Appendix L: Proposed Refinements Agency Coordination

Durham-Orange Light Rail Transit Project

GO Triangle

September 2018

Agency Meetings (January 2017 to July 2018)

Date	Meeting Conducted With
4/9/2018	Duke University
2/26/2018	Duke University
1/5/2018	Duke University
11/29/2017	Duke University
9/8/2017	Duke University
8/29/2017	Duke University
2/26/2017	Duke University
4/16/2018	Norfolk Southern Railroad
6/26/2018	North Carolina Department of Environmental Quality – Department of Water Resources
4/2/2018	North Carolina Department of Environmental Quality – Department of Water Resources
2/20/2018	North Carolina Department of Environmental Quality – Department of Water Resources
3/26/2018	North Carolina Department of Transportation
3/20/2018	North Carolina Department of Transportation
3/20/2018	North Carolina Department of Transportation
3/19/2018	North Carolina Department of Transportation
3/9/2018	North Carolina Department of Transportation
3/2/2018	North Carolina Department of Transportation
2/28/2018	North Carolina Department of Transportation
2/26/2018	North Carolina Department of Transportation
1/9/2018	North Carolina Department of Transportation
12/15/2017	North Carolina Department of Transportation
11/8/2017	North Carolina Department of Transportation
11/6/2017	North Carolina Department of Transportation
10/26/2017	North Carolina Department of Transportation
10/19/2017	North Carolina Department of Transportation
8/25/2017	North Carolina Department of Transportation
8/7/2017	North Carolina Department of Transportation
5/24/2018	North Carolina Railroad Company
4/16/2018	North Carolina Railroad Company
5/19/2017	North Carolina Railroad Company
4/21/2017	North Carolina Railroad Company
3/3/2017	North Carolina Railroad Company
1/20/2017	North Carolina Railroad Company
3/5/2018	North Carolina Wildlife Resources Commission
2/26/2018	University of North Carolina
1/19/2018	University of North Carolina
12/18/2017	University of North Carolina
12/15/2017	University of North Carolina
11/2/2017	University of North Carolina
10/6/2017	University of North Carolina

Agency Meetings (January 2017 to July 2018)

Date	Meeting Conducted With
10/5/2017	University of North Carolina
8/11/2017	University of North Carolina
7/14/2017	University of North Carolina
6/9/2017	University of North Carolina
3/10/2017	University of North Carolina
2/10/2017	University of North Carolina
1/19/2017	University of North Carolina
1/13/2017	University of North Carolina
6/26/2018	US Army Corps of Engineers
4/2/2018	US Army Corps of Engineers
3/12/2018	US Army Corps of Engineers
2/20/2018	US Army Corps of Engineers
4/2/2018	US Environmental Protection Agency
2/20/2018	US Environmental Protection Agency

Duke University Correspondence

This page intentionally left blank.

MEMORANDUM

Connecting all points of the Triangle

April 5th, 2018

To: Dr. Monte Brown, Duke University School of Medicine
From: David Charters, PE, Manager, Design & Engineering, GoTriangle
Anne Conlon, PE, Transportation Engineer, GoTriangle
Subject: Durham-Orange Light Rail Transit Project –Erwin Road proposed changes

---

This memorandum documents GoTriangle responses to comments received from Dr. Brown via email on February 15th. Comments from Dr. Brown are included in standard text. GoTriangle responses are included in **bold text**.

"Without a drawing that includes both the permanent ROW and the construction ROW, Duke cannot accurately comment on the proposed changes and therefore cannot agree to anything at this time. The ROW lines were on the other drawings with much less engineering having been completed but they are now missing."

The lines for right-of-way and construction limits will be provided for stakeholder review upon advancement of the civil engineering design.

1. Duke does not see the need for both an elevated train station at Flowers and Fulton and believes that it would be better to have a Fulton street elevated station and one at grade further west to accommodate the apartments closer to Morreene Road and potentially service sporting events.

   After receiving similar comments from our partners at the City of Durham, GoTriangle has decided to retain a station at LaSalle Street and shift the Flowers Drive Station from the previous design to the Fulton Street location. Both stations will be elevated.

2. As we have continued to stress, Duke does not support a multi-modal pathway along Erwin Road because of safety in many areas including the NIH building, Eye Center Configuration, Children's access road and conflict with pedestrians.

   GoTriangle is revising the design to include a sidewalk in accordance with the Unified Development Ordinance instead of a multi-use path.

3. Duke does not support a multi-model path along Erwin as it would impact more of the Board of Trustee protected tree buffer in many locations. The map of the Board Protect Area has been provided to Go-triangle.

   GoTriangle is revising the design to include a sidewalk in accordance with the Unified Development Ordinance instead of a multi-use path. GoTriangle is cognizant of the tree buffer

PO Box 13787
Research Triangle Park, NC 27709
P: 919.485.7510 | F: 919.485.7547

and is minimizing impacts where we can while designing safe accommodations for all users in accordance with City standards and best practices.

4. As shown in the current version of the drawings, Go Triangle continues to show incursion into the NIH buffer zone. The current buffer is what was approved by the NIH- not a 100 foot radius. We have continued to stress this point that any incursion into this area is a problem. While no ROW or construction ROW was provided and no measurements, the drawings appear to show a loss of 45 ft. of the tree buffer. This is not acceptable to Duke.

   GoTriangle will continue to work with Duke to mitigate impacts of tree removal in this area, as well as maintain the 100 foot buffer originally requested, in order to provide an equivalent buffer to that documented in the Biosecurity Plan. GoTriangle is confident that our current design will allow the facility to maintain safety and security and will continue to work with Duke to identify other measures that may be necessary (screening, tree planting, etc.). We would like to work directly with the Biosafety Officer charged with this facility to continue that discussion efficiently if needed.

5. I don't understand the need for a bus stop in the middle of the block near the NIH building when there are two others closer to the cross walks on either end and there is now a barrier in the middle of the road. (see diagram under item 5)

   GoTriangle has a planned bus workshop to review and refine bus stop locations and designs along the extent of our project construction and will review the need for these three bus stops during that workshop. Duke Transportation Staff is invited to this workshop being held on April 6, 2018.

6. The left out of the VA parking deck crossing Erwin will create an unsafe condition as the view to the right is obstructed by the columns. This should be a right out only from the VA at this location.

   The design team's initial analysis at this location found that the column does not obstruct the sightline. As design advances, we will continue to study this movement and coordinate with the VA if the viability of this movement changes.

7. The Eye Center Circle is already at its minimum dimensions. Please leave the circle alone, which again means eliminating the multi-modal path. The current drawing will make it unsafe for pedestrians and vehicles. There are already issues and this is a heavily traffic area that will increase as the VA builds out this entrance. Also having the bus stop this close beyond the

intersection to the east will block traffic in the circle and is not needed given the location of the next bus stop and train station.

We will continue to refine the design at this location to accommodate all modes. The overall configuration and laneage of the Eye Care Drive circle will not be changed. See the response to Comment 5 regarding an upcoming review of all bus stop locations.

8. We need a meeting about the possible train stop between Duke and VA at Fulton but there is no sense meeting until we know the proposed ROW.

   The design team is preparing preliminary design drawings in this area. These drawings will be shared with Duke and the VA upon their completion.

9. The Children's access road appears to have gone from a 24 ft. wide road to 16 ft. road. We need to maintain a 22 ft wide road for two way traffic. It is unclear where this cross section is taken as the geometry changes along this path significantly but only one cross section provided.

   The cross-section is mislabeled and is being corrected. The width of the Children's access road will not be changed by the project.

10. We don't need a bus stop near ED drive blocking ambulance entrance into ED drive

    See response to Comment 5. We will take this comment into account during that workshop.

11. Go Triangle comment that the median is no longer mountable is a problem as it was stated previously by Duke that only the directly towards the Ed entrance had to have a way to get through, especially from Fulton to ED drive eastbound and Trent to ED drive westbound. Valuing a multi-modal pathway over patient safety is not acceptable.

    GoTriangle is accommodating ambulances through this corridor by maintaining two through lanes in each direction and turn lanes at intersections as they exist today. The pedestrian and bicycle accommodations under consideration have no impact on the lane configuration.

12. Erwin Road and 751 intersection
    a. Appears to make 751/Cameron Blvd. eastbound into a left turn lane only and only one through lane. We need a wider view of this area to review stacking and then the merge after the intersection. This is of significant concern without further study. While this makes it look like the through eastbound lane will always be free flowing, this is not the

case as any pedestrian or bicycle crossing will a push the cross walk button which will stop traffic – thus backing up potentially to the freeway.

The design team completed a traffic analysis for this intersection and found that it performs at a better level of service than the preliminary design in the Amended Record of Decision, while reducing intersection widening, and is well within NCDOT standards. That analysis included consideration of queueing and found that the maximum queue on eastbound Cameron Boulevard during the peak hour was estimated at approximately 450 feet. The intersection with the freeway is approximately 1,200 feet from the intersection.

b. The red median means that there is no handicap accessible pedestrian or bicycle crossing of 751.

There will be a break in the median to allow for an accessible path across Cameron Boulevard through the crosswalk. The current drawings were at a concept level and did not show this level of detail.

c. Not sure what this green line is as there is no legend for this color.

The green line represents the edge of the shoulder. The drawings are being updated so that the edge of shoulder is shown in a consistent color.

13. Bus stop on Erwin East of Morreene.
    a. Side walk appears to be eliminated east of the bus stop. So anyone wanting to walk east will have to backtrack to Morreene to get on the too wide path to go east.

    That is correct. The path is being modified to a sidewalk, as described in the response to comment 2.

    b. Consider putting this before the Morreene Road interchange.

    We will review the location at the upcoming bus workshop and consider this recommendation.

Kaitlin Hughes

From: Gregory Dye [redacted]
Sent: Monday, August 21, 2017 9:01 AM
To: Anne Conlon; Sara Childs
Cc: Anne Yoder, Ph.D.
Subject: FW: DOLRT 1133C - MUP along US 15-501 near Duke Lemur Center
Attachments: 0203B_MAP_MUP-near-Lemur-Center-170523_DRAFT.pdf

Dear Anne,
Thank you for your phone call on Friday and for giving me an opportunity to comment on this project. Looking at the map it appears the proposed multi-use trail would pass quite close to some of the Lemur Center fence lines. That does create alarming concern for the Lemur Center as it would give the public direct access to several free range enclosures that our collection of endangered primates have access to. As you may know, the Lemur Center houses the largest and most diverse collection of lemurs anywhere in the world outside of their native Madagascar. The free range areas that these fence lines protect are vital to the lemurs welfare and safety. These areas have been a forested home to generations of lemurs and the setting of 100s of behavioral research projects for more than thirty years, which is an important part of our role as a genetic safety net for many of the lemur species we house. Giving the public direct visual access to the animals in these areas creates a threat to their safety that would, I fear, greatly affect the ability of the Lemur Center to use these areas as free range areas in the future.

I would welcome the opportunity to meet with you and your team to look at a more detailed map of the proposed trail in order to better assess the impact to the Lemur Center. I am copying Dr. Anne Yoder, Director of the Duke Lemur Center and Ms. Sara Childs, Director of the Duke Forest on this email so they too have the opportunity to provide comment.

Thank you again for the opportunity to provide comment on this project.

Kind regards,
Greg

Greg Dye
Director of Administration & Operations
Duke Lemur Center
[redacted]

From: Anne Conlon [mailto[redacted]
Sent: Tuesday, August 01, 2017 2:47 PM
To: Gregory Dye
Cc: David Charters ; Katharine Eggleston ; Meghan Makoid ; wbs
Subject: DOLRT 1133C - MUP along US 15-501 near Duke Lemur Center

Good Afternoon Greg,

I am an engineer with GoTriangle working on the Durham-Orange Light Rail Transit Project (D-O LRT). The D-O LRT alignment under design is routed along the east side of 15/501, opposite from the Lemur Center (a corridor concept map is available here). We are currently studying a potential waterline relocation from that side of 15/501 to the west side, however, as a result of the alignment location. The City has requested that we also include a multi-use path on the west side of 15/501 between Cornwallis Road and Cameron Boulevard along the potential new waterline location. This would connect to the future Sandy Creek Trail, which was identified as a City priority in their 2015 Priority Trails Brochure (available here).

Does the Lemur Center have any concerns with a multi-use path in this location? I've attached a map showing the preliminary concept for the path, which we are still studying. If you do have any questions or concerns, we are happy to meet to discuss them or you can feel free to give me a call.

Best,
Anne

Anne Conlon, PE, LEED AP
Transportation Engineer
GoTriangle
[redacted]

City of Durham Correspondence

This page intentionally left blank.

Kaitlin Hughes

From: Ellen Beckmann
Sent: Friday, March 9, 2018 4:45 PM
To: Anne Conlon; 'Larson, Nate'; David Charters; wbs
Cc: Judge, Bill; Loziuk, Philip; Nicholas, Peter; Islam, Mohammad; Poole, Bryan
Subject: RE: DOLRT 1051_RFC 042 Pettigrew/Ramseur layout and traffic analysis update

Anne,

Here are some comments on the Ramseur Street layout. Please let me know if you have any questions about the following.

- The City is generally supportive of the proposal to convert Ramseur to two-way traffic to provide better bus access to Durham Station, but want to make sure that this serves all vehicle traffic adequately and is compatible with a larger plan to convert the Loop to two-way in the future.
- The Ramseur to Roxboro Connector Road must be two-lanes wide to match the width at the intersection with Main Street and to provide capacity should Roxboro be converted to two-way traffic in the future.
- The driveways to the Old Durham County Courthouse should extend to the south to intersect with Ramseur at right angles. This will be more conducive to future development and additional potential modifications to the roadways. The east-west roadway parallel to Ramseur between the driveways behind the courthouse can be eliminated.
- Sidewalks need to be provided along Ramseur. We acknowledge that the existing Ramseur bridge is not currently wide enough for sidewalks, but we want to set up the area for a future connection.
- While it may not be needed for bus access to Durham Station, Ramseur should be converted to two-way from Corcoran west to Main Street to replace the elimination of westbound Pettigrew Street for general vehicular traffic.
- Bicycle lanes should be provided from Corcoran Street west to Main Street for connectivity between the Duke Belt Line and American Tobacco Trail. On-street parking may need to be eliminated on portions of these blocks.
- Bicycle lanes should also be provided on Ramseur from Corcoran Street east to the Ramseur-Roxboro Connector Road. We would also like to further examine if a cycle track or bicycle lanes could be included on the Ramseur-Roxboro Connector up to Main Street. Further investigation of the operation of the signal at Roxboro and Main Street is needed. The City will be installing bicycle lanes on Main Street from Roxboro to Elizabeth this year.

Thank you,

Ellen Beckmann, AICP
Senior Transportation Planner
Department of Transportation, City of Durham
[redacted]
[redacted]
[redacted]
www.DurhamNC.gov

From: Anne Conlon [mailto[redacted]
Sent: Wednesday, February 28, 2018 11:59 AM
To: Beckmann, Ellen; 'Larson, Nate'; David Charters; wbs
Cc: Judge, Bill; Loziuk, Philip; Nicholas, Peter; Islam, Mohammad
Subject: RE: DOLRT 1051_RFC 042 Pettigrew/Ramseur layout and traffic analysis update

All,

I've attached the revised concept for two-way Ramseur Street that responds to our discussion on 2/20. We would appreciate a consolidated set of comments from you by next Friday, 3/9, if possible.

Thank you,
Anne

Anne Conlon, PE, LEED AP
Transportation Engineer
GoTriangle
[redacted]

From: Anne Conlon
Sent: Thursday, February 22, 2018 9:06 AM
To: 'Beckmann, Ellen' <[redacted]>; 'Larson, Nate' <[redacted]> David Charters <[redacted]; wbs <[redacted]>
Cc: Judge, Bill <[redacted]>; Loziuk, Philip [redacted]; Nicholas, Peter <[redacted]>; Islam, Mohammad <[redacted]>; Erik Landfried <[redacted]>
Subject: DOLR 1051 Pettigrew/Ramseur layout and traffic analysis update

All,

Thanks for the discussion of the proposed design for Pettigrew Street/Ramseur Street on Tuesday. I've attached a meeting summary. As soon as we have the revised concept, we'll send it your way for comment.

Best,
Anne

Anne Conlon, PE, LEED AP
Transportation Engineer
GoTriangle
[redacted]

MEMORANDUM

Connecting all points of the Triangle

February 26th, 2018

To: Philip Loziuk, Traffic Operations Engineer, City of Durham Transportation Department
Mohammad Islam, Transportation Engineer, City of Durham Transportation Department
From: David A. Charters, PE
Subject: Durham-Orange Light Rail Transit Project – University Drive Traffic Analysis

---

This memorandum documents GoTriangle responses to comments received from the City of Durham Transportation Department on the University Drive Refinement Traffic Analysis via an email on September 6th, 2017 from Philip Loziuk and an email on September 14th, 2017 from Mohammad Islam. Comments from the City are included in standard text, GoTriangle responses are included in **bold text**. GoTriangle is available to discuss the responses with City staff as needed.

1. The one significant comment we had was that the left turns on both directions of MLK were modelled as Protected/Permitted lefts. These movements need to remain as fully protected, because of the size of the intersection and the medians offsetting the left turns.

   GoTriangle Response: We will design this signal using fully protected left turns. We are now modeling these left turns as protected-only in both directions in the environmental re-evaluation work.

2. The TIA indicated that one or more intersections in the analysis network had a Level of Service (LOS) F for some approaches/movements without identifying mitigation. For example, southbound left-turn lane at Martin Luther King Jr. (MLK) Parkway and northbound left-turn at Shannon Road. For 2040-Build analysis, all intersection movements LOS "F" should mitigate to get an acceptable LOS E or better as per NCDOT Congestion Management Driveway Access Manual Guidelines and City of Durham Guidelines.

   GoTriangle Response: In response to City of Durham's comments received on the Draft Environmental Impact Statement (DEIS), GoTriangle made a commitment in the Final Environmental Impact Statement and Record of Decision (FEIS/ROD) to evaluate potential refinements to the roadway network and the light rail alignment in the vicinity of University Drive and Martin Luther King Jr. Parkway, with a goal of improving traffic operations over the baseline condition with median-running light rail and providing an environment more supportive of compact development and multi-modal transportation goals.

   Although a few individual intersection movements were identified in the analysis of the proposed side-running refinement under 2040 conditions as operating at LOS F (four movements in the corridor, see Table 5-3 and Table 5-4), overall operations of the corridor with

PO Box 13787
Research Triangle Park, NC 27709
P: 919.485.7510 | F: 919.485.7547

the side-running design are substantially improved from both a traffic operations and multi-modal transportation standpoint compared to the median-running design.

In addition, GoTriangle committed in the FEIS/ROD to work with the City of Durham on non-geometric mitigation strategies in situations where roadway widening is undesirable or in conflict with land use and multi-modal transportation goals. Examples of non-geometric mitigation include enhancement of Travel Demand Management strategies, as well as provision of infrastructure for non-motorized transportation. GoTriangle is evaluating the addition of enhanced, urban sidewalks and a separated bicycle path along University Drive in this area.

3. A SimTraffic Queuing and Blocking Report should be included in the TIA to quantify overall queuing through the network of signals.

   GoTriangle Response: The analysis was prepared using the VISSIM traffic simulation tool. VISSIM performs microsimulation analysis of a roadway in a similar manner to what SimTraffic does but allows for more inputs and details to be added to the analysis that are not permissible in Synchro/SimTraffic. This is important for this project as one of those inputs that are not allowed in Synchro is light rail preemption which activates when the light rail vehicle approaches the intersection and is utilized heavily along the corridor due to the proximity of the rail to major roadways. VISSIM queues were reported in a similar fashion to what would be reported in a SimTraffic Queuing and Blocking report.

4. TIA Table 2-1, Page 14, MLK Parkway and University Drive intersection, eastbound University Drive should be westbound University Drive. I am also confused about the direction of University Drive in the TIA. Eastbound University Drive should be westbound University Drive and westbound University Drive should be eastbound University Drive in the TIA descriptions. Please double check for this typo.

   GoTriangle Response: Eastbound University Drive in the TIA is defined as the direction of traffic on University Drive traveling from Ivy Creek Boulevard to Shannon Road. Westbound University Drive is defined as the direction of traffic on University Drive traveling from Shannon Road to Ivy Creek Boulevard. No changes to the TIA are required.

5. TIA Section 4.2, Page 22, It states that "The option reduces the eastbound University Drive left turn volumes at Westgate Drive by Diverting a portion of traffic volume to a different route." We are not sure how many traffics are diverted to other roads or intersections; therefore, justifications or calculations should be provided in the TIA report.

   GoTriangle Response: Section 4.2 is describing the analysis performed for the median-running (baseline) design included in the DEIS, which is included as a point of comparison in this report.

With the proposed design refinement to side-running light rail, mainline traffic diversion is not included in the analysis (see Section 4.3). For reference, analysis of the original design, including documentation of diversion assumptions, is fully documented in DEIS appendix K9 (available on the GoTriangle website here: http://ourtransitfuture.com/wp-content/uploads/2017/03/0633B_APP-K9-150820_v0.pdf)

6. TIA Section 4.2, Table-4-5, page 26, I believe University Drive is mislabeled as Erwin Road and eastbound University Drive shared through/right-turn lane considered as right-turn lane only, which reduce two EB through lanes to one EB through lane on University Drive. Due to low EB right-turn lane traffic volumes, we should keep lane geometry as existing lane geometry on EB University Drive during build-out year of development.

   GoTriangle Response: Yes, the diagram is mislabeled. Please note that the design depicted in Table 4-5 is the baseline median-running design, not the side-running design that is being proposed at this time.

7. TIA page 65, Sheet D2-11, the Lyckan Pky. shows right-out access only. The Lyckan Pky is a dead end road and there is no other major internal connectivity to divert egress traffic so that this driveway should be considered as Right-in/Right-out (RI/RO). Please double check for this intersection recommendations.

   GoTriangle Response: This sheet depicts the baseline median-running design; the arrow is intended to indicate a change on the outbound lane from L/R under existing conditions to R-only under that design. Lyckan Parkway was analyzed as right-in/right-out in the baseline median-running design, and as a full-movement intersection in the side-running (proposed) design.

8. University Drive and Westgate Shopping Center Driveway Intersection: If this driveway is closed, proper justifications or calculations should be provided in the TIA for diversion of traffics.

   GoTriangle Response: Diversion of traffic from driveway closures is addressed in Section 4.3 (page 4-9; PDF page 26). Relevant text from that section is copied below for reference.

   "The three closed driveways are SunTrust Bank Access driveway, Parkway Plaza driveway, and south Westgate Drive Shopping Center. Due to the closure of these driveways, the original traffic volumes from/to these driveways were correspondingly diverted to the closest roadway, Westgate Drive. Traffic volumes were re-balanced for the 2040 UAR [University Alignment Refinement] and the balanced peak hour volume diagrams can be seen in Appendix D."

9. The latest version of Synchro plus SimTraffic should be used to analyze operations at signalized intersections.

GoTriangle Response: See comment 3 above regarding the use of VISSIM versus Synchro plus SimTraffic.

PO Box 13787
Research Triangle Park, NC 27709
P: 919.485.7510 | F: 919.485.7547

MEMORANDUM

Connecting all points of the Triangle

February 26th, 2018

To: Lisa Miller, Senior Urban Designer, Durham City-County Planning Department
Ellen Beckmann, Senior Transportation Planner, City of Durham Transportation
From: David Charters, Manager, Design & Engineering, GoTriangle
Anne Conlon, Transportation Engineer, GoTriangle
Subject: Durham-Orange Light Rail Transit Project – Re: Erwin Rd DOLRT Proposed changes

---

This memorandum documents GoTriangle responses to comments received from the Durham City-County Planning Department and the City of Durham Transportation Department on the proposed alternative alignment along Erwin Road. Comments from the City are included in standard text, GoTriangle responses are included in **bold text**.

"After seeing the Erwin Road alignment and station changes Durham staff have concerns we would like to discuss. Our primary concern with the proposal is the removal of the LaSalle Station and creation of the new Eye Center Station nearly a full ½ mile away. This change will result in many residential units (many of which are either permanently or naturally occurring affordable) and acres no longer being within a walk shed of the proposed station. The areas adjacent to the combined two newly proposed Erwin stations have much less development potential than the LaSalle and Flowers stations combined. We have a number of questions/areas of concern related to this, here are few:

1. More development pressure on the Crest St neighborhood with both stations closer to that area."

   Statement noted.

2. The extent of the "move" of this station is a station delete/add in our view.

   Comment removed per Patrick Young's 2/21 email.

3. The addition of the elevated section raise a bunch of appearance and logistical questions.

   Statement noted. Please send specific questions and we will be happy to respond.

4. Have you looked at how this would impact the value capture estimate using Gateway's work?

   We have not looked at the impact on value capture because the change happened too late in the Gateway Planning team's process. There may be an opportunity to work with Gateway

Planning through the development of the Sketchbook to address this and Patrick McDonough can work with the City on that question.

5. We'd like to see ridership comparisons for the previously proposed LaSalle/Flowers stations and the currently proposed Eye Center/Flowers stations.

   We don't currently have a ridership comparison between LaSalle/Flowers and Fulton/Flowers. We are working with our consultants to prepare updated travel forecasts that reflect all the proposed changes to the alignment, including track realignment, station moves, and the addition of the Blackwell/Mangum Street Station. We can share those updated forecasts after they are produced. From what we know from the model, we anticipate ridership will be equal or higher with the proposed station locations.

6. We'd like to understand if there is an engineering reason that precludes there from being a LaSalle Station closer to where it was previously located.

   We studied the potential for a LaSalle Street Station near its previous location with the proposed track alignment. Three options were studied: a station on the west side of LaSalle Street, a station straddling LaSalle Street, and a station on the east side of LaSalle Street. GoTriangle considers all three options to be infeasible because of their cost and utility impacts. See attached memorandum summarizing this analysis.

7. How will a bicycle facility be accommodated on the eastern portion of this section where the sidewalk is much more constrained?

   We are currently studying a multi-use path along the entire corridor with adjacent sidewalk in the most constrained section. The adjacent sidewalk under consideration would extend from the proposed Fulton Street Station to Fulton Street. This area is constrained whether there is a station near Fulton Street or not and under the current and proposed alignments. We have met with Bryan Poole and Ellen Beckmann to discuss the bicycle and pedestrian accommodations in the alternative design and have received comments from them separately that we'll be taking into consideration as we advance design.

TRANSPORTATION
CITY OF DURHAM

Date: **February 15, 2018**

To: **Anne Conlon, GoTriangle**
From: **Bryan Poole, City of Durham Transportation Department**
Subject: **Comments on Durham-Orange Light Rail Erwin Road Alternative Alignment Regarding Bicycle and Pedestrian Accommodations**

Erwin Road is a critical connection in Durham's bicycle and pedestrian networks. The intensity of land use along Erwin attracts some of the highest pedestrian counts in the City and the light rail stations will only increase the pedestrian needs in the area. Bicycle trips are similarly attracted to the area, but current conditions are unsafe and unappealing for most cyclists. With few suitable parallel facilities, it is critical that bicycle trips be accommodated in the Erwin Road corridor in the future. In recent years, the City, in coordination with NCDOT, have added bicycle lanes to Erwin, Anderson, and 15th to the east. The City is currently in design for a pedestrian and bicycle project on Morreene to the west.

The DCHC MPO Comprehensive Transportation Plan adopted by the MPO and NCDOT in 2017 includes a recommendation for bike lanes on Erwin from Cameron to Anderson as well as a multi-use path along the entire DO LRT alignment. As we have discussed, the latter was to be more fully investigated during DO LRT's Project Development and Project Engineering phases, which we have done during the preparation of the EIS and current engineering work. The EIS for the DO LRT with the center-running alignment included a multi-use path on the east/south side of Erwin Road. The City supports this concept as a practical, safe, and space-efficient way to accommodate both pedestrians and cyclists on Erwin Road in lieu of bike lanes.

The proposed change to a side-running alignment along much of Erwin and an elevated center-running alignment does not change our commitment and desire to providing pedestrian and bicycle facilities on Erwin Road. The facility needs to be equal or better than what was shown in the EIS in order to be consistent with the MPO's long-range plans.

Thank you for recently meeting with us to review the opportunities to provide these facilities with the new alignment. Moving from west to east, the following considerations should be incorporated into the design if this alternative for Erwin Road moves forward as the preferred option:

1. A sidewalk should be added on the back of curb on the south side of Erwin Road between Cameron and the bus stop across from the Center for Living. Shifting the bus stop location to be closer to the intersection is an option. If not relocated, a concrete pedestrian refuge island should be added on the north side of the Center for Living driveway to facilitate a safer crossing.
2. Design the Morreene Road/Erwin intersection to complement the bike lanes being designed for Morreene Road. Ensure both bicyclists and pedestrians can safely access the multi-use path, as well as continue straight on Towerview.
3. Provide a 12 foot-wide path, plus 2' gravel/shy distance on either side, between Cameron and Eye Care Drive. West of LaSalle, this can be narrowed to 10 feet where 12 feet would result in additional tree removal.

4. Provide a minimum 12 foot-wide path between Eye Care Drive and Emergency Drive. There should also be adjacent sidewalk or plaza along this stretch due to: high volumes of pedestrians, the need for bus stop accommodations, and to reduce bicycle/pedestrian conflicts. The through bicycle/pedestrian path from adjacent sidewalk and plaza must be clearly delineated to reduce conflicts.
5. Prevent conflicts between multiuse path users and motor vehicles by restricting right-turn movement and/or establishing exclusive phasing at the following intersections: Towerview Rd, Lasalle St, Research Dr, Eye Care Dr, Duke Hospital, and Emergency Drive.
6. At the Medical Center Greenway, shift to minimum 5' bicycle lanes (not including gutter). Ensure proper transition at this location, and provide the bicycle lanes from Medical Center Greenway at Emergency Drive to the end of the DO LRT project limits. Coordinate design of this road section with the City of Durham and NCDOT to allow a continuous bicycle facility to Anderson Street.

Town of Chapel Hill Correspondence

This page intentionally left blank.

MEMORANDUM

Connecting all points of the Triangle

February 14, 2018

To: Aaron Frank, Senior Planner, Town of Chapel Hill
From: Anne Conlon, Transportation Engineer, GoTriangle
David Charters, Project Manager, GoTriangle
Geoff Green, Transit Planner, GoTriangle
Patrick McDonough, Planning Manager, GoTriangle
Subject: Durham-Orange Light Rail Transit Project – Response to Town of Chapel Hill Comments on the Gateway Station Alignment Alternative (RFC 027)

The Town of Chapel Hill provided comments on February 9, 2018 on the proposed Gateway Station alignment alternative under study by GoTriangle. This memorandum documents GoTriangle's responses to those comments. These responses will not be reflected in the upcoming 50% design submission that will be sent to the Town of Chapel Hill since that submission is already under quality control review. The responses reflect GoTriangle's design direction going forward after 50% design.

1. *Town of Chapel Hill Comment:* "What safety measures are proposed for pedestrian crossings of LRT tracks? Any detail to provide at this time?"

   GoTriangle Response: There is no detail to provide at this time. Specific safety measures will be identified as design advances.

2. *Town of Chapel Hill Comment:* "What does the sidewalk do here? Missing line?" Noted at the northwest corner of the West Station Access Road and the Bus Lane.

   GoTriangle Response: The sidewalk connects to pedestrian space that is west of the bus lane and two-way bikeway and east of the rail line. As design advances, the connection between this space and the station platform will be laid out in more detail.

3. *Town of Chapel Hill Comment:* "Show sidewalk and bike lane improvements to Old Durham Road (NCDOT project, construction in 2018)."

   GoTriangle Response: The improvements from this project will be added to future drawings.

4. *Town of Chapel Hill Comment:* "Can this stream be daylighted in this section?" Noted on the stream south of the West Station Access Road between the two driveways to the park and ride.

GoTriangle Response: We will explore the feasibility of daylighting this portion of the stream with our design team.

5. *Town of Chapel Hill Comment:* "This stream has a Jordan Buffer. We understand crossings may be needed, but it seems like there would be some very practical alternatives to the amount of fill and pipe that is currently proposed."

   GoTriangle Response: We will explore the feasibility of daylighting the portion of the stream between the two driveways on the south side of the West Station Access Road with our design team.

6. *Town of Chapel Hill Comment:* "Are these anticipated curb cuts? They are recommended farther from wetland area." Noted on the eastern driveway to the park and ride south of the West Station Access Road.

   GoTriangle Response: We will look into shifting this driveway to the east to avoid the existing wetland.

7. *Town of Chapel Hill Comment:* "Is the sidewalk along the Bus Lane at back of curb, or is there a missing line?"

   GoTriangle Response: There is a buffer directly west of the bus lane followed by a two-way bikeway. The sidewalk is at the back of curb of the two-way bikeway.

8. *Town of Chapel Hill Comment:* "We recommend bike crosswalks (parallel to ped crosswalks) at this location to accommodate bicycle through and left-turn movements. Similar to what is shown at the Bus Lane and West Station Access Rd"

   GoTriangle Response: We will explore the use of crossbikes (bike crosswalks) at this location with our design team.

9. *Town of Chapel Hill Comment:* "Show pedestrian connection across track - NCDOT project will include sidewalk along Old Durham-Chapel Hill Rd"

   GoTriangle Response: We will explore the feasibility of – and best location for - a pedestrian crossing of the tracks on the northwest side of the roundabout with our design team.

10. *Town of Chapel Hill Comment:* "Does left turn lane need to extend this far back? opportunity to narrow road?" Noted on the East Station Access Road near the roundabout.

GoTriangle Response: We agree that there is an opportunity to narrow the road here. We will reduce the length of the left turn lane to accommodate approximately three vehicles at the intersection with the West Station Access Road. We will also remove the entire two-way left turn lane on the East Station Access Road north of the West Station Access Road.

11. *Town of Chapel Hill Comment:* "Are these intended to be multiuse paths on each side of the roundabout? That would be our recommendation. Interested in knowing how bikes will move through the roundabout."

    GoTriangle Response: Yes, the multi-use paths around the roundabout will serve pedestrians and bicyclists. Bikes will ramp onto the multi-use paths as they approach the roundabout and ramp back down onto the bike lanes after exiting the roundabout.

12. *Town of Chapel Hill Comment:* "If this is a multiuse path at the roundabout, add a connection to the northbound bike lane"

    GoTriangle Response: This ramp connection will be added as design advances.

13. *Town of Chapel Hill Comment:* "We recommend 8' planting strips (measured from back of curb) and 10' sidewalks for these streets, which is consistent with the streetscape required for walkable urban development in the Blue Hill District of Chapel Hill. This would put the infrastructure in place for future TOD development along these streets." Noted on East Station Access Road and West Station Access Road cross-section.

    GoTriangle Response: We are aiming to design these roads to achieve two goals: 1) accommodate your standards for urban development in the future, since urban redevelopment is expected, and 2) restrict the design footprint of our infrastructure, and associated costs and environmental impacts, to a level proportionate to the current use of the area as a park and ride. To that end, we will make the following adjustments:
    - Remove the sidewalk on the east side of the East Station Access Road. Redevelopment on this side of the road is not expected due to the proximity to NCDOT right-of-way and the small amount of pedestrian traffic expected along this road can be accommodated on the west side of the road.
    - For the sidewalk on the west side of the East Station Access Road and on both sides of the West Station Access Road, we will provide the recommended 8-foot buffer and a 6-foot sidewalk. By providing the full buffer, we'll accommodate the planting area for the ultimate cross-section. The six-foot sidewalks will serve the current use of these roads and can be widened to match the urban cross-section in the future when urban redevelopment occurs.

- For the segment of the West Station Access Road between Relocated North White Oak Drive and the bus lane, we will provide the full urban sidewalk section (8-foot buffer, 10-foot sidewalk).

14. *Town of Chapel Hill Comment:* "Do traffic volumes warrant continuous turn lanes throughout? Opportunities to narrow the road would allow a more walkable, urban environment." Noted on East Station Access Road and West Station Access Road cross-section.

    GoTriangle Response: Agreed. See the response to Comment 10 for proposed changes to the East Station Access Road. Along the West Station Access Road, we will explore replacing the two-way left turn lane with a planted median and turn lane pockets. We will remove the left turn lane on relocated North White Oak Drive and replace it with 5-foot bike lanes.

15. *Town of Chapel Hill Comment:* "We recommend 8' planting strips (measured from back of curb) and 10' sidewalks on both sides of White Oak Dr, which is consistent with the streetscape required for walkable urban development in the Blue Hill District of Chapel Hill. This would put the infrastructure in place for future TOD development White Oak Dr." Noted on White Oak Road cross-section.

    GoTriangle Response: In accordance with the response to Comment 13, we will make the following changes:
    - Provide an 8-foot buffer and 10-foot sidewalk on the east side of North White Oak Drive, since this side of the road is unlikely to develop due to a historic property and the proximity of the rail line.
    - Remove the sidewalk on the west side of North White Oak Drive. Until development comes, the east side sidewalk can serve pedestrian traffic along this road. Future development is expected on the west side of the road.

NCDOT Correspondence

This page intentionally left blank.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

July 9, 2018

Mr. David Charters, PE
Manager, Design and Engineering
GoTriangle
PO Box 13787
Research Triangle Park, NC 27709

Dear Mr. Charters,

Re: Durham-Orange Light Rail Transit Project – 1403H Downtown Durham Grade Crossing Protection Summary

NCDOT-Rail Division is in receipt of your June 15, 2018 email with attachments on the above referenced subject and provides the attached comments on the submittals.

We appreciate this opportunity to comment on the Durham-Orange Light Rail Transit Project – 1403H Downtown Durham Grade Crossing Protection summary and remain committed to assisting GoTriangle in advancing this project successfully to completion. If you have any question or need additional information, please do not hesitate to contact us.

With regards,

Richard Mullinax, PE, PTOE, CPM
NCDOT – Rail Division
Rail Signals Manager

Cc: Ms. Anne Conlon, PE, LEED AP, GoTriangle Transportation Engineer
Mr. Joey Hopkins, PE, Division of Highways - Division 5 Engineer
Mr. Richard Hancock, PE, Division of Highways – Deputy Division Engineer
Mr. Jason T. Orthner, PE, Rail Division Director
Mr. Jahmal Pullen, PE, Manager of Engineering Coordination & Safety
Mr. Matthew B. Simmons, PE, Rail Design Manager
Mr. Jason Galloway, PE, Transportation Mobility & Safety – State Signals Engineer
Mr. Robert J. Ziemba, PE, Transportation Mobility & Safety Division – Central Region Signals Engineer
Mr. John Grant, PE, Transportation Mobility & Safety Division – Regional Traffic Engineer
Mr. Jason Sergent, MBA, TSSP, WSO-CSSD, Vice President ADS System Safety

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION
1556 MAIL SERVICE CENTER
RALEIGH, NC 27699-1556

Telephone: (919) 707-4100
Fax: (919) 707-4193
Customer Service: 1-877-368-4968

Website: www.ncdot.gov
www.ncbytrain.org

Location:
ENGINEERING & SAFETY
862 CAPITAL BLVD
RALEIGH, NC 27603

North Carolina Department of Transportation
<PROJECT NAME>
TIP Project # X-####X

Review Comments

Submittal:	Durham-Orange LRT – 14033H Downtown	Designer:	GoTriangle	Submittal Date:	June 15, 2018
Reviewer:	Rail Division	Organization:	NCDOT	Review Date:	July 9, 2018
~~Plans~~	~~Specifications~~ ~~Calculations~~	Other	Conceptual Drawings and Narrative		

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
1		We note the proposed operations of the grade crossing warning system will require an agreement with Norfolk Southern Railway and the North Carolina Railroad Company for joint operations and maintenance of the grade crossing warning systems. A copy of the draft agreement and / or term sheet should be provided once these have been developed for Division comment, if any.				
2		As presented, the six Light Rail Transit (LRT) crossings in the downtown Durham segment of the Light Rail Transit project are within 200 feet of the North Carolina Railroad Company's heavy rail track. Therefore with the proposed joint operations, the American Railway Engineering and Maintenance-of-Way's (AREMA) "*Communications & Signals Manual of Recommended Practices*" appears applicable.				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
3		AREMA Part 3.1.11 notes that "the warning devices will operate for train occupancy on either track." They further require that "when adjacent tracks are separated less than 100 feet" that the automatic gates and lights should "flash all lights and lower both gates with activation on either track." For adjacent tracks separated by 100 to 200 feet, the manual specifies a flashing light and gate descent sequencing for activation of all lights and gates. We understand that GoTriangle has attempted to address these requirements at four of the six crossings by using a single crossing system with operation for any train on any track. *See also note under comment 4.*				
4		From AREMA figure 3111-2, it may be concluded that an additional gate with light assembly should be provided between adjacent tracks when the adjacent tracks are separated by 100 to 200 feet. This may necessitate additional light and gate assemblies between the LRT and heavy rail tracks for some locations. *NOTE: AREMA has modifications to Section 3.1.11*				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		pending final approval and currently scheduled for release Fall 2018. These include revising the 100 feet distance to 125 feet, and revising the requirement for gate assemblies to also allow lights only between adjacent tracks separated by 125 to 200 feet.				
5		The proposed layouts and operational sequencing for the grade crossing warning systems at several locations will increase the distance needed to clear tracks during an activation. We have concerns with safety and rail network efficiency issues created by unintended motorist responses when they inadvertently believe grade crossing warning devices are malfunctioning or operating inefficiently. This may lead to motorists attempting to circumvent the devices. Also, the public may inadvertently report a grade crossing warning system is malfunctioning, resulting in decreased rail traffic network efficiency until the report has been resolved.				
6		In some cases, the proposed increase in distance to clear tracks with pretimed exit gate descent may increase crash potential due to motorists, including school buses and other long vehicles, getting delayed or stopped within the gated crossing during activations of the grade crossing warning systems. We				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		note that North Carolina General Statutes require school buses and certain other vehicles to stop at all railroad grade crossings prior to proceeding. It is unclear to us how these drivers will react, or are expected to react, especially in cases where there is a gap of apparent sufficient length for them to stop between the LRT and heavy rail tracks.				
7		With increased rail traffic at multitrack grade crossings, gate operational sequencing and vehicular queuing associated with "another train coming" scenarios become concerns. A grade crossing warning system may start to deactivate, but not be completely when another train just enters the adjacent track circuitry and reactivates the devices. To address these concerns, we suggest consideration of having the exit gates complete their ascent prior to the entry gates beginning their ascent upon start of deactivation of the devices.				
8		The proposal should address the application of a vehicle detection technology within the gated crossing area and consider not only delaying the onset of exit gate descent time through use of such a vehicle detection system,				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		but also delaying termination of track clear green at locations where traffic signal heads are located downstream of a crossing.				
9		We recommend video monitoring and recording of the grade crossings to provide a diagnostic tool for reported grade crossing warning system malfunctions as well as for engineering further enhancements to address any systemic issues that may arise after the grade crossing warning systems are modified and in operation as ultimately proposed.				
10		Verify gates along eastbound Dillard Street do not exceed AREMA and Norfolk Southern Railroad specifications on maximum allowable gate lengths. In addition, verify gates along eastbound Fayetteville Street are not offset too close to the LRT tracks.				
11		The submittals indicate the proposed grade crossing timings do not require increasing crossing approach circuitry lengths. These timings which were calculated and assumed in the proposal are theoretical and for a constant train speed. They may not reflect "real world" conditions and industrywide technological limitations. State-of-the-industry equipment will have some				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		variability in the actual time observed for activation of the grade crossing warning systems due to environmental and track infrastructure conditions, technological limitations, and train operations. Norfolk Southern Railway provides a "buffer" time for activation of the grade crossing warning systems to address these issues. The "buffer" time for these crossings is higher than typical at least partially to deal with the operational issues associated with passenger trains stopping and starting at the Durham Amtrak station as well as to ensure freight and passenger train operations comply with minimum Federal Railroad Administration required grade crossing warning times.				
12		Track circuitry approaches throughout the downtown Durham segment are complex, overlapping from one crossing to the next. For example, the approach circuitry for Blackwell Street overlaps approach circuitry east for the Mangum Street, Dillard Street, Fayetteville Street, Ramseur Street, Plum Street, and Driver Street crossings, and west for the Duke Street and Buchanan Street crossings. In addition, there are currently two wayside signals within the downtown				

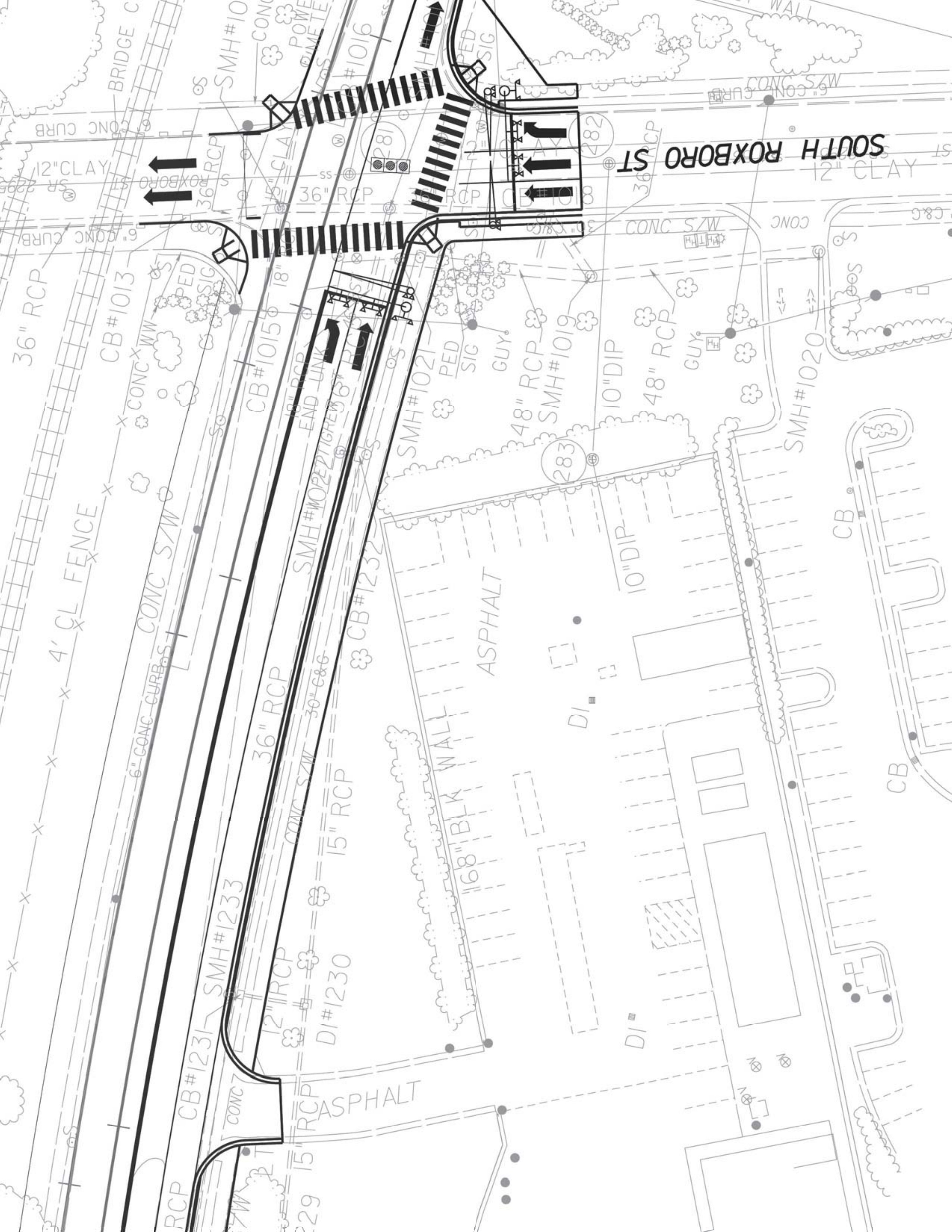
No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		Durham segment located about 150 feet west of Blackwell Street and 750 feet west of Duke Street. Any modifications to grade crossing systems at one location will have a cascading impact on other crossings in the downtown Durham segment.				
13		The submitted grade crossing timings propose to delay the start of exit gate descent time while reducing exit gate down time at two locations: the Blackwell Street crossing by 7 seconds and the Dillard Street crossings by 8 seconds. Though the proposed grade crossing timings theoretically maintain the Division's practice of providing a minimum exit gate down time of 5 seconds, the proposal effectively eliminates "buffer" time which was extensively engineered and provided by Norfolk Southern Railway at each site to address potential grade crossing system timing variations noted in comment 11. The reduced exit gate down time will not maintain the same level of safety as currently provided for both, passenger and freight trains as it increases the likelihood that a train may outrun the gates, arriving at the crossing before gates are fully				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		deployed and allowing vehicles an accessible route to the heavy rail track. These changes to gate operations also decrease the range of allowable operational variations for train operators in a heavily traveled and complex rail environment; hence, decreasing the margin for human error and equipment failures which may have safety-related impacts to the downtown Durham segment. We recommend considering the use of medians and/or one-way streets with the potential elimination of exit gates which would maintain a sealed corridor treatment. These may eliminate the noted impacts on safety and operations.				
14		From prior discussions and meetings with GoTriangle, we understand the current LRT alignment is fixed and cannot be restudied for alternatives, and that the portion of the LRT system outside of the downtown Durham segment cannot progress forward with the current schedule while the downtown Durham segment is being studied further without endangering the overall project. Please confirm.				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
15		Because of safety and efficiency related engineering complexities which are now readily apparent with adding LRT crossings to existing heavy rail crossings within the downtown Durham segment, the proposal should incorporate additional roadway infrastructure modifications to accommodate the proposed LRT alignment. With the high density of grade crossings throughout the downtown Durham segment, consideration should be given to rerouting traffic through the downtown Durham street network, incorporating crossing closures and grade separations which would eliminate the need for a grade crossing warning system itself. The possibility of operating the LRT tracks under traffic signal control should be reconsidered. If the light rail tracks are governed by traffic signals, then we believe AREMA Part 3.1.11 will not apply. While the previous timing calculations for this option showed the right-of-way transfer time would require extending the grade crossing approach circuits - which may not be possible - it may be possible to simplify the crossing protection while maintaining a sealed corridor through				

No.	DWG/Detail/ Page/Para	Comment	Response	Date	Disposition	Date
		use of medians, pre-signals, queue cutter signals, and/or one-way streets instead of exit gates to reduce required right-of-way transfer time.				
16		We note that though not directly related to this review, but relevant to the downtown Durham segment, a research project recently completed by NCSU's Institute for Transportation Research & Education for the Department identified Durham as having the highest trespasser strike rate for the Raleigh to Charlotte rail corridor. Therefore, treatments should also be planned and deployed throughout the downtown Durham segment to isolate pedestrian travel from the heavy rail tracks and to accommodate pedestrian safety at the crossings themselves, particularly given the increased pedestrian traffic expected with this project. Pedestrian treatments should also consider issues associated with "another train coming" scenarios, especially when one train is stopped at a nearby station.				

This page intentionally left blank.


SOUTH ROXBORO ST
12" CLAY
6" CONC CURB
CONC S/W
36" RCP
48" RCP
10" DIP
CB#1013
CB#1015
CB#1018
CB#1231
CB#1232
SMH#1019
SMH#1020
SMH#1021
SMH#1233
DI#1230
PED SIG
GUY
18" RCP
15" RCP
12" RCP
30" C&G
4' CL FENCE
6" CONC CURB
ASPHALT
168" BLK WALL
282
283
281

NCRR Correspondence

This page intentionally left blank.

Meghan Makoid

From: David Charters
Sent: Monday, June 04, 2018 3:57 PM
To: 'Jim Kessler'
Cc: Meghan Makoid; wbs
Subject: RE: DOLRT 0637B - Request to Reinitiate Consultation Under Section 106 of the National Historic Preservation Act - Durham-Orange Light Rail Transit Project

Good afternoon Jim –
Understood. Thx for the response.

Dave Charters, PE
Manager, Design & Engineering
GoTriangle
[redacted]

From: Jim Kessler [mailto:JimKessler@ncrr.com]
Sent: Monday, June 04, 2018 8:29 AM
To: David Charters <DCharters@gotriangle.org>
Subject: RE: DOLRT 0637B - Request to Reinitiate Consultation Under Section 106 of the National Historic Preservation Act - Durham-Orange Light Rail Transit Project

Good morning, Dave

I am not able to attend due to another meeting at that time.

Jim

From: David Charters[redacted]
Sent: Friday, June 1, 2018 2:26 PM
To: Jim Kessler[redacted]
Cc: Meghan Makoid[redacted]; wbs[redacted]
Subject: FW: DOLRT 0637B - Request to Reinitiate Consultation Under Section 106 of the National Historic Preservation Act - Durham-Orange Light Rail Transit Project

Good afternoon Jim –
I slipped up in letting you know of the subject meeting sooner – my apologies. Please see Meghan's email below regarding a meeting required by the environmental process for the Supplemental EA that is being prepared.

Please let Meghan know if anyone from NCRR will be participating in the meeting on Tues June 5 as noted below.

Regards,

Dave Charters, PE
Manager, Design & Engineering
GoTriangle
[redacted]

[redacted]

From: Meghan Makoid
Sent: Friday, May 25, 2018 7:29 PM
To: renee.gledhill-earle[redacted] 'cturne[redacted] 'psandbeck[redacted]
<psandbeck[redacted]; 'afrank[redacted]
'nkaustin[redacted]; 'cheri[redacted]
[redacted] 'sara.young[redacted]
'Pamela.Young[redacted] 'ben[redacted]
[redacted]
Cc: wbs[redacted]; 'Mitchell, Stanley'[redacted] David Charters
[redacted]; Gillespie, Joshua [redacted]; 'Pearson, Jennifer'
[redacted]; 'Smyre, Beth'[redacted]; Ashley Booth [redacted]
Subject: DOLRT 0637B - Request to Reinitiate Consultation Under Section 106 of the National Historic Preservation Act - Durham-Orange Light Rail Transit Project

Dear Consulting Party,

The Durham-Orange Light Rail Transit Project (D-O LRT Project) has progressed to the Engineering Phase in the Federal Transit Administration (FTA) Capital Investment Grant Program. Engineering and design plans have advanced to a more-detailed level since FTA issued the Combined Final Environmental Impact Statement/Record of Decision (FEIS/ROD) and subsequent Supplemental Environmental Assessment (Supplemental EA) and Amended Record of Decision. As a result of this engineering work, GoTriangle is proposing project design refinements along the 17.7 mile project corridor.

The FTA and GoTriangle are preparing a Supplemental Environmental Assessment to evaluate the potential effects of the proposed project refinements. Since the project would use federal funds and is administered by the FTA, the project meets the definition of a federal undertaking per 36 C.F.R. Part 800. You are being contacted because your organization previously participated in consultation on the project, pursuant to Section 106 of the National Historic Preservation Act, 36 C.F.R. Part 800 and your organization has special knowledge of, concern for, or mandated regulatory role that pertains to historic resources within the Area of Potential Effects.

On behalf of FTA, GoTriangle requests your consultation to discuss the proposed project refinements as related to the existing Section 106 determination of effects for historic, archaeological, and cultural resources. The FTA is seeking the input of your organization and will consider such input when evaluating the potential effects of the proposed project refinements on historic resources within the Area of Potential Effects.

The FTA and GoTriangle will hold a consultation meeting:
June 5, 2018 from 1:00 p.m. to 3:00 p.m.

The meeting will be held at the GoTriangle D-O LRT Project Office:
[redacted]

You may participate in person or by phone/Skype. Additional details regarding building access and alternative skype/phone participation are provided in the attached calendar invite.

Please respond to the attached calendar invite by June 1, 2018.

Should you have questions, if you cannot attend, or your organization is not interested in participating as a consulting party, please contact me directly at [redacted] or [redacted]

Sincerely,

Meghan A. Makoid, AICP
Environmental Planner
GoTriangle
[redacted]

This page intentionally left blank.

Tribal Correspondence

This page intentionally left blank.

Catawba Indian Nation
Tribal Historic Preservation Office
[redacted]

Office [redacted]
Fax

May 29, 2018

Attention: Stan Mitchell
U.S. DOT Federal Transit Administration
[redacted]

Re. THPO #	TCNS #	Project Description
2018-852-1		Durham-Orange Light Rail Transit Project – Proposed Project Refinements

Dear Mr. Mitchell,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at [redacted] or e-mail [redacted]

Sincerely,

Caitlin Rogers for

Wenonah G. Haire
Tribal Historic Preservation Officer

This page intentionally left blank.

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IV
Alabama, Florida, Georgia,
Kentucky, Mississippi,
North Carolina, Puerto
Rico, South Carolina,
Tennessee, Virgin Islands

230 Peachtree St.,
N.W., Suite 1400
Atlanta, GA 30303
404-865-5600

April 25, 2018

Eastern Band of Cherokee Indians
Attn: Mr. Russell Townsend
Qualla Boundary Reservation
[redacted]

RE: **Durham-Orange Light Rail Transit Project, Proposed Project Refinements, Durham and Orange Counties, North Carolina**

Dear Mr. Townsend:

The Durham-Orange Light Rail Transit Project (project), with the cooperation of the Federal Transit Administration (FTA), has progressed to the Engineering Phase of this proposed major transit investment in the Chapel Hill-Durham, NC area. The project meets the definition of a federal undertaking per 36 CFR Par 800 and FTA is the lead federal agency. FTA is requesting your consultation for the project per Executive Order 13084, Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

Attached please find a proposed Area of Potential Effect (APE) map package that contains a project description and background report. We would be pleased to discuss the project details with you, as well as any confidential concerns you may identify.

Thank you in advance for your assistance with the proposed project. Please contact Mr. Stan Mitchell at [redacted] or [redacted] of my staff should you have any questions or concerns. Your timely response will greatly help us incorporate your concerns into project development.

Sincerely,

Yvette G. Taylor

Yvette G. Taylor, Ph.D.
Regional Administrator

Attachment: Project Map Package

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IV
Alabama, Florida, Georgia,
Kentucky, Mississippi,
North Carolina, Puerto
Rico, South Carolina,
Tennessee, Virgin Islands

230 Peachtree St.,
N.W., Suite 1400
Atlanta, GA 30303
404-865-5600

April 25, 2018

Catawba Indian Nation
Attn: Wenonah G. Haire, THPO
[redacted]

RE: Durham-Orange Light Rail Transit Project, Proposed Project Refinements, Durham and Orange Counties, North Carolina

Dear Ms. Haire:

The Durham-Orange Light Rail Transit Project (project), with the cooperation of the Federal Transit Administration (FTA), has progressed to the Engineering Phase of this proposed major transit investment in the Chapel Hill-Durham, NC area. The project meets the definition of a federal undertaking per 36 CFR Par 800 and FTA is the lead federal agency. FTA is requesting your consultation for the project per Executive Order 13084, Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

Attached please find a proposed Area of Potential Effect (APE) map package that contains a project description and background report. We would be pleased to discuss the project details with you, as well as any confidential concerns you may identify.

Thank you in advance for your assistance with the proposed project. Please contact Mr. Stan Mitchell at [redacted] or [redacted] of my staff should you have any questions or concerns. Your timely response will greatly help us incorporate your concerns into project development.

Sincerely,

Yvette G. Taylor

Yvette G. Taylor, Ph.D.
Regional Administrator

Attachment: Project Map Package

USACE and NCDEQ Correspondence

This page intentionally left blank.

Myers, Jordan

From: Sullivan, Roscoe L III CIV (US) [redacted]
Sent: Thursday, April 26, 2018 8:03 AM
To: Myers, Jordan (Jacobs); 'rob.ridings[redacted]
Cc: Meghan Makoid; Jamison, John R.; Gillespie, Joshua; esmyre[redacted] Booth Ashley; 'elusk[redacted]
Subject: [EXTERNAL] RE: DOLRT 0204 - Durham Compact Development information

Hey Jordan,

Thanks for the information. To help jog my memory, could you provide an aerial map of the locations discussed in this email?

Thanks!

Ross

Ross Sullivan, PWS, ISA Certified Arborist Regulatory Specialist Raleigh Regulatory Field Office U.S. Army Corps of Engineers - Wilmington District Wake Forest, North Carolina 27587 Office #: 919-554-4884. Ext. 25
Email:[redacted]

-----Original Message-----
From: Myers, Jordan [mailto[redacted]
Sent: Thursday, April 19, 2018 4:28 PM
To: Sullivan, Roscoe L III CIV (US) <[redacted]; 'rob.ridings@[redacted]
<[redacted]
Cc: Meghan Makoid <[redacted]>; Jamison, John R. <[redacted]>; 'Gillespie, Joshua' <[redacted]; esmyre[redacted] Booth Ashley <[redacted]>; 'elus[redacted]
<[redacted]
Subject: [Non-DoD Source] DOLRT 0204 - Durham Compact Development information

Rob and Ross,

We've gathered a few things for you related to the City of Durham's Compact Development Guidelines, related to our discussion about the changes at the Gateway Station a few weeks ago. First, I've attached some background information on the City's guidelines. Next I've included some of the discussion and information about the Patterson Place Station shift to demonstrate the concerns that the New Hope Creek Corridor Advisory Committee (NHCCAC) has previously raised and how the City of Durham has responded. Our thought is that this will provide some context or at least reference for the Gateway Station.

An overview of the Compact Development guidance: Blockedhttps://durhamnc.gov/364/Compact-Neighborhood-Planning <Blockedhttps://durhamnc.gov/364/Compact-Neighborhood-Planning>

Durham's recent work: Blockedhttps://durhamnc.gov/360/Current-Topics <Blockedhttps://durhamnc.gov/360/Current-Topics>

With regard to the Patterson Place Station and the proposed shift, the City of Durham held a series of public meetings for this specific area. The purpose of these meetings was to determine the land uses and intensities within the compact development district. More on that effort here: Blockedhttps://durhamnc.gov/2974/Patterson-Place-Design-District-Zoning-R <Blockedhttps://durhamnc.gov/2974/Patterson-Place-Design-District-Zoning-R> . The NHCCAC provided official comment on the proposed shift in October of last year (see attached Word doc). The comments were provided to the GoTriangle Board of Trustees (BOT)as they were considering whether to approve the further study of the shift. NHCCAC members also attended the Board meeting and provided oral comment during the public hearing portion of the meeting. Pat Young (the City of Durham Planning director) also attended the meeting and clarified for the BOT that the city would not revise the compact development district boundaries. In response (primarily) to the comments from NHCCAC, the City of Durham stated that they would not revise the compact development district boundary as a result of the station shift. The City concluded that the shift would not have an increased impact on the corridor and the sensitive environmental areas adjacent to the station (see the attached pdf "GOT Memorandum and Attachment A 10242017"). Lastly, there is an email attached that is correspondence between the City of Durham and the NHCCAC from Jan/Feb of this year. It outlines the NHCCAC concerns of how other development in the Patterson Place area has been handled by the City, as well as the NHCCAC concerns' relating to the slopes stakes agreements.

This is a good bit of information, but we think it's important for you to have context and an understanding of the concerns that the NHCCAC has brought to attention. If you have any questions about this, contact any of us and we'll find the best answer.

Thanks,

Jordan

C. Jordan Myers, ENV SP | Senior Ecology Lead | [redacted]
JACOBS | [redacted]
T: [redacted] | M: [redacted]
Blockedwww.jacobs.com <Blockedhttp://www.jacobs.com>

<Blockedhttp://www.jacobs.com/>

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

This page intentionally left blank.