Table of Contents

List of Tables

List of Figures

5 Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on April 11, 1994, directs federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse environmental effects of federal agency actions on minority and low-income populations to the greatest extent practicable and permitted by law. The EO directs federal actions, including transportation projects, to use existing law to avoid discrimination on the basis of race, color, or national origin, and to avoid disproportionately high and adverse impacts on minority and low-income populations.

The 1979 *Department of Transportation [DOT] Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, DOT Order 5610.2(a), describes the process for incorporating environmental justice (EJ) principles into all DOT programs, policies, and activities. In addition to complying with EO 12898 and DOT Order 5610.2, the DOT is committed to Title VI of the Civil Rights Act, which provides that “no person in the United States shall, on the grounds of race,

color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance."

Pursuant to the Civil Rights Act of 1964, and to ensure compliance with FTA's Title VI regulatory requirements, Triangle Transit conducted a Title VI equity analysis in conjunction with the Rail Operations and Maintenance Facility siting decision.

Federal Transit Administration (FTA) Circular 4703.1, *Environmental Justice Policy*, *Guidance for Federal Transit Administration Recipients* (Circular), went into effect on August 15, 2012. The purpose of the new circular is to assist FTA funding recipients in fulfilling the intent of EO 12898. The general EJ principles followed by DOT and FTA are summarized as follows:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

This chapter describes the EJ populations in the study area and identifies potentially disproportionately high and adverse EJ impacts (i.e., impacts that could affect low-income and minority populations more than other population groups). It also documents coordination efforts with EJ communities, describes the avoidance and minimization strategies Triangle Transit has taken to eliminate or reduce impacts, and sets forth mitigation measures Triangle Transit will undertake to offset any adverse effects. The chapter is organized in the following manner:

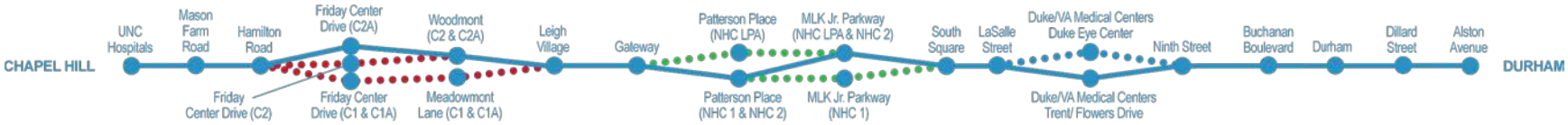
- Methodology
- Affected Environment
- Outreach to EJ Populations
- Environmental Consequences
- Mitigation
- Assessment of Disproportionately High and Adverse Effects

EJ populations are defined as minority and low-income populations.

FTA Circular 4703.1 defines **minority populations** as:

- American Indian and Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander

Low-income populations are defined as any individual or household with income at or below the U.S. Census poverty thresholds. As suggested by FTA Circular 4703.1, all individuals whose family income is at or below 150 percent of the poverty line were considered low-income.



5.1 Methodology

The documentation was prepared in accordance with EO 12898; DOT Order 5610.2(a); and FTA Circular 4703.1.

The general methodology for addressing EO 12898 involves:

- Identifying the EJ populations within the study area
- Providing information on the efforts that Triangle Transit made to involve minority and low-income populations in the study area
- Assessing whether the project alternatives would result in disproportionately high and adverse effects on EJ populations, taking into consideration minimization, mitigation, and enhancement measures and project benefits, as appropriate

In this chapter, the study area is defined as the area located within ¼-mile on either side of the D-O LRT alignment and within ½-mile of proposed stations. This study area allows for assessing the impacts associated with the construction and operation of the project, including the Rail Operations and Maintenance Facility (ROMF), and the impacts and benefits associated with construction and operation of the stations. The study area encompasses the ROMF Alternatives and university and neighborhood boundaries deemed important by local stakeholders. The study area is divided into eight evaluation areas, which are described in Draft Environmental Impact Statement (DEIS) section 4.1. Overall, it includes 84 census block groups in Orange and Durham counties.

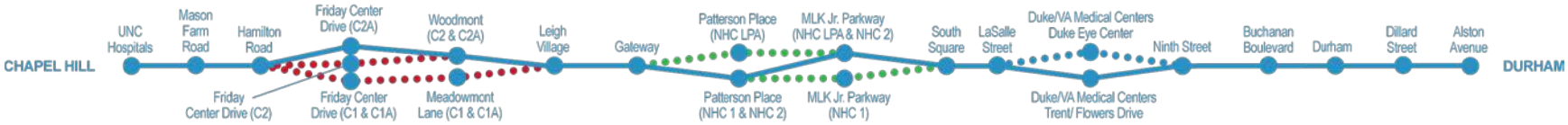
EJ populations were identified through analysis of U.S. Census Bureau data at the county level (Durham and Orange counties), the study area level (D-O Corridor), evaluation area level, and census block group. The source of the data is the North Carolina Department of Transportation's (NCDOT) Demographic Excel Tool, which contains a Geographical Information System (GIS) dataset developed using data obtained from the U.S. Census Bureau and the National Historic Geographic Information System (NHGIS) website. The U.S. Census Bureau data included Census 2010 data, as well as 2007-2011 American Community Survey 5-year data. Other data sources used to confirm the location of low-income and minority populations included historical references, interviews with city and county officials, field visits, and community meetings. For more information see appendix I and appendix J.

Concentrations of minority and low-income populations in the study area were identified through analysis of the 2010 U.S. Census data and 2007-2011 American Community Survey 5-year data at both the county and block group level. Individual block group data was compared to the respective countywide data to determine whether any of the block groups would qualify as "EJ area" or "non-EJ area" within the study area. An "EJ area" was defined to include any block group in which the minority or low-income population meets either of the following:

- The minority or low-income population in the block group exceeds 50 percent
- The percentage of a minority or low-income population in the affected area is meaningfully greater than the lowest percentage in the respective county

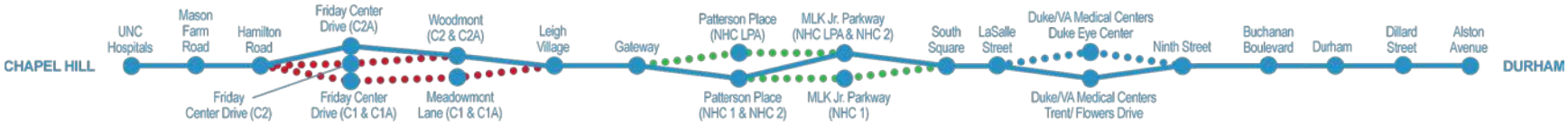
For the proposed D-O LRT Project, it was determined that the minority or low-income population is "meaningfully greater" than the average in the surrounding jurisdictions if it is higher than the average for Orange County or Durham County. The overall percentage of minorities in Orange County is 29 percent and in Durham County it is 57 percent. The low-income population in Orange County is 25 percent and is 26 percent in Durham County. The effort to identify EJ populations was supplemented by the extensive public outreach, described in DEIS section 5.3 and chapter 9, that Triangle Transit conducted as part of the proposed D-O LRT Project.

In Circular 4703.1, the FTA advises that a small minority or low-income population in



the study area does not eliminate the possibility of a disproportionately high and adverse effect on these populations. Therefore, while the analysis of potential disproportionately high and adverse effects focuses on areas with high concentrations of EJ populations, the analysis considered whether there would be disproportionately high and adverse effects on minority and low-income populations in all block groups within the study area.

Potential impacts were determined through review of analysis of the NEPA Preferred and Project Element Alternatives on other resources, including parking, land use, zoning, neighborhoods, visual and aesthetic considerations, parklands, air quality, noise and vibration, safety, security, acquisitions, relocations, and displacements. Potential impacts are summarized here and described in more detail in DEIS chapter 4.



5.2 Affected Environment

Table 5.2-1 lists the evaluation areas, study area, and counties and indicates percentages of minority and low-income populations. Of the 84 block groups in the study area, 37 (44 percent) have higher concentrations of EJ populations than the county averages. **Figure 5.2-1** shows the overall minority and low-income populations in the D-O Corridor. Details of the Census block group data are listed in appendix I. The appendix also describes in more detail the population characteristics of each of the eight evaluation areas.

The minority population within the study area is 51 percent of the total population, which is higher than the overall percentage for Orange County (29 percent) but lower than the overall percentage for Durham County (57 percent). In general, the higher concentrations of minority populations are located in the northeastern portion of the D-O corridor, including west Durham, downtown Durham, and east Durham (see **Figure 5.2-1**).

The percentage of the population living in the study area that is low-income (43 percent) is higher than the averages for Durham County (26 percent) and Orange County (25 percent). In general, the lower concentrations of low-income populations are located in the east Chapel Hill and Leigh Village evaluation areas, while the higher concentrations are located in portions of the UNC (University of North Carolina at Chapel Hill) Campus Area, US (United States) 15-501 Corridor, west Durham, downtown Durham, and east Durham (see **Figures 5.2-1** through **5.2-9**).

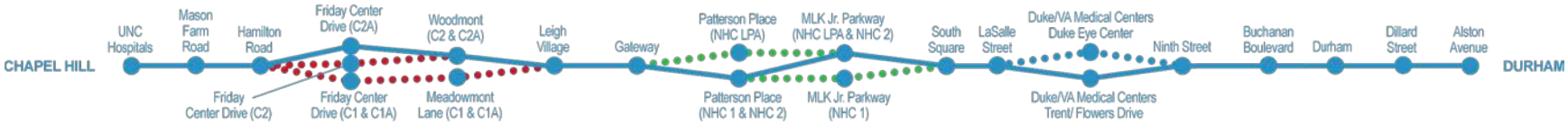


Table 5.2-1: Summary of Environmental Justice Populations

Evaluation Area	Total Population	% Minority Population	% Low-Income Population
UNC Campus Area	13,800	24%	59%
East Chapel Hill	5,500	15%	13%
Leigh Village	1,500	29%	18%
US 15-501 Corridor	13,300	55%	37%
Duke West Campus and Medical Center	8,800	67%	51%
Old West Durham / Duke East Campus	6,200	51%	35%
Downtown Durham	2,800	70%	58%
East Durham	8,500	94%	64%
Study Area	60,300	51%	43%
Orange County	131,900	29%	25%
Durham County	263,900	57%	26%

Source: US Census Bureau, American Community Survey 5-year Estimates (2007-2011) Block Group data.

Note: Population numbers have been rounded to the nearest hundred to reflect that these are estimates.

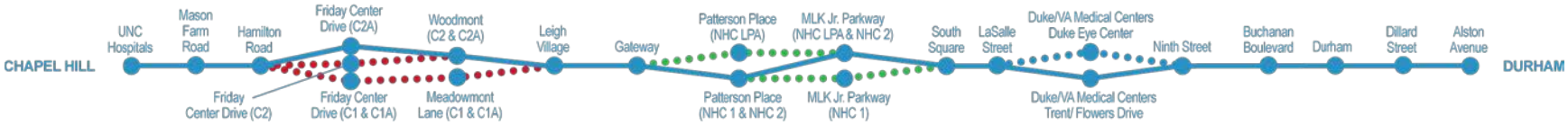
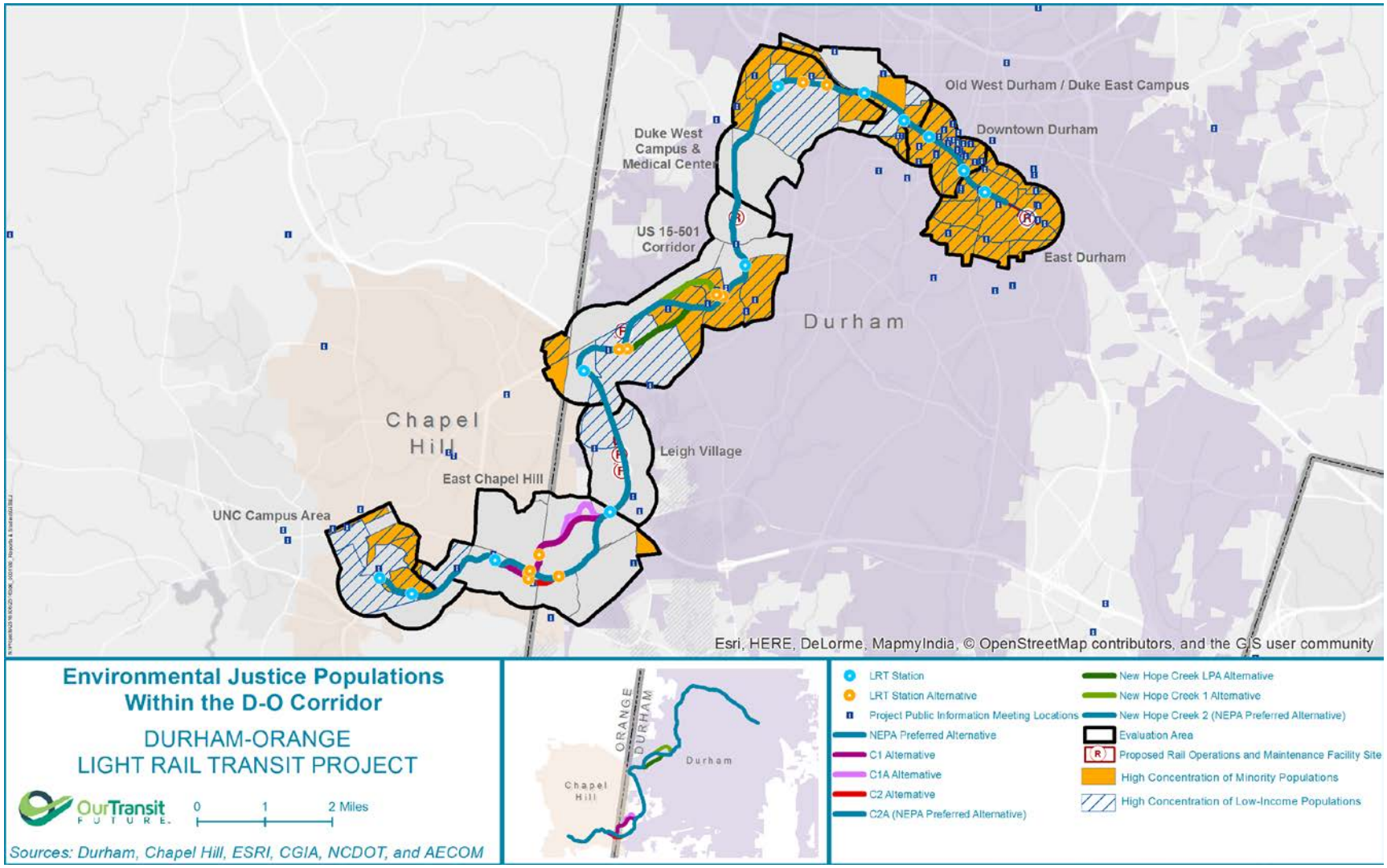


Figure 5.2-1: Environmental Justice Populations within the D-O Corridor



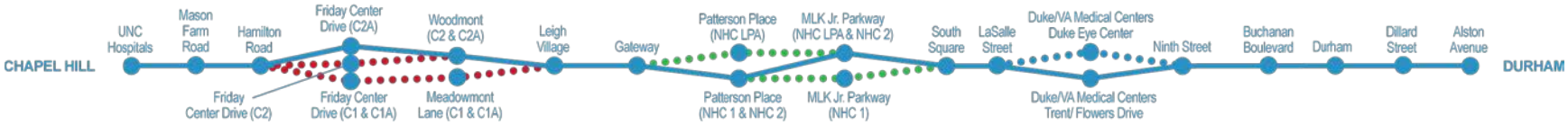


Figure 5.2-2: Environmental Justice Populations and Public Involvement Meeting Locations - UNC Campus Evaluation Area

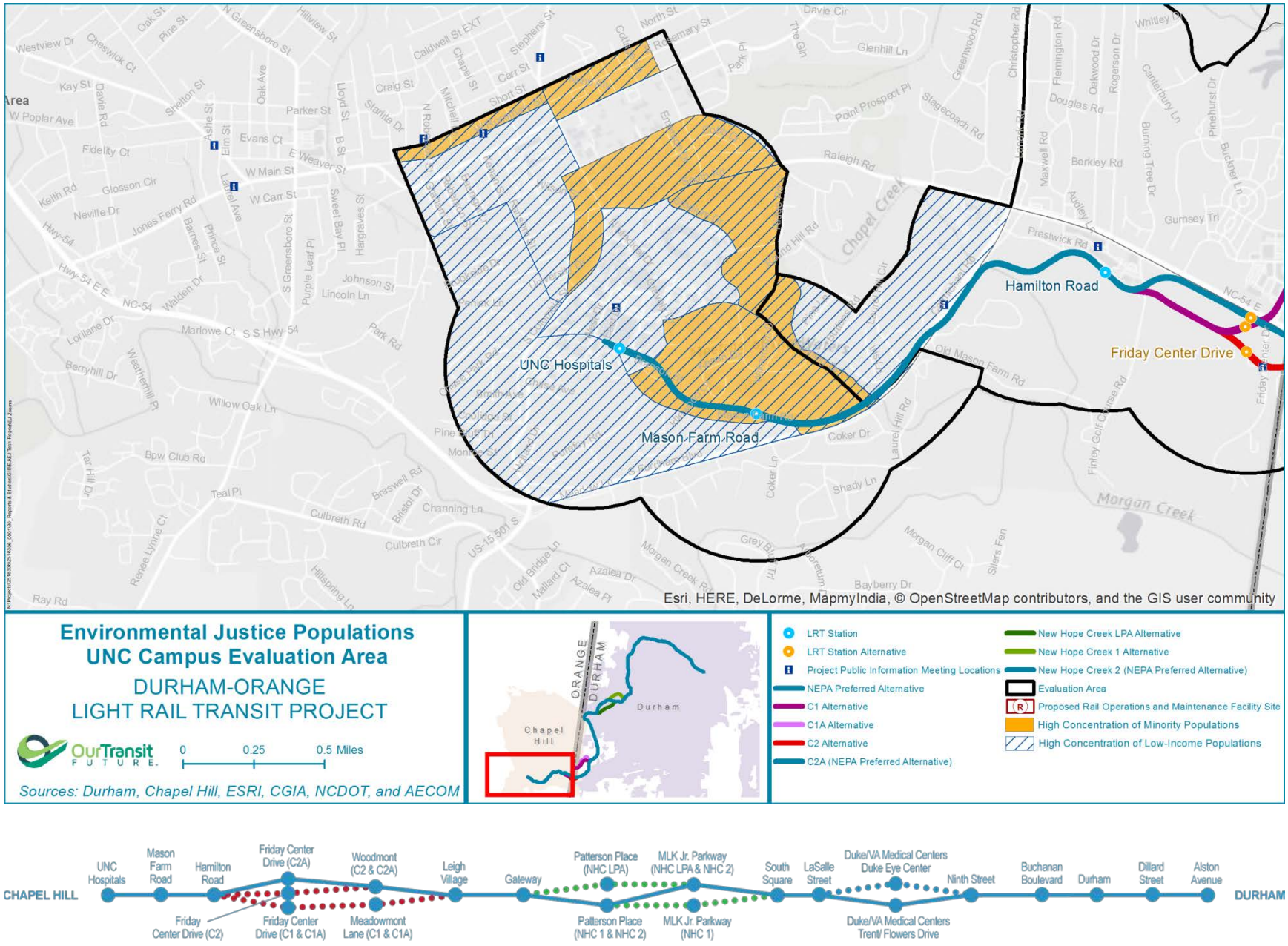


Figure 5.2-3: Environmental Justice Populations and Public Involvement Meeting Locations - East Chapel Hill Evaluation Area

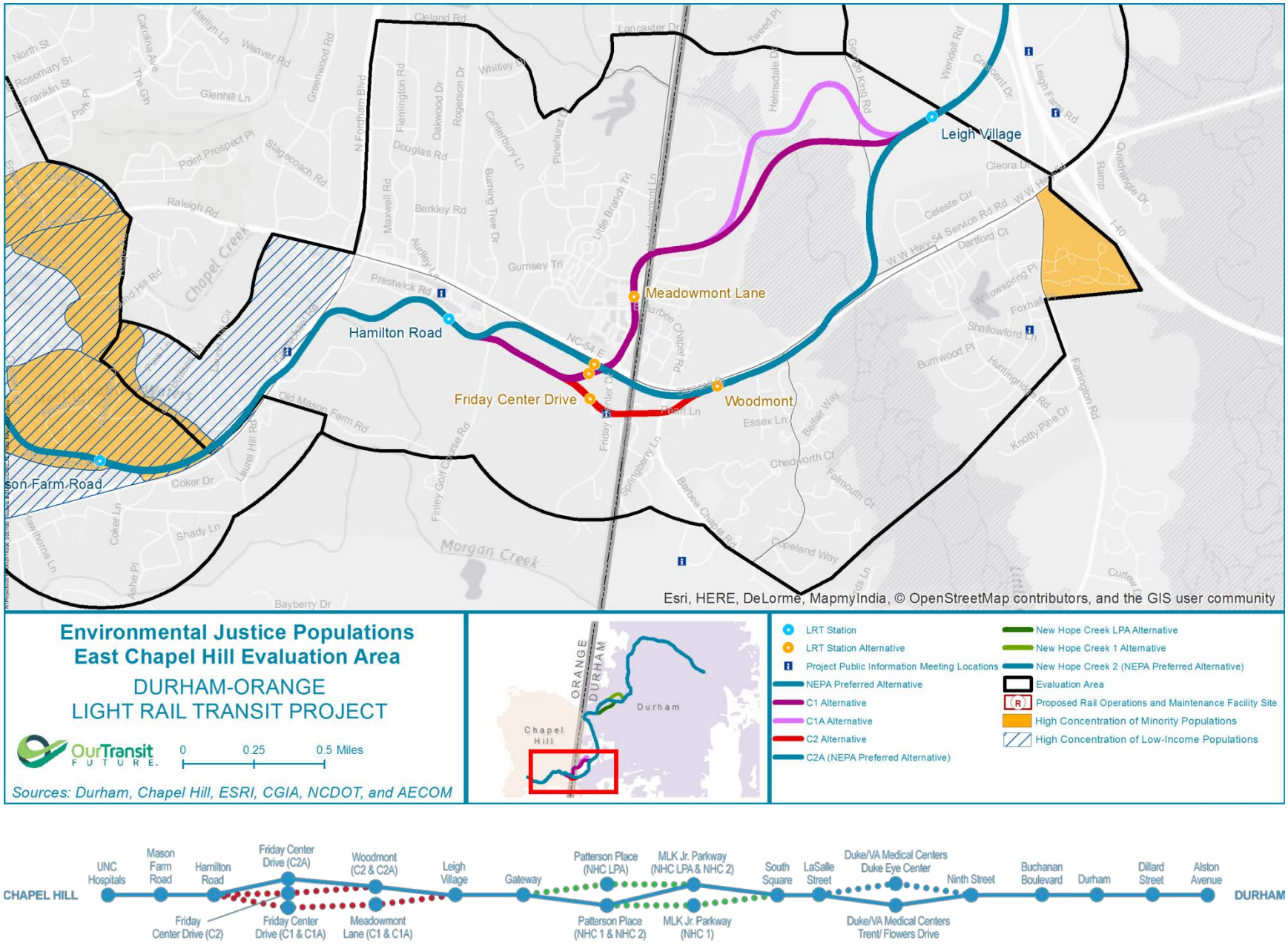


Figure 5.2-4: Environmental Justice Populations and Public Involvement Meeting Locations - Leigh Village Evaluation Area

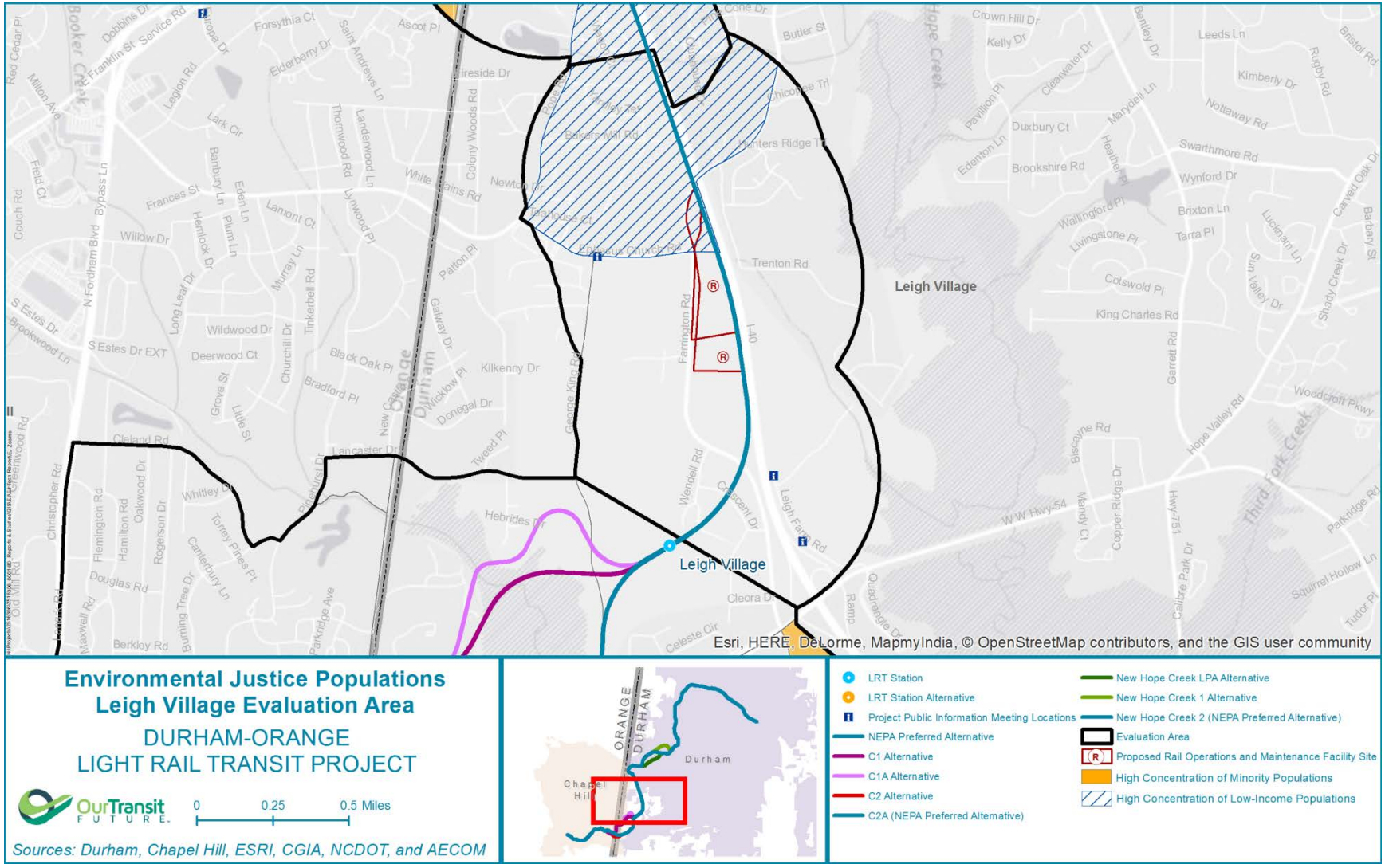
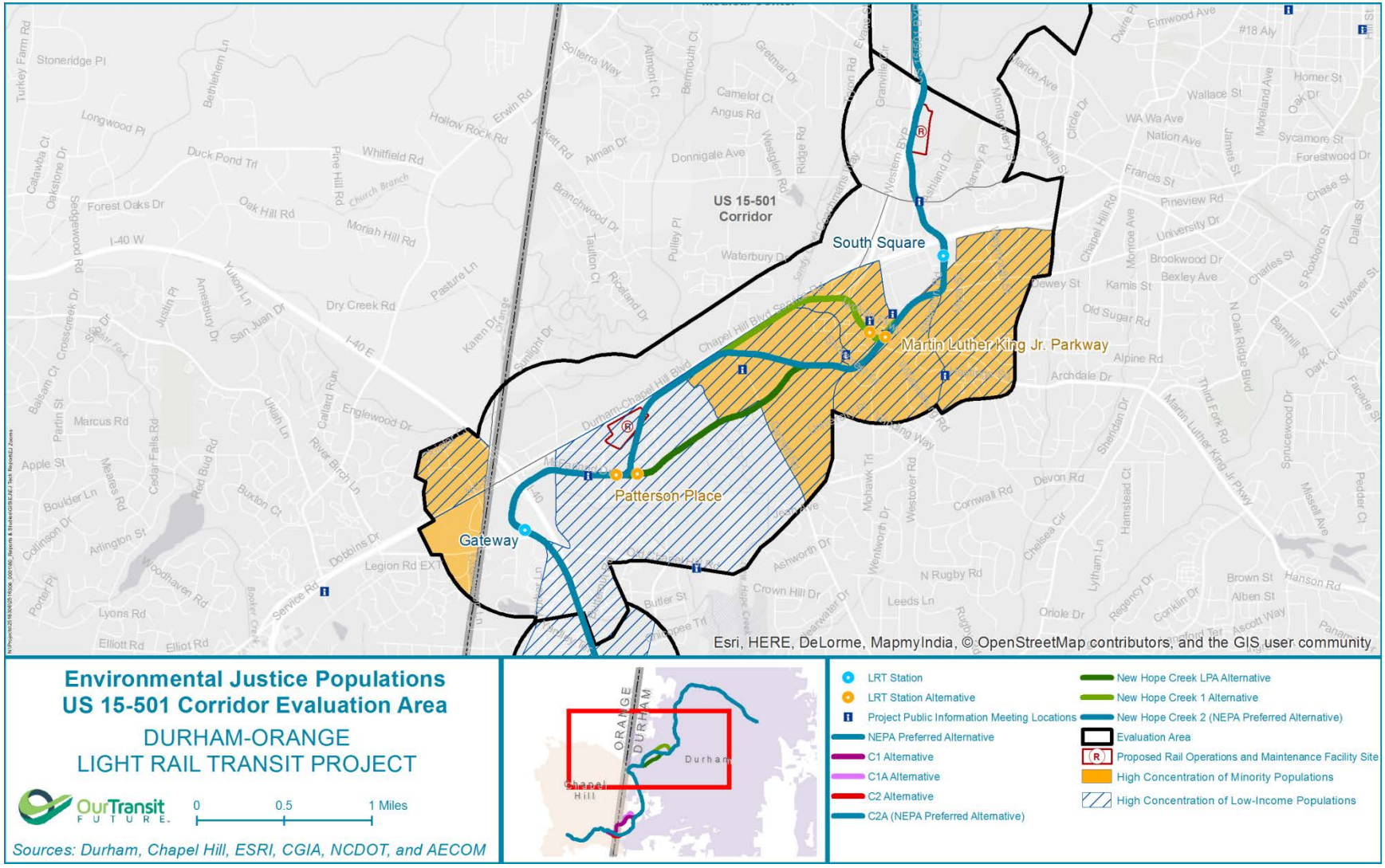


Figure 5.2-5: Environmental Justice Populations and Public Involvement Meeting Locations - US 15-501 Evaluation Area



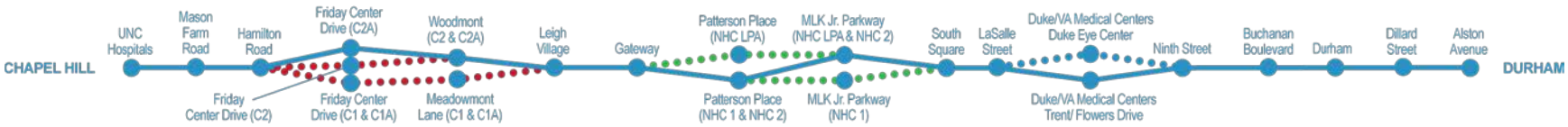


Figure 5.2-6: Environmental Justice Populations and Public Involvement Meeting Locations - Duke West Campus & Medical Center Evaluation Area

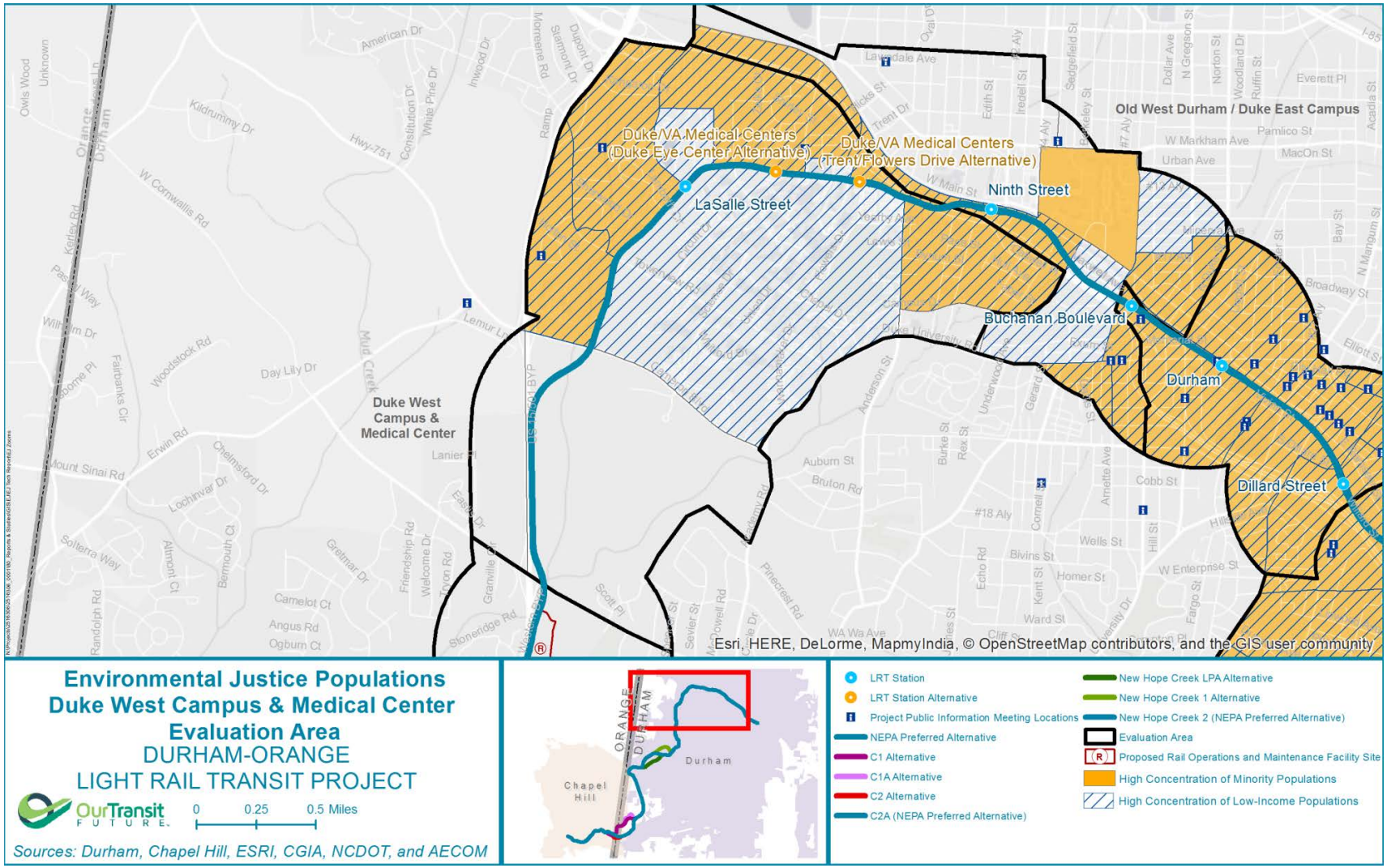
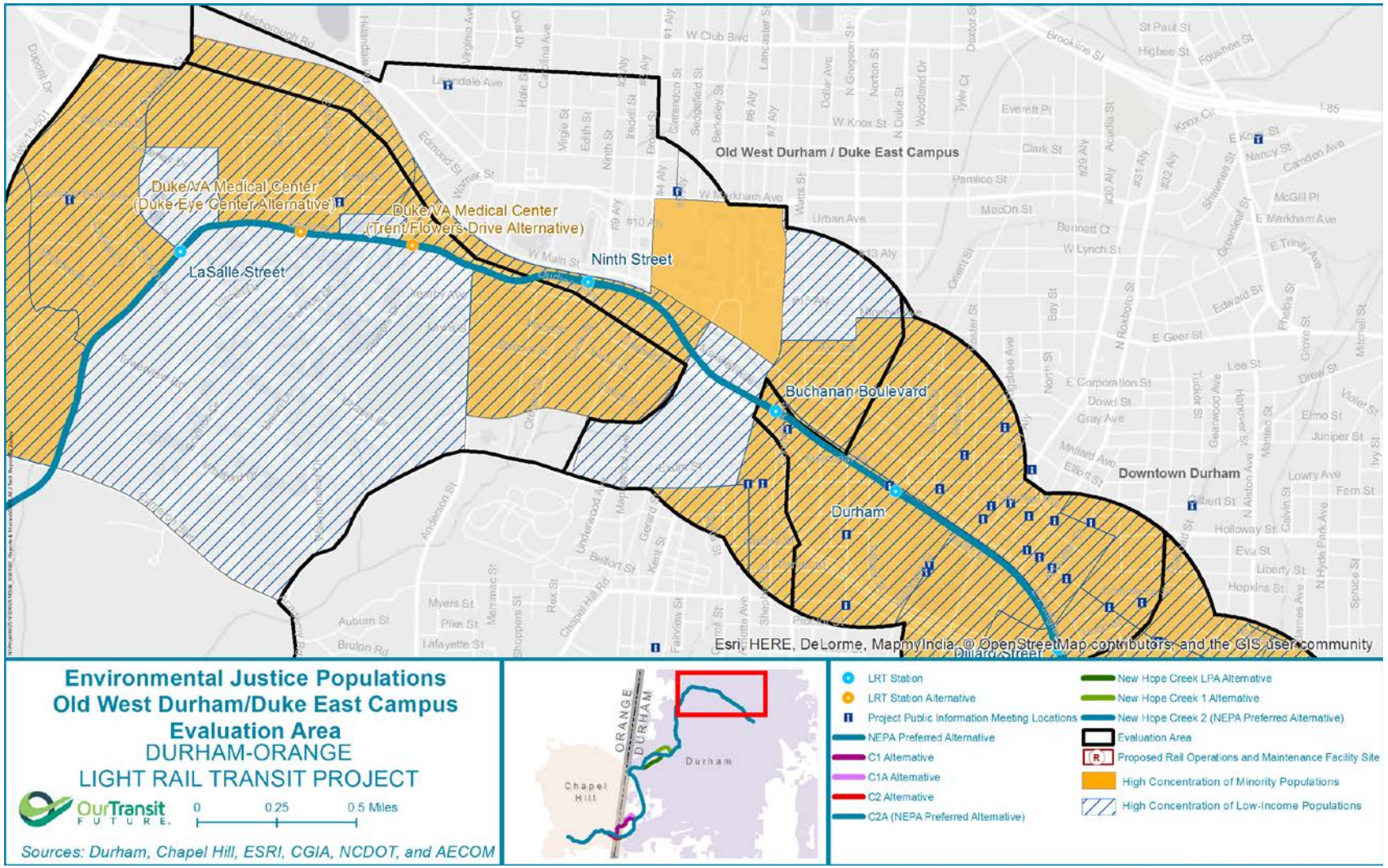


Figure 5.2-7: Environmental Justice Populations and Public Involvement Meeting Locations - Old West Durham/Duke East Campus Evaluation Area



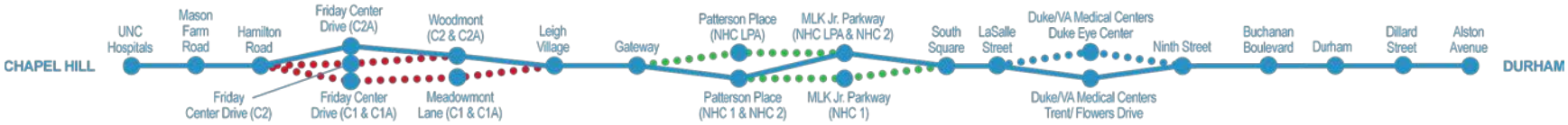
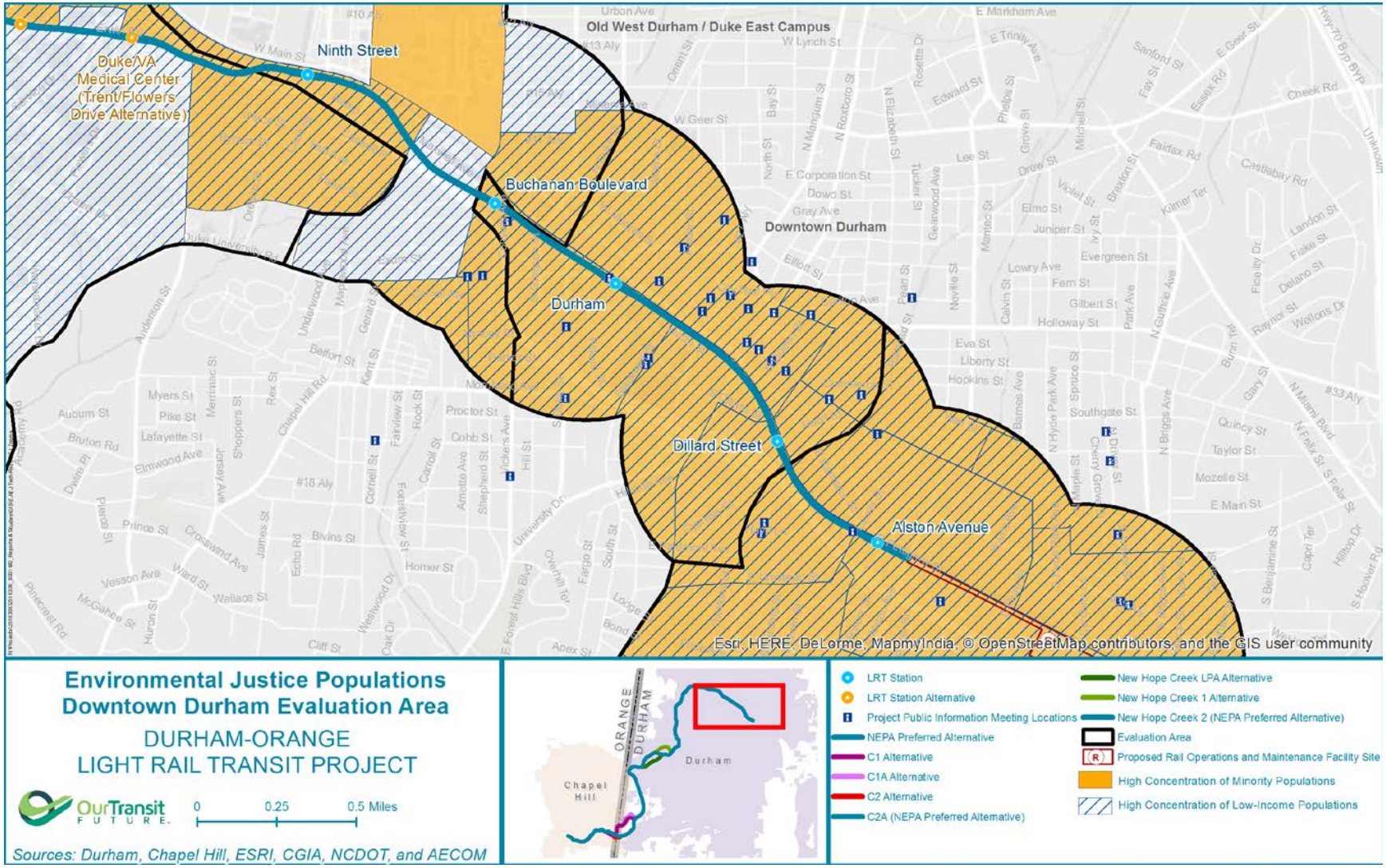


Figure 5.2-8: Environmental Justice Populations and Public Involvement Meeting Locations - Downtown Durham Evaluation Area



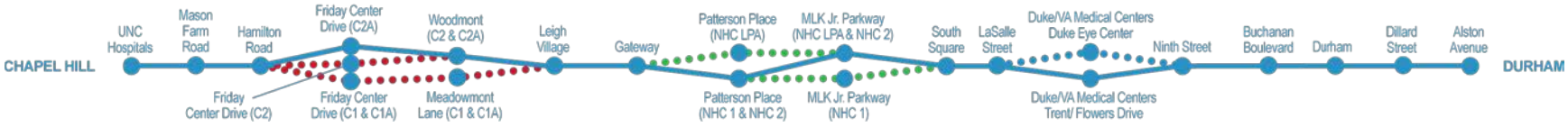
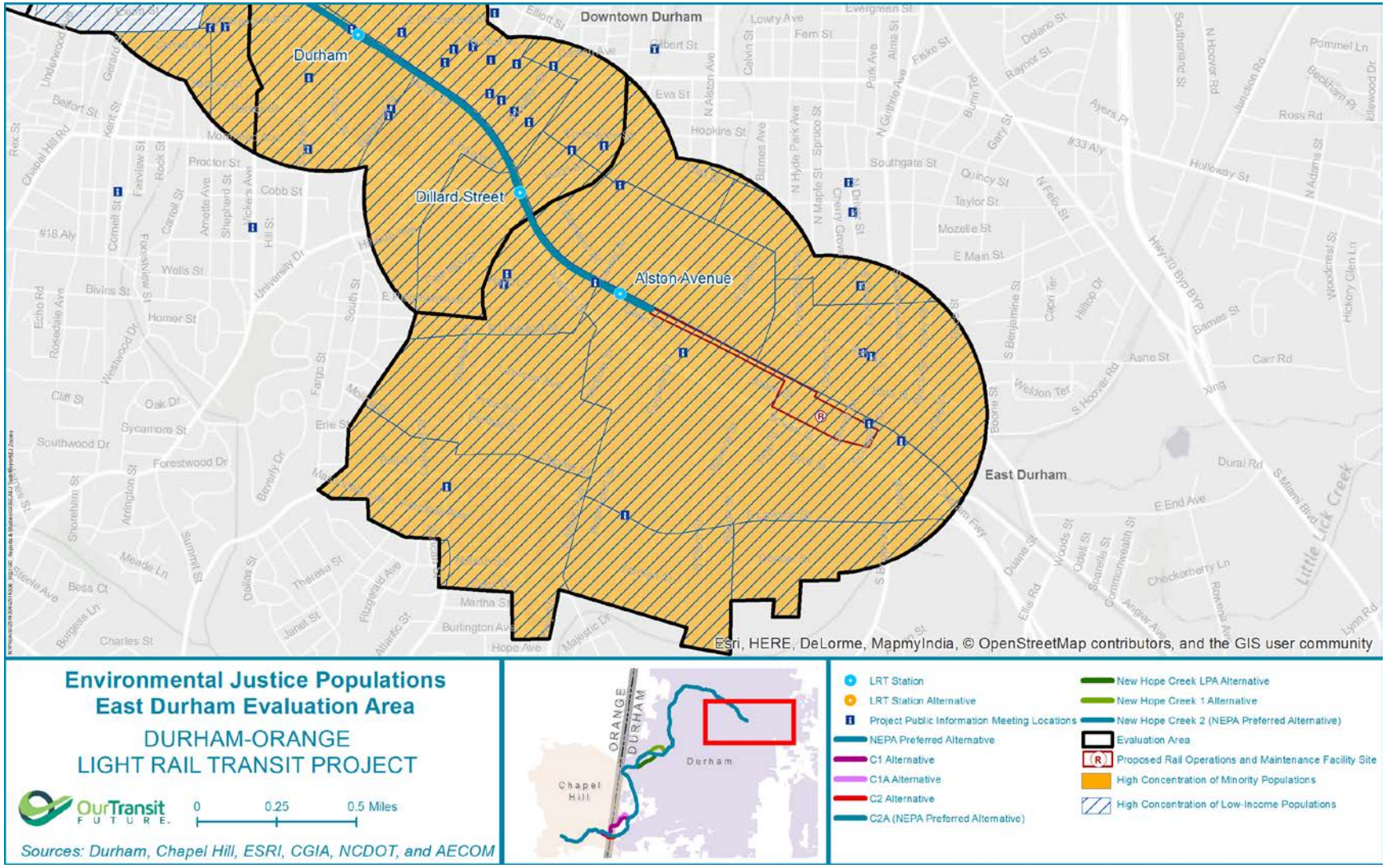


Figure 5.2-9: Environmental Justice Populations and Public Involvement Meeting Locations - East Durham Evaluation Area

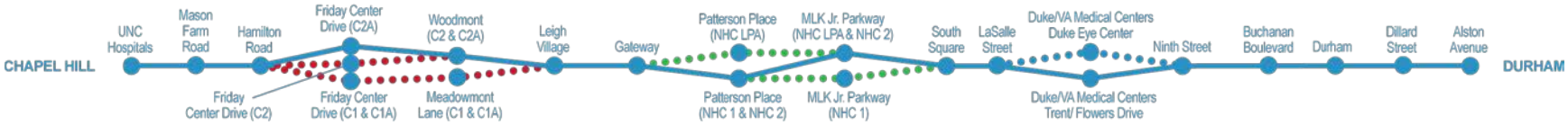


5.3 Outreach to EJ Populations

A public outreach program with an emphasis on interaction and communication with EJ populations is a key element of the proposed D-O LRT Project. The engagement of local residents, business owners, and other stakeholders began with scoping (2012) and is on-going. The outreach program was conducted in accordance with the D-O LRT Project Public Involvement Plan, EO 12898, and guiding principles contained in FTA Circular 4703.1.

Outreach efforts were designed to provide all community members with equal opportunities to engage in the decision-making process. Many of the proposed D-O LRT Project's public and stakeholder meetings were held in low income and minority communities. Small group and public meetings/workshops were held throughout the D-O Corridor. The meetings were held on weekdays and weekends, and in different locations at different times of the day, to facilitate attendance by all members of the community (see **Figures 5.2-1** through **5.2-9**). For more information on public outreach, refer to DEIS chapter 9. Examples of steps taken to ensure equal opportunity access include the following:

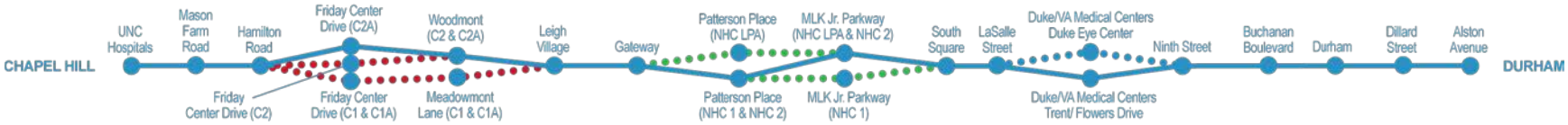
- Holding public open houses within a quarter mile of a bus stop within the D-O Corridor
- Attending meetings and events including the following:
  - Small group meetings with the residents of the Oak Creek Village Apartments, a primarily Latino apartment complex near US 15-501 and Garrett Road
  - Staffing a project information booth at Durham's Annual Latino Festival
  - Presentation at North Carolina (NC) Hispanic Heritage luncheon
  - Staffing a project information booth at El Centro Health Fair
  - Providing Spanish translator at all public open houses and public meetings; also provided at specific events and small group meetings upon request
  - Providing Chinese translator at public open houses and public meetings
  - Media placements in La Conexion, an Hispanic newspaper, and ESPN – Deportes, an American Spanish language digital cable and satellite sports television channel
- Making community visits and holding public meetings in the east Durham and Downtown Durham EJ target areas, including:
  - Durham Armory (location of one public meeting)
  - McDougald Terrace (three community visits)
  - Hayti Heritage Center (location of two public meetings)
  - Coalition for Affordable Housing and Transit (seven meetings)
  - Northeast Central Durham Leadership Council (two meetings)
  - National Association for the Advancement of Colored People (NAACP) Chapel Hill-Carrboro Chapter (one meeting)
  - Durham Housing Authority (DHA) (eight meetings including community visits; project materials distributed to residents at all 15 DHA properties)
  - Durham Station (location of one public meeting, two public open houses)



- Partners Against Crime (PAC) 1 meeting (one meeting)
- Durham Compact Neighborhood Design meetings (three meetings)
- East Durham Residents for Rail (four meetings)
- East Durham Residents (4 meetings)
- Oldham Towers Resident Council Meeting (one meeting)
- John Avery Boys and Girls Club (one meeting and one public open house)
- East Durham Leaders (one meeting)
- East Durham Food Council Event (one event)
- Meeting with North Carolina Central University (NCCU); NCCU has been involved since the Alternatives Analysis phase of the project as part of the Steering Committee)
- Centerfest Street Festival – Fayetteville Street, attracts east Durham Residents (one event)
- Old West Durham Block Party (one event)
- Phoenix Fest (one event)
- EmPOWERment Inc., a Chapel Hill charity (one meeting)
- Distributed flyers to the following businesses on Driver and Angier Street to advertise November 2014 public meetings. Also spoke with business owners.
  - Joe's Diner Durham
  - Signature Kutz Barber Shop
  - Samuel & Sons
- Thomas Poole – NAACP member and previous PAC 1 co-facilitator (one meeting)
- James Chavis – PAC 1 co-facilitator (five meetings)
- Jesus Word Church Leadership (two meetings)
- Distributed flyers to businesses on Driver and Angier Street to advertise November public meetings

- Making community visits and holding public meetings in the north of Erwin Road EJ target area. The meeting was held at Another Broken Egg Café (open house).
- Making community visits and holding public meetings in the US 15-501 Corridor EJ target area:
  - Eno Fellowship (two public meetings)
  - Springhill Suites/Marriott (public meeting)
  - ITT Technical Institute (two open houses)
  - Durham County Library Southwest (open house)
  - Oak Creek Village (two community visits)
- Requesting referrals and project publicity from special organizations: Justice United; Durham Congregations, Associations and Neighborhoods; El Centro; and Durham Rescue Mission.

Based on feedback received from EJ communities in the D-O Corridor, a primary point of interest is providing improved access to proposed stations. In particular in east Durham, Triangle Transit is working with communities to plan improved bus infrastructure in advance of the proposed D-O LRT Project as well as bus connections to the proposed stations. **Table 5.3-1** summarizes some of the major concerns in the EJ communities and the actions



that Triangle Transit has taken to address them. Additional discussion of public involvement activities (and a summary of public comments) is provided in DEIS chapter 9.

Table 5.3-1: EJ Community Concerns Expressed and Triangle Transit Actions/Response

Community	Major Issues/Concerns	Actions/Responses
Chapel Hill	Residents did not feel the project would serve their community (an area north of Franklin and Rosemary Streets)	D-O LRT would have enhanced bus service and connections. Bus stop improvements are also planned.
US 15-501 Corridor Area	Visual impacts along US 15-501	Triangle Transit would use interdisciplinary design teams to create aesthetic guidelines and standards in the design of project elements. Triangle Transit would integrate facilities with area redevelopment plans, minimize clearing for construction and operation, plant appropriate vegetation in and adjoining the project right-of-way, and use source shielding in exterior lighting at stations and auxiliary facilities.
East Durham	Relocation of Alston Avenue Station: residents do not feel that it properly serves east Durham (locals identify east Durham as north of East Pettigrew Street, east of South Plum Street and south of Holloway Street). Do not feel that the Alston Avenue Station location is consistent with the Mayor's Poverty Initiative (which focuses on Census Tract 10.01) Jesus Word Church wants to create a multi-use development on the eastern side of Alston Avenue and expressed concern about new site being located farther away from their proposed development and the R. Kelly Bryant pedestrian bridge	As a result of ongoing coordination with both North Carolina Railroad (NCRR) and the City of Durham and the comments received, the alignment through downtown Durham and into east Durham was revised. These changes included shifting a portion of Pettigrew Street to the south and converting a portion of it to a one-way street. In addition, the proposed Durham Station shifted to the east of Chapel Hill Street and the proposed Alston Avenue Station was relocated to the west side of Alston Avenue, as a result of coordination with the NCRR as described in DEIS chapter 2. Revisions were due to NCRR's horizontal track clearance requirements and constraints in relocating Pettigrew Street east of Alston Avenue. Triangle Transit held numerous outreach meetings with the communities in downtown and east Durham to gather their input on the proposed alignment and station locations. See DEIS section 9.3.6 for more information.

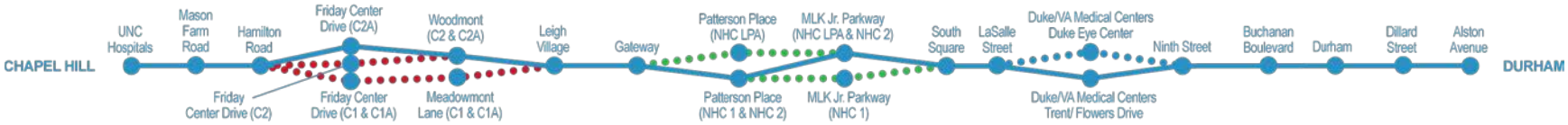


Table 5.3-1: EJ Community Concerns Expressed and Triangle Transit Actions/Response

Community	Major Issues/Concerns	Actions/Responses
East Durham	Displacements and gentrification due to project Affordable housing near proposed light rail stations Concern over business displacements due to selection of the Alston Avenue ROMF site Concern over not reaping benefits of sales tax revenues since light rail line is not going farther east	Triangle Transit works directly with the Town of Chapel Hill, Durham City/County Planning staff, and the citizen-led Coalition for Affordable Housing and Transit to encourage, support, and facilitate the development and implementation of affordable housing policies within the D-O Corridor. Durham City and County leaders set a goal to have 15 percent of housing within ½ mile of each station be affordable to people at or below 60 percent of the median area income. In addition to Triangle Transit's efforts with the local jurisdictions to develop affordable housing policies, any privately-owned businesses that are displaced by the project will be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and its implementing regulations (42 U.S.C. § 4601 et seq.; 49 C.F.R. Part 24) The revenue from the half-cent sales tax in Durham County for public transportation is not being used solely to fund light rail project development. Revenue from the half-cent sales tax has already been used to implement near term improvements to DATA bus services. In addition, the sales tax will be used to support the design and construction of a Neighborhood Transit Center at The Village Shopping Center near the intersection of Raynor Street and Miami Boulevard, a location in east Durham that has the second-highest level of bus boardings in Durham after Durham Station. In coordination with the City of Durham, revenue from the half-cent sales tax will also be used to make improvements to bus stops and pedestrian/bicycle infrastructure along a Transit Emphasis Corridor where DATA routes 3 and 16 run through the city, including east Durham. When the light rail opens, funds for bus services made redundant by rail operations will also be used to improve connections from east Durham to the newly opened rail stations.
	Request to study alignment adjacent to NC 147 east of Fayetteville Street with a station between the water tower and NC 147	This option was evaluated and determined to be technically infeasible, primarily due to constraints associated with the NCDOT ROW for NC 147, City of Durham Water Tower, and NCDOT's Alston Avenue widening project.
	NCCU expressed a desire to have a D-O LRT stop at or near its campus in the event the LRT system is expanded in the future	Triangle Transit developed a partnership with NCCU for all existing and future bus connections to all transit modes and has committed to studying a future LRT stop near NCCU in the event the system is expanded

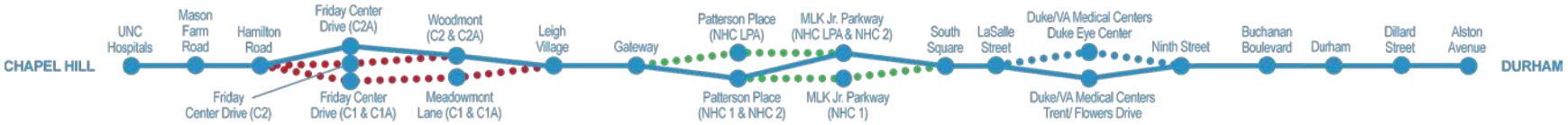
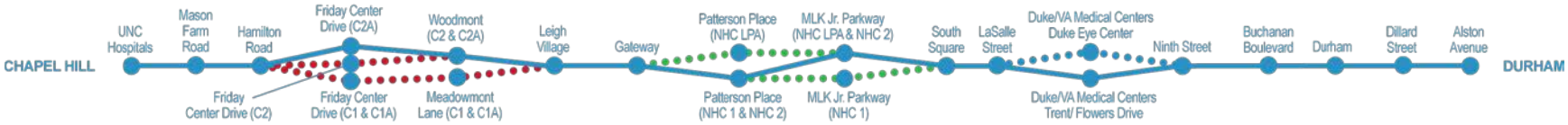


Table 5.3-1: EJ Community Concerns Expressed and Triangle Transit Actions/Response

Community	Major Issues/Concerns	Actions/Responses
D-O Corridor	Concern that Triangle Transit is in violation of Title VI of the Civil Rights Act of 1964 and NEPA by not conducting a detailed study of the conceptual alignment, stations, and ROMF sites proffered by Terry Rekeweg • Title VI complaint, January 7, 2015 • Appeal of Triangle Transit's Decision Regarding Title VI Complaint, January 26, 2015 • Additional Information for Title VI Complaint and Appeal, February 27, 2015 • Correspondence regarding Title VI Complaint and Appeal, June 2, 2015	The EEO office of Triangle Transit conducted a thorough review of the complaint and subsequent correspondence from Mr. Rekeweg and investigated his allegations. • Response to Title VI complaint, January 20, 2015 (investigation did not find any evidence to support alleged Title VI and NEPA violations) • Response to Appeal of Triangle Transit's Decision Regarding Title VI Complaint, February 10, 2015 (analyses required for Title VI are separate legal requirements from NEPA, and there is no set order for performing the Title VI analyses with respect to NEPA) • Response to additional information and correspondence June 23, 2015 (no requirement for Equity Analysis to be completed during NEPA phase; DEIS will not contain a Title VI Equity Analysis but will include an EJ analysis)

Source: AECOM and Triangle Transit 2015.



5.4 Environmental Consequences

This section includes discussion of potential long-term impacts of the proposed D-O LRT Project on EJ populations in the study area. A discussion of the potential impacts related to construction is provided in DEIS section 4.16, and the potential indirect and cumulative effects of the project are discussed in DEIS section 4.17. More detailed analysis and discussion of the type and location of impacts related to parking, land use and zoning, employment, neighborhoods and community facilities, visual and aesthetic considerations, parklands, air quality, noise and vibration, safety and security, and displacements are included in other sections of the DEIS.

The No Build Alternative is not expected to result in negative impacts to EJ populations. However, EJ populations would not receive the benefits of light rail transit service, or light rail construction, operations, or maintenance job opportunities if the proposed D-O LRT Project is not constructed.

5.4.1 NEPA Preferred and Project Element Alternatives

The NEPA Preferred and Project Element Alternatives would improve accessibility for all communities, including low-income and minority populations. Overall, the potential impacts would be minimal compared with the proposed project's benefits, which would include improvements to connectivity and mobility; access to jobs, services, education, and entertainment; pedestrian and bicycle conditions; access to transit; and reliability in transit service. In those areas where stations are proposed, there is the potential for economic opportunities through associated development. (See the discussion of potential indirect effects in DEIS section 4.17.)

Table 5.4-1 provides a summary of the potential long-term impacts of the NEPA Preferred and Project Element Alternatives. Measures to reduce harm (avoidance, minimization, mitigation, or enhancement) would be employed wherever possible. Only those resources that would be affected are listed. Impacts identified in the table are further analyzed in DEIS section 5.6 to assess whether disproportionately high and adverse impacts to EJ populations are anticipated because of the alternatives.

5.4.1.1 ROMF Alternatives

Leigh Village

The Leigh Village ROMF site is located in a non-EJ area within the Leigh Village evaluation area. Potential impacts of the proposed Leigh Village ROMF are summarized in **Table 5.4-2**. Only those resources that would be affected are listed.

Patterson Place

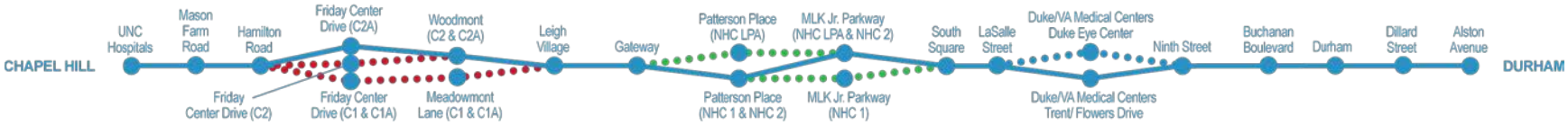
The Patterson Place ROMF Alternative is located in an EJ area, due to the concentration of low-income populations living in the vicinity.

Cornwallis Road

The Cornwallis Road ROMF site is located in a non-EJ area within the US 15-501 Corridor evaluation area. Potential impacts of the ROMF site in this evaluation area are summarized in **Table 5.4-3**. Only those resources that would be affected are listed.

Alston Avenue

It should be noted that Alston Avenue was not initially considered as a potential ROMF site by Triangle Transit. However, due to a request from the City of Durham and after initial evaluation by Triangle Transit to ascertain the reasonableness of this site, the Alston Avenue ROMF



Alternative was carried forward for further study in the DEIS.

The Alston Avenue ROMF site is located in an EJ area within the east Durham evaluation area. Potential impacts of the proposed Alston Avenue ROMF are summarized in **Table 5.4-4**. Only those resources that would be affected are listed.

The Alston Avenue ROMF Alternative is the only ROMF alternative likely to result in a net loss of jobs.

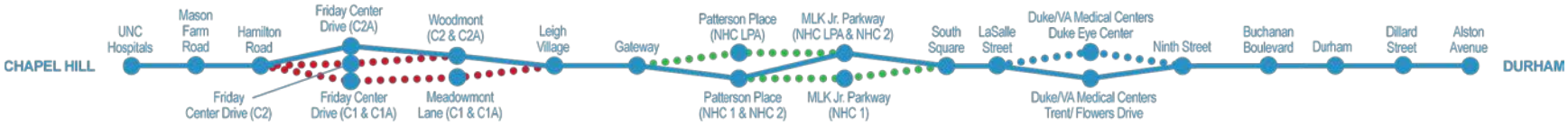


Table 5.4-1: Summary of Potential Environmental Impacts by Alternative

Resource	NEPA Preferred Alternative [a]	Little Creek Alternatives			New Hope Creek Alternatives		Duke/VA Medical Centers
		C1	C1A	C2	NHC LPA	NHC 1	Duke Eye Center
Parking Facilities	Reconfiguration of parking lots at some medical facilities, community resources, and businesses	Removal and reconfiguration of some parking at businesses	Removal and reconfiguration of some parking at businesses	Removal and reconfiguration of some parking at businesses	Removal and reconfiguration of some parking at businesses	Removal and reconfiguration of some parking at businesses	Same as NEPA Preferred Alternative
Access and Mobility	Some changes to roadway alignments and traffic operations Improved connectivity and mobility Improved access to jobs, services, education, and entertainment Improved pedestrian and bicycle conditions and connections Improved access to transit More reliable transit service	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Land Use	Potential economic opportunity with the development of stations Consistent with land use plans	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Community Cohesion	No impact	Some community cohesion impacts in the Meadowmont neighborhood	Some community cohesion impacts in the Meadowmont neighborhood	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Employment	Farrington Road ROMF would result in a net increase in jobs on this site	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative

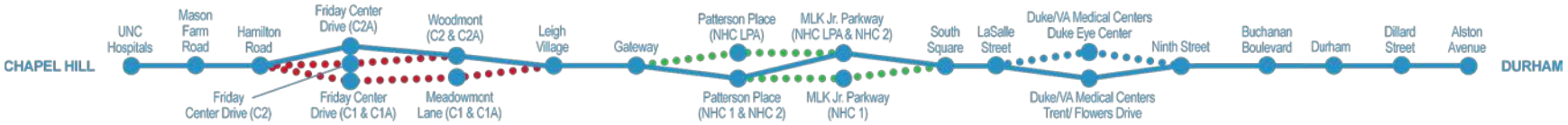


Table 5.4-1: Summary of Potential Environmental Impacts by Alternative

Resource	NEPA Preferred Alternative [a]	Little Creek Alternatives			New Hope Creek Alternatives		Duke/VA Medical Centers
		C1	C1A	C2	NHC LPA	NHC 1	Duke Eye Center
Community Facilities	Improved access to community facilities Visual and noise effects at some facilities	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Visual and Aesthetic	Potential effects to visually sensitive resources by altering the view to and/or from the resource, or by adding an element that would be out of scale or character of the existing visual context	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Parklands	Improved access to parklands 13.3 parkland acres impacted Some visual effects to trails	+3.3 parkland acres impacted	+1.3 parkland acres impacted	+1.1 parkland acres impacted	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Air Quality	None	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Noise	4 moderate noise impacts 1 severe noise impacts	- 1 moderate +1 Severe	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	+1 Severe	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative
Vibration	8 vibration impacts 13 ground-borne noise impacts	+2 vibration impacts +2 ground-borne noise impacts	+1 vibration impacts +1 ground-borne noise impacts	+1 vibration impacts +1 ground-borne noise impacts	-1 vibration impacts -1 ground-borne noise impacts	-1 ground-borne noise impacts	Same as NEPA Preferred Alternative
Safety and Security	Improved pedestrian crosswalks and sidewalks New bicycle lanes proposed	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative	Same as NEPA Preferred Alternative

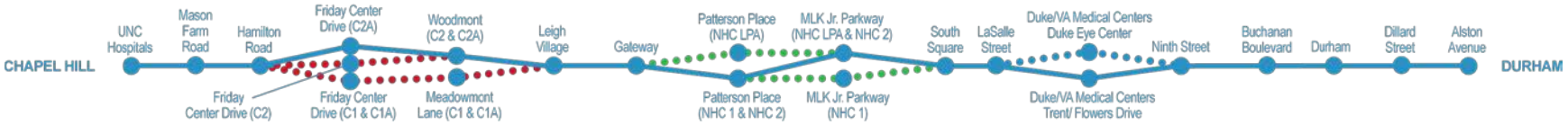


Table 5.4-1: Summary of Potential Environmental Impacts by Alternative

Resource	NEPA Preferred Alternative [a]	Little Creek Alternatives			New Hope Creek Alternatives		Duke/VA Medical Centers
		C1	C1A	C2	NHC LPA	NHC 1	Duke Eye Center
Acquisitions and Displacements [b, c]	Full 31 R, 15 C, and 3 CR Partial 44 R, 68 C, and 28 CR Displacements 45 R, 16 C, and 4 CR	Full +1 R Partial -6 R and +1 C Displacements +1 R	Full +0 Partial -5 R,+1 C, and +1 CR Displacements No difference	Full +1 R and +1 C Partial +5 R, -1 C, and +1 CR Displacements +1 R and +1 C	Full -1 R Partial +1 R, -4 C, and +3 CR Displacements -1 R	Full +1 C Partial -3 R and +2 C Displacements +1 C	Full No difference Partial No difference Displacements No difference

Source: AECOM 2015.

[a] The NEPA Preferred Alternative includes C2A, NHC 2, Trent/Flowers Drive Station, and the Farrington Road ROMF.

[b] R: Residential; C: Commercial; CR: Community Resources.

[c] There are also 43 full acquisitions of vacant land. Acquisitions of vacant land were not included in chapter 5 Environmental Justice.

Table 5.4-2: Summary of Potential Environmental Impacts - Proposed Leigh Village ROMF

Resource Area	Leigh Village
Land Use	Proposed ROMF would be uncharacteristic of current development in the area; would not be consistent with current land use plans and zoning
Employment	ROMF would result in a net increase in jobs on this site
Displacements [a]	Five residences and two commercial properties would be acquired

Source: AECOM 2015.

[a] For a discussion of the potential partial acquisitions, see DEIS section 4.14.

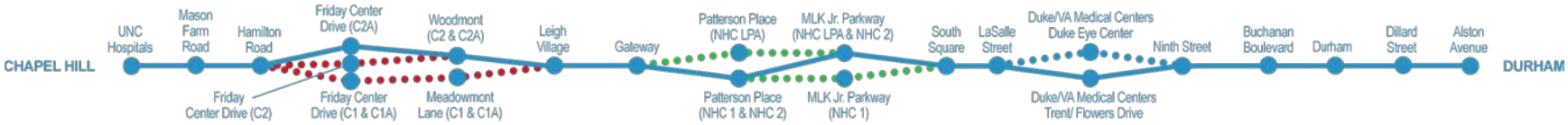


Table 5.4-3: Summary of Potential Environmental Impacts - Proposed Patterson Place and Cornwallis Road ROMFs

Resource Area	Patterson Place	Cornwallis Road
Employment	ROMF would result in a net increase in jobs on this site	ROMF would result in a net increase in jobs on this site
Parklands	Impact to 0.3 acre of Durham Open Space	No Impact
Community Cohesion	Potential impact on cohesion of Colonial Grand Apartments	Potential impact on cohesion of the Levin Jewish Community Center
Displacements [a]	None	One commercial property would be acquired

Source: AECOM 2015.

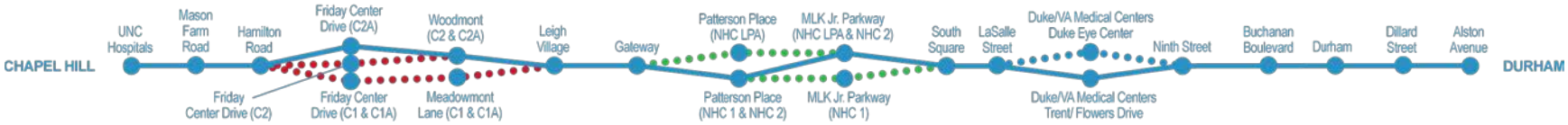
[a] For a discussion of the potential partial acquisitions, see DEIS section 4.14.

Table 5.4-4: Summary of Potential Environmental Impacts - Proposed Alston Avenue ROMF

Resource Area	Alston Avenue
Employment	ROMF would likely result in a net decrease in jobs on this site
Community Cohesion	Several existing businesses would be displaced, including Brenntag and Eastern Carolina Organics, and the likely resulting loss in employment would have an impact on community cohesion
Displacements [a]	Two residential and six commercial properties would be acquired

Source: AECOM 2015.

[a] For a discussion of the potential partial acquisitions, see DEIS section 4.14.



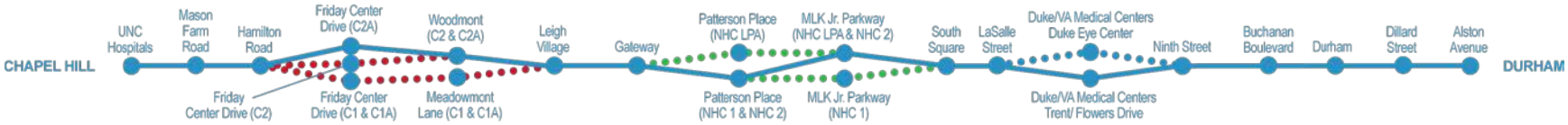
5.5 Mitigation

The following sections describe mitigation for the impacts associated with the NEPA Preferred and Project Element Alternatives. Mitigation measures would not be required for the No Build Alternative since there would be no impacts.

5.5.1 NEPA Preferred and Project Element Alternatives

Triangle Transit is committed to implementing mitigation strategies for any potential adverse effects that would not be offset by identified project benefits. Triangle Transit will mitigate adverse impacts throughout both EJ and non-EJ communities. Environmental commitments and mitigation measures identified throughout DEIS chapters 3 and 4 would address impacts from D-O LRT Project operations and construction activities that may affect EJ populations. Triangle Transit will continue to coordinate with the EJ communities throughout the duration of the project. Mitigation measures are summarized below:

- To mitigate the impact of restricting Larchmont Road to a right turn only at University Drive, a new roadway connection will be constructed between Larchmont Road and Snow Crest Trail to provide access from Larchmont Road to the signalized intersection at Snow Crest Trail and University Drive.
- Visual effects will be mitigated by measures such as, integrating facilities with area redevelopment plans, minimizing clearing for construction and operation, and planting appropriate vegetation in and adjoining the project right-of-way (see appendix K.15 for more information).
- Due to the widening of Erwin Road proposed as part of the project, care will be taken to provide safe and convenient pedestrian access across the corridor.
- Mitigation for impacts to the John Hope Franklin Center will include working with Duke University to maintain or relocate services provided at that facility.
- For potential impacts to the John Avery Boys and Girls Club, the existing fence will either be maintained or replaced along the field and playground, and improvements to the recreational facilities will be made. Also, road and pedestrian improvements along Grant Street and Pettigrew Street will be implemented including a marked crosswalk.
- Mitigation for land acquisitions of privately owned properties and businesses will be addressed in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Any businesses or persons displaced from property by the proposed D-O LRT Project will be compensated in accordance with provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. See DEIS section 4.14 for more information on acquisitions and displacements.
- Triangle Transit will use an interdisciplinary design team to create aesthetic guidelines and standards in the design of project elements. Visual effects will also be mitigated by integrating light rail facilities with area development plans as well as other measures outlined in appendix K.15.
- Mitigation measures for potential noise effects will generally fall into four categories: (1) treatments that reduce noise levels at the source, in the form of noise reducing wheel and vehicle specifications; (2) operational changes that reduce the frequency of trains per hour or reduce train speed; (3) measures that would place a barrier between the source and the receptor; and (4) treatments that reduce noise levels at the receiver (e.g., sound barriers and improved building insulation). See DEIS section 4.10 for more information on noise and vibration.



5.6 Assessment of Disproportionately High and Adverse Effects

Approximately 51 percent of the population in the study area is minority and 43 percent is low-income, so it is to be expected that effects of the project would be experienced by EJ populations. The adverse effects of the project would be distributed proportionately between EJ and non-EJ areas, as shown in **Table 5.4-1**.

5.6.1 Parking Facilities

Potential parking impacts to EJ populations would be consistent with impacts expected to non-EJ areas. Property acquisitions (including acquisition of parking spaces) would be required for development of the alignment, stations with and without parking facilities, the ROMF, and roadway modifications along the project corridor. Roadway modifications would be designed to minimize impacts to existing on-street and off-street parking facilities. The majority of parking impacts would occur in commercial lots, and coordination with the affected businesses will occur in an effort to further mitigate concerns regarding reduction of business parking.

5.6.2 Employment Impacts

It is anticipated that between 110 and 175 employees would work at the ROMF.

Current employment at the Leigh Village, Patterson Place, and Cornwallis Road ROMF Alternative sites is 25 or fewer existing jobs, and would therefore result in a net gain in employment. In contrast, the Alston Avenue ROMF site is located in an active industrial area and would displace multiple businesses with between 150 and 250 existing jobs. Due to the operating requirements of these businesses, it is possible, even likely, that a suitable site for relocation would not be found within the neighborhood or even within Durham (e.g., reuse for active rail spur and proximity to major highway access). As a result, the Alston Avenue ROMF site is the only ROMF alternative that is likely to result in a net loss of jobs.

The Alston Avenue ROMF Alternative is the only ROMF site within an EJ area. From an equity perspective, this ROMF alternative is the least desirable of the five alternatives considered.

5.6.3 Access and Mobility

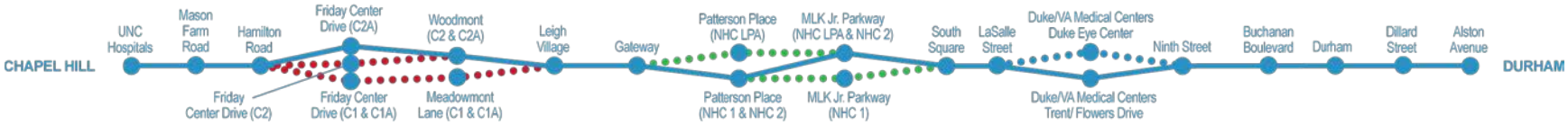
Widespread negative impacts to vehicular accessibility and mobility in the D-O Corridor are not anticipated. It should be noted that there may be some project-related changes to roadway alignments and traffic operations that would have localized impacts on travel; however, impacts are projected to be fairly evenly dispersed between EJ areas and non-EJ areas.

5.6.4 Community Cohesion

Community cohesion refers to the quantity and quality of interactions among people in a community. Linear transportation facilities can sometimes act as barriers, affecting the ease with which neighbors socialize, recreate, and shop. However, light rail is very compatible with pedestrian environments, specifically because it does not act as a barrier. Some community cohesion impacts are expected under the C1 and C1A Project Element Alternatives due to their traversing through the Meadowmont neighborhood, although this is a non-EJ area. The Patterson Place, Cornwallis Road, and Alston Avenue ROMF alternative locations may impact community cohesion. Refer to DEIS section 4.3 for more information regarding the type and location of impacts.

5.6.5 Community Facilities

Modifications to existing access to community facilities would be necessary. However, direct impacts to community facilities would generally be avoided throughout the study area. Many community facilities, such as event facilities, entertainment, and sports venues may benefit from enhanced access to transit.



5.6.6 Visual and Aesthetic Considerations

Visual impacts are expected as a result of the proposed D-O LRT Project and all alternatives. The higher visual impacts tend to be located in block groups with lower concentrations of EJ populations. Visual impacts are anticipated near the Oak Creek Village Apartments on Garrett Road (NHC 1 and 2), which is located in an EJ area. Continued coordination with EJ populations and assessment of design and aesthetic treatments will be performed during further design development to address visual impacts throughout the corridor. In addition, Triangle Transit is committed to providing design treatments to reduce visual impacts at affected locations, where possible, including those in EJ areas.

5.6.7 Parklands

Parkland impacts are expected to occur as a result of the D-O LRT Project. The highest impact is expected near areas owned by the universities (such as near the public UNC Finley Golf Course). However, this is a non-EJ area.

5.6.8 Noise and Vibration

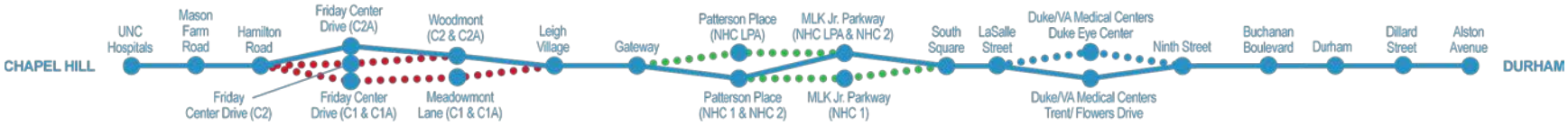
Moderate and severe noise impacts from the NEPA Preferred and Project Element Alternatives were predicted for nine locations in the D-O Corridor. Of the nine, one (moderate impact) of these is in an EJ area, in downtown Durham. The impact would be associated with light rail vehicles sounding their horns as they approach stations and grade crossings; for safety reasons, use of these horns will be considered as part of the light rail operating procedures. It should be noted that similar noise occurs today from locomotive horns in the existing railroad corridor through downtown Durham. Triangle Transit would mitigate operational vibration impacts associated with the NEPA Preferred and Project Element Alternatives by evaluating and implementing specific materials and construction methods in the construction of the light rail line.

5.6.9 Safety and Security

The proposed D-O LRT Project would have safety implications for all populations residing in or accessing the D-O Corridor as the project would introduce a new mode of transit, a 17-mile transit alignment, and light rail transit vehicles that would interact with vehicular, bicycle, and pedestrian traffic. The safety implications are particularly important for higher volume areas where multiple modes of transportation coexist, like the UNC campus, University Drive, Erwin Road, and in downtown Durham. Detailed information regarding the roadways, sidewalks, and trails expected to be affected by the NEPA Preferred and Project Element Alternatives is provided in DEIS sections 3.3 and 3.7 and the *Basis for Engineering Design* (appendix L).

Potential impacts from the development of light rail systems include risks of harm, injury, fatalities, and crime. Members of the public expressed concern for some of these risks through comments submitted as part of the Scoping meetings and subsequent public outreach. Design of the project acknowledges these concerns and includes provisions for safe operation and appropriate connectivity for pedestrians, bicyclists, motorists, and passengers.

To mitigate the safety and security impacts of the introduction of light rail, the D-O LRT Project Team has and will continue to review the impact of the system on other transportation modes with the goal of addressing safe access to and across the system for other transportation uses. As described in DEIS section 4.12, to mitigate the concerns regarding safety of transit patrons and the public, the D-O LRT Project Team has identified various safety measures and parameters to be designed into the proposed D-O LRT Project. These safety measures will be implemented throughout the system as appropriate, and will be incorporated into the design of stations, park and ride sites, and in the direct station areas. In addition, Triangle Transit will work with local law enforcement and emergency medical personnel to develop a training plan that involves responding to incidents at, in,



around, and near light rail facilities and on light rail vehicles.

5.6.10 Acquisitions and Displacements

The proposed D-O LRT Project would require additional right-of-way and parcel acquisitions. Because the design process for the proposed project is still in the conceptual design stage, the amount of permanent right-of-way to be acquired has not yet been fully determined. Specific right-of-way impacts and the number of individual parcels affected by the project design would be refined during the Engineering phase. There would be commercial, institutional, and residential displacements along the entire D-O Corridor, most of which would occur in the US 15-501 and east Durham evaluation areas. While the potential acquisitions would be mitigated as part of Triangle Transit's relocation policies, as well as compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the acquisitions could be perceived as a disproportionately high and adverse effect on the east Durham community in particular. Historically, transportation projects have adversely affected community cohesion, access, land use planning and development in this evaluation area. As described in DEIS section 5.3, Triangle Transit has coordinated with communities that would be affected by the proposed D-O LRT Project and is committed to continue working with affected communities to address ways that their concerns could be mitigated further. In addition, the proposed D-O LRT Project will include commercial space within the parking deck at the proposed Alston Avenue Station, and Triangle Transit will work with the City of Durham to provide opportunities for local businesses to benefit from that space.

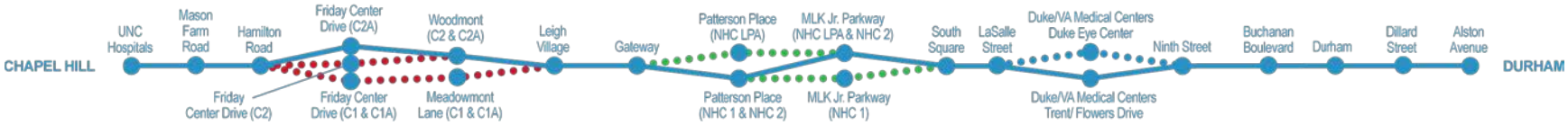
5.6.11 Construction Effects

Construction of the NEPA Preferred Alternative would generate a variety of temporary environmental, transportation, and community impacts within the study area. Construction activities typically generate discernible levels of dust, noise, vibration, and vehicle emissions. Associated effects include temporary adjustments to vehicular and pedestrian traffic patterns and access, temporary loss or relocation of parking, temporary interruptions in utility services, and temporary visual impacts related to construction activities and stockpiling of materials and equipment. Proposed construction staging areas would be required at specific points along the corridor, and access points would be designated for construction access. Non-EJ areas would experience similar short-term construction stage impacts as EJ areas.

Construction stage mitigation would include a host of best management practices to reduce construction effects. Triangle Transit would develop a project construction, education, and outreach plan during the Engineering phase of the proposed D-O LRT Project. This plan would identify how Triangle Transit will educate the public and stakeholders about ongoing and upcoming construction and construction impacts (e.g., detours, service interruptions). It would be expected to include both broad-based approaches to educate the public (e.g., media, web site, newsletters, public meetings) and targeted outreach to those who may be more directly affected by construction activities (e.g., direct mail, small group meetings, in-person communication). **Table 5.6-1** provides a summary of the potential short-term impacts that would occur during construction and proposed mitigation measures. See DEIS section 4.17 for a detailed description of construction activities and short-term impacts and mitigation proposed.

5.6.12 Indirect and Cumulative Effects

Gentrification, and more specifically a reduction in affordable housing, is a potential effect of the NEPA Preferred and Project Element Alternatives because of likely upward pressure on land values and commercial rents that may occur in station areas. It is expected that housing that is affordable based on today's market rents may increase in price or be redeveloped at a



higher price point. Triangle Transit has worked, and continues to work, directly with the Town of Chapel Hill and Durham City/County Planning staff to encourage, support, and facilitate the development and implementation of affordable housing policies for the D-O Corridor. In 2014, the Durham Board of County Commissioners and City Council set a goal that at least 15 percent of the housing within ½-mile radius of transit stations would be affordable for households receiving 60 percent or less of the area median income (AMI).

Triangle Transit has also engaged in substantial public involvement regarding this issue, particularly in Durham, throughout the planning process for the proposed D-O LRT Project. Triangle Transit, the City of Durham, and Durham County are participants in the Coalition for Affordable Housing and Transit, a citizens group led by the Durham People's Alliance that is focused on working with local governments to develop policies to protect existing affordable housing and promote creation of new affordable housing in proposed D-O LRT Project station areas. DEIS chapter 9 lists coordination activities Triangle Transit has undertaken regarding affordable housing.

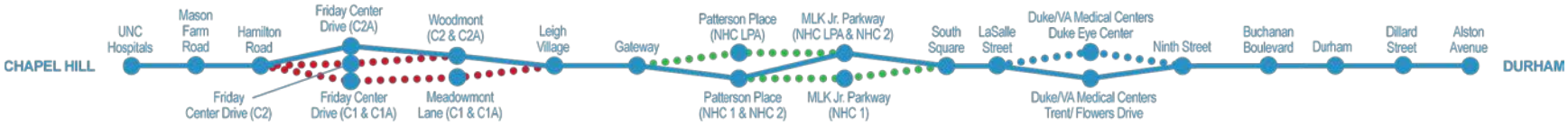


Table 5.6-1: Summary of Potential Short-Term Construction Impacts and Mitigation

Resource Area	Potential Impacts
Parking Facilities	Impact: Changes in on-street parking availability Mitigation: Efforts would be made to maintain parking during construction
Access and Mobility	Impacts: Disruptions to traffic operations, including lane closures, short-term intersection and roadway closures, and detours that would cause localized increases in congestion. Temporary sidewalk closures or detours are anticipated and construction traffic and debris such as excess dirt could pose obstacles or issues for pedestrians and bicyclists. Changes in customer access, service access, and business visibility. Mitigation: Work zone traffic control plans would be prepared in coordination with the City of Durham, Town of Chapel Hill, NCRR, universities, emergency services, and the NCDOT. Construction would employ methods that minimize the impact to the roadway user and transit users. Restrictions to night and weekend lane closures would be used to minimize traffic inconvenience. Traffic detours would be restricted to maximum time durations via the contract and work zone traffic control plans. Construction mitigation for potential disruptions to bicycle and pedestrian facilities during construction would include appropriate access provisions in the Work Zone Traffic Control Plans, and BMPs to manage debris.
Neighborhoods and Community Resources	Impacts: Traffic detours may increase traffic through residential neighborhoods or change access to community facilities. Sidewalk closures and detours may affect pedestrian traffic patterns. Increased levels of noise and dust and large construction equipment may temporarily affect neighborhood character. Residences and community resources may also experience short-term disruptions of utility services during construction activities as utilities need to be moved or replaced. Mitigation: The construction education and outreach plans would help to inform local property owners of roadway disruptions and other construction-related activities and effects. The D-O LRT Project team would coordinate with emergency response personnel to maintain continuous access for emergency vehicles throughout the duration of construction.
Visual and Aesthetic	Impacts: Temporary visual impacts would include changes to views in and around the construction area. Construction activities would introduce heavy equipment such as cranes, bulldozers, backhoes, graders, scrapers, trucks, and light machinery into view. In addition, the proposed D-O LRT Project would use smaller-scale elements such as security fencing and sediment/erosion control devices, such as silt fences and straw bales. Temporary construction activities may also include secured or fenced staging areas for materials and equipment. Mitigation: Stabilizing embankments and planting of vegetation in construction areas; Locating staging areas in the least visibly sensitive project areas; Implementing height limits for staged materials and excavated soil; Directing lighting toward the interior of the construction areas or providing shielding to minimize light pollution; Screening construction activities whenever possible; Clearing dirt and debris; and Keeping construction sites well organized and clear of trash and debris
Parklands	Impacts: Temporary disruption to park users Mitigation: Triangle Transit would coordinate with relevant agencies and organizations to determine suitable ways to provide mitigation of unavoidable impacts.

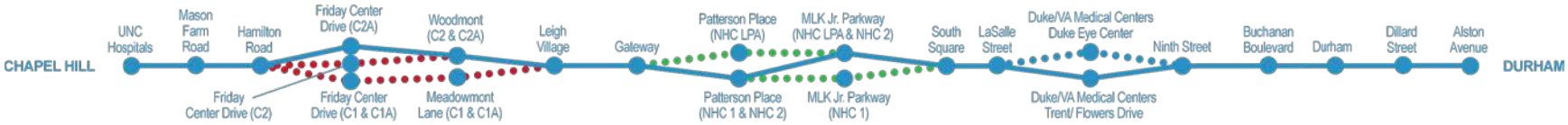
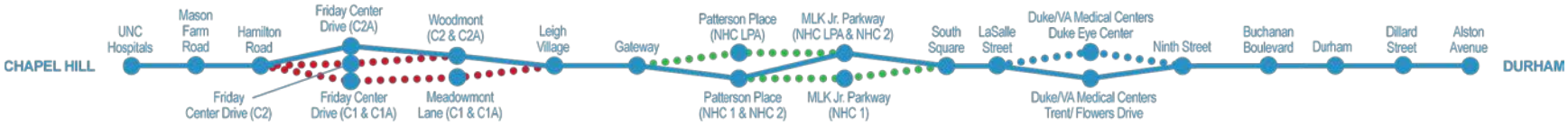


Table 5.6-1: Summary of Potential Short-Term Construction Impacts and Mitigation

Resource Area	Potential Impacts
Noise and Vibration	Impacts: Temporary, intermittent, localized increases in noise and vibration adjacent to the construction sites. Vibration and noise monitoring would be conducted during construction depending on the sensitivity of the surrounding resources. Nighttime construction may be prohibited near residential neighborhoods, for example. Construction vibration levels would not result in structural damage to any properties, but may result in human annoyance during such activities. Mitigation: Construction equipment would be properly muffled and maintained. Certain construction activities may be limited to weekday daytime hours (typically from 7 a.m. to 6 p.m.). Noise would be monitored on a regular basis during construction near potentially affected sensitive receptors. Vibration levels would be monitored at sensitive building structures during construction. In the event monitoring results in impacts beyond acceptable levels, additional site-specific mitigation would be implemented. Where construction of deep foundations for elevated structures is required near sensitive receptors, drilled shaft footings would be employed to reduce noise and vibration.
Air Quality	Impacts: Temporary increases in traffic congestion may result in increased emissions and higher concentrations of air pollutants. In addition, construction activities can also result in higher concentrations of air pollutants. Exposed earthen materials can also produce increased particulate matter when they are moved or disturbed by wind. For the most part, air quality impacts would be minimal along the right-of-way; greater impacts would occur at station sites and at new bridge locations, but these would be localized in nature. Mitigation: Dust generated during construction would be minimized through standard dust control measures such as applying water to exposed soils and limiting the extent and duration of exposed soil conditions.
Acquisitions and Displacements	Impacts: Temporary property easements and the modification or closure of some existing property accesses, elimination of some on-street parking, and possibly rerouting or closure of selected intersecting streets. Mitigation: Acquisitions and relocations associated with the D-O LRT Project would be performed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (49 C.F.R. Part 24).

Source: AECOM 2015.



While EJ populations would experience some direct effects related to the proposed project, the EJ populations in the D-O Corridor would also benefit from the project, as described in section 5.6.11. Disproportionately high and adverse effects to EJ populations are not expected because of the proposed D-O LRT Project. Further, substantial indirect effects are not anticipated to EJ populations because of the proposed D-O LRT Project.

The temporal resource study area is 1960 to 2040. Past and present actions during this time have contributed to changes in transportation facilities, land development, and building uses, which in turn have affected the location and concentration areas for minority and low-income populations. The development and urbanization that has occurred since 1960, as well as changes to the study area's economic bases, have resulted in changes in setting, employment opportunities, and other issues important for these populations.

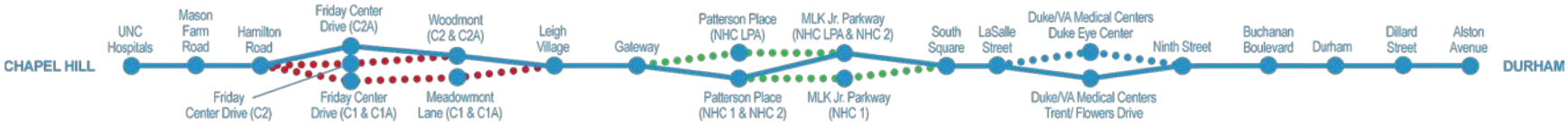
The comprehensive plans for both municipalities are designed around the proposed D-O LRT Project. The *Chapel Hill 2020 Comprehensive Plan* and the *Durham Comprehensive Plan* have focused growth and development around stations. The 2012 update of the *Durham Comprehensive Plan* includes a Regional Transit Plan that directs the City-County Planning Department, in conjunction with Triangle Transit, to develop or participate in the development of Compact Neighborhood Plans that are focused around transit-oriented development, and to implement new transit-oriented zoning districts. The corridor identified in the *US 15-501 Major Investment Study (MIS) Phase II Report* (2001) has been preserved as developers have requested rezoning. In April 2015, the City-County Planning Department initiated a public process to update the Compact Neighborhood Tier boundaries identified in the 2005 *Durham Comprehensive Plan*, in part so that the areas would be consistent with, and centered around, the NEPA Preferred and Project Element Alternatives under study in this DEIS.

However, development around station areas in combination with other future actions could result in a further increase in property values in these areas beyond those anticipated. Corresponding increases in rents and real estate taxes could reduce the availability and affordability of housing for low-income populations, particularly near station areas. While these impacts could be experienced by all populations in the study area, low-income persons are more likely to experience them as adverse. As previously stated, Triangle Transit has worked, and continues to work, directly with the Town of Chapel Hill and Durham City/County Planning staff to encourage, support, and facilitate the development and implementation of affordable housing policies for the D-O Corridor. In addition, both Comprehensive Plans for Chapel Hill and Durham contain policies for promoting development of affordable housing near transit.

5.6.13 Offsetting Benefits of the NEPA Preferred and Project Element Alternatives

While the effects described above would occur on EJ communities as well as non-EJ communities, the EJ populations in the corridor would also benefit from the project. The proposed D-O LRT Project would provide an additional and affordable option for travel in the D-O Corridor. It would provide greater access to destinations within the corridor as well as increased reliability and time-saving opportunities. Other benefits of the NEPA Preferred Alternative include the following:

- Employment opportunities due to construction and the potential redevelopment/development opportunities in the areas surrounding stations, which would result in positive economic gains in the form of increased wages and spending
- Competitive advantages for existing and future businesses located along the corridor due to the additional transportation capacity



- Improved pedestrian and bicycle enhancements, connections, and access
- Faster transit service
- More reliable, more frequent, and higher capacity service for transit riders
- Improved mobility through the project vicinity
- Improved connections to existing transit as well as to employment, education, shopping, medical services, recreation, and cultural opportunities
- Opportunities for improved overall health of the users of the D-O LRT by increasing opportunities to walk and bike to stations and surrounding areas along the corridor
- Affordable housing near transit

While all populations within the project's service area would realize these benefits to the same extent, they would accrue to a higher degree to minority and low-income populations within the D-O Corridor due to a higher reliance on transit. Having a station in one's neighborhood provides access and mobility improvements and 12 of the 19 D-O LRT proposed stations are located in EJ areas.

5.6.14 Summary

Taking all factors described above into account, the project alternatives would not have "disproportionately high and adverse effects" on EJ populations. Nonetheless, Triangle Transit recognizes that some of the specific impacts of the NEPA Preferred Alternative may adversely affect EJ populations. Therefore, where possible, the alignment options have been refined through the NEPA process to minimize impacts to both the human and natural environments. As previously stated, mitigation measures identified throughout DEIS chapters 3 and 4 would address impacts from light rail operations and construction activities that may affect EJ populations. Triangle Transit will continue to provide outreach to EJ communities to implement the proposed mitigation strategies effectively.

Table 5.6-2 presents the distribution of potential environmental impacts by alternative.

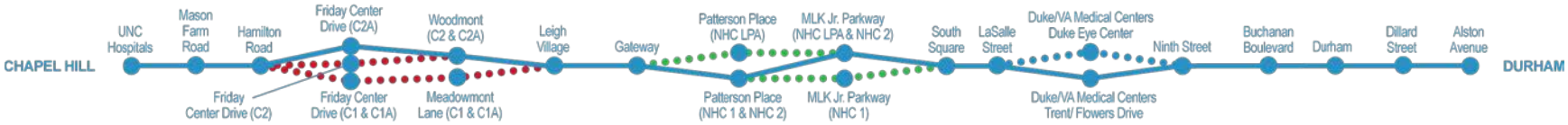


Table 5.6-2: Distribution of Potential Environmental Impacts by Alternative

Alternative/Evaluation Area	Parking	Access and Mobility	Employment	Community Cohesion	Community Facilities	Visual and Aesthetics	Parklands	Noise and Vibration	Displace-ments
NEPA Preferred Alternative [a]									
UNC Campus Area		X			X	X		X	X
East Chapel Hill	X				X	X	X	X	X
Leigh Village						X		X	X
US 15-501 Corridor		X				X		X	X
Duke West Campus and Medical Center	X	X			X				X
Old West Durham / Duke East Campus	X	X			X	X		X	X
Downtown Durham		X						X	X
East Durham					X				X
Little Creek Alternative - C1									
East Chapel Hill				X		X	X	X	X
Little Creek Alternative - C1A									
East Chapel Hill				X		X	X	X	X
Little Creek Alternative – C2									
East Chapel Hill					X	X	X	X	X
New Hope Creek Alternative - NHC Locally Preferred Alternative (LPA)									
US 15-501 Corridor		X				X		X	X
New Hope Creek Alternative - NHC 1									
US 15-501 Corridor						X		X	X
Duke/VA Medical Centers: Duke Eye Center									
Duke West Campus & Medical Center	X	X			X				X
ROMF Alternatives									
Leigh Village									X
Patterson Place				X			X		
Cornwallis Road				X					X
Alston Avenue			X	X					X

Source: AECOM 2015.

[a] The NEPA Preferred Alternative includes the C2A, NHC 2, Trent/Flowers Drive Station and the Farrington Road ROMF.