GoTriangle Regional Transit Center (RTC) Relocation

Triangle

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Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Application | April 2022

VTE 311





Contact Information

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Letter from the Commissioners

Greetings,

On behalf of the 1.6 million residents who call Wake, Durham, and Orange counties home, we are writing to support the award of a RAISE grant for the Regional Transit Center (RTC) relocation project sponsored by GoTriangle. This new multimodal facility is essential to our plans to enhance sustainable connectivity and equitable access to opportunity for all in the Triangle region.

The RTC relocation will be the centerpiece of our regional transit network. It will enable an improved bus network and link it to planned commuter rail and bus rapid transit—connecting more of our residents to good paying jobs, educational and workforce training opportunities, and destinations across the region via affordable and sustainable means. It will improve transit speed and reliability, identified by 82% of riders as a priority for the RTC relocation. With the passage of dedicated sales tax referenda for transit improvements, our voters have made it clear that the robust transit network supported by this project is critical to our burgeoning region. Throughout the next 30 years, our three counties, which make up the core of the Triangle region, are projected to add over 800,000 new residents and more than 750,000 jobs.

Research Triangle Park, or RTP as it is known locally, is the cornerstone of our region's growth, fueled by thousands of new jobs per year in the biotechnology, life science, and biopharmaceutical fields, as well as its strong ties to the Triangle's colleges and universities. Industry leaders, such as Apple and Eli Lilly, have recently announced new operations in RTP, entailing thousands of jobs and creating opportunities for our residents to pursue good paying and fulfilling careers. Our educational institutions are critical to meeting the need for talent and ensuring that our residents have the skills to fill these jobs through programs like RTP Bio—a collaboration between Durham Tech and Wake Tech to support the talent pipeline into these fields. RTP is making

The RTC Relocation Project will provide enhanced safety, functionality, access, connectivity, and bus service reliability for transit users in the Triangle.

a billion dollar investment in HUB RTP—a compact, vibrant mix of workspaces, retail, housing and green space in the center of RTP. However, not all of our residents are able to access the opportunities in and around RTP, in particular those living in historically disadvantaged communities and those who do not have reliable access to a car. The

out of the way location of the current transit center poses a significant barrier to using transit by imposing longer travel times and inhibiting efficient last-mile connections.

The RTC relocation will address this disparity by becoming more centrally located to RTP destinations and by tying together microtransit, paratransit, trails, and the bus network to provide convenient and affordable last- mile access to more of our residents. It will be adjacent to an adaptive reuse project and future opportunity for transit-oriented development—increasing the number of jobs and services near riders, a priority identified by more than two-thirds of our riders in a recent survey. The last-mile connections and transit-oriented development potential spurred by the facility will be even more pronounced once bus rapid transit, commuter rail, and the Triangle Bikeway are completed, further increasing access and ridership.

Finally, the RTC relocation will address facility needs identified by transit operators and the more than 1,000 passengers who board a bus at the existing RTC each weekday. The new facility will feature a dedicated, signalized bus driveway, enhancing service reliability and reducing conflicts between site users. It will include enhanced amenities for passengers, such as a larger, fully covered bus boarding and waiting area, ranked by 61% of riders as the top facility priority. The new facility will provide a safe, inviting, and comfortable experience to retain existing riders and welcome more of our residents and visitors to transit.

For all these reasons, we are excited about the prospect of funding the project in partnership with USDOT through the RAISE grant. The new RTC will support the incredible growth of our region and ensure affordable and sustainable access to destinations and opportunities in RTP and across the region.

Sincerely,



Brenda Howerton Chair, Durham Board of County Commissioners



Sig Hutchinson Chair, Wake Board of County Commissioners



Renee Price Chair, Orange Board of County Commissioners

1 PROJECT DESCRIPTION

1.1 Introduction

The Research Triangle Regional Public Transportation Authority (dba GoTriangle)—in partnership with Wake, Durham, and Orange Counties; Capital Area Metropolitan Planning Organization (CAMPO); Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO); North Carolina Department of Transportation (NCDOT) and the Research Triangle Foundation—is requesting federal funding to implement a new Regional Transit Center (RTC) to replace the existing, outdated facility. GoTriangle is the regional transit service provider for the Raleigh-Durham-Chapel Hill area of North Carolina, known as the Triangle.

The RTC relocation will address limitations of the current facility by enhancing safety and functionality, improving bus speed and reliability, and expanding multimodal connections. A summary of the limitations of the existing facility and the improvements for the new facility are shown below in Table 1.

Table 1: Facility Relocation Improvements		
Current Facility	RTC Relocation	
Poor highway access, results in inefficient routing	Reduced travel time to highway network	
Limited multimodal connections	Planned connections to CRT, BRT, and bikeway	
Isolated location, poor access to jobs and services	More centrally located to jobs and services	
Shared, unsignalized bus driveway	Dedicated and signalized bus driveway to NC 54	
Narrow side platforms, causes bus-ped conflicts	Wider island platform, fewer bus-ped conflicts	
High-voltage power lines limit overhead shelter	Fully covered waiting and bus boarding areas	
5-year lease term adds uncertainty to facility plans	Opportunity to establish continuing site control	

The RTC is the hub for the GoTriangle transit system, providing regional connections to local transit systems at Durham Station, GoRaleigh Station, Cary Depot, and UNC Chapel Hill, and access to employment and other destinations in and around Research Triangle Park, including Raleigh-Durham International Airport (see Figure 1).

The new RTC location will be the centerpiece of the regional transit network envisioned in the Wake, Durham, and Orange County Transit Plans. It will enable an improved bus network linked to planned commuter rail (CRT) and bus rapid transit (BRT), connecting more of our residents, especially those in historically disadvantaged communities, to good paying jobs, educational opportunities, and destinations across the region via affordable and sustainable means. The county transit plans identify bus service expansions, introduce CRT and BRT services, and feature improved bus stops and transit centers. The new RTC is included in the county transit plans and the 2050 Metropolitan Transportation Plan adopted jointly by DCHC MPO and CAMPO. The local match has been committed in the FY22 budget for the county transit plans.

Figure 1: Existing and Planned Regional Transit Connections



The RTC is currently served by nine bus routes, paratransit, an on-demand zone, and a nodal microtransit service. Service reductions as a result of the ongoing operator shortage have resulted in temporarily suspending four routes that serve the RTC. These routes will be resumed as more RTP employees return to work and as operator numbers continue to increase. Table 2 shows all 11 services and Table 3 shows the GoTriangle average total daily boardings and alightings at the existing RTC based on automatic passenger count data from September and October 2019.

Table 2: Current Routes at the RTC	
Monday-Friday	7-Day
105 ¹ , 310, 311 ¹ , 805, NRX ¹ , 12B (GoDurham) ^{1,2} , RTP Connect	100, 700, 800, Morrisville Smart Shuttle ²
 Suspended during COVID-19 service reductions Service provided on Saturday 	

Route	Average Weekday Boardings	Average Weekday Alightings
100	241	272
105	121	88
300 ¹	62	50
310 ^{1,2}	17	17
311	24	42
700	277	294
800	170	166
805	64	86
NRX ²	14	22
GoDurham Route 12B ³	37	41
RTP Connect	60	60
Total	1,087	1,138

Table 3: Average Weekday Boardings and Alightings by Route at the RTC (September andOctober 2019, except where noted otherwise)

1. In October 2020, Route 310 was extended from Wake Tech RTP Campus to serve Cary Depot via Morrisville, replacing the peak-only segment of Route 300 between the RTC and Cary Depot

2. New route as of August 2019

3. New route as of January 2020; ridership provided is from February 2020

1.2 Existing RTC Challenges

The current RTC location has operational and access challenges as a result of physical constraints at the site, as well as delays due to congestion on the roads connecting to the highway network, the lack of a dedicated, signalized site access for buses, and shared site circulation paths for buses and cars that contribute to reliability challenges for GoTriangle transit services and a diminished customer experience.

Additional challenges faced at the RTC that warrant relocation include:

- Constrained passenger platform space with minimal separation between passengers and transit vehicles, which poses safety challenges.
- Insufficient passenger shelter design, which provides minimal protection for riders from the outdoor elements. The presence of overhead high-voltage transmission lines precludes the construction of additional shelter on the boarding platform.
- Limited opportunity for expansion.
- Lack of goods or services located conveniently near the existing transit center and no opportunity for transit-oriented development to occur near the site.
- Uncomfortable experience due to lack of passenger amenities.
- Remote location with poor visibility during evening hours and insufficient lighting and security camera coverage.

1.3 RTC Relocation Study

The RTC Relocation Study project began in 2019 to evaluate opportunities for relocating the RTC to provide enhanced safety and functionality, access and connectivity, and bus service reliability. GoTriangle has occupied the current RTC site since 2008 with the intention of relocating operations, and the administrative headquarters if site conditions permit, to a site more easily accessible to major transportation facilities, such as I-40, NC 54, and NC 147. The study included access to these facilities as well as multimodal connections to planned CRT, BRT, and the Triangle Bikeway as primary evaluation criteria to compare potential sites.

Public feedback was collected from April through June 2020 via stakeholder interviews and an online survey rather than paper surveys distributed in person due to COVID-19 public health concerns. The online survey was paired with virtual recorded presentations, social media outreach, website updates, and email blasts, and was offered in English and Spanish, all with a focus on current transit riders. With more than 3,000 responses and comments, the key takeaways from survey input include:

- 69% of respondents use the RTC to transfer between routes
- 56% indicated missing bus transfers and/or being late to their destination due to bus delays
- 82% rated the pedestrian experience at the RTC as "poor" or "fair"
- Top priorities identified were to improve transit speed and reliability
- Top priorities identified for improving the passenger experience at the RTC were to provide more shelters and benches, improved WiFi access, and better wayfinding signage
- Strong interest in having more shopping/services located near the RTC

Figure 2: Images from Virtual Public Outreach



The RTC Relocation Study project began in 2019 to evaluate opportunities for relocating the RTC to provide enhanced safety and functionality, access and connectivity, and bus service reliability.

1.3.1 SITE SEARCH AND SELECTION PROCESS

A summary of the parcel search and evaluation process is described in the RTC Relocation Study in Appendix C. The primary criteria for assessing a preferred site location were based upon mobility, community access, site viability, site accessibility, and proximity to multimodal connections. Table 4 shows the final site evaluation results.

Goal		HUB	Park Point	тмс	Existing
Mobility (30%)	Reduce travel time to and from highway network	3.80	3.80	3.00	2.60
Community (20%)	Improved access to goods, services, and potential development	4.50	4.50	3.00	1.25
Viability (20%)	Ease of acquisition and constructability	3.40	3.40	3.80	2.40
Accessibility (10%)	Access to existing employment	2.00	3.00	4.00	1.00
Multimodal (20%)	Provide connections to commuter rail and BRT	3.60	5.00	5.00	1.35
	Total	3.65	4.02	3.66	1.88

Table 4: Final Site Evaluation Results

The study identified three top sites, and the GoTriangle Board adopted a relocation strategy which includes the top two as preferred sites, known as Park Point and Triangle Metro Center (TMC). These two sites are across the street from one another, feature similar access to the street network and the rail corridor, and allow for development of a new intermodal transit center as described herein. Both final preferred sites provide the potential for transit-oriented development and are located closer to a mix of retail and commercial uses that the current RTC facility lacks. In addition, relocation offers the opportunity to improve safety and efficiency of transit operations by separating bus traffic from other site users, including park-and-ride customers. NCDOT has indicated that a traffic signal at the bus-only entrance will meet signal and intersection spacing requirements to increase reliability for bus service.

1.3.2 MULTIMODAL ACCESS

The preferred sites were chosen in large part because of the connections they provide to other planned modes of travel and its ability to support first- and last-mile connections to destinations in and around Research Triangle Park. The new site will have improved access to the highway network, including NC 54, NC 147, and I-40 and will be located more centrally within RTP, creating a more efficient transit network. The main entrance to each site is on NC 54, which is planned to include BRT service by 2028. The planned Greater Triangle Commuter Rail project runs along the east side of the sites and is planned to open in 2030. The commuter rail is projected to carry more than 10,000 passengers per day in 2040 with a station proposed at the new RTC, serving RTP. The sites are also adjacent to the proposed alignment for the planned Triangle Bikeway, shown in Figure 3.

Figure 3: Multimodal Access to New RTC



Figure 4: RTC Conceptual Site Plan



1.4 Project Scope

A conceptual facility program and a conceptual design were developed for the preferred sites, exhibited in Figures 4 and 5. These were developed using site and operational requirements and preferences established through staff interviews, site visits, public outreach results, and coordination with stakeholders. The proposed project includes real estate acquisition, design, and construction for a transit center on one of the preferred sites as well as roadway and intersection improvements in the vicinity of the site. Table 5 below identifies elements of the conceptual program and design of the transit center:

Design Components	
TRANSIT OPERATIONS	PASSENGER AMENITIES
Accommodates 40-foot buses, 45-foot buses, and 60-foot articulated buses	Temperature controlled passenger waiting area with restroom availability
Boarding bays and out of service bays to accommodate existing and future bus routes	Phone charging stations, benches, trash receptacles, recycling receptacles, bicycle facilities including lockers and bicycle racks
Electric vehicle charging stations	Public Address system, canopy weather protection coverage of boarding and platform seating areas
Drop-off for paratransit, taxis, Transportation Network Companies (TNCs) and RTP Connect services	Park-and-ride lot and taxi/TNC pickup/drop off area with security lighting and CCTV cameras
Driver relief facilities	Ticket vending machines
Separate signalized, transit-only entrance and exit	Wayfinding guidance, timetables, local area maps and information, electronic real-time transit information, security lighting, and emergency "blue light box"
Transit operator supervisor parking	Safe connections for pedestrians through new sidewalks, high-visibility crosswalks, and ADA compliant curb ramps

Table 5: RTC Conceptual Design Elements

Figure 5: Conceptual Rendering



2 PROJECT LOCATION

2.1 Geographic Location

The new RTC will be constructed near I-40 along NC 54 in the Research Triangle Park (RTP). RTP, located between Durham, Raleigh, and Chapel Hill, is the largest employment center in the region, hosting over 300 businesses and more than 55,000 employees. The region is an area of investment for the tech industry recently being named the future site of the east coast Apple headquarters and a Google engineering hub, which will bring a combined additional 4,000+ employees, catalyze additional job creation, and increase the need for improved transit services to the area. The region continues to be ranked by Forbes as one of the "Best Places for Business and Careers" and North Carolina was ranked as "The Best State for Business" in 2018. The RTC will improve connections between RTP jobs and workforce training programs at Wake Tech and Durham Tech community colleges, reducing barriers to economic opportunity.

Both sites are adjacent to Park Point, an adaptive reuse project of a 100-acre manufacturing facility that will include up to 2.6 million square feet of office and supporting retail when complete. Construction is underway on the first phase, which includes 650,000 square feet. Park Point will be large enough to accommodate 10,500 employees.

The new RTC will also be proximate to the HUB RTP site, a 2-million-square-foot development complete with office space, 75,000 square feet of restaurant and retail space, two hotels, and 1,200 apartment units. The new RTC site will provide convenient first- and last-mile mobility options better connecting the region to an emerging regional destination (Figure 6).



Figure 6: Preferred RTC Locations

Recognizing the potential to leverage significant mobility improvements, the owners of the Park Point site, Trinity Capital Partners, conducted a conceptual transit-oriented development (TOD) study that incorporated a transit facility. The long-term conceptual build out of the site (Figure 7), above and beyond the current adaptive reuse project, is planned to include compact, walkable mixed-use development to create an inviting, convenient space for passengers as well as the potential for innovative project delivery strategies and funding mechanisms. Both preferred sites provide access to this future TOD opportunity.





Areas of Persistent Poverty

While the new RTC will not be located within an Area of Persistent Poverty (APP) itself, the new facility would reduce travel times and increase connections for those living in communities designated as an APP. Additionally, a route adjustment complementing the relocation of the RTC will increase access to transit for low income populations, residents of affordable housing, and Historically Disadvantaged Communities. The RTC relocation would also allow GoTriangle to realign Route 700 to improve access for several communities currently without regional service, including new routing and stops located in APP census tracts 13.01, 13.03, 14, and 20.09, directly serving Durham Technical Community College, North Carolina Central University, a public, Historically Black University, and the McDougald Terrace public housing community. Restoration of regional service will help address historic transportation disparities created by previous projects, notably the construction of NC 147 through Central Durham.

Historically Disadvantaged Communities

Figure 8 shows all routes serving the new RTC location and identifies census tracts that qualify as Area of Persistent Poverty and/or Historically Disadvantaged Communities that have direct access via GoTriangle bus routes to the proposed RTC site.



Figure 8: Areas of Persistent Poverty and Historically Disadvantaged Communities

Figure 9: Affordable Housing Units Along Routes Serving the New RTC Location



Figure 9 shows the Naturally Occurring Affordable Housing (NOAH) and planned Legally Binding Affordability Restricted (LBAR) housing within 0.25 mile of existing and proposed stops along relocated routes. An analysis was performed, as documented in the BCA in Appendix B, calculating revenue service hour savings at the new RTC site as compared to the current site. **This change in transit operations will result in more than 32,000 annual transit service miles saved and save passengers an average of 3.5 minutes per one-way trip.**

Additionally, the collocation of bus service at the new RTC with planned BRT service from Raleigh to RTP, as well as the commuter rail service from Clayton to Durham, increases transit system capacity, transfer potential, and the likelihood that passengers would be able to complete their entire trip via transit. The Areas of Persistent Poverty, Historically Disadvantaged Communities, and affordable housing communities located along the routes serving the new RTC location will directly benefit from these planned multimodal access, efficiency, and reliability improvements.

Census Tract	APP and/or Historically Disadvantaged Community (HDC) Designation	Total Population	% of Individuals Below the Poverty Line
117	APP	5,037	30.8
11	HDC & APP	3,173	44.0
13.01	HDC & APP	1,486	29.3
524.07	HDC & APP	4,383	18.4
514	APP	5,100	20.2
540.18	HDC	3,289	18.9
14	HDC & APP	2,505	60.0
15.01	HDC	3,162	1.3
15.02	HDC & APP	6,177	39.0
535.07	HDC	3,889	13.2
116.02	HDC	6,389	3.7
535.17	HDC & APP	5,264	26.3
22	APP	2,054	20.6
20.21	APP	4,376	23.3
23	HDC	1,597	16.0
20.27	HDC	9,995	19.5
510	APP	2,475	26.5
20.09	HDC & APP	4,688	20.3
10.01	HDC & APP	4,136	32.5
5	HDC & APP	4,496	26.5

Table 6: Census Tracts Along Routes Serving the New RTC Location with an APP or HistoricallyDisadvantaged Community Designation

Census Designated Urbanized Area

Census-Designated Urbanized Area	Durham Urbanized Area
Urban/Rural	Urban
Latitude/Longitude	35.883888627349464, -78.85234093877375

2.1.1 TRANSPORTATION AND TRANSIT CONNECTIONS

Roadway and Highway Network: The Research Triangle Region is well connected through a series of US Highways and Interstates, with I-40 being the primary spine of the region. The new RTC site is located in close proximity to I-40 along NC 54, as shown in Figure 8. The current State Transportation Improvement Plan (STIP) includes a widening project to add lanes and rehabilitate pavement on NC 147 (Durham Freeway) near the RTC site planned for construction in FY 2028. This project will eliminate the left-hand merge from NC 147 south to I-40 east, improving safety and reliability for the GoTriangle routes that use this interchange. In addition, NCDOT is evaluating improvements along the I-40 corridor near the RTC site to alleviate capacity and safety concerns related to weaving zones as a part of Feasibility Study H184315. The improvement concepts under consideration include a surface frontage road facility to address safety concerns, add capacity to I-40, and improve access for park-and-ride users accessing the new RTC site. GoTriangle has coordinated closely with the study and the design concept will include a bus-only access that will produce additional travel time and operating savings to transit riders and GoTriangle.

BRT Service: NCDOT has programmed \$115 million in the FY2020–2029 STIP for a BRT extension project from RTP to Clayton. The project would extend the Western BRT corridor, which is currently in Small Starts Project Development, from Cary to RTP. It would also extend the Southern BRT corridor from Garner to Clayton. GoRaleigh is the project sponsor for the initial BRT corridors. The RTP to Clayton BRT extension includes arterial BRT infrastructure, including stations, transit signal priority, and queue jumps in select locations, through Cary along NC 54 to RTP starting in 2028. The project would connect RTP, Morrisville, Cary, and the proposed Downtown Cary Multimodal Center. The conceptual program of the RTC relocation includes accommodations for a BRT station on NC 54 and the final design will be coordinated with the BRT project.

CRT: The adopted transit plans for Wake and Durham counties identify CRT service along the North Carolina Railroad Company (NCRR) corridor that runs adjacent to the new RTC site. GoTriangle is the project sponsor of an ongoing feasibility study in coordination with the Wake, Durham, and Johnston Counties; DCHC MPO; CAMPO; NCDOT; and NCRR. The planned CRT project would utilize the existing railroad tracks, with added capacity, to

provide fast and reliable passenger rail service that allows riders to relax or work on their way to key regional destinations. The new rail service would run 37 miles from West Durham to Raleigh and Garner, with the potential for service to extend to Clayton. The Regional Transit Center (RTC) is the site of a proposed commuter rail station and its final design will be coordinated with the commuter rail project to provide seamless connections among rail, regional transit services and first- and last- mile access to destinations in and around RTP.



3 GRANT FUNDS, SOURCES, AND USES OF ALL PROJECT FUNDING

GoTriangle is seeking \$20.4 million in Federal funds through the RAISE grant program to develop the new RTC. The RAISE grant funds will support GoTriangle's relocation of its Regional Transit Center to improve safety and functionality, enhance reliability of transit service, and increase connectivity for passengers. GoTriangle has successful experience managing federal grants with USDOT and FTA, such as CMAQ, STBGDA, 5307, TOD Pilot Grant, and BUILD, and will follow all relevant local, state, and federal regulations over the course of this project. Table 7 shows the total estimated project costs and the individual project components.

Project Element	Cost Estimate	Percent of Total Costs
Miscellaneous & Mobilization	\$2,700,000	8%
Clearing & Grading	\$700,000	2%
Curb, Pavement, Storm, Lighting, Landscaping	\$3,200,000	9%
Canopies, Electric Vehicle Charging, Passenger Amenities	\$10,500,000	31%
Roadway and Intersection Improvements	\$2,500,000	7%
30% Contingency	\$5,900,000	17%
Professional Services and Construction Administration	\$3,400,000	10%
Escalation	\$1,860,000	5%
Land Acquisition	\$3,600,000	10%
Year of Expenditure (YOE) 2024 Total	\$34,000,000	100%

Table 7: Preliminary Project Cost Estimate

Table 8 details the funding sources that would be utilized to support the development of this \$34 million project. The \$20.4 million RAISE grant funds being requested represent 60% of the total project cost. The balance of the project cost will come from non-federal sources consisting of committed funding from the Durham, Orange and Wake County Transit Plans.

Table 8: Funding Sources			
Funding Type	Funding Source	Funding Amount	Percent of Total Costs
Non-Federal	Durham, Wake, and Orange County Transit Plans	\$13,600,000	40%
RAISE	RAISE	\$20,400,000	60%
Other Federal	N/A		
	Total	\$34,000,000	100%

GoTriangle's commitment to improving its transit service—reliability, span of service, customer experience, and connections to other services—is evident in its current pursuit of this new RTC as well as the development of the Raleigh Union Station Bus facility (RUS Bus) project, which is currently underway. RUS Bus is a passenger transfer facility in downtown Raleigh, immediately adjacent to Raleigh Union Station (RUS), served by Amtrak and the planned commuter rail service. GoTriangle was awarded a \$20 million BUILD Grant in 2018 for the RUS Bus project. GoTriangle is supporting planning and feasibility work for improvements at two additional nodes in the Triangle's transit network that connect local and regional transit service: the Cary Multimodal Facility and Durham Station Passenger Improvements Project, the latter was recently awarded a Bus and Bus Facilities Program grant. The new RTC would allow GoTriangle to continue building its network of transit service with strong anchor facilities that encourage ridership by increasing the usability of the system.

3.1 Documentation of Non-Federal Funding Commitments

In 2011, 2012, and 2016, voters in Durham, Orange, and Wake Counties, respectively, passed a ¹/₂ cent sales tax referendum dedicated to funding the transit plans. Other sources of revenue include vehicle registration fees and rental car tax. GoTriangle works in coordination with each of the counties and the metropolitan planning organizations to administer the county transit plans, which are updated and approved by the respective governing bodies every four years. In addition to providing transit services, coordinating with local service providers, and participating in transportation planning activities, GoTriangle is the state-designated tax district administrator for each of the three county transit plans. The GoTriangle Board is charged with adopting annual budget ordinances and maintaining multi-year operating and capital financial plans for each of the county transit plans. The FY22 budget includes commitment of the 40% local match to support this grant application.



To date, roughly \$450,000 has been spent on the RTC Relocation Study project, which is separate from and not included in the project costs shown in Table 7. GoTriangle, DCHC, MPO, and CAMPO will convene local, state, and federal partners as a part of the CAMPO-led, local concurrence process as a requirement of the adopted Wake Transit concurrence policy to ensure adequate participation of both regulatory partners and agencies with an interest in the process. GoTriangle is completing a NEPA checklist in preparation for the next phase of the project which will include NEPA, preliminary engineering, and final design.

4 SELECTION CRITERIA

4.1 Primary Selection Criteria

All of the primary merit criteria sections below describe the significant benefits to current customers, transit operations, and/or the larger Triangle Region, and more specifically, the Areas of Persistent Poverty and Historically Disadvantaged Communities shown in Figure 9.

4.1.1 SAFETY

The current RTC utilizes an unsignalized, shared access to the site. The majority of the bus routes are forced to make unprotected left turns to exit the current site. Buses enter and exit the RTC via the south driveway off Slater Road. This driveway is open for all vehicles to use, including those from neighboring properties, and is not signalized, so buses are often subject to delays entering and exiting the RTC. Recent and planned auto-centric developments along Slater Road continue to increase congestion and degrade the ability of buses to enter and exit via Slater Road. The shared driveway is located close to the existing signalized intersection with Emperor Boulevard, limiting the ability to add a general-purpose traffic signal to serve the shared driveway.

Figure 10: Existing RTC Unsignalized Entrance/Exit



Like the entrance/exit on Slater Road, the site driveway is also shared by all vehicles. Buses must pass in front of the employee parking lot driveways as they make their way to the boarding platforms, which increases potential for conflicts between buses and other vehicles and can result in performance delays. Conflict potential is high between buses and other vehicles due to side-by-side placement of the parking lot, boarding platforms, and park-and-ride lot. To access any of the destinations, vehicles must travel the same path and cross up to six active driveways.

The boarding platform area, highlighted in pink in Figure 10, also creates conflicts between buses as well as between buses and pedestrians. There is no designated lane for arriving versus departing buses and no signals directing bus traffic. A roundabout is used by buses that need to turn around and access boarding Platform 2. The roundabout is also used by buses that are departing from Platforms 1 and 3, and is inefficient for operations. The current multiple platform layout necessitates pedestrians crossing in the path of buses to transfer or to access the park and ride or restrooms.

GoTriangle leases the designated park-and-ride lot adjacent to the boarding platforms from LCI Industries. The park-and-ride lot is isolated from the rest of the RTC site. In the early morning and night hours visibility is poor due to lack of lighting for pedestrian and vehicular traffic. A commuter must first pass a small GoTriangle employee/agency vehicle fleet parking lot, a large employee/ tenant parking lot, and the RTC platforms before arriving at the designated park-and-ride lot.

Investment in transit passenger facilities plays a role in improving pedestrian safety though comfortable and safe walking access to transit and station amenities such as benches, passenger shelters and adequate lighting. The new RTC site will include the following features to enhance vehicle and pedestrian safety:

- Dedicated signalized bus entrance/exit
- Dedicated park-and-ride entrance for nontransit vehicles
- Designated pedestrian circulation paths surrounding parking areas
- CCTV cameras on the boarding platform and in park-and-ride areas
- Enhanced lighting for the entire facility
- Canopies covering boarding and waiting areas to protect passengers from the elements

- Centrally located ticket sales booth on transit island for "eyes on the platform"
- Bollards separating boarding areas from buses
- Wayfinding and signage to clearly designate areas of the site and reduce instances of non-transit vehicles entering the bus boarding area
- Emergency phones stationed at across the site, including on the boarding platform and in the parking areas

In addition, safety benefits associated with increased transit ridership were calculated as part of the BCA. As ridership increases and vehicles are removed from the roadway system, it is likely to decrease the total number of crashes throughout the region. For more information on this calculation see the BCA Memo in Appendix B.

4.1.2 ENVIRONMENTAL SUSTAINABILITY

As stated in the 2019–2021 Strategic Plan, linked on the application webpage, GoTriangle is committed to reducing emissions and is working towards converting a portion of the fleet to electric vehicles. The programing and concept design for the new RTC is responsive to the adopted Strategic Plan with the inclusion of electric vehicle charging stations, allowing more electric vehicles to be purchased, charged, and utilized on more regional routes. As the result of a federal Low or No Emission Vehicle Program Grant, GoTriangle is operating two battery electric buses and installed charging stations in partnership with Duke Energy. GoTriangle is progressing the Regional Fleet and Facilities Study, which will evaluate opportunities to convert more of the fleet to electric and plan for maintenance and charging needs of additional electric vehicles, coordinated with other local transit providers.

Wake, Durham, and Orange Counties, the local funding partners, also have electrification goals which the new RTC will help to achieve:

- **Orange County:** Commitment to achieve 100% renewable energy by 2050, including the County's fleet.
- **Durham County:** Commitment to achieve a 50% reduction in greenhouse gas emissions from 2005 levels by 2035, includes fuel-efficient, electric, or hybrid transit vehicles.
- Wake County: Commitment to achieve 100% clean energy by 2050, including the County's fleet
- At a regional level, the **Triangle Regional Resilience Partnership** calls for transitioning government fleets to be less dependent on fossil fuels. More information can be found <u>here</u>.²

As mentioned in section 2.1, and quantified in the BCA in Appendix B, the new RTC will result in shorter trips, reducing transit and passenger vehicle miles traveled and emissions through mode shift. Electric charging facilities at the RTC will further reduce transit vehicle emissions.

4.1.3 QUALITY OF LIFE

The new RTC removes barriers to opportunities and expands access to essential services such as jobs, healthcare, education, and goods and services via colocation of RTC with BRT and CRT. Passengers will be able to access more parts of the Triangle, including the 6,500 existing jobs within a half mile of the new RTC (according to 2019 LEHD data) with minimal transfers and shorter trip times. Passengers will also be able to access the Park Point adaptive reuse project, and HUB RTP. At full build out, both developments will host thousands of new jobs. The RTC will connect riders to essential healthcare locations, including Duke, Wake Med, and UNC/Rex hospitals, and a new planned hospital a mile away on a transit route that serves the RTC.

The new location will also increase transportation choices and equity for individuals due to the improved accessibility of the location and the proximity to other modes of transportation, including the Triangle Bikeway and planned BRT and CRT service. Improving mobility options is particularly important to the Triangle given its sprawled geography of homes, jobs, and other destinations, coupled with limited public transportation that impacts people's ability to travel without a car. According to the 2015 Equality of Opportunity study by Harvard University and the University of California Berkeley, Wake and Durham Counties ranked among the lowest six percent in the country in upward mobility among low-income families (e.g., families in the 25th percentile.) Improved transit and ridesharing alternatives—together with sound development practices—is essential to providing affordable access to jobs for a greater share of the population. The new RTC location will help reduce transportation cost burdens for low-income households by improve access to multiple transit and transportation modes and regional locations.

The more efficient location and reliability afforded by the new RTC location will enable GoTriangle to provide enhanced service to disadvantaged communities like East Durham. Specifically, the new location will enable GoTriangle to add Route 700 service on Lawson Street and Alston Avenue in Durham providing direct regional connections to residents of disadvantaged communities such as McDougald Terrace. It will also provide direct regional service to Durham Technical Community College and North Carolina Central University connecting more people to opportunities for education and workforce development.

The RTC relocation will also enable adjustments of Routes 310 and 311 to better serve education opportunities and employment destinations in and around RTP, including the Wake Technical Community College RTP Campus and the recently announced Apple Campus. Together, the RTC relocation project and adjustments to the routes that serve it will better connect residents to opportunity via affordable and sustainable travel options.

In addition to these benefits, the following additional benefits were monetized in the BCA and are described in more detail in the BCA memo shown in Appendix B:

- Transit Center User Benefits Associated with Amenity Improvements.
- Reduced Passenger Vehicle Operating Costs Associated with VMT Reductions.

4.1.4 MOBILITY AND COMMUNITY CONNECTIVITY

The new RTC location will allow GoTriangle to improve operational efficiency of the system by shortening trip times for passengers and increase community connectivity by expanding the number of affordable transportation options available to include a wide range of modes: fixed route bus, planned BRT and CRT to Durham and Raleigh, as well as non-motorized connections to bikeway infrastructure for the Triangle Region as a whole and the Areas of Persistent Poverty and Historically Disadvantaged Communities along the routes that will serve the new RTC location.

Walkable access to jobs and housing will also be improved for those without a car or those who choose to utilize the live, work, play options at Park Point, adjacent to the RTC. The RTC will better connect residents of affordable housing and Historically Disadvantaged Communities to opportunities to develop good paying careers. The new RTC location will

encourage a thriving community with responsible and sustainable land use practices and include the incorporation of universal design into all aspects of the RTC's site program, with the goal to meet the needs of all people who utilize the site. Please refer to sections 2.1, 4.1.2, 4.1.3, and 4.1.5 for additional description of the mobility and community connectivity, benefits the new RTC location will provide.

In addition to these benefits, the following additional benefits were monetized in the BCA and are described in more detail in the BCA memo shown in Appendix B:

- Passenger travel time savings as a result of faster transit trips
- Travel time savings for park and ride users due to shorter access distance

4.1.5 ECONOMIC COMPETITIVENESS

The new RTC will facilitate the efficient movement of workers across the region by maximizing transfer potential between bus and high-speed, high-capacity modes like BRT and CRT. Access to major employment centers and job opportunities across the region will be improved with greater mobility and shorter trip times. Planned bicycle, pedestrian, and transportation network companies/ride-hailing and micro transit service connections at the new RTC will also provide active transportation choices for transit passengers whose final destination is RTP, one of the existing 6,500 jobs within a half-mile radius of the new transit center, or one of the 10,500 jobs that will be housed at the Park Point adaptive reuse project. Construction of the project is anticipated to amount to an increased total economic output of \$28 million, increased earnings of \$12 millon, and an increase of 250 jobs associated with the investment. See section 6 for a description of this calculation.

People who work in RTP will be able to take a bus, BRT service, or CRT to the new RTC and have a short last-mile connection before their final destination—saving time and increasing their productivity. The new RTC will also provide a central location for public transportation services, improving economic competitiveness through access to jobs and the creation of new transit-accessible amenities and developments that will generate growth in property values.



The future planned investments in BRT, CRT, and the Triangle Bikeway will create a robust mobility hub and support more intensive mixed-use, walkable developments within RTP such as HUB RTP and Park Point. As the method of land acquisition and project delivery have not yet been determined, GoTriangle is committed to exploring both traditional and innovative means of delivering the RTC including the potential for public-private partnership concurrent with the RTC and/or in the future.

Based on previous research and case studies, it is assumed that the relocated RTC will result in a modest, one-time 2.8% increase for the properties within 1/4 mile of the new facility south of the interstate was assumed as a conservative assumption (it was assumed that the facility would have no impact on property values on the other side of the interstate.)

In addition to these benefits, the following additional benefits were monetized in the BCA and are described in more detail in the BCA memo shown in Appendix B:

- Passenger Travel Time Savings
- Park-and-Ride User Travel Time Savings
- Reduce Transit Operating Costs

As noted in section 4.1.4, the RTC will improve the efficiency of transit operations, reduce travel times and improve route reliability, and connect residents of affordable housing and Historically Disadvantaged Communities to destinations and good paying jobs across the region. Finally, as noted in section 4.2.2.2, GoTriangle will ensure that the delivery of the project directly supports historically underutilized businesses.

4.1.6 STATE OF GOOD REPAIR

The new RTC project will be adopted into the GoTriangle Transit Asset Management Plan and will be maintained in a state of good repair. The current RTC, including bus platforms, passenger waiting areas, and a portion of the park-and-ride lot, is leased from LCI Industries,

which results in deferred maintenance and infrastructure deficiencies. Lease agreement negotiations and cost share agreements take time and can add cost and/or delay to simple maintenance activities that would normally be included in the operating and maintenance practices of an owned facility. GoTriangle will establish continuing site control at the new RTC to ensure maintanance of the facility in a state of good repair without restrictions.

The location of Duke Energy high-voltage electric transmission lines also restricts the ability to add additional shelters, light poles, and any other vertical elements at the current RTC site due to height restrictions for structures within the 200-foot-wide Duke Energy easement. GoTriangle will have more flexibility and opportunity at the new RTC location, owned outright by GoTriangle, for improving the conditions of the facility over time and maintaining a state of good repair. GoTriangle will have more flexibility and opportunity at the new RTC location, owned outright by GoTriangle, for improving the conditions of the facility over time and maintaining a state of good repair. By relocating, GoTriangle will have the ability to modernize the facility, including five new bays to accommodate paratransit, microtransit, ride-share, and passenger drop-off. The new RTC location will increase the amount of dedicated space for passenger boarding, introduce electric transit vehicle and customer vehicle charging stations, and improve passenger and operator amenities without being limited by space or the terms of a lease agreement. GoTriangle will be able to effectively plan for necessary expansion and facility investments to maintain a state of good repair at a new GoTriangle owned transit facility.

In addition to these benefits the following additional benefits were monetized in the BCA and are described in more detail in the BCA memo shown in Appendix B:

- Residual Value of Assets
- Reduced Bus Operations Costs (via reduced revenue service hours) which will help preserve funds for capital costs

4.2 Secondary Selection Criteria

4.2.1 PARTNERSHIP

Although GoTriangle will be solely responsible for delivering this project, this effort is the result of a long-standing collaborative partnership between multiple agencies and organizations that consistently work closely together to solve regional public transit challenges and implement successful projects. Letters of support from each of the partners can be found in Appendix A.

Partners			
Wake County Transit Plan: Financial Sponsor	Capital Area Metropolitan Planning Organization (CAMPO)		
Durham County Transit Plan: Financial Sponsor	North Carolina Department of Transportation (NCDOT)		
Orange County Transit Plan: Financial Sponsor	GoRaleigh		
Research Triangle Foundation of North Carolina (RTF)	Town of Cary on behalf of GoCary		
Regional Transportation Alliance (RTA)	UNC Chapel Hill Transportation and Parking		
Triangle J Council of Governments (TJCOG)	Wake Technical Community College		
Chapel Hill Transit	Durham Technical Community College		
Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO)	North Carolina Central University		

Table 9: Project Partners

GoTriangle, along with the City of Durham, Durham County, Orange County, DCHC MPO, and TJCOG, is updating the County transit plans for Durham and Orange Counties. Close collaboration and an intentional partnership with the City of Durham has resulted in the use of equitable engagement plans and strategies to ensure the voices of transit riders and disadvantaged residents are represented and their needs prioritized in the Durham

County Transit Plan. The Durham County Transit Plan has enlisted the support of a trusted community-rooted partner to recruit, train, and equip engagement ambassadors to reach under-represented and disadvantaged communities in their personal networks and ensure their voices are embedded in the plan and its priorities. The success of the program, despite the COVID-19 pandemic, has resulted in increased emphasis on recruiting additional ambassadors in Durham for the final phase of engagement. The RTC relocation is included in the transit plans. The project is also highlighted in the recently adopted 2050 Metropolitan Transportation Plan and is included the current TIP and STIP.

GoTriangle was also a partner in developing of the 2016 Wake County Transit Plan, and subsequent update in 2021, along with CAMPO and Wake County, which included both community-wide and focused engagement in disadvantaged communities. The Wake County Transit Plan identified the RTC relocation as a critical regional facility to enable the tripling of bus service committed by the plan as well as to provide connections to the planned CRT.

GoTriangle is partnering with TJCOG, RTA, RTF, and numerous local government agencies in the Connected Region Guide study. The Connected Region Guide study will evaluate opportunities to advance regional transit and active transportation projects and leverage them through land use policies that encourage equitable, compact, walkable development. The new Regional Transit Center location and surrounding area, including adjacent areas along the NC 54 corridor and HUB RTP, will be included in this study.

4.2.2 INNOVATION

The new Regional Transit Center provides a number of opportunities for innovation, including bus speed and reliability improvements and electric bus charging infrastructure.

4.2.2.1 Technological Innovation

GoTriangle will include innovative technologies in the final design for the new RTC that promote efficient movement of transit services like bus speed and reliability improvements, technologies that improve the customer experience like real-time passenger information systems. The project will include consideration of quick charge infrastructure for battery electric buses and solar powered amenities. GoTriangle is presently procuring real time signage at several high ridership bus stop locations within the City of Durham that uses a variety of technologies to ensure system reliability. GoTriangle currently includes solarpowered lighting and USB charging ports at new shelters throughout the system, and would include similar features at the new RTC.



While not included as a part of the scope of this grant application, construction of this facility will leverage and make greater use of GoTriangle's other recent investments in innovation. GoTriangle's existing computer aided dispatch (CAD), automatic vehicle locations (AVL) radio communication hardware, and software and fare collection systems have reached end-of-life and are costly to maintain. Accordingly, GoTriangle is upgrading the hardware and software on agency vehicles and facilities with modern CAD/AVL, communication hardware, and fare collection systems that satisfy operational needs and requirements. The new system will include enhanced features, including early maintenance alerts on buses and better cost assessments, real-time vehicle locations, digital timekeeping for more efficient scheduling, an improved customer-facing trip planner, digital asset tracking, and improved data analytics. The new fare system will enable region-wide fare capping and mobile payment so that all passengers will have the benefit of lower weekly and monthly unlimited passes, not just those who can afford an upfront purchase.

In addition, GoTriangle has implemented e-Builder, a Project Management Information System (PMIS) system to provide opportunities to achieve more effective and efficient business processes throughout the organization, including project management, budget/ progress reporting, and oversight.

The relocated Regional Transit Center will include five new covered bays dedicated to paratransit, microtransit, and TNCs or ride-hailing service providers, which will be connected via a covered walkway to the fixed route bus bays. GoTriangle, in partnership with the RTF, contracts with two TNCs to provide first- and last- mile connections from the current RTC to destinations in and around RTP. The RTC is a primary stop for the Morrisville Smart Shuttle, a nodal microtransit service operated by GoCary that connects residents to destinations within the Town of Morrisville. GoTriangle and its local partners are evaluating strategies to improve coordination and usability of micro-transit services that will help ensure seamless first- and last- mile connections between the RTC and surrounding destinations.

Finally, the RTF is implementing mobility hubs providing nodes for bike, electric bike, and scooter share, as well as microtransit to better serve destinations within RTP, enabling users to take advantage of RTP's trail network and the planned Triangle Bikeway. The RTC is envisioned to be one of the mobility hubs and will provide for more efficient and comfortable connections to these essential first- and last- mile services, in concert with existing and planned improvements to microtransit and micromobility services.



4.2.2.2 Innovative Project Delivery

GoTriangle is gaining experience in innovative project delivery through partnership with the private sector to design and construct a BUILD grant funded bus facility at Raleigh Union Station as part of a mixed-use joint development. GoTriangle is evaluating options for delivery of the new RTC, including the potential for partnership with the owners of either preferred site and integration with future transit-oriented development adjacent to the facility and planned commuter rail station.

GoTriangle is also committed to exceeding both local and federal Disadvantaged Business Enterprise (DBE) requirements and targets. GoTriangle has numerous recent successes achieving high DBE participation rates on contracts for both professional services and construction. Examples include:

- **Professional Services:** The recently initiated Regional Fleet and Facilities Study includes a DBE participation of 38%.
- **Capital Projects:** Three recent construction packages encompassing ADA and amenity improvements to 45 bus stops administered by GoTriangle included 100% DBE participation.
- Support for Small and Minority Businesses: GoTriangle conducted a conference for Small and Minority Businesses (MWBE) on March 26, 2021. The feedback received from the MWBE and general contracting community was so favorable, GoTriangle held a second conference on November 5, 2021 in support of area minority businesses. A third conference will provide a variety of information about how to become certified, networking opportunities, and presentations by representatives from GoTriangle, NCDOT, City of Durham, minority businesses, and others in support of further growth and opportunities for minority businesses.



4.2.2.3 Innovative Financing

The committed 40% local match is from the Wake, Durham, and Orange County Transit Plans. GoTriangle, in partnership with each County and MPO, oversees the implementation of each plan. The plans are funded by a combination of demand management fees including a vehicle rental tax and vehicle registration fees in addition to a ½ cent dedicated local sales tax approved by majority vote in each of the counties. The collaboration framework and funding mechanisms are both innovative and unique to North Carolina. The collaboration among the county transit plans is unique to the Triangle region, due in large part to GoTriangle's threepart role as regional transit service provider, regional planning entity, and transit tax district administrator for Wake, Durham, and Orange Counties.

5 PROJECT READINESS

5.1 Project Schedule

Figure 11 shows the proposed project schedule for preliminary engineering, NEPA approval, final design and construction. Property acquisition is planned to take place prior to construction.



Figure 11: Project Schedule

5.2 Required Approvals

The project is well-positioned to meet all deadlines associated with RAISE grant funding requirements and the funding requirements of all project partners. As part of the project feasibility evaluation, a preliminary assessment of approval requirements and early coordination included input from local, state, and federal agencies. Specifically, the project can demonstrate readiness in relation to required approvals, as shown below:

- **1. Environmental Permits and Reviews:** The project is on track to complete all environmental requirements within the next 12 months, including:
 - **a. NEPA:** The environmental checklist is planned to be completed and transmitted to FTA Region 4 for review during the next phase of the project. The checklist will be used to determine the required level of environmental review. Based on existing conditions, we anticipate seeking a Categorical Exclusion (CE) for the project, which will take less than 12 months to complete.
 - **b.** Environmental Studies: A Phase I Environmental Site Assessment (ESA) is planned to be completed, followed by a Phase II if necessary.
 - **c. Public Engagement:** The project is included in the county transit plans for Wake, Durham, and Orange Counties, which are built upon robust public engagement and set the vision and priorities for transit investment in each County. For a description of the public engagement efforts to date specific to this project see the RTC Relocation Study in Appendix C. Engineering and design phases will include additional public engagement on topics such as site layout, architectural style and features, amenity type, placement, and style, etc.
 - **b.** Reviews, Approvals, and Permits by Other Agencies: Major capital projects that are funded through the Wake County Transit funds are complex, regionally significant, typically involve multiple jurisdictions, involve significant investment, and their planning, design, and construction phases are expected to span several years. The Wake Transit Concurrence Process was designed to streamline verification of compliance among the broad variety of agencies that have oversight of or bear some other responsibility in regulated resources or other interests that may be impacted by a proposed project. The RTC project will adhere to the Wake County Transit Concurrence Process through the North Carolina Capital Area Metropolitan Planning Organization (CAMPO), as the project will be partially funded using Wake Transit funds.
- 2. State and Local Approvals: It is anticipated that the Research Triangle Foundation will review and approve accessory, ancillary, and architectural drawings (per RTP Covenants). Level 4 site plans and construction drawings will be submitted to Durham County Planning and Development Services for their respective review and approval. The project will include all necessary review and approval by NCDOT, including a driveway permit, encroachment agreements, and signal installation agreements.
- **3. Federal Transportation Requirements Affecting State and Local Planning:** Throughout the next phases of the RTC project planning, NEPA, preliminary engineering and final design process, the project team will coordinate closely with the FTA Region 4 staff to ensure that the project will be in full compliance with all federal requirements.

5.3 Assessment of Project Risks and Mitigation Strategies

GoTriangle has performed a high-level analysis of the potential risks to the RTC project, and a mitigation approach has been identified to address each of these risks. In addition to a commitment to create and regularly update the risk register, GoTriangle will also allocate a portion of funding to create a dedicated team focusing on the successful implementation of the RTC project. Leadership will be provided by a team with a track record of successful federally funded capital project delivery projects. A summary of risks and mitigation strategies is shown in Table 10.

Risk	Mitigation Strategy
Unexpected environmental or site conditions could remain undetected until construction, with potential to increase costs and delay schedule.	Due to the history of the site, environmental uncertainties are accounted for in the project schedule. GoTriangle will perform robust subsurface investigation before construction is initiated.
Obtaining permits from the various agencies could take longer than anticipated. Potential to delay schedule and subsequently increase costs to recover lost time.	Coordination efforts with agencies has begun early and will continue throughout final design. GoTriangle will submit permit drawings and applications at the earliest possible time.
Right-of-way acquisition could take longer or cost more than expected. Potential to increase costs and delay schedule.	GoTriangle has already begun conversations with the property owners. One of the preferred sites, Triangle Metro Center or TMC is presently owned by RTF and available for use in the event that the Park Point site is unable to be acquired.
Local Match funds being available on time.	Collectively, the County Transit Plans for Wake, Durham, and Orange Counties have committed the proposed match share of 40% or \$13,600,000. The funds were committed for this project with the adoption of the FY22 budgets for the county transit plans on June 23, 2021. GoTriangle has initiated steps with CAMPO to allocate funds in the Wake County Transit Plan for the new RTC.
The construction market, and its associated bid prices, is often volatile. Procurement costs for major project components could be higher than estimated. Potential to increase costs.	Cost estimate includes conservative assumptions for escalation. Monitor bid prices and trends to determine if the influx of work is causing undue inflation. Consider rejecting bids when more than 10% above the engineer's estimate. Prudently use project contingency when necessary.

Table 10: Project Risks and Mitigation Strategies

5.4 Technical Capacity and Capability

GoTriangle has demonstrated technical capacity and capability to implement federally-funded facilities projects such as this one. Along with a robust locally funded program of transit improvements throughout its system, GoTriangle is successfully progressing the RUS Bus facility project which is funded in part by a 2018 BUILD award of \$20 million. The RUS Bus BUILD project is part of a complex joint development, with third-party agreements required with a private development partner, railroad parties, and the City of Raleigh. The

RUS Bus BUILD grant project is on track to meet its start of construction milestone in April 2022. GoTriangle is working with FTA to incorporate updates to the scope based on additional planning and engineering work that has been completed since the grant agreement was executed in May 2020, and update the schedule and budget breakdown to align with the updated project plan. The project is on track for completion ahead of the sunset date within the total original project budget.

The GoTriangle staff team includes experienced design, construction management, and project controls professionals, who are capable and motivated to deliver high-quality transit improvements within budget to support GoTriangle's local and federally funded capital program. GoTriangle staff also includes legal, procurement, and real estate teams experienced in property acquisition and federal contracting in compliance with the Uniform Act, relevant FTA guidance, and applicable state law. GoTriangle is also experienced with extending its agency staff team with highly capable design professionals and program management consultants to manage project risks and ensure timely completion of projects in accordance with deadlines tied to local and federal funding awards.

5.5 Financial Capacity

GoTriangle has the financial capacity to deliver this project. Local match funding is available and committed from dedicated transit revenues in local plans as described in Chapter 3.

6 BENEFIT-COST ANALYSIS

The BCA demonstrates the merit of the project, across a number of criteria, through comparison of monetized benefits to society. The GoTriangle RTC Relocation project will provide benefits through the reduction of crash occurrence, improved transit operations efficiency, reduce costs of travel, and reduced emissions, and TOD-based increase in property values. This analysis also considers the likely increase in maintenance costs at the relocated facility.



The quantified benefits of this project include:

- A decrease in transit operations costs due to a reduction in revenue service hours and increase route efficiency
- A reduction in assumed crashes based on improvements to the facility entrance and local intersection improvements
- A decrease in transit passenger travel time and park-and-ride user drive time based on route efficiencies (increase of 2 MPH in average travel speed) and synergy with the park and ride lot location
- A reduction in bus emissions due to more efficient transit vehicle operations and increased ridership
- A reduction in passenger vehicle emission due to accelerated mode shift over the baseline scenario
- A further reduction in fleet emissions due to accelerated progress toward fleet electrification as a result of increased electric vehicle charging capacity
- And an increase in property value immediately surrounding the multimodal facility
- User preference benefits associated with newer and additional amenities at the transit facility

Consideration was also given to external highway costs savings related to mitigation costs for noise, congestion, and pavement impacts related to vehicle miles traveled. These benefits are compared to the costs of the project using quantitative and qualitative measures. The full BCA worksheet and report is included in Appendix B. The project is estimated to have a benefit-to-cost ratio of 1.52 and a net present value of over \$9.9 million. Details of the results including assumptions, methodology and other details of the analysis may be located within the attached memorandum and the benefit-cost workbook. Results of the BCA are included in Table 11.

Benefits	Undiscounted	7% Discount
Benefits	\$92,891,941	\$29,221,467
Costs	-\$27,991,214	-\$19,258,881
Overall B/C Ratio	3.32	1.52
Net Present Value	\$64,900,727	\$9,962,585

Table 11: Benefit Cost Analysis Summary

Benefits of the project that are not quantified in the BCA include:

• Economic output: Construction of the project and an investment of new federal money in the region is anticipated to create short-term spending, earning, and employment gains. To quantify these benefits, the aggregate Region Input-Output Modeling System (RIMS), Type II multipliers for the construction industry were obtained from the Bureau of Economic Analysis. These multipliers provide an estimate of the total economic gains in all industries in the region per dollar of expenditure for specific industries. These multipliers were applied to the total anticipated federal expenditure anticipated and proportioned across each of the two years of project construction based on the anticipated constructions schedule.

These benefits are anticipated to amount to an increased total economic output of \$28 million, increased earnings of \$12 million, and an increase of 250 jobs associated with the investment.

- Regional safety benefits to the larger roadway system associated with increased ridership: As ridership increases and vehicles are removed from the roadway system, it is likely to decrease the total number of crashes throughout the region.
- **Improved access to jobs:** The new facility will be located closer to major existing regional employers within the Research Triangle Park, as well as in an area anticipated to see increased development over the coming decade. This increased location efficiency will provide increased transit access to employment compared to the existing facility, which relies on a shuttle system to access many regional employers.