TOWN OF SWANSBORO
PLANNING BOARD
REGULAR MEETING AGENDA

September 6, 2022 **Town Hall Community Room**
Tuesday 5:30 PM **601 W. Corbett Avenue**

1. **Call to Order**

2. **Approval of Minutes**
   - **A.** June 20, 2022 Special Meeting Minutes
   - **B.** July 5, 2022 Regular Meeting Minutes
   - **C.** July 18, 2022 Joint Meeting Minutes

3. **New Business**
   - **A. Rezoning Request – 140, 144, 150, 160 Queens Creek Road**

     Emerald Coast, LLC, on behalf of themselves and other property owners have submitted a rezoning request for four parcels located on Queen Creek Road from O/I (Office and Institutional) to B-1 (Business). The areas are further identified as 140 Queens Creek Road containing 0.48 acres (tax parcel 1313-88), 144 Queens Creek Road containing one acre (tax parcel ID 1313-87) and 150 Queens Creek Road containing 1.35 acres (tax parcel ID 1313-85) 160 Queens Creek Road containing 5 acres (tax parcel ID 1313-85.1) the total acreage requested for rezoning is +/-7.83 acres.

     Action Needed: Consider motion to recommend or deny rezoning of 140, 144, 150, 160 Queens Creek Road from O/I (Office and Institutional) to B1 (Highway Business) with drafted consistency statement.

4. **Chairman/Board Thoughts/Staff Comments**

5. **Public Comments**

6. **Adjournment**

Town of Swansboro
Planning Board
Special Meeting Minutes
June 20, 2022

Call to Order

The meeting was called to order at 5:30 pm. Board members in attendance were Michael Favata, Christina Ramsey, Scott Chadwick, Laurent Meilleur, Edward Binanay, Sherrie Hancock, and Ed McHale.

New Business

Special Use permit located at 1117 W. Corbett Ave. (Starbucks coffee shop)

Mrs. Ansell reviewed that Vaquero Ventures has submitted a special use permit application for the property located at 1117 W. Corbett Ave (Walmart outparcel). The proposed use would be a Starbucks coffee shop with a drive-through. "Restaurant" was an allowed use in the B-1 zoning district pursuant to the issuance of a special use permit.

Mr. Chadwick called to the board's attention to a letter that was received by the Towns traffic engineer. He felt it was premature to discuss and recommended that the special use permit be tabled until they receive further information from the applicant and the Towns traffic engineer.

In response to inquiries from the board, the following was clarified by Mrs. Ansell:

- Jeff Hochansdel is a consultant traffic engineer who the town has previously used on different projects in town.
- Mr. Hochansdel provided a summary of comments and has recommended that it be re-submitted.
- Mrs. Ansell and the Town Manager at the time meet with applicant a year ago and went over special use requirements.
- Items were identified in the staff report that are still missing.

Mr. Chadwick stated that the Town was certainly glad when businesses consider moving to our town, but the safety and concerns with traffic need to be considered.

On a motion by Mr. Chadwick and seconded by Mr. Binanany, the special use permit was unanimously tabled until further information from the applicant and the Towns engineers review the traffic impact analysis.

Staff Comments

Mr. Chadwick would like to discuss in the next meeting and ordinance change from 2015 for Industrial Park in reference to the materials allowed.

Mrs. Ramsey inquired about when the Board of commissioners would be meeting with the Planning board in reference to the Land Use Map. Mrs. Ansell informed Mrs. Ramsey that the board has delayed meeting until dock special use permit hearing.

Mr. Meilleur Commented on the UDO Section F under traffic and some of the ramifications. Brought up concerns about the large letter signs on strip malls.

Adjournment

On a motion by Mr. Chadwick, seconded by Mr. McHale, the meeting adjourned at 5:44 pm.

Town of Swansboro
Planning Board
Regular Meeting Minutes
July 5, 2022

Call to Order

The meeting was called to order at 5:30 pm. Board members in attendance were Michael Favata, Scott Chadwick, Laurent Meilleur, Edward Binanay, and Sherrie Hancock. Christina Ramsey and Ed McHale were absent.

Minutes

On a motion by Mr. Meilleur, seconded by Mr. Binanay, the minutes for the April 5, 2022, Regular Meeting were approved unanimously.

Business

Building design and compatibility-MI Materials

At the June 20, 2022, meeting, the Board directed Staff to prepare an amendment to consider an allowance for metal as an approved primary surface material in the MI, Light Industrial, zoning district.

In 2016, Mr. Richard Peterson constructed a metal building at 146 Seth Thomas Lane for E.L. Jones Development. In review of the file, there is no indication as to why metal was allowed as the primary material. Most of the buildings along Seth Thomas Lane in the MI zone are metal buildings, however some do have brick or stucco facades.

§ 152.560 ARCHITECTURAL CHARACTER.

(C) *Entryways.*

(4) *Building materials/colors.*

a) Each building shall be constructed with approved primary surface materials.

b) Approved primary surface materials shall include:

1. Brick or glazed brick;
2. Wood;
3. Fiber Cement (Hardiplank);
4. Stucco or synthetic stucco;
5. Tinted and textured concrete masonry;
6. Concrete (Pre-Cast or Cast-in-place);
7. Glass;
8. Split face block; ~~and~~
9. Concrete block may be permitted o~~r~~n interior sides and rears provided it matches the color of the corresponding surface materials; and
10. Metal (MI zoning district only).

c) If renovating the structure, brick, stone, or wood facades shall not be covered or replaced with artificial siding or panels. Synthetic materials that resemble or match the original façade can be used.

d) Secondary materials may be used to add architectural interest. They may consist of one or more primary materials~~, or any other (appropriate) material that adds architectural interest~~.

e) Façade with main entrance may be glass (including windows and doors) or combinations of glass and materials listed in item division (C)(4)(b) of this section.

f) Variations of materials and textures are encouraged with each storefront in multi-tenant buildings.
g) It is recommended that primary surface materials shall be natural colors including primary colors, or have "earth" tones (i.e. gray, white, beige, brown, or brick) (See Figure 152.560.7).
h) For secondary materials, additional colors may be used.

In response to inquiries from the board, Planner Ansell clarified

- Most of the buildings are metal on Seth Thomas Lane.
- The only exception in the MI zone is that it allows 25 percent of the primary surface material and does not have to continue for the full side of the building.
- Mrs. Ansell clarified the MI zone was located only on Seth Thomas Lane.
- The front would still have architectural requirements of entryway features currently there is a minimum of three.

After discussion, the Board inquired on how easy it would it be to make the text amendment that would allow metal on the sides and rear of the building but that on the front it would still be required to follow the 2013 ordinance requirements?

Planner Ansell explained that item 10 would be moved to secondary material it would be stated that in the MI zone metal is allowed as a secondary material.

On a motion by Mrs. Hancock, seconded by Mr. Favata the amendment to section 152.560 Architectural Character was unanimously recommended for approval.

Window sign and lighting

Mrs. Ansell reviewed that window signage and lighting were only regulated if they were on the outside of the window. The ordinance regarding lighting only applies to light fixtures to illuminate a sign, not signs that are on windows.

The signs we see on the windows are there to advertise sales those are temporary signs. The town has never regulated Temporary signs, on windows.

After discussion, the board has decided to wait until they get more direction from the Board of Commissioners to explore further.

Adjournment

On a motion by Mr. Meilleur, seconded by Sherri Hancock the meeting was adjourned at 5:58

TOWN OF SWANSBORO
PLANNING BOARD AND
HISTORIC PRESERVATION COMMISSION
JOINT MEETING MINUTES
July 18, 2022

Call to Order

The joint meeting of Swansboro Planning Board and Historic preservation Commission was called to order at 5:31Pm. Those in attendance from the Planning Board were Scott Chadwick, Laurent Meilleur, Sherri Hancock, Christina Ramsey, and Edward Binanany. From the Historic Preservation Commission, Jonathan McDaniel, Patrick Larkin, Christina Ramsey, Edward Binanay, and member April Clark arrived at 6:00pm. Ed McHale from the Planning board, and Kim Kingrey, Joan Deaton for the Historical board were absent.

The purpose of the joint meeting was to review and discuss a proposed Appearance Commission concept.

During the discussion, board members shared the following concerns:

- Where would the funding come from?
- Is an Appearance Commission necessary based on the roles our planning board and historic board already have in place?
- Who would be enforcing the rules associated with an Appearance commission?

Mrs. Ansell explained that fundraising may not be an option and believes it must be contributions.

Both boards concluded that a new committee was not necessary.

Adjournment

On a motion by Mrs. Hancock, seconded by Mr. Binanany the Planning Board adjourned at 6:05pm

On a motion by Mr. Binanany, seconded by Mrs. Clark the Historical Preservation Commission adjourned at 6:05pm

Planning Board Meeting
Agenda Item Submittal

Item To Be Considered: **Rezoning Request – 140, 144, 150, 160 Queens Creek Road**

Board Meeting Date: **September 6, 2022**

Prepared By: **Paula Webb – Town Manager**

Overview: Emerald Coast, LLC, on behalf of themselves and other property owners have submitted a rezoning request for four parcels located on Queen Creek Road from O/I (Office and Institutional) to B-1 (Business). The areas are further identified as 140 Queens Creek Road containing 0.48 acres (tax parcel 1313-88), 144 Queens Creek Road containing one acre (tax parcel ID 1313-87) and 150 Queens Creek Road containing 1.35 acres (tax parcel ID 1313-85) 160 Queens Creek Road containing 5 acres (tax parcel ID 1313-85.1) the total acreage requested for rezoning is +/-7.83 acres.

The applicant is interested in commercial/office/flex space/condos/townhouse. However, the applicant has not requested conditional zoning and therefore, any uses permitted in the B-1 Zoning District would be applicable if approved.

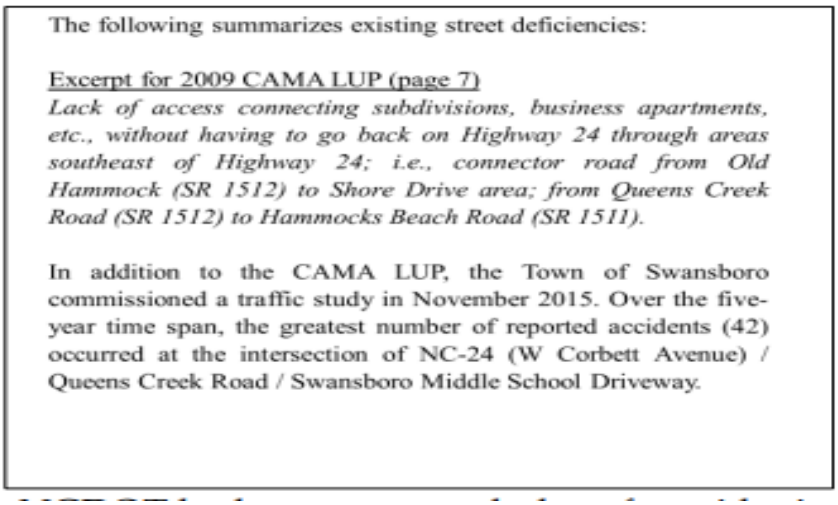
History:
The applicant submitted similar applications in 2017 and 2019 for 3 parcels, and as of July 28, 2021, tax parcel ID 1313-85 has been further subdivided into 2 lots. Below is a summary of the history.

2017

- On August 7, 2017, the Planning Board unanimously recommended denial for B1 rezoning request because it was not consistent with the CAMA Land Use Plan (LUP) of 2009 because of the lack of infrastructure supporting it. The Board considered the density for a B1 (and O/I zoning) and the effect it would have on the traffic on Queens Creek Road.

- At the September 12, 2017, BOC Public Hearing, former Planner Andrea Correll summarized excerpts from the CAMA LUP on street deficiencies and land suitability. It was noted that multiple improvements to Queens Creek Road were under review by NCDOT.

Action: _____



The following summarizes existing street deficiencies:

Excerpt for 2009 CAMA LUP (page 7)

Lack of access connecting subdivisions, business apartments, etc., without having to go back on Highway 24 through areas southeast of Highway 24; i.e., connector road from Old Hammock (SR 1512) to Shore Drive area; from Queens Creek Road (SR 1512) to Hammocks Beach Road (SR 1511).

In addition to the CAMA LUP, the Town of Swansboro commissioned a traffic study in November 2015. Over the five-year time span, the greatest number of reported accidents (42) occurred at the intersection of NC-24 (W Corbett Avenue) / Queens Creek Road / Swansboro Middle School Driveway.

There was also discussion/clarification that O/I zoning was no more/less restrictive than B1, Property owners were agreeable to O/I if B1 was not approved.

The Board of Commissioners voted 3 to 2 in favor of the O/I rezoning. However, the vote required a 2/3 approval (4) to pass on the first reading. A second reading was required at the next meeting and approval could then be granted with a simple majority vote.

- At the October 10, 2017 Board of Commissioners meeting where a second reading was to take place, no motion was made for O/I zoning therefore, the property zoning remained R20 (Single Family).

2019/2020

- On September 23, 2019 (Special Meeting), the Planning Board voted 4-1 recommending approval for the B1 rezoning request deeming it consistent with the 2019 CAMA Land Use Plan. As part of their recommendation, the Planning Board noted that there were potential negative traffic impacts of developing the proposed property and recommended renewed efforts by Swansboro officials to engage NCDOT regarding traffic improvement recommendations to NC 24 (W. Corbett Avenue/Queens Creek Road/Middle School driveway) contained in Section 6 of the Town of Swansboro's Traffic Impact Analysis from November 4, 2015.

- At their October 22, 2019, Public Hearing, the Board of Commissioners reviewed/discussed traffic issues along Queen Creek Road and the idea that O/I zoning may be a better zoning district. The vote was unanimous to table the request.

- Mr. Freeman subsequently withdrew his application and submitted a request to rezone the properties O/I - Office Institutional.

- At their December 2, 2019, regular meeting, the Planning Board voted unanimously to recommend approval for O/I zoning; stating that it was consistent with the approved Comprehensive Plan, specifically the CAMA Land Use Plan.

- At their January 13, 2020, Public Hearing, the Board of Commissioners voted unanimously to rezone parcels 1313-85, 1313-87 and 1313-88 located on Queens Creek Road from R-20SF to O/I.

(All meeting minutes for the Planning Board and Board of Commissioners above are available on the website if more in-depth review on discussions is needed. The history above is meant to simply show the actions taken.)

Additional Notes:
In conversation with the Town's Traffic Engineer Jeff Hochanadel earlier this week, he shared that the traffic study conducted in 2019 would most likely not hold the same results today. However, there is no such requirement for a Traffic Impact Analysis when rezoning is requested. A TIA only applies when a *project* is proposed, and in some instances when a special use is requested.

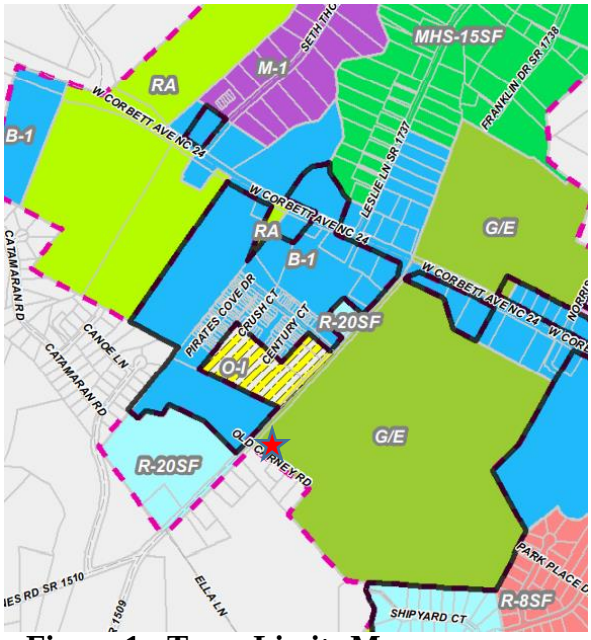
It is also noted that some recent traffic movement improvements have been made along Queens Creek Road at the High School and NCDOT has indicated that there are plans for a traffic light at the Swansboro High School/Queens Creek Elementary entrance sometime in 2023.

Background Attachment(s):
- Expanded Overview
- Application
- 2019 Timmons Traffic Analysis
- Table of Permitted Uses for O/I & B1
- Draft Ordinance

Recommended Action: Consider motion to *recommend or deny* rezoning of 140, 144, 150, 160 Queens Creek Road from O/I (Office and Institutional) to B1 (Highway Business) with drafted consistency statement.

Expanded Overview:

The four parcels of land requested for rezoning by Emerald Coast, Inc. are in the ETJ and currently zoned O\I (Office Institutional). *See figure 1.* The CAMA Land Use Plan depicts these parcels as Low Density /Suburban Neighborhood (LDSN) along the Gateway Corridor (GC). *See figure 2.* The tracts front on Queens Creek Road and are located approximately 966 feet from the intersection with NC Highway 24. They are surrounded by property zoned B-1. Across Queens Creek the property is Government/Education and contains the Swansboro High School and Queens Creek Elementary School. Some recent NCDOT improvements have been made to the entrances at the schools with more to be completed by sometime in 2023. *See figure 3.*



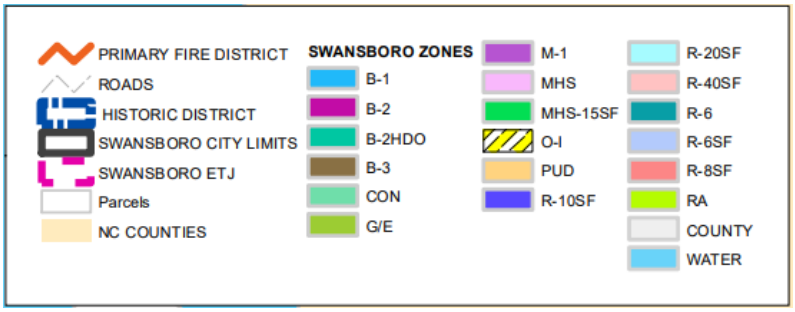


Figure 1 - Town Limits Map

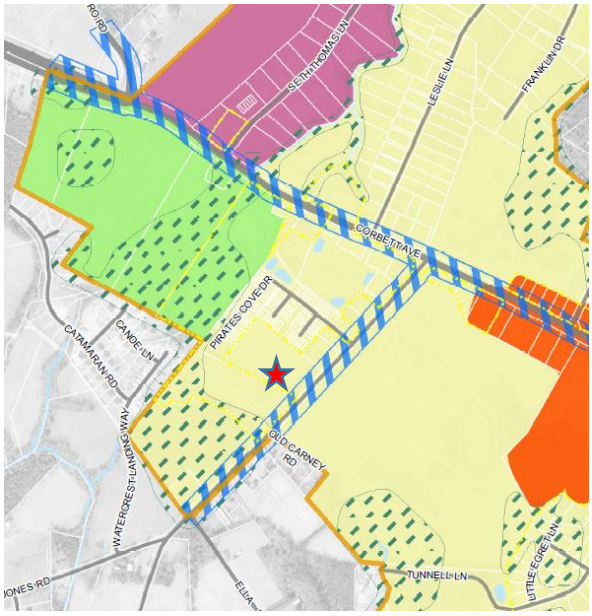


Figure 2 - Future Land Use Map

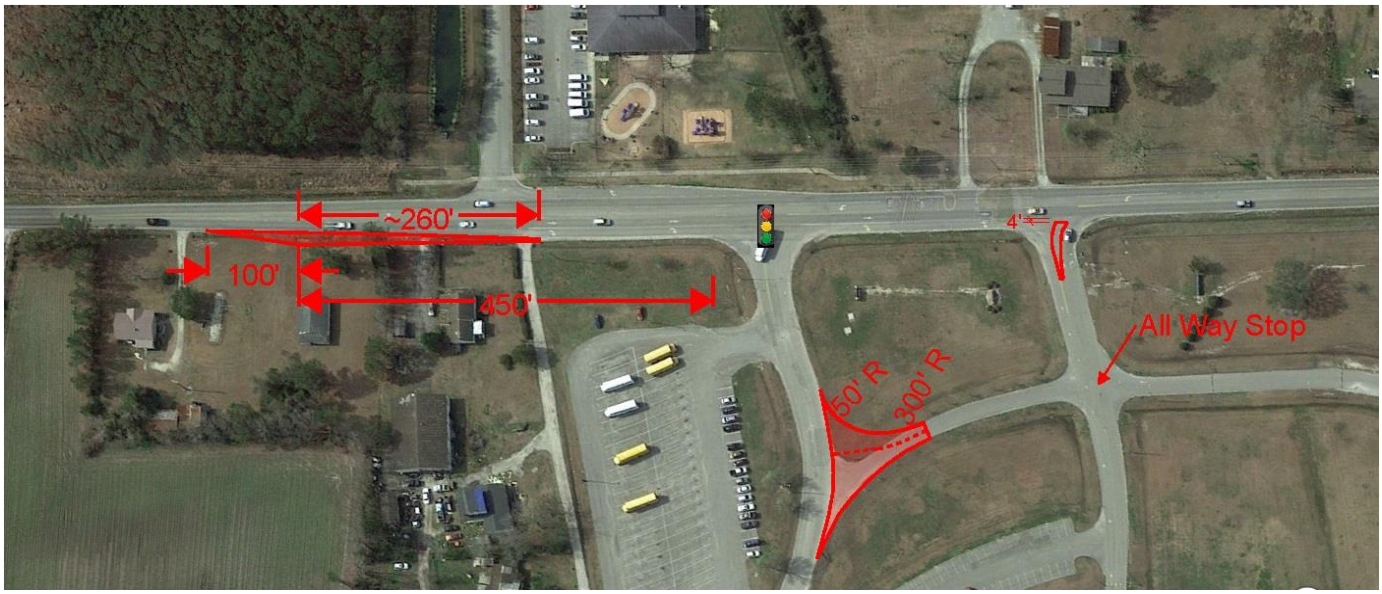


Figure 3 - NCDOT Improvements

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5

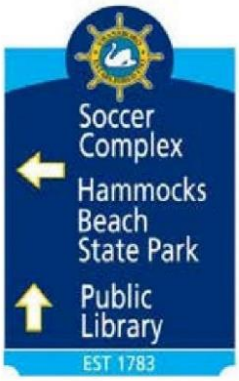
Gateway Corridor (GC)

The area around and encompassing NC 24 is the foyer of the community: a place that welcomes travelers and residents alike. For some people, it may be the only part of Swansboro that they see, and the impression it leaves should be reflective of the community's values: welcoming friendliness, coastal charm, and beauty. The appearance and function of this corridor are in need of attention, and updated and enhanced regulation were identified as important to the community. The Gateway Corridor is all lots within 100' of and visible from, or with frontage on NC 24.

Character

The Gateway Corridor is a new designation intended to enhance the function and appearance of the NC 24 corridor, as well as other main entranceways to the town. Generally, the GC area encompasses properties that are directly adjacent to, visible from, and interact with NC 24, although any regulations developed

Character concepts for the GC district



Example of Gateway Corridor (GC)

may need to reduce or expand that definition to accomplish their goals. Recommendations from the Gateway Corridor Report (2013) as well as input from the public open house workshop should inform any regulations that will be developed for this area.

Access and circulation

This designation lies along the major thoroughfares in the Town. These high speed, NCDOT-owned roadways designed for local and through traffic. Pedestrian accommodations (likely built to NCDOT Complete Street standards), median beautification and additional landscaping, and reduced left-turn movements should be required and retrofitted. Additional right-of-way dedication or reservation will likely be required for new development or redevelopment, to accommodate anticipated or likely future widenings.

Setbacks

Additional setbacks, and potentially right-of-way reservation or dedication, will likely be required along major thoroughfares, particularly state highways that are likely to be widened in the future.

Massing and building heights

The underlying FLU may control the massing of buildings within the GC, but additional requirements may also be necessary depending on the particulars of the desired outcome(s).

Blocks

As designated by the underlying FLU category, but potentially modified depending on access and traffic management concerns. Adding cross access and interconnectivity between parcels will be crucial to enhancing connectivity and function.

Parking

Parking is governed by the underlying FLU designation but should also take into account visual impacts on the corridor. Generally, jurisdictions seek to minimize the visibility of parking areas along character enhancement corridors.

Appropriate Density / Intensity

As designated by the underlying FLU category, and potentially modified to create an area with enhanced functional and visual characteristics.

Representative Areas

This newly formed designation functions as an overlay designed to enhance the existing NC 24 corridor. Ideally, it will have associated zoning regulations that will regulate and enhance the function and appearance of the corridor.

5

Low Density / Suburban Neighborhood (LDSN)

This residential neighborhood type generally reflects recent development in Swansboro. Lots are a little larger and although the neighborhood is walkable, most people move into and out of the neighborhood by car. Although some small-scale non-residential or multi-family residential may occur at key intersections or near significant public resources (like parks), this area is primarily single family detached residential homes.

Character

Almost exclusively single family detached residential, although occasionally more intense development may be allowed near select town infrastructure, such as near large parks. Low intensity, low nuisance nonresidential uses may also be allowed at select crossroads or neighborhood activity centers. Lots are wider and regular.

Access and circulation

Streets are residential in character, with low speeds and occasional, informal on-street parallel parking. Street trees are present but may be separated from the edge of pavement by a ditch. Sidewalks are present but depending on density may not be on both sides of the street.

Setbacks

Setbacks are generally more restrictive than in other residential districts, with significantly sized yards often present on all sides of a building.

Massing and building heights

Lower height structures, that typically do not exceed two stories, with one-story structures also common. Buildings are separated from each other by relatively large side yards.

Blocks

Maximum block lengths must be similar to those of the CTN, regardless of density of development. This is especially relevant when connecting to existing roads which are or will be thoroughfares or collectors of any sort, including residential collectors. The appropriate block length will allow the neighborhood to evolve as the town grows and changes through time.

Forestbrook Neighborhood

Example of Low Density / Suburban Neighborhood (LDSN)

Parking

Parking location is less restrictive than in CTN, and can be located on any side of a building, including in corner yards. The larger lots accommodate garages on the sides of buildings, which may be front- or side-loaded.

Appropriate Density

» This low-density residential type will occupy most of the town's land area.

» Up to 5 dwellings per acre of any type of residential within 1/2 mile walking distance of any Town Center area or within 1/4 mile walking distance of a Coastal Traditional Neighborhood area, whichever is greater (i.e. - allows increased density).

» Up to 4 dwellings per acre of any type residential within 1/4 mile walking distance of a public park of 5 acres or more in size, if there is improved pedestrian access.

» Up to 2 dwellings per acre in all other areas.

Representative Areas

» The Forestbrook, Halls Creek, Halls Creek North, and River Reach neighborhoods, especially if there was greater connectivity or stub-outs to adjacent parcels.

» The neighborhood surrounding Swansboro Hills Apartments

Other Concerns

Maintaining connectivity between subdivisions and neighborhoods is what creates a community. Blocks and street connections must be designed such that future connections and extensions are made that create a cohesive, regular, intuitive street pattern, to the greatest extent possible. This also ensures that as the area evolves, more intense uses can replace older uses through redevelopment.

The lower density of development in the outskirts of this FLU designation (2 du/acre) will quickly consume land and may inadvertently displace residential demand and development to just outside the town's ETJ. This may be exacerbated by the availability of water and sewer services, and potentially lower lot size requirements. The Town should coordinate with the County and ONWASA to avoid this outcome.

Additionally, a restriction on density within the town (i.e. - 2 dwellings per acre) which provides municipal services (i.e. - parks, streets, water, sewer, police, etc.) may consume a large amount of land and return a lower amount of revenue (property taxes) that is used to support those municipal services. Generally speaking, higher density lots will provide greater return on investment (property taxes) to support the services that the town provides.

TOWN OF SWANSBORO PLANNING BOARD
STATEMENT OF CONSISTENCY

On _____, the Town of Swansboro Planning Board reviewed the rezoning of four parcels located on Queen Creek Road from O/I (Office and Institutional) to B-1 (Business). The areas are further identified as 140 Queens Creek Road containing 0.48 acres (tax parcel 1313-88), 144 Queens Creek Road containing one acre (tax parcel ID 1313-87) and 150 Queens Creek Road containing 1.35 acres (tax parcel ID 1313-85) 160 Queens Creek Road containing 5 acres (tax parcel ID 1313-85.1) the total acreage requested for rezoning is +/-7.83 acres. The proposed change from O\I (Office\Institutional) to B-1 (Business) is not consistent with the Comprehensive Plan, specifically the Future Land Use Map, and (has been/has not been) recommended for approval by the Planning Board because of the low-density land use designation identified on the site and development pattern in the area.

This statement reflects the recommendation of the Town of Swansboro Planning Board, this _____ day of _____ 2022.

_____
Planning Board Chair

Town of Swansboro

601 W. Corbett Avenue Swansboro, NC 28584
Phone (910) 326-4428 - Fax (910) 326-3101

APPLICATION FOR ZONING & ORDINANCE AMENDMENTS

Check the Appropriate Blank

_____Add a Use to a Zoning District
_____Remove a Use from a Zoning District
_____Create a New Zoning District

Application No. _____

_____Amend Code of Ordinances
_____Amend Unified Development Ordinance
__X__Zoning District Designation Change

A complete application must be received with the fee by the third Friday prior to the month of review.

Property Owner Name 140 HARGETT, 150 MURCHISON, 144/160 EMERALD COAST, INC. Phone # 910-330-1650

Address of Zoning Request 140, Prcl# 113-88: 144, Prcl# 1313-87: 150, Prcl# 1313-85: 160, Prcl# 1616-85.1

Mailing Address Cecil Hargett Jr. 114 Leslie Dr. Hubert,NC.28539 Stuart Murchison 150 Queens Creek Rd, Swansboro Emerald Coast, Inc. PO Box 1649 Swansboro

Zoning Amendments

Attach a copy of the legal description of the property (including address if assigned) that is requested for a zoning change (i.e. metes and bounds). **The application will not be scheduled for review until these items are received.**

Provide a list names and mailing address of adjacent property owner on the reverse side of this application. **The application will not be scheduled for review until these items are received.**

Present Zoning O-I Desired Zoning B-1

Probable Use of Property Commercial/Office/Flex Space//Condos/ Town Houses

Reason for Zoning Change Request There is only a few Permitted and Special uses allowed in the O-I. 150 was on the market over a year before finding a residential buyer. 144 was on the market 273 days prior to ECI purchasing at a substantial lower price to obtain a sewer easement for 150 & 160. 160 Queens CkRd has been on market since 11/27/21 due to the restricted uses allowed in O-I desired by potential buyers.

Ordinance Amendments

Code Section to be amended _____

Print clearly the code section wordage to be amended _____

Print clearly the code section wordage as suggested _____

_____

_____

Reason for requested amendment _____

_____

_____

Signature _____ Date August 17, 2022

Town Hall Use Only

Fee Paid ✓ Date Received 8/17/22 Date scheduled for Planning & Zoning Board review 9/12/22

Recommendation from Planning & Zoning Board _____

_____

Public Hearing Run Dates _____ Date of Public Hearing _____

Effective Date of Change _____ Ordinance Number _____

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

September 3, 2019

Paula W. Webb, MMC-NCCMC
Assistant Town Manager / Town Clerk
Town of Swansboro
601 W Corbett Avenue
Swansboro, NC 28584
pwebb@ci.swansboro.nc.us
910-326-4428

RE: Queens Creek Traffic Analysis

Dear Ms. Webb,

Timmons Group performed a cursory capacity analysis of the proposed 7-acre commercial development to be located off Queens Creek Road south of NC 24 (W Corbett Avenue). It was assumed, for purposes of analysis, that a 10,000 square foot (SF) general retail development will be constructed on the proposed 7-acre site*. The site generated traffic impacts were analyzed at the adjacent intersection of NC 24 (W Corbett Avenue) / Queens Creek Road / Middle School Driveway.

* Site specifics were not provided at the time of this capacity analysis. It is likely that a development larger than 10,000 SF could be constructed on the existing 7-acre site. 10,000 SF was chosen to represent a minimal build-out scenario. Building size(s) is dependent upon existing site conditions and constrants (availability of water/sewer, presence of wetlands/streams, etc).

The intersection of NC 24 (W Corbett Avenue) / Queens Creek Road / Middle School Driveway is a signalized intersection with split side street phasing. The northbound intersection approach includes exclusive left and right-turn lanes. The southbound middle school driveway approach includes an exclusive left-turn lane and a shared through / right-turn lane. The eastbound intersection approach includes two through lanes and an exclusive right-turn lane. The westbound intersection approach includes an exclusive left-turn lane and two through lanes. Eastbound left-turning, westbound right-turning, and northbound through movements are prohibited at this intersection.

Existing / Background Traffic Volumes

Figure 1 shows 2019 Existing traffic volumes and projected 2021^ Background traffic volumes. Existing peak hour turning movement traffic volumes, collected in May 2019, were acquired from the NCDOT (and not collected by Timmons Group). 2021 Background traffic volumes were calculated using a 3% ambient growth rate grown exponentially over two years.

^ It was assumed, for purposes of analysis, that the proposed development would be constructed by 2021.

5410 Trinity Rd. Suite 102 | Raleigh, NC 27607
TEL 919.866.4952 FAX 919.859.5663
www.timmons.com

Build Traffic Volumes

The site-generated trips shown in **Table 1** are based on trip generation information provided in the 10th Edition of the Institute of Transportation Engineer's (ITE's) *Trip Generation Manual*. Trip generation was calculated using the assumed commercial square footage (10,000 SF) as the independent variable, as well as the provided equation (per NCDOT guidelines).

Table 1 – Trip Generation Summary

ITE Land Use Code	Independent Variable	Daily	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total
Shopping Center (820)	10,000 SF	1,256	97	60	157	47	51	98
820 Pass-Bys (PM – 34%)		--	--	--	--	16	17	33
Total:		**1,256**	**97**	**60**	**157**	**31**	**34**	**65**

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)

AM peak hour trips generated totaled 97 incoming and 60 outgoing where PM peak hour trips totaled 47 incoming and 51 outgoing. For Land Use Code (LUC) 820, a pass-by percentage of 34% was assumed for PM peak hour trips (per NCDOT standards). Following these reductions, final PM peak hour trips totaled 31 incoming and 34 outgoing. Average daily traffic (ADT) volumes generated by the development totaled 1,256 vehicles per day. No reduction in trips were included due to internal capture.

The directional traffic patterns, or trip distribution, of the site-generated traffic was assumed to be split equally between east and westbound NC 24 (W Corbett Avenue). The incoming / outgoing site trip percentages were routed, via shortest path, to and from the proposed commercial development. The distribution percentages were then applied to the generated trips to predict routes and project traffic volumes for the 2021 Build scenario. **Figure 2** shows the 2021 trip distribution percentages, trip distribution volumes, and 2021 Build traffic volumes. 2021 Build traffic volumes were then determined by applying the site trip distribution volumes to the Background traffic volumes (see **Figure 1**).

Traffic Capacity Analyses

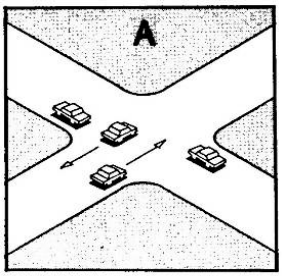
Using field observations, aerial photography, and traffic count data, traffic operations were analyzed during 2019 (existing) and 2021 (without and with the proposed development site trips).

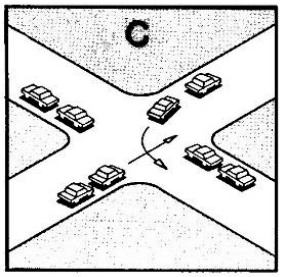
Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. At signalized intersections, an overall intersection LOS E is generally considered unacceptable. **Table 2** shows in detail how each of these levels of service are interpreted.

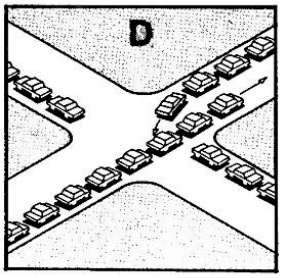
Table 2: Level of Service Definitions

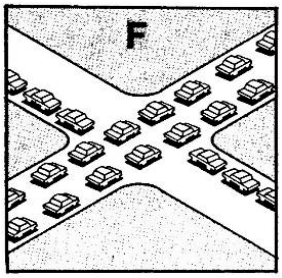
Level of Service	Roadway Segments or Controlled Access Highways	Intersections
A	Free flow, low traffic density.	No vehicle waits longer than one signal indication.
B	Delay is not unreasonable, stable traffic flow.	On a rare occasion motorists wait through more than one signal indication.
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.	Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups.	Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups.
E	Actual capacity of the roadway invloves delay to all motorists due to congestion.	Very long queues may create lengthly delays, especially for left-turning vehicles.
F	Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage ares during part or all of an hour.

SOURCE: *"A Policy on Design of Design of Urban Highways and Arterial Streets"* - AASHTO, 1973 based upon material published in *"Highway Capacity Manual"*, National Academy of Sciences, 1965.









For signalized and unsignalized intersections, level of service is defined in terms of **delay**, a measure of driver discomfort, frustration, fuel consumption and lost travel time. **Table 3** summarizes the delay associated with each LOS category:

Table 3: Signalized and Unsignalized Intersection Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec/veh)	Level of Service	Average Control Delay (sec/veh)
A	≤ 10	A	0 to 10
B	> 10 to ≤ 20	B	> 10 to ≤ 15
C	> 20 to ≤ 35	C	> 15 to ≤ 25
D	> 35 to ≤ 55	D	> 25 to ≤ 35
E	> 55 to ≤ 80	E	> 35 to ≤ 50
F	> 80	F	> 50

Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"

Capacity analyses were performed to assess operational conditions. Study area intersections were analyzed using SYNCHRO Version 9.2 based on Highway Capacity Manual (HCM) methodologies with the following assumptions:

- Existing grades;
- 12-foot lane widths;
- No parking activity, bus stops, or pedestrians;
- Existing AM peak hour factor (PHFs)**;
- PM PHF of 0.90;
- Heavy vehicle percentages 2%; and
- Timing values found in the provided traffic signal plans.

** Existing PHFs were used due to the existing middle school traffic.

Table 4 – Level of Service and Delay (sec/veh) Results – Study Area Intersection

Intersection	2019 Existing Traffic Volumes		2021 Background Traffic Volumes		2021 Build Traffic Volumes	
	AM	PM	AM	PM	AM	PM
Queens Creek Road at NC 24 (W Corbett Ave)	***E (75.7)***	***E (56.1)***	***F (89.3)***	***E (70.7)***	***F (99.0)***	***E (74.6)***

Per **Table 4**, the signalized intersection of NC 24 (W Corbett Avenue) / Queens Creek Road is currently operating at a LOS E during the 2019 Existing AM and PM peak hours. The intersection is projected to operate at a LOS F during the 2021 Background AM peak hour and LOS E during the 2021 PM peak hour. Following the addition of site trip volumes, the

intersection is projected to continue to operate at a LOS F during the 2021 Build AM peak hour and LOS E during the 2021 PM peak hour. Additionally, as shown in the attached Synchro analysis outputs, significant 95th percentile northbound queuing is projected to occur along Queens Creek Road during both analyzed peak hours (greater than 275-feet for left-turn queue lengths and 575-feet for right-turning queue lengths). Existing queue storage is inadequate to handle projected queue lengths for the northbound intersection approach.

Conclusions

Based on the subject analyses, the construction of a commercial development along Queens Creek Road will require the construction of offsite improvements at the intersection of NC 24 (W Corbett Avenue) / Queens Creek Road to meet guidelines provided in the Town's Unified Development Ordinance. Existing intersection capacity is inadequate to handle existing / future traffic volumes. The addition of ambient traffic growth and proposed commercial site trips will cause intersection conditions to further degrade in future conditions.

Should you have any questions regarding this memorandum, please do not hesitate to contact me.

Sincerely,

Jeffrey P. Hochanadel, PE, PTOE
Senior Project Manager, Transportation

(Attachments)

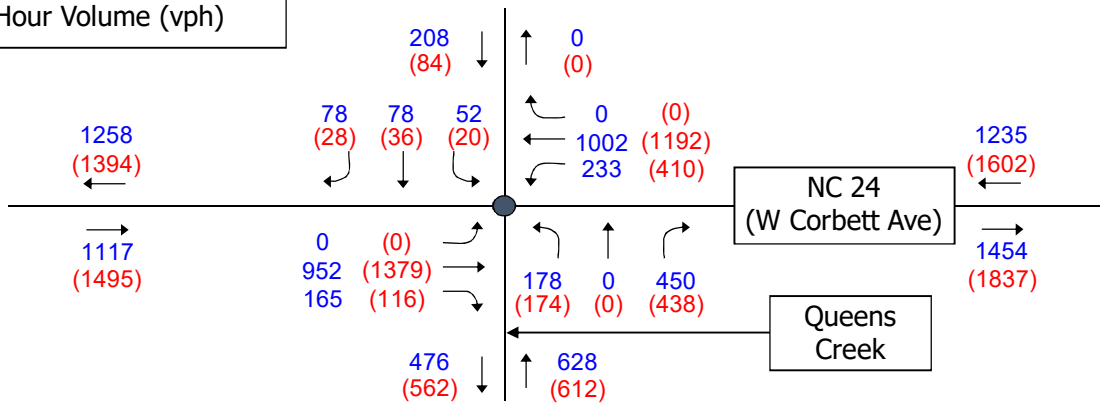
LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

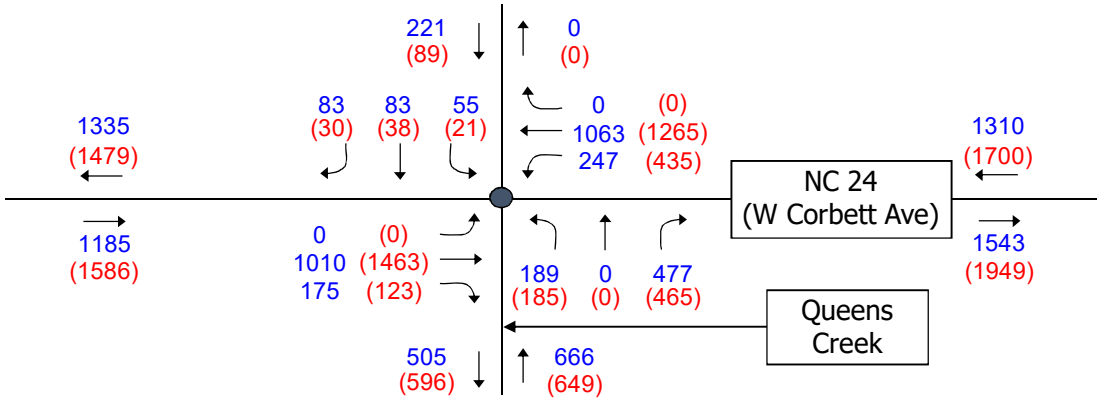
N

NOT TO SCALE

2019 Existing Traffic Volumes



2021 Background Traffic Volumes



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Queens Creek Traffic Analysis

Existing/Background Traffic Volumes

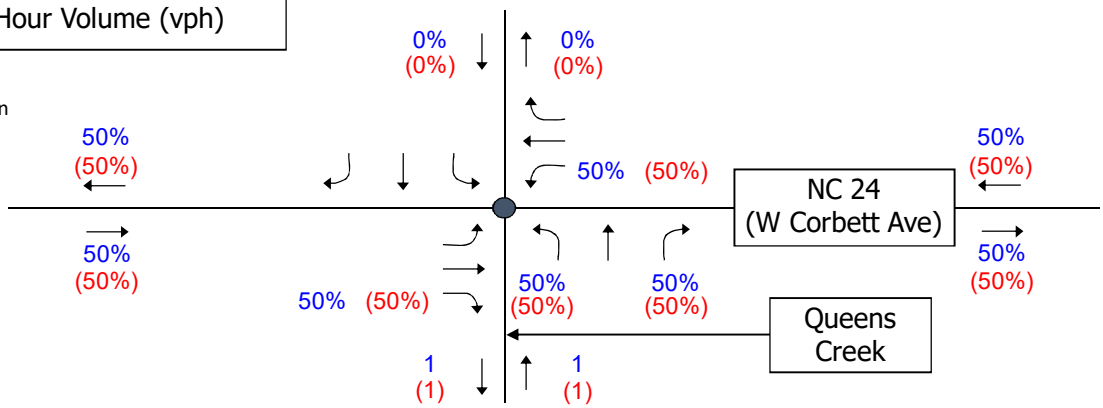
Figure 1

LEGEND:

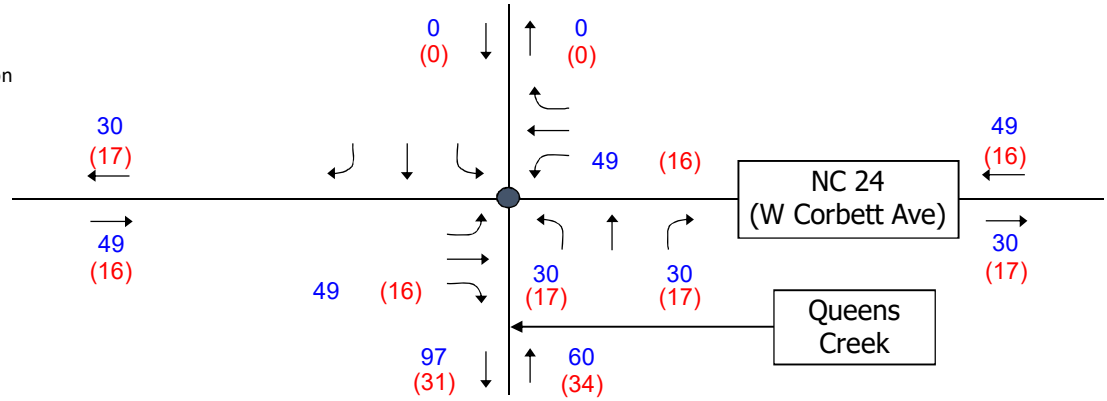
- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

NOT TO SCALE

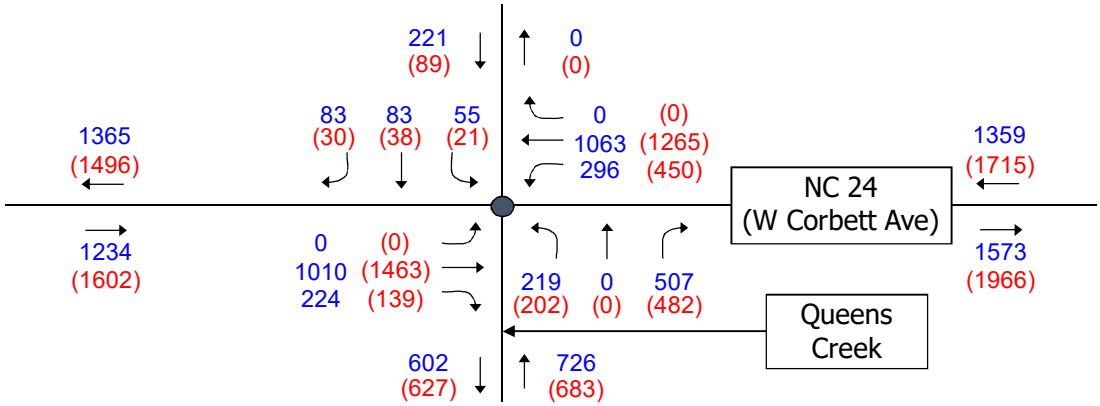
2021 Trip Distribution Percentages



2021 Trip Distribution Volumes



2021 Build Traffic Volumes



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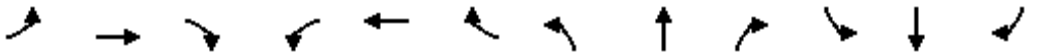
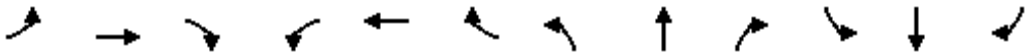
Queens Creek Traffic Analysis

Build Traffic Volumes

Figure 2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	952	165	233	1002	0	178	0	450	52	78	78
Future Volume (vph)	0	952	165	233	1002	0	178	0	450	52	78	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		415	125		0	190		0	0		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850						0.850		0.925	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	3471	1553	1752	3505	0	1752	0	1568	1641	1598	0
Flt Permitted				0.080			0.950			0.950		
Satd. Flow (perm)	0	3471	1553	148	3505	0	1752	0	1568	1641	1598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			25	
Link Distance (ft)		1048			745			1037			256	
Travel Time (s)		20.4			14.5			15.7			7.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.76	0.76	0.76	0.75	0.75	0.75	0.64	0.64	0.64	0.50	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1253	217	311	1336	0	278	0	703	104	156	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1253	217	311	1336	0	278	0	703	104	312	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	pm+ov	D.P+P	NA		Prot		pm+ov	Split	NA	
Protected Phases		2	4	1	6		4		1	3	3	
Permitted Phases			2	2					4			
Detector Phase		2	4	1	6		4		1	3	3	
Switch Phase												
Minimum Initial (s)		10.0	7.0	7.0	10.0		7.0		7.0	7.0	7.0	
Minimum Split (s)		23.8	33.0	12.9	23.9		33.0		12.9	20.0	20.0	
Total Split (s)		55.0	33.0	32.0	87.0		33.0		32.0	30.0	30.0	
Total Split (%)		36.7%	22.0%	21.3%	58.0%		22.0%		21.3%	20.0%	20.0%	



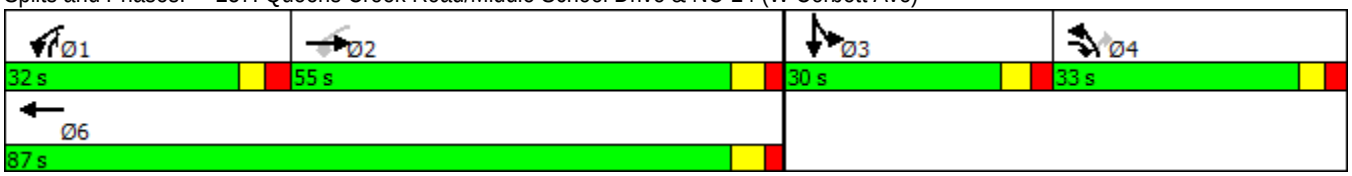
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		49.1	27.4	26.1	81.1		27.4		26.1	24.2	24.2	
Yellow Time (s)		3.8	3.0	3.0	3.8		3.0		3.0	3.2	3.2	
All-Red Time (s)		2.1	2.6	2.9	2.1		2.6		2.9	2.6	2.6	
Lost Time Adjust (s)		-0.9	-0.6	-0.9	-0.9		-0.6		-0.9	-0.8	-0.8	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0		5.0	5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag		Lead	Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes		Yes	Yes	Yes	
Vehicle Extension (s)		6.0	2.0	2.0	6.0		2.0		2.0	2.0	2.0	
Minimum Gap (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Time Before Reduce (s)		15.0	0.0	0.0	15.0		0.0		0.0	0.0	0.0	
Time To Reduce (s)		30.0	0.0	0.0	30.0		0.0		0.0	0.0	0.0	
Recall Mode		Min	Min	None	None		Min		None	None	None	
Walk Time (s)			7.0				7.0					
Flash Dont Walk (s)			20.0				20.0					
Pedestrian Calls (#/hr)			0				0					
Act Effct Green (s)		50.0	76.1	77.0	82.0		26.0		58.1	25.0	25.0	
Actuated g/C Ratio		0.34	0.51	0.52	0.55		0.18		0.39	0.17	0.17	
v/c Ratio		1.07	0.27	0.84	0.69		0.90		1.14	0.38	1.16	
Control Delay		93.1	11.1	62.7	26.4		91.3		123.9	59.7	157.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	
Total Delay		93.1	11.1	62.7	26.4		91.3		123.9	59.7	157.0	
LOS		F	B	E	C		F		F	E	F	
Approach Delay		81.0			33.3			114.7			132.7	
Approach LOS		F			C			F			F	
Queue Length 50th (ft)		~720	54	245	489		266		~790	92	~363	
Queue Length 95th (ft)		#615	66	279	425		250		547	81	219	
Internal Link Dist (ft)		968			665			957			176	
Turn Bay Length (ft)			415	125			190					
Base Capacity (vph)		1172	818	369	1941		331		614	277	269	
Starvation Cap Reductn		0	0	0	0		0		0	0	0	
Spillback Cap Reductn		0	0	0	0		0		0	0	0	
Storage Cap Reductn		0	0	0	0		0		0	0	0	
Reduced v/c Ratio		1.07	0.27	0.84	0.69		0.84		1.14	0.38	1.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 148.1			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 75.7		Intersection LOS: E	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

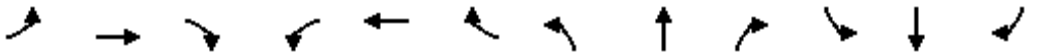
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)

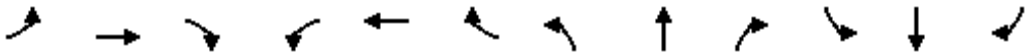


257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)

09/03/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1379	116	410	1192	0	174	0	438	20	36	28
Future Volume (vph)	0	1379	116	410	1192	0	174	0	438	20	36	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		415	125		0	190		0	0		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850						0.850		0.935	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	3471	1553	1752	3505	0	1752	0	1568	1641	1615	0
Flt Permitted				0.079			0.950			0.950		
Satd. Flow (perm)	0	3471	1553	146	3505	0	1752	0	1568	1641	1615	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			25	
Link Distance (ft)		1048			745			1037			256	
Travel Time (s)		20.4			14.5			15.7			7.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1532	129	456	1324	0	193	0	487	22	40	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1532	129	456	1324	0	193	0	487	22	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	pm+ov	D.P+P	NA		Prot		pm+ov	Split	NA	
Protected Phases		2	4	1	6		4		1	3	3	
Permitted Phases			2	2					4			
Detector Phase		2	4	1	6		4		1	3	3	
Switch Phase												
Minimum Initial (s)		10.0	7.0	7.0	10.0		7.0		7.0	7.0	7.0	
Minimum Split (s)		23.8	33.0	12.9	23.9		33.0		12.9	20.0	20.0	
Total Split (s)		55.0	33.0	32.0	87.0		33.0		32.0	30.0	30.0	
Total Split (%)		36.7%	22.0%	21.3%	58.0%		22.0%		21.3%	20.0%	20.0%	



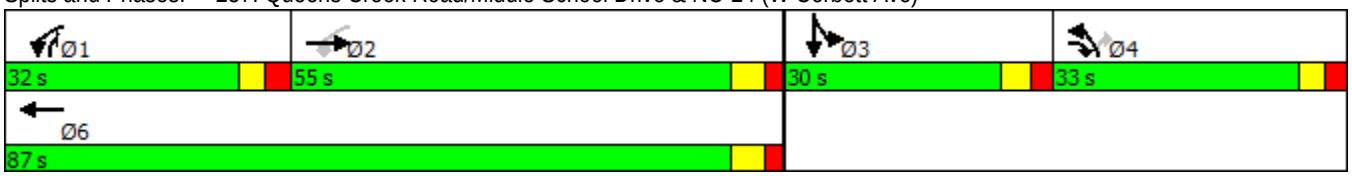
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		49.1	27.4	26.1	81.1		27.4		26.1	24.2	24.2	
Yellow Time (s)		3.8	3.0	3.0	3.8		3.0		3.0	3.2	3.2	
All-Red Time (s)		2.1	2.6	2.9	2.1		2.6		2.9	2.6	2.6	
Lost Time Adjust (s)		-0.9	-0.6	-0.9	-0.9		-0.6		-0.9	-0.8	-0.8	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0		5.0	5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag		Lead	Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes		Yes	Yes	Yes	
Vehicle Extension (s)		6.0	2.0	2.0	6.0		2.0		2.0	2.0	2.0	
Minimum Gap (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Time Before Reduce (s)		15.0	0.0	0.0	15.0		0.0		0.0	0.0	0.0	
Time To Reduce (s)		30.0	0.0	0.0	30.0		0.0		0.0	0.0	0.0	
Recall Mode		Min	Min	None	None		Min		None	None	None	
Walk Time (s)			7.0				7.0					
Flash Dont Walk (s)			20.0				20.0					
Pedestrian Calls (#/hr)			0				0					
Act Effct Green (s)		50.5	70.4	77.8	82.9		18.7		51.0	11.1	11.1	
Actuated g/C Ratio		0.40	0.56	0.62	0.66		0.15		0.41	0.09	0.09	
v/c Ratio		1.09	0.15	1.03	0.57		0.74		0.76	0.15	0.50	
Control Delay		88.6	8.3	89.5	14.5		68.5		41.5	57.5	68.7	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	
Total Delay		88.6	8.3	89.5	14.5		68.5		41.5	57.5	68.7	
LOS		F	A	F	B		E		D	E	E	
Approach Delay		82.3			33.7			49.2			66.1	
Approach LOS		F			C			D			E	
Queue Length 50th (ft)		~758	30	~359	300		153		342	17	57	
Queue Length 95th (ft)		#1046	50	#665	478		245		511	47	113	
Internal Link Dist (ft)		968			665			957			176	
Turn Bay Length (ft)			415	125			190					
Base Capacity (vph)		1406	997	442	2329		397		641	332	327	
Starvation Cap Reductn		0	0	0	0		0		0	0	0	
Spillback Cap Reductn		0	0	0	0		0		0	0	0	
Storage Cap Reductn		0	0	0	0		0		0	0	0	
Reduced v/c Ratio		1.09	0.13	1.03	0.57		0.49		0.76	0.07	0.22	

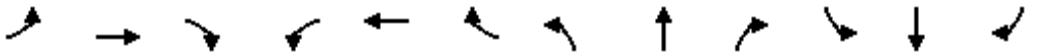
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 124.7			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 56.1		Intersection LOS: E	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

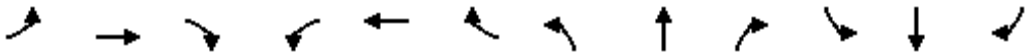
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1010	175	247	1063	0	189	0	477	55	83	83
Future Volume (vph)	0	1010	175	247	1063	0	189	0	477	55	83	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		415	125		0	190		0	0		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850						0.850		0.925	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	3471	1553	1752	3505	0	1752	0	1568	1641	1598	0
Flt Permitted				0.080			0.950			0.950		
Satd. Flow (perm)	0	3471	1553	148	3505	0	1752	0	1568	1641	1598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			25	
Link Distance (ft)		1048			745			1037			256	
Travel Time (s)		20.4			14.5			15.7			7.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.76	0.76	0.76	0.75	0.75	0.75	0.64	0.64	0.64	0.50	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1329	230	329	1417	0	295	0	745	110	166	166
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1329	230	329	1417	0	295	0	745	110	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	pm+ov	D.P+P	NA		Prot		pm+ov	Split	NA	
Protected Phases		2	4	1	6		4		1	3	3	
Permitted Phases			2	2					4			
Detector Phase		2	4	1	6		4		1	3	3	
Switch Phase												
Minimum Initial (s)		10.0	7.0	7.0	10.0		7.0		7.0	7.0	7.0	
Minimum Split (s)		23.8	33.0	12.9	23.9		33.0		12.9	20.0	20.0	
Total Split (s)		55.0	33.0	32.0	87.0		33.0		32.0	30.0	30.0	
Total Split (%)		36.7%	22.0%	21.3%	58.0%		22.0%		21.3%	20.0%	20.0%	



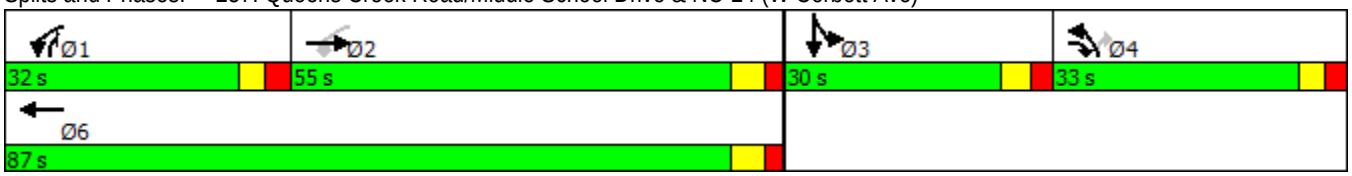
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		49.1	27.4	26.1	81.1		27.4		26.1	24.2	24.2	
Yellow Time (s)		3.8	3.0	3.0	3.8		3.0		3.0	3.2	3.2	
All-Red Time (s)		2.1	2.6	2.9	2.1		2.6		2.9	2.6	2.6	
Lost Time Adjust (s)		-0.9	-0.6	-0.9	-0.9		-0.6		-0.9	-0.8	-0.8	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0		5.0	5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag		Lead	Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes		Yes	Yes	Yes	
Vehicle Extension (s)		6.0	2.0	2.0	6.0		2.0		2.0	2.0	2.0	
Minimum Gap (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Time Before Reduce (s)		15.0	0.0	0.0	15.0		0.0		0.0	0.0	0.0	
Time To Reduce (s)		30.0	0.0	0.0	30.0		0.0		0.0	0.0	0.0	
Recall Mode		Min	Min	None	None		Min		None	None	None	
Walk Time (s)			7.0				7.0					
Flash Dont Walk (s)			20.0				20.0					
Pedestrian Calls (#/hr)			0				0					
Act Effct Green (s)		50.0	77.0	77.0	82.0		26.9		59.0	25.0	25.0	
Actuated g/C Ratio		0.34	0.52	0.52	0.55		0.18		0.40	0.17	0.17	
v/c Ratio		1.14	0.29	0.90	0.73		0.93		1.20	0.40	1.24	
Control Delay		118.4	11.2	70.9	28.3		95.5		144.9	60.6	184.9	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	
Total Delay		118.4	11.2	70.9	28.3		95.5		144.9	60.6	184.9	
LOS		F	B	E	C		F		F	E	F	
Approach Delay		102.5			36.3			130.9			154.0	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)		~801	58	266	539		286		~875	97	~403	
Queue Length 95th (ft)		#698	70	299	462		265		595	86	233	
Internal Link Dist (ft)		968			665			957			176	
Turn Bay Length (ft)			415	125			190					
Base Capacity (vph)		1165	813	367	1930		329		620	275	268	
Starvation Cap Reductn		0	0	0	0		0		0	0	0	
Spillback Cap Reductn		0	0	0	0		0		0	0	0	
Storage Cap Reductn		0	0	0	0		0		0	0	0	
Reduced v/c Ratio		1.14	0.28	0.90	0.73		0.90		1.20	0.40	1.24	

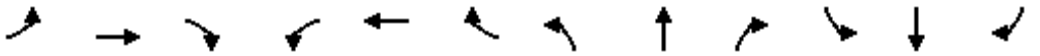
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 149			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.24			
Intersection Signal Delay: 89.3		Intersection LOS: F	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

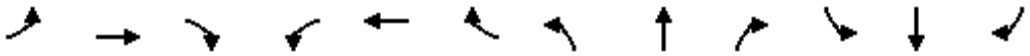
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1463	123	435	1265	0	185	0	465	21	38	30
Future Volume (vph)	0	1463	123	435	1265	0	185	0	465	21	38	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		415	125		0	190		0	0		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850						0.850		0.934	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	3471	1553	1752	3505	0	1752	0	1568	1641	1613	0
Flt Permitted				0.079			0.950			0.950		
Satd. Flow (perm)	0	3471	1553	146	3505	0	1752	0	1568	1641	1613	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			25	
Link Distance (ft)		1048			745			1037			256	
Travel Time (s)		20.4			14.5			15.7			7.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1626	137	483	1406	0	206	0	517	23	42	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1626	137	483	1406	0	206	0	517	23	75	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	pm+ov	D.P+P	NA		Prot		pm+ov	Split	NA	
Protected Phases		2	4	1	6		4		1	3	3	
Permitted Phases			2	2					4			
Detector Phase		2	4	1	6		4		1	3	3	
Switch Phase												
Minimum Initial (s)		10.0	7.0	7.0	10.0		7.0		7.0	7.0	7.0	
Minimum Split (s)		23.8	33.0	12.9	23.9		33.0		12.9	20.0	20.0	
Total Split (s)		55.0	33.0	32.0	87.0		33.0		32.0	30.0	30.0	
Total Split (%)		36.7%	22.0%	21.3%	58.0%		22.0%		21.3%	20.0%	20.0%	



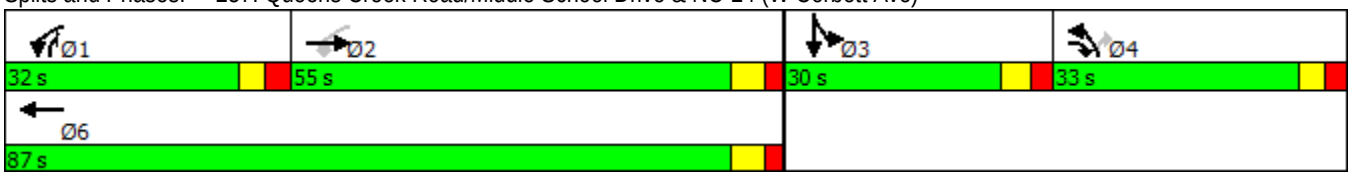
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		49.1	27.4	26.1	81.1		27.4		26.1	24.2	24.2	
Yellow Time (s)		3.8	3.0	3.0	3.8		3.0		3.0	3.2	3.2	
All-Red Time (s)		2.1	2.6	2.9	2.1		2.6		2.9	2.6	2.6	
Lost Time Adjust (s)		-0.9	-0.6	-0.9	-0.9		-0.6		-0.9	-0.8	-0.8	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0		5.0	5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag		Lead	Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes		Yes	Yes	Yes	
Vehicle Extension (s)		6.0	2.0	2.0	6.0		2.0		2.0	2.0	2.0	
Minimum Gap (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Time Before Reduce (s)		15.0	0.0	0.0	15.0		0.0		0.0	0.0	0.0	
Time To Reduce (s)		30.0	0.0	0.0	30.0		0.0		0.0	0.0	0.0	
Recall Mode		Min	Min	None	None		Min		None	None	None	
Walk Time (s)			7.0				7.0					
Flash Dont Walk (s)			20.0				20.0					
Pedestrian Calls (#/hr)			0				0					
Act Effct Green (s)		50.5	71.6	77.8	82.9		19.8		52.2	11.4	11.4	
Actuated g/C Ratio		0.40	0.57	0.62	0.66		0.16		0.41	0.09	0.09	
v/c Ratio		1.17	0.16	1.11	0.61		0.75		0.80	0.16	0.51	
Control Delay		120.0	8.3	112.2	15.9		68.9		44.0	57.9	69.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	
Total Delay		120.0	8.3	112.2	15.9		68.9		44.0	57.9	69.8	
LOS		F	A	F	B		E		D	E	E	
Approach Delay		111.3			40.6			51.1			67.0	
Approach LOS		F			D			D			E	
Queue Length 50th (ft)		~861	32	~416	344		166		376	18	61	
Queue Length 95th (ft)		#1156	53	#730	539		262		559	49	119	
Internal Link Dist (ft)		968			665			957			176	
Turn Bay Length (ft)			415	125			190					
Base Capacity (vph)		1389	984	437	2301		392		648	328	322	
Starvation Cap Reductn		0	0	0	0		0		0	0	0	
Spillback Cap Reductn		0	0	0	0		0		0	0	0	
Storage Cap Reductn		0	0	0	0		0		0	0	0	
Reduced v/c Ratio		1.17	0.14	1.11	0.61		0.53		0.80	0.07	0.23	

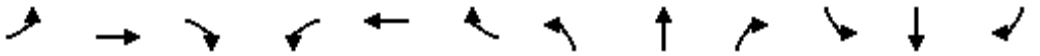
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 126.2			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 70.7		Intersection LOS: E	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

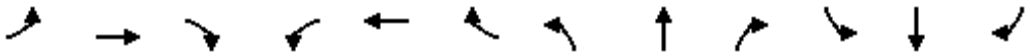
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1010	224	296	1063	0	219	0	507	55	83	83
Future Volume (vph)	0	1010	224	296	1063	0	219	0	507	55	83	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		415	125		0	190		0	0		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850						0.850		0.925	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	3471	1553	1752	3505	0	1752	0	1568	1641	1598	0
Flt Permitted				0.080			0.950			0.950		
Satd. Flow (perm)	0	3471	1553	148	3505	0	1752	0	1568	1641	1598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			25	
Link Distance (ft)		1048			745			1037			256	
Travel Time (s)		20.4			14.5			15.7			7.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.76	0.76	0.76	0.75	0.75	0.75	0.64	0.64	0.64	0.50	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1329	295	395	1417	0	342	0	792	110	166	166
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1329	295	395	1417	0	342	0	792	110	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	pm+ov	D.P+P	NA		Prot		pm+ov	Split	NA	
Protected Phases		2	4	1	6		4		1	3	3	
Permitted Phases			2	2					4			
Detector Phase		2	4	1	6		4		1	3	3	
Switch Phase												
Minimum Initial (s)		10.0	7.0	7.0	10.0		7.0		7.0	7.0	7.0	
Minimum Split (s)		23.8	33.0	12.9	23.9		33.0		12.9	20.0	20.0	
Total Split (s)		55.0	33.0	32.0	87.0		33.0		32.0	30.0	30.0	
Total Split (%)		36.7%	22.0%	21.3%	58.0%		22.0%		21.3%	20.0%	20.0%	



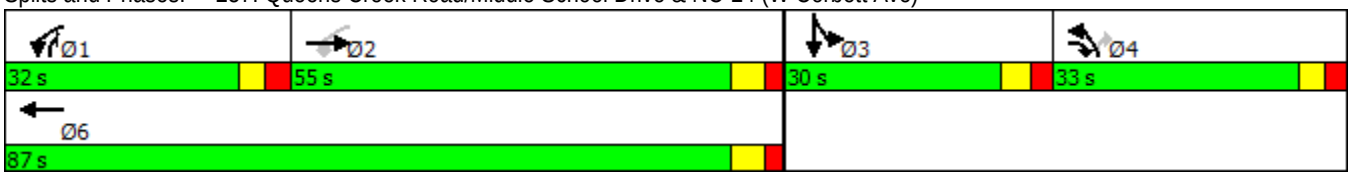
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		49.1	27.4	26.1	81.1		27.4		26.1	24.2	24.2	
Yellow Time (s)		3.8	3.0	3.0	3.8		3.0		3.0	3.2	3.2	
All-Red Time (s)		2.1	2.6	2.9	2.1		2.6		2.9	2.6	2.6	
Lost Time Adjust (s)		-0.9	-0.6	-0.9	-0.9		-0.6		-0.9	-0.8	-0.8	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0		5.0	5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag		Lead	Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes		Yes	Yes	Yes	
Vehicle Extension (s)		6.0	2.0	2.0	6.0		2.0		2.0	2.0	2.0	
Minimum Gap (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Time Before Reduce (s)		15.0	0.0	0.0	15.0		0.0		0.0	0.0	0.0	
Time To Reduce (s)		30.0	0.0	0.0	30.0		0.0		0.0	0.0	0.0	
Recall Mode		Min	Min	None	None		Min		None	None	None	
Walk Time (s)			7.0				7.0					
Flash Dont Walk (s)			20.0				20.0					
Pedestrian Calls (#/hr)			0				0					
Act Effct Green (s)		50.0	78.0	77.0	82.0		28.0		60.0	25.0	25.0	
Actuated g/C Ratio		0.33	0.52	0.51	0.55		0.19		0.40	0.17	0.17	
v/c Ratio		1.15	0.37	1.09	0.74		1.05		1.26	0.40	1.25	
Control Delay		121.9	12.1	115.6	28.9		119.7		168.9	60.9	188.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	
Total Delay		121.9	12.1	115.6	28.9		119.7		168.9	60.9	188.4	
LOS		F	B	F	C		F		F	E	F	
Approach Delay		101.9			47.8			154.1			156.6	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)		~801	78	~381	539		~362		~970	97	~403	
Queue Length 95th (ft)		#698	90	#424	462		308		#686	86	233	
Internal Link Dist (ft)		968			665			957			176	
Turn Bay Length (ft)			415	125			190					
Base Capacity (vph)		1157	807	364	1916		327		627	273	266	
Starvation Cap Reductn		0	0	0	0		0		0	0	0	
Spillback Cap Reductn		0	0	0	0		0		0	0	0	
Storage Cap Reductn		0	0	0	0		0		0	0	0	
Reduced v/c Ratio		1.15	0.37	1.09	0.74		1.05		1.26	0.40	1.25	

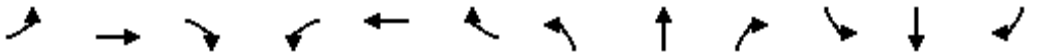
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 99.0		Intersection LOS: F	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

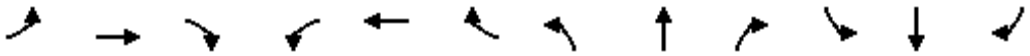
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1463	139	450	1265	0	202	0	482	21	38	30
Future Volume (vph)	0	1463	139	450	1265	0	202	0	482	21	38	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		415	125		0	190		0	0		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850						0.850		0.934	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	3471	1553	1752	3505	0	1752	0	1568	1641	1613	0
Flt Permitted				0.079			0.950			0.950		
Satd. Flow (perm)	0	3471	1553	146	3505	0	1752	0	1568	1641	1613	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			25	
Link Distance (ft)		1048			745			1037			256	
Travel Time (s)		20.4			14.5			15.7			7.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1626	154	500	1406	0	224	0	536	23	42	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1626	154	500	1406	0	224	0	536	23	75	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	pm+ov	D.P+P	NA		Prot		pm+ov	Split	NA	
Protected Phases		2	4	1	6		4		1	3	3	
Permitted Phases			2	2					4			
Detector Phase		2	4	1	6		4		1	3	3	
Switch Phase												
Minimum Initial (s)		10.0	7.0	7.0	10.0		7.0		7.0	7.0	7.0	
Minimum Split (s)		23.8	33.0	12.9	23.9		33.0		12.9	20.0	20.0	
Total Split (s)		55.0	33.0	32.0	87.0		33.0		32.0	30.0	30.0	
Total Split (%)		36.7%	22.0%	21.3%	58.0%		22.0%		21.3%	20.0%	20.0%	



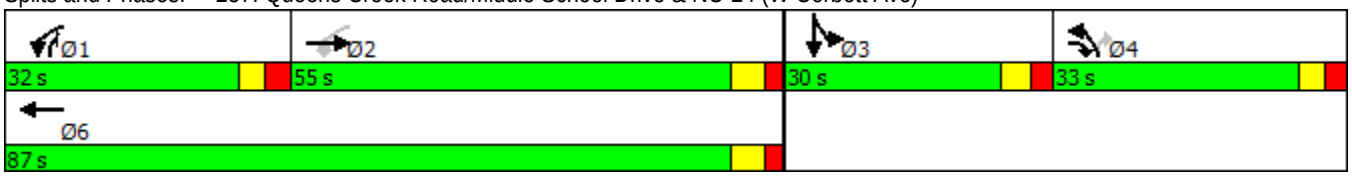
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		49.1	27.4	26.1	81.1		27.4		26.1	24.2	24.2	
Yellow Time (s)		3.8	3.0	3.0	3.8		3.0		3.0	3.2	3.2	
All-Red Time (s)		2.1	2.6	2.9	2.1		2.6		2.9	2.6	2.6	
Lost Time Adjust (s)		-0.9	-0.6	-0.9	-0.9		-0.6		-0.9	-0.8	-0.8	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0		5.0	5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag		Lead	Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes		Yes	Yes	Yes	
Vehicle Extension (s)		6.0	2.0	2.0	6.0		2.0		2.0	2.0	2.0	
Minimum Gap (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Time Before Reduce (s)		15.0	0.0	0.0	15.0		0.0		0.0	0.0	0.0	
Time To Reduce (s)		30.0	0.0	0.0	30.0		0.0		0.0	0.0	0.0	
Recall Mode		Min	Min	None	None		Min		None	None	None	
Walk Time (s)			7.0				7.0					
Flash Dont Walk (s)			20.0				20.0					
Pedestrian Calls (#/hr)			0				0					
Act Effct Green (s)		50.5	72.6	77.8	82.8		20.9		53.3	11.5	11.5	
Actuated g/C Ratio		0.40	0.57	0.61	0.65		0.16		0.42	0.09	0.09	
v/c Ratio		1.18	0.17	1.15	0.62		0.78		0.82	0.16	0.52	
Control Delay		124.8	8.4	129.6	16.5		70.6		45.3	58.4	70.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	
Total Delay		124.8	8.4	129.6	16.5		70.6		45.3	58.4	70.4	
LOS		F	A	F	B		E		D	E	E	
Approach Delay		114.7			46.2			52.8			67.6	
Approach LOS		F			D			D			E	
Queue Length 50th (ft)		~879	37	~457	358		182		398	18	61	
Queue Length 95th (ft)		#1156	59	#765	539		284		589	49	119	
Internal Link Dist (ft)		968			665			957			176	
Turn Bay Length (ft)			415	125			190					
Base Capacity (vph)		1376	975	433	2280		389		656	325	319	
Starvation Cap Reductn		0	0	0	0		0		0	0	0	
Spillback Cap Reductn		0	0	0	0		0		0	0	0	
Storage Cap Reductn		0	0	0	0		0		0	0	0	
Reduced v/c Ratio		1.18	0.16	1.15	0.62		0.58		0.82	0.07	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 127.3			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 74.6		Intersection LOS: E	
Intersection Capacity Utilization 94.9%		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: 257: Queens Creek Road/Middle School Drive & NC-24 (W Corbett Ave)



Morton & Morton
Design Services, PLLC

Count Number: 1997
NCDOT Division Number: 3
County: Onslow
City: Swansboro
Count Type: Turning Movement (Classification)
13 Hour Count Volume: 35,760

Intersection: NC 24 (Corbett Ave) and Queens Creek Rd & Middle School Exit			
Count Date	**Count Time**	**Weather Conditions**	**Precipitation**
5/21/2019	2:15pm to 7pm	62-86° Clear	5%
5/22/2019	6am to 2:15pm	63-89° Clear	5%

Comments:

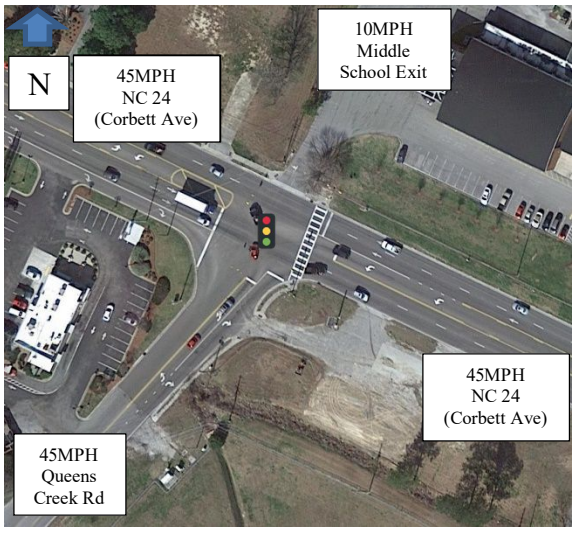
Counted by:	Don Morton
Data Processor:	Chase Arthur
Method Used:	Jamar Countboard/Video
Equipment Operating:	Yes
School in Session:	Yes
Break Times:	N/A
Area Lighting Present:	No
Traffic Control:	Traffic Signal
Signal Cabinet Number:	03-0257
Disabled Pedestrians:	No
Construction:	No
Traffic Flow Disruption:	No

Northbound Approach: Queens Creek Rd
Stop sign within 300 feet: No
Signal within 300 feet: No
Railroad within 200 feet: No If Yes:___feet

Southbound Approach: Middle School Exit
Stop sign within 300 feet: No
Signal within 300 feet: No
Railroad within 200 feet: No If Yes:___feet

Westbound Approach: NC 24 (Corbett Ave)
Stop sign within 300 feet: No
Signal within 300 feet: No
Railroad within 200 feet: No If Yes:___feet

Eastbound Approach: NC 24 (Corbett Ave)
Stop sign within 300 feet: No
Signal within 300 feet: No
Railroad within 200 feet: No If Yes:___feet



919-882-6066 4700 Homewood CT, Suite 200 Raleigh, NC 27609

Morton & Morton
Design Services, PLLC

Count Number: 1997
NCDOT Division Number: 3
County: Onslow
City: Swansboro
Count Type: Turning Movement (Classification)
13 Hour Count Volume: 35,760

Middle School Exit looking north away from NC 24 (Corbett Ave).

Middle School Exit looking south towards NC 24 (Corbett Ave).

Morton & Morton
Design Services, PLLC

Count Number: 1997
NCDOT Division Number: 3
County: Onslow
City: Swansboro
Count Type: Turning Movement (Classification)
13 Hour Count Volume: 35,760

NC 24 (Corbett Ave) looking east away from Queens Creek Rd & Middle School Exit.

NC 24 (Corbett Ave) looking west towards Queens Creek Rd & Middle School Exit.

Morton & Morton
Design Services, PLLC

Count Number: 1997
NCDOT Division Number: 3
County: Onslow
City: Swansboro
Count Type: Turning Movement (Classification)
13 Hour Count Volume: 35,760

Queens Creek Rd looking south away from NC 24 (Corbett Ave).

Queens Creek Rd looking north towards NC 24 (Corbett Ave).

Morton & Morton
Design Services, PLLC

Count Number: 1997
NCDOT Division Number: 3
County: Onslow
City: Swansboro
Count Type: Turning Movement (Classification)
13 Hour Count Volume: 35,760

NC 24 (Corbett Ave) looking west away from Queens Creek Rd & Middle School Exit.

NC 24 (Corbett Ave) looking east towards Queens Creek Rd & Middle School Exit.

Morton & Morton
Design Services, PLLC

Count Number: 1997
NCDOT Division Number: 3
County: Onslow
City: Swansboro
Count Type: Turning Movement (Classification)
13 Hour Count Volume: 35,760

Signal Cabinet.

Morton & Morton Design Services, PLLC

4700 Homewood Ct, Suite 200
Raleigh, North Carolina 27609
Ph. (919) 882-6066

www.mortonmorton.com

File Name : 1997
Site Code : 1997
Start Date : 5/22/2019
Page No : 1

Groups Printed- Passenger Vehicles - School Buses - Trucks 3+ Axles - Transit Buses - Bicycles

	Middle School Exit Southbound					NC 24 (Corbett Ave) Westbound					Queens Creek Rd Northbound					NC 24 (Corbett Ave) Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
06:00 AM	0	0	0	0	0	6	44	0	0	50	7	0	15	0	22	0	32	3	0	35	0	107	107
06:05 AM	0	0	0	0	0	4	44	0	0	48	7	0	17	0	24	0	52	2	0	54	0	126	126
06:10 AM	0	0	0	0	0	3	49	0	0	52	3	0	20	0	23	0	47	0	0	47	0	122	122
06:15 AM	1	0	0	0	1	9	52	0	0	61	10	0	29	0	39	0	43	9	0	52	0	153	153
06:20 AM	0	0	0	0	0	14	60	0	0	74	5	0	22	0	27	0	72	8	0	80	0	181	181
06:25 AM	0	2	2	0	4	27	55	0	0	82	9	0	33	0	42	0	44	10	0	54	0	182	182
06:30 AM	4	3	0	0	7	14	74	0	0	88	11	0	35	0	46	0	74	18	0	92	0	233	233
06:35 AM	5	10	5	0	20	30	74	0	0	104	9	0	34	0	43	0	65	19	0	84	0	251	251
06:40 AM	5	12	9	0	26	37	67	0	0	104	7	0	47	0	54	0	66	23	0	89	0	273	273
06:45 AM	3	13	15	0	31	25	55	0	0	80	21	0	40	0	61	0	83	23	0	106	0	278	278
06:50 AM	7	7	4	0	18	35	104	0	0	139	15	0	41	0	56	0	95	26	0	121	0	334	334
06:55 AM	11	10	21	0	42	8	78	0	0	86	17	0	46	0	63	0	83	13	0	96	0	287	287
Total	36	57	56	0	149	212	756	0	0	968	121	0	379	0	500	0	756	154	0	910	0	2527	2527
07:00 AM	7	4	6	0	17	11	107	0	0	118	15	0	52	0	67	0	93	6	0	99	0	301	301
07:05 AM	7	9	12	0	28	8	102	0	0	110	11	0	29	0	40	0	75	7	0	82	0	260	260
07:10 AM	1	2	4	0	7	18	97	0	0	115	9	0	30	0	39	0	81	3	0	84	0	245	245
07:15 AM	1	3	0	0	4	26	70	0	0	96	12	0	23	0	35	0	57	12	0	69	0	204	204
07:20 AM	0	4	0	0	4	12	78	0	0	90	14	0	28	0	42	0	106	8	0	114	0	250	250
07:25 AM	1	1	2	0	4	9	96	0	0	105	37	0	45	0	82	0	74	7	0	81	0	272	272
07:30 AM	1	1	0	0	2	22	67	0	0	89	5	0	31	0	36	0	74	15	0	89	0	216	216
07:35 AM	0	0	0	0	0	17	91	0	0	108	18	0	38	0	56	0	80	11	0	91	0	255	255
07:40 AM	0	0	0	0	0	21	67	0	0	88	2	0	32	0	34	0	88	11	0	99	0	221	221
07:45 AM	0	0	2	0	2	15	69	0	0	84	2	0	31	0	33	0	99	11	0	110	0	229	229
07:50 AM	0	1	0	0	1	27	51	0	0	78	14	0	31	0	45	0	98	11	0	109	0	233	233
07:55 AM	0	0	1	0	1	31	77	0	0	108	13	0	41	0	54	0	96	15	0	111	0	274	274
Total	18	25	27	0	70	217	972	0	0	1189	152	0	411	0	563	0	1021	117	0	1138	0	2960	2960
08:00 AM	0	1	2	0	3	12	63	0	0	75	13	0	26	0	39	0	77	20	0	97	0	214	214
08:05 AM	0	0	0	0	0	29	65	0	0	94	14	0	60	0	74	0	60	12	0	72	0	240	240
08:10 AM	0	1	1	0	2	10	71	0	0	81	14	0	37	0	51	0	83	10	0	93	0	227	227
08:15 AM	0	0	2	0	2	18	45	0	0	63	25	0	44	0	69	0	81	10	0	91	0	225	225
08:20 AM	0	1	0	0	1	11	66	0	0	77	11	0	21	0	32	0	89	7	0	96	0	206	206
08:25 AM	1	1	0	0	2	16	79	0	0	95	12	0	32	0	44	0	77	6	0	83	0	224	224
08:30 AM	0	0	1	0	1	23	57	0	0	80	9	0	29	0	38	0	56	4	0	60	0	179	179
08:35 AM	0	1	0	0	1	14	48	0	0	62	15	0	16	0	31	0	79	3	0	82	0	176	176
08:40 AM	0	2	2	0	4	19	61	0	0	80	7	0	25	0	32	0	70	5	0	75	0	191	191
08:45 AM	0	0	2	0	2	11	58	0	0	69	6	0	39	0	45	0	73	3	0	76	0	192	192
08:50 AM	0	0	1	0	1	15	61	0	0	76	7	0	28	0	35	0	50	4	0	54	0	166	166
08:55 AM	0	0	0	0	0	14	60	0	0	74	8	0	21	0	29	0	87	3	0	90	0	193	193
Total	1	7	11	0	19	192	734	0	0	926	141	0	378	0	519	0	882	87	0	969	0	2433	2433
09:00 AM	1	0	0	0	1	22	55	0	0	77	8	0	30	0	38	0	58	4	0	62	0	178	178
09:05 AM	0	0	0	0	0	23	63	0	0	86	8	0	22	0	30	0	74	4	0	78	0	194	194
09:10 AM	0	0	2	0	2	19	54	0	0	73	10	0	22	0	32	0	58	5	0	63	0	170	170
09:15 AM	0	0	0	0	0	14	60	0	0	74	4	0	22	0	26	0	70	3	0	73	0	173	173
09:20 AM	1	0	0	0	1	13	63	0	0	76	3	0	11	0	14	0	57	4	0	61	0	152	152
09:25 AM	0	0	0	0	0	22	56	0	0	78	9	0	29	0	38	0	61	2	0	63	0	179	179
09:30 AM	0	0	0	0	0	16	62	0	0	78	9	0	23	0	32	0	54	11	0	65	0	175	175
09:35 AM	0	0	0	0	0	19	68	0	0	87	9	0	17	0	26	0	71	2	0	73	0	186	186
09:40 AM	0	0	0	0	0	14	59	0	0	73	4	0	34	0	38	0	65	6	0	71	0	182	182
09:45 AM	0	1	0	0	1	18	53	0	0	71	10	0	22	0	32	0	59	3	0	62	0	166	166
09:50 AM	1	0	0	0	1	18	51	0	0	69	4	0	27	0	31	0	76	6	0	82	0	183	183
09:55 AM	1	1	0	0	2	14	65	0	0	79	6	0	28	0	34	0	68	4	0	72	0	187	187
Total	4	2	2	0	8	212	709	0	0	921	84	0	287	0	371	0	771	54	0	825	0	2125	2125

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Groups Printed- Passenger Vehicles - School Buses - Trucks 3+ Axles - Transit Buses - Bicycles

	Middle School Exit Southbound					NC 24 (Corbett Ave) Westbound					Queens Creek Rd Northbound					NC 24 (Corbett Ave) Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
10:00 AM	2	1	0	0	3	12	59	0	0	71	15	0	29	0	44	0	53	1	0	54	0	172	172
10:05 AM	0	0	2	0	2	18	85	0	0	103	10	0	25	0	35	0	64	5	0	69	0	209	209
10:10 AM	0	0	0	0	0	13	58	0	0	71	9	0	28	0	37	0	70	14	0	84	0	192	192
10:15 AM	0	0	0	0	0	20	54	0	0	74	8	0	24	0	32	0	67	4	0	71	0	177	177
10:20 AM	2	0	1	0	3	22	78	0	0	100	6	0	21	0	27	0	65	7	0	72	0	202	202
10:25 AM	0	0	0	0	0	30	48	0	0	78	10	0	20	0	30	0	79	7	0	86	0	194	194
10:30 AM	0	0	1	0	1	14	54	0	0	68	6	0	13	0	19	0	85	5	0	90	0	178	178
10:35 AM	1	1	3	0	5	22	60	0	0	82	12	0	29	0	41	0	44	9	0	53	0	181	181
10:40 AM	0	1	1	0	2	13	44	0	0	57	5	0	26	0	31	0	56	2	0	58	0	148	148
10:45 AM	0	1	0	0	1	19	62	0	0	81	6	0	30	0	36	0	75	8	0	83	0	201	201
10:50 AM	1	1	0	0	2	31	68	0	0	99	6	0	15	0	21	0	78	6	0	84	0	206	206
10:55 AM	0	1	0	0	1	25	59	0	0	84	5	0	22	0	27	0	69	7	0	76	0	188	188
Total	6	6	8	0	20	239	729	0	0	968	98	0	282	0	380	0	805	75	0	880	0	2248	2248
11:00 AM	0	0	0	0	0	21	47	0	0	68	2	0	27	0	29	0	81	3	0	84	0	181	181
11:05 AM	0	0	0	0	0	16	78	0	0	94	7	0	35	0	42	0	58	9	0	67	0	203	203
11:10 AM	1	3	1	0	5	21	59	0	0	80	2	0	21	0	23	0	72	3	0	75	0	183	183
11:15 AM	0	0	2	2	2	22	67	0	0	89	8	0	27	0	35	0	60	6	0	66	2	192	194
11:20 AM	2	0	0	0	2	20	54	0	0	74	6	0	30	0	36	0	73	5	0	78	0	190	190
11:25 AM	0	0	1	0	1	23	68	0	0	91	2	0	28	0	30	0	57	6	0	63	0	185	185
11:30 AM	0	0	0	0	0	20	64	0	0	84	7	0	24	0	31	0	90	2	0	92	0	207	207
11:35 AM	0	0	0	0	0	32	61	0	0	93	8	0	32	0	40	0	61	9	0	70	0	203	203
11:40 AM	1	1	0	0	2	24	73	0	0	97	7	0	17	0	24	0	65	8	0	73	0	196	196
11:45 AM	2	2	0	0	4	13	59	0	0	72	7	0	28	0	35	0	64	6	0	70	0	181	181
11:50 AM	0	1	0	0	1	18	60	0	0	78	8	0	27	0	35	0	70	7	0	77	0	191	191
11:55 AM	0	1	0	0	1	22	68	0	0	90	6	0	37	0	43	0	61	3	0	64	0	198	198
Total	6	8	4	2	18	252	758	0	0	1010	70	0	333	0	403	0	812	67	0	879	2	2310	2312
12:00 PM	1	0	1	0	2	36	58	0	0	94	3	0	26	0	29	0	102	7	0	109	0	234	234
12:05 PM	1	0	2	0	3	22	75	0	0	97	13	0	21	0	34	0	63	14	0	77	0	211	211
12:10 PM	0	0	0	1	0	37	48	0	0	85	7	0	28	0	35	0	55	10	0	65	1	185	186
12:15 PM	0	0	1	0	1	26	78	0	0	104	18	0	23	0	41	0	86	9	0	95	0	241	241
12:20 PM	1	0	1	0	2	22	56	0	0	78	10	0	38	0	48	0	58	12	0	70	0	198	198
12:25 PM	0	0	2	0	2	31	68	0	0	99	12	0	30	0	42	0	74	7	0	81	0	224	224
12:30 PM	0	0	0	0	0	28	74	0	0	102	2	0	29	0	31	0	75	8	0	83	0	216	216
12:35 PM	1	2	0	1	3	31	70	0	0	101	5	0	30	0	35	0	55	9	0	64	1	203	204
12:40 PM	1	1	0	0	2	22	70	0	0	92	6	0	24	0	30	0	73	12	0	85	0	209	209
12:45 PM	0	0	0	0	0	30	58	0	0	88	4	0	16	0	20	0	86	20	0	106	0	214	214
12:50 PM	0	0	1	0	1	26	63	0	0	89	20	0	30	0	50	0	65	24	0	89	0	229	229
12:55 PM	1	0	1	0	2	20	68	0	0	88	19	0	32	0	51	0	64	9	0	73	0	214	214
Total	6	3	9	2	18	331	786	0	0	1117	119	0	327	0	446	0	856	141	0	997	2	2578	2580
01:00 PM	1	0	1	0	2	35	55	0	0	90	9	0	16	0	25	0	73	13	0	86	0	203	203
01:05 PM	0	4	0	0	4	27	65	0	0	92	10	0	15	0	25	0	72	15	0	87	0	208	208
01:10 PM	1	0	0	0	1	24	63	0	0	87	6	0	19	0	25	0	88	16	0	104	0	217	217
01:15 PM	0	0	0	0	0	35	53	0	0	88	8	0	27	0	35	0	49	9	0	58	0	181	181
01:20 PM	1	0	1	0	2	27	67	0	0	94	8	0	19	0	27	0	91	9	0	100	0	223	223
01:25 PM	0	1	0	0	1	17	84	0	0	101	6	0	31	0	37	0	83	10	0	93	0	232	232
01:30 PM	0	0	2	0	2	28	76	0	0	104	10	0	19	0	29	0	65	5	0	70	0	205	205
01:35 PM	0	0	0	0	0	19	65	0	0	84	15	0	35	0	50	0	80	18	0	98	0	232	232
01:40 PM	2	0	0	0	2	24	78	0	0	102	14	0	20	0	34	0	73	10	0	83	0	221	221
01:45 PM	0	0	1	0	1	27	64	0	0	91	12	0	26	0	38	0	57	9	0	66	0	196	196
01:50 PM	3	1	2	0	6	23	64	0	0	87	9	0	38	0	47	0	61	9	0	70	0	210	210
01:55 PM	0	0	0	0	0	26	65	0	0	91	9	0	24	0	33	0	114	4	0	118	0	242	242
Total	8	6	7	0	21	312	799	0	0	1111	116	0	289	0	405	0	906	127	0	1033	0	2570	2570

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Start Date : 5/22/2019

Groups Printed- Passenger Vehicles - School Buses - Trucks 3+ Axles - Transit Buses - Bicycles

	Middle School Exit Southbound					NC 24 (Corbett Ave) Westbound					Queens Creek Rd Northbound					NC 24 (Corbett Ave) Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	0	0	1	0	1	25	57	0	0	82	8	0	26	0	34	0	79	12	0	91	0	208	208
02:05 PM	0	0	0	0	0	32	71	0	0	103	19	0	26	0	45	0	70	16	0	86	0	234	234
02:10 PM	0	1	0	0	1	28	51	0	0	79	8	0	38	0	46	0	68	9	0	77	0	203	203
02:15 PM	1	0	1	0	2	45	78	0	0	123	12	0	30	0	42	0	42	13	0	55	0	222	222
02:20 PM	2	0	2	0	4	30	85	0	0	115	9	0	41	0	50	0	70	16	0	86	0	255	255
02:25 PM	5	10	5	1	20	33	59	0	1	92	13	0	33	0	46	0	72	18	0	90	2	248	250
02:30 PM	5	14	9	0	28	40	72	0	0	112	4	0	24	0	28	0	89	11	0	100	0	268	268
02:35 PM	1	1	3	0	5	39	78	0	0	117	26	0	53	0	79	0	101	10	0	111	0	312	312
02:40 PM	5	1	4	0	10	37	78	0	1	115	30	0	58	0	88	0	57	11	0	68	1	281	282
02:45 PM	1	4	1	0	6	29	75	0	0	104	29	0	36	0	65	0	83	10	0	93	0	268	268
02:50 PM	0	0	0	0	0	30	74	0	0	104	16	0	32	0	48	0	93	13	0	106	0	258	258
02:55 PM	1	2	0	0	3	29	63	0	0	92	9	0	25	0	34	0	87	13	0	100	0	229	229
Total	21	33	26	1	80	397	841	0	2	1238	183	0	422	0	605	0	911	152	0	1063	3	2986	2989
03:00 PM	3	2	1	0	6	27	61	0	0	88	13	0	18	0	31	0	77	8	0	85	0	210	210
03:05 PM	0	1	0	0	1	30	68	0	0	98	13	0	33	0	46	0	73	12	0	85	0	230	230
03:10 PM	1	0	0	0	1	26	62	0	2	88	15	0	33	0	48	0	61	16	0	77	2	214	216
03:15 PM	4	1	1	0	6	24	99	0	0	123	32	0	31	0	63	0	62	7	0	69	0	261	261
03:20 PM	2	0	0	1	2	36	73	0	0	109	15	0	37	0	52	0	77	5	0	82	1	245	246
03:25 PM	3	1	2	0	6	26	83	0	0	109	8	0	23	0	31	0	107	5	0	112	0	258	258
03:30 PM	1	0	2	0	3	58	95	0	0	153	10	0	50	0	60	0	70	9	0	79	0	295	295
03:35 PM	0	0	0	0	0	38	75	0	0	113	23	0	36	0	59	0	90	10	0	100	0	272	272
03:40 PM	1	0	0	0	1	43	71	0	0	114	17	0	38	0	55	0	87	6	0	93	0	263	263
03:45 PM	3	1	2	0	6	29	95	0	0	124	9	0	42	0	51	0	93	11	0	104	0	285	285
03:50 PM	1	3	1	1	5	30	115	0	0	145	16	0	35	0	51	0	78	5	0	83	1	284	285
03:55 PM	1	0	2	0	3	35	80	0	0	115	16	0	31	0	47	0	86	8	0	94	0	259	259
Total	20	9	11	2	40	402	977	0	2	1379	187	0	407	0	594	0	961	102	0	1063	4	3076	3080
04:00 PM	7	7	6	0	20	31	89	0	0	120	15	0	46	0	61	0	82	5	0	87	0	288	288
04:05 PM	11	14	12	0	37	22	94	0	0	116	15	0	26	0	41	0	125	6	0	131	0	325	325
04:10 PM	2	9	6	1	17	39	99	0	1	138	20	0	51	0	71	0	59	8	0	67	2	293	295
04:15 PM	4	5	1	0	10	20	87	0	0	107	19	0	41	0	60	0	149	4	0	153	0	330	330
04:20 PM	0	0	2	0	2	35	123	0	0	158	9	0	25	0	34	0	114	5	0	119	0	313	313
04:25 PM	0	2	2	0	4	39	126	0	0	165	20	0	51	0	71	0	98	13	0	111	0	351	351
04:30 PM	1	2	3	0	6	24	87	0	0	111	9	0	19	0	28	0	129	5	0	134	0	279	279
04:35 PM	0	0	1	0	1	35	85	0	0	120	15	0	38	0	53	0	113	15	0	128	0	302	302
04:40 PM	0	0	0	0	0	38	89	0	0	127	8	0	32	0	40	0	111	8	0	119	0	286	286
04:45 PM	0	0	1	0	1	41	91	0	0	132	20	0	46	0	66	0	129	10	0	139	0	338	338
04:50 PM	2	1	0	0	3	40	94	0	0	134	21	0	32	0	53	0	96	14	0	110	0	300	300
04:55 PM	0	3	0	0	3	38	113	0	0	151	7	0	31	0	38	0	126	16	0	142	0	334	334
Total	27	43	34	1	104	402	1177	0	1	1579	178	0	438	0	616	0	1331	109	0	1440	2	3739	3741
05:00 PM	0	0	0	0	0	39	104	0	0	143	11	0	46	0	57	0	130	12	0	142	0	342	342
05:05 PM	8	4	6	0	18	40	97	0	0	137	13	0	35	0	48	0	74	8	0	82	0	285	285
05:10 PM	0	5	4	0	9	41	90	0	0	131	24	0	49	0	73	0	105	14	0	119	0	332	332
05:15 PM	5	4	8	0	17	38	80	0	0	118	12	0	46	0	58	0	87	12	0	99	0	292	292
05:20 PM	1	2	0	1	3	33	83	0	0	116	20	0	29	0	49	0	138	7	0	145	1	313	314
05:25 PM	0	0	0	0	0	37	64	0	0	101	9	0	23	0	32	0	132	12	0	144	0	277	277
05:30 PM	1	0	0	0	1	54	100	0	1	154	16	0	27	0	43	0	117	8	0	125	1	323	324
05:35 PM	0	0	0	0	0	34	86	0	0	120	12	0	25	0	37	0	145	18	0	163	0	320	320
05:40 PM	0	1	0	0	1	60	97	0	0	157	16	0	27	0	43	0	85	22	0	107	0	308	308
05:45 PM	0	0	0	0	0	45	76	0	0	121	11	0	25	0	36	0	71	15	0	86	0	243	243
05:50 PM	0	0	0	0	0	32	99	0	0	131	13	0	29	0	42	0	85	11	0	96	0	269	269
05:55 PM	1	0	0	0	1	45	125	0	0	170	8	0	26	0	34	0	87	16	0	103	0	308	308
Total	16	16	18	1	50	498	1101	0	1	1599	165	0	387	0	552	0	1256	155	0	1411	2	3612	3614

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Page No : 4

Groups Printed- Passenger Vehicles - School Buses - Trucks 3+ Axles - Transit Buses - Bicycles

	Middle School Exit Southbound					NC 24 (Corbett Ave) Westbound					Queens Creek Rd Northbound					NC 24 (Corbett Ave) Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
06:00 PM	0	1	0	0	1	50	124	0	0	174	9	0	29	0	38	0	82	7	0	89	0	302	302
06:05 PM	0	0	0	0	0	41	83	0	0	124	8	0	21	0	29	0	70	12	0	82	0	235	235
06:10 PM	0	0	0	0	0	39	77	0	0	116	9	0	36	0	45	0	49	9	0	58	0	219	219
06:15 PM	0	0	0	0	0	28	90	0	0	118	17	0	28	0	45	0	70	9	0	79	0	242	242
06:20 PM	0	0	0	0	0	29	78	0	0	107	3	0	31	0	34	0	62	14	0	76	0	217	217
06:25 PM	0	1	0	0	1	29	57	0	0	86	5	0	23	0	28	0	58	14	0	72	0	187	187
06:30 PM	0	0	0	0	0	35	65	0	0	100	11	0	51	0	62	0	62	11	0	73	0	235	235
06:35 PM	0	0	1	0	1	38	55	0	0	93	23	0	54	0	77	0	64	12	0	76	0	247	247
06:40 PM	0	0	0	0	0	42	74	0	0	116	10	0	28	0	38	0	43	10	0	53	0	207	207
06:45 PM	0	0	0	0	0	25	61	0	0	86	5	0	25	0	30	0	67	9	0	76	0	192	192
06:50 PM	0	0	0	0	0	46	44	0	0	90	3	0	13	0	16	0	43	9	0	52	0	158	158
06:55 PM	0	0	0	0	0	41	36	0	0	77	5	0	24	0	29	0	43	6	0	49	0	155	155
Total	0	2	1	0	3	443	844	0	0	1287	108	0	363	0	471	0	713	122	0	835	0	2596	2596
Grand Total	169	217	214	9	600	4109	11183	0	6	15292	1722	0	4703	0	6425	0	11981	1462	0	13443	15	35760	35775
Apprch %	28.2	36.2	35.7			26.9	73.1	0			26.8	0	73.2			0	89.1	10.9					
Total %	0.5	0.6	0.6		1.7	11.5	31.3	0		42.8	4.8	0	13.2		18	0	33.5	4.1		37.6	0	100	
Passenger Vehicles	163	198	195		565	4050	10854	0		14910	1670	0	4622		6292	0	11634	1404		13038	0	0	34805
% Passenger Vehicles	96.4	91.2	91.1	100	92.8	98.6	97.1	0	100	97.5	97	0	98.3	0	97.9	0	97.1	96	0	97	0	0	97.3
School Buses	6	19	18		43	37	12	0		49	28	0	57		85	0	35	34		69	0	0	246
% School Buses	3.6	8.8	8.4	0	7.1	0.9	0.1	0	0	0.3	1.6	0	1.2	0	1.3	0	0.3	2.3	0	0.5	0	0	0.7
Trucks 3+ Axles	0	0	1		1	21	316	0		337	24	0	23		47	0	306	24		330	0	0	715
% Trucks 3+ Axles	0	0	0.5	0	0.2	0.5	2.8	0	0	2.2	1.4	0	0.5	0	0.7	0	2.6	1.6	0	2.5	0	0	2
Transit Buses	0	0	0		0	0	0	0		0	0	0	0		0	0	4	0		4	0	0	4
% Transit Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles	0	0	0		0	1	1	0		2	0	0	1		1	0	2	0		2	0	0	5
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Morton & Morton Design Services, PLLC
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Raleigh, North Carolina 27609
Ph. (919) 882-6066

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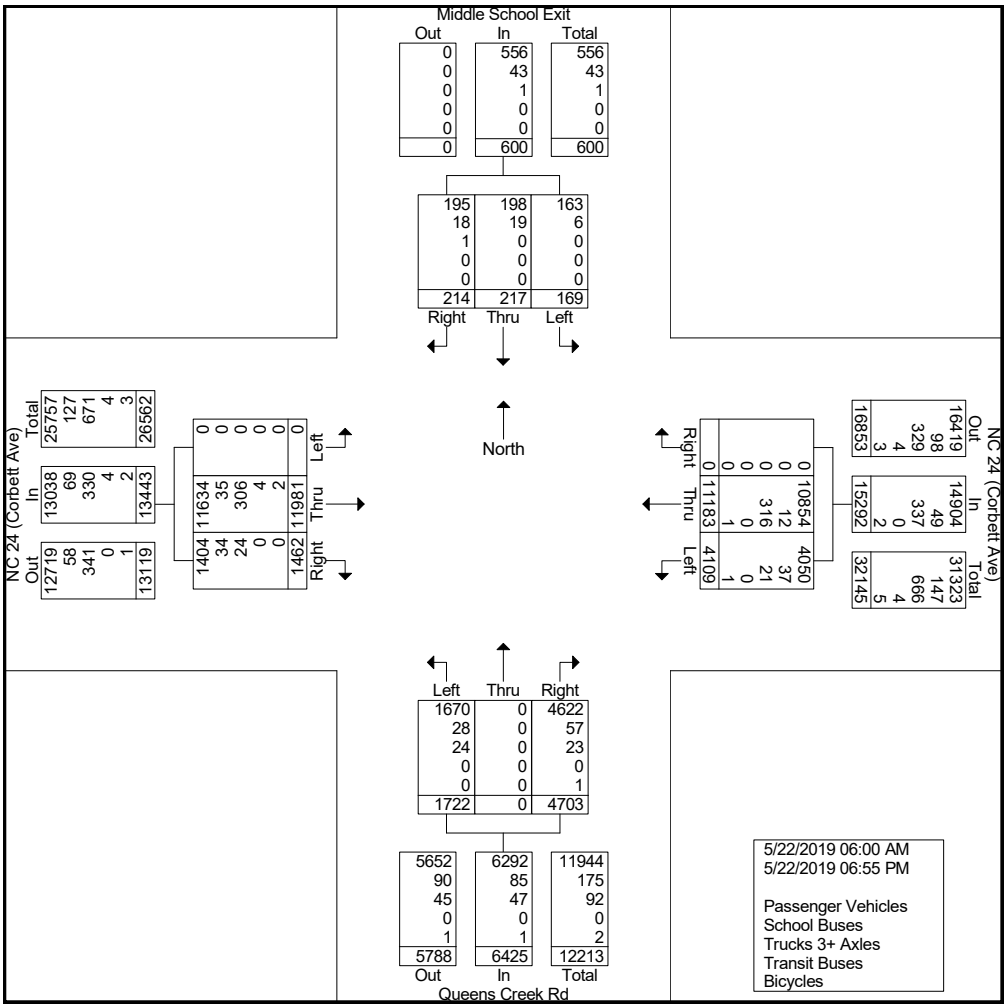
File Name : 1997
Site Code : 1997
Start Date : 5/22/2019
Page No : 5



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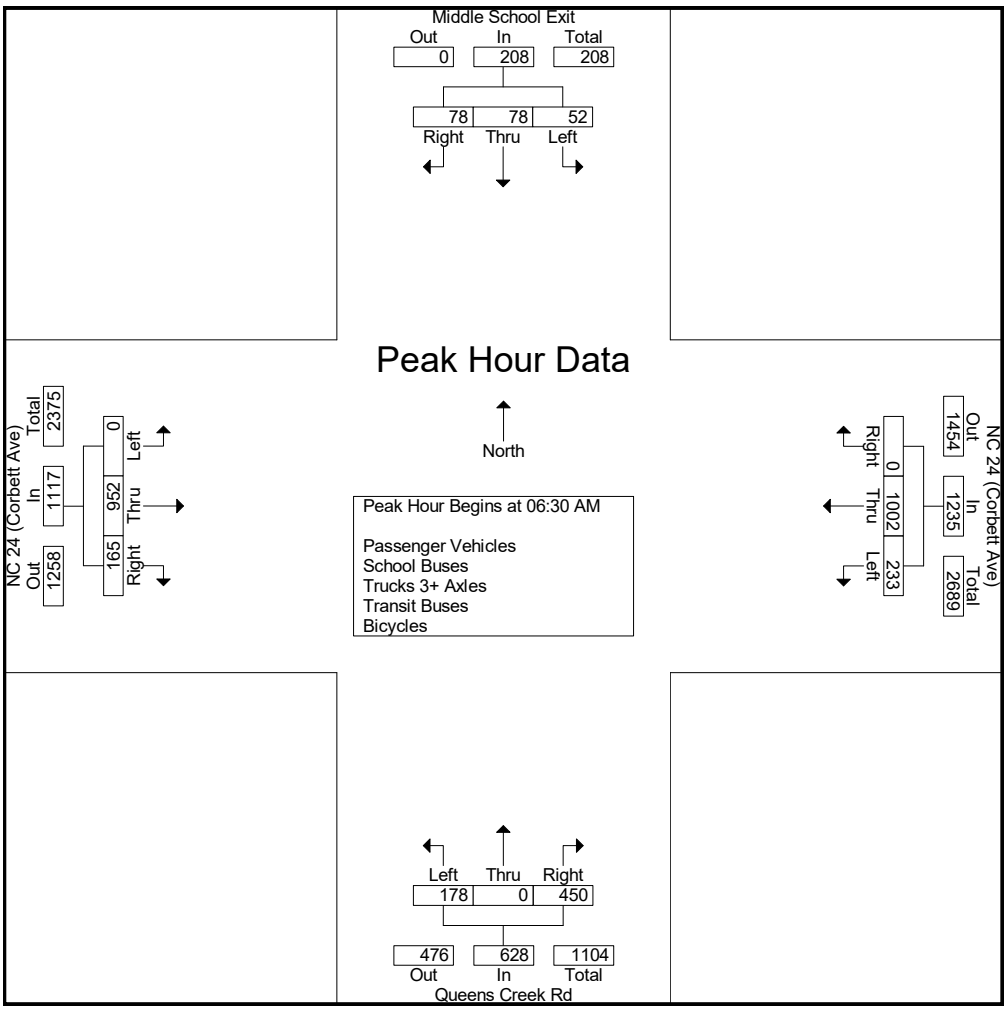
Page No : 6

	Middle School Exit Southbound				NC 24 (Corbett Ave) Westbound				Queens Creek Rd Northbound				NC 24 (Corbett Ave) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:55 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	4	3	0	7	14	74	0	88	11	0	35	46	0	74	18	92	233
06:35 AM	5	10	5	20	30	74	0	104	9	0	34	43	0	65	19	84	251
06:40 AM	5	12	9	26	**37**	67	0	104	7	0	47	54	0	66	23	89	273
06:45 AM	3	**13**	15	31	25	55	0	80	21	0	40	61	0	83	23	106	278
06:50 AM	7	7	4	18	35	104	0	**139**	15	0	41	56	0	95	**26**	**121**	**334**
06:55 AM	**11**	10	**21**	**42**	8	78	0	86	17	0	46	63	0	83	13	96	287
07:00 AM	7	4	6	17	11	**107**	0	118	15	0	**52**	67	0	93	6	99	301
07:05 AM	7	9	12	28	8	102	0	110	11	0	29	40	0	75	7	82	260
07:10 AM	1	2	4	7	18	97	0	115	9	0	30	39	0	81	3	84	245
07:15 AM	1	3	0	4	26	70	0	96	12	0	23	35	0	57	12	69	204
07:20 AM	0	4	0	4	12	78	0	90	14	0	28	42	0	**106**	8	114	250
07:25 AM	1	1	2	4	9	96	0	105	**37**	0	45	**82**	0	74	7	81	272
Total Volume	52	78	78	208	233	1002	0	1235	178	0	450	628	0	952	165	1117	3188
% App. Total	25	37.5	37.5		18.9	81.1	0		28.3	0	71.7		0	85.2	14.8		
PHF	.394	.500	.310	.413	.525	.780	.000	.740	.401	.000	.721	.638	.000	.748	.529	.769	.795



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File Name : 1997
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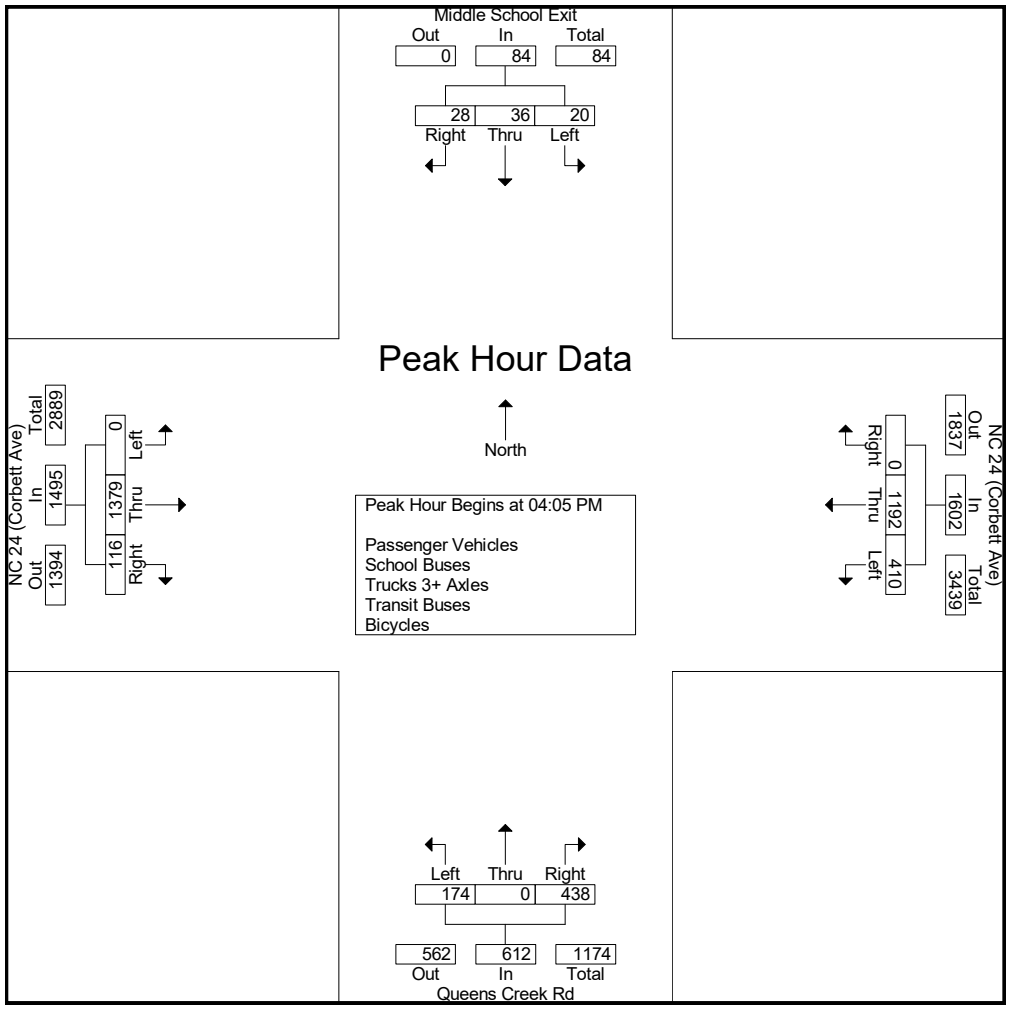
Start Date : 5/22/2019
Page No : 7

	Middle School Exit Southbound				NC 24 (Corbett Ave) Westbound				Queens Creek Rd Northbound				NC 24 (Corbett Ave) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:55 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:05 PM																	
04:05 PM	**11**	**14**	**12**	**37**	22	94	0	116	15	0	26	41	0	125	6	131	325
04:10 PM	2	9	6	17	39	99	0	138	20	0	**51**	**71**	0	59	8	67	293
04:15 PM	4	5	1	10	20	87	0	107	19	0	41	60	0	**149**	4	**153**	330
04:20 PM	0	0	2	2	35	123	0	158	9	0	25	34	0	114	5	119	313
04:25 PM	0	2	2	4	39	**126**	0	**165**	20	0	51	71	0	98	13	111	**351**
04:30 PM	1	2	3	6	24	87	0	111	9	0	19	28	0	129	5	134	279
04:35 PM	0	0	1	1	35	85	0	120	15	0	38	53	0	113	15	128	302
04:40 PM	0	0	0	0	38	89	0	127	8	0	32	40	0	111	8	119	286
04:45 PM	0	0	1	1	**41**	91	0	132	20	0	46	66	0	129	10	139	338
04:50 PM	2	1	0	3	40	94	0	134	**21**	0	32	53	0	96	14	110	300
04:55 PM	0	3	0	3	38	113	0	151	7	0	31	38	0	126	**16**	142	334
05:00 PM	0	0	0	0	39	104	0	143	11	0	46	57	0	130	12	142	342
Total Volume	20	36	28	84	410	1192	0	1602	174	0	438	612	0	1379	116	1495	3793
% App. Total	23.8	42.9	33.3		25.6	74.4	0		28.4	0	71.6		0	92.2	7.8		
PHF	.152	.214	.194	.189	.833	.788	.000	.809	.690	.000	.716	.718	.000	.771	.604	.814	.901



PERMITTED/ SPECIAL USES	O/I	B1[d]
Accessory uses /structures incidental to any permitted use (see Note 7, § 152.180)	P	P
Agricultural supply sales		S
Alcoholic beverages, packaged retail sales only		S
Ambulance service/rescue squad		S
Amusement indoor		S
Amusement outdoor		S
Animal medical care (no kennels)	S	S
Antique sales		P
Apparel & accessory sales		P
Appliance store		P
Art gallery/sales		P
Assembly hall (gymnasiums, stadiums)	S	S
Assisted living residence	S	S
Auction sales		S
Automobile service stations , general (see Note 9, § 152.180)		P
Automobile/trailer/truck sales and rental (under 26,000 gross vehicle weight)		S
Automobile washing		P
Bakeries & confection shops		P
Banks, savings and loans financial activities	P	P
Bar, night club, tavern		S
Barber and beauty shops	P	P
Bed and breakfast accommodations, & inns (see Note 29, § 152.180)	S	
Bicycle, sales, repair & rentals		P
Boat and automobile including accessories (retail sales & service)		S
Boat/kayak rental and similar watercraft		P
Boat ramp		S
Bona fide farms	P	P
Bookstore	P	P
Building supplies		S
Bulk mail and packaging		S
Bus terminal		S
Carnivals and fairs		S
Catering establishments		P
Cemetery, public		S
Churches & related uses	S	S
Clothing alteration and repair		P
Club or lodge, public or private (see note 25, § 152.180)	S	S
Cluster development		S
Cold storage (see § 152.180, note 38)		S
Colleges, universities & related uses		S

PERMITTED/ SPECIAL USES	O/I	B1[d]
Commercial storage , flammables fluids & gases (see note 10, § 152.180) (see § 152.180, note 38)		S
Communication or broadcasting facility		P
Computer sales		P
Computer services		P
Concealed wireless telecommunications facility	S	S
Conference center/retreat facilities		P
Courier service		P
Court yard mall		P
Crating services		P
Dairy products (sales)		S
Day care facility (adult)	S	P
Day care facility (child)	S	S
Department stores		P
Distribution centers (see § 152.180, note 38)		P
Docks, piers (commercially operated, with or without launching facilities)		S
Docks, piers (not commercially operated, with or without launching	P	P
Docks, piers (government operated with or without launching facilities)	P	P
Drug store		P
Dry cleaning & laundry service (see note 11, § 152.180)		P
Dwelling , modular home	P	
Dwelling , multi-family and condominiums (see notes 22 and 37, § 152.180)	S	S
Dwelling located over a business (see notes 13 and 37, § 152.180)		P
Dwelling, single-family	S	S
Dwelling, three /four family		S
Dwelling, townhouses (see note 37, § 152.180)		S
Dwelling, two-family / duplex		S
Electrical appliance sales and service		S
Electronic gaming operations (see note 28, § 152.180)		S
Emergency shelter	P	P
Employment/personnel agency		P
Exterminating services		P
Fabric or piece goods store		P
Fabrication shops (wood, metal, upholstery, fabric, plastics, etc.)		P
Family care home (see § 152.180, note 39)	P	P
Farm equipment and engine repair		P
Farm machinery sales and service		P
Financial institutions (bank, savings and loan, credit unions)		P
Fire station	P	P

PERMITTED/ SPECIAL USES	O/I	B1[d]
Fish mongers/sales (no outside storage)		P
Fishing piers (public/commercial)		S
Flea markets		S
Floor coverings, sales		P
Florist shops		P
Food sales, push cart/food truck (see note 30)		P
Fuel sales		S
Funeral homes and mortuaries	S	S
Glass, sales		P
Golf course (see note 14, § 152.180)		S
Golf course, miniature		S
Golf driving range (see note 14,§ 152.180)		S
Government offices , buildings and facilities	S	S
Greenhouse operations		P
Grocery and convenience stores		S
Hardware, paint, & garden supply sales		P
Heating, equipment and plumbing fixtures, sales		S
Home furnishings & appliance sales		S
Home occupations (see note 15, § 152.180)	P	S
Hospitals	P	P
Industrial sales & repair of equipment		S
Jewelry manufacturing (see § 152.180, note 38)		P
Kennels , breeding/boarding (not related to veterinarian's office)	S	S
Laboratory research (see § 152.180, note 38)	S	S
Landscape and horticultural services		P
Laundromat		S
Law enforcement station	S	S
Library	S	S
Locksmith, gunsmith		P
Machine tool manufacturing (see § 152.180, note 38)		S
Marinas (greater than 10 boat slips)		S
Mixed use	S	S
Mobile construction site offices , temporary (see note 17, § 152.180)	P	P
Mobile construction site containers (see note 34, § 152.180)	P	P
Monument sales		P
Mooring fields		S
Motels/hotels/condotels	S	P
Motor vehicle assembly (see § 152.180, note 38)		S
Motor vehicle sales (new and used)		P
Motorcycle sales		P
Multi-unit assisted housing with services	S	

PERMITTED/ SPECIAL USES	O/I	B1[d]
Municipal parking lots	P	P
Municipal public facilities	P	P
Municipal utility stations and substations	P	P
Municipal utility workshops and storage , and municipal water towers	P	P
Museums & natural science displays and exhibits		P
Musical recording sales		P
Musical instrument sales/ instruction		P
Newspaper offices & incidental printing	P	P
Newsstand		P
Nurseries (plants)		P
Nursing home		S
Off-street parking and loading facilities (in accordance with §§ 152.290 - 152.296)	P	P
Office for business, professional, or personal services	P	P
Outdoor fruit and vegetable markets		P
Outdoor market, municipal		P
Parking lots (commercial)		P
Parks and playgrounds, public	P	P
Parks and playgrounds, semi- public (see note 26, § 152.180)	P	P
Pedestrian walkways, waterfront	P	P
Pest or termite control services		S
Petroleum products, storage and/or distribution (see note 10, § 152.180) (see §		S
Photography, commercial	P	P
Portable storage containers or structures (see note 32, § 152.180)	P	P
Post office	P	P
Pottery and related products, sales		P
Precision instrument manufacturing (see § 152.180, note 38)		S
Printing and reproduction establishments		P
Private recreation club		P
Public utility stations & substations	S	S
Public utility workshops & storage		S
Radio & television studio activity without associated tower	P	P
Radio & television transmitting		P
Recreation or amusement conducted for profit, not otherwise listed	P	S
Recreational vehicle sales		S
Refrigerated warehousing (see § 152.180, note 38)		S
Rehabilitation facility	P	
Remote off-street parking	S	S
Research facilities, including manufacturing incidental to same (see § 152.180, note 38)		S
Restaurants (including take-out only establishments)		S
Retail fish markets		S
Retail merchandise sales (greater than 5,000 sq. ft.)		S

PERMITTED/ SPECIAL USES	O/I	B1[d]
Retail merchandise sales (less than 5,000 sq. ft.)		P
Retail or service, not otherwise listed		S
School , business or commercial	P	P
School , elementary or secondary & related uses (see note 36, § 152.180)	S	S
School , trade or vocational	S	S
Shopping centers		P
Sign painting and fabrication shop		S
Sign, principal use	P	P
Storage , warehouse , including mini storage		S
Swimming pools (private/ noncommercial) (see note 20, § 152.180)		P
Swimming pools (public/ commercial) (see note 20, § 152.180)		P
Taxicab office or stand		S
Telephone exchange operations	S	S
Temporary family health care structures (see §152.180, note 40)	S	S
Theaters, indoor	P	P
Theaters, outdoor		P
Therapeutic massage business		S
Tire recapping		S
Tire sales		S
Tobacco sales (retail)		S
Tour guide/charter services		P
Travel agency	P	P
Vehicle storage lot (less than 5,000 sq. ft.)		P
Veterinary office/hospitals		S
Warehouse (general storage , enclosed) (see § 152.180, note 38)		S
Water towers		S
Welding shops		S
Wholesale fish sales		S
Wholesale operations not otherwise listed		S
Windmills		S
Yacht, sailing, and fishing clubs		P

Ordinance 2022-O__ (B-1)

WHEREAS North Carolina General Statute 160D-701 requires that zoning regulations shall be made in accordance with a Comprehensive Plan; and

WHEREAS NCGS 160D-604 also states that when adopting or rejecting any zoning amendment, the governing board shall approve a statement describing whether its action is consistent with an adopted Comprehensive Plan and any other officially adopted plan that is applicable, and briefly explain why the board considers the action taken to be reasonable and in the public interest; and

WHEREAS the Board of Commissioners finds that the proposed re-zoning of PARID Numbers: 07581, 18749, 25956, 170265 located off of Queens Creek Road, is reasonable and in the public interest because the conversion of approximately 7.84 acres from O\I (Office Institutional) zoning designation to B-1(Business) zoning designation is consistent with the Comprehensive Plan, specifically the Land Use Plan, and the property is identified as appropriate for office and institutional land use.

NOW BE IT ORDAINED by the Town of Swansboro Board of Commissioners that the Town Zoning Map be amended by converting PARID Numbers: 07581, 18749, 25956, 170265 from O\I (Office\Institutional) zoning designation to B-1(Business) zoning designation.

This Ordinance shall be effective upon adoption.

Adopted by the Board of Commissioners in regular session, September ___, 2022.

Attest:

_____ _____

Alissa Fender, Town Clerk John Davis, Mayor