

**Appendix D: Proposed Refinements
Neighborhood and Community Resources
Technical Report**

Durham-Orange Light Rail Transit Project



October 2018

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List of Acronyms and Abbreviations

Acronym/Abbreviation	Definition
DEIS	Draft Environmental Impact Statement
D-O	Durham-Orange
D-O LRT	Durham-Orange Light Rail Transit
EA	Environmental Assessment
FEIS	Final Environmental Impact Statement
LRT	light rail transit
NCCU	North Carolina Central University
NEPA	National Environmental Policy Act
ROD	Record of Decision
ROMF	Rail Operations and Maintenance Facility
UNC	University of North Carolina
US	United States
VA	Veterans Affairs

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1. Introduction

This technical report presents an analysis of potential impacts of the Proposed Refinements to the Durham-Orange Light Rail Transit (D-O LRT) Project on Neighborhoods and Community Resources. It includes the potential effects of shifts or changes in alignment, reconfiguration of stations and related sites, roadway modifications, and new and improved multiuse and pedestrian facilities on Neighborhoods and Community Resources.

2. Description of the Proposed Refinements

The previous National Environmental Policy Act (NEPA) documentation for the D-O LRT Project, including the Draft Environmental Impact Statement (DEIS), Combined Final Environmental Impact Statement/Record of Decision (Combined FEIS/ROD), Supplemental Environmental Assessment (Supplemental EA) for the North Carolina Central University (NCCU) Station Refinement, and Amended ROD, evaluated the effects of the light rail project based on preliminary engineering design.

Since publication of the Amended ROD, engineering design has advanced, resulting in Proposed Refinements to the D-O LRT Project design. This report refers to the D-O LRT Project identified in the Amended ROD as the “Previous Design” and the Proposed Refinements as the “Proposed Refinements.”

The Proposed Refinements are based on:

- Advancements in design since the Amended ROD;
- Responses to public comments and stakeholder feedback on the previous NEPA documentation and the Amended ROD;
- Recommendations from the Transit Oriented Development grant study to optimize platform locations for future development; and
- Recommendations from the updated Durham County and Orange County transit plans.

The major refinements discussed in this Supplemental EA include:

- Modification to the station platform lengths;
- Adjustments to the location and configuration of the station platforms, as well as corresponding refinements to the track alignments;
- Modifications to the planned park-and-ride lots;
- Inclusion of bicycle and pedestrian facilities throughout the project;
- Changes in the locations and number of Traction Power Substations;
- Reconfiguration of the Rail Operations and Maintenance Facility (ROMF) and rail yard;
- Using single-track configuration for the segment that includes New Hope Creek and Sandy Creek bridge crossings;
- Revision to the alignment to pass underneath the intersection of University Drive and Shannon Road, rather than cross through the intersection at grade;
- Elevation of the alignment on Erwin Road;
- Addition of a new station at Blackwell/Mangum Streets and a pedestrian/bicycle signature civic space that would span Pettigrew Street, the light rail tracks, NCRR tracks, and Ramseur Street approximately mid-block between Blackwell Street and Mangum Street; and
- Inclusion of drainage, grading, and site preparation throughout the project.

3. Legal and Regulatory Framework

This technical report has been prepared using the same legal and regulatory framework as the NEPA documentation for the Previous Design. There have been no relevant changes in the governing law or implementing regulations since the previous NEPA documentation was prepared.

4. Methodology

The analysis presented in this technical report employs the same methodology, involving the same study area and evaluation areas, as the NEPA documentation for the Previous Design.

5. Affected Environment and Environmental Consequences

The neighborhoods affected by the Proposed Refinements are the same as described in the NEPA documentation for the Previous Design. That documentation describes the major neighborhoods, subdivisions, and housing complexes within each neighborhood evaluation area in the study corridor. No new neighborhoods, subdivisions, or housing complexes would be affected by the Proposed Refinements.

Community resources affected by the Proposed Refinements are also described in the NEPA documentation for the Previous Design. There is one additional community resource affected by the Proposed Refinements that was not described in the NEPA documentation for the Previous Design. This additional community resource is the Indigo Montessori School at 205 S. Gregson Street in Durham, which is in the Old West Durham/Duke East Campus Evaluation Area. This school opened in the evaluation area after Federal Transit Administration and GoTriangle completed the NEPA documentation for the Previous Design.

The Proposed Refinements include changes that would improve vehicular and pedestrian movement at stations and improve connectivity between the station areas and the surrounding residential neighborhoods relative to the Previous Design. These modifications would enhance and improve mobility and access for all of the community, as well as provide access to community facilities. Other refinements, such as alignment shifts, modifications to parking facilities and elevated structures, and roadway changes, would have no effect on neighborhoods or community resources, though there are some additional property displacements. The Proposed Refinements would not negatively impact community cohesion. While additional property displacements, noise, and visual impacts would result from the Proposed Refinements, the overall benefits of the D-O LRT Project to neighborhoods and community resources remain unchanged.

Detailed discussions of impacts by evaluation area are provided in sections 5.1 through 5.8.

5.1 Potential Impacts to UNC Campus Evaluation Area

5.1.1 Access and Mobility

Relative to the Previous Design, access and mobility would improve with the Proposed Refinements in this evaluation area. The Proposed Refinements at UNC Hospitals Station include modifications to the roadway configurations included in the Previous Design and a shift to the station platforms to just east of East Drive. The Proposed Refinements would eliminate the pedestrian bridge to the Dogwood Parking Deck that was included in the Previous Design. With the Proposed Refinements, pedestrian access would be provided along East Drive and pedestrians would cross the road at-grade for access between the station,

the parking decks, and the hospitals. Pedestrian movement across the road would occur at the signalized intersection on Mason Farm Road during a protected pedestrian phase.

The Proposed Refinements at Mason Farm Road Station include widened walkways, added sidewalks, and stairs and elevators for access to the Dean E. Smith Center. The enhanced pedestrian facilities at the Dean E. Smith Center would improve pedestrian circulation and access between the station and the Dean E. Smith Center, particularly during events. These refinements would further improve pedestrian access and mobility relative to the Previous Design.

5.1.2 Community Cohesion

The Proposed Refinements would not introduce a barrier that would affect community cohesion in this area beyond what is described in the NEPA documentation for the Previous Design.

5.1.3 Community Resources

The Proposed Refinements would not impact property or introduce changes in access or parking that would affect community resources in this area beyond what is described in the NEPA documentation for the Previous Design.

5.1.4 Residential Property Displacements

The Proposed Refinements would not require relocation or displacement of any private residences or businesses in this area.

5.1.5 Visual Quality

The Proposed Refinements would change visual elements related to pedestrian access near the UNC Hospitals Station and Mason Farm Road Station relative to the Previous Design: the elimination of the pedestrian bridge would change the degree of visual change for the streetscape element from moderate (Previous Design) to minor (Proposed Refinements). The Proposed Refinements to pedestrian facilities at the Mason Farm Road Station and the Dean E. Smith Center would be consistent with the campus environment, but would remove vegetation from the hillside leading up to the Dean E. Smith Center. These would be minor changes and would not affect the degree of visual change relative to the Previous Design. Overall, the Proposed Refinements are consistent with the campus setting and viewer expectations in this area, similar to the Previous Design, and the visual impact in this evaluation area would remain moderate as described in the NEPA documentation of the Previous Design.

5.1.6 Noise and Vibration

Multifamily residences adjacent to the Mason Farm Road Station would experience noise impacts from light rail trains. The noise analysis for the Proposed Refinements identified 89 units with moderate noise impacts in two of the three buildings adjacent to the Mason Farm Road Station. The impacts are related to the sounding of bells as the trains approach at-grade crossings. There would be no vibration impacts associated with the Proposed Refinements in this evaluation area.

5.2 Potential Impacts to East Chapel Hill Evaluation Area

5.2.1 Access and Mobility

Relative to the Previous Design, access and mobility would improve with the Proposed Refinements in this evaluation area. The Proposed Refinements in East Chapel Hill would improve connectivity for Hamilton Road, Friday Center Drive, and Woodmont stations with the surrounding residential neighborhoods compared to the impacts of the Previous Design. A multiuse path would be added along the light rail alignment from Old Mason Farm Road to Prestwick Road to facilitate access from the surrounding neighborhoods to the Hamilton Road Station. Added sidewalks on roadways near the Hamilton Road and Friday Center Drive stations and new multiuse paths in the vicinity of Woodmont Station would enhance access for pedestrians and improve mobility for residents in the neighborhoods that surround the stations.

The refinement at Friday Center Drive Station eliminates changes to the existing parking lot to preserve the use, flexibility, and long-term maintenance of the existing parking lot for consistency with the University of North Carolina (UNC) master plans. This change would not adversely affect access and mobility at the station.

The shift in road alignment at Leigh Village Station would change vehicular access and mobility around the station, including access to the park-and-ride lot, relative to the access pattern described in the NEPA documentation for the Previous Design; however, there would be no change in the level of accessibility and mobility. The shifted road alignment would conform to the planned roadway network for the area.

5.2.2 Community Cohesion

The Proposed Refinements would not introduce a barrier that would affect community cohesion in this area beyond what is described in the NEPA documentation for the Previous Design.

5.2.3 Community Resources

The Proposed Refinements would not impact property or introduce changes in access or parking that would affect community resources in this area beyond what is described in the NEPA documentation for the Previous Design.

5.2.4 Residential Property Displacements

Two additional residential properties would be displaced on Cleora Drive and Wendell Road as a result of the changes to the roadway network providing access to the park-and-ride lot at Leigh Village Station. These roadway changes improve alignments and intersections, while preserving the future development potential in the area. The changes are consistent with the *SW Durham County and SE Chapel Hill Collector Street Plan*.¹

5.2.5 Visual Quality

The Proposed Refinements in the vicinity of Woodmont Station would require additional tree clearing relative to the Previous Design, which would result in a moderate visual change as compared to the affected environment, the same effect as the Previous Design. Additional tree clearing also would be required near Leigh Village Station. The Proposed Refinements would also result in a moderate visual

¹ Durham-Chapel Hill-Carrboro Metropolitan Planning Organization. 2006. *SW Durham County and SE Chapel Hill Collector Street Plan*. Accessed August 24, 2018. <http://www.townofchapelhill.org/home/showdocument?id=621>.

change from the additional residential displacements as compared to the minor visual change with displacements under the Previous Design. However, these changes would not affect the overall visual impacts in the East Chapel Hill area relative to the impacts presented in the NEPA documentation for the Previous Design. Overall, the Proposed Refinements would result in a low-to-moderate visual impact on the neighborhoods and communities in this area, which is the same as the Previous Design.

5.2.6 Noise and Vibration

In the East Chapel Hill area, moderate noise impacts would occur at ten buildings, representing ten noise impacts along the eastbound and westbound light rail alignment approaches to Leigh Village Station. The ten buildings are single-family residences, nine of which are in the same area. There would be no vibration impacts in this evaluation area.

5.3 Potential Impacts to Leigh Village Evaluation Area

5.3.1 Access and Mobility

The Proposed Refinements at the ROMF would not change access and mobility surrounding the ROMF relative to the NEPA documentation for the Previous Design.

5.3.2 Community Cohesion

The Proposed Refinements would not introduce a barrier to community cohesion in the area or otherwise affect community cohesion relative to the Previous Design.

5.3.3 Community Resources

Community resources in this area would not be affected by the Proposed Refinements.

5.3.4 Residential Property Displacements

There would be no additional residential displacements associated with the Proposed Refinements in this area.

5.3.5 Visual Quality

Under the Proposed Refinements, the ROMF yard would be elevated by 4 feet; however, the yard and buildings would still be depressed when compared to Farrington Road. Additional changes to the ROMF building and yard elements (e.g., reduction in number and height of retaining walls, vegetative buffers and other landscape enhancements) would reduce the visual impact compared to the Previous Design. The degree of visual changes to neighborhoods and community resources that would result from the Proposed Refinements is the same as the Previous Design. Overall, the visual impacts under the Proposed Refinements in this evaluation area would be moderate, which is the same as those identified in the NEPA documentation for the Previous Design.

5.3.6 Noise and Vibration

The ROMF will result in moderate noise impacts at 13 residences. The noise impacts at this location are due to the proximity of the proposed ROMF and the increase in highway traffic noise caused by the removal of existing intervening trees. Mitigation for these impacts would reduce the neighborhood impacts. (See **appendix J** of the Supplemental EA for the Proposed Refinements, Noise and Vibration

Technical Report, for additional details.) There would be no vibration impacts associated with the Proposed Refinements in this evaluation area.

5.4 Potential Impacts to United States 15-501 Corridor Evaluation Area

5.4.1 Access and Mobility

Several of the Proposed Refinements in the United States (US) 15-501 Corridor are the result of coordination with the North Carolina Department of Transportation (i.e., shifting the track alignment along Interstate 40, eliminating the Farrington Road Bridge extension, and shifting the alignment in the vicinity of the Western Bypass). These changes would have no effect on access and mobility for residents in the surrounding neighborhoods relative to the Previous Design.

Near the Gateway Station, a pedestrian sidewalk along the east side of Pope Road from Olde Coach Road to Old Chapel Hill Road is included to improve connectivity between the station and neighborhoods to the south. The Proposed Refinements also include changes to the roadway network to create a connected roadway system directly surrounding the station that would improve traffic patterns around the station and connector roads in and out of the park-and-ride lot area to improve access to these areas. Additionally, the roundabout design refinements would provide a safer and more efficient design that would protect both traffic and pedestrian flow through the railroad gates. These refinements would improve neighborhood access to the station and park-and-ride lot relative to access provided with the Previous Design.

The Proposed Refinement of the Patterson Place Station is a shift of the station platform and associated track about 500 feet to the northeast, away from a grocery store loading dock. With the shifted location, the station would be more visible relative to the surrounding neighborhoods, and access from the neighborhoods to the station would be improved relative to the station as presented in the NEPA documentation for the Previous Design. The changes would better situate the station for potential future development, unlike the Previous Design, which locates the station in a constrained area with limited visibility. This would also benefit the neighborhood by preserving space for future development near the station.

The alignment shift and station relocation at Martin Luther King Jr. Parkway Station would improve pedestrian and bicycle access across University Drive, provide direct pedestrian access to the associated station park-and-ride, and minimize roadway widening. The station refinement would better integrate the station with the existing development relative to the effects presented in the NEPA documentation for the Previous Design. Additional design refinements to sidewalks, bicycle lanes, and multiuse paths near the station have been incorporated into the plans to improve bicycle and pedestrian access. The Proposed Refinements add a sidewalk along the west side of Larchmont Road between University Drive and Gatehouse Lane, which would enhance connectivity between the station area and surrounding neighborhoods relative to the effects described in the NEPA documentation for the Previous Design.

The Proposed Refinements at South Square Station would add parking and modify existing sidewalks and crosswalks to improve station accessibility for vehicles and pedestrians. The location of the platform would be shifted to span Auto Drive, which would facilitate pedestrian access to the platform from both sides of the adjacent roadways. These changes would improve pedestrian circulation and connectivity between the surrounding neighborhoods and the station relative to impacts reported in the NEPA documentation for the Previous Design.

Revisions to the alignment in the vicinity of Conifer Glen would close access from Tower Boulevard to the Parc at University Tower Apartments due to a change from an elevated to an at-grade crossing. A new access road connecting the residential complex to Pickett Road would be constructed. This change in access between Parc at University Tower Apartments and Tower Boulevard would result in a change in travel patterns that was not described in the NEPA documentation for the Previous Design.

Access to a commercial property on Western Bypass (i.e., a former Pepsi Plant now used as a storage facility) would change with the rail alignment shifted to the east of Western Bypass. The Proposed Refinements would maintain two access points to the storage facility, including a driveway with an at-grade crossing of the light rail track for direct access to/from Western Bypass.

5.4.2 Community Cohesion

The shift in location of the Gateway, Martin Luther King Jr Parkway, and Patterson Place stations could encourage future compact development near the stations (one of the purposes of the project) and improve opportunities for economic development. Such future developments may affect community cohesion by creating new communities to connect with the surrounding communities.

The Proposed Refinements would require additional residential displacements in the US 15-501 Corridor Evaluation Area (see section 5.4.4), which may adversely affect community cohesion, particularly the displacement of a multifamily residential building. The residential displacements may disrupt community cohesion for displaced residents and neighbors in the vicinity of the displacements.

5.4.3 Community Resources

The Proposed Refinements would require acquisition of several commercial properties in this area (see section 5.4.4), including two banks that may serve as community resources.

5.4.4 Residential Property Displacements

The Proposed Refinements have shifted Gateway Station and the corresponding track alignment; as a result, two additional residential properties would be displaced on White Oak Drive, and one additional property would be displaced at the intersection of White Oak Drive and Chapel Hill Lane.

The Proposed Refinements have shifted the location of Patterson Place Station, resulting in one additional residential displacement on SW Durham Parkway and two additional residential displacements on Sayward Drive.

A design refinement along the elevated section between Patterson Place Station and Martin Luther King Jr. Parkway Station would result in the acquisition of two additional commercial properties on Garrett Road, a tile store and a warehouse. The Proposed Refinements have shifted the location of the alignment and the station at Martin Luther King Jr. Parkway Station, resulting in the displacement of one multifamily residential building, and the acquisition of a commercial building, two banks, and a vacant NCDOT parcel.

The alignment shift and expansion of parking at South Square Station would require the acquisition of two fast food restaurants and a mattress store.

5.4.5 Visual Quality

The increase in displacements with the Proposed Refinements would increase the degree of visual change relative to the Previous Design for that element from minor to moderate; however, no changes to overall

visual impacts for neighborhoods or community resources would result from these changes. The visual impact of the D-O LRT Project in this evaluation area would remain moderate to high.

5.4.6 Noise and Vibration

Severe noise impacts would occur at two multifamily buildings, representing 34 units, in the areas where the light rail alignment transitions from double-track to single-track between Patterson Place Station and Martin Luther King Jr. Parkway Station. Moderate impacts also would occur at two multifamily buildings north of Southwest Durham Drive representing 24 residential units.

Along the at-grade segment of the alignment west of University Drive, moderate noise impacts would occur at 6 multifamily buildings; 3 multifamily buildings located to the north side of the alignment and 3 multifamily buildings located to the south side of the alignment, representing a total of 198 units with moderate noise impacts.

North of South Square Station, moderate noise impacts would affect 3 multifamily buildings, with 90 units total, representing a total of 90 moderate noise impacts.

There would be no vibration impacts associated with the Proposed Refinements in this evaluation area.

5.5 Potential Impacts to Duke West Campus and Medical Center Evaluation Area

5.5.1 Access and Mobility

The Proposed Refinements include track realignment near the Al Buehler Trail and Duke University Golf Club. The track realignment would move the track closer to US 15-501 and reduce the physical and visual impacts of the Previous Design on the trail and golf course. The Proposed Refinements also eliminate a potential conflict with the City of Durham's ability to maintain an existing 30-inch waterline by relocating the waterline across US 15-501, away from the alignment. The Proposed Refinements to the track realignment in this location would have no effect on pedestrian or vehicular access or mobility within the surrounding neighborhoods.

The Proposed Refinements associated with Erwin Road involve moving the alignment from the median of Erwin Road to the south side of Erwin Road at the intersection of Cameron Boulevard. The LaSalle Street Station would be an elevated station, located south of Erwin Road just west of LaSalle Street. Vehicular traffic would be improved due to the grade separation of the alignment east of LaSalle Street, including emergency vehicle access to hospitals. Sidewalks and a multiuse path along Erwin Road would be added as a part of the Proposed Refinements to improve pedestrian access along Erwin Road.

The alignment would continue elevated until just east of Flowers Drive where it would transition to the north side of Erwin Road before crossing over NC 147. The realignment would change the configuration of intersections between roadways and the light rail alignment in this evaluation area. Vehicular and pedestrian traffic flow would be maintained, similar to what was presented in the NEPA documentation for the Previous Design.

The Duke/VA (Veterans Affairs) Medical Centers Station would be an elevated station and shifted just west of Fulton Street between the Durham VA Hospital and Duke University Medical Center's Eye Care Center. Access to the station from neighborhoods in proximity to Fulton Street also would be the same relative to the effects described in the NEPA documentation for the Previous Design. The shift in location of the Duke/VA Medical Centers Station would increase the distance for neighborhoods to the east of Trent Drive, in particular Duke University's Central Campus, and lower the accessibility of those

neighborhoods to the Duke/VA Medical Centers Station as compared to the Previous Design. However, neighborhoods to the east would continue to have access to the Ninth Street Station.

5.5.2 Community Cohesion

The Proposed Refinements would not introduce a barrier that would affect community cohesion in this area beyond what is described in the NEPA documentation for the Previous Design.

5.5.3 Community Resources

The pedestrian access improvements associated with the Duke/VA Medical Center stations would result in enhanced pedestrian connectivity between the station and two community resources: the Durham VA Hospital and Duke University Medical Center as compared with the Previous Design. Relative to the Previous Design, changes in traffic and pedestrian flow along Erwin Road would improve emergency vehicle access to the hospitals.

5.5.4 Residential Property Displacements

There would be no residential displacements associated with the Proposed Refinements in this area.

5.5.5 Visual Quality

The Proposed Refinements would add elevated alignment, causing an increase in the degree of visual change for elevated visual elements in this area from minor (Previous Design) to moderate (Proposed Refinements). The visual impacts in this evaluation area would be low to moderate with the Proposed Refinements, which is the same as the Previous Design. There would be no change to the effects of visual impacts on neighborhoods and community resources as compared with the Previous Design.

5.5.6 Noise and Vibration

Moderate noise impacts would occur at one multifamily building, representing 64 noise impacts, along Erwin Road west of the Duke/VA Medical Centers Station. There would be no vibration impacts associated with the Proposed Refinements in this evaluation area.

5.6 Potential Impacts to Old West Durham/Duke East Campus Evaluation Area

5.6.1 Access and Mobility

The Proposed Refinements at the Ninth Street Station include shifting the station platform location to span Erwin Road. This change would facilitate pedestrian access to the platforms from both sides of the adjacent roadways. The Proposed Refinements also include additional sidewalk on the south side of Pettigrew Street from Erwin Road to Swift Avenue. The refinements would improve pedestrian access and mobility around Ninth Street Station relative to the impacts described in the NEPA documentation for the Previous Design by facilitating pedestrian access from both sides of the roadway to the station.

Refinements at the Buchanan Boulevard Station include additional roadway changes and on-street kiss-and-ride accommodations to improve vehicular and pedestrian access to the station.

5.6.2 Community Cohesion

The Proposed Refinements would not introduce a barrier to community cohesion in the area, as the proposed alignment is located along an existing transportation corridor.

5.6.3 Community Resources

The D-O LRT Project would result in the displacement of the building located at 205 S. Gregson Street. This building was identified as a relocation in the NEPA documentation for the Previous Design; however, the use of the building has changed to a school resource since that time. The impact on community resources would change relative to the Previous Design.

5.6.4 Residential Property Displacements

There would be no residential displacements associated with the Proposed Refinements in this area.

5.6.5 Visual Quality

Visual changes under the Proposed Refinements would be identical to those identified in the NEPA documentation of the Previous Design. Visual impacts of the Proposed Refinements would be moderate, which is the same as the Previous Design.

5.6.6 Noise and Vibration

Moderate noise impacts would occur at one institutional receptor east of Ninth Street Station, the Duke Center for Documentary Studies. There would be no vibration impacts associated with the Proposed Refinements in this evaluation area.

5.7 Potential Impacts to Downtown Durham Evaluation Area

5.7.1 Access and Mobility

The Proposed Refinements would add a new station near the Durham Performing Arts Center between Blackwell Street and Mangum Street, the proposed Blackwell/Mangum Streets Station. This proposed additional station would improve access and mobility in the surrounding neighborhood relative to the effects described in the NEPA documentation for the Previous Design by increasing connectivity to transit. The Proposed Refinements include closure of Blackwell Street to vehicles, pedestrians, and bicycles between Ramseur and Pettigrew Streets and addition of a pedestrian/bicycle signature civic space that would span Pettigrew Street, the light rail tracks, NCR tracks, and Ramseur Street approximately mid-block between Blackwell Street and Mangum Street. These changes would affect mobility and change travel patterns at this location. The Proposed Refinements also include a multiuse path on the east side of Blackwell Street from Pettigrew Street to Vivian Street, and a sidewalk on Pettigrew Street from Blackwell Street to Chatham Place. The added pedestrian features would enhance access from the station to popular destinations in downtown Durham.

The Proposed Refinements would reconfigure Ramseur Street to permit two-way traffic flow between Chapel Hill Street and Dillard Street. Conversion of Ramseur Street to two-way operations would allow bus traffic to relocate from the westbound light rail alignment between Chapel Hill Street and Dillard Street and to travel westbound on Ramseur Street, which would enhance public transit operations by providing an alternative for buses that currently travel on Pettigrew Street in downtown Durham.

The refinement at Dillard Street Station would facilitate traffic flow along Pettigrew Street and accommodate a new adjacent apartment development, built since the DEIS was prepared. Alteration of traffic flow resulting from the refinements at Dillard Street Station would improve access and mobility related to the station relative to impacts presented in the NEPA documentation for the Previous Design. The NEPA documentation for the Previous Design identified parking availability at the Dillard Street

Station that is no longer available due to new development at the site. Use of the station for park-and-ride transit is no longer anticipated.

The Proposed Refinements include a new pedestrian sidewalk along the north side of Dillard Street to connect the existing sidewalk on Dillard Street with the existing sidewalk on South Roxboro Street. This will enhance pedestrian access between the surrounding neighborhood and the Dillard Street Station Area and represents an improvement to pedestrian access relative to the NEPA documentation for the Previous Design.

5.7.2 Community Cohesion

The Proposed Refinements would not introduce a barrier that would affect community cohesion in this area beyond what is described in the NEPA documentation for the Previous Design. The proposed additional light rail station would improve community cohesion through improved access to transit and identity around the station. The added sidewalk on Dillard Street would improve connectivity for the neighborhood and enhance community cohesion.

5.7.3 Community Resources

The Proposed Refinements would not impact property or introduce changes in access that would affect community resources in this area beyond what is described in the NEPA documentation for the Previous Design. On-street parking would be reduced in this area: with the conversion of Ramseur to accommodate two-way traffic, 39 on-street parking spaces would be removed. The addition of the Blackwell/Mangum Streets Station and pedestrian/bicycle signature civic space that would span Pettigrew Street, the light rail tracks, NCRRT tracks, and Ramseur Street approximately mid-block between Blackwell Street and Mangum Street will serve to connect local community resources in this urban area, including the Durham Performing Arts Center, Durham Bulls Athletic Park, and the American Tobacco Campus, with larger customer and employee bases. The addition of the Blackwell/Mangum Streets Station and resulting slight shift in the alignment of Pettigrew Street, and addition of a pedestrian/bicycle signature civic space approximately mid-block between Blackwell Street and Mangum Street, are not anticipated to change the No Adverse Effect finding for the W.T. Blackwell and Company Tobacco Company Building (a National Historic Landmark) described in the NEPA documentation for the Previous Design.

5.7.4 Residential Property Displacements

There would be no residential displacements associated with the Proposed Refinements in this area.

5.7.5 Visual Quality

Visual impacts resulting from the Proposed Refinements in the Downtown Durham Evaluation Area would be moderate, which represents a change from characterization of visual impacts for the Previous Design, which was low. This change reflects the addition of the Blackwell/Mangum Streets Station and pedestrian/bicycle signature civic space approximately mid-block between Blackwell Street and Mangum Street. The level of impact is largely dependent on the configuration and dimensions of the new station and the pedestrian/bicycle signature civic space.

5.7.6 Noise and Vibration

There would be no noise or vibration impacts associated with the Proposed Refinements in this evaluation area.

5.8 Potential Impacts to East Durham Evaluation Area

5.8.1 Access and Mobility

The Proposed Refinements include the replacement of the proposed parking structure serving the Alston Avenue Station with additional surface parking lots. The Proposed Refinements also would move the station platform closer to the intersection of Pettigrew Street and Grant Street to improve pedestrian access to the station. To enhance pedestrian routes, an existing path from R. Kelly Bryant Bridge to Alston Avenue, just north of NC 147, would be converted to a multiuse path and would include lighting and wayfinding. These refinements would improve pedestrian access and mobility relative to the impacts identified in the NEPA documentation for the Previous Design. The refinements would provide more direct access to existing and future planned development along Grant Street. Closure of the Pettigrew Street driveway at the Smith/Avery Center (John Avery) Boys and Girls Club would reduce driveway access; however, access would remain through the Grant Street driveway.

The Proposed Refinements would add sidewalks along the north side of Linwood Avenue between Ridgeway Avenue and Alston Avenue and along the south side of Lawson Street between Alston Avenue and Wabash Street. These changes would improve pedestrian access and enhance connectivity between the surrounding neighborhood and the NCCU Station.

The Proposed Refinements would close the intersections of Price and Massey Avenues with Alston Avenue and add a roadway connection between Price Avenue and Massey Avenue to accommodate community circulation. Pedestrian access between these neighborhoods and Alston Avenue would be maintained. Vehicles on Price and Massey Avenues would have to use an alternate route to access Alston Avenue.

5.8.2 Community Cohesion

The Proposed Refinements would not introduce a barrier that would affect community cohesion in this area beyond what is described in the NEPA documentation for the Previous Design.

The Proposed Refinements would introduce a transportation barrier with the change at Price and Massey Avenues. With no through-traffic to Alston Avenue from Price Avenue or Massey Avenue, the Price/Massey road connection would reduce connectivity with Alston Avenue relative to the Previous Design. Displacements and relocations described in section 5.8.4 also would affect community cohesion.

5.8.3 Community Resources

Closure of the Pettigrew Street driveway at the Smith/Avery Center (John Avery) Boys and Girls Club would reduce driveway access; however, access would remain through the Grant Street driveway. On-street parking would be reduced in this area: changes along Alston Avenue would remove approximately 16 on-street parking spaces along Linwood Avenue, Massey Avenue, Cox Avenue, and Dupree Street. The Proposed Refinements would not introduce other changes in access that would affect community resources in this area beyond what is described in the NEPA documentation for the Previous Design. The proposed Refinements would require acquisition of one vacant property and one commercial property (gas station) in this evaluation area.

The Proposed Refinements would improve pedestrian access to community resources in this area beyond what is described in the NEPA documentation for the Previous Design. Vehicular access to community resources along and off of Alston Avenue from Price and Massey avenues would change and travel time to these resources would increase relative to the Previous Design.

5.8.4 Residential Property Displacements

The Proposed Refinements have added additional roadway and parking footprints to better accommodate pedestrian and vehicular movement around the Alston Avenue Station and associated parking lots; as a result, six additional residential properties would be displaced relative to the Previous Design (three residential properties along Gillette Avenue, two residential properties on Colfax Street, and one residential property on Grant Street).

The roadway design associated with the Proposed Refinements along Alston Avenue would require one residential acquisition on Linwood Avenue and one residential acquisition on Dupree Street. These acquisitions are necessary to preserve access from Linwood Avenue and Dupree Street to Alston Avenue. This represents an increase in total acquisitions over the impacts described in the NEPA documentation for the Previous Design.

5.8.5 Visual Quality

The degree of visual impacts would be reduced with the Proposed Refinements relative to the NEPA documentation for the Previous Design for parking areas/structures and historic resources, but would increase from moderate to substantial with the number of structure displacements. The overall visual impacts in this evaluation area would be low to moderate in the urban industrial portion of this evaluation area (i.e., the vicinity of Dillon Street and Alston Avenue stations), which is the same as the Previous Design. Reduced visual changes would benefit the surrounding neighborhood.

Visual impacts with the Proposed Refinements in the industrial residential portion of this evaluation area (i.e., the NCCU vicinity) would be the same as impacts described in the NEPA documentation for the Previous Design. The NEPA documentation for the Previous Design describes visual impacts in this area as moderate. With the Proposed Refinements, the visual impacts also would be moderate.

5.8.6 Noise and Vibration

There would be no noise or vibration impacts associated with the Proposed Refinements in this evaluation area.

6. Mitigation

New or modified impacts to neighborhoods and community resources resulting from the Proposed Refinements relative to the impacts presented in the NEPA documentation for the Previous Design would occur at Conifer Glen Lane (access and mobility impacts on residents of Parc at University Tower Apartments), Durham Street Station (visual impacts), Blackwell/Mangum Street Station (access and mobility issues, visual impacts) Dillard Street Station (parking impacts), and the East Durham/NCCU area (access and mobility, and residential property displacements). Impacts at these locations would be consistent with the types of impacts already identified in the NEPA documentation for the Previous Design. With the exception of changes at Blackwell Street between Pettigrew and Ramseur streets, modifications to pedestrian and vehicular facilities in the Proposed Refinements were designed to mitigate impacts of the alignment analyzed in the NEPA documentation for the Previous Design and, therefore, would result in beneficial changes, including improved vehicular, pedestrian, and bicycle accessibility and mobility; improved redevelopment potential; and direct access to key community resources. GoTriangle will develop the aesthetic design of the pedestrian/bicycle signature civic space approximately mid-block between Blackwell Street and Ramseur Street using community input through an open public process. Enhancements to bicycle and pedestrian facilities through the D-O LRT Corridor

would improve neighborhood access to the rail stations. Noise impacts identified in this report and related mitigation measures are described in detail in the Proposed Refinements Noise and Vibration Technical Report. No other impacts from the Proposed Refinements would require additional mitigation compared with the mitigation commitments presented in the Amended ROD.