

## Introduction

The **Triangle Mobility Hub** is a transformational investment that will make transit travel across the Triangle region safer, faster, and more convenient.

This project is the key to unlock a cascade of land use and transportation improvements for the Research Triangle Park. It will introduce new mobility options for commuters and residents and enable equitable and transit-oriented re-development of key nodes within the existing 7,000-acre suburban office park. This transit project and related transit-focused redevelopments will make the Triangle region more livable—with sustainable and affordable transportation options—and a new hub of multimodal connections between active transportation modes and public transportation modes like bus, bus rapid transit, and passenger rail. This project will enhance the region's economic competitiveness and create new access to jobs and education for transit riders across the municipalities served by the regional GoTriangle network.



Figure 1: Conceptual rendering of the Triangle Mobility Hub





Criterion		Benefits of the Triangle Mobility Hub
$\bigcirc$	Safety	Dedicated pedestrian and bicycle facilities
		Signalized intersection with protected pedestrian and bicycle crossing of NC 54
		Design elements that protect pedestrians within the Triangle Mobility Hub
		Crime Prevention Through Environmental Design (CPTED)
		Enhanced lighting for pedestrian safety
Q.S	Environmental Sustainability	Decarbonizing the GoTriangle bus fleet
		Transportation-efficient land use and design
		Increased transit-mode share and reduced vehicle miles traveled (VMT) in personal vehicles
		Increased efficiency of transit operations; reduced inefficient VMT for in-service transit vehicles
	Quality of Life	Integrate land use, housing and multi-modal transportation
		Implement equitable transit-oriented development (ETOD)
		Improve public health by connecting active transportation modes
	Mobility and Community Connectivity	Improve system-wide connectivity with expanded transit service
9		Improve system-wide connectivity with multi-modal connections
ۍ ج ج ج		Increase transit access for non-motorized travelers in Historically Disadvantaged Communities
		Increase access to transportation choices
	Economic Competitiveness and Opportunity	Improve travel time reliability
\$		Promote long-term economic growth with access to education, jobs and healthcare
		Promote long-term economic growth and regional competitiveness by attracting jobs and talent
		Land use productivity: Increasing property values and development opportunity
Ŕ	State of Good Repair	Modernize transit facility infrastructure and fleet to meet current and future needs
		Address infrastructure vulnerabilities by improving transit experience for transit- dependent riders
<b>A</b>	Partnership and Collaboration	Collaboration with local, regional, and state agencies and private partners to deliver major transportation investments and integrate transit with new development
		Create community opportunity with disadvantaged business enterprise (DBE) procurement goals and partnerships
		Build equity through engagement
-	Innovation	Innovative Technology: transit signal priority
		Innovative Technology: electric vehicle fleet transition and charging
		Innovative Technology: real-time arrival and departure times for transit vehicles

▲ Table 1: Merit Criteria Summary



## Safety

## **Existing Conditions at Temporary Facility**

The Triangle Mobility Hub will replace a temporary facility that has size constraints and limited pedestrian connections to adjoining facilities, employment, or retail. Constraints and safety risks for non-motorized travelers include (Attachment A2: Regional Transit Center Relocation Feasibility Study):

- Limited boarding platform space that is crowded at peak times, with no ability to expand,
- One shared, unsignalized driveway with limited sight distance, requiring unprotected left turns out of the facility,
- ► A site that is isolated and enclosed by large buildings, parking lots, and wooded buffers with limited "eyes on the street" and insufficient lighting,
- Undersized bus bays that are designed for 35-foot buses but are serving 40-foot buses, limiting sight distance and room to maneuver at boarding bays, and
- ▶ No protected bicycle facilities and very limited pedestrian paths connecting to the transit center.

The only adjacent convenience for riders is a trailer with restrooms and a customer service window. The surrounding environment is intimidating to traverse on foot or bicycle; with very limited facilities for non-motorized travel and few protected crossings of major multi-lane roads. Despite limited destinations for pedestrians and cyclists near the current facility, the NCDOT Bicycle and Crash Map viewer reports 6 motorist-pedestrian collisions resulting in pedestrian injury within a mile of the current facility and 1 motorist-bicycle crash resulting in injury, between 2009 and 2020.



Figure 2: Temporary Transit Facility



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### Safety Benefits at the Triangle Mobility Hub

Safety for riders is the highest priority for GoTriangle, and the new Triangle Mobility Hub will include five features specifically designed to protect pedestrians and non-motorized travelers:

- Dedicated Pedestrian and Bicycle Facilities. Dedicated pedestrian and bicycle facilities leading into the Triangle Mobility Hub and connecting to the transit center from the future Triangle Bikeway and passenger rail station, and from dedicated park and ride, rideshare, and paratransit connection points. These measures will reduce conflicts between modes and create a safe and reliable travel environment for non-motorized travelers.
- 2. Signalized Intersection with Protected Pedestrian Crossing. The project will invest in a new traffic signal on NC 54, including a signalized pedestrian crossing of NC 54 to connect pedestrians and non-motorized travelers safely between destinations on the north side of the highway and the Triangle Mobility Hub.
- 3. Design Elements. Facility design includes elements like bollards to separate pedestrian waiting and boarding areas from active drive zones. In 2021, at a bus station served by GoTriangle in the City of Durham, a GoDurham bus jumped a curb, striking and killing a pedestrian waiting in the facility. Bollards and designs to protect pedestrians from vehicles are a high priority in all GoTriangle public facilities, including the Triangle Mobility Hub.
- 4. Crime Prevention Through Environmental Design (CPTED). Open layouts, clear lines of sight, and "eyes on the street" through integrated street spaces will be key features of project design. By co-locating this facility within a larger transit-oriented development, the Triangle Mobility Hub will have more activity surrounding the site than is the case with the isolated temporary facility.
- **5. Enhanced Lighting.** Enhanced lighting for the whole facility, particularly passenger waiting areas and pedestrian paths.

These measures will improve the safety of transit riders and non-motorized travelers using the new Triangle Mobility Hub. The USDOT publication *Improving Safety for Pedestrians and Bicyclists Accessing Transit* (FHWA-SA-21-130) identifies **mobility hubs as a key strategy for improving safety for non-motorized travelers**, by co-locating services to reduce unprotected trips, creating designated facilities for cyclists and pedestrians connecting to transit, and reducing overall vehicular traffic. Lighting is also identified in the report as a key safety improvement for non-motorized travelers.

The Benefit Cost Analysis estimates the benefits of adding a traffic signal to the primary site entrance for transit vehicles and pedestrians by quantifying the benefit of avoiding collisions. This is conservatively estimated using data from the NCDOT Traffic Engineering Accident Analysis System, which records 24 crashes between 2018–2023 at the entrance of the proposed Triangle Mobility Hub, 6 with possible injury and 18 with property damage. Over the course of the analysis period, this corresponds to approximately \$1.7 Million in savings from avoided injury and property damage or \$965,000 at present discounted value. This estimate does not account for safety benefits of protecting pedestrians crossing NC 54 to access the new transit-oriented developments planned for this corridor in Research Triangle Park.



## **Environmental Sustainability**

### **Existing Conditions**

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Currently, the temporary bus facility is located 5-7 minutes from the I-40 interchange where the majority of the bus routes enter and exit. Buses are required to navigate three signalized intersections, multiple driveways, a congested point of ingress/egress shared with private vehicles, all of which contribute to reduced operational efficiency and increased emissions.

## Sustainability Benefits of the Triangle Mobility Hub

The Triangle Mobility Hub and SPOKE (Sustainable, Prompt transit connections to Opportunities for Knowledge and Employment) network of transit improvements will support environmental sustainability by **decarbonizing the GoTriangle fleet**, implementing **transportation-efficient land use and design** with transit-oriented development and multimodal connections, **reducing vehicle miles traveled (VMT)** through a modal shift to transit, and **improving the efficiency and reliability of public transit in the region**.

- Decarbonizing the GoTriangle Fleet: The 6 electric vehicle charging stations for transit buses and 10 new electric buses included in this project advance GoTriangle's planned transition to a zero-emission fleet (Attachment A9: GoTriangle Zero Emission Transition Plan), and align with the U.S. National Blueprint for Transportation Decarbonization goals to transition current medium and heavy-duty buses and trucks to zero emission vehicles by 2040. Replacing 10 diesel buses in the GoTriangle fleet with 10 new electric buses is expected to save 579 metric tons of CO<sup>2</sup> annually.
- 2. Implementing transportation-efficient land use and design is a key goal of this project to center the Triangle Mobility Hub at the heart of a transit-oriented district along NC 54 in Research Triangle Park (RTP). The new transit center on NC 54 and connections to planned bikeway and passenger rail is a key investment that will unlock the potential transit-oriented redevelopment for Research Triangle Park, known as RTP 3.0. This investment is supported by related transit-supportive rezonings in both RTP and the adjacent areas of the City of Durham, which are already underway (Attachments A7: RTP 3.0 Fact Sheet and A8: RTP South Rezoning). Transportation-efficient land use and design is a key strategy identified in the U.S. National Blueprint for Transportation Decarbonization.

**Connecting to bicycle and pedestrian facilities** and the nearby TOD demonstrates **transportation-efficient land use and design** that enables more trips to be completed by biking and walking or combining bicycle and pedestrian trips with transit. The project will provide the public with more active choices for how to travel.

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# Triangle Mobility Hub & SPOKE

#### **Merit Criteria**

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- ▲ Figure 3: TOD potential along NC 54 in Research Triangle Park
- 3. This project will increase transit mode share, reducing vehicle miles traveled in personal vehicles. The expanded services anchored by the Triangle Mobility Hub and mobility connections to the future bus rapid transit and passenger rail will make transit trips throughout the region faster, more convenient, and accessible from a wider array of destinations and communities, including disadvantaged communities currently underserved by transit (Attachment A4: GoTriangle Short-Range Transit Plan). These improvements will increase the competitiveness of transit travel for riders, capturing more mode share from expensive and carbon-intensive private vehicle travel that currently dominates in the region. The Benefit Cost Analysis estimates that the increased use of transit over private vehicles is associated with avoiding more than 2 million vehicle miles annually. Over a 30-year study period, this totals to more than 63.8 miles avoided.
- 4. The proposed site of the new Triangle Mobility Hub offers more direct and efficient highway access for transit vehicles operating on GoTriangle's key routes, reducing operational inefficiencies and vehicle miles traveled for in-service transit vehicles. Where transit vehicles at the temporary facility must travel up to 7 minutes and traverse 3 signalized intersections and multiple driveways to access key highway connections, the new facility is less than one mile from access to key interstate I-40, a trip expected to take less than 2 minutes (Attachment A2). The Benefit Cost Analysis estimates that the more direct and efficient highway access for transit vehicles and park and ride users is associated with avoiding over 40,000 miles annually. Over a 30-year study period, this totals to more than 1.2 Million miles avoided.Improving the efficiency and reliability of public transit is another strategy identified in the U.S. National Blueprint for Transportation Decarbonization.



## **Quality of Life**

## **Existing Conditions**

According to the *Moving to Opportunity* studies by Chetty and Hendren, Wake and Durham counties ranked among the lowest six percent in the country in upward mobility among low-income families.<sup>1</sup> The Triangle region has a predominantly suburban, low-density land use pattern with spatial separation between residential, employment and retail areas. These land use patterns are difficult to connect by rapid transit. Private personal vehicle is the dominant travel mode, particularly in the employment-rich but suburban Research Triangle Park (RTP). The current temporary transit facility is in the back lot of an office park with no bike or walking connections and no access to amenities such as shops, restaurants, or open recreational areas.

## Improving Quality of Life for Transit Riders Throughout the Triangle

The **Triangle Mobility Hub and SPOKE transit network** will improve quality of life for Triangle residents by integrating land use, affordable housing and multi-modal transportation planning to create more livable communities and expand travel choices, implementing equitable transit-oriented development that benefits existing residents of the Triangle region, and improving public health by connecting active modes of transportation at the multimodal transportation hub.

- Integrating Land Use, Housing and Multi-Modal Transportation is a central goal of the Triangle Mobility Hub and the related RTP 3.0 development transformation led by the Research Triangle Foundation (RTF). The Triangle Mobility Hub is the transit center and transportation-rich connection point that will enable development of a network of transit-oriented and mixed-use developments along the NC 54 corridor served by GoTriangle and future bus rapid transit (BRT) (Figure 2). Infill opportunities for new by-right housing supply, including mixed use and mixed-income developments are abundant along the NC 54 corridor, with more than 670 acres of land available.
- 2. Implementing Equitable Transit-Oriented Development. In addition to the TOD zoning effort led by Research Triangle Foundation for this corridor of the Research Triangle Park, RTF is leading an effort to develop workforce affordable housing on the corridor and establish this corridor as an example of ETOD for the region. Project partners are exploring opportunities to add childcare to the development near the Mobility Hub as a priority land use, and the adjacent retail and employment will site good-paying jobs side by side with access to rapid and reliable transit choices.

Improving transit networks with more frequent service through the SPOKE network expansion enabled by the Triangle Mobility Hub will also bring significant improvements to the **jobs and educational opportunities** accessible by transit from these new TOD hubs and from Areas of Persistent Poverty service by priority GoTriangle bus routes. For example, today, residents of McDougald Terrace, the largest conventional public housing development in the City of Durham can access 17,700 jobs in 45 minutes using public transit. **With the Triangle Mobility Hub and SPOKE network expansion, the same 45- minute transit trip will reach more than 79,000 job opportunities** (Attachment A4, and network accessibility access analysis completed by GoTriangle).

<sup>1</sup>Chetty, Hendren and Katz, 2015. The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment. <u>https://opportunityinsights.org/wp-content/uploads/2018/03/mto\_paper.pdf</u> The Impacts of Neighborhoods on Intergenerational Mobility II: County-Level Estimates. Raj Chetty and Nathaniel Hendren. QUARTERLY JOURNAL OF ECONOMICS, 133(3): 1163-1228, 2018. <u>https://opportunityinsights.org/wp-content/uploads/2018/03/movers\_paper2.pdf</u>





3. The Triangle Mobility Hub will improve public health by connecting active transportation modes with seamless, premium and protected connections, particularly pedestrian paths through the TOD developments on the NC 54 corridor and to the 17-mile Triangle Bikeway, as well with premium connections to and from regional and local transit and rail. Beyond the connectivity of the multimodal hub itself, this project also includes a key improvement to connectivity for the Triangle Bikeway by providing signal-protected pedestrian and bicycle crossing across NC 54.

# **Mobility and Community Connectivity**

## **Existing Conditions**

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The existing temporary transit facility has limited connectivity, and the location creates regular service delays due to congestion on the roads connecting to the highway network and the lack of a dedicated, signalized site access drive for transit vehicles. The existing facility has limited connections to any pedestrian amenities or protected paths, no connection to bike facilities or passenger rail, and no opportunities to connect to multi-modal transportation assets in the future (Attachment A2).

## **Mobility and Community Connectivity Benefits**

The **Triangle Mobility Hub and SPOKE network** will improve mobility and community connectivity by increasing accessible transportation choices, improving system-wide connectivity with access to transit, micro-mobility, and mobility on-demand, and including transportation connections that increase accessibility for non-motorized travelers in underserved communities through the following means:

1. System-wide Connectivity: Expanded Transit Service and Micro-mobility Connections. The new location will allow GoTriangle to double existing transit service, as measured by revenue hours, to provide fast, frequent, and reliable transit service with direct access to NC 54 and faster access to regional connections via I-40 and I-885. This significant expansion and quality improvement of transit service will improve access to daily necessities such as jobs, healthcare, education, shopping, and services (Attachment A4).

These expanded transit services will also connect to **micro-mobility and rideshare services at the Triangle Mobility Hub**. The proposed site is within the <u>RTP Connect</u> and <u>Morrisville Smart Shuttle</u> service areas, which offer on-demand micro-transit services that provide additional connectivity to the surrounding areas.

2. System-wide Connectivity: Multi-modal Connections. A 17-mile regional shared-use path linking Raleigh, Cary, Morrisville, RTP, Durham, and Chapel Hill, is planned to run along the NC 54 corridor through the Triangle Mobility Hub area, providing direct access to critical bicycle and pedestrian infrastructure. The Mobility Hub will provide a connection to the bikeway, signalized crosswalk across NC 54, connections to adjoining properties, and short and long-term parking for bikes and electric scooters to support first-mile/last-mile connectivity.



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3. Increased Transit Access for Non-Motorized Travelers in Historically Disadvantaged Communities. The Triangle Mobility Hub and SPOKE improvements will reduce travel times and increase connections to transit for transit-dependent riders and residents living in Areas of Persistent Poverty (APP) and Historically Disadvantaged Communities (HDC). A 2023 survey of GoTriangle riders found that 32% of current transit customers earn incomes of less than \$15,000, and 60% of customers are transit-dependent. The new Triangle Mobility Hub will also allow GoTriangle to realign Route 700 (RTP-Durham) to improve access for several communities currently without regional transit 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.



- Figure 4: GoTriangle regional bus routes serving Areas of Persistent Poverty, Historically Disadvantaged Communities, and key educational opportunities
- 4. This project increases access to transportation choices by creating new access points to transfer between regional bus routes and high quality rapid transit and passenger rail. In 2023, CAMPO completed a study that identifies a Locally Preferred Alternative alignment for the Western BRT extension that would serve the Research Triangle Park along NC 54, adjacent to the planned Triangle Mobility Hub. A future passenger rail station is also planned for the rail corridor that runs adjacent to the proposed site, providing fast trips across the region and throughout North Carolina.



# **Economic Competitiveness and Opportunity**

The Triangle Mobility Hub and SPOKE network will improve economic competitiveness and opportunity in the region by improving travel time reliability, promoting long-term economic growth and other broader economic and fiscal benefits, and promoting greater public and private investment in land-use productivity including locally driven density decisions that support equitable commercial and mixed-income residential development.

- 1. Improving Travel Time and Reliability. The expanded capacity and operational efficiencies of the Triangle Mobility Hub will allow GoTriangle to make an expansive upgrade to the transit network serving the region. Together, these two investments are known as the Triangle Mobility Hub and SPOKE network expansion. Together, these improvements will save riders on average 3.5 minutes on every transit trip. In addition, 20% of transit rider trips will save more than 5 minutes per trip in waiting time, and 17% of transit rider trips will save more than 10 minutes per trip in transfer time between buses. Park and ride users will save on average 1 minute per trip due to the improved location at the proposed site. The Benefit Cost Analysis values these aggregate time savings at \$37 Million over the course of the 30-year analysis period, or \$19.7 Million in discounted value. This project, the Triangle Mobility Hub, is an essential precondition to the SPOKE network expansion; SPOKE cannot be implemented without the new facility and operational efficiencies of the proposed location (Attachment A4).
- 2. Long-term Economic Growth: Access to Education, Jobs and Healthcare. The Triangle Mobility Hub and SPOKE network will enable GoTriangle to realign Route 700 to Lawson Street and Alston Avenue. This transformative improvement will result in direct regional connections every 15 minutes to residents of Southeast Central Durham. This improved route will 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 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 planned Apple Campus. The Triangle Mobility Hub will also connect riders to essential healthcare including Duke, Wake Med, and UNC/Rex hospitals, and a planned new hospital.

Commute time is the single strongest factor correlated with upward economic mobility, and the number of jobs accessible within an hour of travel by transit is positively correlated with higher incomes and rates of employment.<sup>2</sup> The Triangle Mobility Hub and SPOKE network will significantly increase the number of jobs accessible to residents of Southeast Central Durham and other Areas of Persistent Poverty and Historically Disadvantaged Communities where many residents face transportation disparities.

<sup>2</sup>Chetty, Hendren and Katz, 2015. The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment. <u>https://opportunityinsights.org/wp-content/uploads/2018/03/mto\_paper.pdf</u>





- 3. Long-term Economic Growth: Regional Competitiveness, Attracting Talent, and Jobs. The Triangle Mobility Hub and SPOKE network of transit improvements, and the related focus on equitable transit-oriented development for the Research Triangle Park, are a significant enhancement to regional transit for the entire Triangle region, increasingly an important factor considered by major employers looking to relocate or grow operations. When Amazon issued a nationwide Request for Proposals for a city to host "HQ2"—Amazon's \$5 billion second headquarters, direct access to high-quality transit services was a condition that the company required for all contender cities.<sup>3</sup> RTP made Amazon's shortlist of 20 cities and scored well on all criteria except transit. Investments in high-quality regional transit are also important in attracting and retaining talented workforce, as quality and convenient transit increase transportation choices for commuters and reduce housing and transportation cost burdens on employees.
- 4. Land-Use Productivity: Increasing Property Values and Development Opportunity. This project and the related investments in Transit-Oriented Development for Research Triangle Park will incentivize private investments in more intensive, transportation-efficient, and productive uses of the land surrounding the Triangle Mobility Hub (Attachments A7 and A8). A 2008 study prepared for the FTA and USDOT by the Center for Transit-Oriented Development, *Capturing the Value of Transit*, reports a wide variety of property value increases associated with the construction of multimodal transit centers like this one.<sup>4</sup> On average these property value increases are reported at 11%. The highest value increase and intensity of land use typically occurs within a quarter-mile zone surrounding the transit center, with similar but lesser effects for zones that are beyond a quarter mile but within a half-mile of the transit center. For this project, the Benefit-Cost Analysis conservatively estimated value increases of 5.5% within a quarter mile of the Triangle Mobility Center, and 3% within a half-mile. In the first year of facility operations, 2028, the net benefit of this project is estimated at \$40.6 Million in associated property value increase, or \$33.8 Million in discounted value.

# State of Good Repair

## **Existing Conditions**

The existing temporary facility, including bus platforms, passenger waiting areas, and a portion of the park-and-ride lot, is leased by GoTriangle from LCI Industries. The lease agreement limits GoTriangle's ability to expand the facility or complete desired improvements. The presence of a 200-foot-wide Duke Energy easement for high-voltage electric transmission lines above the facility also prohibits the addition of new shelters, light poles, or any other permanent above-grade infrastructure, such as overhead electric bus chargers (Attachment A2).

<sup>3</sup>https://www.bloomberg.com/news/articles/2017-09-28/amazon-hq2-search-is-a-reckoning-for-transit

http://www.reconnectingamerica.org/assets/Uploads/ctodvalcapture110508v2.pdf





### **State of Good Repair Benefits**

The Triangle Mobility Hub will be maintained in a state of good repair by:

- 1. Infrastructure Modernization: The Triangle Mobility Hub at the proposed site location will allow GoTriangle to modernize the facility to meet current and future transportation needs, including:
  - a. Improving the size and number of bus bays to serve current and future fleet needs,
  - **b.** Adding space to accommodate microtransit and ride-share passenger drop-off and paratransit services,
  - c. Increasing dedicated space for passenger boarding,
  - **d.** Adding dedicated space to store multimodal, non-motorized and electric vehicles like bicycles and scooters,
  - e. Adding electric transit vehicle and customer vehicle charging stations, and
  - f. Improving passenger and operator amenities to enhance the convenience and quality of transit rider experience.
- 2. Address Vulnerabilities: GoTriangle's transit centers are essential infrastructure for the region, and particularly for non-motorized and under-served residents in low or zero-vehicle households. The existing, temporary facility that serves as a transit connection point for these riders is severely limited by the lease structure and geographic limitations of the existing site. With the new Triangle Mobility Hub, GoTriangle will be able to modernize and expand the facility to serve transit-dependent riders with fast, convenient and reliable transit connections to provide daily commutes to employment and healthcare destinations. With a purpose-built facility on a site of adequate size and ideal connections, GoTriangle will be able to plan for expanded service and make appropriate facility investments to improve the conditions of the facility and maintain a state of good repair.

# Partnership and Collaboration

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The Triangle Mobility Hub is the result of a long-standing collaborative partnership between multiple agencies and organizations that consistently work together to solve regional public transit challenges and implement successful projects. This project demonstrates partnership through coordination between local, regional and statewide transportation planning, coordination with commercial and residential development near public transportation, and by partnering with Disadvantaged Business Enterprises or 8(a) firms.

1. As described in the preceding sections, this project is based on a coordinated approach to integrating land use with transit-rich environments, adapting a low-density and single-use office district into a mixed-use ETOD environment that incentivizes development of housing and mixed-use commercial development around the new Triangle Mobility Hub and a network of transit nodes along the NC 54 corridor. Private investments in ETOD development surrounding this project will be coordinated by the project partner Research Triangle Foundation. With the region projected to add nearly one million residents by 2050, Research Triangle Park's transformation is a pivotal opportunity for location-efficient and mixed-use development that adds commercial space and housing units without displacing existing communities (Attachment A7).



- 2. Community Opportunity: DBE Partnerships. GoTriangle has established a DBE program in accordance with regulations of the U.S. Department of Transportation, 49 CFR Part 26. The DBE Goal is 13.57% for Federal Fiscal Year (FFY) October 1, 2023, through September 30, 2024. GoTriangle will create awareness of opportunities during design, construction, and operations of the Triangle Mobility Hub with DBEs, Minority-Owned Businesses, and Women-Owned Businesses.
- **3. Equity and Engagement:** GoTriangle and the Research Triangle Foundation are committed to implementing ETOD through this project and related redevelopments, and GoTriangle has proven experience engaging with transit riders and community-based organizations through transit planning and rider engagement exercises. Community engagement with riders and under-served populations has been established since the planning phases of this project, as outlined in the Project Description, and will continue during the design and implementation of this project in future phases, as outlined in the Project Readiness section. Table 2 describes GoTriangle's strategies for equity-based community engagement.

Partner		Collaboration Approach
ה ה ה	Community- Based Organizations	Partnerships with community-based organizations will support engagement by underserved and marginalized community members. This includes non-profit organizations, local interest groups, social services programs, and educational and religious institutions, such as Habitat for Humanity, the Coalition for Affordable Housing and Transit, Durham Rescue Mission, Local Re-Entry Council, Voyager Academy, and Bike Durham, among others.
	Government	Collaboration with the DCHC MPO, CAMPO, Durham County, Wake County, the City of Durham, Town of Morrisville, and other local and regional government. Coordination with the MPOs and NCDOT will ensure the project is integrated with planned BRT, Triangle Bikeway, NC 54 corridor improvements, and future rail service.
	Education	Partnerships with Durham Technical Community College, North Carolina Central University, and Wake Technical Community College will support development and delivery of this project, and training/workforce development opportunities.
	Housing	New zoning for areas adjacent to this project in the City of Durham includes a density-bonus option designed to promote development of affordable housing. Partners in this development will collaborate with Durham housing organizations.
	Employment	Awareness of job opportunities will be conducted through job fairs, and direct outreach including engaging minority-owned businesses, women-owned businesses, and other historically underutilized businesses (HUBs).

▲ Table 2: Equity-based community engagement strategies

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## Innovation

The Triangle Mobility Hub will include **innovative technologies** that monitor and improve the efficient movement of transit services and provide real-time information for passengers.

## **Innovative Technologies**

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- 1. Transit Priority Measures. Signalization of key intersections serving the Triangle Mobility Hub will include transit-priority measures such as transit signal priority (TSP) signalization at entrance and exit drives to NC 54 and nearby interchanges, and dedicated bus lanes so that in-service transit vehicles have priority over other private vehicle traffic entering and exiting the surrounding mixed-use development. These technologies are new to the region and to GoTriangle, and their design and implementation will require collaboration with the City of Durham and NCDOT. GoTriangle staff meet regularly with NCDOT and the City of Durham and are working together on the NCDOT FAST study to explore the implementation of transit signal priority measures across North Carolina.
- 2. Electric Vehicle Fleet and Bus Modernization. The Triangle Mobility Hub will also include infrastructure to support the conversion to electric vehicle fleets, with new charging stations for GoTriangle's Battery Electric Bus fleet to support rapid charging during bus layovers between trips and while vehicles are stopped at the facility mid-route. This project also includes purchase of 10 new Battery Electric Buses to advance GoTriangle's transition to a zero-emission fleet (Attachment A9). The new buses feature enhanced technologies to detect maintenance needs and safety risks like early maintenance alerts and interface with the agency's new digital asset tracking system.
- **3. Electric Vehicle Charging.** The concept design of the Triangle Mobility Hub also includes electric vehicle charging for private vehicles using the park-and-ride.
- **4. Real-Time Updates.** Technology on these new vehicles also supports real-time vehicle arrival and departure times that will interface with improvements to GoTriangle's mobile-optimized trip planner for riders and new real-time passenger information displays included throughout the Triangle Mobility Hub.

In addition to the qualifications that fit the Merit Criteria framework for RAISE, the transformation of the Research Triangle Park from a suburban office park into a series of transit-supportive, mixed-use, and transit-oriented development nodes is a true innovation for the state of North Carolina, and an example that can serve as a model for other suburban office developments nationwide. The Triangle Mobility Hub and the connections it will create between fast, convenient transit service, pedestrian and bicycle connections, and future passenger rail is an essential catalyst for the evolution of Research Triangle Park into this transformative project.