

# Greater Triangle Commuter Rail (GTCR) Phase II Feasibility Study

Client: GoTriangle

STV Project Number: 4020151

## Community Evaluation Memorandum

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### Revision History

<b>Version</b>	<b>Date</b>	<b>Description</b>	<b>Checked By</b>
V1	11/15/2021	Draft for Client Review	M. Barrow
V2	1/20/2022	Revision as per Client's comments	M. Barrow
V3	3/18/2022	Proposed Final	M. Barrow
Final	4/22/2022	Final	M. Barrow

## 1. Project Description

The proposed Greater Triangle Commuter Rail Project (GTCR) is an approximately 43-mile commuter rail line, along existing rail right-of-way, connecting West Durham, Cary, Raleigh, and Garner in Durham and Wake Counties. Rail service could potentially serve Clayton in Johnston County, so that area is included in this analysis. The proposed project is estimated to have 15 stations and one maintenance facility.

The purpose of the proposed project is to provide a high-capacity transit service within the proposed commuter rail corridor that improves mobility, expands transit options, and supports future development plans and growth patterns.

The purpose of this memorandum is to:

- Identify the presence of Environmental Justice (EJ) or Limited English Proficiency (LEP) populations in the vicinity of the proposed GTCR alignment, and to help inform the public involvement strategy for future phases of the project; and
- Identify whether communities along the alignment would likely experience changes or benefits as a result of the project, which will help inform the appropriate level of environmental documentation in future project development.

## 2. Community Study Area and Community Area Boundaries

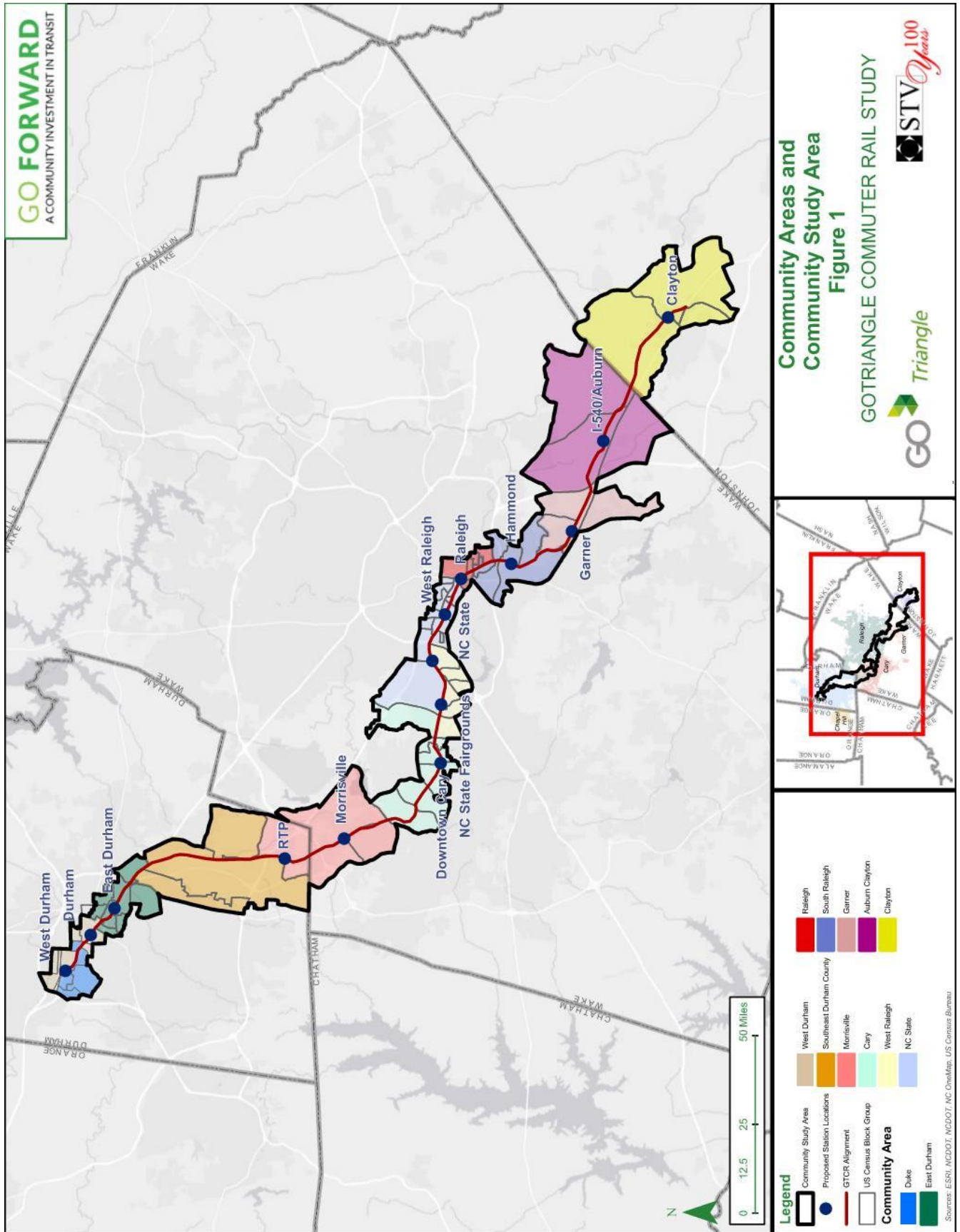
For the demographic and community evaluation, the Community Study Area (CSA) was used. The CSA was created by selecting US Census Bureau Block Groups that intersect the GTCR alignment. The CSA was then organized into smaller communities, based on similarities in land use and context, while still following Block Group boundaries and visible features. To better classify the demographics and community characteristics uses within the corridor, the corridor was divided into smaller community evaluation areas that reflect the general land use characteristics and major activity centers. These community areas include:

- **East Durham:** Located east of Downtown Durham in Durham County and positioned southwest of NC 98 (Wake Forest Highway) and west of US 70 (South Miami Boulevard)
- **Southeast Durham County:** Located in southeastern Durham County near the Durham/Wake county line, this community area is bisected by NC 147 (Durham Freeway)
- **Duke:** The Duke Community is located west of Downtown Durham encompassing the Duke University campus; the Duke Community is located south of Business US 70 and US 501
- **West Durham:** West Durham is positioned West of Downtown Durham south of I-85, between the US 15/US 501/I-85 interchange and North Alston Avenue
- **Morrisville:** The Morrisville Community is positioned southwest of the Raleigh-Durham International Airport in both Durham and Wake Counties

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- **Cary:** The Cary Community is situated south of I-40 between Aviation Parkway and NC 54 (Tom Bradshaw Freeway) in Wake County
  - **West Raleigh:** The West Raleigh Community is situated north of I-440 and south of NC 54 (Hillsborough Street) in Wake County
  - **NC State:** Encompassing NC State University, the NC State Community is generally positioned south of Wade Avenue between Tom Bradshaw Parkway and Glenwood Avenue in Wake County
  - **Raleigh:** The Raleigh Community is positioned around Downtown Raleigh, south of West Peace Street and west of North Bloodworth Street
  - **South Raleigh:** Located south of Downtown Raleigh, the South Raleigh Community is generally east of South Saunders Street and west of Sanderford Road
  - **Garner:** Located near the Town of Garner, the Garner Community is generally located west of I-40 and north of Timber Drive East in Wake County
  - **Auburn/Clayton:** Situated on the border between Wake and Johnston Counties, the Auburn/Clayton Community is positioned east of I-40 and south of the Neuse River
  - **Clayton:** Positioned at the southernmost terminus of the CSA, the Clayton Community extends from Downtown Clayton to Powhatan Road in Johnston County

The community areas can be seen in **Figure 1**.

The CSA includes 86 Block Groups across Durham, Wake and Johnston counties and runs through rural, suburban and urban land areas; 29 of the Block Groups are in Durham County, 53 Block Groups are in Wake County and four Block Groups are in Johnston County.



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### 3. Existing Community Conditions

#### 3.1. Demographic Analysis

This section describes total population, minority population and low-income population throughout the CSA and includes a discussion of the existing demographic profile for Limited English Proficient (LEP) populations.

##### 3.1.1. Methodology

Concentrations of minority and low-income populations in the CSA were identified through analysis of the 2021 NCDOT Demographic Tool at both the county and Block Group level. The 2021 NCDOT Demographic Tool obtains and analyzes North Carolina Census tables to generate Community Studies and Overview profiles. Census datasets include population change, race, Hispanic/Latino, Minority, Poverty, LEP, Zero-car households, Disability, Age, and Internet Access. Individual Block Group data were compared to the respective countywide data to determine whether Block Groups have notable EJ populations. Notable EJ populations are present if one or both thresholds are met:

- The percentage of minority and/or low-income populations in the Block Group exceeds 50 percent, or;
- The percentage of minority and/or low-income populations in the Block Group is meaningfully greater than the percentage in the respective county.

Minority or low-income populations are “meaningfully greater” if the Block Group percentages are higher than the respective county percentage. The percentage of minorities in Durham County is 57.7 percent, which makes it a minority majority. Wake County contains 40 percent and Johnston County contains 32.2 percent minority populations. The average low-income population in Durham County is 23.5 percent, Wake County is 15 percent and Johnston County is 22 percent.

Minority populations include all races that are non-White and include Hispanic populations that are White; low-income populations are defined as populations with a ratio of income to poverty level of 0-1.49 (150) percent.

The US Department of Justice Safe Harbor threshold for Limited English Proficiency is met when there is a language group that speaks English less than very well that has a population of 1,000 adults or more within a study area, or if a language group’s adult population makes up five percent or more of a study area’s total adult population assuming there are at least 50 adults in the language group.

Affordable housing locations within the study area was also evaluated using the TJCOG Affordable Housing Study, completed in April 2021.

##### 3.1.2. Community Study Area Demographics

#### Environmental Justice

Based on the minority and low-income thresholds identified above, 67 of the 86 Block Groups have notable EJ populations. The population in the 67 Block Groups totals 151,519, or about 82 percent of the total CSA population. Of the 66 EJ Block Groups, 42 Block Groups meet both the minority and low-income EJ thresholds. **Table 1** presents the results of the demographic analysis by Block Group and is grouped by county and community area.

**Table 1. Demographics: Environmental Justice**

County	Census Tract (CT), Block Group (BG)	Total Population	Population for Whom Poverty Status is Determined	Minority Population		Low Income Level		EJ Block Group	
				#	%	#	%	Minority	Low Income
Durham County	<b>WEST DURHAM</b>								
	CT 3.02, BG 3	1,567	1,567	690	44%	490	31%		●
	CT 4.01, BG 2	1,076	1,076	204	19%	149	14%		
	CT 4.01, BG 3	936	936	120	13%	67	7%		
	CT 4.02, BG 1	2,337	2,337	496	21%	743	32%		●
	CT 5, BG 2	576	570	199	35%	102	18%		
	CT 7, BG 1	1,200	1,200	423	35%	425	35%		●
	CT 22, BG 1	2,091	2,028	873	42%	500	25%		
	<b>COMMUNITY TOTAL</b>	<b>9,783</b>	<b>9,714</b>	<b>3,005</b>	<b>31%</b>	<b>2,476</b>	<b>25%</b>		
	<b>DUKE</b>								
	CT 5, BG 1	1,100	309	553	50%	245	79%	●	●
	CT 15.01, BG 1	3,387	23	1,815	54%	15	65%	●	●
	CT 15.02, BG 1	2,649	2,476	2,123	80%	1,582	64%	●	●
	CT 15.02, BG 2	828	828	470	57%	346	42%	●	●
	CT 15.02, BG 3	2,082	2,024	1,660	80%	1,052	52%	●	●
	CT 15.03, BG 1	1,727	0	908	53%	0	-	●	●
	<b>COMMUNITY TOTAL</b>	<b>11,773</b>	<b>5,660</b>	<b>7,529</b>	<b>64%</b>	<b>3,240</b>	<b>57%</b>		
	<b>EAST DURHAM</b>								
	CT 10.01, BG 1	864	864	648	75%	336	39%	●	●
	CT 10.01, BG 2	1,421	1,413	1,318	93%	755	53%	●	●
	CT 10.01, BG 3	1,421	1,421	1,274	90%	751	53%	●	●
	CT 11, BG 1	1,760	1,759	1,317	75%	821	47%	●	●
	CT 11, BG 2	1,423	1,423	1,312	92%	994	70%	●	●
	CT 13.01, BG 1	1,382	1,382	1,336	97%	633	46%	●	●
	CT 14, BG 2	2,044	2,044	2,007	98%	1,403	69%	●	●
	CT 18.02, BG 4	1,359	1,359	1,286	95%	726	53%	●	●
	CT 20.09, BG 1	2,249	2,212	2,202	98%	812	37%	●	●
	CT 23, BG 1	1,102	636	879	80%	199	31%	●	●
	CT 23, BG 2	531	531	475	89%	148	28%	●	●
	<b>COMMUNITY TOTAL</b>	<b>15,556</b>	<b>13,511</b>	<b>14,054</b>	<b>90%</b>	<b>7,578</b>	<b>56%</b>		
	<b>SOUTHEAST DURHAM COUNTY</b>								
	CT 18.09, BG 1	3,855	3,855	2,744	71%	896	23%	●	
	CT 20.27, BG 1	2,510	2,510	1,613	64%	217	9%	●	



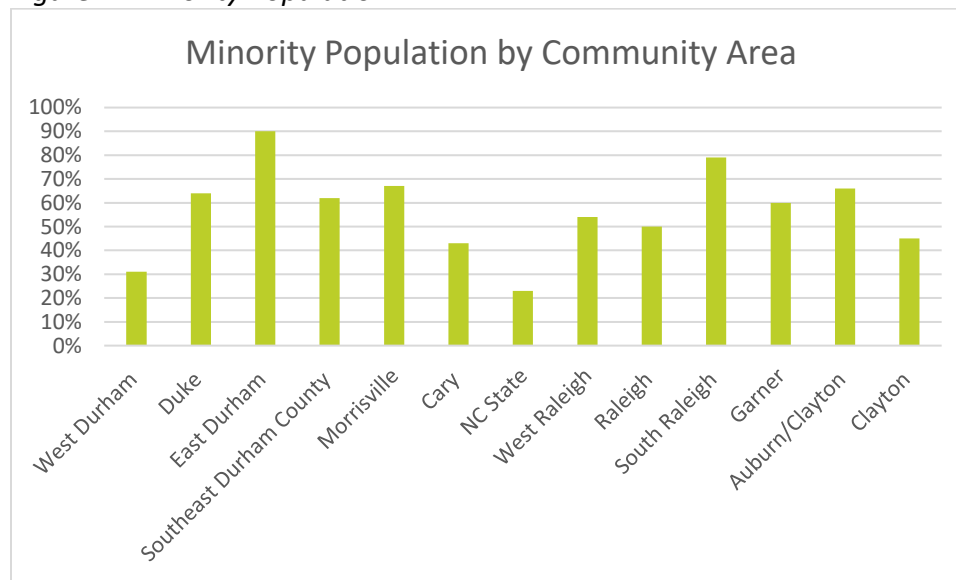
County	Census Tract (CT), Block Group (BG)	Total Population	Population for Whom Poverty Status is Determined	Minority Population		Low Income Level		EJ Block Group		
				#	%	#	%	Minority	Low Income	
Wake County	CT 20.28, BG 1	2,955	2,955	1,463	50%	170	6%	●		
	CT 9801, BG 1	0	0	0	-	0	-	-	-	
	<b>TOTAL</b>	<b>9,320</b>	<b>9,320</b>	<b>5,820</b>	<b>62%</b>	<b>1,283</b>	<b>14%</b>			
	<b>MORRISVILLE</b>									
	CT 20.28, BG 3	4,842	4,842	3,043	63%	497	10%	●		
	CT 536.07, BG 1	9,873	9,873	6,841	69%	739	7%	●		
	CT 536.08, BG 1	6,477	6,467	4,289	66%	628	10%	●		
	CT 536.09, BG 1	1,006	1,006	604	60%	209	21%	●	●	
	<b>TOTAL</b>	<b>22,198</b>	<b>22,188</b>	<b>14,777</b>	<b>67%</b>	<b>2,073</b>	<b>9%</b>			
	<b>CARY</b>									
	CT 535.07, BG 1	780	780	150	19%	91	12%			
	CT 535.13, BG 2	2,536	2,536	1,363	54%	757	30%	●	●	
	CT 535.17, BG 2	674	674	293	43%	301	45%	●	●	
CT 535.17, BG 4	419	419	108	26%	77	18%		●		
CT 535.2, BG 1	1,516	1,516	386	25%	111	7%				
CT 535.2, BG 3	2,007	2,007	1,213	60%	563	28%	●	●		
CT 535.21, BG 1	2,215	2,206	536	24%	86	4%				
CT 535.22, BG 1	2,340	2,340	642	27%	134	6%				
CT 535.22, BG 2	4,643	4,643	3,156	68%	72	2%	●			
CT 535.23, BG 1	2,773	2,773	1,084	39%	354	13%				
CT 535.23, BG 2	2,873	2,856	1,109	39%	315	11%				
CT 535.24, BG 2	2,308	2,269	687	30%	201	9%				
<b>TOTAL</b>	<b>25,084</b>	<b>25,019</b>	<b>10,727</b>	<b>43%</b>	<b>3,062</b>	<b>12%</b>				
<b>NC STATE</b>										
CT 503, BG 2	1,626	1,626	418	26%	368	23%		●		
CT 510, BG 1	1,518	1,487	466	31%	392	26%		●		
CT 511.01, BG 1	3,764	0	715	19%	0	-				
CT 511.01, BG 2	1,192	1,189	759	64%	697	59%	●	●		
CT 511.01, BG 3	407	0	133	33%	0	-				
CT 511.02, BG 1	506	0	171	34%	0	-				
CT 511.02, BG 2	3,546	0	615	17%	0	-				
CT 511.02, BG 3	925	134	567	61%	96	72%	●	●		
CT 512, BG 2	1,361	1,361	107	8%	281	21%		●		
CT 512, BG 3	2,011	1,639	178	9%	568	35%		●		
CT 514, BG 2	808	808	85	11%	333	41%		●		
CT 514, BG 3	1,038	1,038	75	7%	18	2%				
CT 514, BG 4	882	850	88	10%	351	41%		●		
CT 524.01, BG 1	4,812	4,812	1,186	25%	1,067	22%		●		
CT 524.01, BG 2	1,080	0	259	24%	0	-				

County	Census Tract (CT), Block Group (BG)	Total Population	Population for Whom Poverty Status is Determined	Minority Population		Low Income Level		EJ Block Group	
				#	%	#	%	Minority	Low Income
	<b>TOTAL</b>	<b>25,476</b>	<b>14,944</b>	<b>5,822</b>	<b>23%</b>	<b>4,171</b>	<b>28%</b>		
	<b>WEST RALEIGH</b>								
	CT 524.06, BG 1	1,895	1,895	1,002	53%	716	38%	●	●
	CT 524.06, BG 2	2,585	2,585	1,502	58%	952	37%	●	●
	CT 524.06, BG 3	3,027	3,027	1,511	50%	338	11%	●	
	CT 524.07, BG 1	2,268	2,268	936	41%	713	31%	●	●
	CT 524.07, BG 2	2,023	2,023	1,072	53%	311	15%	●	●
	CT 535.17, BG 1	2,641	2,641	1,774	67%	1,419	54%	●	●
	<b>TOTAL</b>	<b>14,439</b>	<b>14,439</b>	<b>7,797</b>	<b>54%</b>	<b>4,449</b>	<b>31%</b>		
	<b>RALEIGH</b>								
	CT 501, BG 1	4,251	3,310	1,535	36%	504	15%		●
	CT 508, BG 2	931	904	878	94%	540	60%	●	●
	CT 509, BG 1	1,612	835	1,127	70%	351	42%	●	●
	CT 509, BG 3	596	596	536	90%	324	54%	●	●
	CT 510, BG 2	1,058	1,058	162	15%	204	19%		●
	<b>TOTAL</b>	<b>8,448</b>	<b>6,703</b>	<b>4,238</b>	<b>50%</b>	<b>1,923</b>	<b>29%</b>		
	<b>SOUTH RALEIGH</b>								
	CT 509, BG 2	985	983	791	80%	526	54%	●	●
	CT 521.01, BG 1	5,278	5,278	4,613	87%	926	18%	●	●
	CT 521.01, BG 3	1,478	1,477	1,285	87%	805	55%	●	●
	CT 521.01, BG 4	1,112	1,112	936	84%	383	34%	●	●
	CT 545, BG 1	1,969	1,969	1,422	72%	732	37%	●	●
	CT 545, BG 2	2,475	1,537	1,429	58%	589	38%	●	●
	<b>TOTAL</b>	<b>13,297</b>	<b>12,356</b>	<b>10,476</b>	<b>79%</b>	<b>3,961</b>	<b>32%</b>		
	<b>GARNER</b>								
	CT 528.03, BG 1	2,993	2,945	1,866	62%	1,225	42%	●	●
	CT 528.03, BG 2	1,613	1,613	1,097	68%	778	48%	●	●
	CT 528.08, BG 2	3,845	3,778	2,112	55%	951	25%	●	●
	<b>TOTAL</b>	<b>8,451</b>	<b>8,336</b>	<b>5,075</b>	<b>60%</b>	<b>2,954</b>	<b>35%</b>		
	<b>AUBURN/CLAYTON</b>								
	CT 528.07, BG 1	2,297	2,289	1,452	63%	117	5%	●	
	CT 528.07, BG 2	4,261	4,261	3,368	79%	590	14%	●	
	CT 528.09, BG 2	1,880	1,880	748	40%	546	29%	●	●
	<b>TOTAL</b>	<b>8,438</b>	<b>8,430</b>	<b>5,568</b>	<b>66%</b>	<b>1,253</b>	<b>15%</b>		

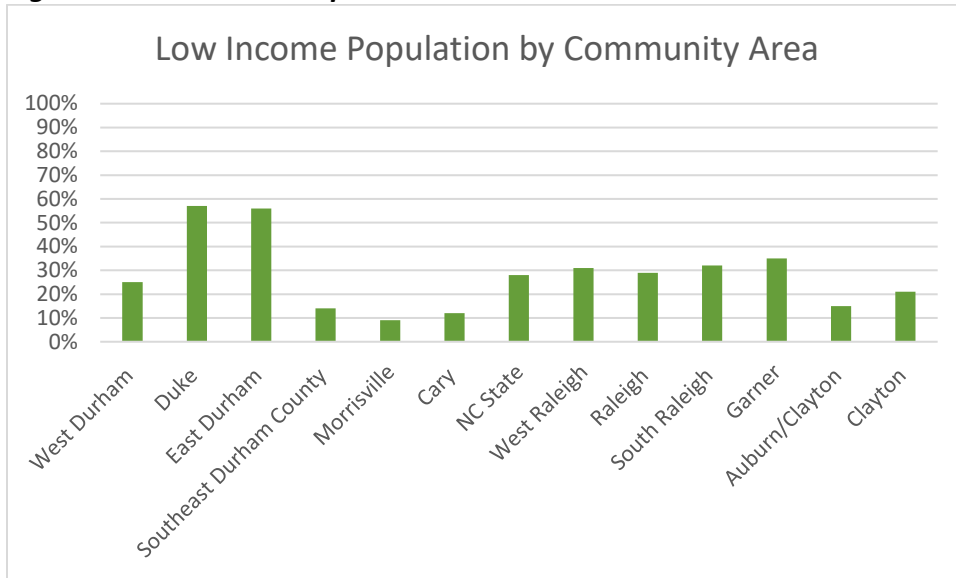
Johnston County	CLAYTON								
	CT 410.01, BG 1	5,305	5,305	2,670	50%	1,295	24%	●	●
	CT 410.01, BG 2	2,264	2,252	1,469	65%	276	12%	●	
	CT 410.02, BG 2	1,512	1,512	638	42%	385	25%	●	●
	CT 410.02, BG 3	3,671	3,623	927	25%	761	21%		
<b>TOTAL</b>	<b>12,752</b>	<b>12,692</b>	<b>5,704</b>	<b>45%</b>	<b>2,717</b>	<b>21%</b>			
<b>CSA TOTAL</b>									
	<b>185,015</b>	<b>163,312</b>	<b>100,592</b>	54.4%	<b>41,140</b>	25.2%			
Durham County CSA Total	51,274	43,047	33,451	65.2%	15,074	35.0%			
Wake County CSA Total	120,989	107,573	61,437	50.8%	23,349	21.7%			
Johnston County CSA Total	12,752	12,692	5,704	44.7%	2,717	21.4%			

Overall, as seen in Figure 1 and 2, the highest concentrations of minority populations within the CSA are located in the East Durham (90 percent), South Raleigh (79 percent) and Morrisville (67 percent) community areas. The highest concentrations of low-income populations within the CSA are located in the Duke (57 percent), East Durham (56 percent) and Garner (35 percent).

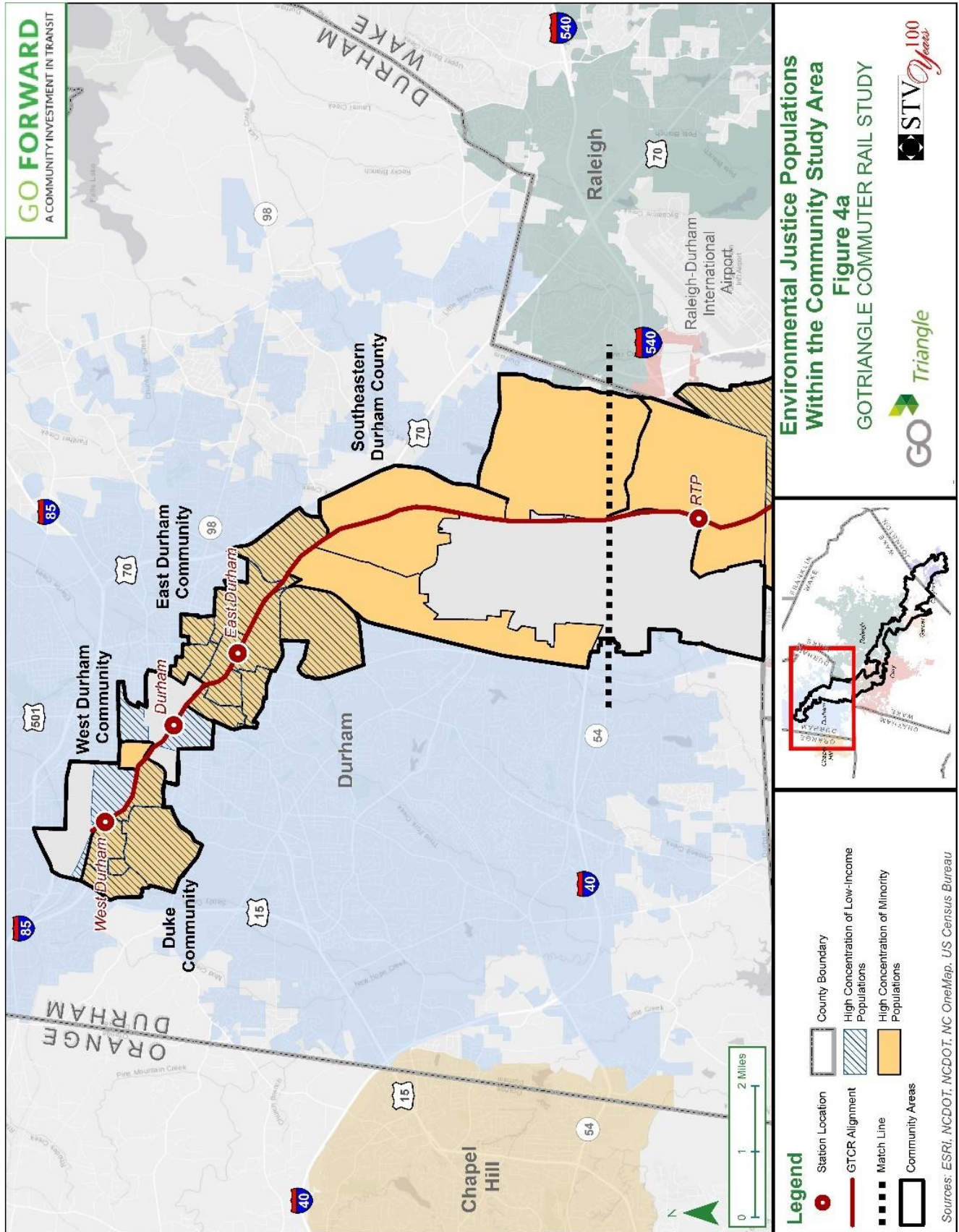
Figure 2. Minority Population

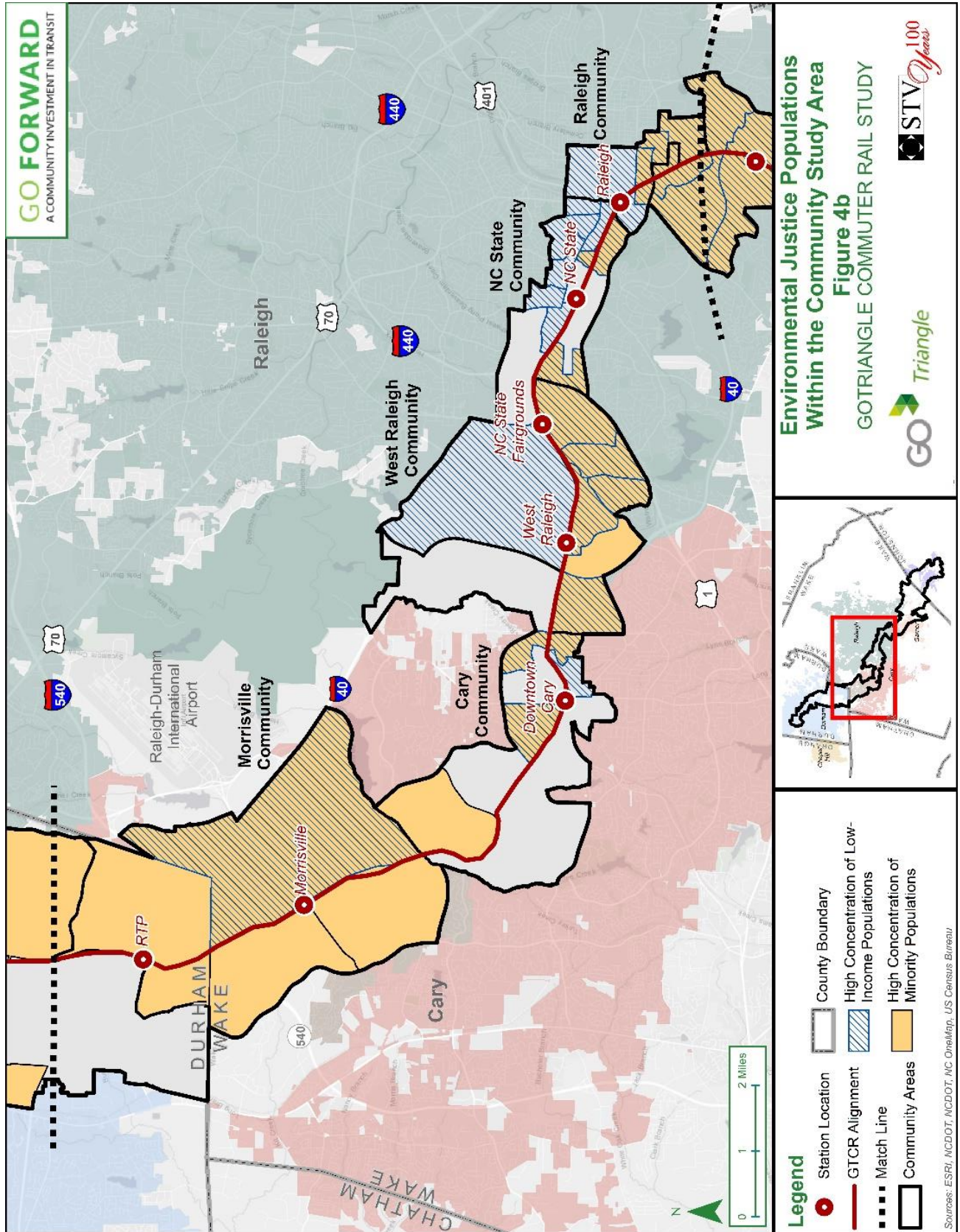


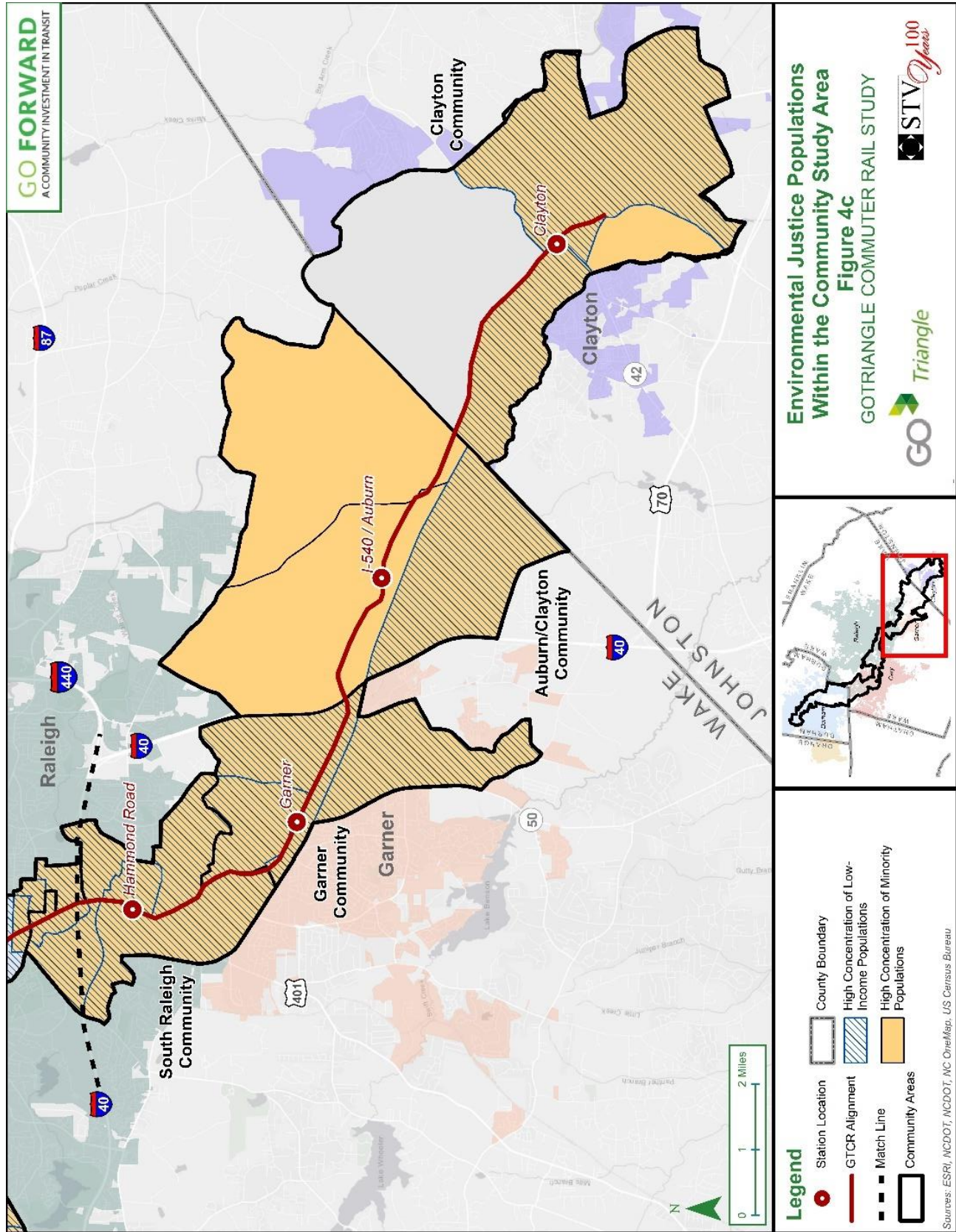
**Figure 3. Low-Income Population**



**Figures 4a-4c** present the location of EJ communities along the corridor.







### Limited English Proficiency

The American Community Survey 5-year Estimates (2015-2019) data indicate that there are populations within the preliminary CSA that speak English less than very well, and most of those populations are located in Durham and Wake Counties, as seen in **Table 2**. Johnston County does not contain higher concentrations of LEP individuals.

**Table 2: Limited English Proficiency Populations**

County	Geography	Total Adult Population, 18 years and older	Primary Language Group of Persons Who Speak English Less than Very Well							
			Spanish		Other Indo-Euro		Asian/Pacific		Other	
			#	%	#	%	#	%	#	%
Durham County	<b>WEST DURHAM</b>									
	CT 3.02, BG 3	1,217	132	10.8%	0	0.0%	0	0%	0	0.0%
	CT 4.01, BG 2	844	9	1.1%	8	0.9%	0	0%	0	0.0%
	CT 4.01, BG 3	680	0	0.0%	11	1.6%	0	0%	0	0.0%
	CT 4.02, BG 1	2,163	42	1.9%	0	0.0%	0	0%	0	0.0%
	CT 5, BG 2	491	0	0.0%	0	0.0%	0	0%	28	5.7%
	CT 7, BG 1	1,111	22	2.0%	0	0.0%	0	0%	0	0.0%
	CT 22, BG 1	1,920	49	2.6%	0	0.0%	0	0%	0	0.0%
	<b>TOTAL</b>	<b>8,426</b>	<b>254</b>	<b>3.0%</b>	<b>19</b>	<b>0.2%</b>	<b>0</b>	<b>0%</b>	<b>28</b>	<b>0.3%</b>
	<b>DUKE</b>									
	CT 5, BG 1	1,088	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 15.01, BG 1	3,382	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 15.02, BG 1	1,917	248	12.9%	99	5.2%	0	0%	15	0.8%
	CT 15.02, BG 2	828	0	0.0%	0	0.0%	104	13%	0	0.0%
	CT 15.02, BG 3	1,820	126	6.9%	61	3.4%	127	7%	0	0.0%
	CT 15.03, BG 1	1,697	3	0.2%	0	0.0%	5	0%	3	0.2%
	<b>TOTAL</b>	<b>10,732</b>	<b>377</b>	<b>3.5%</b>	<b>160</b>	<b>1.5%</b>	<b>236</b>	<b>2%</b>	<b>18</b>	<b>0.2%</b>
	<b>EAST DURHAM</b>									
	CT 10.01, BG 1	721	271	37.6%	0	0.0%	0	0%	0	0.0%
	CT 10.01, BG 2	1,037	123	11.9%	12	1.2%	0	0%	0	0.0%
	CT 10.01, BG 3	990	75	7.6%	0	0.0%	0	0%	0	0.0%
	CT 11, BG 1	1,250	149	11.9%	0	0.0%	0	0%	0	0.0%
	CT 11, BG 2	1,084	198	18.3%	0	0.0%	0	0%	0	0.0%
	CT 13.01, BG 1	1,077	58	5.4%	0	0.0%	0	0%	0	0.0%
	CT 14, BG 2	1,117	145	13.0%	0	0.0%	0	0%	0	0.0%
	CT 18.02, BG 4	830	537	64.7%	0	0.0%	0	0%	0	0.0%
	CT 20.09, BG 1	1,632	317	19.4%	0	0.0%	0	0%	0	0.0%
	CT 23, BG 1	928	82	8.8%	8	0.9%	0	0%	0	0.0%
	CT 23, BG 2	344	21	6.1%	0	0.0%	0	0%	0	0.0%
	<b>TOTAL</b>	<b>9,886</b>	<b>1,626</b>	<b>16.4%</b>	<b>8</b>	<b>0.1%</b>	<b>0</b>	<b>0%</b>	<b>24</b>	<b>0.2%</b>
	<b>DURHAM FREEWAY</b>									
	CT 18.09, BG 1	3,126	97	3.1%	0	0.0%	0	0%	0	0.0%
	CT 20.27, BG 1	1,953	49	2.5%	0	0.0%	0	0%	0	0.0%
CT 20.28, BG 1	2,575	15	0.6%	47	1.8%	220	9%	0	0.0%	
CT 9801, BG 1	0	0	0.0%	0	0.0%	0	0%	0	0.0%	



County	Geography	Total Adult Population, 18 years and older	Primary Language Group of Persons Who Speak English Less than Very Well							
			Spanish		Other Indo-Euro		Asian/Pacific		Other	
			#	%	#	%	#	%	#	%
	<b>TOTAL</b>	<b>7,654</b>	<b>161</b>	<b>2.1%</b>	<b>47</b>	<b>0.6%</b>	<b>220</b>	<b>3%</b>	<b>0</b>	<b>0.0%</b>
	<b>MORRISVILLE</b>									
	CT 20.28, BG 3	4,325	144	3.3%	75	1.7%	45	1%	20	0.5%
	CT 536.07, BG 1	7,289	9	0.1%	627	8.6%	401	6%	0	0.0%
	CT 536.08, BG 1	4,509	28	0.6%	180	4.0%	236	5%	0	0.0%
	CT 536.09, BG 1	832	38	4.6%	3	0.4%	42	5%	0	0.0%
	<b>TOTAL</b>	<b>16,955</b>	<b>219</b>	<b>1.3%</b>	<b>885</b>	<b>5.2%</b>	<b>724</b>	<b>4%</b>	<b>20</b>	<b>0.1%</b>
	<b>CARY</b>									
	CT 535.07, BG 1	691	0	0.0%	0	0.0%	1	0.1%	0	0.0%
	CT 535.13, BG 2	1,898	412	21.7%	29	1.5%	0	0.0%	20	1.1%
	CT 535.17, BG 2	497	29	5.8%	0	0.0%	0	0.0%	18	3.6%
	CT 535.17, BG 4	352	69	19.6%	0	0.0%	8	2.3%	0	0.0%
	CT 535.2, BG 1	1,276	0	0.0%	75	5.9%	0	0%	17	1.3%
	CT 535.2, BG 3	1,285	45	3.5%	104	8.1%	0	0%	13	1.0%
	CT 535.21, BG 1	1,660	0	0.0%	130	7.8%	21	1%	0	0.0%
	CT 535.22, BG 1	1,832	54	2.9%	42	2.3%	127	7%	0	0.0%
	CT 535.22, BG 2	3,465	0	0.0%	164	4.7%	371	11%	0	0.0%
	CT 535.23, BG 1	2,024	35	1.7%	50	2.5%	32	2%	0	0.0%
	CT 535.23, BG 2	2,336	0	0.0%	85	3.6%	0	0%	18	0.8%
	CT 535.24, BG 2	1,901	75	3.9%	15	0.8%	96	5%	0	0.0%
	<b>TOTAL</b>	<b>19,217</b>	<b>719</b>	<b>3.7%</b>	<b>694</b>	<b>3.6%</b>	<b>656</b>	<b>3.4%</b>	<b>86</b>	<b>0.4%</b>
	<b>NC STATE</b>									
	CT 503, BG 2	1,626	0	0.0%	40	2.5%	0	0%	0	0.0%
	CT 510, BG 1	1,466	0	0.0%	9	0.6%	9	1%	0	0.0%
	CT 511.01, BG 1	3,749	19	0.5%	0	0.0%	0	0%	0	0.0%
	CT 511.01, BG 2	967	13	1.3%	14	1.4%	39	4%	81	8.4%
	CT 511.01, BG 3	407	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 511.02, BG 1	500	8	1.6%	0	0.0%	0	0%	0	0.0%
	CT 511.02, BG 2	3,490	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 511.02, BG 3	925	28	3.0%	0	0.0%	0	0%	0	0.0%
	CT 512, BG 2	1,098	20	1.8%	0	0.0%	0	0%	0	0.0%
	CT 512, BG 3	1,899	0	0.0%	0	0.0%	9	0%	0	0.0%
	CT 514, BG 2	768	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 514, BG 3	888	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 514, BG 4	882	0	0.0%	0	0.0%	0	0%	0	0.0%
	CT 524.01, BG 1	4,403	42	1.0%	9	0.2%	14	0%	58	1.3%
	CT 524.01, BG 2	1,058	0	0.0%	9	0.9%	0	0%	0	0.0%
	<b>TOTAL</b>	<b>24,126</b>	<b>130</b>	<b>0.5%</b>	<b>81</b>	<b>0.3%</b>	<b>71</b>	<b>0%</b>	<b>139</b>	<b>0.6%</b>
	<b>WEST RALEIGH</b>									
	CT 524.06, BG 1	1,392	130	9.3%	31	2.2%	31	2%	29	2.1%
	CT 524.06, BG 2	2,145	107	5.0%	40	1.9%	43	2%	46	2.1%
	CT 524.06, BG 3	2,488	84	3.4%	40	1.6%	0	0%	74	3.0%
	CT 524.07, BG 1	1,759	54	3.1%	0	0.0%	19	1%	68	3.9%
	CT 524.07, BG 2	1,759	77	4.4%	42	2.4%	20	1%	89	5.1%

County	Geography	Total Adult Population, 18 years and older	Primary Language Group of Persons Who Speak English Less than Very Well								
			Spanish		Other Indo-Euro		Asian/Pacific		Other		
			#	%	#	%	#	%	#	%	
Johnston County	CT 535.17, BG 1	1,689	491	29.1%	0	0.0%	110	7%	94	5.6%	
	<b>TOTAL</b>	<b>11,232</b>	<b>943</b>	<b>8.4%</b>	<b>153</b>	<b>1.4%</b>	<b>223</b>	<b>2%</b>	<b>400</b>	<b>3.6%</b>	
	<b>RALEIGH</b>										
	CT 501, BG 1	4,000	66	1.7%	0	0.0%	0	0%	10	0.3%	
	CT 508, BG 2	640	92	14.4%	0	0.0%	0	0%	0	0.0%	
	CT 509, BG 1	1,344	47	3.5%	0	0.0%	0	0%	0	0.0%	
	CT 509, BG 3	481	0	0.0%	0	0.0%	0	0%	0	0.0%	
	CT 510, BG 2	894	0	0.0%	0	0.0%	0	0%	0	0.0%	
	<b>TOTAL</b>	<b>7,359</b>	<b>205</b>	<b>2.8%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0%</b>	<b>10</b>	<b>0.1%</b>	
	<b>SOUTH RALEIGH</b>										
	CT 509, BG 2	774	33	4.3%	0	0.0%	0	0%	0	0.0%	
	CT 521.01, BG 1	3,751	350	9.3%	70	1.9%	20	0.5%	0	0.0%	
	CT 521.01, BG 3	1,011	240	23.7%	0	0.0%	0	0%	0	0.0%	
	CT 521.01, BG 4	1,020	0	0.0%	0	0.0%	0	0%	0	0.0%	
	CT 545, BG 1	1,439	133	9.2%	0	0.0%	0	0%	0	0.0%	
	CT 545, BG 2	2,103	210	10.0%	0	0.0%	0	0%	0	0.0%	
	<b>TOTAL</b>	<b>10,098</b>	<b>966</b>	<b>9.6%</b>	<b>70</b>	<b>0.7%</b>	<b>20</b>	<b>0.2%</b>	<b>0</b>	<b>0.0%</b>	
	<b>GARNER</b>										
	CT 528.03, BG 1	2,104	157	7.5%	0	0.0%	0	0%	0	0.0%	
	CT 528.03, BG 2	1,306	0	0.0%	0	0.0%	0	0%	0	0.0%	
	CT 528.08, BG 2	2,743	142	5.2%	16	0.6%	0	0%	0	0.0%	
	<b>TOTAL</b>	<b>6,153</b>	<b>299</b>	<b>4.9%</b>	<b>16</b>	<b>0.3%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0.0%</b>	
	<b>AUBURN/CLAYTON</b>										
	CT 528.07, BG 1	1,542	27	1.8%	39	2.5%	0	0%	0	0.0%	
	CT 528.07, BG 2	3,087	339	11.0%	20	0.6%	0	0%	0	0.0%	
	CT 528.09, BG 2	1,318	42	3.2%	0	0.0%	0	0%	0	0.0%	
	<b>TOTAL</b>	<b>5,947</b>	<b>408</b>	<b>6.9%</b>	<b>59</b>	<b>1.0%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0.0%</b>	
<b>CLAYTON</b>											
CT 410.01, BG 1	3,654	52	1.4%	126	3.4%	0	0%	0	0.0%		
CT 410.01, BG 2	1,729	0	0.0%	0	0.0%	0	0%	0	0.0%		
CT 410.02, BG 2	1,274	84	6.6%	70	5.5%	0	0%	0	0.0%		
CT 410.02, BG 3	2,521	34	1.3%	0	0.0%	0	0%	0	0.0%		
<b>TOTAL</b>	<b>9,178</b>	<b>170</b>	<b>1.9%</b>	<b>196</b>	<b>2.1%</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0.0%</b>		
<b>CSA TOTAL</b>		<b>146,963</b>	<b>6,477</b>	<b>4.4%</b>	<b>2,388</b>	<b>1.6%</b>	<b>2,150</b>	<b>1.5%</b>	<b>725</b>	<b>0.5%</b>	
Durham County CSA Total		41,023	2,562	6.2%	309	0.8%	501	1.2%	90	0.2%	
Wake County CSA Total		96,762	3,745	3.9%	1,883	1.9%	1,649	1.7%	635	0.7%	
Johnston County CSA Total		9,178	452	4.9%	185	2.0%	0	0	0	0	

The overall CSA meets the US Department of Justice Safe Harbor’s threshold for LEP; Census data also suggests the potential for multiple foreign language-speaking populations that meet

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or exceed the Safe Harbor threshold within the CSA. The CSA contains the following amount of people who speak another language as their primary language and English less than very well:

- Over 6,000 people who speak Spanish;
- Over 2,000 people who speak Other Indo-European languages; and
- Over 2,000 people who speak Asian/Pacific languages.

East Durham contains the highest concentration of LEP individuals, with 16 percent of the population speaking Spanish. South Raleigh contains the second highest concentration of LEP individuals, with almost 10 percent of the population speaking Spanish. The highest concentration of Other Indo-European languages and Asian/Pacific languages can be found in the Morrisville community area, at 5 percent and 4 percent respectively.

## 3.2. Community Characteristics

### 3.2.1. Duke

The Duke Community is home to Duke University and associated campus uses such as academic buildings, athletic complexes, and student on-and-off campus housing. Two of the region's largest employers are located in this area – Duke University Medical Center and the Durham Veterans Affairs (VA) Medical Center. Most of the property in this area south of Erwin Road is owned by Duke University and is intensely developed as part of the campus or the Medical Center. In Durham's Comprehensive Plan, the Medical Center area is identified as a Compact Neighborhood, Durham's equivalent of a transit-oriented district.

The Duke community area consists of 64 percent minority and 57 percent low-income populations. In this community, all of the Block Groups are categorized as EJ Block Groups and all exceed both the minority and low-income EJ criteria. Duke contains the highest concentration of low-income populations within the CSA. The student population of Duke University is not included in the Census data. The proposed West Durham Station is located near West Main Street and Edmund Street within this community; there are approximately 150 affordable housing units within half a mile of the proposed West Durham station.

### 3.2.2. West Durham

The West Durham Community encompasses the Hillandale Golf Course, the Watts Hospital-Hillandale neighborhood, the Old West Durham neighborhood, and the Trinity Park neighborhood. Watts Hospital-Hillandale is a National Register Historic District and is protected by the City of Durham historic district rules. The neighborhood is composed of mostly Arts and Crafts style homes constructed from the 1910s through the early 1940s. Old West Durham is an old textile neighborhood; the residents worked at the nearby Erwin Cotton Mills in the 19<sup>th</sup> Century. In Old West Durham, the area around Erwin Mills, Ninth Street, and the Old Mill Village is listed on the National Register of Historic Districts. Homes are single family, detached residences varying in style from bungalow to ranch to traditional. Trinity Park is located on the

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eastern end of this community area and is considered one of Durham's most intact early neighborhoods with historic ties to Duke University.

The eastern portion of the West Durham community area includes a portion of downtown Durham which includes the Warehouse District, Central Park and Central Business District areas. The NS railroad corridor bisects the evaluation area. The Warehouse District, Central Park, and the Central Business District are located north of the rail corridor. Much of this area falls under the Downtown Durham Historic District, which imposes specific zoning and design standards to preserve its historic integrity. The make-ups of these neighborhoods consist of a mixture of both new and historic office, commercial, and residential buildings, some of which are mixed-use. Located to the south of the rail line is the American Tobacco Campus which is a mixed-use development housing retail, office space and apartments. The Durham Amtrak Station and the recently completed Durham Intermodal Transportation Center (Durham Station) are located in this community area and would also house the proposed GTCR Durham station.

The West Durham community area consists of 31 percent minority and 25 percent low-income populations. In this community, three out of seven Block Groups are categorized as EJ Block Groups. These EJ Block Groups are located north of the corridor in the Watts-Hillandale area, and near the proposed West Durham and Durham Station locations. Of the three EJ Block Groups, no groups exceed both the minority and low-income EJ criteria. The proposed West Durham station is located near West Main Street and Edmund Street and the proposed Durham Station is located near West Peabody Street and Willard Street. There are almost 500 affordable housing units within half a mile of the proposed West Durham and Durham stations.

### 3.2.3. East Durham

The East Durham Community is home to Durham Technical Community College and respective campus uses including academic facilities and student housing complexes. North Carolina Central University is located just outside of the East Durham Community Area, south of the alignment. The Durham Housing Authority is located within the East Durham Community along East Lawson Street. East Durham is one of Durham's most densely populated neighborhoods; the neighborhood evolved in the mid-19<sup>th</sup> Century from larger farmsteads. Presently, many of these moderately-sized houses are being purchased by residents who desire affordable housing convenient to their places of employment. The Durham Bulls Athletic Park and the Durham Performing Arts Center, as well as areas of office space and some apartments in and around the American Tobacco Campus, are located in the western portion of the community area. The East Durham community area contains higher concentrations of Hispanic populations. East Durham community area includes the Hayti Neighborhood which is a historically Black neighborhood which was severely impacted by the construction of the NC 147 freeway in the 1960's. This community area also includes the Bryant Heights, Unity Village and Campus Hills neighborhoods which are located between Alston Avenue and S. Briggs Avenue. The NCRD railroad corridor bisects the evaluation area.

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The East Durham community area consists of 90 percent minority and 56 percent low-income populations. The area is known to have a higher concentration of Hispanic communities. In this community, all of the Block Groups are categorized as EJ Block Groups and all exceed both the minority and low-income EJ criteria. East Durham contains the highest concentration of minority and second highest concentration of low-income populations within the CSA. The proposed East Durham station is located in the center of this community area near East Peabody Street and South Alston Road; there are approximately 540 affordable housing units within a half mile of the East Durham station.

#### **3.2.4. Southeast Durham County**

The Southeast Durham County community area is suburban in character and contains several smaller neighborhoods including Ellis Crossing, Taylor Estates, Bradbury Glen, Bradbury Trace, Stirrup Creek, Pagehurst, and Meadows of Pagehurst. These neighborhoods are comprised of single or multi-family homes, most of which have been built in the last two decades. Research Triangle Park (RTP) is also located within Southeast Durham County Community Area. RTP is the largest research park in the United States and houses hundreds of companies including science and technology firms, government agencies, academic institutions, startups and nonprofits.

The Southeast Durham County community area consists of 62 percent minority and 14 percent low-income populations. In this community, three out of four Block Groups are categorized as EJ Block Groups. These EJ Block Groups are located mainly in the northern area, toward East Durham. Of the four EJ Block Groups, zero groups exceed both the minority and low-income EJ criteria. The proposed RTP station is located near NC 54 (Nelson Chapel Hill Highway) and South Miami Boulevard, at the southernmost portion of the Community area. There are approximately 250 affordable housing units within a half-mile of the proposed RTP station.

#### **3.2.5. Morrisville**

The Morrisville community area is suburban in character, comprised of a variety of land uses including Wake Technical Community College, several office parks, single-family and multi-family neighborhoods, and Lake Crabtree County Park. Larger neighborhoods within the Morrisville Community include Providence Place, Green Woods, Cotton Place, Downing Village, Chessington, Village at Town Hall Commons, The Gables at Town Hall, and the Waterford apartment complex. Many of these neighborhoods were established in the last two decades and are classified as single-family detached homes. The Raleigh-Durham International Airport is located approximately one-mile northeast of this community area and approximately two and a half miles from the GTCR proposed Morrisville station.

The Morrisville community area consists of 67 percent minority and 9 percent low-income populations. In this community, all of the Block Groups are categorized as EJ Block Groups and one exceeds both the minority and low-income EJ criteria. Morrisville has a notable high concentration of Asian communities. The proposed Morrisville station is located near Chapel Hill Road and McCrimmon Parkway within this community area.

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### 3.2.6. Cary

The Cary community area mainly suburban in character and is comprised of suburban retail, single-family and multi-family residences and Downtown Cary. Residential neighborhoods include Weston Lakes, Prestonwood Country Club, Weatherstone, Oakwood Heights, Northwoods, as well as several other medium-density single-family subdivisions.

The Cary community area consists of 43 percent minority and 12 percent low-income populations. In this community, five out of 12 Block Groups are categorized as EJ Block Groups. These EJ Block Groups are dispersed throughout the community area. Of the five EJ Block Groups, three groups exceed both the minority and low-income EJ criteria. There are notably high Asian populations in this area. The proposed Cary station is located in the center of the community, near the intersection of Chatham Street and South Harrison Avenue; there are just over 100 affordable housing units within a half mile of the proposed Cary station.

### 3.2.7. West Raleigh

The West Raleigh community area is home to the WakeMed Soccer Park, various commercial uses along the East Chatham Street, Hillsborough Street, and Western Boulevard corridors, as well as various residential uses. Single-family, medium-density neighborhoods in this community area include Fairview Acres, Roylene Acres, Glosson Estates and Strother. Multi-family neighborhoods in West Raleigh include Oak Run, Paddon Place, and Suncreek, all of which are townhome communities. Apartment complexes in the area include Merriwood Apartments, Oxford Square Apartments, Bacarra Apartments, Meadow Springs Apartments, and Sumter Square Apartments. Industrial uses can be found in the eastern portion of the community area along Beryl Road and Blue Ridge Road, just south of the NC State Fairgrounds.

The West Raleigh community area consists of 54 percent minority and 31 percent low-income populations. In this community, all six Block Groups are categorized as EJ Block Groups. These EJ Block Groups are located mainly south of the project corridor. Of the six EJ Block Groups, five groups exceed both the minority and low-income EJ criteria. The proposed West Raleigh station is located near Hillsborough Street and Singleton Street and the proposed NC State Fairgrounds station is located near Blue Ridge Road and NC 54 (Chapel Hill Road) within this community area. There are approximately 350 affordable housing units within a half mile of the West Raleigh and NC State Fairgrounds stations.

### 3.2.8. NC State

The NC State community area is home to NC State University and Meredith College and all associated uses such as academic facilities, athletic complexes, and on-and-off campus student housing. The North Carolina State Fairgrounds are located within this Community area; the North Carolina State fair is an annual fair and agricultural exposition organized by the North Carolina Department of Agriculture and Consumer Services. The North Carolina State basketball and football athletic complexes are also located within the Raleigh Community. Additionally, Cardinal Gibbons High School, a private coeducational college-preparatory Catholic high school, is located within the Community area near Edwards Mill Road. The Carl Alwin Schenck

Memorial Forest is an outdoor laboratory maintained by the NC State College of Natural Resources for academic and research. It is open to the public and provides walking trails. Various commercial uses are located on either side of Hillsborough Street. Residential neighborhoods are located east of Meredith College within the NC State Community area; some of these neighborhoods include Wilmont, Duke Forest, and Bagwell. Homes in these neighborhoods are single-family detached homes on medium density lots.

The NC State community area consists of 23 percent minority and 28 percent low-income populations. In this community, nine out of 15 Block Groups are categorized as EJ Block Groups. These EJ Block Groups are located mainly north of the project corridor and east toward Raleigh. Of the nine EJ Block Groups, no groups exceed both the minority and low-income EJ criteria. The proposed NC State station is located near Hillsborough Road and Blue Ridge Road within this community area. There are just over 100 affordable housing units within half a mile of the proposed NC State station.

### 3.2.9. Raleigh

The Raleigh community area encompasses Downtown Raleigh and includes various uses in a higher density context. As the North Carolina State Capital, the community is comprised of numerous state-governmental and office uses. Additionally, Shaw University is located within this Community Area. Commercial uses are sporadically located throughout this community area. There are two large neighborhoods within the Raleigh Community Area; these neighborhoods are Boylan Heights and East Raleigh-South Park. Boylan Heights is a historic neighborhood and is on the National Register of Historic Places as a historic district. It is also one of six local Historic Overlay Districts in the City of Raleigh. The historic district is made up of single-family detached houses, including notable architectural examples of Queen Anne, Colonial Revival, Bungalow, and American Craftsman style homes. East Raleigh-South Park neighborhood is also listed on the National Register of Historic Places. East Raleigh-South Park is a historically African American neighborhood; it was originally intended as a white streetcar neighborhood, but real estate developers decided to market the area to African Americans instead given the proximity to Shaw University. The neighborhood covers approximately 30 blocks and includes Craftsman, Colonial Revival, and Neoclassical houses.

The Raleigh community area consists of 50 percent minority and 29 percent low-income populations. In this community, all Block Groups are categorized as EJ Block Groups. Of the EJ Block Groups, three groups exceed both the minority and low-income EJ criteria. The existing Raleigh Union, serving this area, is located near West Martin Street and South West Street. There are almost 800 affordable housing units within a half mile of the Raleigh Union station.

### 3.2.10. South Raleigh

The South Raleigh community area is comprised of parks, residential neighborhoods, and social services. There is a food bank, a housing authority, and multiple nonprofit organizations along South Wilmington Street. Biltmore Hills Park, Eliza Pool Park, Hertford Village Park, and the JD Lewis Multipurpose Center are recreational areas located within the community area.

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Neighborhoods within the community area include Fuller Heights, Rochester Heights, Cloverdale, Hertford Village, and Parkland. The homes in these neighborhoods are mainly single-family detached homes. Multi-family homes in this community include Mill Stone, Sheldon Way, Seminary Lane, and Biltmore Heights.

The South Raleigh community area consists of 79 percent minority and 32 percent low-income populations. In this community, all of the eight Block Groups are categorized as EJ Block Groups and all block groups exceed both the minority and low-income EJ criteria. South Raleigh contains the second highest percentages of minority and low-income populations within the CSA. The proposed Hammond Road station is located near Hammond Road and Hammond Center Drive within this community area. There are just over 44 affordable housing units located within a half mile of the proposed Hammond Road station.

### 3.2.11. Garner

The Garner Community is largely comprised of residential uses on medium or low-density lots. Neighborhoods in the Garner Community area include Weston Ridge, Hillandale Oaks, Green Acres, Sutton Springs, Colon Heights, Everwood, and Pinehurst Park. These neighborhoods are comprised of single-family detached homes.

The Garner community area consists of 60 percent minority and 35 percent low-income populations. In this community, all of the Block Groups are categorized as EJ Block Groups and all block groups exceed both the minority and low-income EJ criteria. The proposed Garner station would be located in the center of the community near West Main Street and St. Mary's Street. There are approximately 300 affordable housing units located within half a mile of the proposed Garner station.

### 3.2.12. Auburn/Clayton

The Auburn/Clayton Community area is rural and undeveloped and is comprised of mostly low-density residential uses with several commercial and industrial uses along US Highway 70 East and East Garner Road. Neighborhoods in this community area are primarily single-family detached style homes on medium or large lots. Neighborhoods in this community area include Edge of Auburn, Penwyck Estates, Stoney Creek, and Alpine Estates.

The Auburn/Clayton community area consists of 66 percent minority and 15 percent low-income populations. In this community, all of the Block Groups are categorized as EJ Block Groups and one of the three block groups exceed both the minority and low-income EJ criteria. The proposed I-540/Auburn station would be located in the center of the community area near East Garner Road and Auburn-Knightdale Road.

### 3.2.13. Clayton

Located in Johnston County, the Clayton community area is comprised of low-density residential and commercial uses. It contains the lowest density of the community areas. Downtown Clayton is located within the community area and is comprised of various retails and



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is a Main Street America Affiliate. Neighborhoods in Clayton include Broadmoor, Flowers Plantation, Glen Laurel, Portofino, and Riverwood.

The Clayton community area consists of 45 percent minority and 21 percent low-income populations. In this community, three out of four Block Groups are categorized as EJ Block Groups. These EJ Block Groups are located mainly in the eastern portion of the community. Of the four EJ Block Groups, one group exceeds both the minority and low-income EJ criteria. The proposed Clayton station location is still being determined.

## 4. Potential Community Effects

This section focuses on the potential community benefits and changes of the GTCR to communities in the CSA. This evaluation of community characteristics and changes includes an observation of the presence (or absence) of various community elements and of the GTCR project on the cohesiveness of residential areas and the neighborhood setting in general. The presence or absence of a resource or anticipated effect was generally determined based on review of the conceptual design plans, relative level of perceived effects, professional judgment, and knowledge of the study area. Potential changes to communities are discussed qualitatively in terms of the below listed elements. How each criterion was assessed is described below:

- Visual / Aesthetics on Historic Properties: Will there be new visual elements introduced in or to a historic property or district? Visual elements may include removal of trees, elevation changes on bridge structures, construction of noise walls, etc.
- Accessibility and Access to Transit: Are project improvements likely to result in changes to existing pattern of vehicular or bicycle and pedestrian traffic or the restriction of access at locations where access currently exists? Areas within a half-mile of a proposed station may be noted as areas to see an increase in accessibility to transit.
- Community Cohesion: Is potential disruption in the interaction among people and groups within a community expected? This could occur due to a physical barrier and/or a change in roadway connectivity/accessibility. Likely to show no major disruption community cohesion due to project being proposed in existing rail corridor.
- Safety: Will there be implementation or enhancement of bicycle and pedestrian access and crossing at stations? Is a reduction in train and vehicle conflicts anticipated and are crossing improvements and/or grade separations proposed?

### 4.1. Overall Community Effects

The proposed GTCR project is anticipated to improve mobility and transit access for the communities throughout the CSA. The introduction of the physical elements of the proposed GTCR, when proximate to neighborhoods, would have potential to cause both positive and negative changes to existing communities that at this phase of the project can only be assessed qualitatively, with professional judgement. The proposed GTCR would include new stations, park-and-ride facilities, a maintenance facility and trackwork located near neighborhoods and would result in physical changes within the corridor, as well as potential changes to local traffic

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operations and street patterns. Figure 5 presents a community snapshot, summarizing key community data and effects. The following is a summary of qualitative, anticipated changes that could be expected throughout the corridor from implementing the GTCR.

#### **4.1.1. Accessibility and Access to Transit**

As the proposed GTCR follows existing rail corridors, travel patterns and mobility are anticipated to remain intact overall throughout the study area. The GTCR project would utilize existing grade-separated crossings at several major roadways, which eliminates conflicts between vehicular traffic and the proposed commuter rail and maintains accessibility. While most project improvements take place in existing rail right-of-way, there may be necessary modifications to roadway alignments and traffic operations associated with the project within some of the community areas that would have localized effects on travel. In addition, there would likely be locations where the commuter rail would cross streets at-grade and require motorists to wait for the rail traffic to pass.

Generally, mobility for transit patrons, bicyclists, and pedestrians would be positively affected by an additional mode of transportation. Approximately 185,000 individuals, of which 54 percent and 25 percent are classified as minority and low-income, respectively, are located within the CSA; minority and low-income populations often have a higher reliance on transit and would likely benefit from an additional mode of transit within the CSA.

#### **4.1.2. Community Cohesion**

Generally, the GTCR would be located along neighborhood boundaries and/or along an existing transportation corridor. As a result, community cohesion within the community areas, including EJ communities, and neighborhoods is expected to be preserved and the proposed project would not be expected to create a new physical barrier to neighborhood residents or physically divide neighborhoods. As the project and design progress, there may be some changes to roadway connectivity and traffic operations within communities that would have localized effects on travel, but it is anticipated that access to neighborhoods and community resources would be maintained.

#### **4.1.3. Visual /Aesthetic Considerations**

The proposed commuter rail would introduce new visual elements, such as stations and lighting, in close proximity to many communities. A vehicle maintenance facility, to be located in the east end of the corridor, would also introduce a new visual element to the surrounding community. However, visual/aesthetic changes in or to neighborhoods are not likely to be significant, largely because of existing land uses (existing rail corridor/transportation use, office and institutional buildings, historic warehouses, wooded areas, etc.) that already include rail infrastructure or that screen residential areas from the proposed alignment. Individual visual and aesthetic changes may occur at various sites along the proposed corridor, including at the proposed NC State station, which could introduce a new visual element to existing residential halls, however the GTCR is not expected to introduce new visual elements to the community area outside the university as a whole, as tracks would be constructed in an existing rail

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corridor. Additionally, the proposed maintenance facility site would likely introduce visual elements to the surrounding community, though the site is not yet determined.

#### 4.1.4. Safety

The proposed GTCR project would have safety implications for the corridor as it would introduce a new mode of transit and commuter rail vehicles that would interact with vehicular, bicycle, and pedestrian traffic. The safety implications are particularly important for higher volume areas where various modes of transportation interact like the Duke Campus, downtown Durham, downtown Cary, NC State Campus and NC State Fairgrounds. Each proposed station is expected to include enhanced pedestrian connectivity with the implementation of a pedestrian bridge or tunnel which would improve safety for bicycles and pedestrians. Additionally, roadway modifications, including at-grade crossing closures, may be warranted to improve safety for train and vehicle interactions.

#### 4.1.5. Summary and Conclusion

With the introduction of the GTCR, over 185,000 individuals would be in closer proximity to a more reliable and dependable transit system. Over 140,000 low-income and minority individuals would have improved access to an additional transit option. EJ communities exist throughout the CSA and the CSA is made up of a minority majority, with 54% of the CSA population being minority individuals. The highest concentrations of minority populations within the CSA are located in the East Durham (90 percent), Southeast Durham County (62 percent), and Morrisville (67 percent) community areas and the highest concentrations of low-income populations within the CSA are located in the Duke (57 percent), East Durham (56 percent) and Garner (35 percent); all of which are served by a proposed GTCR station.

Locating commuter rail near affordable housing units can have significant long-term benefits for residents, lowering their transportation costs and connecting them to greater regional job accessibility. Based on data provided by TJCOG and their Affordable Housing Study (April 2021), all of the GTCR stations (with the exception of Morrisville and I-540/Auburn) areas contain affordable housing units within half a mile of the proposed station location.

Since the proposed GTCR is, for the most part, proposed within existing rail right-of-way, major changes to existing community characteristics are not anticipated. The CSA, traversing through Durham, Wake and Johnston counties, is made up of minority majority with 54 percent of the CSA population being minority individuals. While the potential community changes described above are likely to be experienced to some degree by all communities, including EJ communities, the EJ populations in the corridor would also benefit from the project. The proposed GTCR Project would provide an additional and affordable option for travel in the GTCR Corridor. It would provide greater access to destinations within the corridor as well as increased reliability and time-saving opportunities. Other potential benefits of the project include:

- Affordable housing near transit
- Improved mobility through the project vicinity

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

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 GTCR corridor due to a higher reliance on transit. Having a station in one's community provides access and mobility improvements and although some station locations are still to be determined, it is anticipated that at least 10 of the 14 of the GTCR proposed stations would be in EJ Block Groups.

Figure 5. Community Snapshot

