



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

June 16, 2020

**CaroMont Regional Medical Center
Belmont, NC**

Traffic Impact Analysis (TIA) Review Report

Congestion Management Section

TIA Project: SC-2020-095
Division: 12
County: Gaston
Description: Located west of NC 273 (Beatty Dr) and YMCA Dr in Belmont.

Michael P. Reese, PE, CPM
Congestion Management Regional Engineer

Angela Sanderson
Congestion Management Project Design Engineer

Robert S. Gallo
Congestion Management Design Engineer



Michael Reese

16 JUN 2020

MAILING ADDRESS:
TRANSPORTATION MOBILITY AND SAFETY DIVISION
1561 MAIL SERVICE CENTER
RALEIGH NC 27699-1561

TELEPHONE: 919-814-5000
FAX: 919-771-2745

WEBSITE: WWW.NCDOT.ORG

LOCATION:
750 NORTH GREENFIELD PARKWAY
GARNER NC 27529



CaroMont Regional Medical Center TIA

SC-2020-095

Gaston County

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the sealed Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Key Dates	
Initially Received by NCDOT/City of Belmont	05/14/2020
Date of Latest Information Received by CMS	06/02/2020
Date of Preliminary Review Accepting TIA for Review	06/11/2020
Sealed TIA Prepared by Kimley-Horn & Associates	05/14/2020
Site Plan Prepared by Cole-Jenest & Stone	02/07/2020

Proposed Development

According to the TIA, the proposed CaroMont Regional Medical Center is to be located west of NC 273 (Beatty Dr) and YMCA Dr in Belmont, Gaston County. The TIA states the development is to be constructed by 2023 and is to consist of the following:

Land Use	Land Use Code	Size
Medical Office Building	720	80,000 SF
Hospital	610	220,000 SF

Trip Generation - Unadjusted Volumes During a Typical Weekday			
Based on appropriate methodology outlined in the <i>ITE Trip Generation Manual, 10th Ed.</i>			
	IN	OUT	TOTAL
AM Peak Hour	370	141	511
PM Peak Hour	169	393	562
Daily Trips			6801

Requested Access Points		
Driveway	Public Roadway	Access Type
1	NC 273 (Beatty Drive) opposite existing YMCA Dr Intersection	All-Movement



Study Area

Study Area and Proposed Site Location - ↑ N



Photo Credit: Google Maps



TIP Projects in Study Area		
Project	Description	Let Date
U-3633	NC 273 Widening from Tuckaseege Road to Highland Street in Mount Holly	06/20/2017
U-6038	US 74 (Wilkinson Blvd) Signal Improvements	06/18/2019
U-5959	US 74 (Wilkinson Blvd) /NC 273 (Park St) Intersection Improvements	01/12/2022
I-5719	I-85 from US 321 to NC 273 (Beatty Dr), widen to 8 lanes	12/19/2023

Gaston-Cleveland-Lincoln MPO (GCLMPO) Comprehensive Transportation Plan	
Route	Facility Vision
SR 2093 (Belmont – Mt. Holly Rd)	Major Thoroughfare – Existing
SR 2044 (Tuckaseege Rd)	Minor Thoroughfare – Existing
NC 273 (Beatty Dr/Park St)	Boulevard – Needs Improvement
SR 2044 (Tuckaseege Rd) and Caldwell Dr Connector	Boulevard – Recommended
Caldwell Dr	Minor Thoroughfare – Existing
I - 85 (Sen Marshall Arthur Rauch Hwy)	Freeway – Needs Improvement
US 74/US 29 (Wilkinson Blvd)	Boulevard – Needs Improvement



TIA Comments

The following items vary from our recommended practices:

- The intersection of NC 273 (Park St) and Hawley Ave/Wendy's Driveway was analyzed in Synchro, but not shown in the volume and geometric diagrams in the TIA. **For future TIAs, please ensure all study intersections analyzed are included in the diagrams in the TIA text.**
- Analysis of all lanes with finite storage should include an appropriate default taper of 100 feet or more in the analysis.
- The TIA does not mention whether this access would constitute a control-of-access (C/A) break or not. Our review is proceeding assuming that there is no C/A break required at this time.
- The provided site plan appears reasonable; however, the size of the proposed hospital (LUC code 610) on the site plan is 180,000 SF while the Trip Generation Table 5.1 has the size listed as 220,000 SF. Also, the site plan contains future outparcels. If any of the retail buildings are intended to be outparcels, trip generation for individual outparcels should be calculated separately from the remainder of the development. [Observation]
- Active TIP projects U-3633, I-5719, U-5959, and U-6038 are in the immediate are of this project. The scoping documents indicate that TIP Design Year Analysis will not be provided and that a rezoning request will be made for this project. [Observation]



General Reference

For reference to various documents applicable to this review please reference the following links: <https://connect.ncdot.gov/resources/safety/Pages/Congestion-Management.aspx> and https://connect.ncdot.gov/resources/safety/TeppI/Pages/TeppI-Topic.aspx?Topic_List=C37.

It should be noted that poor LOS and excessive queuing may persist throughout network after recommended developer and outside mitigation.

Analysis of all lanes with finite storage should include an appropriate default taper of 100 feet or more in the analysis. Our storage distances in our reports are minimums that do not include deceleration or taper distances.

Any pavement marking revisions/modifications or improvements necessitated by the development should be the responsibility of the developer unless otherwise noted.

It should be noted that the comments and recommendations contained in this review are subject to the approval of the local District Engineer's Office.

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section at (919) 814-5000.



Recommendations*

Legend

- ① Improvement by Developer. Congestion Management concurs with recommendation.
- ② Improvement by Developer. Additional or modified recommendation.
- ③ Committed improvement by TIP Project U-3633. If these improvements are not in place by buildout of the site as assumed in the TIA, the Developer should be responsible for them or a revised TIA will be required.
- ④ Possible improvement by TIP Project I-5719 in conjunction with NCDOT and local officials. If these improvements are not in place by buildout of the site as assumed in the TIA, the Developer should be responsible for them or a revised TIA will be required.

***The following recommendations are based off the 2023 build-out conditions.**

NC 273 (Beatty Dr) & SR 2044 (Tuckaseege Rd)

Existing signalized intersection.

- **NB NC 273 (Beatty Dr)**
 - Restripe Right-Turn Lane to Thru/Right-Turn Lane ③
- **SB NC 273 (Beatty Dr)**
 - Extend Left-Turn Lane to 175' ③

SR 2093 (Belmont – Mt Holly Rd)/Tuckaseege Rd & Beatty Rd

Existing Stop-Controlled Intersection. No improvements are recommended for site traffic.

SR 2093 (Belmont – Mt Holly Rd) & Ferstl Ave

Existing Stop-Controlled Intersection.

- **NB SR 2093 (Belmont – Mt Holly Rd)**
 - 100' Right-Turn Lane ①

Beatty Rd & Ferstl Ave

Existing Stop-Controlled Intersection. No improvements are recommended for site traffic. However, the TIA indicates that queuing from NC 273 intersection is anticipated to spillback onto the Ferstl Ave intersection. In other words, the queuing could cause this intersection to be in the functional area of the NC 273 intersection.

Therefore, conversion of this intersection from an all-movement to a left-over or right-in/right-out should be considered. ②



NC 273 (Beatty Dr) & Beatty Rd

Existing Stop-Controlled Intersection. No improvements are recommended for site traffic; however, monitor for signalization in the future on NC 273 (Beatty Dr). ❶ ❷

NC 273 (Beatty Dr) & YMCA Dr/Proposed Site Access 1

Existing Signalized Intersection.

- **NB NC 273 (Beatty Dr)**
 - 175' Dual Left-Turn Lanes (One exists as Two-Way Left-Turn Lane) ❶
- **SB NC 273 (Beatty Dr)**
 - 100' Right-Turn Lane ❶
- **EB Proposed Site Access 1**
 - Four-lane cross-section: two ingresses, two egresses ❶
 - Egress: Left/Thru Lane, Terminating Right-Turn Lane ❶ ❷
 - 275' Internal Protected Stem ❷
- **WB YMCA Dr**
 - Restripe Right-Turn Lane to Thru/Right-Lane ❶
 - Extend Left-Turn Lane to 250' ❶

NC 273 (Beatty Dr) & Caldwell Dr

Existing Stop-Controlled Intersection. No improvements are recommended for site traffic.

NC 273 (Beatty Dr) & I-85 Interchange

Existing Signalized Intersections. Proposed Signalized DDI under TIP Project I-5719. As stated in the TIA, dual northbound NC 273 right-turn lanes (maximized storage) onto the I-85 NB Ramps are being considered based on coordination with the City of Belmont, NCDOT, and TIP Project I-5719. ❶ ❷

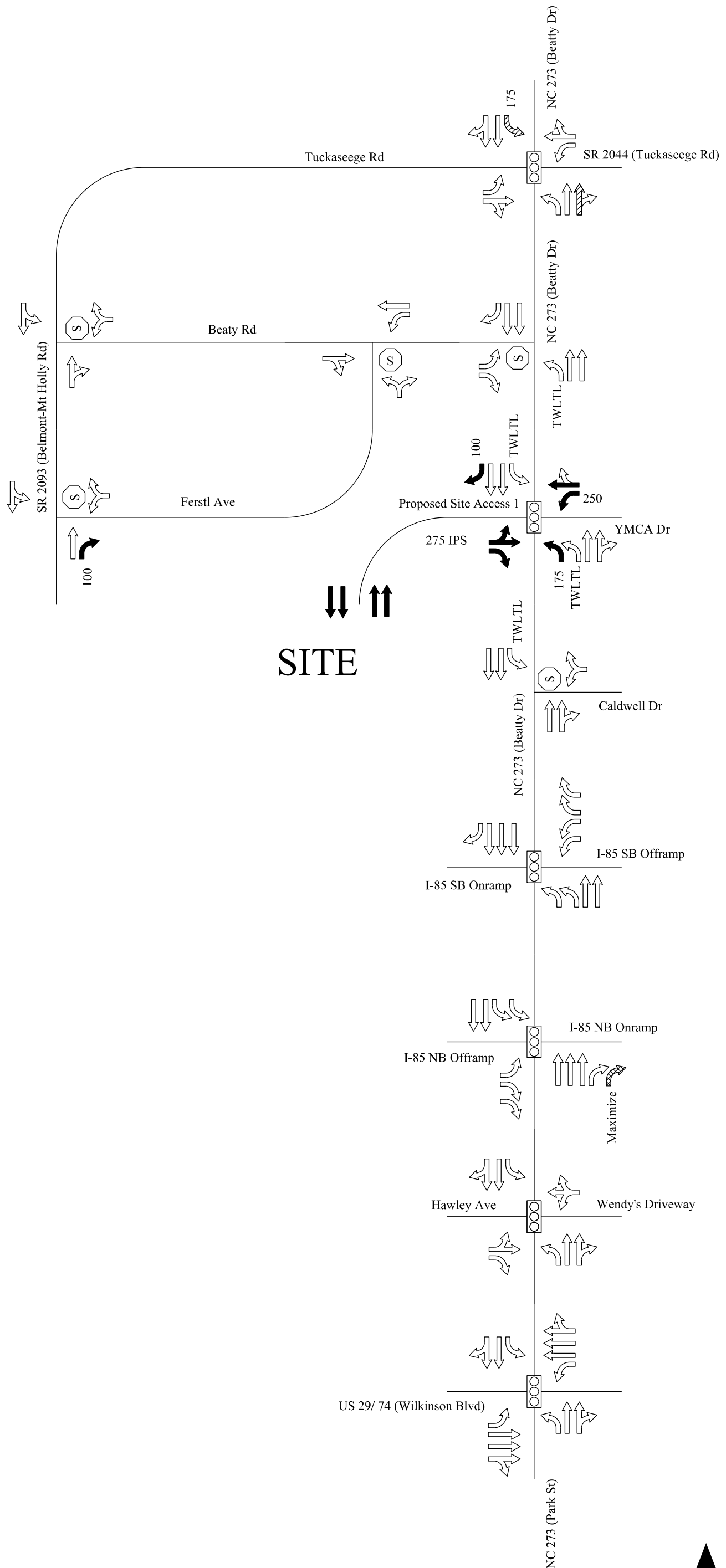
NC 273 (Park St) & Hawley Ave/Wendy's Driveway

Existing Signalized Intersection. No improvements recommended for site traffic.

US 29/74 (Wilkinson Blvd) & NC 273 (Park St)

Existing Signalized Intersection. No geometric improvements are recommended for site traffic. However, TIP Projects U-5959 and U-6038 are anticipated to improve the queuing and delay issues at this intersection in the future.

□



CaroMont Regional Medical Center SC-2020-095	
	Existing Laneage
	Laneage Built By Others
	Recommended Laneage
	Shared Responsibility Laneage
	Existing Signal
	Proposed Signal
	Stop-Controlled Approach
XXX	Storage
<XXX>	Distance Between Intersections
IPS	Internal Protected Stem
All Distances in Feet	
Drawing Not to Scale	
Not for Construction	

MPR 6/16/2020