15	1785	23	113	1209	2
Future Volume (vph)	19	1	18	5	1	28	15	1785	23	113	1209	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	13	12	13	13	12	12
Storage Length (ft)	0		0	125		0	225		150	575		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			75			150			300		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.936			0.859	0.850			0.850			
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1718	0	1770	1520	1504	1829	3471	1636	3479	3374	0
Flt Permitted		0.976		0.950			0.950			0.950		
Satd. Flow (perm)	0	1718	0	1770	1520	1504	1829	3471	1636	3479	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			15	178			165			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1038			1040			805			1074	
Travel Time (s)		28.3			28.4			12.2			16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	7%	2%	2%	2%	2%	4%	2%	4%	7%	2%
Adj. Flow (vph)	21	1	20	6	1	31	17	1983	26	126	1343	2
Shared Lane Traffic (%)						49%						
Lane Group Flow (vph)	0	42	0	6	16	16	17	1983	26	126	1345	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Detector Phase	8	8		4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	14.6		14.6	14.6	14.6	16.0	23.0	23.0	16.0	23.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	16.0	74.0	74.0	16.0	74.0	
Total Split (%)	12.5%	12.5%		12.5%	12.5%	12.5%	13.3%	61.7%	61.7%	13.3%	61.7%	
Maximum Green (s)	8.4	8.4		8.4	8.4	8.4	8.0	66.0	66.0	8.0	66.0	
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	5.4	5.4	5.4	5.4	5.4	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.6		6.6	6.6	6.6	8.0	8.0	8.0	8.0	8.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		8.2		8.1	8.1	8.1	8.1	70.0	70.0	8.1	84.0	
Actuated g/C Ratio		0.07		0.07	0.07	0.07	0.07	0.63	0.63	0.07	0.76	
v/c Ratio		0.29		0.05	0.13	0.06	0.13	0.90	0.02	0.50	0.53	
Control Delay		38.1		53.2	27.1	0.4	54.5	28.2	0.0	58.4	12.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		38.1		53.2	27.1	0.4	54.5	28.2	0.0	58.4	12.7	
LOS		D		D	C	A	D	C	A	E	B	

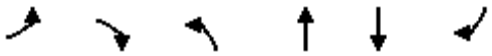
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		38.1			20.0			28.1			16.7	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		16		4	1	0	13	~861	0	49	255	
Queue Length 95th (ft)		53		19	25	0	37	#1005	0	81	474	
Internal Link Dist (ft)		958			960			725			994	
Turn Bay Length (ft)				125			225		150	575		
Base Capacity (vph)		150		136	130	280	133	2195	1095	254	2559	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.28		0.04	0.12	0.06	0.13	0.90	0.02	0.50	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 110.7			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 23.4		Intersection LOS: C	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 521 & Sandal Brook Road/Corporate Center Way





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	21	66	1785	1190	54
Future Volume (vph)	40	21	66	1785	1190	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.954					0.850
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1110	0	1626	3539	3406	1324
Flt Permitted	0.968		0.950			
Satd. Flow (perm)	1110	0	1626	3539	3406	1324
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	68%	39%	11%	2%	6%	26%
Adj. Flow (vph)	44	23	73	1983	1322	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	73	1983	1322	60
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.5%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

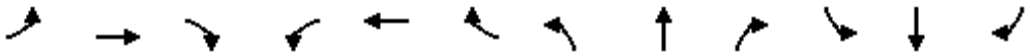
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	21	66	1785	1190	54
Future Vol, veh/h	40	21	66	1785	1190	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	275
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	68	39	11	2	6	26
Mvmt Flow	44	23	73	1983	1322	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2460	661	1382	0	-	0
Stage 1	1322	-	-	-	-	-
Stage 2	1138	-	-	-	-	-
Critical Hdwy	8.16	7.68	4.32	-	-	-
Critical Hdwy Stg 1	7.16	-	-	-	-	-
Critical Hdwy Stg 2	7.16	-	-	-	-	-
Follow-up Hdwy	4.18	3.69	2.31	-	-	-
Pot Cap-1 Maneuver	~ 10	328	448	-	-	-
Stage 1	122	-	-	-	-	-
Stage 2	161	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 8	328	448	-	-	-
Mov Cap-2 Maneuver	60	-	-	-	-	-
Stage 1	102	-	-	-	-	-
Stage 2	161	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	139.9	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	448	-	83	-	-
HCM Lane V/C Ratio	0.164	-	0.817	-	-
HCM Control Delay (s)	14.6	-	139.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	4.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2	9	17	1	44	8	1770	65	140	1073	6
Future Volume (vph)	33	2	9	17	1	44	8	1770	65	140	1073	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		175	0		125	300		0
Storage Lanes	0		0	0		1	0		1	1		0
Taper Length (ft)	25			25			25			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt		0.972				0.850			0.850		0.999	
Flt Protected		0.964			0.955					0.950		
Satd. Flow (prot)	0	1745	0	0	1779	1583	0	3505	1583	1530	3403	0
Flt Permitted		0.964			0.955					0.950		
Satd. Flow (perm)	0	1745	0	0	1779	1583	0	3505	1583	1530	3403	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1002			1007			336			581	
Travel Time (s)		27.3			27.5			5.1			8.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	18%	6%	2%
Adj. Flow (vph)	37	2	10	19	1	49	9	1967	72	156	1192	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	20	49	0	1976	72	156	1199	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 98.2%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	7.7

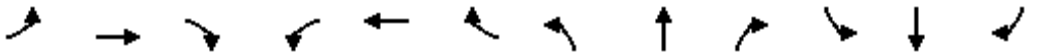
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	2	9	17	1	44	8	1770	65	140	1073	6
Future Vol, veh/h	33	2	9	17	1	44	8	1770	65	140	1073	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	175	-	-	125	300	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	3	2	18	6	2
Mvmt Flow	37	2	10	19	1	49	9	1967	72	156	1192	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2510	3493	600	2894	3496	984	1199	0	-	1967	0	0
Stage 1	1508	1508	-	1985	1985	-	-	-	-	-	-	-
Stage 2	1002	1985	-	909	1511	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.46	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.38	-	-
Pot Cap-1 Maneuver	~ 14	6	444	~ 7	6	248	578	-	0	236	-	-
Stage 1	126	182	-	63	105	-	-	-	0	-	-	-
Stage 2	260	105	-	296	181	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	~ 5	~ 2	444	~ 3	2	248	578	-	-	236	-	-
Mov Cap-2 Maneuver	~ 35	~ -413	-	35	33	-	-	-	-	-	-	-
Stage 1	126	62	-	63	105	-	-	-	-	-	-	-
Stage 2	207	105	-	95	61	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	291.4	74.5	0.1	5.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	578	-	46	35	248	236	-	-
HCM Lane V/C Ratio	0.015	-	1.063	0.571	0.197	0.659	-	-
HCM Control Delay (s)	11.3	0	291.4	200.5	23	45.6	-	-
HCM Lane LOS	B	A	F	F	C	E	-	-
HCM 95th %tile Q(veh)	0	-	4.5	2	0.7	4.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



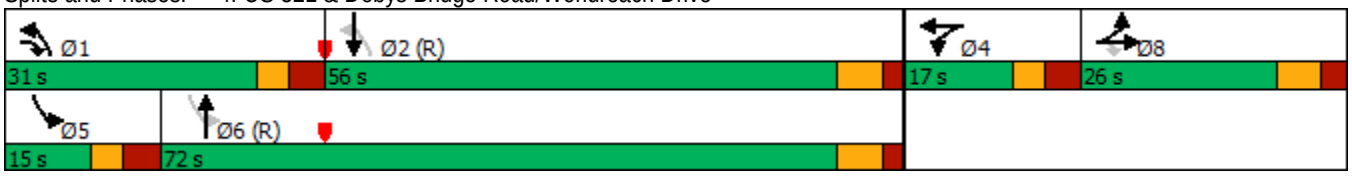
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	146	385	78	75	105	384	1540	160	56	925	74
Future Volume (vph)	236	146	385	78	75	105	384	1540	160	56	925	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	200		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.912			0.986			0.989	
Flt Protected	0.950	0.987		0.950			0.950			0.950		
Satd. Flow (prot)	1651	1777	1531	1642	1555	0	1829	3494	0	1838	3295	0
Flt Permitted	0.950	0.987		0.950			0.090			0.059		
Satd. Flow (perm)	1651	1777	1531	1642	1555	0	173	3494	0	114	3295	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			85		42			12				
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1027			1075			1156			2153	
Travel Time (s)		20.0			29.3			22.5			41.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	5%	2%	4%	3%	3%	3%	2%	2%	4%	21%
Adj. Flow (vph)	262	162	428	87	83	117	427	1711	178	62	1028	82
Shared Lane Traffic (%)	21%											
Lane Group Flow (vph)	207	217	428	87	200	0	427	1889	0	62	1110	0
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	15.0	15.0	14.6	14.5	14.5		14.6	26.6		14.6	26.6	
Total Split (s)	26.0	26.0	31.0	17.0	17.0		31.0	72.0		15.0	56.0	
Total Split (%)	20.0%	20.0%	23.8%	13.1%	13.1%		23.8%	55.4%		11.5%	43.1%	
Maximum Green (s)	19.0	19.0	24.4	10.5	10.5		24.4	65.4		8.4	49.4	
Yellow Time (s)	4.2	4.2	3.0	3.0	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8	3.6	3.5	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	6.6	6.5	6.5		6.6	6.6		6.6	6.6	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	18.3	18.3	50.4	10.5	10.5		74.5	69.3		75.8	49.4	
Actuated g/C Ratio	0.14	0.14	0.39	0.08	0.08		0.57	0.53		0.58	0.38	
v/c Ratio	0.89	0.87	0.66	0.66	1.22		1.02	1.01		0.36	0.89	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	91.0	85.8	31.7	81.5	180.0		62.5	42.2		18.3	47.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	91.0	85.8	31.7	81.5	180.0		62.5	42.2		18.3	47.6	
LOS	F	F	C	F	F		E	D		B	D	
Approach Delay		59.9			150.1			45.9			46.0	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	182	189	238	72	~173		~337	~905		19	456	
Queue Length 95th (ft)	#328	#333	361	#148	#333		m310	m#505		45	#559	
Internal Link Dist (ft)		947			995			1076			2073	
Turn Bay Length (ft)	200			100			625			200		
Base Capacity (vph)	241	259	645	132	164		418	1868		178	1252	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.84	0.66	0.66	1.22		1.02	1.01		0.35	0.89	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 55.0 Intersection LOS: D
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive



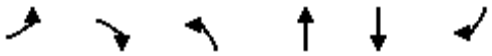
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	131	215	122	166	101	269	1596	266	98	896	392
Future Volume (vph)	257	131	215	122	166	101	269	1596	266	98	896	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.907			0.943				0.850		0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1793	0	1796	1776	0	1869	3388	1553	1807	3314	0
Flt Permitted	0.225			0.281			0.071			0.063		
Satd. Flow (perm)	431	1793	0	531	1776	0	140	3388	1553	120	3314	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			20				296		67	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			1156	
Travel Time (s)		20.6			20.7			15.7			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	3%	4%	6%	4%	2%
Adj. Flow (vph)	286	146	239	136	184	112	299	1773	296	109	996	436
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	385	0	136	296	0	299	1773	296	109	1432	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	15.2		15.2	15.2		14.4	21.4	21.4	14.4	21.4	
Total Split (s)	20.0	45.0		45.0	25.0		22.0	70.0	70.0	15.0	63.0	
Total Split (%)	15.4%	34.6%		34.6%	19.2%		16.9%	53.8%	53.8%	11.5%	48.5%	
Maximum Green (s)	13.4	37.8		37.8	17.8		15.6	63.6	63.6	8.6	56.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	31.8	37.8		37.8	17.8		72.2	63.8	63.8	72.2	56.6	
Actuated g/C Ratio	0.24	0.29		0.29	0.14		0.56	0.49	0.49	0.56	0.44	
v/c Ratio	1.15	0.68		0.88	1.14		1.05	1.07	0.32	0.62	0.97	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	141.6	40.7		92.3	144.6		104.2	74.6	3.0	39.1	30.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	141.6	40.7		92.3	144.6		104.2	74.6	3.0	39.1	30.6	
LOS	F	D		F	F		F	E	A	D	C	
Approach Delay		83.7			128.1			69.4			31.2	
Approach LOS		F			F			E			C	
Queue Length 50th (ft)	~228	242		109	~276		~219	~870	0	53	226	
Queue Length 95th (ft)	#407	358		#238	#462		#406	#1008	47	m72	#743	
Internal Link Dist (ft)		980			983			954			1076	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	248	566		154	260		285	1663	912	178	1480	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	1.15	0.68		0.88	1.14		1.05	1.07	0.32	0.61	0.97	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 24 (18%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 64.6		Intersection LOS: E	
Intersection Capacity Utilization 103.5%		ICU Level of Service G	
Analysis Period (min) 15			
~	Volume exceeds capacity, queue is theoretically infinite.		
	Queue shown is maximum after two cycles.		
#	95th percentile volume exceeds capacity, queue may be longer.		
	Queue shown is maximum after two cycles.		
m	Volume for 95th percentile queue is metered by upstream signal.		

Splits and Phases: 5: US 521 & River Road/Collins Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	15	0	1843	1093	6
Future Volume (vph)	0	15	0	1843	1093	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3505	3403	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3505	3403	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1002			2153	336	
Travel Time (s)	27.3			32.6	5.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	6%	2%
Adj. Flow (vph)	0	17	0	2048	1214	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	0	2048	1221	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	0	1843	1093	6
Future Vol, veh/h	0	15	0	1843	1093	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	3	6	2
Mvmt Flow	0	17	0	2048	1214	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	611	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	437	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	437	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	437	-	-
HCM Lane V/C Ratio	-	0.038	-	-
HCM Control Delay (s)	-	13.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

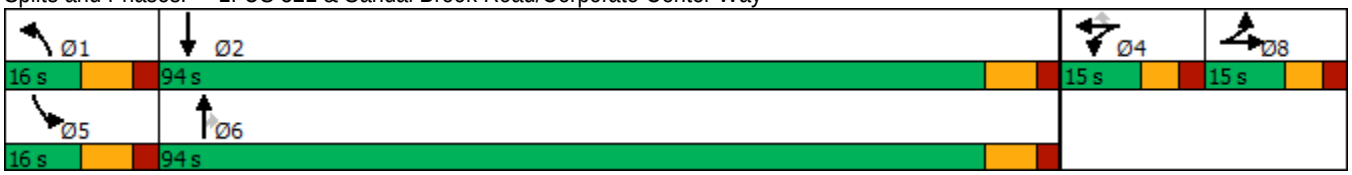
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	7	37	2	8	148	66	1495	6	49	1964	34
Future Volume (vph)	36	7	37	2	8	148	66	1495	6	49	1964	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	13	12	13	13	12	12
Storage Length (ft)	0		0	125		0	225		150	575		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			75			150			300		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.938			0.865	0.850			0.850		0.997	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1758	0	1770	1531	1504	1829	3539	1636	3547	3529	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1758	0	1770	1531	1504	1829	3539	1636	3547	3529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			79	153			142		2	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1038			1040			805			1074	
Travel Time (s)		28.3			28.4			12.2			16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	40	8	41	2	9	164	73	1661	7	54	2182	38
Shared Lane Traffic (%)						48%						
Lane Group Flow (vph)	0	89	0	2	88	85	73	1661	7	54	2220	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Detector Phase	8	8		4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	14.6		14.6	14.6	14.6	16.0	23.0	23.0	16.0	23.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	16.0	94.0	94.0	16.0	94.0	
Total Split (%)	10.7%	10.7%		10.7%	10.7%	10.7%	11.4%	67.1%	67.1%	11.4%	67.1%	
Maximum Green (s)	8.4	8.4		8.4	8.4	8.4	8.0	86.0	86.0	8.0	86.0	
Yellow Time (s)	3.9	3.9		3.9	3.9	3.9	5.4	5.4	5.4	5.4	5.4	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.6		6.6	6.6	6.6	8.0	8.0	8.0	8.0	8.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		8.3		8.2	8.2	8.2	8.0	89.2	89.2	8.0	86.0	
Actuated g/C Ratio		0.06		0.06	0.06	0.06	0.06	0.64	0.64	0.06	0.62	
v/c Ratio		0.71		0.02	0.54	0.37	0.70	0.73	0.01	0.27	1.02	
Control Delay		76.1		62.5	28.6	4.4	97.3	20.6	0.0	66.7	51.9	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		76.1		62.5	28.6	4.4	97.3	20.6	0.0	66.7	51.9	
LOS		E		E	C	A	F	C	A	E	D	

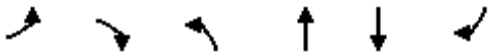
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		76.1			17.3			23.7			52.2	
Approach LOS		E			B			C			D	
Queue Length 50th (ft)		60		2	8	0	66	544	0	24	~1123	
Queue Length 95th (ft)		#145		11	67	0	#147	643	0	48	#1263	
Internal Link Dist (ft)		958			960			725			994	
Turn Bay Length (ft)				125			225		150	575		
Base Capacity (vph)		127		106	166	234	104	2260	1096	203	2173	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.70		0.02	0.53	0.36	0.70	0.73	0.01	0.27	1.02	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 139.7			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 39.7		Intersection LOS: D	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 521 & Sandal Brook Road/Corporate Center Way





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	62	33	1554	1966	27
Future Volume (vph)	27	62	33	1554	1966	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.906					0.850
Flt Protected	0.985		0.950			
Satd. Flow (prot)	1662	0	1626	3539	3539	1368
Flt Permitted	0.985		0.950			
Satd. Flow (perm)	1662	0	1626	3539	3539	1368
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	11%	2%	2%	22%
Adj. Flow (vph)	30	69	37	1727	2184	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	37	1727	2184	30
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.3%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4

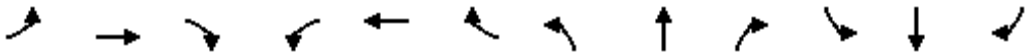
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	62	33	1554	1966	27
Future Vol, veh/h	27	62	33	1554	1966	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	275
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	11	2	2	22
Mvmt Flow	30	69	37	1727	2184	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3122	1092	2214	0	-	0
Stage 1	2184	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.32	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.31	-	-	-
Pot Cap-1 Maneuver	~ 9	210	205	-	-	-
Stage 1	72	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 7	210	205	-	-	-
Mov Cap-2 Maneuver	47	-	-	-	-	-
Stage 1	59	-	-	-	-	-
Stage 2	341	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	157.7	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	205	-	102	-	-
HCM Lane V/C Ratio	0.179	-	0.969	-	-
HCM Control Delay (s)	26.3	-	157.7	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	5.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1	6	75	1	150	25	1409	32	104	1929	20
Future Volume (vph)	23	1	6	75	1	150	25	1409	32	104	1929	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		175	0		125	300		0
Storage Lanes	0		0	0		1	0		1	1		0
Taper Length (ft)	25			25			25			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt		0.972				0.850			0.850		0.998	
Flt Protected		0.963			0.953			0.999		0.950		
Satd. Flow (prot)	0	1744	0	0	1775	1583	0	3536	1583	1770	3532	0
Flt Permitted		0.963			0.953			0.999		0.950		
Satd. Flow (perm)	0	1744	0	0	1775	1583	0	3536	1583	1770	3532	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1002			1007			336			581	
Travel Time (s)		27.3			27.5			5.1			8.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	1	7	83	1	167	28	1566	36	116	2143	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	0	84	167	0	1594	36	116	2165	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 101.5%		ICU Level of Service G	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	111.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1	6	75	1	150	25	1409	32	104	1929	20
Future Vol, veh/h	23	1	6	75	1	150	25	1409	32	104	1929	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	175	-	-	125	300	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	1	7	83	1	167	28	1566	36	116	2143	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3226	4008	1083	2926	4019	783	2165	0	-	1566	0	0
Stage 1	2386	2386	-	1622	1622	-	-	-	-	-	-	-
Stage 2	840	1622	-	1304	2397	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 4	3	213	~ 7	3	337	244	-	0	418	-	-
Stage 1	35	65	-	107	160	-	-	-	0	-	-	-
Stage 2	326	160	-	169	64	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	0	0	213	~ 1	0	337	244	-	-	418	-	-
Mov Cap-2 Maneuver	~ 4	83	-	~ 11	8	-	-	-	-	-	-	-
Stage 1	~ 4	47	-	~ 13	19	-	-	-	-	-	-	-
Stage 2	~ 18	19	-	115	46	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 3945.7	$ 1252.9	9.4	0.9
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	244	-	5	11	337	418	-	-
HCM Lane V/C Ratio	0.114	-	6.667	7.677	0.495	0.276	-	-
HCM Control Delay (s)	21.6	9.2	$ 3945.7	$ 3675	25.7	16.9	-	-
HCM Lane LOS	C	A	F	F	D	C	-	-
HCM 95th %tile Q(veh)	0.4	-	5.7	11.9	2.6	1.1	-	-

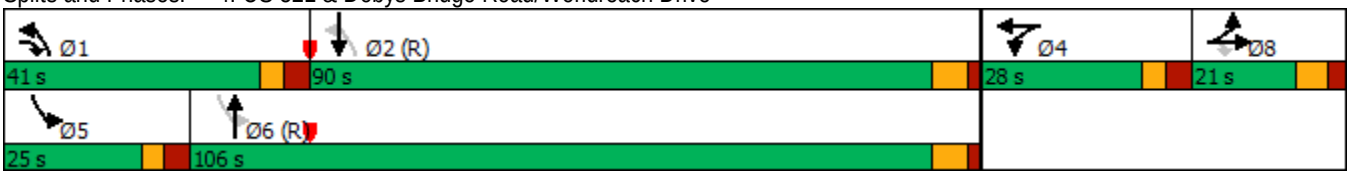
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	125	636	175	161	84	459	1233	135	140	1639	112
Future Volume (vph)	183	125	636	175	161	84	459	1233	135	140	1639	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	200		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.949			0.985			0.990	
Flt Protected	0.950	0.990		0.950			0.950			0.950		
Satd. Flow (prot)	1732	1804	1561	1642	1640	0	1847	3521	0	1838	3404	0
Flt Permitted	0.950	0.990		0.950			0.048			0.083		
Satd. Flow (perm)	1732	1804	1561	1642	1640	0	93	3521	0	161	3404	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			61		12			10				
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		1027			1075			1156			2153	
Travel Time (s)		20.0			29.3			17.5			32.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	203	139	707	194	179	93	510	1370	150	156	1821	124
Shared Lane Traffic (%)	17%											
Lane Group Flow (vph)	168	174	707	194	272	0	510	1520	0	156	1945	0
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	15.0	15.0	14.6	14.5	14.5		14.6	26.6		14.6	26.6	
Total Split (s)	21.0	21.0	41.0	28.0	28.0		41.0	106.0		25.0	90.0	
Total Split (%)	11.7%	11.7%	22.8%	15.6%	15.6%		22.8%	58.9%		13.9%	50.0%	
Maximum Green (s)	14.0	14.0	34.4	21.5	21.5		34.4	99.4		18.4	83.4	
Yellow Time (s)	4.2	4.2	3.0	3.0	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8	3.6	3.5	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	6.6	6.5	6.5		6.6	6.6		6.6	6.6	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.0	14.0	55.4	21.5	21.5		117.8	104.6		117.8	83.4	
Actuated g/C Ratio	0.08	0.08	0.31	0.12	0.12		0.65	0.58		0.65	0.46	
v/c Ratio	1.25	1.24	1.35	0.99	1.32		1.29	0.74		0.69	1.23	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	222.6	217.6	213.3	137.9	227.4		199.6	19.2		36.7	151.7	
Queue Delay	0.0	0.0	0.1	0.0	0.0		0.0	0.1		0.0	0.7	
Total Delay	222.6	217.6	213.3	137.9	227.4		199.6	19.4		36.7	152.4	
LOS	F	F	F	F	F		F	B		D	F	
Approach Delay		215.5			190.1			64.7			143.8	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~258	~267	~1042	233	~401		~725	270		62	~1488	
Queue Length 95th (ft)	#436	#447	#1304	#411	#604		#967	391		148	#1613	
Internal Link Dist (ft)		947			995			1076			2073	
Turn Bay Length (ft)	200			100			625			200		
Base Capacity (vph)	134	140	522	196	206		396	2050		280	1577	
Starvation Cap Reductn	0	0	0	0	0		0	70		0	0	
Spillback Cap Reductn	0	0	5	0	0		0	0		0	292	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	1.25	1.24	1.37	0.99	1.32		1.29	0.77		0.56	1.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 64 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay: 132.5		Intersection LOS: F	
Intersection Capacity Utilization 118.5%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive



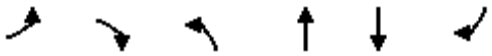
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	26	67	256	28	166	53	1567	308	150	2261	53
Future Volume (vph)	58	26	67	256	28	166	53	1567	308	150	2261	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.892			0.872				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1763	0	1796	1649	0	1888	3421	1583	1878	3509	0
Flt Permitted	0.194			0.661			0.034			0.055		
Satd. Flow (perm)	372	1763	0	1250	1649	0	68	3421	1583	109	3509	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			121				342		3	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			1156	
Travel Time (s)		20.6			20.7			15.7			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%
Adj. Flow (vph)	64	29	74	284	31	184	59	1741	342	167	2512	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	103	0	284	215	0	59	1741	342	167	2571	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	15.2		15.2	15.2		14.4	21.4	21.4	14.4	21.4	
Total Split (s)	15.0	43.0		43.0	28.0		15.0	115.0	115.0	22.0	122.0	
Total Split (%)	8.3%	23.9%		23.9%	15.6%		8.3%	63.9%	63.9%	12.2%	67.8%	
Maximum Green (s)	8.4	35.8		35.8	20.8		8.6	108.6	108.6	15.6	115.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	29.8	35.8		35.8	20.9		124.2	110.5	110.5	124.2	116.0	
Actuated g/C Ratio	0.17	0.20		0.20	0.12		0.69	0.61	0.61	0.69	0.64	
v/c Ratio	0.50	0.26		1.15	0.72		0.46	0.83	0.31	0.80	1.14	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	73.6	26.6		162.6	47.7		32.9	32.2	2.1	47.5	77.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.1	
Total Delay	73.6	26.6		162.6	47.7		32.9	32.2	2.1	47.5	77.4	
LOS	E	C		F	D		C	C	A	D	E	
Approach Delay		44.6			113.1			27.4			75.6	
Approach LOS		D			F			C			E	
Queue Length 50th (ft)	63	38		~390	109		18	847	0	115	~1838	
Queue Length 95th (ft)	113	98		#593	214		69	954	42	m76	m436	
Internal Link Dist (ft)		980			983			954			1076	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	129	401		248	298		134	2100	1103	229	2262	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	71	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.50	0.26		1.15	0.72		0.44	0.83	0.31	0.73	1.17	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 56 (31%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 59.4	Intersection LOS: E
Intersection Capacity Utilization 114.4%	ICU Level of Service H
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 5: US 521 & River Road/Collins Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	10	0	1466	1994	16
Future Volume (vph)	0	10	0	1466	1994	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1001			2153	336	
Travel Time (s)	27.3			32.6	5.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	11	0	1629	2216	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	0	1629	2234	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

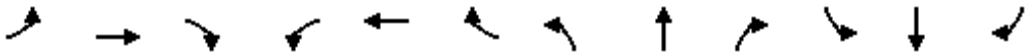
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	1466	1994	16
Future Vol, veh/h	0	10	0	1466	1994	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	0	1629	2216	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1117	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	202	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	202	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	202	-	-
HCM Lane V/C Ratio	-	0.055	-	-
HCM Control Delay (s)	-	23.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

2025 Build-out Conditions
Improved



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2	9	17	1	44	8	1770	65	140	1073	6
Future Volume (vph)	33	2	9	17	1	44	8	1770	65	140	1073	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		175	100		125	300		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25			25			100			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.999	
Flt Protected		0.955			0.955		0.950			0.950		
Satd. Flow (prot)	0	1779	1583	0	1779	1583	1770	3505	1583	1530	3403	0
Flt Permitted		0.955			0.955		0.950			0.950		
Satd. Flow (perm)	0	1779	1583	0	1779	1583	1770	3505	1583	1530	3403	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1002			1007			336			581	
Travel Time (s)		27.3			27.5			5.1			8.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	18%	6%	2%
Adj. Flow (vph)	37	2	10	19	1	49	9	1967	72	156	1192	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	10	0	20	49	9	1967	72	156	1199	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	7.8

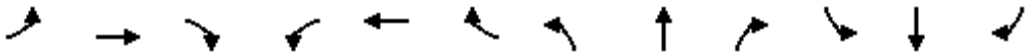
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	2	9	17	1	44	8	1770	65	140	1073	6
Future Vol, veh/h	33	2	9	17	1	44	8	1770	65	140	1073	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	100	-	-	175	100	-	125	300	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	3	2	18	6	2
Mvmt Flow	37	2	10	19	1	49	9	1967	72	156	1192	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2510	3493	600	2894	3496	984	1199	0	-	1967	0	0
Stage 1	1508	1508	-	1985	1985	-	-	-	-	-	-	-
Stage 2	1002	1985	-	909	1511	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.46	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.38	-	-
Pot Cap-1 Maneuver	~ 14	6	444	~ 7	6	248	578	-	0	236	-	-
Stage 1	126	182	-	63	105	-	-	-	0	-	-	-
Stage 2	260	105	-	296	181	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	~ 5	~ 2	444	~ 3	2	248	578	-	-	236	-	-
Mov Cap-2 Maneuver	~ 33	~ -601	-	34	32	-	-	-	-	-	-	-
Stage 1	124	62	-	62	103	-	-	-	-	-	-	-
Stage 2	203	103	-	95	61	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	289.9	77.2	0.1	5.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	578	-	35	444	34	248	236	-	-
HCM Lane V/C Ratio	0.015	-	1.111	0.023	0.588	0.197	0.659	-	-
HCM Control Delay (s)	11.3	-	$ 361	13.3	209.6	23	45.6	-	-
HCM Lane LOS	B	-	F	B	F	C	E	-	-
HCM 95th %tile Q(veh)	0	-	4.1	0.1	2	0.7	4.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1	6	75	1	150	25	1409	32	104	1929	20
Future Volume (vph)	23	1	6	75	1	150	25	1409	32	104	1929	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		175	100		125	300		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25			25			100			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.998	
Flt Protected		0.954			0.953		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1775	1583	1770	3539	1583	1770	3532	0
Flt Permitted		0.954			0.953		0.950			0.950		
Satd. Flow (perm)	0	1777	1583	0	1775	1583	1770	3539	1583	1770	3532	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1002			1007			336			581	
Travel Time (s)		27.3			27.5			5.1			8.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	1	7	83	1	167	28	1566	36	116	2143	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	7	0	84	167	28	1566	36	116	2165	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 78.2%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	21.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1	6	75	1	150	25	1409	32	104	1929	20
Future Vol, veh/h	23	1	6	75	1	150	25	1409	32	104	1929	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	100	-	-	175	100	-	125	300	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	1	7	83	1	167	28	1566	36	116	2143	22

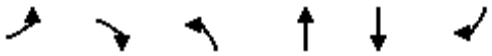
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3226	4008	1083	2926	4019	783	2165	0	-	1566	0	0
Stage 1	2386	2386	-	1622	1622	-	-	-	-	-	-	-
Stage 2	840	1622	-	1304	2397	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 4	3	213	~ 7	3	337	244	-	0	418	-	-
Stage 1	35	65	-	107	160	-	-	-	0	-	-	-
Stage 2	326	160	-	169	64	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	~ 1	2	213	~ 5	2	337	244	-	-	418	-	-
Mov Cap-2 Maneuver	~ 14	16	-	~ 44	15	-	-	-	-	-	-	-
Stage 1	31	47	-	95	142	-	-	-	-	-	-	-
Stage 2	145	142	-	115	46	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 786.4	236.8	0.4	0.9
HCM LOS	F	F		

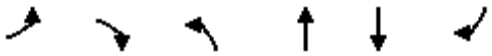
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	244	-	14	213	43	337	418	-	-
HCM Lane V/C Ratio	0.114	-	1.905	0.031	1.964	0.495	0.276	-	-
HCM Control Delay (s)	21.6	-	$ 977.4	22.4	$ 653.5	25.7	16.9	-	-
HCM Lane LOS	C	-	F	C	F	D	C	-	-
HCM 95th %tile Q(veh)	0.4	-	4.1	0.1	8.8	2.6	1.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

2022 Build-out Conditions
Target LOS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	21	66	1785	1190	54
Future Volume (vph)	40	21	66	1785	1190	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.954					0.850
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1110	0	1626	3539	3406	1324
Flt Permitted	0.968		0.186			
Satd. Flow (perm)	1110	0	318	3539	3406	1324
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	23					60
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	68%	39%	11%	2%	6%	26%
Adj. Flow (vph)	44	23	73	1983	1322	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	73	1983	1322	60
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Detector Phase	4		2	2	6	6
Switch Phase						
Minimum Initial (s)	8.0		15.0	15.0	15.0	15.0
Minimum Split (s)	15.0		22.0	22.0	22.0	22.0
Total Split (s)	15.0		45.0	45.0	45.0	45.0
Total Split (%)	25.0%		75.0%	75.0%	75.0%	75.0%
Maximum Green (s)	9.0		39.0	39.0	39.0	39.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	Min	Min
Act Effct Green (s)	9.0		44.2	44.2	44.2	44.2
Actuated g/C Ratio	0.16		0.81	0.81	0.81	0.81
v/c Ratio	0.33		0.28	0.69	0.48	0.06
Control Delay	23.0		8.1	7.9	4.8	1.4
Queue Delay	0.0		0.0	0.2	0.0	0.0
Total Delay	23.0		8.1	8.1	4.8	1.4
LOS	C		A	A	A	A

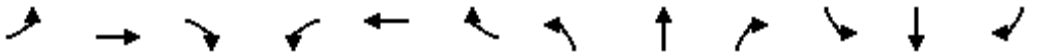


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	23.0			8.1	4.6	
Approach LOS	C			A	A	
Queue Length 50th (ft)	19		9	235	113	0
Queue Length 95th (ft)	46		35	358	167	9
Internal Link Dist (ft)	935			501	725	
Turn Bay Length (ft)			300			275
Base Capacity (vph)	215		255	2838	2731	1073
Starvation Cap Reductn	0		0	186	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.31		0.29	0.75	0.48	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 54.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 67.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: US 521 & Northfield Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2	9	17	1	44	8	1770	65	140	1073	6
Future Volume (vph)	33	2	9	17	1	44	8	1770	65	140	1073	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		175	0		125	300		0
Storage Lanes	0		0	0		1	0		1	1		0
Taper Length (ft)	25			25			25			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt		0.972				0.850			0.850		0.999	
Flt Protected		0.964			0.955					0.950		
Satd. Flow (prot)	0	1745	0	0	1779	1583	0	3505	1583	1530	3403	0
Flt Permitted		0.766			0.787			0.947		0.090		
Satd. Flow (perm)	0	1387	0	0	1466	1583	0	3319	1583	145	3403	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				49			71		2	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1002			1007			336			581	
Travel Time (s)		27.3			27.5			5.1			8.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	18%	6%	2%
Adj. Flow (vph)	37	2	10	19	1	49	9	1967	72	156	1192	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	20	49	0	1976	72	156	1199	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	15.0	15.0		15.0	15.0	15.0	22.0	22.0	22.0	22.0	22.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	135.0	135.0	135.0	135.0	135.0	
Total Split (%)	10.0%	10.0%		10.0%	10.0%	10.0%	90.0%	90.0%	90.0%	90.0%	90.0%	
Maximum Green (s)	9.0	9.0		9.0	9.0	9.0	129.0	129.0	129.0	129.0	129.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min	Min	Min	Min	
Act Effct Green (s)		8.6			8.6	8.6		130.5	130.5	130.5	130.5	
Actuated g/C Ratio		0.06			0.06	0.06		0.89	0.89	0.89	0.89	
v/c Ratio		0.56			0.24	0.35		0.67	0.05	1.22	0.40	
Control Delay		84.0			74.3	24.2		4.4	0.4	166.8	2.3	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.5	
Total Delay		84.0			74.3	24.2		4.4	0.4	166.8	2.8	
LOS		F			E	C		A	A	F	A	
Approach Delay		84.0			38.7			4.3			21.7	

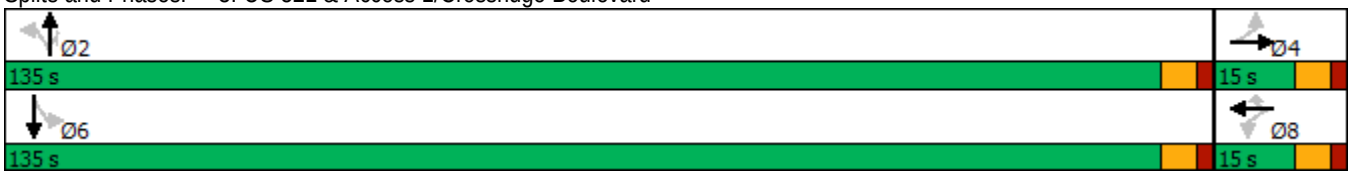
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			D			A			C	
Queue Length 50th (ft)		41			19	0		268	0	~65	101	
Queue Length 95th (ft)		#95			49	44		315	6	#219	119	
Internal Link Dist (ft)		922			927			256			501	
Turn Bay Length (ft)						175			125	300		
Base Capacity (vph)		91			89	143		2950	1415	128	3025	
Starvation Cap Reductn		0			0	0		0	0	0	1232	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.54			0.22	0.34		0.67	0.05	1.22	0.67	

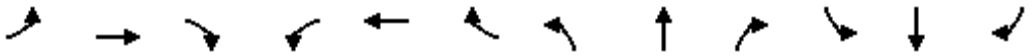
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 146.8			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 103.2%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: US 521 & Access 1/Crossridge Boulevard





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	146	385	78	75	105	384	1540	160	56	925	74
Future Volume (vph)	236	146	385	78	75	105	384	1540	160	56	925	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	200		0
Storage Lanes	2		1	1		0	2		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850		0.912			0.986			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	1919	1531	1642	1555	0	3548	5020	0	1838	4735	0
Flt Permitted	0.346			0.575			0.950			0.065		
Satd. Flow (perm)	633	1919	1531	994	1555	0	3548	5020	0	126	4735	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			428		46			17				
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1027			1075			419			2153	
Travel Time (s)		20.0			29.3			8.2			41.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	5%	2%	4%	3%	3%	3%	2%	2%	4%	21%
Adj. Flow (vph)	262	162	428	87	83	117	427	1711	178	62	1028	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	262	162	428	87	200	0	427	1889	0	62	1110	0
Turn Type	D.P+P	NA	Free	D.P+P	NA		Prot	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4		Free	8						6		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	14.5		14.6	26.6		14.6	26.6	
Total Split (s)	26.0	37.0		15.0	26.0		28.0	63.0		15.0	50.0	
Total Split (%)	20.0%	28.5%		11.5%	20.0%		21.5%	48.5%		11.5%	38.5%	
Maximum Green (s)	19.0	30.0		8.0	19.5		21.4	56.4		8.4	43.4	
Yellow Time (s)	4.2	4.2		4.2	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8		2.8	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	6.5		6.6	6.6		6.6	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			25.0			27.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	34.6	26.6	130.0	34.6	16.9		19.6	63.0		69.5	48.6	
Actuated g/C Ratio	0.27	0.20	1.00	0.27	0.13		0.15	0.48		0.53	0.37	
v/c Ratio	0.81	0.41	0.28	0.29	0.83		0.80	0.77		0.36	0.63	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	55.6	47.4	0.5	33.4	68.5		69.6	25.3		20.1	36.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.6	47.4	0.5	33.4	68.5		69.6	25.3		20.1	36.3	
LOS	E	D	A	C	E		E	C		C	D	
Approach Delay		26.3			57.9			33.5			35.4	
Approach LOS		C			E			C			D	
Queue Length 50th (ft)	171	116	0	51	127		193	276		23	292	
Queue Length 95th (ft)	#267	183	0	91	#235		m227	349		47	351	
Internal Link Dist (ft)		947			995			339			2073	
Turn Bay Length (ft)	200			100			625			200		
Base Capacity (vph)	333	442	1531	304	272		584	2441		178	1770	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.79	0.37	0.28	0.29	0.74		0.73	0.77		0.35	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 26 (20%), Referenced to phase 2:SBT and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 34.2		Intersection LOS: C	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive



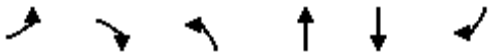
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	131	215	122	166	101	269	1596	266	98	896	392
Future Volume (vph)	257	131	215	122	166	101	269	1596	266	98	896	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.907			0.943				0.850		0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1793	0	1796	1776	0	1869	4868	1553	1807	4762	0
Flt Permitted	0.214			0.353			0.087			0.072		
Satd. Flow (perm)	410	1793	0	667	1776	0	171	4868	1553	137	4762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			20				296		92	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			737	
Travel Time (s)		20.6			20.7			15.7			11.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	3%	4%	6%	4%	2%
Adj. Flow (vph)	286	146	239	136	184	112	299	1773	296	109	996	436
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	385	0	136	296	0	299	1773	296	109	1432	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	15.2		15.2	15.2		14.4	21.4	21.4	14.4	21.4	
Total Split (s)	24.0	54.0		54.0	30.0		25.0	61.0	61.0	15.0	51.0	
Total Split (%)	18.5%	41.5%		41.5%	23.1%		19.2%	46.9%	46.9%	11.5%	39.2%	
Maximum Green (s)	17.4	46.8		46.8	22.8		18.6	54.6	54.6	8.6	44.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	40.1	46.1		46.1	22.2		63.9	55.5	55.5	63.9	45.8	
Actuated g/C Ratio	0.31	0.35		0.35	0.17		0.49	0.43	0.43	0.49	0.35	
v/c Ratio	0.91	0.57		0.58	0.93		0.93	0.85	0.36	0.62	0.82	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	66.5	30.8		45.2	84.6		72.5	38.8	3.8	53.9	25.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.5	30.8		45.2	84.6		72.5	38.8	3.8	53.9	25.9	
LOS	E	C		D	F		E	D	A	D	C	
Approach Delay		46.0			72.2			38.7			27.9	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	181	211		92	232		198	492	0	64	143	
Queue Length 95th (ft)	#336	315		168	#402		#371	561	54	m121	229	
Internal Link Dist (ft)		980			983			954			657	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	315	690		240	327		327	2078	832	178	1736	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.91	0.56		0.57	0.91		0.91	0.85	0.36	0.61	0.82	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 24 (18%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 39.2		Intersection LOS: D	
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 521 & River Road/Collins Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	62	33	1554	1966	27
Future Volume (vph)	27	62	33	1554	1966	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	13
Storage Length (ft)	0	0	300			275
Storage Lanes	1	0	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.906					0.850
Flt Protected	0.985		0.950			
Satd. Flow (prot)	1662	0	1626	3539	3539	1368
Flt Permitted	0.985		0.094			
Satd. Flow (perm)	1662	0	161	3539	3539	1368
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					30
Link Speed (mph)	20			45	45	
Link Distance (ft)	1015			581	805	
Travel Time (s)	34.6			8.8	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	11%	2%	2%	22%
Adj. Flow (vph)	30	69	37	1727	2184	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	37	1727	2184	30
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Detector Phase	4		2	2	6	6
Switch Phase						
Minimum Initial (s)	8.0		15.0	15.0	15.0	15.0
Minimum Split (s)	15.0		22.0	22.0	22.0	22.0
Total Split (s)	15.0		45.0	45.0	45.0	45.0
Total Split (%)	25.0%		75.0%	75.0%	75.0%	75.0%
Maximum Green (s)	9.0		39.0	39.0	39.0	39.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	Min	Min
Act Effct Green (s)	8.8		44.4	44.4	44.4	44.4
Actuated g/C Ratio	0.15		0.74	0.74	0.74	0.74
v/c Ratio	0.39		0.31	0.66	0.83	0.03
Control Delay	27.2		13.7	7.6	13.0	1.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	27.2		13.7	7.6	13.0	1.7
LOS	C		B	A	B	A

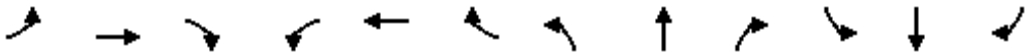
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	27.2			7.7	12.9	
Approach LOS	C			A	B	
Queue Length 50th (ft)	31		5	181	305	0
Queue Length 95th (ft)	68		31	261	#553	7
Internal Link Dist (ft)	935			501	725	
Turn Bay Length (ft)			300			275
Base Capacity (vph)	266		115	2547	2547	993
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.37		0.32	0.68	0.86	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 521 & Northfield Drive





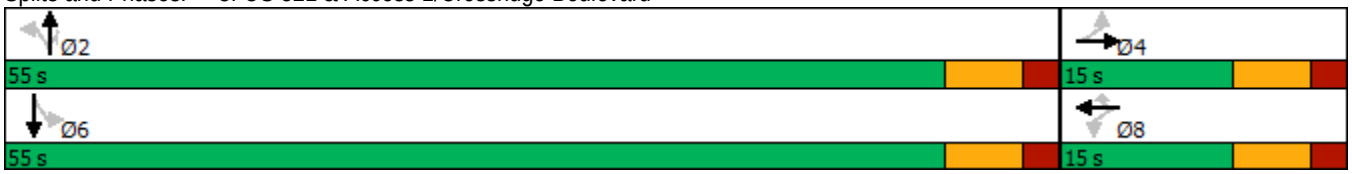
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1	6	75	1	150	25	1409	32	104	1929	20
Future Volume (vph)	23	1	6	75	1	150	25	1409	32	104	1929	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		175	0		125	300		0
Storage Lanes	0		0	0		1	0		1	1		0
Taper Length (ft)	25			25			25			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt		0.972				0.850			0.850		0.998	
Flt Protected		0.963			0.953			0.999		0.950		
Satd. Flow (prot)	0	1744	0	0	1775	1583	0	3536	1583	1770	3532	0
Flt Permitted		0.722			0.704			0.796		0.117		
Satd. Flow (perm)	0	1307	0	0	1311	1583	0	2817	1583	218	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				54			47		3	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1002			1007			336			581	
Travel Time (s)		27.3			27.5			5.1			8.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	1	7	83	1	167	28	1566	36	116	2143	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	0	84	167	0	1594	36	116	2165	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	15.0	15.0		15.0	15.0	15.0	22.0	22.0	22.0	22.0	22.0	
Total Split (s)	15.0	15.0		15.0	15.0	15.0	55.0	55.0	55.0	55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%	21.4%	78.6%	78.6%	78.6%	78.6%	78.6%	
Maximum Green (s)	9.0	9.0		9.0	9.0	9.0	49.0	49.0	49.0	49.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min	Min	Min	Min	
Act Effct Green (s)		8.4			8.7	8.7		47.2	47.2	47.2	47.2	
Actuated g/C Ratio		0.12			0.13	0.13		0.70	0.70	0.70	0.70	
v/c Ratio		0.20			0.50	0.67		0.81	0.03	0.77	0.88	
Control Delay		26.5			39.4	34.8		11.7	1.0	45.2	14.0	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.7	
Total Delay		26.5			39.4	34.8		11.7	1.0	45.2	14.7	
LOS		C			D	C		B	A	D	B	
Approach Delay		26.5			36.4			11.5			16.3	
Approach LOS		C			D			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		11			34	47		202	0	26	306	
Queue Length 95th (ft)		35			#78	#126		300	5	#65	435	
Internal Link Dist (ft)		922			927			256			501	
Turn Bay Length (ft)						175			125	300		
Base Capacity (vph)		179			174	257		2037	1158	157	2555	
Starvation Cap Reductn		0			0	0		0	0	0	143	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.19			0.48	0.65		0.78	0.03	0.74	0.90	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 67.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 104.8%		ICU Level of Service G	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: US 521 & Access 1/Crossridge Boulevard

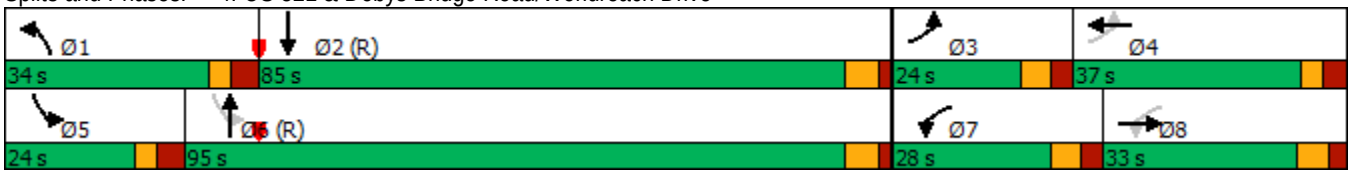


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	125	636	175	161	84	459	1233	135	140	1639	112
Future Volume (vph)	183	125	636	175	161	84	459	1233	135	140	1639	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11	13	12	12	13	11	11
Grade (%)		-6%			8%			-2%			-1%	
Storage Length (ft)	200		0	100		0	625		0	200		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	100			100			225			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850		0.949			0.985			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1823	1919	1561	1642	1640	0	3583	5059	0	1838	4891	0
Flt Permitted	0.193			0.525			0.950			0.105		
Satd. Flow (perm)	370	1919	1561	908	1640	0	3583	5059	0	203	4891	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			296		13			14				
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		1027			1075			531			2153	
Travel Time (s)		20.0			29.3			8.0			32.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	203	139	707	194	179	93	510	1370	150	156	1821	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	139	707	194	272	0	510	1520	0	156	1945	0
Turn Type	D.P+P	NA	Free	D.P+P	NA		Prot	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4		Free	8						6		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	20.0		8.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	14.5		14.6	26.6		14.6	26.6	
Total Split (s)	24.0	33.0		28.0	37.0		34.0	95.0		24.0	85.0	
Total Split (%)	13.3%	18.3%		15.6%	20.6%		18.9%	52.8%		13.3%	47.2%	
Maximum Green (s)	17.0	26.0		21.0	30.5		27.4	88.4		17.4	78.4	
Yellow Time (s)	4.2	4.2		4.2	3.0		3.0	4.6		3.0	4.6	
All-Red Time (s)	2.8	2.8		2.8	3.5		3.6	2.0		3.6	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	6.5		6.6	6.6		6.6	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		35.0			35.0			25.0			27.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	46.4	27.0	180.0	46.4	30.0		27.2	93.9		106.4	79.2	
Actuated g/C Ratio	0.26	0.15	1.00	0.26	0.17		0.15	0.52		0.59	0.44	
v/c Ratio	0.88	0.48	0.45	0.62	0.96		0.94	0.57		0.67	0.90	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	86.1	76.9	1.0	60.4	112.9		121.4	18.4		32.5	53.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.2	
Total Delay	86.1	76.9	1.0	60.4	112.9		121.4	18.4		32.5	54.2	
LOS	F	E	A	E	F		F	B		C	D	
Approach Delay		27.5			91.1			44.3			52.6	
Approach LOS		C			F			D			D	
Queue Length 50th (ft)	190	154	0	183	309		327	180		73	785	
Queue Length 95th (ft)	#314	233	0	265	#501		#429	236		134	852	
Internal Link Dist (ft)		947			995			451			2073	
Turn Bay Length (ft)	200			100			625			200		
Base Capacity (vph)	232	287	1561	327	288		545	2646		282	2153	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	6	0	0		0	0		0	21	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.88	0.48	0.45	0.59	0.94		0.94	0.57		0.55	0.91	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 50 (28%), Referenced to phase 2:SBT and 6:NBSB, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 48.1		Intersection LOS: D	
Intersection Capacity Utilization 93.2%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: US 521 & Dobys Bridge Road/Worldreach Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	26	67	256	28	166	53	1567	308	150	2261	53
Future Volume (vph)	58	26	67	256	28	166	53	1567	308	150	2261	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	14	14	12	12	12	14	11	12	14	12	12
Grade (%)		1%			-3%			0%			1%	
Storage Length (ft)	250		0	175		0	300		525	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			50			150			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.892			0.872				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1819	1763	0	1796	1649	0	1888	4916	1583	1878	5042	0
Flt Permitted	0.338			0.674			0.037			0.080		
Satd. Flow (perm)	647	1763	0	1274	1649	0	74	4916	1583	158	5042	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			148				342		3	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1060			1063			1034			625	
Travel Time (s)		20.6			20.7			15.7			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%
Adj. Flow (vph)	64	29	74	284	31	184	59	1741	342	167	2512	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	103	0	284	215	0	59	1741	342	167	2571	0
Turn Type	D.P+P	NA		D.Pm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Detector Phase	3	8		8	4		1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0	15.0	8.0	15.0	
Minimum Split (s)	14.6	15.2		15.2	15.2		14.4	21.4	21.4	14.4	21.4	
Total Split (s)	15.0	58.0		58.0	43.0		16.0	95.0	95.0	27.0	106.0	
Total Split (%)	8.3%	32.2%		32.2%	23.9%		8.9%	52.8%	52.8%	15.0%	58.9%	
Maximum Green (s)	8.4	50.8		50.8	35.8		9.6	88.6	88.6	20.6	99.6	
Yellow Time (s)	3.0	3.5		3.5	3.5		3.0	4.4	4.4	3.0	4.4	
All-Red Time (s)	3.6	3.7		3.7	3.7		3.4	2.0	2.0	3.4	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	7.2		7.2	7.2		6.4	6.4	6.4	6.4	6.4	
Lead/Lag	Lead				Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0	4.0	3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		33.0		33.0	34.0			18.0	18.0		21.0	
Pedestrian Calls (#/hr)		0		0	0			0	0		0	
Act Effct Green (s)	37.9	43.9		43.9	29.0		116.1	101.1	101.1	116.1	107.7	
Actuated g/C Ratio	0.21	0.24		0.24	0.16		0.64	0.56	0.56	0.64	0.60	
v/c Ratio	0.34	0.21		0.92	0.55		0.45	0.63	0.33	0.68	0.85	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	55.7	18.8		98.7	26.6		32.4	29.6	3.0	56.2	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	55.7	18.8		98.7	26.6		32.4	29.6	3.0	56.2	12.2	
LOS	E	B		F	C		C	C	A	E	B	
Approach Delay		32.9			67.6			25.5			14.9	
Approach LOS		C			E			C			B	
Queue Length 50th (ft)	59	29		326	70		22	513	0	112	237	
Queue Length 95th (ft)	101	81		#458	159		72	640	55	m156	268	
Internal Link Dist (ft)		980			983			954			545	
Turn Bay Length (ft)	250			175			300		525	375		
Base Capacity (vph)	191	548		359	446		144	2762	1039	302	3017	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.34	0.19		0.79	0.48		0.41	0.63	0.33	0.55	0.85	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 56 (31%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 95.0%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 521 & River Road/Collins Road



Queuing and Blocking Reports

2022 Build-out Conditions
Improved

Intersection: 1: US 521 & Sandal Brook Road/Corporate Center Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	396	71	48	16	37	329	328	29	37	712	1043	1045
Average Queue (ft)	163	15	15	2	8	146	169	4	4	71	737	714
95th Queue (ft)	423	55	38	11	25	274	283	21	22	421	1438	1416
Link Distance (ft)	960		975	975		721	721				1021	1021
Upstream Blk Time (%)											65	37
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)		125			225			150	575	575		
Storage Blk Time (%)		1				1	9				68	
Queuing Penalty (veh)		0				0	2				78	

Intersection: 2: US 521 & Northfield Drive

Movement	EB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	T	T	T	T	R
Maximum Queue (ft)	972	209	102	103	755	762	88
Average Queue (ft)	655	42	13	13	617	554	3
95th Queue (ft)	1184	184	141	141	1019	1031	59
Link Distance (ft)	937		498	498	721	721	
Upstream Blk Time (%)	40		0	0	68	57	
Queuing Penalty (veh)	0		2	1	427	356	
Storage Bay Dist (ft)		300					275
Storage Blk Time (%)		3				18	
Queuing Penalty (veh)		32				10	

Intersection: 3: US 521 & Access 1/Crossridge Boulevard

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	L	T	TR
Maximum Queue (ft)	722	96	826	196	19	23	16	446	554	507
Average Queue (ft)	420	11	369	32	2	1	1	426	494	96
95th Queue (ft)	760	70	858	123	14	18	12	486	644	397
Link Distance (ft)	937	937	942		261	261	261		498	498
Upstream Blk Time (%)			9						89	4
Queuing Penalty (veh)			0						539	26
Storage Bay Dist (ft)				175				300		
Storage Blk Time (%)			73					97	21	
Queuing Penalty (veh)			32					520	30	

Intersection: 4: US 521 & Dobys Bridge Road/Worldreach Drive

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	250	299	476	200	748	600	693	755	204	404	430
Average Queue (ft)	184	237	179	135	468	223	431	473	21	104	118
95th Queue (ft)	288	321	385	256	1013	423	660	693	106	330	355
Link Distance (ft)			944		1020		1068	1068		2087	2087
Upstream Blk Time (%)					16						
Queuing Penalty (veh)					0						
Storage Bay Dist (ft)	200	200		100		625			200		
Storage Blk Time (%)	1	26	2	10	77	0	3			7	
Queuing Penalty (veh)	4	103	7	18	60	0	12			4	

Intersection: 5: US 521 & River Road/Collins Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	350	1033	225	1004	450	900	846	321	119	320	373
Average Queue (ft)	323	740	196	732	246	447	407	69	41	138	168
95th Queue (ft)	417	1291	292	1227	490	783	732	284	94	281	317
Link Distance (ft)		993		988		1001	1001			1068	1068
Upstream Blk Time (%)		35		40		1	1				
Queuing Penalty (veh)		0		0		0	0				
Storage Bay Dist (ft)	250		175		300			525	375		
Storage Blk Time (%)	75	9	10	78	5	20	3			0	
Queuing Penalty (veh)	260	24	28	96	42	55	9			0	

Intersection: 6: US 521 & Access 2

Movement	EB	NB	NB
Directions Served	R	T	T
Maximum Queue (ft)	42	1858	1864
Average Queue (ft)	12	791	851
95th Queue (ft)	37	2081	2127
Link Distance (ft)	938	2087	2087
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		1	3
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2779

Intersection: 1: US 521 & Sandal Brook Road/Corporate Center Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	158	19	129	85	92	278	306	16	21	244	838	810
Average Queue (ft)	63	1	54	19	35	133	158	1	4	39	464	437
95th Queue (ft)	123	10	98	54	74	248	269	10	15	209	845	811
Link Distance (ft)	960		975	975		721	721				1021	1021
Upstream Blk Time (%)											2	2
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)		125			225			150	575	575		
Storage Blk Time (%)			0			1	8				7	
Queuing Penalty (veh)			0			1	1				3	

Intersection: 2: US 521 & Northfield Drive

Movement	EB	NB	SB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	615	82	741	739	240
Average Queue (ft)	193	24	170	169	31
95th Queue (ft)	494	61	640	638	209
Link Distance (ft)	937		721	721	
Upstream Blk Time (%)			2	2	
Queuing Penalty (veh)			16	20	
Storage Bay Dist (ft)		300			275
Storage Blk Time (%)				15	
Queuing Penalty (veh)				4	

Intersection: 3: US 521 & Access 1/Crossridge Boulevard

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	L	T	TR
Maximum Queue (ft)	379	66	957	275	62	450	531	529
Average Queue (ft)	211	13	875	40	17	149	171	170
95th Queue (ft)	376	45	1166	194	50	406	553	551
Link Distance (ft)	938	938	942		261		498	498
Upstream Blk Time (%)			78				4	5
Queuing Penalty (veh)			0				42	53
Storage Bay Dist (ft)				175		300		
Storage Blk Time (%)			100	1		1	22	
Queuing Penalty (veh)			150	0		10	23	

Intersection: 4: US 521 & Dobys Bridge Road/Worldreach Drive

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	250	300	998	200	1074	850	1086	1115	300	2114	2118
Average Queue (ft)	155	295	961	180	963	802	879	579	156	1673	1683
95th Queue (ft)	266	331	1021	250	1216	983	1447	1234	325	2465	2469
Link Distance (ft)			944		1020		1068	1068		2088	2088
Upstream Blk Time (%)			68		68		33	2		8	8
Queuing Penalty (veh)			0		0		295	18		78	87
Storage Bay Dist (ft)	200	200		100		625			200		
Storage Blk Time (%)	4	30	66	59	85	76	0		1	52	
Queuing Penalty (veh)	28	193	203	145	150	472	1		9	73	

Intersection: 5: US 521 & River Road/Collins Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	186	173	225	1040	450	1045	1034	675	229	415	397
Average Queue (ft)	71	64	216	792	187	740	706	333	102	262	265
95th Queue (ft)	175	128	260	1279	517	1242	1250	858	191	427	418
Link Distance (ft)		993		988		1001	1001			1068	1068
Upstream Blk Time (%)				44		31	19				
Queuing Penalty (veh)				0		0	0				
Storage Bay Dist (ft)	250		175		300			525	375		
Storage Blk Time (%)	1		54	37		58	31			1	
Queuing Penalty (veh)	1		105	97		31	98			1	

Intersection: 6: US 521 & Access 2

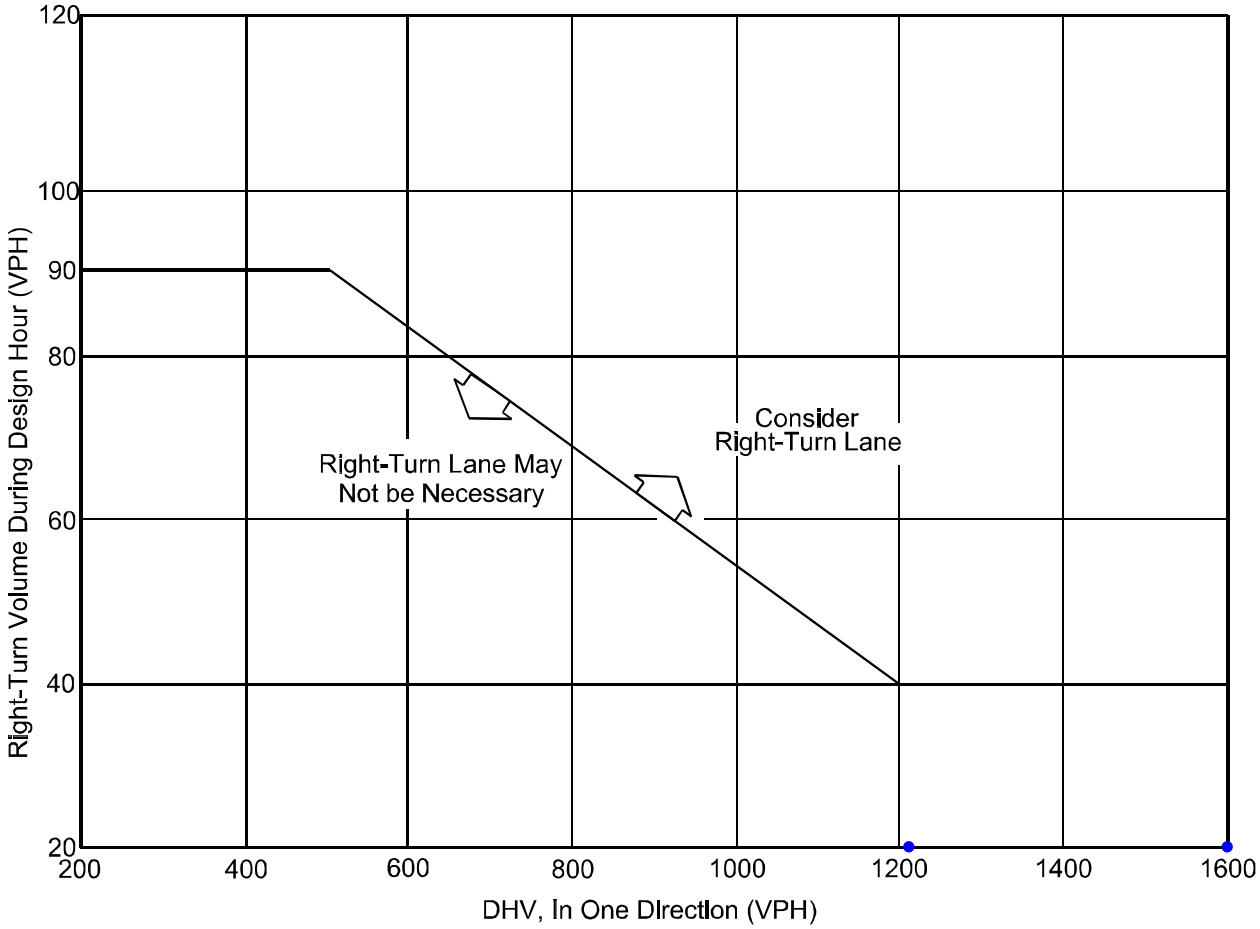
Movement	EB	NB	SB	SB
Directions Served	R	T	T	TR
Maximum Queue (ft)	59	11	297	299
Average Queue (ft)	16	1	113	114
95th Queue (ft)	49	9	326	330
Link Distance (ft)	937	2088	261	261
Upstream Blk Time (%)			7	8
Queuing Penalty (veh)			69	86
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 2564

Auxiliary Turn-Lane Warrants

US 521 and Crossridge Boulevard/Access 1



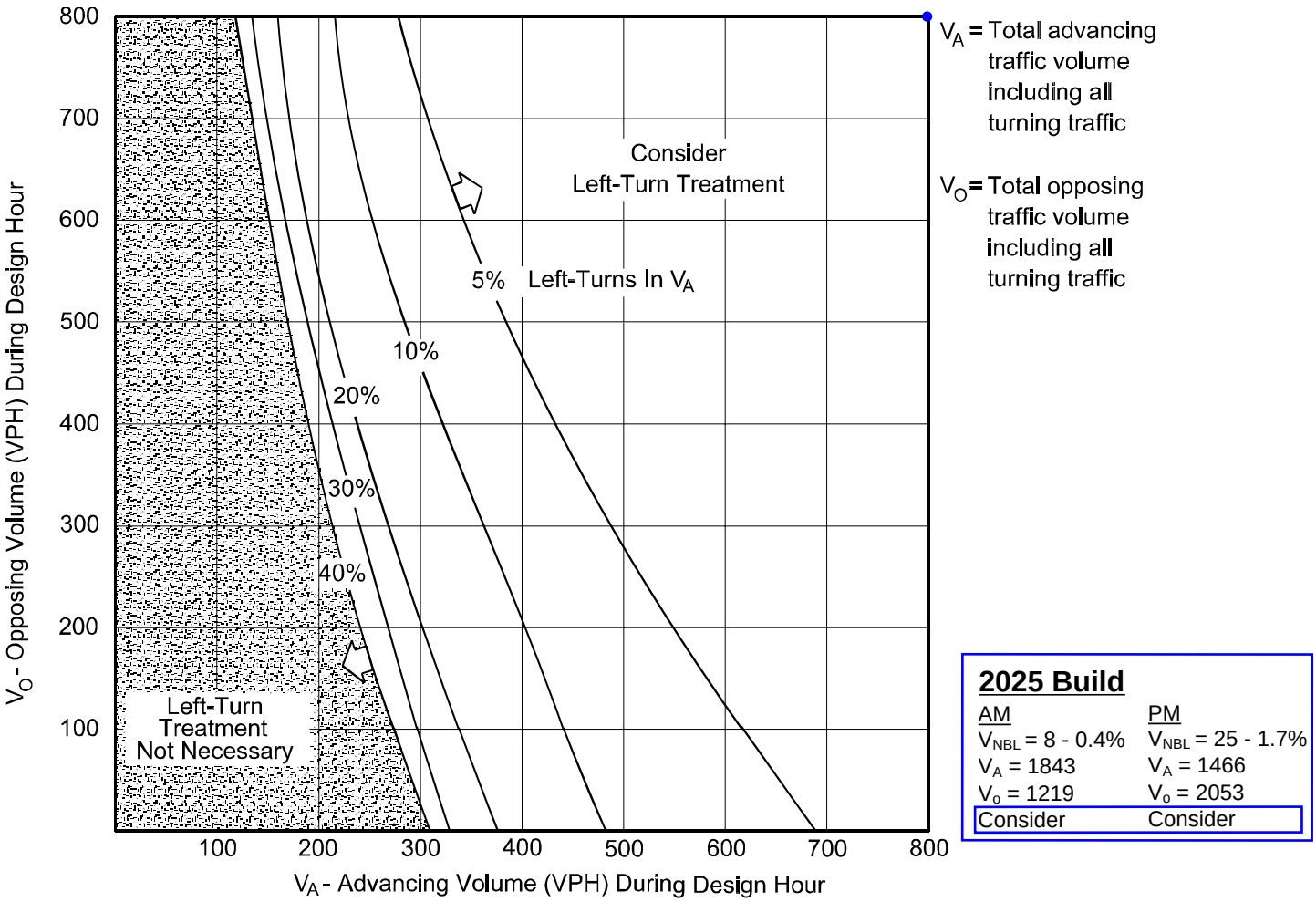
Note: Figure is only applicable on highways with a design speed of 50 miles per hour or greater.

2025 Build

AM	PM
V_{SBR} = 6	V_{SBR} = 20
V_{SB} = 1219	V_{SB} = 2053
Not Necessary	Not Necessary

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON FOUR-LANE HIGHWAYS
Figure 9.5-B

US 521 and Crossridge Boulevard/Access 1



Instructions:

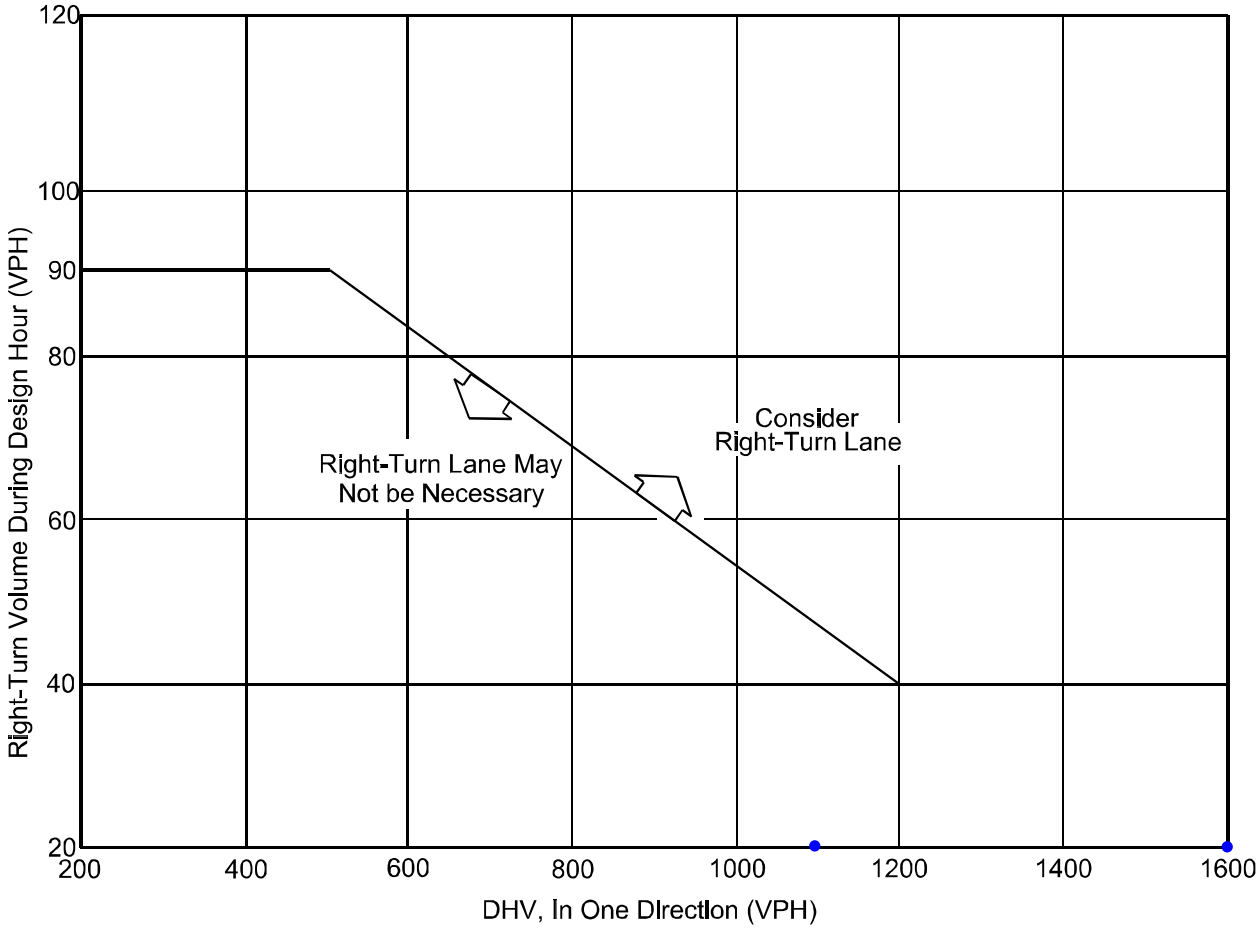
1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (50 mph)
Figure 9.5-E

US 521 and Access 2



Note: Figure is only applicable on highways with a design speed of 50 miles per hour or greater.

2025 Build	
AM	PM
V_{SBR} = 6	V_{SBR} = 16
V_{SB} = 1099	V_{SB} = 2010
Not Necessary	Not Necessary

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON FOUR-LANE HIGHWAYS
Figure 9.5-B

Preliminary Signal Warrant
(Warrant 3)

Tadlock TIA

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

Based on 2009 MUTCD

INTERSECTION NAME: US 521 and Access 1/Crossridge Boulevard

DATE: 03/04/22

INTERSECTION CONDITION: 2025 Buildout Total

MAJOR STREET: US 521

OF APPROACH LANES: 2

MINOR STREET: Access 1/Crossridge Boulevard

OF APPROACH LANES: 2

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

USE 56% REDUCTION (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

	MAJOR ST	MINOR ST	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						WARRANT 2	WARRANT 3
									CONDITION A			CONDITION B				
	BOTH APPROACHES	HIGHEST APPROACH	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES →			420	140		630	70		480	160		720	80			
12:00 AM TO 01:00 AM																
01:00 AM TO 02:00 AM																
02:00 AM TO 03:00 AM																
03:00 AM TO 04:00 AM																
04:00 AM TO 05:00 AM																
05:00 AM TO 06:00 AM																
06:00 AM TO 07:00 AM																
07:00 AM TO 08:00 AM	3,062	40	Y			Y			Y			Y				
08:00 AM TO 09:00 AM																
09:00 AM TO 10:00 AM																
10:00 AM TO 11:00 AM																
11:00 AM TO 12:00 PM																
12:00 PM TO 01:00 PM																
01:00 PM TO 02:00 PM																
02:00 PM TO 03:00 PM																
03:00 PM TO 04:00 PM																
04:00 PM TO 05:00 PM																
05:00 PM TO 06:00 PM	3,519	151	Y	Y	**Y**	Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	**Y**
06:00 PM TO 07:00 PM																
07:00 PM TO 08:00 PM																
08:00 PM TO 09:00 PM																
09:00 PM TO 10:00 PM																
10:00 PM TO 11:00 PM																
11:00 PM TO 12:00 AM																
	6,581	191			**1**			**1**			**0**			**1**	**1**	**1**
			8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS OF BOTH COND. A AND COND. B NEEDED						4 HRS NEEDED	1 HR NEEDED
			NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant

Agenda Item Summary

Ordinance # / Resolution #: RZ-2022-0672 Purser
Contact Person / Sponsor: A. Davis
Department: Planning
Date Requested to be on Agenda: 5/17/2022

Issue for Consideration:
The applicant has requested to rezone a parcel one (1) acre in size. The intent is to renovate the existing structure to convert it to a residence.

Points to Consider:
The subject property is predominately surrounded by AR and a few INS Districts. The surrounding uses are primarily residential in nature, with some timber and agricultural use and a scattering of institutional activities such as churches, cemeteries, and fire departments.

The property currently has an empty building formerly used for commercial purpose. If the rezoning were to be approved (changing the zoning district to Agricultural Residential) the building on the property would need to be removed or renovated as a residence in order to conform to AR District requirements.

Recommendation:
Staff recommends approval of the request to rezone.

ATTACHMENTS:

Description	Upload Date	Type
Planning Staff Report	5/10/2022	Planning Staff Report
Exhibit 1: Application	5/10/2022	Exhibit
Exhibit 2: Zoning Map	5/10/2022	Exhibit

PROPOSAL:	Request to rezone one acre of property
PROPERTY LOCATION:	7984 Taxahaw Road (TM# 0093-00-004.04)
CURRENT ZONING DISTRICT:	Rural Business (RUB) District
PROPOSED ZONING DISTRICT:	Agricultural Residential (AR) District
APPLICANT:	Nathaniel B. Purser
COUNCIL DISTRICT:	District 6, Alan Blackmon

OVERVIEW:

Proposal

The applicant has requested to rezone a parcel one (1) acre in size. The intent is to renovate the existing structure to convert it to a residence, to be utilized for its highest and best use.

Site Information

The parcel proposed to be rezoned is currently in disuse. There is a structure on the property formerly used for commercial purposes. Access will be provided via Taxahaw Road.

Summary of Adjacent Zoning and Uses

The properties are surrounded predominantly by AR zoned properties, with a few INS properties within a one-mile radius.

Adjacent Property	Jurisdiction	Zoning District	Use
North	Lancaster County	AR	Residential & Agricultural
South	Lancaster County	AR	Land Only
East	Lancaster County	AR, INS	Land Only, Cemetery
West	Lancaster County	AR	Residential

ANALYSIS & FINDINGS:

Zoning Districts

As previously noted, the subject property is currently in the RUB District. Pursuant to UDO Chapter 2.3, the RUB District *is established for rural crossroads that represent the small nodes of commercial activity along rural highways. This district will accommodate small-scale businesses, such as gas stations, convenience stores, or restaurants, and serve some daily needs of the surrounding rural population.*

Requested GB

UDO Chapter 2.3 describes the requested AR District as *a district in which the principal uses of the land are restricted due to lack of available utilities, unsuitable soil types, steep slopes, or for the protection of prime agricultural lands.*

Compatibility with Surrounding Area

As noted previously, the subject property is predominately surrounded by AR and a few INS Districts. The surrounding uses are primarily residential in nature, with some timber and agricultural use and a scattering of institutional activities such as churches, cemeteries, and fire departments.

Non-Conformance Status

The property currently has an empty building formerly used for commercial purpose. If the rezoning were to be approved (changing the zoning district to Agricultural Residential) the building on the property would need to be removed or renovated as a residence in order to conform to AR District requirements.

RELATIONSHIP TO PUBLIC PLANS

The Future Land Use Category of the subject properties is Rural Living. The adopted Comprehensive Plan states that the Rural Living Community Type "*includes a variety of residential types, from farmhouses, to large acreage rural family dwellings, to ecologically-minded "conservation subdivisions" whose aim is to preserve open landscape, and traditional buildings, often with a mix of residential and commercial uses that populate crossroads in countryside locations."* The Comprehensive Plan further establishes several possible land use considerations representing typical development in this category which are depicted in the table below.

The Rural Living Future Land Use Category extends across the southern and eastern portions of the county, from Highway 160 in the lower panhandle, down to the city of Lancaster, following the arc east, south and then west around the transitional areas outside of the city of Lancaster. Rural Living is in essence the base zoning district of large portions of the rural eastern and southern parts of the county.

The requested AR District is consistent with Rural Living Future Land Use Category.

Rural Living: Land Use Considerations		
Church	Restaurant	Woodlands/Timber Harvesting
Convenience /Hardware Store	Natural Area	Gas Station
Barns/Storage	Mobile Home	Single-Family Detached Home
Light Industrial (ancillary to farming)	Cultivated Farmland/ Livestock/Arable	Smaller Lot Single-Family and Townhomes

INFRASTRUCTURE CONSIDERATIONS

Transportation

There are no issues with traffic generated from this request at this time.

Public Utilities

There are no issues with public utilities generated from this request at this time.

Public Schools

There are no capacity concerns for the schools within this area pertaining to this change.

PHOTOS OF PROJECT AREA:



Street view of subject parcel.



Aerial view of subject Parcel



Aerial view of area surrounding the subject parcel .

STAFF RECOMMENDATION:

Staff recommends **approval** of the request to rezone one (1) acre (TM# 0093-00-004.04) from Rural Business (RUB) District to Agricultural Residential (AR) District, pursuant to the following findings of fact:

1. That the subject project consists of the following parcel: TM# 0093-00-004.04;
2. That the subject property is currently zoned RUB District and proposed to be rezoned AR District;
3. That the subject property has a Future Land Use designation of Rural Living Use; and
4. That the proposed AR District is generally consistent with the surrounding area which is comprised of AR and INS Districts.

ATTACHMENTS:

1. Rezoning Application
2. Location Map/ Zoning Map

STAFF CONTACT:

Ashley Davis, Senior Planner
adavis@lancastersc.net | 803-416-9433

Lancaster County
South Carolina

Planning Department
P.O. Box 1809, 101 N. Main Street, Lancaster, SC 29721
Phone: 803.285.6005, planning@lancastercountysc.net
www.mylancastersc.org

ZONING MAP AMENDMENT APPLICATION

SUBMITTAL REQUIREMENTS

- Completed Application
- Signatures of Applicant and Property Owner
- Deed and survey plat or boundary survey
- Fees associated with review

GENERAL INFORMATION

Property Address 7984 Texahaw Rd Lancaster Sc

City Lancaster State Sc Zip 29720 Tax Parcel ID 0093-00-004.04

Current Zoning RuB Current Use Not in use

Proposed Zoning AR Total Acres 1 Acre

Project Description convert commercial building into Residential house

Surrounding Property Description Farm Land / Residential

CONTACT INFORMATION

Applicant Name Nathaniel B Parker

Address 169 Bertha Knight Rd

City Lancaster State Sc Zip 29720 Phone 803 246 2595

Fax — Email Parker's heating and air @ gmail.com

Property Owner Name Nathaniel B Parker

Address 169 Bertha Knight Rd

City Lancaster State Sc Zip 29720 Phone 803 246 2595

Fax — Email Parkers heating and Ac @ gmail.com

I hereby certify that I have read this application and the information supplied herein is true and correct to the best of my knowledge. I agree to comply with all applicable County ordinances and state laws related to the use and development of the land. I further certify that I am the property owner, or his/her authorized agent, or the subject property. I understand that falsifying any information herein may result in rejection or denial of this request.

Nathan B Burst — Applicant — March 25/22 — Date

Nathan B Burst — Property Owner(s) — March 25/22 — Date

Attach owner's notarized written authorization with property information if the applicant is not the owner.

LANCASTER COUNTY OFFICE USE ONLY

Application Number _____ Date Received _____ Receipt Number _____

Amount Paid _____ Check Number _____ Cash Amount _____

Received By _____ Planning Commission Meeting Date _____

SCHEDULE/PROCESS 1. Submit Application

- The deadline for this application is at least 45 days prior to the Planning Commission meeting, held every third Tuesday of the month.
- Once an application is submitted, it is placed on the Planning Commission agenda for the following month.
- An application withdrawal should be made in writing and received prior to public notice in order to receive a refund.
- Rezoning Application Fee – single parcel $435.00
- Rezoning Application Fee – multi parcel $610.00

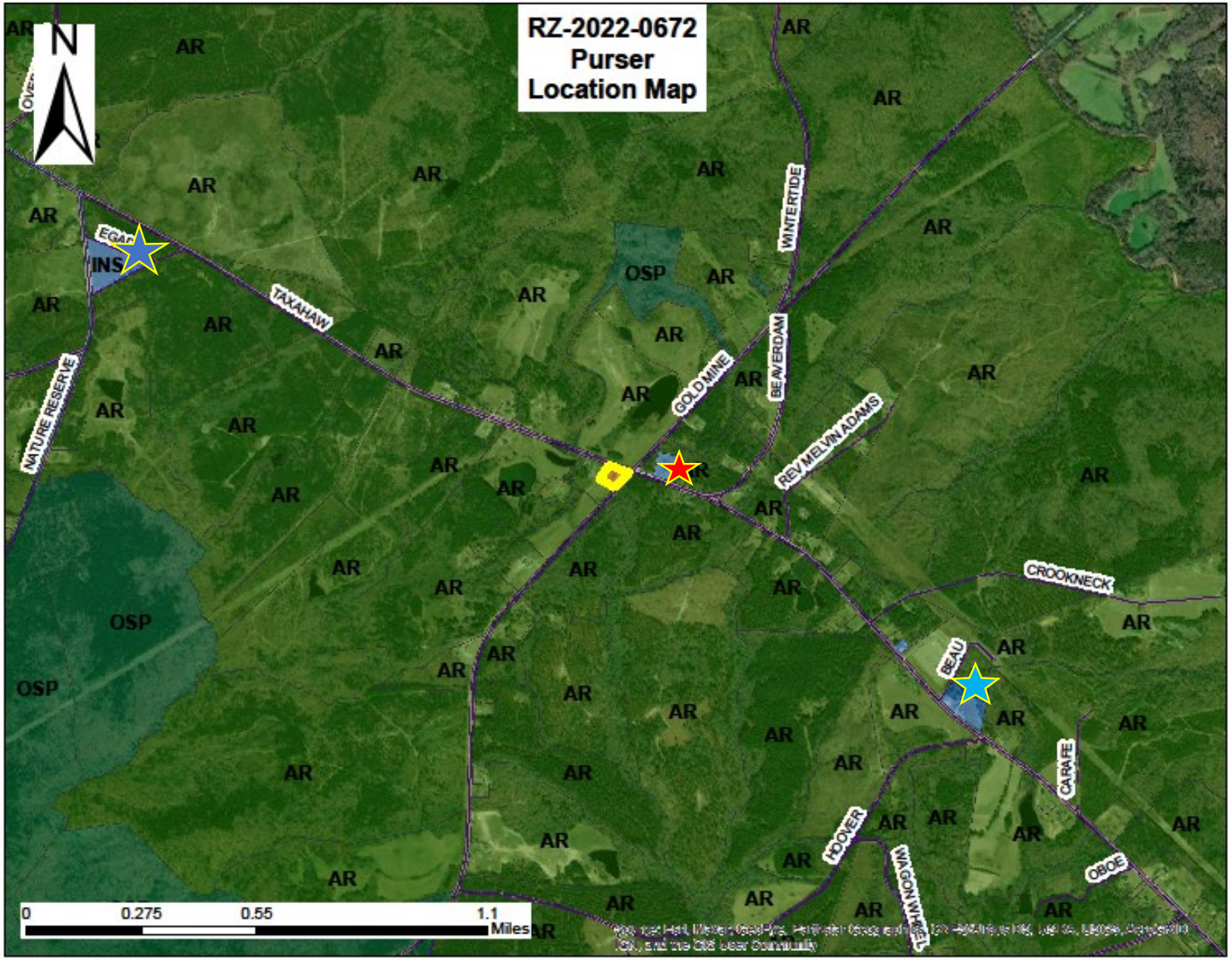
For 5/17 deadline 4/1
For 6/21 deadline 5/6
For 7/19 deadline 6/3

2. **Planning Commission**

- Conducts a public hearing on the application to receive input from Lancaster County citizens, applicant, and other interested parties.
- Reviews the application to ensure it is consistent with the Lancaster County Unified Development Ordinance, Comprehensive Plan, and all adopted County plans.
- Makes a recommendation to the County Council.

3. **County Council**

- Approves, denies, or submits application to the Planning Commission for further study.
- Action requires three readings for approval.
- Subsequent to final County Council action on rezoning, notice of action will be provided to the applicant, owner, and adjacent property owners.
- If applicant would like to request a special presentation, please notify the County Clerk @ (803) 416-9307 before 5:00pm on the first Monday of the month to make arrangements.



Lancaster County
South Carolina

Proposal:
Request to rezone from RUB to AR

Legend:

Subject Property

Taxahaw Baptist Church

Blackman Cemetery

Rocky Branch Baptist Church

Agenda Item Summary

Ordinance # / Resolution #: Discussion & Information: Interim UDO
Contact Person / Sponsor: R. Burhans
Department: Planning
Date Requested to be on Agenda: 5/17/2022

Issue for Consideration:

Points to Consider:

Recommendation: