

# NORTH CAROLINA REGIONAL S-LINE MOBILITY HUB PLAN

**2022 RAISE Grant Application** 



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## **Project Snapshot**

Safer, cleaner, equitable, generational change



### The North Carolina Regional S-Line Mobility

**Hub Plan** ("Mobility Hub Plan") will advance regional multimodal transportation along the S-Line Rail Corridor in central and eastern North Carolina – enhancing mobility options, improving social equity, increasing the resilience of the transportation network, improving the environment and spurring economic growth. This project will advance the planning and design for hubs in seven North Carolina communities, which evolved from extensive partnerships along the S-Line corridor.

These hubs will transform the connectivity, innovation, growth, and overall vibrancy of not only the rural communities along the corridor, but the entire region. Communities will see immediate positive impacts, independent of the S-Line rail project, and will be set to optimize accommodation of future service.

The **S-Line** is a 95-mile rail corridor in North Carolina that is the missing link within the greater Southeast Corridor. Together, municipalities and regional and local partners are working to achieve a multimodal and resilient transit corridor that advances transformational, nationally significant passenger rail service.

## **Project Alignment with Merit Criteria**



SAFETY Lessens vehicular travel and reduces vehicular crashes, injuries, and fatalities



#### ECONOMIC COMPETITIVENESS

Increases affordable transportation options while creating opportunities for economic investment



SUSTAINABILITY Reduces vehicular travel and travel time, reducing carbon emissions

STATE OF GOOD

Supports development

private partnerships, and

long-term maintenance

opportunities, public-

REPAIR

options



**QUALITY OF LIFE** Provides more equitable transportation options and reduces reliance and burden of vehicular ownership and travel



INNOVATION

Creates an accessible, holistic, user-friendly transportation experience tailored to each community – from origin to destination



INCREASED MOBILITY Enhances community connectivity via multimodal transportation options



### PARTNERSHIP

Joins NCDOT, regional transportation agencies, and seven communities with local financial support

For more information go to https://connect.ncdot.gov/resources/RAISE-S-Line/Pages/default.aspx



### Clear and significant benefits

Immediately and easily implementable with low cost and high return



Connections of key rural and urban communities



Readiness of the region for innovative multimodal transportation investment

Community buy-in & partnerships

Sustainable growth for a rapidly growing region in desperate need of alternative transportation enhancement



Support for historically disadvantaged populations

Advances transformational, nationally significant, passenger rail service



# Project Description

The North Carolina Regional S-Line Mobility Hub Plan ("Mobility Hub Plan") will serve to advance regional multimodal transportation along the S-Line Rail Corridor in central and eastern North Carolina-enhancing mobility options, improving social equity, increasing the resilience of the transportation network, improving the environment, and spurring economic growth. This rural planning grant will be a critical factor in the connectivity, innovation, growth, and overall vibrancy of the communities along the corridor and the entire region. This S-Line segment is a missing link within a larger vision for passenger rail service in the Southeast Corridor to



Figure 1: Mobility Hub Visual

implement high- performance rail in the region. The corridor reflects the vision of the Southeast Corridor Commission, a partnership between North Carolina, South Carolina, Virginia, Tennessee, Georgia, Florida, and Washington, D.C. Together, the municipalities located along

the S-Line corridor as well as regional and local partners are working to achieve an equitable multimodal and economically resilient transit corridor.

The **Mobility Hub Plan**, which includes seven communities along the S-Line, will connect both rural and urban communities along the corridor. These mobility hubs will provide multimodal connections within each community, enhancing multimodal transportation options and equitable infrastructure, serving as an entry point to each community, and ensuring vibrant and thriving communities for future generations. Under the Mobility Hub Plan, all seven communities will complete Feasibility/Site Assessments, and four of the communities will progress through the National Environmental Policy Act (NEPA) compliance process and preliminary engineering.

The Mobility Hub Plan will include varying scope elements for each participating community: feasibility studies and site assessments will be done for all locations, and some will progress through NEPA compliance and Preliminary Engineering. These hubs are a catalyst for economic opportunities, attracting mixed-use developments and employment and commercial ventures as more people flock to use them. These transit connections will provide more choices on where to live, will improve access to education, jobs, and healthcare, and will connect urban and rural economies. Mobility hubs are places of connectivity where different travel options come together (e.g., intercity trains, commuter rail service, pedestrian, bicycle, transit/microtransit, shared mobility) and integrate mobility services, amenities, and supporting technologies.

## **Transportation Challenges Addressed**

As North Carolina continues to grow, particularly the Triangle Region, transportation options are desperately needed to reduce congestion along area roadways in order to serve the diverse communities and visitors. Many of the communities along the S-Line corridor have limited

access to mobility options and also include transportation disadvantaged populations, as detailed in subsequent sections. The demand for multimodal options will only continue to grow with the rapid growth of the region where industry continues to grow, and town limits continue to expand. Vehicular travel will only become more limiting and detrimental to not only community members' quality of life, but to the environment itself.

The Mobility Hub Plan will be key to connecting these communities both inward and outward. With the connectivity, mobility hubs will become economic drivers for communities, and a key component to maximize the value of the S-Line once



constructed. The S-Line will serve as the backbone for rail connectivity for not only the communities included in the Mobility Hub Plan, but multiple communities in more than six counties along the corridor.

### **Project History**

The Mobility Hub Plan was derived from significant past work for implementation of passenger rail along the S-Line. The activities that are included for the seven communities in the Mobility Hub Plan will continue the momentum from planning to implementation of the vision for connecting communities throughout the Triangle Region.

In 1992, the Federal Railroad Administration (FRA) identified five corridors as future highperformance rail networks that would support safe, efficient, and environmentally friendly transportation across growing regions. One of those critical corridors was the Southeast Corridor, from Washington, D.C. through Virginia, North Carolina, South Carolina, Georgia, and Florida.

Cooperation, coordination, and creativity continue to progress the vision of the Southeast Corridor. The scope of the corridor—approximately 500 miles long and crossing multiple states, counties, and municipalities—required multiple feasibility studies and a tiered approach to project development. The NCDOT's Rail Division and the Virginia Department of Rail and Public Transportation (VDRPT), in partnership with the FRA and the Federal Highway Administration (FHWA), first developed a program-level Tier I Environmental Impact Statement

(EIS). The Tier I EIS reviewed several route corridors from Washington, D.C. to Charlotte, with a Record of Decision (ROD) completed in 2002.

After extensive evaluation, coordination, engineering and public involvement, a Tier II EIS was completed for the 162mile corridor from Richmond to Raleigh. A 2017 ROD solidified the route, allowing the project to move to final design and construction, once funded through federal grants. The ROD covers the corridor and intercity passenger service. The EIS ROD discussed preliminary ridership information, but final station locations must be determined through their own NEPA processes. NCDOT has applied for the Consolidated Rail Infrastructure and Safety Improvements (CRISI) and Federal



Figure 3: S-Line Rail Corridor TOD Planning Study Communities

State Partnership grants to advance designs for intercity rail along the corridor and anticipates applying for future grants to develop the segments of the corridor that can support intercity rail and future regional or commuter rail. The plans for this portion of the corridor include the reestablishment of the underused and partially abandoned S-Line. NCDOT received a CRISI grant to purchase the active portion of the S-Line that supports implementation of the SEC.

The establishment of the Southeast Corridor Commission (SCC) built momentum for and informed the development of the corridor. The Commission and the FRA developed the Southeast Regional Rail Plan<sup>1</sup>, reporting on the economic benefits of rail along the corridor, creating a development strategy and prioritizing major projects. The commission received a \$1 million FRA grant in 2017 to advance the mission of high-performance rail in the Southeast and to conduct planning studies to develop and implement the Southeast Corridor.

<sup>&</sup>lt;sup>1</sup> Southeast Corridor Commission, Southeast Regional Rail Plan, December 2020, https://www.southeastcorridor-commission.org/copy-of-commission-reports-1

The six southeastern states and Washington, D.C., in partnership with the FRA, developed a long-term passenger rail vision for the Southeast. This regional rail plan explores the potential for high-performance rail and projects and intercity connections over the next 40 years. The study builds on state planning efforts and other activities in the region, identified opportunities for growth and outlined next steps. The Commission has also identified the economic impacts of implementing the system and has been developing a list of priorities and the SEC Development Strategy.

Additionally, NCDOT received a \$1 million grant from the Federal Transit Authority (FTA) to develop a vision for the S-Line corridor that will link urban and rural economies and communities in the region through Transit Oriented Development (TOD). These grant funds are helping communities along the corridor develop plans to explore ways the rail stations can bolster their economic development efforts. This planning work is expected to be complete at the end of 2022, providing each community with an implementation plan for transit readiness based on market analysis and unique community characteristics and goals.

### **Project Statement of Work**

The Mobility Hub Plan will provide the next steps of implementation for seven of the S-Line communities, evaluating station site feasibility, environmental review, and preliminary engineering (detailed in Figure 4). The Mobility Hub Plan includes a feasibility/site assessment for each community. Once a site is selected, some communities (Warren County/Norlina, Henderson, and Sanford) will be ready for the environmental review and compliance with the National Environmental Policy Act (NEPA). This phase will result in the NEPA compliance

documentation and an understanding of regulatory needs and permits. These same communities will also initiate preliminary engineering, for both site and structural components of the mobility hub.

Completion of the Mobility Hub



Figure 4: Steps of Implementation

Plan will result in mobility hub projects (central hub for integrated mobility services) in four of the communities that are ready for final design and construction. The remaining three communities (Franklinton, Wake Forest, and Apex) will be one step closer to design with the completion of the Feasibility/Site Assessments.

The SEC Development Strategy, which is scheduled to be completed in the spring of 2022, aims to summarize service and infrastructure recommendations from past studies and identify actionable next steps through the lens of changes in the rail industry and state rail operations. In addition, both intercity and STOPS ridership models are being developed so the communities will understand potential ridership along the S-Line and to their communities. The Mobility Hub Plan will build off this work as the next steps to the fruition of a mobility hub in each community, encompassing not only rail connections but a host of mobility options.



## **Geographical Description**

Starting in Norlina, North Carolina, and traveling south through Wake Forest and Raleigh, into Apex and then Sanford, the corridor connects rural and urban communities from Virginia through the Triangle Region. The Triangle, a conglomeration of Durham, Raleigh, and Chapel Hill, is a metropolitan statistical area made up of over 2 million people and several large industries. Connected by the S-Line corridor, rural communities like Norlina, Sanford, Henderson, and Franklinton are within a 45-minute commute to the Triangle Area, where many travel for jobs, events, and the social scene. These rural communities, once built on rail, are continuing to grow and expand due to the growth of the Triangle, bringing more opportunities and development to the rural communities.

As demonstrated in Figure 5 and listed below, seven communities have partnered for this grant opportunity. The rural or urban designation of each municipality is based on the definition in the *Notice of Funding Opportunity* (NOFO) for this grant and the 2010 Census – Urbanized Area Reference Map: Raleigh, NC. This project is designated as a rural project due to the majority of

the communities being located outside of Raleigh's urbanized area and the majority of the costs being used to improve rural areas. Participating communities include:

- 1. Warren County/Town of Norlina (Rural)
- 2. Town of Henderson (Rural)
- 3. Town of Franklinton (Rural)
- 4. Town of Youngsville (Urban)
- 5. Town of Wake Forest (Urban)
- 6. Town of Apex (Urban)
- 7. Town of Sanford (Rural)



Figure 5: Participating Communities

Also within this region are the communities of Cary and Raleigh, which both have already taken significant steps to analyze and plan for the opportunity along the S-Line. Therefore, while the communities of Cary and Raleigh are not partnering on this grant, they have provided Letters of Support (see Attachments).

Currently, the S-Line region is connected by U.S. Highway 1, which runs the entire length of the corridor. U.S. Highway 1 is a major commuter corridor, running parallel to the S-Line with current daily traffic volumes topping 40,000 vehicles per day (see Figure 6).

Additionally, Interstates 40, 440, 540, and 87, and U.S. 64 all are major regional commuter routes that cross the S-Line corridor. signifying the importance of the S-Line and its ability to further connect the region through rail. These highways are only expected to become more congested with increases in traffic volumes from the projected growth in the area. In addition, a wellconnected greenway system runs from Apex to Wake Forest. Within the study corridor, only communities in Wake County have regular, fixed-route, transit services. There is a strong need for transit options in the rural communities. In the overall S-Line corridor, 34 percent of residents live more than 25 miles from work. More than 10,600 people who live in the study corridor work within a half mile of a TOD study area-23 percent of those residents make less than \$1,250 each month.



Figure 6: Average Daily Traffic in S-Line Corridor

### **Community Characteristics**

#### Norlina

The northernmost community in the Mobility Hub Plan, Norlina, is a rural town with 920 residents<sup>2</sup> and a legacy as a historic railroad depot. Running through the middle of Norlina are historic businesses that show the social and civic heart of the community. Additionally, Norlina is home to Lake Gaston, a notable tourist attraction. Norlina has a relatively high social vulnerability rating<sup>3</sup>, with a percentage of BIPOC (Black, Indigenous, and people of color) residents, and



Residents in Norlina providing input on the S-Line TOD Study

percentage of cost-burdened households<sup>4</sup> exceeding other S-Line communities. Warren County, where Norlina resides, has three census tracts (9501.03, 9503, 9504) within the corridor that meet the Areas of Persistent Poverty (AOPP) threshold.<sup>5</sup> Four census tracts (9501.03, 9502, 9503, 9504) meet the Historically Disadvantaged Communities (HD) threshold.<sup>6</sup> Norlina also has one census tract (9502) within a federally-designated Opportunity Zone (OZ).

#### Henderson

Henderson has 15,060 residents.<sup>2</sup> Vance-Granville Community College (total student and faculty population of over 3,000<sup>7</sup>) and the expansive Kerr Lake are notable nearby attractions. Downtown Henderson has a connected street grid that offers ample opportunity for multimodal connectivity. Downtown Henderson also has a higher concentration of BIPOC residents than any other community in the study and a high social vulnerability rating relative to other S-Line communities.<sup>3</sup> The area surrounding Henderson and within Vance County includes seven census tracts (9601, 9602, 9605, 9606, 9607, 9608, 9610) within the corridor that meet the AOPP threshold, and nine (9601, 9602, 9603, 9605-9610) that meet the HD threshold. Henderson also has one census tract (9605) in an OZ.

<sup>&</sup>lt;sup>2</sup> US Census Bureau. 2020.

<sup>&</sup>lt;sup>3</sup> CDC/ATSDR Social Vulnerability Index. 2019 Database. North Carolina.

<sup>&</sup>lt;sup>4</sup> Center for Neighborhood Technology. Housing and Transportation Affordability Index. 2017.

<sup>&</sup>lt;sup>5</sup> (1) any county that has consistently had greater than or equal to 20 percent of the population living in poverty during the 30year period preceding November 15, 2021, as measured by the 1990 and 20009 decennial census and the most recent annual Small Area Income Poverty Estimates as estimated by the Bureau of the census10; (2) any census tract with a poverty rate of at least 20 percent as measured by the 2014-2018 5-year data series available from the American Community Survey of the Bureau of the or (3) any territory or possession of the United States. A county satisfies this definition only if 20 percent of its population was living in poverty in all three of the listed datasets: (a) the 1990 decennial census; (b) the 2000 decennial census; and (c) the 2020 Small Area Income Poverty Estimates.

<sup>&</sup>lt;sup>6</sup> www.transportation.gov/RAISEgrants/raise-app-hdc

<sup>&</sup>lt;sup>7</sup> Institute of Education Sciences. National Center for Education Statistics. 2020

#### Franklinton

Franklinton, a rural community just south of Henderson, has 2,456 residents. <sup>8</sup> Downtown Franklinton has seen significant private investment and redevelopment in recent years as a bedroom community to Wake Forest, Raleigh, and the greater Triangle Area. The pedestrian network is in need of updates to create a connected downtown area. Franklinton tends to be less burdened by housing and transportation costs compared to other S-Line communities, but still has a relatively high social vulnerability index. Franklin County, home to Franklinton, has four census tracts (604.01, 604.02, 601, 603.02) within the corridor that meet the AOPP threshold, and three census tracts (604.02, 601, 603.02) that meets the HD threshold. Franklinton also has one census tract (606) in an OZ.

#### Youngsville

Youngsville is an up-and-coming bedroom community with 2,016 residents.<sup>2</sup> It is a growing place, propelled by its proximity to Wake Forest, Raleigh, and the greater Triangle Area. Youngsville also experiences relatively high transportation disadvantages.

#### Wake Forest

Wake Forest is a rapidly growing urban community of 47,601 residents just outside of Raleigh.<sup>2</sup> Downtown Wake Forest is a local business and entertainment hub that connects to the regional Capital Area Greenway system. Wake Forest neighborhoods located east of the S-Line corridor have slightly more BIPOC residents and a higher social vulnerability rating than neighborhoods to the west.<sup>3</sup>



Wake Forest community engagement during the S-Line TOD Study

#### Apex

Another quickly growing urban community, Apex has 58,780 residents.<sup>2</sup> The downtown area has a vibrant historic district, including a train depot built in 1867. Apex is one of the more affluent communities in the study area. Just outside of Apex, along the corridor, two census tracts (521.02, 535.17) are considered AOPP, while five census tracts (521.02 528.02, 528.03, 535.07, 535.17) are HD. Near Apex, in Wake County, there are three census tracts (530.09, 528.03, 524.07) in an OZ.

#### Sanford

Sanford, the southernmost municipality within the study area, is a community of 30,261 residents.<sup>2</sup> It has a growing downtown historic district, which includes a Railroad House Museum and Depot Park, at the intersection of two rail lines. Industrial space is a strong component of Sanford's growth. Within Lee County, three census tracts (302, 303, 304.01) are

<sup>&</sup>lt;sup>8</sup> US Census Bureau. 2020.

considered AOPP and seven are considered HD (301.01, 302, 303, 304.01, 304.02, 305.01, 305.02). One census tract in Sanford (302) is in an OZ.

#### Address Underserved and Underrepresented Populations

To address underserved and underrepresented populations, partner communities were evaluated based on the methodology in the NOFO. However, to verify the information and look at multiple characteristics associated with underserved populations, the social vulnerability index and transportation disadvantage index (TDI) were determined for each community, as demonstrated in Table 1 below.

NCDOT has developed an Equity and Transportation Disadvantage Screening Tool that provides data on six indicators of transportation disadvantage: age 15 or under, age 65 or over, low-income, disability, zero vehicle households, and people of color. This tool will continue to be utilized during the development and delivery of this project to address transportation disadvantaged communities that are disproportionately impacted by the transportation challenges found along the corridor. Additional information on NCDOT's TDI is provided in subsequent sections.

Community	Social Vulnerability Index Score <sup>1</sup>	Transportation Disadvantage Index Score <sup>2</sup>
	1 = most vulnerable 0 = least vulnerable	18 = most potential transportation barriers 6 = least potential transportation barriers
Norlina	0.75	
	0.75	12.20
Henderson	0.86	13.53
Franklinton	0.82	13.08
Youngsville	0.32	8.02
Wake Forest	0.31	8.82
Apex	0.17	8.78
Sanford	0.69	11.12
S-Line Corridor Average <sup>3</sup>	0.41	9.78

Table 1: Mobility Hub Communities: Access and Equity

<sup>1</sup>The average Social Vulnerability Index (SVI) score for the census tracts in each geography. The SVI scores census tracts based on 15 social factors, including social characteristics, household composition, minority status, and transportation access. The index illustrates how resilient communities may or may not be when confronted by external stresses and identifies those places where the most socially vulnerable populations exist. The map is one indicator, among other tools, that can be used to support equity in transportation planning, providing social services, economic development planning, and emergency management.

<sup>2</sup>Shows the average Transportation Disadvantage Index (TDI) score for the block groups in that geography. The TDI is a composite index developed by NCDOT to identify places and people in NC that face barriers to accessing transportation. The TDI uses 6 indicators of potential transportation disadvantage measured at the ACS block group level (data from the 2015-2019): Carless households; People with low incomes; Mobility-impaired people aged 18 years and older; Youth aged 15 and under (non-drivers); Seniors; and BIPOC population.

<sup>3</sup> Based on a 5-mile buffer of the S-Line corridor

# III. Grant Funds, Sources and Uses of Project Funding

## Scope of work for each community

The Mobility Hub Plan is estimated to cost approximately \$4,100,000 (as shown in Table 2 below). The majority of the project costs (\$3,000,000 or approximately 71%) will be used to improve rural areas (Sanford, Franklinton, Henderson, and Norlina). The activities that will be funded as part of this project are the next steps necessary for these communities to offer multiple transportation modes in a centralized location and be part of the passenger rail service on the S-Line corridor. The costs estimated for each activity (i.e., Feasibility/Site Assessment, NEPA, and Preliminary Engineering) are based on coordination with several industry experts and local knowledge of the communities. The feasibility/site assessment will evaluate several potential locations for the mobility hub in each community, including access, circulation, development opportunities, and potential for expansion. The NEPA phase will evaluate project alternatives and associated potential impacts in compliance with prevailing regulations. The preliminary engineering, which will be used for NEPA compliance, will include schematic design, site plan, building layout, and elevation of the proposed mobility hubs. These funds will be used in phases as detailed in the Table 2 below and the implementation schedule.

Mobility Hub Location	Task	Cost	Total
	Feasibility/Site Assessment	\$150K	
Sanford*	NEPA	\$300K	\$950K
	Preliminary Engineering	\$500K	
Apex	Feasibility/Site Assessment	\$150K	\$150K
	Feasibility/Site Assessment	\$150K	
Wake Forest	NEPA	\$300K	\$950K
	Preliminary Engineering	\$500K	
Youngsville	Feasibility/Site Assessment	\$150K	\$150K
Franklinton*	Feasibility/Site Assessment	\$150K	\$150K
	Feasibility/Site Assessment	\$150K	
Henderson*	NEPA	\$300K	\$950K
	Preliminary Engineering	\$500K	
	Feasibility/Site Assessment	\$150K	
Norlina*	NEPA	\$300K	\$950K
	Preliminary Engineering	\$500K	
	Total	\$4.25M	\$4.25

Table 2. Project Costs

\*Rural area pursuant to the NOFO definition.

## Non-federal / Local Match

An exciting partnership has been created among the communities along the S-Line corridor, which has been made evident in this grant application. All partner communities have committed 20 percent of the anticipated total cost, understanding the importance of forward momentum with this project. Table 3 below illustrates each community's committed match (see Attachments for documentation of community matches). There are no conditional or time constraints on the local funding outside of compliance with the RAISE grant requirements.

Mobility Hub Location	Total Cost	Community Match
Sanford*	\$950K	\$190K
Арех	\$150K	\$30K
Wake Forest	\$950K	\$190K
Youngsville	\$150K	\$30K
Franklinton*	\$150K	\$30K
Henderson*	\$950K	\$190K
Norlina*	\$950K	\$190K
Total	\$4.25M	\$850K

Table 3. Committed Local Match

\*Rural area pursuant to the NOFO definition.

## RAISE

Based on the estimated cost for the Mobility Hub Plan and the committed local match (both detailed above), this proposal requests **\$3,400,000** in RAISE grant funding to implement the proposed activities in each community.

## **Other Corridor Investments**

There are no other federal funds that will be or have previously been authorized for the Mobility Hub Plan. However, it is important to note the significant support for the S-Line corridor and transit-oriented planning in these communities through other funding commitments. As previously stated, this project is supporting the momentum of the communities to provide a mix of transportation options in a centralized location and accommodate future passenger rail service. Previous funding support for the S-Line communities includes the 2020 FTA grant for TOD planning (approximately \$900,000).

- a. 2019 FRA Grant (\$1,000,000) to establish Southeast Corridor Commission and fund:
  - Publication of the Southeast Regional Rail Plan
  - Preparation of the Economic Benefits Rail Report
  - Preparation of the SEC Development Strategy
- b. Grade separations on corridor in STIP:
  - P-5718 NE Maynard \$56,490,000 (State funded)

- P-5720 Durant Road \$18,200,000 (State funds used to leverage Federal funding for Millbrook Road see below)
- P-5737 Millbrook Road \$25,878,000 (State and Federal funds)
- P-5715 New Hope Church Rd \$18,000,000 (State funds used to leverage Federal funding)
- P-5734 Trinity Road \$36,865,000 (State funds)
- P-5707 Rogers Road \$24,400,000 (State funds)
- c. CRISI Grant from FRA (\$47,500,000) to acquire the active rail corridor of the CSX S-Line between Raleigh and Norlina

NCDOT has also recently submitted a CRISI grant application to fund design for the Raleigh to Richmond segment of the Southeast Corridor. That grant application is currently being review by the FRA.

# IV. Merit Criteria

## Safety

### HOW THIS PROJECT ADDRESSES SAFETY

- » Reduces vehicle volumes on roadways, reducing the potential for crashes and fatalities
- » Provides equitable multimodal options for vulnerable roadway users
- » Incorporates pedestrian-oriented design
- » Easily accessible and low barrier to entry
- » Promotes compact, mixed-use development near station
- »Supports rail travel, the second safest form of travel

Mobility hubs will reduce vehicular travel on North Carolina's rural and suburban roads by offering a reliable, alternative method of transportation, consequently reducing the potential for vehicular crashes, and associated injuries and fatalities. Mobility hubs create a space for people to move safely and conveniently between transportation modes in one location. This approach is consistent with the USDOT's National Roadway Safety Strategy, specifically addressing elements of the Safe System approach and the associated impacts on climate change and equity.<sup>9</sup> These hubs will link numerous communities through rail travel, which is the second safest form of transportation after flying.<sup>10</sup> Based on a previous NC Model and DC2RVA Model from the EIS, it was found that more than two-thirds of predicted train trips would otherwise be made by highway.

The proposed mobility hubs will offer vulnerable roadway travelers equitable mode options other than individual vehicular travel on area roadways. As previously detailed, the partner communities and S-Line corridor are expected to continue rapidly growing in the future, adding more travelers to the transportation network. Furthermore, the mobility hubs will spur other non-motorized transportation projects for first/last mile connections within the community (such as bike and pedestrian facilities) and greater mobility diversity throughout the corridor.

With respect to vulnerable users and an equitable transportation system, the Mobility Hub Plan will consider pedestrian-oriented design and moderating vehicle speeds due to the high pedestrian activity at mobility hubs. These design components will consider all ages and abilities for access and ease of travel. Site circulation and separation of vehicle movement at the hubs will be important in designing a safe and user-friendly hub. Through the current TOD Planning Study, recommendations will be made to communities to enhance multimodal infrastructure for the support of transit, adding protection for non-motorized travelers. Because of the mixed-use nature of these mobility hubs, multimodal forms of transportation will be easily accessible and have a low barrier to entry.

<sup>&</sup>lt;sup>9</sup> https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf

<sup>&</sup>lt;sup>10</sup> Savage, Ian. Comparing the fatality risks in United States transportation across modes and over time, 2013. https://www.sciencedirect.com/science/article/abs/pii/S0739885912002156

Ideally, housing will be near these stations, inviting passersby to utilize these transportation options, that include walking and biking for last-mile connections, resulting in fewer vehicle miles travelled.

## **Environmental Sustainability**

### HOW THIS PROJECT ADDRESSES ENVIRONMENTAL SUSTAINABILITY

- » Reduces the need for private vehicle, VMT, associated congestion, and emissions
- » Reduces potential for negative environmental impacts on disadvantaged communities
- » Multiple connections in central location, minimizing ecological footprint
- » Options for area delivery services and amenities
- » Natural home for electric vehicle charging
- » Supports Mobility as a Service (MaaS)
- » Sustainable construction practices and building materials
- » Resilience alternatives, compliance with Federal Flood Risk Management Standard

### **Mobility Hub Plan**

These mobility hubs will inherently promote the use of multimodal transportation by providing multiple connections in one central location, reducing the need for a private vehicle, and minimizing the ecological footprint in the region. The mobility hubs will offer an integrated suite of mobility services, amenities, and supporting technologies: intercity trains, commuter rail service, pedestrian and bicycle facilities, transit/microtransit and shared mobility options. Added sustainability components of the hubs, such as areas for delivery services, will be evaluated under the Mobility Hub Plan. These are places that significantly improve the environment, minimize the ecological footprint, boost mental and physical health, and create places that can be used and showcased by everyone in the community.

Mobility hubs bring transportation options together that can reduce or optimize private car parking and use, reducing congestion on highways—a major step in reducing greenhouse gas emissions. They are natural homes for electric vehicle (e.g., car, e-bike, e-scooter, e-cargo bike) charging, parcel pick up and drop off, and other logistical uses. NCDOT's Mobility as a Service (MaaS) initiative (a sister project to the Mobility Hub Plan), detailed in a later section, is a natural partner for the hubs, creating an attractive and efficient way to use travel modes other than a car. Hubs form transportation nodes on networks that are already being planned and boost cycling and walking.

The communities will focus on sustainable construction practices and building materials for the mobility hubs. Viable ideas for sustainable construction will be evaluated during the feasibility/site assessments and design. These planning and design activities will include analyzing alternatives that reduce risk and increase the resilience of a community to withstand and rapidly recover from storm damages and better withstand the impacts of flooding, considering natural systems, ecosystem processes, and nature-based solutions, in accordance with the Federal Flood Risk Management Standard (EO 13690).

### **Overall S-Line Initiatives Supporting Sustainability**

TOD itself is sustainable, offering a broad range of health, environmental and economic benefits. The Mobility Hub Plan is building off the significant TOD planning effort in these communities, which is expected to reduce the need for driving, preserve rural/natural areas, and prevent suburban sprawl by supporting more transportation choices.

The overall future improvements of the S-Line corridor will lead to new opportunities for job growth, TOD, and improve transportation equity by providing enhanced mobility opportunities to underserved communities. On a per-passenger-mile basis, rail travel is more energy efficient than traveling by car or air and provides lasting environmental benefits. According to the EPA, almost 60 percent of transportation sector emissions are from personal vehicles.<sup>11</sup> Over a 30-year horizon, the intercity service along the S-Line would attract 51.4 million new rail passengers, approximately 1.7 million riders per year. The majority of these riders (approximately 75%) would divert to rail from highways where the average vehicle occupancy is 1.67 people per car. Therefore, over 30 years, the service would remove over 23 million cars from the highway, approximately 770,000 cars per year on average. The diverted cars, buses and air trips would reduce air emissions by 3.6 million metric tons of carbon, 10 metric tons of NOX, 237 metric tons of particulate matter (PM 2.5), and 31 metric tons of SO2.

The highway-rail grade separations proposed under the overall corridor improvements from Raleigh to Richmond would help avoid the emissions related to 52 million hours of queuing and idling at 69 current at-grade crossings that would be eliminated. Future commuter rail services could provide additional emissions benefits by diverting riders from automobiles on busy, congested highways like U.S. Highway 1 from Raleigh to north of Henderson. New economic activity would be supported by new TOD, creating opportunities for new jobs and housing within each community and increasing the total population of potential riders around each station. The resiliency of at-risk infrastructure will be improved through the decreased demand on current roadways due to less vehicular travel and the improvement of the existing rail line.

## **Quality of Life**

### HOW THIS PROJECT ADDRESSES QUALITY OF LIFE

- » Lessens the burden of transportation costs—provides easy access to mode options
- » Saves on commuting time, giving people time back in their day
- » Supports active transportation (walking, biking) and greater physical activity
- » Creates vibrant shared spaces accessible to all, creating a strong sense of community
- » Supports equitable transit-oriented design (eTOD) principles
- » Connects rural communities with more opportunities
- » Supports active transportation (walking, biking) and greater physical activity
- » Creates vibrant shared spaces accessible to all, creating a strong sense of community

<sup>&</sup>lt;sup>11</sup> US Environmental Protection Agency. https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions

Mobility hubs, with the vibrancy of continuous activity, inherently become a destination and foster a strong sense of place for the community. The Mobility Hub Plan will evaluate the potential in each community for a mix of transit options and activities at the hub, including an interactive public realm. The Plan is committed to supporting equitable TOD (eTOD), which seeks to address the inequities of the past, prevent displacement, and provide opportunities for all residents. TOD provides many benefits like improved mobility and access, economic development, and climate resilience; however, development pressure can cause harm by displacing longtime residents and businesses or increasing racial and economic segregation. To prevent these injustices, the Mobility Hub Plan will incorporate the principles of eTOD in the decision-making process. Along the S-Line corridor, eTOD will catalyze communities to acknowledge and address past harms from transportation investments in Black and Brown communities, operationalize racial equity through intentional policy, and eliminate disparities for BIPOC communities.

Demographics of each partner community were shared in prior sections based on definitions in the NOFO and the commonly used Vulnerability Index. NCDOT has created the Transportation Disadvantaged Index (TDI)—an index based on carless households, low-income households, mobility impairments, youth, seniors, and BIPOC populations—to identify the transportation disadvantaged communities in North Carolina. This index aligns closely with the AOPP and goes beyond the typical Environmental Justice (EJ) indicators. A higher score for a community indicates the higher transportation disadvantage (with 18 as the maximum). The TDI scores for each partner community in the Mobility Hub Plan are below. The average score for the entire corridor is 11.01. Figure 7 below illustrates the TDI of the corridor and demonstrates several areas within the partnering communities identified as transportation disadvantaged, particularly Norlina, Henderson, and Sanford.

- Norlina 12.2
- Henderson 14.61
- Franklinton 10.47
- Youngsville 8.00

- Wake Forest 9.66
- Apex 8.64
- Sanford 12.96

The proposed mobility hubs will reduce transportation and housing cost burdens by providing transportation modes that are more cost-efficient than single-occupancy vehicles and encourage new housing options near the mobility hubs. Figure 8 below shows the households within the region who are without access to a vehicle, with concentrations in several of the rural communities, particularly Norlina, Henderson, and Sandford. The Mobility Hub Plan would help address this issue by providing more transportation options, connecting these communities to opportunities, lessening the burden of transportation costs, and in effect, offsetting the burden of housing costs. To offset the cost of housing and transportation, the mobility hubs will support mixed-use development and public-private partnerships near the hub.

Each hub has the potential to be a center of commerce, where businesses can thrive and support the success of the hub. Housing will be near the hubs, making transportation options easily accessible and attractive, reducing commuter times, and giving people back time in their day.

Additionally, the TOD planning study is currently evaluating ways to support these communities through affordable housing policies. The results of this study will be carried forward into the Mobility Hub Plan.

The TOD planning study is also identifying disadvantaged communities and how these communities can be included in the TOD planning process planning.



Figure 7: Transportation Disadvantaged Index of Partner Communities & S-Line Corridor

As illustrated in Figure 7 above, there are pockets of transportation disadvantaged areas throughout the corridor, particularly in the rural communities. Access to vehicles is quite often the largest barrier to opportunity and many individuals who rely on transit, biking, or walking for their transportation needs are BIPOC individuals. Figure 8 below shows locations of households without access to a vehicle. Due to current systems, transit is not always a reliable form of transportation, especially in rural areas where it often does not exist. The mobility hubs will include enhanced transit options and better-connected walking/bicycling opportunities, an equitable source of transportation for all, reliably connecting the rural communities to the urban core. Based on the work completed to date on the TOD Planning Study, the northernmost (Franklin, Vance, and Warren) and the southernmost (Lee) counties experience the greatest potential equity and social vulnerability challenges. Additionally, within a 5-mile buffer of the S-Line corridor from Norlina to Sanford:

- 42% of residents identify as part of a minoritized racial group
- 14% of residents are 65 years old and older
- 14% of residents live in low-income households

The proposed mobility hubs would provide all transportation users with a full range of mobility options needed on a daily basis, and also a place for interactions-through working, shopping, and playing. These qualityof-life benefits will attract new people and businesses and catalyze wider interest and development within these communities. Mobility hubs will create a sense of belonging for community members by providing common gathering and interactive spaces, vital to both physical and mental health. Communities will see improvement in overall health, as more community members opt for multimodal forms of transportation, along with environmental benefits will also contribute to improvement of quality of life.



Figure 8: Location of Households without Access to a Vehicle

## **Mobility and Community Connectivity**

#### HOW THIS PROJECT ADDRESSES MOBILITY AND CONNECTIVITY

- » Connects rural communities to job centers in the Triangle region and beyond
- » Builds thriving communities where all people can work, live, and play
- » Supports efficient freight movement
- » Enhances community connectivity with a central multimodal hub
- » Provides access to mode choices for users of all ages, abilities, and backgrounds

These hubs will result in immediate mobility and connectivity benefits for the communities independent of rail. However, the future S-Line intercity passenger rail service—together with the regional, ADA-compliant mobility hubs in each community—will create a regional transportation system that is connected, safe, and equitable, providing access and mode choices for users of all ages, abilities, and backgrounds.

The feasibility/site assessment will consider locations that may best support Universal Design principles, building and environment that is "accessible, usable, convenient, and a pleasure to use".<sup>12</sup>

Numerous transportation options will be available in one central location with these mobility hubs, shown in Figure 9. Passenger rail will become the most efficient form of travel in the region for many to connect to the Raleigh urban core. According to the FEIS<sup>13</sup>, this intercity passenger rail service could result in a mode shift from highway to rail of over 65% for intrastate and interstate rail travel.

The S-Line is roughly parallel to the A-Line, a



Figure 9: Mobility Hub Mode Options

freight rail line just east of the S-Line. The A-Line is CSX's primary north-south corridor that generally parallels I-95 along the eastern seaboard and also carries passenger rail. Improving the S-Line for high-performance passenger rail will increase the potential freight capacity on the A-Line. Completion of the project and implementation of the proposed passenger rail service along the newly restored and upgraded portions of the S-Line will provide an alternative to 133 miles of the congested A-Line between Selma, NC and Collier, VA, improving mobility. However, the proposed mobility hubs must be in place in each community for these connections to come to fruition. Shifting the daily passenger trains to the S-Line and off of the A-Line will relieve train delays on the A-Line corridor, thereby improving freight train service and reliability, reducing total train hours in road service and related freight rail operating costs and emissions. Improved freight operations will also reduce inventory carrying costs to freight customers. The S-Line restoration also provides an additional line for freight when the A-Line has to be closed due to hurricanes and storms.

## **Economic Competitiveness and Opportunity**

### HOW THIS PROJECT ADDRESSES COMPETITIVENESS AND OPPORTUNITY

» Connects rural communities to the urban core of the region

- » Supports growth—mix of uses, affordable housing, and employment concentration
- » Improves regional economic strength by connecting the entire 95-mile S-Line corridor
- » Supports management of travel demand for goods
- » Supports tourism and destination travel between communities
- » Supports affordable housing and reduces the burden of commuting

<sup>12</sup> https://universaldesign.ie/what-is-universal-design/

<sup>&</sup>lt;sup>13</sup> https://connect.ncdot.gov/resources/Rail-Division-Resources/Pages/Reports-Projects.aspx

As detailed in previous sections, mobility hubs serve as an interregional destination and attract supportive levels of mixed-use development. The Mobility Hub Plan will further evaluate specific sites for locating the hub in a convenient location that is accessible and can foster concentrations of employment. These hubs will create a financial synergy between transit access and surrounding development concentrating housing and jobs through mixed-use developments near the hub.

Figure 10 illustrates existing jobs in the region, which are expected to grow exponentially. With almost 440,00 jobs within a 5-mile radius, the S-Line corridor between Norlina and Sanford is an economic engine for the region. The North Carolina Department of Commerce projects the addition of 9,100 wage and salary jobs annually through 2028, which supports this significant regional development.<sup>14</sup>



Figure 10: Job Density in S-Line Corridor

The addition of the north-south rail service will influence how much of this development will occur in the S-Line Corridor. The proposed mobility hubs are the next step in successfully preparing communities for this passenger rail service that is critical to the region.

In the FEIS, projections were done with base year 2012 to project volumes for a full build alternative.<sup>15</sup> In 2040, 2.5 million riders per year were projected along the corridor. After full build of the corridor, the intercity passenger rail service would see approximately five or more round trips per day. Additional commuter services could be overlaid along the corridor. These trips provide frequent and reliable service along the corridor. Also, the FEIS identified that there would be a travel time savings of approximately 26 minutes for a traveler within North Carolina, and over one hour for travelers outside of North Carolina, supporting a region that is economically competitive within the state and the nation.

The growth of this area has added more than 300,000 new residents, and growth is only expected to continue. The concentration of jobs in Raleigh reinforces the city as an economic engine for

<sup>&</sup>lt;sup>14</sup> https://www.nccommerce.com/data-tools-reports/labor-market-data-tools/employment-projections

<sup>&</sup>lt;sup>15</sup> https://connect.ncdot.gov/resources/Rail-Division-Resources/Pages/Reports-Projects.aspx

the region. High-quality transit service would benefit the corridor's regional commuting trips and recreational travel to and from the rural communities along the corridor. Increasing accessibility through multimodal transportation between labor markets and industries also results in benefits such as:

- More people choosing to work as a result of commuting travel time savings;
- Some people choosing to work longer hours because they spend less time commuting;
- People able to work while in transit;
- Some people changing to a higher paid and a more productive job, as better transportation improves the accessibility of firms and workers; and.
- Greater tax revenues from increased business and employment.

In addition to supporting where people can work, TOD especially supports communities that are enjoyable to live and play in by creating engaging public spaces, safe and comfortable transportation choices, and equitable access to services. The mobility hubs will also revitalize the very communities along the S-Line that were originally built on the rail. Most of the rural communities in the project were once robust, booming communities dependent on the rail line. Both the restoration of a passenger rail service and the creation of mobility hubs would support revitalization efforts in these communities and bridge significant gaps between the urban and rural centers.

### **Supporting Affordable Housing and Transportation Costs**

Co-locating affordable housing and mobility hubs will reduce housing and transportation costs. The TOD planning study that is currently underway will provide a framework and policy recommendations for communities to provide access to location-efficient affordable housing. The TOD planning study will equip communities with the best zoning practices and policies to support affordable housing and mixed-use development within the hub areas. The market assessment will help communities understand how much affordable housing private development may be able to support. Recommendations will include specific sites where public agencies and non-profit developers may consider locating affordable housing projects that will provide convenient access to the mobility hubs. The mobility hubs will support affordable housing and also reduce the burden of commuting. The mobility hubs will create simple to use, multimodal options that will make opting out of a car more attractive and cost effective. As noted above, the time savings that passenger rail will offer will be extremely beneficial to the passenger.

With less burdensome transportation options also comes more opportunities for tourism. The mobility hubs will encourage tourism from community to community and across state lines, bringing in development and commerce for the tourism industry. Some communities along the S-Line already have a strong tourism base, as they are a destination for tourists exploring the cultural amenities of the Triangle Area and the natural attractions of Kerr Lake, Lake Gaston, and Falls Lake. The S-Line communities are also often a mid-point for beach travel on the eastern shores of North Carolina, or the western North Carolina Appalachian Mountains. The region includes impressive state parks, attracting millions of visitors per year. With mobility hubs, the tourism opportunities will increase, connecting visitors and opening access to these tourist destinations.

## State of Good Repair

### HOW THIS PROJECT ADDRESSES STATE OF GOOD REPAIR

- » Supports the viability of passenger rail on the S-Line
- » Positions each community for future maintenance success
- » Presents opportunities for public-private partnerships
- » Mode options support the resiliency of roadways
- » Prioritizes long-term maintenance expansion alternatives and partnerships

The Mobility Hub Plan includes the next steps in the construction of new infrastructure for transit connections within each community. Considering the future State of Good Repair (SGR) through the feasibility and analysis activities positions each community for future maintenance success. Maintaining and expanding these investments is crucial for safety, access, and reliability of the transit infrastructure at each mobility hub.

Any hub along the S-Line would be supportive of making the line viable, through development opportunities, and public-private partnerships. In addition, due to the mode shift this will inevitably support, the resiliency of roadways will be improved by reduced traffic and therefore reduced operations and maintenance costs incurred by the communities and state for roadway maintenance. According to the BCA for the infrastructure of the Raleigh to Richmond segment of the Southeast Corridor, the diversion of automobile and air trips will realize operating cost savings for non-rail modes. These savings for highway travel will be \$.02635 per passenger-mile and for air will be \$0.1756 per passenger-mile.<sup>16</sup> This will allow for improved investment in other modes and a broader impact on the overall transportation system.

Maintaining assets in an SGR allows for improved performance and decreased cost of operating and maintaining (O&M) assets. Generally, SGR investments decrease O&M costs through capital renewal. However, this project is renewing an abandoned line so there is no decrease in existing O&M costs or improvement in the performance of S-Line assets under this scenario. It is a benefit overall that abandoned infrastructure be brought back into use and back into SGR. The proposed mobility hubs are critical to the success of the restoration of the renewed S-Line corridor for passenger rail service.

To maintain a state of good repair, these mobility hubs will have an approach that will include long-term maintenance in mind. The feasibility assessments will evaluate hub sites that lend themselves to efficient maintenance and access for equipment, supporting the resiliency of hub assets. Feasibility studies will also include potential expansion opportunities, ensuring communities are prepared for growth. This long-term approach will help address the current lack of mobility options for underserved and disadvantaged communities and ensure access well into the future.

NCDOT will also partner with the municipalities to maintain the hubs, which could include the maintenance of the rail track or sponsorship of transit operators. Additionally, the connected

<sup>&</sup>lt;sup>16</sup> NCDOT, Raleigh to Richmond Corridor: Benefit-Cost Analysis Report, 2021.

retail and commercial businesses (revenue generators) will create a unique opportunity to generate revenue to assist in the state of good repair. Public-private partnerships will be evaluated for the long-term operations of each hub.

## Partnership and Collaboration

#### HOW THIS PROJECT ADDRESSES PARTNERSHIP AND COLLABORATION

- » Partnership of 7 communities, with extensive support from public and private stakeholders, state and local officials, regional and non-profit organizations
- » Built from existing partnerships that have successfully moved the S-Line vision forward
- » Significant community engagement to date, bringing diverse populations to the table
- » Limiting impacts on private property

As detailed in previous sections, partnerships have been strong for numerous years in revitalizing the overall S-Line corridor project, and the communities involved in the Mobility Hub Plan have been at the table from the very beginning. During the NEPA-compliance efforts for the rail infrastructure, NCDOT worked with each of the communities through community outreach and stakeholder meetings. The communities are currently partnered in the TOD Planning Study, which is fostering clear and regular collaboration through committee membership for municipal leadership and staff, as detailed in Table 4 below, and community engagement events.

	ROLE	COMMITMENT
Advisory Committee	<ul> <li>Adopt recommendations from Technical Committee</li> <li>Champions of the study</li> <li>"Energy creators"</li> </ul>	<ul><li>Quarterly Meetings or at Key Milestones</li><li>Guides overall study direction</li></ul>
Technical Committee	<ul> <li>Peer exchange learning &amp; knowledge sharing</li> <li>Works with study team to incorporate community input</li> <li>Provides technical input on corridor wide issues</li> </ul>	<ul> <li>Working Meetings every 2 months</li> <li>Facilitates/hosts local events/community engagements</li> <li>Reviews all Major Study Deliverables</li> </ul>
Other Stakeholders	<ul> <li>Provides input for Technical Committee to evaluate</li> <li>Liaison between study team and stakeholder group/ organizations</li> </ul>	Meet as needed     Engage as sub groups

Table 4: Stakeholder Responsibilities

Other stakeholders that are currently at the table for the TOD planning efforts include staff from local agencies, local government, and community organizations, many of which provided Letters of Support for this application (see Appendix A). These stakeholders include, but are not limited to:

- Transit agencies
- Historically engaged organizations
- Chambers of commerce
- Economic development organizations
- Citizen advisory boards and • commissions
- Housing authorities and affordable housing organizations
- Metropolitan Planning Organizations • (MPOs) and Regional Planning **Organizations** (RPOs)
- Regional councils of government •
- Stakeholders engaged in equitable community health and development
- "Main Street" organizations •
- Historical development committees

### **Equitable Planning**

The planning and development of the Mobility Hubs will build upon the current TOD planning efforts that are catalyzing communities to acknowledge and address past harms from transportation investments in BIPOC communities, operationalize racial equity through intentional policy, eliminate disparities for BIPOC communities, and improve quality-of-life outcomes for all. Supporting affordable housing policies and best practices, mitigating the potential displacement of existing residences and businesses, will be prioritized during conversations and decision-making for the mobility hubs.

### **Project Partners**

The Mobility Hub Plan will build off the existing partnerships and continue the strong collaboration around the S-Line initiatives. NCDOT will administer the Mobility Hub Plan project for the seven partner communities, which is consistent with the successful working relationships between the organizations through years of planning for this vision. However, the partnerships and collaboration include a much wider group of organizations than just the project partners.

The project partners are listed below:

NCDOT

- Henderson, NC
- Warren County/ Norlina, NC
- Franklinton, NC
- Youngsville, NC •

The Mobility Hub Plan will continue to grow collaboration efforts with stakeholders, regional and state interested parties, and, more importantly, members of the local communities. This outreach will include gauging community needs and desire for



Community Leaders gathered for the S-Line TOD Study

20+ Letters of Support received.

(see Attachment for full list)

Wake Forest, NC

Apex, NC

Sanford, NC

City of Raleigh

Partnership of North Carolina

North Carolina

Department of Transportation

GoTriangle

Capital Area Metropolitan Planning

Organization

Vance County

Wake County

Alliance

Franklin County Lee County

Kerr Tar Regional

Council of Governments

Regional Transportation

Economic Development

WakeUP Wake County

Triangle Area Regional

Planning Organization

Vance-Granville Community College

Central Carolina Community College

Sanford Area Growth Alliance

Henderson Vance County Economic Development Commission

Henderson-Vance County Chamber of Commerce

Wake Forest Chamber of Commerce

Henderson-Vance Downtown Development each mobility hub, mobility options, type of development, and especially identifying characteristics of each community that should be maintained or preserved. Equitable engagement will include going to where the people are through scheduled events in different neighborhoods, ensuring that the voices of many are heard, especially the under-served.

Siting the mobility hubs may require land acquisition, which will be evaluated as part of the feasibility/site assessment phase of the Mobility Hub Plan. Coordination with local agencies and communities will be undertaken during the Mobility Hub Plan activities to limit impacts on private property. Additionally, this plan will pave the way for planning, design, and construction projects that would each have specific DBE goals.

## Innovation

### HOW THIS PROJECT ADDRESSES INNOVATION

- » Offer integrated mobility options, amenities, and technology
- » Unique service delivery approach through MaaS initiatives
- » Project delivery through continuous partnerships to ensure transit-readiness
- » Create space for emerging mobility services and new technology
- »Advance multimodal transportation in the region

### **Innovative Technology**

North Carolina is in progress on creating an innovative service delivery approach through the statewide MaaS program. The MaaS solutions will change the way riders and agencies interact, allowing for passengers to select among ridesharing, bike-sharing, public transit services, and private transit services to fully customize their travel preferences and choose the solution that fits their needs. Transport Service Providers (TSPs) across the state will partner with MaaS operators, who will package services and offer plans and payment options to suite consumers. TSPs will also have Application Programming Interface (APIs) that feed schedules, real-time info as well as the ability to book and pay for services to MaaS operators. This statewide MaaS will transform how people research, schedule, and pay for transportation—improving accessibility to all users. The mobility hubs are a major component of the MaaS program. These mobility hubs will create a space for emerging mobility services and new technologies that can be built upon in the future. Options for automated vehicles, microtransit, ride-share services, and electric vehicle charging stations will all have a place in the mobility hub concept. The MaaS and Mobility Hub Plan will both work together to drive benefits for underserved and disadvantaged communities.

### **Innovative Project Delivery & Financing**

North Carolina is ready for transportation options. NCDOT and the partnering communities have been coordinating ongoing efforts simultaneously to ensure this region has the infrastructure in place to fully optimize the transportation advancements to come. The work for the S-Line, the Mobility Hub Plan, and MaaS work concurrently to advance multimodal transportation in the region. Project financing is important and innovative approaches are being taken. Namely, the presence of publicprivate partnerships for these mobility hubs are an innovative route to financing their existence.

# V. Project Readiness

## **Project Schedule**

The partner communities under the Mobility Hub Plan can begin immediately upon receipt of the RAISE grant obligation notice and execution of the grant agreement. As previously indicated, the TOD Planning Study is expected to be complete by the end of 2022. Based on the assumption that all agreements are in place by early 2023 for the RAISE grant, the estimated schedule below shows a Notice to Proceed date of March 2023. By the first quarter of 2023 the communities will have the implementation plan from the TOD Planning Study, providing tailored recommendations for TOD in their community. These deliverables will guide the initial components of the feasibility/site assessments. It is expected that the Mobility Hub Plan activities will take approximately 2.5 years for the communities that are implementing all three activities. The schedule below demonstrates the proposed delivery schedule and the ability of the phases to overlap, with some tasks occurring concurrently between activities. **Any unexpected delays will not put the obligated grant funds at risk of expiring on June 30, 2026**.



It is important for the communities to continue the momentum from community planning to mobility hub implementation to be ready for the potential passenger rail service, as early as 2030 along the corridor. The Mobility Hub Plan will position the communities for final design and construction of the mobility hubs. Communities will start benefiting from the hubs as soon as construction is complete, serving as a place to connect transportation options—bus, bike and pedestrian, rideshare, and microtransit—even before the anticipated rail service. These hubs will continue to expand to incorporate rail access, development, and other amenities, as available.



Community event in Sanford for the S-Line TOD Study

## **Public Engagement**

A critical component of any transportation investment requires extensive communication and collaboration with the local community through an equity lens. Outreach for the S-Line initiatives to date has been equitable and thorough, with the most recent TOD Planning Study interacting with 450 community members and receiving 1,402 survey responses so far. Additional outreach is expected through the remaining phases of the TOD Planning Study, which will tie directly into the start of this Mobility Hub Plan.

## **Required Approvals and Permits**

The Mobility Hub Plan itself does not require any approvals or permits. However, it is expected that the communities that will progress through the NEPA process will document approvals and permits necessary for the construction of each mobility hub. For those communities that will progress through the NEPA compliance process (Sanford, Wake Forest, Henderson, and Norlina), technical analyses and an environmental review document will be prepared. This process will require coordination with local, state, and federal regulatory agencies on purpose and need, identifying detailed study alternatives to carry forward and their potential impacts, and selecting a least environmentally damaging practicable alternative. The NEPA process will determine permits that may be necessary for construction, which may include, but not be limited to:

- USACE Section 404 Permit
- NCDEQ 401 Water Quality Certification Permit
- NCDEQ NPDES General Permit
- NCDOT Right-of-Way (ROW) Encroachment Permit

- Local floodplain permit
- Local rezonings
- Local site plan approvals
- ROW acquisition agreements
- Railroad and Operating agreements

## Federal Transportation Requirements Affecting State and Local Planning

The specific Mobility Hub Plan has not been included in State or local planning documents to date. However, other components of the S-Line initiative are included in the Capital Area Metropolitan Planning Organization (CAMPO) Metropolitan Transportation Plan (MTP). If this grant is awarded for the Mobility Hub Plan, state and local planning documents will be amended, as relevant.

## **Project Risks**

The risks associated with the Mobility Hub Plan relate primarily to the complex nature and timing of the overall S-Line corridor initiatives. However, these risks continue to be mitigated by the extensive planning and coordination (engagement) that have characterized the initiatives to date. Furthermore, the Mobility Hub Plan provides significant benefits to the partner communities independent of the S-Line rail infrastructure, as previously detailed. Therefore, minimal risks are anticipated with this planning project. A risk assessment and associated risk register will be updated throughout the project phases to ensure risks are mitigated, identifying risks and solutions like those in Table 5 below.

Table 5: R	sk Assessment
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Risk	Mitigation
Multiple Project Partners & Required Coordination	The range of partners for this project have been working together through many phases for a well-planned, technically feasible project that is ready to implement. Continued partner coordination will be prioritized as the project moves forward.
Federal Process Compliance	The partner communities and NCDOT have extensive experience in complying with federal processes, including grants, NEPA, and permitting.
Community buy-in	It will be critical for community members to have a seat at the table during the Mobility Hub Plan for a consensus-driven outcome tailored to each community.
Schedule	The current schedule provides flexibility for unforeseen delays or potential issues to obligate funds and complete the activities in compliance with the grant requirements.

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