

# APPENDIX D: Visual and Aesthetic Conditions for NCCU Station Refinement

Durham-Orange Light Rail Transit Project



**October 2016**

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## 1. Introduction

The Combined FEIS/ROD summarizes the effects of the D-O LRT Project on visual and aesthetic conditions assessed in the DEIS Section 4.4 and the *Visual and Aesthetics Technical Report* (DEIS Appendix K15).

This memorandum assesses the NCCU Station Refinement of the D-O LRT Project. The assessment presents the viewshed, visual resources, potential change to the effects previously disclosed, and any new effects to visual and aesthetic resources that would be associated with the proposed refinement.

Using the same methodology as the *Visual and Aesthetics Technical Report*, the viewshed for the NCCU Station refinement is defined as the land within 200 feet on either side of the proposed alignment, and 1,000 feet on either side of the alignment, where the alignment is proposed to be elevated. The re-evaluation re-assesses Landscape Unit #10 from the DEIS. In order to conduct a visual assessment of the extension of the alignment and new NCCU station, a new landscape unit is established – Landscape Unit #11: Industrial Residential.

## 2. Landscape Unit #10: Urban Industrial

Visual conditions and potential visual impacts of the proposed Alston Avenue Station were discussed as part of Landscape Unit #10 in the *Visual and Aesthetics Technical Report* (DEIS Appendix K15, Section 4.10) and summarized in the Combined FEIS/ROD. The following sections summarize the existing visual conditions and changes in visual impacts resulting from the NCCU Station Refinement.

### 2.1 Existing Conditions

Landscape Unit #10: Urban Industrial (East Durham) included the easternmost portion of the D-O LRT Project viewshed, including the proposed Alston Avenue Station area. The unit is characterized by minor industrial activity, railroad infrastructure, and residential land uses. Existing visual quality in this unit was characterized as low, and visual resources included historic resources (Venable Tobacco Warehouse, Durham Water Tower), large churches, industrial operations along Pettigrew Street and Ramseur Street, and scattered residential neighborhoods. A summary of existing conditions for Landscape Unit #11 is provided in Table 1.

**Table 1: Existing Visual Conditions – Landscape Unit #10**

Visual Character	Visual Resources
Existing railroad tracks with adjacent industrial uses and scattered residential areas	Venable Tobacco Warehouse*
<i>Vividness</i> - Moderate	Large churches (First Presbyterian Church, St. Phillips Episcopal Church, New Creation United Methodist Church)
<i>Intactness</i> - Low	Durham County Public Health Department
<i>Unity</i> - Low	Scattered residential neighborhoods*
Visual quality: Low	Industrial operations along East Pettigrew Street and Ramseur Street
	Durham Water Tower*

\* Visually-sensitive resources

## 2.2 Impacts Assessment

Visual changes would generally be similar to those identified in the technical report and Combined FEIS/ROD, and would include light rail infrastructure and new station. There would be no changes in visual impacts near the Dillard Street Station. The NCCU Station Refinement would change the orientation of the station and surface parking and location of the proposed parking structure.

**Table 2: Visual Impacts – Landscape Unit #10**

Viewer Response	
Viewers	Viewer Response
Residents- Single-family housing	High
Business owners	High
Children and teachers-school (Girls and Boys Club)	Moderate
Church members	Moderate
Motorists	Low
Transit riders	Low

Visual Change		
Visual Elements	Degree of Change for Visual Elements – D-O LRT Project <sup>1</sup>	Degree of Change for Visual Elements – NCCU Station Refinement
Transit Infrastructure	Moderate	Moderate
Elevation	Minor	Minor
Displacement of structures	Moderate	Moderate
Parking area\structure	Substantial	Substantial
View Disruption	Minor	Minor
Removal of existing screens to residential uses	Moderate	Moderate
Visual changes to parklands	-	-
Blocks scenic features	Minor	Minor
Changes to street scape	Moderate	Moderate
Removal of vegetation	Minor	Minor
Visual change to historic resources	Minor	Moderate
New night lighting	Moderate	Moderate

<sup>1</sup> Visual and Aesthetics Technical Report (DEIS Appendix K15)

**Viewer Response: Moderate + Visual Changes: Moderate = Visual Impacts: Moderate**

Overall visual impacts for the NCCU Station Refinement on Landscape Unit #11 would be moderate. This is a change in visual impacts from what was included in the Combined FEIS/ROD, where visual impacts for Landscape Unit #10 were low. The following sections describe the changes in potential visual impacts in this unit in more detail.

### Alston Avenue Station

Re-configuration of the station as proposed in the NCCU Station Refinement would not change the visual impacts described in the DEIS related to the proposed station. As noted, the construction of the light rail station and infrastructure, and the removal of commercial structures and residences would be a moderate visual change.

In the Combined FEIS/ROD, the existing residential properties around the Alston Avenue Station between Pettigrew, Grant, NC 147, and Alston Avenue were planned to be displaced by the Alston

Avenue park and ride garage. Under the NCCU refinement, the majority of existing residences in this area would still be displaced by the construction of the Alston Avenue Station and associated park and ride lot. The remaining properties that are commercial or light industrial would not be sensitive to the visual change. For the few remaining residences on Gillette Avenue, the visual changes would be substantial. These residences would have views of the proposed station and park and ride lot to the north instead of views of other residences. Views to the south would include NC 147, as well as new views of the elevated light rail tracks over NC 147.

The D-O LRT Project ended approximately 525 feet west of the Durham Water Tower and Valve House, with views of the Project precluded by distance and other buildings; therefore, no visual impacts to this property were anticipated. With the NCCU Station Refinement, a new proposed multi-story parking garage on Pettigrew Street east of Alston Avenue would be constructed adjacent to the Durham Water Tower and Valve House historic property, which is eligible for the National Register of Historic Places (NRHP). The NHRP-eligible boundaries include only the area encompassing the water tower and valve house, which is approximately 0.4 acre, fenced off and maintained, and retains its integrity.

North of the NRHP boundary is Pettigrew Street and the NCRR Corridor with railroad tracks. To the east are vacant lots used to store gravel and other materials by the City of Durham, and to the west is vacant property owned by GoTriangle. The parking garage would be constructed on the property owned by GoTriangle. The Federal Transit Administration (FTA), in consultation with the NC Historic Preservation Office (HPO), has made a preliminary determination that there would be an effect to the NHRP-eligible property based on the visual change.

The parking deck is expected to rise approximately 60 feet above Pettigrew Street, with no stairways, elevator towers, or other structures more than 60 feet high on the east half of the parking deck. This would minimize visual impacts to the Water Tower, which at 145-feet tall, would be visible about the parking deck. Therefore, FTA, in consultation with NC HPO, has made a preliminary determination that the parking deck and NCCU Station Refinement would have no adverse effect on the Water Tower.

Due to the visual change and impact to the NHRP-eligible property, the “visual change to historic resources” is rated a moderate change. This elevates the overall visual impact of the NCCU Station Refinement on Landscape Unit #10 to moderate.

### 3. Landscape Unit #11: Industrial Residential

In order to conduct a visual assessment of the extension of the alignment and new NCCU station, a new landscape unit is established – Landscape Unit #11: Industrial Residential.

#### 3.1 Existing Conditions

The Industrial Residential (East Durham) landscape unit (Landscape Unit #11) is characterized by minor industrial activity and single-family residential land uses. This unit abuts the North Carolina Central University Campus. The landscape unit contains mostly single-family homes, a few small businesses, and several stand-alone places of worship. Viewers in this area include motorists and transit riders, church members, residents, business owners, and university employees and students.

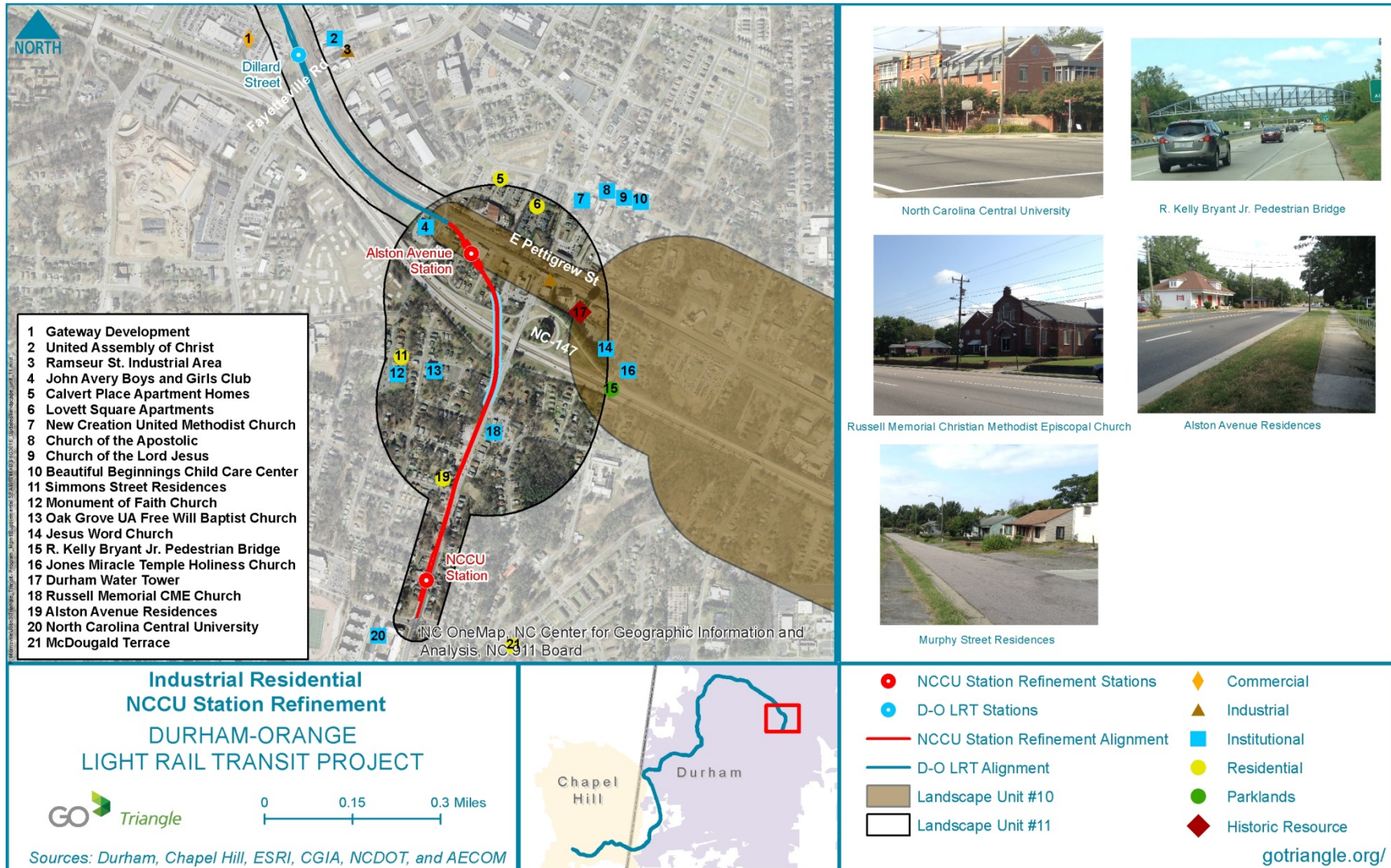
A summary of existing conditions for Landscape Unit #11 is provided in Table 3; visual resources are shown on Figure 1.

**Table 3: Existing Visual Conditions – Landscape Unit #11**

Visual Character	Visual Resources
Residential area with some commercial properties  <i>Vividness</i> - Moderate <i>Intactness</i> - Low <i>Unity</i> - Low  Visual quality: Low	R. Kelly Bryant Pedestrian Bridge NC 147 highway Churches (Russell Memorial Christian Methodist Episcopal Church, Oak Grove UA Free Will Baptist Church, Monument of Faith Church) Single-family and multi-family homes* NCCU Campus

\* Visually-sensitive resources

Figure 1: Landscape Unit #11 – Industrial Residential (East Durham)



## 3.2 Impact Assessment

Impacts to Landscape Unit #11 are only associated with the NCCU Station Refinement and were not discussed in the Combined FEIS/ROD. The viewers in Landscape Unit #11 would have low to high sensitivity to visual changes, as shown in Table 4.

The NCCU Station Refinement would be located on new transportation right-of-way between Pettigrew Street and Alston Avenue, and along the Alston Avenue corridor from NC 147 to Lawson Street. Visual changes would include light rail transit infrastructure and new stations. The proposed NCCU Station would have canopies, pedestrian accommodations, and lighting. A portion of the alignment would be elevated on a bridge to cross over NC 147 and the ramps on the west side of the NC 147/Alston Avenue interchange. Retaining walls would be installed on both sides of the light rail tracks to retain the fill as the tracks descended from the aerial structure down to Alston Avenue. These retaining walls would be approximately 400 feet long, varying in height from approximately 20 feet down to 2 feet. Alston Avenue would be widened to the west to accommodate the light rail alignment in the median. Visual changes in the landscape unit are shown in Table 4.

**Table 4: Visual Impacts – Landscape Unit #11**

Viewer Response	
Viewers	Viewer Response
Residents- Single-family housing	High
Business owners	High
Children and teachers- F. Howard Alston Russell Memorial Child Development Center	Moderate
Church members- Russell Memorial Christian Methodist Episcopal Church	Moderate
Motorists	Low
Transit riders	Low
University visitors, students, professors, staff	Moderate

Visual Change	
Visual Elements	Degree of Change for Visual Elements
Transit Infrastructure	Substantial
Elevation	Substantial
Displacement of structures	Substantial
Parking area/structure	Substantial
View Disruption	Moderate
Removal of existing screens to residential uses	Minor
Visual changes to parklands	Minor
Blocks scenic features	Minor
Changes to street scape	Substantial
Removal of vegetation	Minor
Visual change to historic resources	Minor
New night lighting	Moderate

**Viewer Response: Moderate + Visual Changes: Moderate = Visual Impacts: Moderate**

Overall visual impacts would be moderate. The following sections describe the potential visual impacts in this unit in more detail.

### **NC 147 and Alston Avenue**

South of the Alston Avenue Station, the NCCU Station Refinement would introduce the extension of the light rail alignment. The extension of the alignment is new and was therefore not previously assessed for the Combined FEIS/ROD.

The new alignment will rise over NC 147 on retained fill and then on an aerial structure to cross NC 147. The alignment would be elevated over the ramps on the west side of the Alston Avenue/NC 147 interchange, as well as over NC 147. The structure would be higher than the existing Alston Avenue bridge over NC 147 and would be visible from many points in the landscape unit, including for motorists on NC 147 and Alston Avenue, residents in the area of the Alston Avenue Station and along Alston Avenue, and pedestrians/bicyclists using the R. Kelly Bryant, Jr. Pedestrian Bridge and trail. Trees and topography would provide screening of the bridge for residents in the larger residential areas east and west of Alston Avenue, particularly during periods of high foliage.

The R. Kelly Bryant, Jr. Pedestrian Bridge opened in 2010 to replace a pedestrian bridge originally constructed in 1973 to connect neighborhoods divided by the construction of NC 147. The pedestrian bridge, approximately 925 feet east of Alston Avenue, has been described as a gateway for Durham and was designed to reflect the character of the surrounding area with brick and metal industrial components. The bridge is lit at night with blue lights on the outside and yellow lights on the inside. There is also a sidewalk connection from the bridge to Alston Avenue just north of the northbound NC 147 exit ramp. From the pedestrian bridge, the light rail aerial structure would be visible behind and above the Alston Avenue bridge. It would also be visible to motorists on NC 147; however, it would not be out of context with other bridges and overpasses along the highway, especially the East End Connector bridges over NC 147 that are under construction approximately two miles east of Alston Avenue. Transit riders would have views of east Durham neighborhoods, industrial areas, the existing rail line, and highways.

After crossing over NC 147, the light rail alignment would bridge over the southbound travel lanes of Alston Avenue and transition to existing grade in the median. Approximately 400 feet of the light rail alignment would be on retained fill, with walls on both sides of the alignment. Alston Avenue would be widened to the west to accommodate the light rail alignment, including a center platform station, new traction power substation, signal house, operator restroom and communications room. Properties on the west side of Alston Avenue between NC 147 and Lawson Street would be acquired, and existing businesses or residences would be demolished to allow for the widening of Alston Avenue.

The Russell Memorial Christian Methodist Episcopal Church and its associated child development center would have views of the bridge over NC 147, the retained fill section walls, and the light rail infrastructure in the median of Alston Avenue. This would be a substantial visual change for members of the church, and children and teachers at the daycare.

Residences on the east side of Alston Avenue would see the wider right-of-way along Alston Avenue, including the light rail infrastructure with the NCCU Station, trackway and overhead catenary system in the median, vehicular travel lanes. It is anticipated that the properties, both commercial and residential, on the western side of the street would be displaced by the widening. Therefore it would be anticipated that the properties on the eastern side would experience the change in viewshed, with the removal of commercial and residential properties on the opposite side of the street. These changes would be a moderate change in views, meaning notable changes would take place and affect the visual quality and existing character of the study area

### **NCCU Station**

The proposed NCCU Station Refinement would add a new station, known as the NCCU Station. The NCCU Station would be located just north of the intersection at Alston Avenue and Lawson Street, in the median of Alston Avenue with two roadway lanes for vehicular traffic on either side. Alston Avenue



would be widened to the west to accommodate the light rail alignment and station. Station infrastructure, as well as lighting, bicycle parking, a restroom building for train operators, communications room, and pedestrian accommodations, would be added.

The station would be visible to residents on the east side of Alston Avenue, residents, students, faculty, staff and visitors on the NCCU campus, and motorists traveling along Alston Avenue. Transit riders would have views of the remaining residences along Alston Avenue, as well as the entrance to NCCU’s campus at Lawson Street. Visual impacts for this area would be low as it is already a transportation corridor that is heavily traveled by cars and public transit.

### 4. Findings

For the NCCU Station Refinement, visual impacts in Landscape Unit #10 would be moderate. This is a change from the visual impacts identified in the Combined FEIS/ROD for Landscape Unit #10 for the D-O LRT Project, which were expected to be low. This change is due to the addition of a multi-story parking structure on the property adjacent to the Durham Water Tower and Valve House, a National Register resource. Visual impacts for the NCCU Station Refinement for Landscape Unit #11 would be moderate. No visual impacts to this area were anticipated with the D-O LRT Project, as the project did not extend into this area.

Table 5 includes a summary of visual impacts resulting from the NCCU Station Refinement for Landscape Units #10 and #11.

**Table 5: Summary of Visual Impacts**

Area	Existing Visual Quality	Viewer Response	Visual Change	Overall Visual Impact
#10 Urban Industrial	Low	Moderate	Moderate	Moderate
#11 Industrial Residential	Low	Moderate	Moderate	Moderate

Areas with high visual impacts are summarized in Table 6.

**Table 6: Summary of High Visual Impacts**

Area	Existing Visual Quality	Viewers with High Sensitivity	Areas with Substantial Visual Change	Substantially Affected Viewers
#10 Urban Industrial	Low	Residents	Residential area near Alston Avenue Station,	Residents of remaining single-family homes
#11 Industrial Residential	Low		Alston Avenue just south of NC 147	Church members; teachers and children at daycare

### 5. Mitigation

Potential mitigation options for locations where impacts occur are described in Combined FEIS/ROD Table ROD-1. The measures relevant to the NCCU Station refinement include:

- Coordinate with the City of Durham as well as with affected residents, businesses, neighborhoods, and community facilities to identify strategies to further minimize the visual effects of the project

- Using interdisciplinary design teams to create aesthetic guidelines and standards in the design of project elements
- Integrating facilities with area redevelopment plans, such as NCCU's planned business school at the corner of Alston Avenue and Lawson Street
- Planting appropriate vegetation in and adjoining the project right-of-way
- Replanting remainder parcels
- Use source-shielding in exterior lighting at stations and auxiliary facilities to reduce light pollution from new light sources
- Identify and integrate Art-in-Transit opportunities
- Incorporate landscaping and aesthetic treatments to the design of elevated or aerial structure in close proximity to residences

No additional mitigation measures are required.