

GRANT APPLICATION

RALEIGH UNION STATION PHASE II: RUS BUS

GO TRIANGLE
JULY 18, 2018



“The fruit of Raleigh Union Station, Phase I, is a dramatic passenger rail station already receiving accolades from media and business leaders as among the finest new facilities in the nation. The phase II RUS Bus site is a unique opportunity for bringing bus transit, economic development, and affordable housing together in one landmark vertical stack through an innovative Public-Private Partnership. There isn’t another site like it in the region.”

- Nancy McFarlane, Raleigh Mayor



Letter from the Mayor

Greetings!

I am writing to express the City of Raleigh's support for a BUILD grant in support of the construction of Raleigh Union Station, Phase II. This project, affectionately known as RUS Bus, is essential to completing the vision for a true multimodal transportation hub in this location that the City has nurtured for over two decades.

The application materials provide ample technical detail about the project. I want to address how this project impacts the future of our great and growing City. Raleigh's growth trajectory has been typical of many high-growth sunbelt cities, marked by suburban expansion and highway building. We recognize now that this is no longer the only future we want, nor the only future we can sustain in the face of a changing economy, demographics, and climate.

Our downtown is experiencing an unprecedented growth surge and is hungry for more space. Once affordable neighborhoods in the downtown core have been priced out of reach of many; we need more housing, and affordable housing, in our center. Finally, we can't widen our way to our transportation future; we need multimodal choices that support the vibrant and walkable mixed-use places that the market is increasingly demanding. The Warehouse District, where this project is located, is ground zero for where tomorrow's Raleigh will be built. It starts with a rich historical and architectural heritage and welcomes cutting edge technology jobs, innovative startups, and diverse cultural expressions.

The fruit of Phase I of Raleigh Union Station, is a dramatic passenger rail station already receiving accolades from media and business leaders as among the finest new facilities in the nation. The phase II RUS Bus site is a unique opportunity for bringing bus transit, economic development, and affordable housing together in one landmark vertical stack through an innovative public private partnership. There isn't another site like it in the region. Raleigh and Wake County have staked our transit future on the idea that the City and County can be knit together through a great bus transit network, including 7-day frequent service and four Bus Rapid Transit lines converging downtown. This new hub is essential for providing the capacity we need for increased ridership and to provide a premier passenger experience.

The City of Raleigh is incredibly excited to be a part of this historic grant application and look forward to moving forward with this important project.

Yours truly,

Nancy McFarlane,
Mayor, City of Raleigh





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I. Project Narrative

Introduction

The Research Triangle Regional Public Transportation Authority (dba GoTriangle), in partnership with the City of Raleigh, state capital of North Carolina, Wake County, and the North Carolina Department of Transportation (NCDOT) is requesting federal funding to assist in the construction of the second phase of a multimodal transit center known as “Raleigh Union Station.” Our Proposal for BUILD funding will permit GoTriangle to implement transit infrastructure for Raleigh Union Station Phase II: RUS Bus and will allow project partners to realize the full benefits of a major overhaul of our bus transit system

To date, the partnership between GoTriangle, the City of Raleigh, NCDOT, and the United States Department of Transportation/Federal Railroad Administration, has led to the recent success of the completion of Phase IA (rail infrastructure) and Phase IB (station facility) of Raleigh Union Station. Phases IA and IB were made possible through appropriations from TIGER12 and TIGER13, respectively, and the facility became fully operational on July 10, 2018. Further detail on Raleigh Union Station can be found at rusbusnc.com

Phase II includes a new bus facility, with both off-street and on-street components, structured parking, and a future development opportunity on the site directly connected and immediately adjacent to Phase I. Raleigh Union Station’s bus facility, a.k.a. “RUS Bus”, will leverage future private development above the public transportation component—including mixed income housing (market rate and affordable housing) and commercial uses—in a single innovative project delivery proposal. Its location and transit infrastructure combined with ongoing downtown and countywide multimodal investments will enhance transportation efficiency and increase regional resiliency and sustainability.

Development of the new RUS Bus facility is a critical step in supporting local and regional transit service expansion. The City of Raleigh is a vibrant urban center where residents, businesses, and visitors alike live, work, and play. For more than 20 years, the charms of the Capital City have been reflected in the incredible growth in both Raleigh and the surrounding Research Triangle region. Fueled by the diverse mix of world-class talent, a robust corporate community, and a high quality of life, Raleigh’s population surged from 276,093 to 432,520 since 2000. Wake County has mirrored this growth, increasing from 627,846 to just over one million

A. Project Description

Raleigh Union Station is a multi-phase, multimodal facility located on the western side of downtown Raleigh. Upon completion, the facility will provide seamless connections between multiple transportation modes:

COMPLETE ✓

- Intercity Passenger Rail 2018
- Local Bus 2018
- Taxi and Rideshare 2018

CURRENT REQUESTS

- Bus Rapid Transit 2022
- Bicyclists 2022
- Pedestrians 2022

UNDER DEVELOPMENT

- Regional Commuter Rail 2025
- Southeast High-Speed Rail >2030

Elements of the Wake County Transit Plan

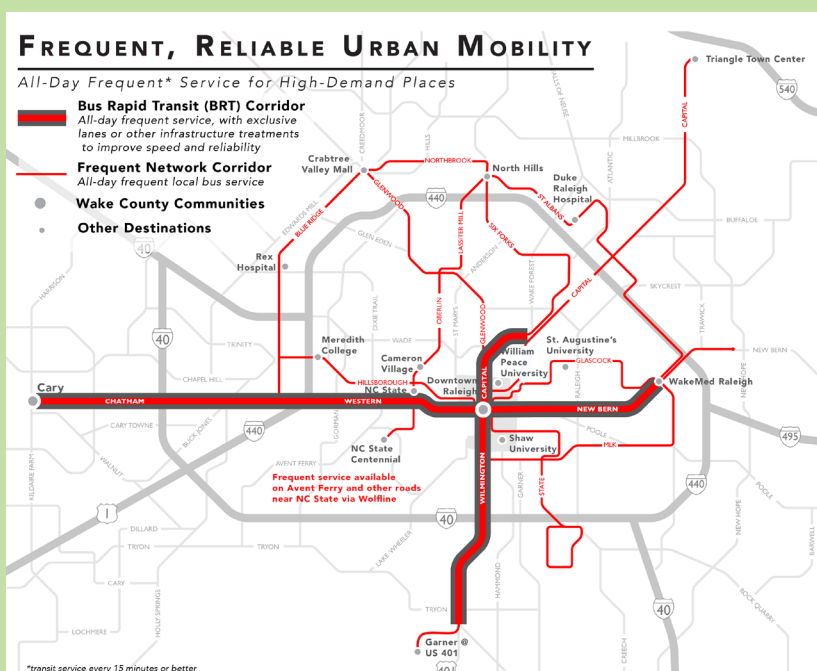
The Wake County Transit Plan proposes to improve mobility in a number of ways in the first ten years:

- Dramatically expanded bus service.
 - Expand existing frequent bus service from 17 to 83 miles, with service at least every 15 minutes.
 - Improve links between colleges and universities, employment centers, medical facilities, dense residential areas, RDU Airport and downtowns.
 - Operate routes every 30 or 60 minutes to provide more coverage across the county.
 - Maintain the same schedule seven days a week.
- Implementation of bus rapid transit (BRT).
 - Create dedicated bus lanes on local roads, so bus operators can bypass traffic and keep their routes on schedule. The plan calls for building approximately 20 miles of BRT lanes in the first ten years on portions of New Bern Avenue between Raleigh Boulevard and WakeMed, Capital Boulevard between Peace Street and the Wake Forest Road intersection, South Wilmington Street toward Garner, and Western Boulevard between Raleigh and Cary. Along these corridors, buses also would have priority treatment at traffic signals.
 - Install BRT stops that feature raised, covered platforms, making it easier for passengers with wheelchairs, strollers or bicycles to board the bus.
- Implementation of commuter rail transit (CRT).
 - Use existing railroad tracks, with added capacity, to provide comfortable passenger service that allows riders to relax or work on their way to key destinations. The new rail service would run 37 miles from Garner to downtown Raleigh, N.C. State University, Cary, Morrisville and the Research Triangle Park continuing to Durham. The Phase I facility has been designed to accommodate the CRT platform in the future.
 - Provide up to eight trips in each direction during peak hours.
 - Offer one to two trips each way during midday and evening hours.
 - Leverage the bus network to easily connect riders with key destinations such as RDU International Airport.
- Fund local service.
 - Provide matching funds to local municipalities to develop and operate local bus service. The Wake Transit Plan helps open the transit door for smaller municipalities that currently don't have existing bus service.
- Expand rural on-demand service.
 - Increase funding to the Transportation and Rural Access (TRACS) demand-response system that serves the elderly and those living with disabilities throughout the county. Many Wake County residents depend on rural, on-demand transit services to get to medical appointments, grocery stores, and other necessary destinations.

Further detail on Wake County Transit Plan can be found at

goforwardnc.org/county/wake-county/about/

Image Source: Wake Transit



residents. Currently, Wake County is growing by an estimated 67 people per day. At this rate, the county is expected to reach almost 1.4 million, and Raleigh is expected to exceed 600,000 by 2030.

With this growth comes the challenges of connectivity, mobility, and affordability. Regional partners have chosen to address these issues collaboratively with a spirit of innovation aimed at investing in infrastructure to accommodate growth.

In November 2016, Wake County voters approved a half-cent sales tax dedicated to transit investment in order to expand and better connect the public transit network throughout the County. The plan will connect all Wake County communities, providing frequent, reliable urban mobility choices while simultaneously enhancing access to transit in suburban and rural areas. The Wake Transit Plan is part of a larger regional investment to expand access and opportunities and help connect more people to jobs, schools, health care, and entertainment. By 2027, 54 percent of the homes and 80 percent of the jobs in Wake County will be within walking distance of a transit stop under the Wake Transit Plan.

Transit services stopping at the RUS Bus facility will provide access to over 31,000 jobs within a ¾ mile radius from the station. But the impact of the proposed system is even greater: despite being in the heart of downtown Raleigh's Warehouse District, approximately 30 percent of those workers will be travelling from rural locations.

Affordable housing is important to the city, county, regional transit providers, and is a priority for our residents. Affordable housing is a key factor in community vitality and continued economic growth. Currently, more than 93,000 Wake County residents—approximately 10 percent of the county's population—are living at or below 100 percent of the federal poverty rate. And approximately 56,000 working families who make less than

\$39,000 a year in Wake County are currently unable to find affordable housing. Current trends show that number may increase to as many as 150,000 households over the next 20 years.

In 2016, the Raleigh City Council continued its financial commitment to increased local funding for affordable housing with a tax increase approved to raise over \$5.7 million annually. These funds will be dedicated to increasing the supply of affordable housing and preserving low-cost rental units that might be lost to conversion to market rates. Raleigh continues to grow. In a similar move, on June 4, 2018, the Wake County Board of Commissioners adopted a \$1.3-billion budget which included a tax increase to address housing affordability on a countywide scale.

These additional commitments will increase the number of affordable units for the next 10 – 20 years. The RUS Bus overbuild component creates an opportunity to create a flagship demonstration project committed to providing up to 15 percent affordable units with seamless connections to reliable, affordable transit services.

B. Overview of Raleigh Union Station Phase II:

Currently, GoRaleigh, the City of Raleigh bus transit system, and GoTriangle operate bus service to the GoRaleigh station in downtown Raleigh. This 21-bay facility has over 6,000 daily boardings and serves as a major transportation hub on the east side of downtown. GoRaleigh serves the downtown area with 18 standard fixed bus routes, two express bus routes, and a free downtown circulator.

Over the next 10 years, the county, city, and GoTriangle will begin to implement the Wake Transit Plan which will triple countywide bus service, increase the frequency of bus service, and add BRT and commuter rail systems. To

implement the Wake County Transit Plan, an additional 8 – 12 standard bus bays would be required, along with on-street facilities, and BRT infrastructure in a constrained part of downtown. The existing GoRaleigh station does not have the capacity to adequately accommodate this growth.

The new RUS Bus facility will become the second major transportation hub in the downtown, complimenting the existing facility, and providing direct connections to various modes and destinations on the west side of Downtown. The planned design for the new facility will be able to accommodate up to 8 buses at once in an off-street facility with on-street bus bays for additional capacity. It will also connect to one or more BRT lines planned as part of the Wake Transit Plan implementation and to Commuter Rail (CRT) via the adjacent Raleigh Union Station Phase I.

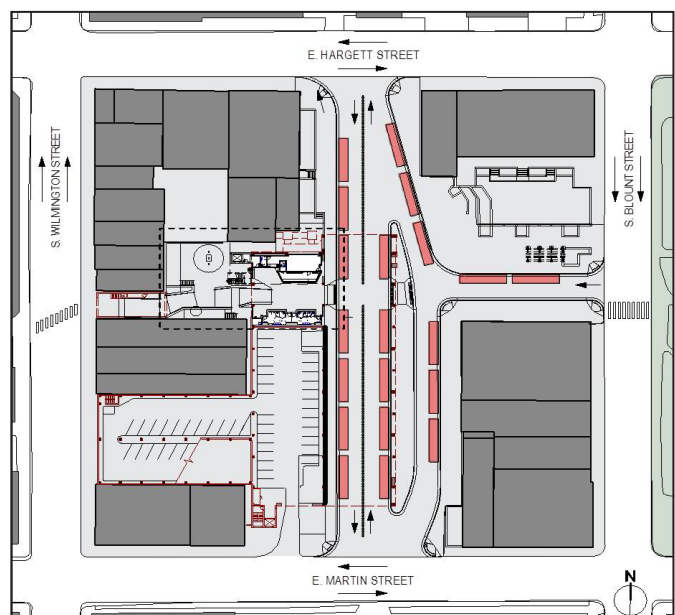
The potential infusion of BUILD funding affords GoTriangle, and its partners an opportunity to replace an obsolete fleet and get ahead of the region's dramatic population growth over the life cycle of the project. The funding will act as a catalyst to the implementation of critical transportation investments and growth plans to enhance the quality of life in Raleigh, the Triangle, and the Southeastern U.S. region.

The goals of this project are to:

1. Complete Phase II construction of Raleigh Union Station, constructing RUS Bus, and providing connections to intercity passenger rail; BRT, regional, and local bus; bicycle and pedestrian infrastructure; and accommodating plans for the future Southeast High-Speed Rail and future regional commuter rail services; to deliver a true multimodal hub.
2. Increase passenger capacity and demand for current and future passenger services.
3. Improve transit operations, velocity and safety.
4. Enable a more balanced and safer connection among the BRT, express, and local routes converging in downtown.
5. Provide a more flexible and resilient network.
6. Grow and diversify areas of Downtown by enhancing commerce associated with the Warehouse District within Raleigh's urban core and providing access to other economic hubs in the region.

C. Project Components

With this BUILD proposal, GoTriangle is requesting Federal funds to implement the



Top Image- GoRaleigh Station Waiting Areas
Bottom Image- GoRaleigh Station Site Plan

RUS Bus facility and the associated transit and public realm infrastructure improvements in Raleigh, North Carolina. BUILD funding will allow the appropriate site, utility, and building infrastructure to be developed to facilitate a future private development which will take place over the bus facility, the “overbuild”. The overbuild will include commercial and residential uses, including affordable housing, and will be further advanced by the private sector and financed outside of the BUILD program. Lease of private development capacity will then subsidize the transit facility below.

Public Sector Investments: RUS Bus

8-Bay Off-street Bus Transfer Facility:

Provides a facility for local buses to stop and/or layover outside of downtown traffic. Passengers can transfer to additional local bus routes, regional BRT routes, or intercity passenger rail located at the Phase I facility. The bus transfer facility will be in close proximity to existing and future rail improvements and will work in concert with the existing GoRaleigh station.

Pedestrian Bridge: A bridge over the east leg of the railroad Boylan Wye will carry passengers over freight rail traffic and directly into Raleigh Union Station. The grade-separated connection increases passenger safety and will facilitate an average of 2500 transfers daily by 2045.

Bus Rapid Transit Platform: A fully integrated on-street bus component will connect to additional local buses and will include station infrastructure for a BRT system currently under development through the County. The BRT platform will accommodate approximately 44 buses/hour during peak travel periods and seeks to improve transit operations, velocity, and safety.

West Street Pedestrian Improvements: The concept for the block of West Street adjacent

to RUS Bus has been identified as a candidate for a “shared space” multimodal treatment. As Raleigh is an older colonial city, many of the public street rights-of-way are constrained to 66 feet in width. This creates a challenge for integrating all of the city’s multimodal transportation needs for this area, as cars, bikes, buses, and pedestrians all have to navigate the space.

The shared space solution effectively abandons any attempt to segregate the uses from each other and instead creates an intentional traffic calming effect. The space is delineated differently from a normal public street with the application of a uniform, textured surface across the entire right-of-way from building face to building face. The effect is similar to those seen in large European plazas, where there is no differentiation between the street and sidewalk. Vehicles entering the space can feel like they are almost intruding on a pedestrian zone, which is extremely effective for reducing speeds and improving safety.

The City of Raleigh is experienced in applying this approach with the success of the City Plaza project. This shared space application was constructed as part of the revitalization of Fayetteville Street in the core of the city. It has become highly lauded as a successful pedestrian and multifunctional space that allows for slow moving vehicles to traverse the space. The City Plaza also serves as a model for RUS Bus with its integration of public art and eye-catching finishes that make the space inviting and attractive.

Signal Prioritization at 12 intersections:

With increasing population growth, more and more people are relying on transit service to meet their daily transportation needs. It is important to make sure the service provided is reliable and buses run on time. Transit Signal Priority (TSP) is a long-tested technology proven to improve schedule adherence. The technology can also be used to enable headway management; when buses begin to

bunch together and there's too much space between them, transit signal priority is activated for the late buses automatically. It is deactivated automatically when headway is obtained. The technology is highly flexible and customizable and can be tailored to the unique conditions of the corridor. The benefits of TSP technology include reduced transit delays, fuel cost savings, improved travel time, and on-time accuracy.

Low and No-Emission Rolling Stock:

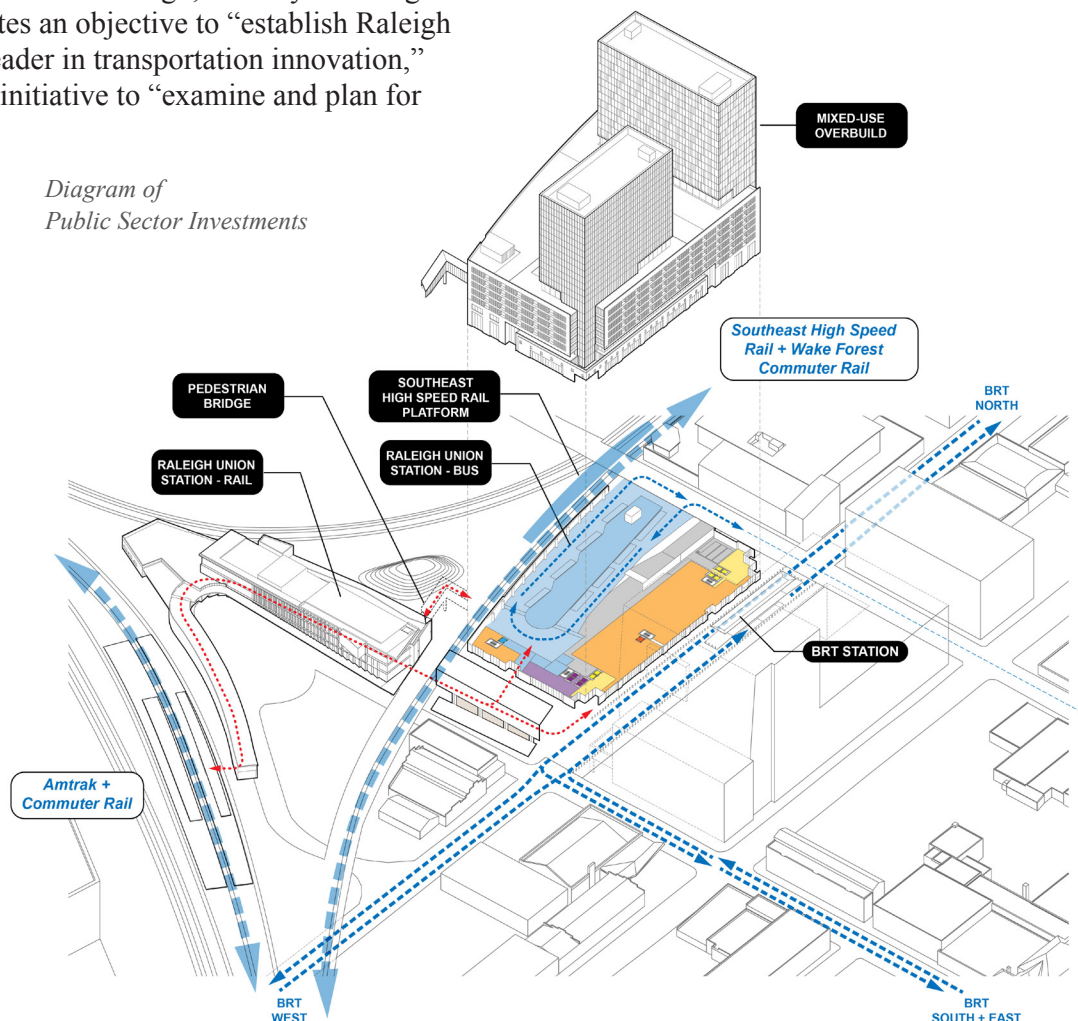
GoTriangle can convert up to 5 buses from diesel fuel to low or no-emission vehicles. Over the past few decades the City of Raleigh has been a leader in providing electric vehicle charging locations and purchasing electric and alternative fuel fleet vehicles. In its adopted 2014 Strategic Plan, the City notes that more than 60 percent of the City's fleet, excluding the Fire Department and GoRaleigh, are alternative fuel vehicles. To address the exclusion of GoRaleigh, the City's Strategic Plan states an objective to "establish Raleigh as the leader in transportation innovation," with an initiative to "examine and plan for

alternative fuel technologies for transit services." The City has also developed a Climate/Energy Action Plan with a section focused on fleet vehicles. Importantly this report recognizes and allows for the reporting of life cycle costs versus just up-front costs for fleet vehicles.

The Raleigh Transit Authority has adopted a goal of replacing its entire fleet with clean vehicles as existing buses reach their minimum useful life. This long-term commitment comes from the Authority's desire to see new clean technologies implemented and to reduce impacts on the areas they serve as well as desire to limit resource consumption and manage operating costs. This component will provide a more flexible and resilient network.

Tactile Wayfinding/ American with Disabilities Act (ADA) Enhancements: The City has made a commitment to sustainability

*Diagram of
Public Sector Investments*



which focuses on interdependent relationships between economic strength, environmental stewardship, and social equity. Social equity in this context means that buildings and city services should be accessible for different users. This initiative has spurred a desire to make City facilities more accessible by providing upgrades that meet or exceed the provisions of the Americans with Disabilities Act (ADA). Phase I of Raleigh Union Station provided the rare opportunity to plan for social equity in the early design phase. The station's rail platforms provide level boarding for users, making it the first station to do so in North Carolina. Also in consideration of inclusivity, the station will incorporate a tactile wayfinding system for visually impaired visitors. These signs will not only allow visitors to navigate Phase I but will be extended to reveal connector paths to RUS Bus and even routes to the city beyond. RUS Bus will continue this tradition of implementing innovative strategies for social equity in the design.

Private Sector Investments: Overbuild

Structured Parking: Raleigh has been growing rapidly in the past decade with an estimated 100,000 new residents in the city in less than 10 years. Along with the influx of people, the number of commuters into the Center City has increased. These new residents overwhelmingly are single occupancy car commuters, putting a strain on existing infrastructure. The historic industrial structures in the Warehouse District were built with no off-street parking, and their conversion to workspaces, retail, and dining has created demand for parking. New developments in the downtown area are putting a strain on available land, while increasing the need for parking spaces. Downtown Raleigh is now at a critical mass for parking spaces, with a shortage of public parking structures and an increase in visitors

to downtown. The City is exploring creative solutions to meet this rising demand. Raleigh Union Station Phase I is located within a railroad wye, with limited area for surface or structured parking. The City partnered with a new mixed-use development spurred by Phase I construction. This development constructed additional spaces which were purchased by the City of Raleigh for public use and for station parking. RUS Bus provides the capacity for an additional 660 spaces for parking, which can provide additional public spaces to the City's parking inventory. These parking spaces will not only provide daily parking for visitors to the district but also long-term and short-term parking for transit users.

Mixed-Use Development: Although a private sector partner has not been selected for the over-build, the project team has completed preliminary feasibility work to develop probable development schemes. One such development scheme proposes the integrated development of a mixed-use complex which includes the 35,000 square foot bus facility in addition to:

- Up to 300 residential units, with up to 15 percent reserved as affordable units
- 260 room hotel, or additional office space
- 25,000 square feet of ground floor retail space
- 660 parking spaces

GoTriangle will seek private sector partners in October of 2018, at which time the finalized private development scenario will be selected. Selection criteria will require adherence to FTA guidelines on joint development and will be evaluated on a proposer's ability to grow and diversify commerce in Raleigh.

“To capitalize on Transit Oriented Development opportunities, the project will include a privately funded mixed use overbuild that will include a mix of hotel, residential and office components...This innovative development concept will not only advance our transportation infrastructure, but will also be a catalyst for the vibrancy and sustainability of our Downtown neighborhood.”

Kristopher Larson, AICP
President & CEO of Downtown Raleigh Alliance



Raleigh Union Station at Full Build-Out.

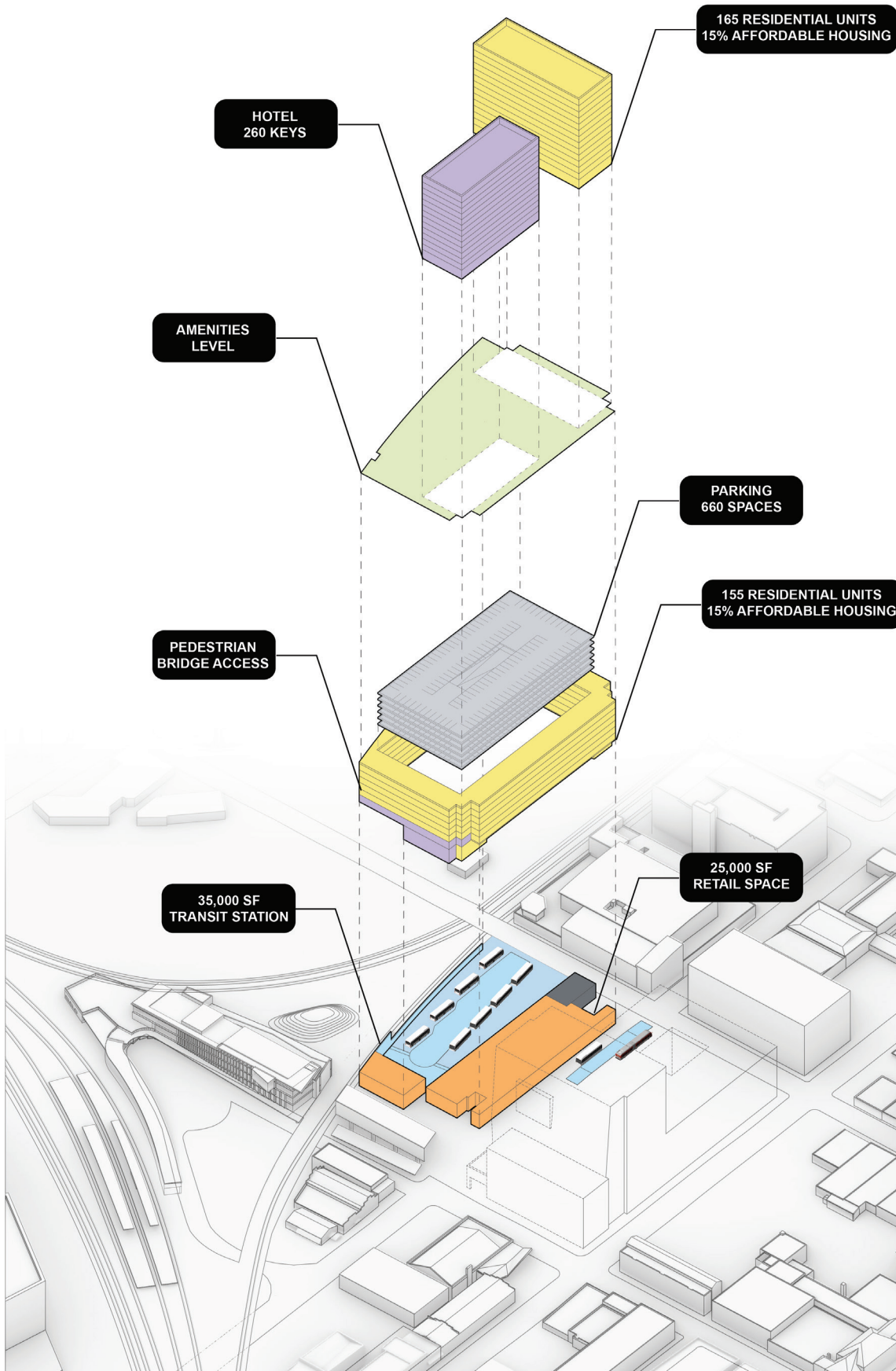


Diagram of Potential Private Development Elements for RUS Bus

II. Project Location

Wake County is situated in the heart of North Carolina, in a section of the Piedmont region called “The Triangle”, 150 miles from the Atlantic Ocean and 190 miles from the Great Smoky Mountains. Wake is the largest county in the Research Triangle region and is home to Raleigh, the second largest city in North Carolina, the seat of government for Wake County, and North Carolina’s state capital. For the past two decades, the county has been one of the fastest growing communities in the U.S. The reason for this impressive growth is simple: knowledge workers want to live and work with like-minded professionals in a community that is well-positioned for the future. The region is founded on principles of innovation and progress but strives to celebrate our roots in southern charm and community.

Over the past ten years, Downtown Raleigh has experienced a transformation from a quiet government center to the civic hub of the Triangle. The urban core of Raleigh offers a popular destination for culture and dining, surrounded by strong residential neighborhoods. Downtown Raleigh has increasingly become a premier target in the Triangle for corporate investment. Since the adoption of the City’s 2030 Comprehensive Plan in 2009, there has been over \$2.5 billion of investment in downtown, of which \$1 billion went towards public projects, such as award-winning streetscape projects like Fayetteville Street and City Plaza, new affordable housing developments, the Raleigh Convention Center, and the Wake County Courthouse. Currently, there is \$1.75 billion worth of investment in recently completed (since 2015), under construction, and planned development started since the beginning of construction on Raleigh Union Station Phase I – this includes public infrastructure and civic space as well as privately developed office, retail, multifamily, entertainment venues, and hotels.

US Census data for Raleigh indicate that for the period of July 2008 to June 2009, in the midst of

the deepest economic recession in generations, the Raleigh-Cary Metropolitan Statistical Area (MSA) increased in population by 3.2 percent. This growth rate places the Raleigh MSA third among 366 census-defined areas and first among metropolitan areas of at least 500,000 people. At a regional level, since 1980, the eight counties surrounding Raleigh have grown by more than a million and are expected to grow by another 69 percent by the year 2030. The Combined Statistical Area for Raleigh-Durham-Cary is forecasted to reach just over 2.6 million by 2035, an average annual increase of 4.5 percent and total increase of 53 percent in just over twenty years.

Raleigh is recognized by independent sources as one of the nation’s most attractive metropolitan areas and has received recent national attention during several high-profile headquarter searches. Recent accolades include:

- #1 Lowest State & Local Business Tax Burden, Ernst&Young | 2016
- #1 Best State for Workforce Development, Site Selection Magazine | 2016
- Best State for Business, Forbes | 2017
- #2 Best Business Climate in the Nation, Site Selection Magazine | 2017
- #2 Best Place for Business & Careers, Forbes | 2017
- #2 Lowest Business Costs, Forbes | 2017

Along with this growth the region has experienced some shifts in demographics that require significant investments in transportation infrastructure. Since construction of the Raleigh Union Station complex began in 2015, more than 1.8 million square feet of multifamily residential space has been completed within a one-mile radius of the facility. This amount is the equivalent of nearly half of the existing



multifamily space available prior to 2015 in the same area. Downtown Raleigh maintains a high occupancy rate among all multifamily units, hovering around 95 percent.

The influx of a younger workforce has accompanied an increase of “choice” transit riders, or those who could afford a car yet choose to live in an urban environment and utilize a robust transit service; while the city’s population of “transit dependent” riders has similarly increased. Ridership on GoRaleigh and GoTriangle routes has increased by 7 percent over the course of the past year alone (fiscal year 2017 to fiscal year 2018) although ridership is declining on a national level.

A. The Transportation Landscape

- **Raleigh-Durham International Airport:** The acclaimed RDU International Airport features nearly 400 flights on seven major airlines to over 40 non-stop destinations each day. Service associated with the implementation of the Wake County Transit Plan is expected to double frequency and add additional service on Sundays.
- **Highways & Interstates:** Wake County is well-connected to the Research Triangle Region and beyond through a series of US Highways and Interstates, with I-40 being the primary spine of the region. I-40 is

currently undergoing construction as part of the North Carolina Department of Transportation's (NCDOT) Fortify Rebuild Project. In addition to I-40, there are two major highways, the Raleigh Beltline (I-440) and a second partial loop (I-540/NC 540) that helps serve regional traffic demands. The environmental impact statement for the planned extension of NC 540 into southern and eastern Wake County was recently completed, and construction is slated to begin on that project in Spring 2019. NCDOT also plans to expand I-40 from six lanes to eight lanes by 2022. Public transportation strategies that include conventional buses, bus rapid transit service, and a commuter rail system will play a significant role in our region's connectivity and mobility. Upon implementation of all services planned as part of the Wake Transit Plan, transit ridership in Wake County is estimated to increase by 59 percent from 28,000 average daily trips currently to 47,500 daily trips by 2027. It should be noted that these are conservative ridership estimates used to prioritize projects within the plan, and the actual ridership growth will likely be more significant.

- **Public Transportation Systems:**

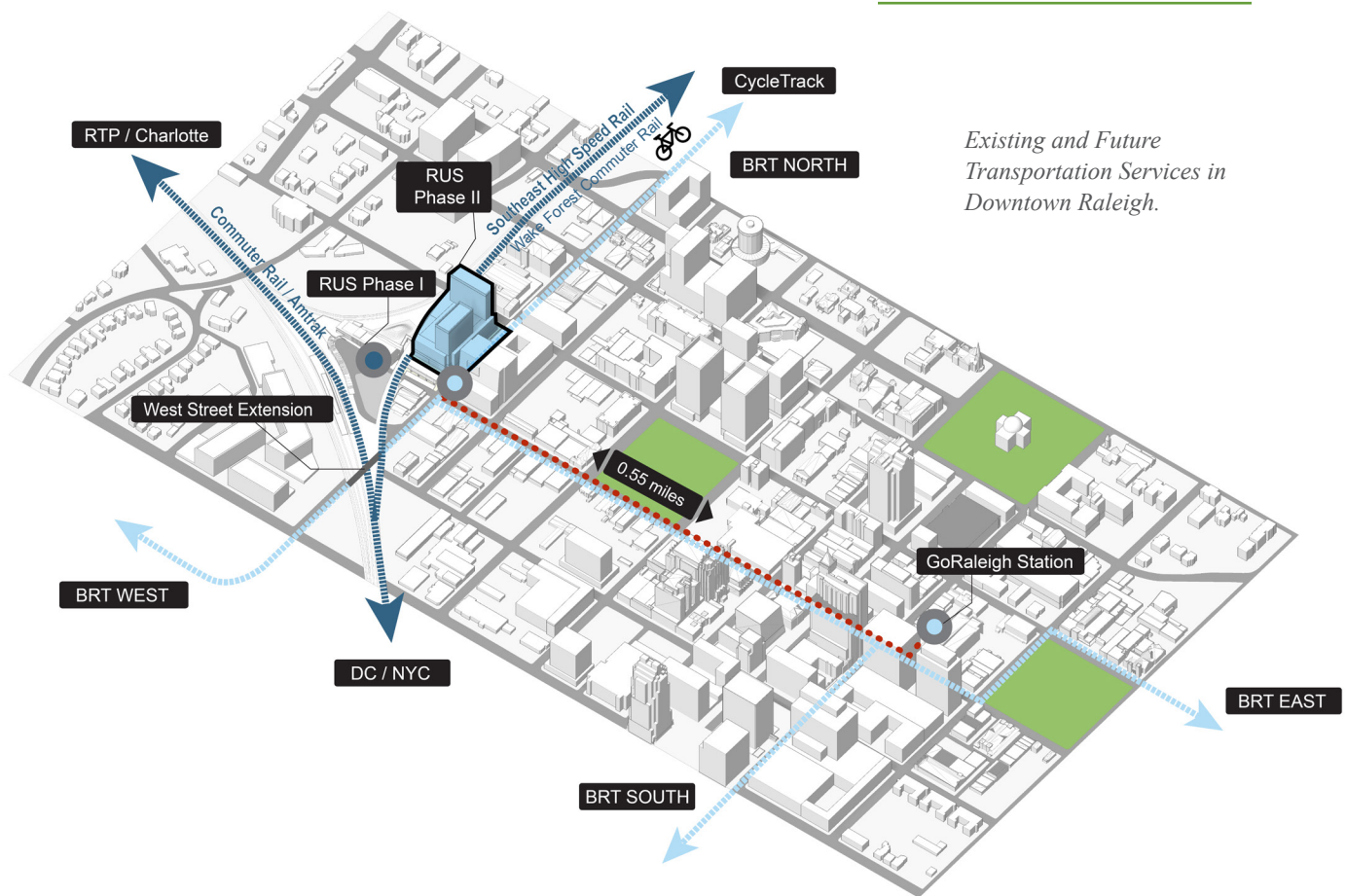
- GoTriangle – formerly Triangle Transit or the Triangle Transit Authority, is a regional transit service provider that connects Raleigh with neighboring cities, suburbs, RDU and Research Triangle Park.
- GoRaleigh (formerly Capital Area Transit), is the City of Raleigh's public transportation system. Its primary hub and transfer facility, the GoRaleigh station, is located on the east side of downtown Raleigh.
- GoRaleigh Access (formerly Accessible Raleigh Transportation), is the City of Raleigh's transportation service for people with disabilities. GoRaleigh

Access programs help ensure an outstanding quality of life for everyone in the City of Raleigh.

- **Rail Service:** Raleigh is located along a well-traveled railway corridor and currently ranks second in Amtrak ridership among all major cities in the Southeast. The recently completed Raleigh Union Station Phase I project shifted service from an outdated, overcrowded, and difficult to access station to a world class facility. The RUS Bus project will capitalize on this investment and is estimated to provide 2500 daily connections between modes by 2045.
- **Bicycle:** The BikeRaleigh Program encourages biking in Raleigh through on-road facility design, cycling safety and education promotion, and encouragement events. The Capital Area Greenway System is a network of public open spaces and recreational trails which provides for activities such as walking, biking, jogging, hiking, bird watching, nature study, fishing, picnicking and outdoor fun.

The RUS Bus facility is the centerpiece of all of these connections. Centrally located in downtown Raleigh, the site is surrounded by property offering tremendous development potential. The Phase I TIGER grants from 2012 and 2013, predicted over \$320 million of investment in the district throughout the life span of the station; in a three-year period over \$244 million has already been realized.

RUS Bus will serve as the new bus transfer node to be used by GoTriangle and GoRaleigh for regional services and for the planned Bus Rapid Transit system. RUS Bus will be located in the Warehouse District of Raleigh on West Street, adjacent to the Amtrak and commuter rail station facilities provided in Raleigh Union Station. RUS Bus will serve the need for increased transportation capacity in downtown Raleigh, while providing seamless multimodal connectivity to



Existing and Future Transportation Services in Downtown Raleigh.

passenger rail and effectively linking the urban core to the suburban population. With BUILD grant funding, GoTriangle and its partners will be able to implement the robust transit system envisioned in the Wake County Transit Plan. This plan includes additional connections to RDU, expanded rail services, a comprehensive bike network, and providing efficient alternatives to local highways and interstates.

federal (Federal Transit Administration, FTA) funding: 210 S West Street, Raleigh, NC 27603; 206 S West Street, Raleigh, NC 27603; 200 S West Street, Raleigh, NC 27603. These parcels abut the RUS Phase I passenger train component, totaling approximately 1.71 acres currently zoned for high-intensity mixed use development.

B. Site Details

The project includes implementation of services and infrastructure to support the Wake County Transit Plan and is anchored by the RUS Bus station site in downtown Raleigh. The station site is located at the intersection of West Street and Hargett Street, on the west side of West Street on three parcels obtained by GoTriangle in 2003 with a mix of local and



Site of Raleigh Union Station Phase II (RUS Bus)

III. Sources and Uses of Funds

GoTriangle is requesting \$20,000,000 in Federal funds through the BUILD grant program to develop Phase II of Raleigh Union Station (“RUS Bus”). GoTriangle and its funding partners from the City of Raleigh, Wake County, and the State of North Carolina have committed another \$25,360,000 in matching funds and \$9,660,000 in land, bringing the total budget of the Phase II project to \$50,720,000. Use of BUILD grant funding will adhere to local policies to provide small disadvantaged minority and women-owned businesses equal opportunities to

receive and participate in all aspects of the contracting and procurement program including, but not limited to, construction projects, supplies and material purchases, and professional and personal services contracts. All funding partners have successful experience implementing grants and delivering projects with grants administered through the USDOT.

A. Project Costs

Table 1 summarizes the principal construction activities that will be carried out in RUS Bus with the support of BUILD funding.

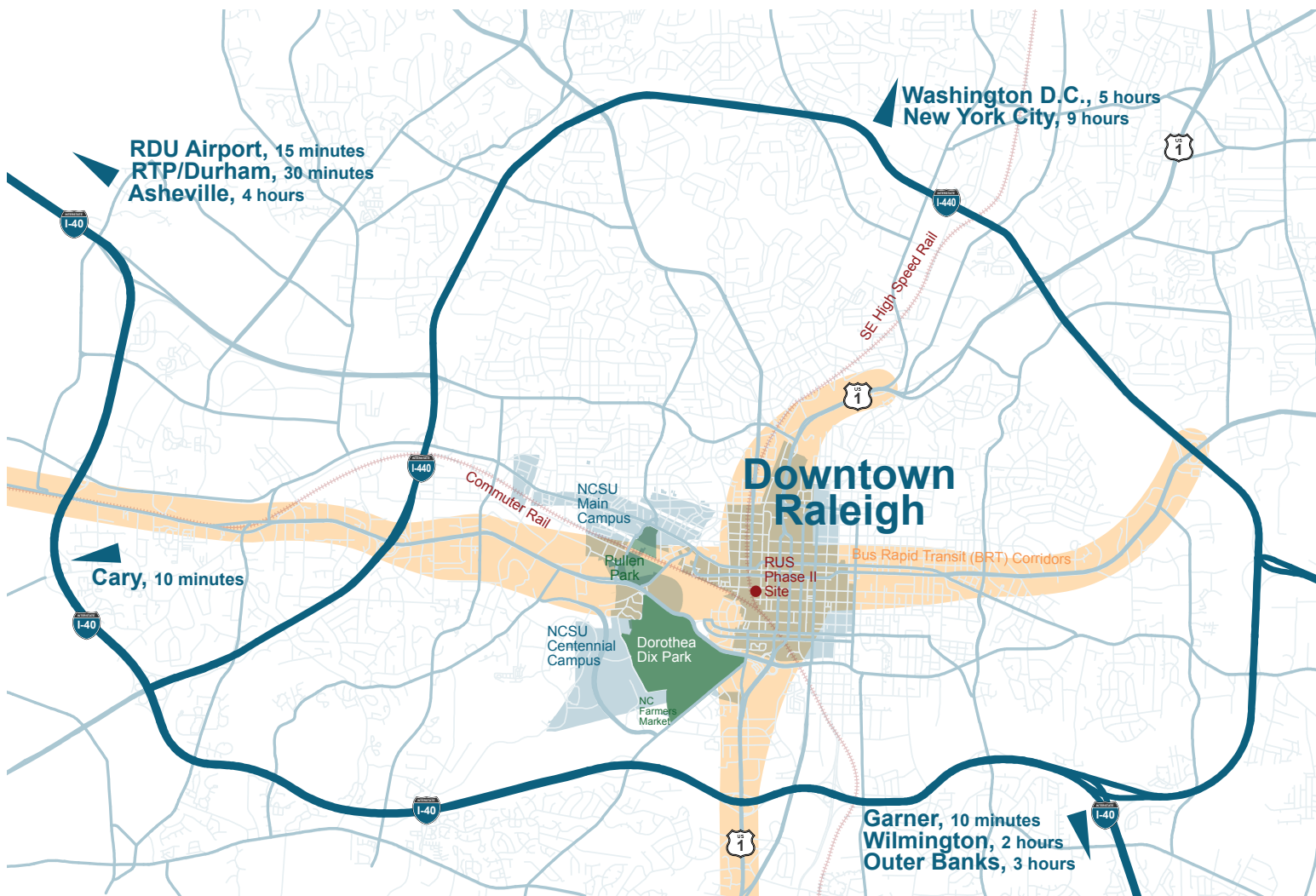


TABLE 1

Costs Associated with Each Component of the Proposed Project

Component	Type of Cost	Cost
RUS Bus Construction		
	Site work, including partial demolition of existing building, utilities	\$6,240,000
	8-Bay Off-Street Bus Transfer Facility	\$7,250,000
	Pedestrian Bridge	\$3,200,000
	BRT Platform and BRT infrastructure	\$2,550,000
	West St Pedestrian Improvements	\$2,125,000
	Traffic Signal prioritization (12 intersections)	\$900,000
	Low and No Emission Rolling Stock	\$2,800,000
	Tactile Wayfinding/ ADA Enhancements	\$600,000
	General Conditions: Mobilization, Permits, Insurance	\$5,152,884
	Public Art and SHPO Allocation (@2.5%)	\$641,625
	General Contingency @10%	\$2,566,500
	Escalation @5%	\$2,414,291
	RUS Bus Construction Subtotal	\$36,440,300
Right-of-Way Acquisition (completed in 2003)*		
	West Street Parcels	\$9,660,000
	Right of Way Acquisition Subtotal	\$9,660,000
Design and Other Project Costs		
	Professional Services, Design, and Project Management (@18%)	\$4,619,700
	Other Project Costs Subtotal	\$4,619,700
	RUS Bus Public Sector Total**	\$50,720,000

* All right-of-way obtained thru FTA Small Starts Program in 2003. Cost of right-of-way included to indicate existing federal share (FTA) in properties and the project in general.

**Private sector costs are not included in the overall project budget. Solicitation and procurement of private partners will commence in October of 2018.

B. Source and Amount of Funds

Table 2 summarizes the sources and amount of funds.

TABLE 2
Sources and Amount of Funds

Agency/Source	Commitment	% Share
Non-Federal		
Go-Triangle	\$5,000,000	10%
Wake Transit Major Capital Fund	\$5,000,000	10%
GoTriangle Land Contribution (in-kind)*	\$4,300,000	8%
City of Raleigh/ Major Transit Investment Fun	\$2,260,000	4%
State of North Carolina/ Strategic Transportation Prioritization	\$8,800,000	17%
Subtotal Non-Federal	\$25,360,000	50%
BUILD		
2018 Grant Request	\$20,000,000	39%
Other Federal		
Federal Transit Administration Land Contribution / New Starts	\$5,360,000	11%
Subtotal Federal	\$25,360,000	50%

**Land value derived from professional appraisal which valued the parcels at \$9,660,000. The federal interest in the property, as communicated by FTA, is 50.7%. The remainder is considered local ownership.*

C. Funding Commitments

Allocation and commitment of funding from partner agencies is also included in Appendix B Letters of Support.

D. Federal Funds Description

As depicted in Table 3, BUILD grant funding is the primary source of Federal funding for the project. As proposed the BUILD grant funds would compose 50 percent of the overall project budget. The sole additional source of Federal funding will be realized through the in-kind contribution of land. This Federal Transit Administration (FTA) funding was made available to GoTriangle for a previous project. FTA has been informed of the intent to use this land for the purposes of RUS Bus and have indicated full support.

E. Sources of Funds Budget

As depicted in Table 3, and described in Section D, all BUILD grant funding would be used for eligible construction costs. The majority of non-federal funding used for RUS Bus must be applied to eligible construction-related costs associated with transit and transportation improvements and may include hard and soft costs. Funds from the State of North Carolina/Strategic Transportation Prioritization may only be used for construction and hard costs on RUS Bus.

TABLE 3
Sources of Funds Budget

Component	Type of Cost	Cost
RUS Bus Construction		\$36,440,300
Non-Federal 32.4%	Go-Triangle/ Major Transit Investment Fund	\$380,300
	Wake Transit Major Capital Fund	\$5,000,000
	City of Raleigh/ Major Transit Investment Fund	\$2,260,000
	State of North Carolina/ Strategic Transportation Prioritization	\$8,800,000
BUILD 39.4%	2018 Grant Request	\$20,000,000
Right-of-Way Acquisition		\$9,660,000
Non-Federal 8.5%	GoTriangle Land Contribution	\$4,300,000
Other Federal 10.6%	Federal Transit Administration Land Contribution / New Starts	\$5,360,000
Design and Other Project Costs		\$4,619,700
Non-Federal 9.1%	Go-Triangle	\$4,619,700
RUS Bus Public Sector Total		\$50,720,000



Conceptual Rendering of RUS Bus development at the intersection of West and Martin Street

IV. Criteria

The RUS Bus facility and the associated transit and public realm infrastructure improvements will bring many benefits to a wide array of users of the transportation system. It will also support continued and diverse economic growth in Raleigh and the greater Triangle region. These benefits will be enjoyed by the following transportation system users:

- **Commuters** – RUS Bus provides a critical connection for the growing regional transit system in the Triangle region between intercity (AMTRAK) and inter-regional (future commuter rail and regional express bus services) to bus rapid transit and local bus routes. By enabling a seamless connection, a commuter anywhere in the greater Raleigh area will typically only have a single, fully-protected and off-street transfer connection between their home and place of work. For example, with RUS Bus a commuter from a rural location could drive to an express bus park-and-ride lot or future commuter rail station, ride to RUS, transfer directly to BRT or local service at RUS Bus or safely walk or bike to their ultimate destination in Raleigh.
- **Leisure Travelers** – Visitors arriving to Raleigh on AMTRAK at RUS will now have a direct connection to BRT and local and regional bus services to access hotels, amenities, and attractions within downtown Raleigh and the rest of the region.
- **Warehouse District Residents and Businesses** – The Raleigh Union Station complex creates a multimodal hub on the west side of downtown Raleigh in an area known as the “Warehouse District.” This area is connected to local businesses and residents by a high-quality and safe pedestrian and bicycle network. RUS Bus will enable more direct access to regional destinations for these residents and businesses while ensuring a safe and accessible environment for visitors.

Implementation of the Wake Transit Plan over the next 10 years will triple countywide bus service, increase the frequency of local and regional bus services, and add over 20 miles of new BRT corridors, and a new 37-mile commuter rail system. To implement the Wake County Transit Plan, an additional 8 to 12 standard bus bays would be required in downtown Raleigh. The existing GoRaleigh station does not have the capacity to adequately accommodate this growth. RUS Bus helps ensure that the Wake Transit Plan can be successfully delivered, with downtown Raleigh serving as the regional connecting point for local, regional, and interstate transit service to urban and rural destinations. RUS Bus will successfully accomplish this with an internal bus loop, with on-street facilities, and with new BRT infrastructure in a constrained public right-of-way.

RUS Bus will fully integrate with delivery of the Wake Transit Plan while also balancing local development and other mobility needs in downtown Raleigh. The project includes a diversity of public and private sector investments that generate numerous benefits quantified through a benefit cost analysis (BCA) and by other non-quantified benefits accruing to the region (see Appendix A: Benefit Cost Analysis).

A. Safety

RUS Bus will improve safety outcomes within the project area through reducing the number, rate, and consequences of transportation-related accidents, serious injuries, and fatalities, including eliminating unsafe pedestrian connections to facilitate transfers. The BCA considered safety outcomes for motorized and non-motorized trips separately.

- For motorized trips, the **\$1.37 million discounted benefit** is estimated based on

the reduction in vehicle miles traveled resulting from the mode shift to transit associated with the project over the 30-year analysis period compared to 5-year running average crash rates by crash type for the Capital Area MPO (CAMPO) region through 2017

- For non-motorized trips, the **\$3.78 million discounted benefit** is estimated based on the change in transit transfers, walk, and bike trips between the build and no-build to and from RUS / RUS Bus through use of the Triangle Regional Model. Existing non-motorized crash rates in downtown Raleigh are reduced based on a compilation of crash reduction factors associated with the planned pedestrian improvements on West Street and the addition of a pedestrian bridge between RUS and RUS Bus.

B. State of Good Repair

The proposed project addresses State of Good Repair by addressing capacity deficiency, providing increased accessibility and multimodal mobility options, maximizing the throughput of the existing transportation network and incorporating environmentally friendly, sustainable features. The project will contribute to state of good repair by improving the condition and resilience of the current and future regional transit system, and through its potential to reduce vehicle miles traveled, and result in minor cost savings related to pavement preservation. **The asset residual value at the end of the 30- year analysis period is estimated at \$651,743 in discounted dollars.**

Without RUS Bus, the passenger demand at the existing GoRaleigh station will exceed facility capacity within 10 years, placing pressure on the passenger amenities at this station and the overall facility infrastructure supporting GoRaleigh's and GoTriangle's respective transit operations. This pressure

will threaten future transportation network efficiency and the mobility and accessibility of passengers, and it will shorten the useful life of the existing GoRaleigh station, which was recently modernized and updated in 2017.

Upon receipt of BUILD grant funds, RUS Bus will be fully capitalized and will use best practice asset management approaches to optimize its long-term cost structure. It's important to note that the lease revenue from the overbuild will provide GoTriangle with a sustainable source of revenue that could significantly support ongoing operations and maintenance of the project, pending agreement with the private developer.

C. Economic Competitiveness

Well-planned communities with quality infrastructure and transportation are the most likely to realize a bright economic future. Wake County and its municipalities are fortunate to have the business community working alongside staff and elected officials to determine how to maintain and expand services and facilities required to accommodate the region's future growth.

RUS Bus will significantly enhance the economic viability of downtown Raleigh and the surrounding community. In concert with the train station that anchors the Raleigh Union Station complex, RUS Bus will help further catalyze new residential and commercial development. According to recent estimates from the Downtown Raleigh Alliance regarding city-initiated projects, for every \$1 of public funds invested in downtown Raleigh, the private sector has responded with a \$2 match of investment.

Development of the site will significantly increase the economic productivity of the underutilized land in the Warehouse District by combining its use for transportation, housing, hotel, office, and retail uses. This development will generate long-term jobs as well as other economic opportunities creating

a stronger critical mass for continued development and redevelopment in Raleigh's Warehouse District. The project also creates a significant opportunity for much-needed affordable housing in downtown Raleigh, with planning for up to 15 percent affordable housing units to be included in the overbuild.

RUS Bus will provide an increase in the overall efficiency and safety of movement across multiple modes. All of these positive impacts reduce transportation costs and the burden of commuting, they reduce the costs of doing business, and they improve the quality of life for our customers. For example, over the 30-year analysis period (2024 – 2053), RUS Bus results in:

- Over 44 million total reduced vehicle miles traveled within the CAMPO region
- Nearly 2 million total reduced vehicle hours of travel within the CAMPO region
- An increase of over 31 million transit trips within the CAMPO region
- An increase of over 14 million transit transfers and bike and walk trips to and from transit at RUS and RUS Bus, generating potential economic opportunities for businesses within the project area

These changes in travel activity and efficiency results in:

- **\$8.14 million in discounted travel time savings for vehicle trips,**
- **\$2.31 million in non-fuel based vehicle operating cost savings and \$1.16 million in fuel cost savings for vehicle trips, and**
- **\$31.65 million in overall travel cost savings** for existing and new transit riders directly resulting from reduced transit travel time, reduced costs of travel, and increased system efficiency.

D. Environmental Protection

The proposed RUS Bus project will involve a partial reuse of an existing historic warehouse. Subsequent plans for future construction and expansion will further integrate other multimodal elements. The nature of the Boylan Wye surrounding Phase I of Raleigh Union Station with the convergence of multiple railways adjacent to RUS Bus provides a unique opportunity to be innovative in our construction planning and to meet objectives for sustainability, e.g., designing to LEED standards, implementing innovative stormwater practices, the use of native plant materials. Phase I of Raleigh Union Station successfully delivered on these sustainability goals.

By supporting reductions in regional VMT and VHT, plus through supporting the transition to an electric transit fleet, the project will reduce energy consumption and emissions while also benefitting the surface environment through brownfield redevelopment. RUS Bus and its overbuild component will be planned to meet LEED development standards, enabling conservation of electricity and water resources and reducing waste. Project components will reduce an estimated:

- 2.18 short tons of VOC emissions
- 3.95 short tons of NOx emissions
- 0.40 short tons of PM2.5 emissions
- 0.08 short tons of SOx emissions
- 7,849 metric tons of CO2 emissions

These emission reductions are monetized at \$86,271 in emission cost savings for criteria pollutants and \$163,107 in savings for carbon emissions based on a domestic value for the social cost of carbon.

Although not quantified in the Benefit Cost Analysis, significant benefits are anticipated from environmental characteristics of resiliency and redundancy. Based on

information from the National Oceanic and Atmospheric Administration's (NOAA's) National Centers for Environmental Information, Storm Events Database (<https://www.ncdc.noaa.gov/stormevents/>), Wake County experienced 81 significant events between March 2007 – March 2017, a 4049 day period, equating to approximately 7.3 events/year.

Of those events reviewed (flash flood, flood, hurricane, and tornado) the overall amount of damage is estimated at \$183,964,500 for the County. Projected to 30 years, the cumulative impact of direct costs is estimated at approximately \$500 million.

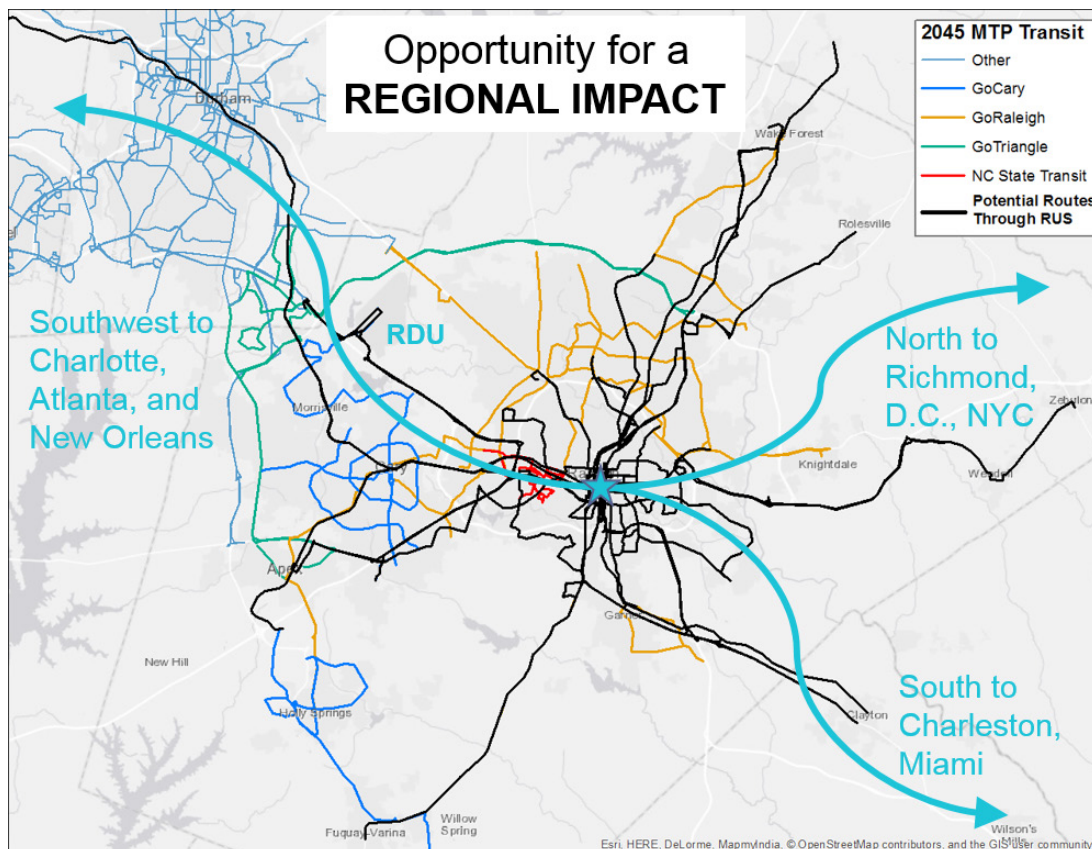
In the past 10 years Raleigh and the GoRaleigh Station at Moore Square has been directly impacted by four significant events. Historical review of operational data has indicated an impact to direct and indirect costs due to these events. During a serious natural disaster, remote operations are needed, including additional remote bus bays, temporary shelters, mobilized units for driver comfort stations, and staff,

additional staff resources, security, and signage. This may cost up to \$500,000 depending on the severity and duration of the event. The RUS Bus project builds in redundancy to the system and avoids these future costs.

E. Quality of Life

RUS Bus increases transportation choices for people across the Triangle region, throughout North Carolina, and has a potential national impact through its connection to existing and future intercity rail network. The project also has a strong connection to regional transit services connecting to RDU International Airport via future commuter rail (to connecting services) and the direct GoTriangle Route 105 service.

The image below indicates the projected future transit routes within the CAMPO 2045 Metropolitan Transportation Plan (MTP) that will interconnect at RUS and RUS Bus, showing connections to multiple rural and



urban communities within the region. In addition, the connection to RUS provides links to AMTRAK operations serving 15 different stations across North Carolina and linking to through train service on the Crescent, the Palmetto, the Silver Meteor, and the Silver Star. These trains make selected city stops through the state on their way south to Atlanta, New Orleans and Miami, and north to Richmond, Washington D.C., and New York City.

Through these improved multimodal connections and choices, residents of the Triangle region and neighboring communities will experience new opportunities to access jobs and other important regional destinations including universities, health care, services, recreation, and entertainment. This improved connectivity and accessibility support many of the key reasons why people and business continue to choose to locate here.

F. Innovation

The RUS Bus project proposes a series of innovations related to technology, project delivery, and project financing/funding.

i. Innovative Technologies

Innovative technologies included in the project proposal include no- or low-emission vehicles, ADA enhancements which are above and beyond standard requirements, and signal pre-emption for transit vehicles. GoTriangle and the City of Raleigh have experience implementing these types of improvements, none of which will require additional permitting or would adversely affect project schedule.

ii. Innovative Project Delivery

GoTriangle proposes a joint-development model to complete the private sector components of RUS Bus. Along with the City

of Raleigh, local project partners have significant experience in innovative project delivery to promote the use of innovative technologies and practices that increase the efficiency of construction, accelerate construction, improve the safety, improve the quality, reduce congestion from construction, and extend the service life of public facilities including Design Build and Construction Manager at Risk. Additionally, the City of Raleigh will assist GoTriangle in its development of evaluation criteria to assess the delivery method proposed by potential private sector development partners.

iii. Innovative Financing

The RUS Bus project as currently proposed lays the groundwork for a private-sector partner to develop the overbuild component. In April 2018, GoTriangle worked with a consultant to develop a financial feasibility analysis of development concepts for the overbuild explored for the RUS Bus site. As part of this analysis, the team calculated illustrative ground lease payments to GoTriangle based on preliminary assumptions for a ground lease structure and residual land values determined through the financial analysis. The specific terms of GoTriangle's ground lease with a joint development partner will be determined through a competitive bid and iterative negotiation process, which will ultimately impact the revenue stream of ground lease payments GoTriangle receives. Private sector partners will be sought in the fall of 2018.

G. Partnership

One of the greatest strengths of the RUS Bus facility exists in the collaborative effort undertaken by the three local partners: the City of Raleigh/GoRaleigh, NCDOT, and GoTriangle. All of these partners share the same vision for Raleigh's new multimodal hub

to support the region's current and future rail infrastructure needs, proposed bus service expansion, planned Bus Rapid Transit network, and new bicycle and pedestrian facilities. The current grant proposal is submitted solely by GoTriangle, but the partnerships created and strengthened during the previous successful TIGER applications for the development of the Phase I of Raleigh Union Station have been maintained, and all parties are again moving forward together in a collaborative planning effort for Phase II.

This partnership has strengthened our understanding of the challenges of coordinating a realistic solution for this facility to meet growing transportation needs, while planning efficiently for future rail, BRT, and bus service expansion. The three principal partners are committed to working together to build a new bus facility adjacent to the new train station that will serve the pressing need for the expansion and improvement of public transportation infrastructure in not just Raleigh, but also in the Triangle, in the State of North Carolina, and along the East Coast. Further extending the impact of the three main partners to this proposal, GoTriangle has collected an impressive list of support letters for this project, which are included in Appendix B.

The partnership aspects of this project are further enhanced by the addition of a private partner to construct the overbuild portions of the facility. To facilitate the selection of a joint-development partner for development at RUS Bus, GoTriangle proposes a two-step procurement process beginning in the fall of 2018. The overall the process would include:

- Proactive developer outreach and marketing
- Development of solicitation evaluation criteria
- Issuance of Request for Qualifications (RFQ)

- Issuance of Request for Proposals (RFP)
- Partner negotiations and development agreement

Overtures have already been made to potential development partners to confirm the feasibility of this approach. Our preliminary outreach to the development community suggests that this process would likely take six to eight months.

H. Non-Federal Revenue for Transportation Infrastructure Investment

RUS Bus will provide the increase in operating capacity necessary to fully implement the Wake County Transit Plan. Revenues from that plan will be a combination of local, state and federal dollars as well as farebox revenues. The primary funding source for RUS Bus will be from the local half-cent sales tax for transit that was approved by Wake County voters in November 2016. The proposed local funding component also includes revenue derived from increased vehicle registration fees.

Private sector funding is anticipated for the overbuild component. A ground lease of the "air-rights" over the facility will subsidize transit operations. The monetized value of the overbuild is estimated at \$12-15 million. Private sector partners will be sought in the fall of 2018.

V. Project Readiness

Phase II of Raleigh Union Station (RUS Bus) is ready for design, bid, and build. Right-of-way acquisition has been completed. All of parcels in the vicinity have sufficient zoning in place to allow industrial and business uses, including transit facilities. Major investments in stakeholder engagement, feasibility, planning, and design have been completed and the project is ready to begin. Other broad evidence regarding project readiness relates to strong State and regional support:

- **Legislative Support:** The North Carolina General Assembly funds NCDOT operations, and there is every expectation that the legislature will support this project. See the NCDOT letter of support in Appendix B which describes RUS Bus as being “among the highest scoring projects in the Division Needs category, based on technical score.” There is also broad legislative support at the local, state and national level, including US Congressman David Price, and NC Secretary of Transportation James H. Trogdon III.
- **State and Local Planning Support:** RUS Bus is supported by Raleigh’s 2030 Comprehensive Plan, Raleigh’s Downtown Plan, The Wake County Transit Plan, and local plans aimed at increasing affordable housing options.
- **Community Support:** Local business and community leaders have shared support for the project. The recent dedication ceremony of Raleigh Union Station Phase I was a community-wide celebration that included over 500 attendees, including elected officials, appointed officials, and interested members of the community.

A. Technical Feasibility

A feasibility study was conducted by the City of Raleigh in 2014; this study included site selection, preliminary concept plans, and early environmental investigations. The study concluded that the project is feasible and necessary to accommodate additional bus capacity and to create connections to planned bus rapid transit, commuter rail, and intercity passenger rail. GoTriangle subsequently completed an implementation and development strategy study, including an approach to joint-development and a concept design with an opinion of probable cost. The Wake County Transit Plan was completed and adopted in 2015, setting the basis for ridership calculations herein. There are no outstanding technical issues. Additional detail on previous studies can be found on the project website: rusbusnc.com.

B. Project Schedule

Significant previous investments have been completed to allow the project to move forward and meet statutory requirements:

1. All necessary pre-design activities are scheduled to be completed by March 2019 allowing funding obligation well in advance on the statutory requirement of September 30, 2020.
2. Construction can begin as early as August 2020 with all BUILD Transportation funds expended by September 30, 2025; and
3. All real property and right-of-way acquisition have been completed. No additional acquisition is necessary.

TABLE 4
Project Implementation Schedule

Estimated Start Date	Estimated Completion Date	Activity Milestone	Lead Agency
Pre-Design			
2003	2005	Real Property and Right-of-Way Acquisition (COMPLETE)	GoT
July 2018	Dec 2018	RUS Bus Environmental Assessment – Categorical Exclusion	GoT/COR
Aug 2018	Sept 2018	RFQ – Issue and Evaluation of Private Sector Development Partner	GoT
Sept 2018	Jan 2019	Additional Design and Engineering for Bus Facility (to Approx. 30%), made available for qualified Joint-Development (J-D) proposers	GoT
Jan 2019	Mar 2018	RFP Issuance to Shortlisted Developer Teams	GoT
Obligation of Funds (by September 30, 2020)			
Apr 2019	Apr 2020	Design and Engineering*	GoT/J-D
May 2020	July 2020	Permitting and local approvals	GoT/J-D
Construction (all BUILD funds expended by September 2025)			
Aug 2020		Procurement	
		Site Work -Excavation, Site preparation and selective site demo, foundation and utility work	
		Concrete and Structure	
	(Aug 2023)	MEP & Finishes	
	Dec 2023	Project Closeout	

GoT = Go Triangle COR = City of Raleigh J-D = Joint Development /Private Sector Partner

**There are numerous options for relationship of the design, engineering, and construction of the public components of the project vs the private components. Work on the separate components can be done in tandem or sequentially (through separate contracting and on separate construction timelines). Although the public sector improvements have independent utility, the above assumes the entirety of the project moves through design and construction together, as this is a more conservative approach.*

C. Required Approvals

The project is well-positioned to meet all deadlines associated with BUILD Transportation 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 follows:

(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 has been completed and transmitted to FTA Region 4 for review. The checklist is used to determine the required level of environmental review. Based on existing uses in the Warehouse District, we anticipate seeking a Categorical Exclusion (CE) for the project, which will take less than 12 months to complete.

(b) Reviews, Approvals, and Permits by other Agencies: Few permits are anticipated as part of the project development process. Should the environmental checklist review yield a recommendation for additional review, the project team has anticipated and included a time allotment for such activities. RUS Bus will occupy three parcels that were originally built in 1910, 1920, and 1922. The project site and the surrounding area has been surveyed by the National Register of Historic Places (NRHP). In 2013, there was a proposal to expand the adjacent Depot Historic District, and the project site does lay within the Depot Historic District Expansion (WA6524). However, the Depot Historic District Expansion does not have NRHD status.

(c) Environmental Studies: A Phase I environmental study was completed when the property was purchased in 2004.

(d) Discussions with USDOT Operating Administration Field: There have been numerous discussions with Region 4 of the Federal Transit Administration (FTA). In February 2017, a project overview including the conceptual design was presented to Region 4 staff in Atlanta. A follow-up presentation took place in July of 2017, and the project was presented to FTA Executive staff in Washington in January of 2018. In addition, FTA Region 4 visited the project site in the spring of 2018. Regular updates on the project are provided on a quarterly basis.

(e) Public Engagement: As part of the site selection process, a number of public meetings were held in combination with public outreach for the Raleigh Union Station (RUS) Phase I project. In addition, two stakeholder input sessions have been held to seek feedback from the community and key developers with active projects in the area. Information gained through the outreach effort has been used to refine the conceptual design and to develop likely overbuild scenarios. HR&A Advisors has completed an extensive market study to further refine development concepts and determine the most appropriate uses for the overbuild. The market study also evaluated the financial feasibility of constructing various levels of affordable housing. As the project moves forward into final design, a series of public workshops will be scheduled.

(2) State and Local Approvals: The RUS Bus project is currently being prioritized for state funding. The project has received a high technical score and it is anticipated that approximately \$8 Million in state funding will be programmed in the STIP. The draft STIP will be available in December of 2018 and formally adopted by the NCDOT Board of Transportation in June of 2019. Sufficient zoning exists to allow for the construction of all of the potential uses for the facility, however a local rezoning may be required to allow the height associated with the proposed over-build portion of the project. Such local zoning approval can be complete by the end of 2018 if necessary.

(3) Federal Transportation Requirements affecting State and Local Planning:
Throughout the RUS Bus project feasibility study and project planning, the project team has coordinated closely with the FTA Region 4 staff to ensure that the project will be in full compliance with all federal requirements.

D. Assessment of Project Risks and Mitigation Strategies

GoTriangle and its partners have analyzed the potential risks to the RUS Bus project. A “mitigation” approach has been recommended to address many of these risks associated with the planning, procurement, funding, and politics associated with a project of this magnitude. In addition to a commitment to create and regularly update the risk register, GoTriangle will allocate a portion of funding to create a dedicated team focusing on the successful implementation of RUS Bus. Leadership will be provided by a team with an existing track record of federal grant and capital project delivery and will rely on the close working relationship with the Raleigh Union Station Phase I team which recently completed the \$88 million project in July of 2018. A summary of risks and mitigation strategies are provided in the table on page 28.

*Conceptual Rendering of RUS
Bus development from the
Hargett and West Street
Intersection*



TABLE 5

Description of Possible Risks, Their Potential Impact, and GoTriangle's Response

Description of Possible Risks and Impact	Response Strategy	Response Actions
Risk Category: Planning		
Unexpected environmental or site conditions could remain undetected until Construction, With -potential to increase costs and delay schedule.	Mitigate	Continue with the robust subsurface investigation program that has been developed and implemented.
Longer than expected timeframe to obtain NEPA clearance	Mitigate	GoTriangle has previous environmental documentation from the prior decade, and partner agency GoRaleigh has environmental documentation on adjacent property from the recently completed Raleigh Union Station Phase I.
Consultant design may not meet agency, partner, or community expectations. Revisions to design could delay schedule and increase costs.	Mitigate	Coordinate review with multiple internal City and partner agency units, local affordable housing experts, and staff.
Locations of subsurface utilities, both public and private, are not known with a high degree of certainty at the current stage of project development, although current information suggests that there will be utility conflicts and associated relocations. Potential to increase costs and delay schedule.	Mitigate	Implement appropriate use of Level A SUE to definitively identify utility conflicts and initiate early coordination efforts with utility owners.
Obtaining permits from the various agencies could take longer than anticipated. Potential to delay schedule and subsequently increase costs in order to recover lost time.	Mitigate	Continue coordination efforts with Agencies throughout Final Design. Submit Permit Drawings and Applications at the earliest possible time.
Risk Category: Procurement		
RFP Development Delays – proposals can take a long time to be defined before being released to the private sector for bidding	Mitigate	GoTriangle has already hired a financial advisor consulting firm with experience on FTA Joint Development projects that can help develop the RFP while protecting the agency's financial interests.
Limited Competition for bid	Mitigate	GoTriangle held a discussion at a spring 2018 Board Meeting covering the broad parameters of the project and alerted the development community that this was taking place. GoTriangle staff estimates representatives from 10-20 development firms attended the meeting. GoTriangle has had success with pre-bid conferences on past procurements and could do so again to spur a highly competitive bidding environment.
Risk Category: Funding and Budget		
Local Match funds being available on time	Avoid	GoTriangle Board has taken action to reserve funds in FY20 for RUS BUS. GoTriangle has initiated steps with the TPAC to reserve funds in the Wake County Transit Plan for RUS BUS

Description of Possible Risks and Impact	Response Strategy	Response Actions
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Risk Category: Construction

Inaccurate contract or construction times in preliminary estimates. Project duration is longer than expected.	Mitigate	Coordinate review of preliminary data with in house staff and construction industry experts.
Construction activities could interfere with station operations.	Mitigate	Coordinate construction phasing with operational staff.
Inclement weather could delay construction activities.	Accept	Common risk in construction industry. Accept risk and set project duration to accommodate.
Construction activities could impact adjacent businesses. Lawsuits and complaints to local government could delay the project.	Avoid	Coordinate construction activities that impact traffic at off-peak times, limit noise producing activities to daylight hours.
Compliance with Roadway Worker Protection Rules and Regulations under Title 49 Code of Federal Regulations Part 214, may be required on east side of site in downtown Raleigh and may require extensive use of railroad flagmen. Potential to delay schedule and subsequent cost increases to maintain project schedule.	Mitigate	NCDOT will work with NS to establish a Flagman Program such that a sufficient number of Flagmen are available to efficiently construct the project.
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.	Mitigate	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.

Risk Category: Other

Key staff members within the City and NCDOT, who have significant historical perspective and institutional knowledge of the project, could be promoted or otherwise depart, thereby creating potential hardships.	Mitigate	Ensure that all project-related decisions are properly documented and that project files contain all relevant information.
Although there are no significant legislative barriers to timely completion, and there is every expectation that the legislature, local elected officials, and local funding partners will continue to support this project, significant shifts in state and local politics could impact political support and more specifically, availability of project funding. See the letters of support in Appendix B.	Mitigate	Continue to keep state and local officials informed of the project schedule, scope, and budget; and the long-term benefits of investment in transportation infrastructure.

VI. Benefit Cost Analysis Summary

Benefit Cost Analysis

The Benefit Cost Analysis (BCA) conducted is consistent with all requirements specified in the BUILD notice of funding opportunity and the Benefit-Cost Analysis Guidance for Discretionary Grant Programs made available by USDOT in June 2018. The City of Raleigh and Go Triangle worked with Cambridge Systematics to ensure a fully transparent, replicable, and best-practice BCA for this integrated multimodal project. The detailed report and methodology are included in Appendix A.

The project is expected to generate \$282.39 million in benefits in 2017 dollars. The project capital cost in 2017 dollars are estimated to be \$50.72 million plus a 30-year total of annual

operating and maintenance costs of \$7.5 million. This yields a benefit to cost ratio of 4.85 in 2017 dollars. The results are driven by the sizable impact of the value of travel time savings, vehicle operating cost savings, non-motorized traffic safety savings, and reduced cost of overall transportation expenditures and can be summarized as follows:

- **The cost effectiveness results show that with discount rate of 7%, the project is expected to generate \$49.36 million in benefits.**
- **The project's total cost with the same 7% discount rate is \$38.42 million.**
- **The benefit cost ratio (BCR) at 7% discount rate is 1.28.**



Department of Transportation's National Infrastructure
Investments

Under the Consolidated Appropriations Act, 2018

Opportunity Number: DTOS59-18-RA-BUILD1

Applicant Name: Research Triangle Regional Public
Transportation Authority

Mailing Address: 4600 Emperor Boulevard, Suite 100,
Durham, NC 27703-9856

Jeff Mann
General Manager
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rusbusnc.com