Source of Funds and Transit Nexus
The project will be funded through Federal Transit Administration (FTA) Section 5307 funds that were flexed from the Winston-Salem Urban Area MPO Surface Transportation Program – Direct Attributable funds. These funds are currently available and the Project # NC-95-X086 is pending. The project will provide bus stop and bus shelter improvements for current fixed route transit service provided by the Winston-Salem Transit Authority.

Existing Property Description and Map
The Winston-Salem Transit Authority operates a hub and spoke system of transit with two circulator routes located north and west of the City. As a part of the efforts to improve transit service for the community, the Winston-Salem Department of Transportation and WSTA are evaluating two bus routes for improvements to provide bus stop and bus shelters and ADA compliant pedestrian improvements and other associated amenities along two routes. Route 3 travels from the Transit Center to Walmart on the south side of the City along Peters Creek Parkway and Route 7 travels from a beginning point at the Forsyth County Department of Social Services and Health Department which is a system transfer point to Walmart on the north side of the City along Patterson Avenue. These two routes have good ridership statistics and have ample and certified City of Winston-Salem and North Carolina Department of Transportation right-of-way along the corridors. The current WSTA system map and the Project Maps for Routes 3 and 7 corridors are attached.

Street Address or Coordinates
The Project Maps for Routes 3 and 7 corridors are attached and the transit stops will be located within the right-of-way as noted on the mapping.

Photos of the Property, Buildings on the Property and Buildings as seen from the Property
Photos of the bus shelter locations (Bus Stop Types C and D) are attached and identified by Route and cross street for Route 3 and 7 corridors. The locations and photos are specific to the side of the street where the shelter will be located.

Project Description
The project scope of services includes the installation of a standardized bus shelter, benches and other stop amenities within the right-of-way along each corridor. The Project Maps for Routes 3 and 7 corridors are attached. The proposed bus shelter locations are noted as treatments C and D on the mapping. A description of transit stop types for each location A through D is provided in the attached file (Bus Stop Types) and the transit amenity options are shown in the attached file (Bus Stop Site Amenities).

List of Actions Required to Complete Project
The project includes the installation of ADA accessible pedestrian improvements, concrete waiting pads for stops and shelters where there are none, and provides connections to public sidewalk where missing. Sketch Plans for concrete pad dimensions and NCDOT approved ADA curb ramp details and specifications are included. The only earth disturbance will be within existing improved City and State right-of-way to provide safe, ADA accessible pedestrian amenities. Shelter installations can be removed at a later date, if required.
Public Involvement June 10, 2015 at the Winston-Salem Transit Center

- Flyers in both English and Spanish were posted along both transit routes, distributed on the buses for both routes and posted at the Transit Center. (Flyer enclosed)
- A one day public input session for the two corridors in accordance with Title VI was held at the ADA accessible Transit Center to provide the community an overview of project and gain consensus, address questions and concerns (Outreach Methodology enclosed)
- A free, one ride bus pass was provided to each participant in the public involvement
- Spanish language translators were on-site for the entire public involvement event.
- 46 transit riders participated in the public involvement session (See attached sign in sheet) and comment cards were collected from each public involvement staff assisted
- Bus stop locations were reviewed for proposed changes and the addition of other site amenities.
- Winston-Salem/Forsyth County Historic Resources Officer reviewed the routes and noted no historic or community impacts with the project. (Letter enclosed)

Logical Termini, Alignment, Mode and Technology

The alignment or routes indentified for the bus stop and shelter improvements project were determined by ridership statistics, routes that would remain in service after the implementation of the new route and schedule changes through the ongoing Comprehensive Operational Analysis, and service to the widest possible cross-section of the community including disadvantaged, low income, minority and limited English populations. The Transit Center hub and the transfer hub at the Department of Social Services and Health Department and the Walmart shopping centers both north and south of the City of Winston-Salem provide logical and heavily used termini. The mode of service is fixed route bus with this project providing passenger amenities. NextBus technology will be employed as appropriate at Community scale shelter locations. The process for selecting the bus stop and shelter locations and amenities was determined through the project scope of services below:

Visual & Transit Assessment of the Corridors - Consultant Scope of Work

- Review the Route 3 and Route 7 corridors and bus stops by bus and car for appearance, safety, security, connectivity, accessibility, signing, and overall legibility of the routes
- Accessibility for all levels of mobility will be evaluated and opportunities for accessibility improvements will be analyzed
- Identify major commuting and recreational routes, popular origin and destination points and attractions within the study area as well as major regional destinations and connectivity to determine how adequate the existing network is integrated with the overall transportation system
- Gateways, or points of entry into downtown, transitions, neighborhoods, or districts will be identified
- Liabilities found along the corridor that should be minimized, screened or eliminated will be determined
- Create an identity for the bus stop network and the region by investigating the integration of public art and historic and cultural interpretation
- Identify sizes and times of ridership along routes. Determine if/how many different bus shelter configurations are needed to accommodate the different collection types.
- Review existing bus stop ridership profiles, including the boarding and alighting counts and identify locations for potential bus shelters
- Assess transportation patterns looking for opportunities to enhance all modes with particular emphasis on connectivity and pedestrian enhancement
- Use GIS data and technology to map locations for minority, low-income and English as a second language populations to meet Title VI guidelines
- Assess possible need for changes to bus stop locations
- Present findings from Research and Assessment phases
- Investigate incorporation of NextBus technology and solar technology
- Prepare standardized site details and construction drawings and specifications
- Prepare cost estimates and phasing plans for various options
WSTA Bus Stop Improvements
Methodology

- Reviewed planning documents such as:
  Pedestrian Safety Guide for Transit Agencies,
  USDOT FHA, FHWA-SA-07-017
  WSTA Strategic Plan
  Bicycle and Pedestrian Plans
  Accident Data
  Small Area Plans:
  North Central Area Plan
  North Suburban Area Plan
  Northeast Suburban Area Plan
  Southwest Area Plan
  South Suburban Area Plan
  South Central Area Plan

- Compiled GIS data
- Rode routes by bus, car, google streetview
- Monitored nextbus for real time data
- Phone conversations with WS Planning, NCDOT, FTA, etc.
Overall Map & Impressions

- Routes are changing
- Too many stops?
- Not enough?
- Connectivity
- Schedule
Route 10/7

• Travels north from DSS on Patterson to Walmart
• No transfer points
Route 13/3

- Follows Peter’s Creek Parkway south to Walmart
- No transfer points
**Gateways/Transitions/Districts – Route 10/7**

- Corridor includes residential, industrial and commercial areas
- Small Area Plans show Activity Centers at University/Hanes Mill, Northside, Patterson/Glenn
- Major anchors of the route include Walmart and DSS/Health Department
- Narrow ROW in more urban areas, in rural areas, much wider ROW
• Corridor is predominately commercial
• Small Area Plans show Activity Centers at West Salem, Parkway, Peters Creek Metro
• Wide Right of Way
• Major anchors include the Transportation Center and Walmart
• Peters Creek Parkway Corridor Study
Peters Creek Parkway Corridor Study

Peters Creek Parkway (NC 150)
Typical Roadway Section - 120' Right-of-Way
From 1800' South of Academy Street to West 4th Street

Susan Hatchell
Landscape Architecture, PLLC

Peters Creek Parkway (NC 150)
Typical Roadway Section - 200' Right-of-Way
From Silas Creek Parkway to 1800' South of Academy Street
Major Commuting & Recreation – Route 10/7

- Oak Summit Shopping Center
- Vulcan Materials
- Forsyth Tech Transportation Technology Center
- Residential & Business UPS
- Hanes Hosiery
- Businesses
- North Side Shopping Center
- BB&T Field
- Existing & Proposed Businesses
- WS Fairgrounds
- Samaritan Ministries
- Businesses
- Bethesda Center for the Homeless & Crisis Control Ministries
- Forsyth Co. Dept. of Social Services
Major Commuting & Recreation – Route 13/3

- Transportation Center
- BB&T Ballpark
- West Salem Shopping Center
- Diggs-Latham Elementary School
- Washington Park
- Parkway Plaza Shopping Center
- Parkland High School
- Shopping Center
- Parkland Memorial Park
- Goodwill
- Apartments
- Griffith School
- Shopping: Lowe’s Home Improvement, Walmart

Proposed Community Center

Forsyth Tech Community College

Shopping Center

Shopping: Lowe’s Home Improvement, Walmart

Susan Hatchell Landscape Architecture, PLLC
Accessibility/Equity

- English proficiency
- Minority population
- Low income
- Disabled population
Limited English Proficiency

Route 10/7

Route 13/3

Limited English Proficiency Population / Acre

- <= 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- > 1.00

Label represents block group subtotal
Minority Population

Route 10/7

Route 13/3

Blockgroup Boundary
Minority Population / Acre
- <= 0.50
- 0.51 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- > 2.00

Label represents block group subtotal
Persons Below Poverty

Route 10/7

Route 13/3

Blockgroup Boundary

Persons Below Poverty / Acre

- <= 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- > 1.00

Label represents block group subtotal
Accessibility, Safety, Security

- Inconsistency in stops
  - Sidewalks – available and connected
  - Landing pad – 5’ x 8’ min. required by ADA
  - Seating provided
- Weather protection – sun, rain, wind
- Road crossings and markings
- Signs and maps – for routes, wayfinding, nextbus technology
- Prevent sight obstructions for buses, cars, pedestrians
- Nearside vs. farside stops
- Increase police presence
- Emergency call boxes
- Sufficient lighting
- Video surveillance
Existing Pedestrian Connectivity, Identity and Appearance

- Sidewalks
- Drainage ditches
- Inconsistent signage or no signage
- Bike racks
- Site amenities
Potential Pedestrian Connectivity

- Accessible
- Unified palette and color
- Sidewalk connections
- Bike racks
- Shade, amenities
Possible Identity Opportunities

- Unified palette and color
- Easy to read
- Clear graphics/identity
- Phone numbers for schedule information, QR codes
The Best Transit Experience

- Rider comfort
- Strong identity
- Adopt-A-Shelter
- Incorporating new technologies
- Sustainability
- Fun and whimsical
Bus Stops - Distribution

50% - BASIC

A. Sign on Post or Utility Pole
B. Basic Information
C. Lighting
D. Trash Can
E. Paved Waiting Pad

According to the Transit Waiting Environments Ideabook, roughly 50% of stops would qualify as Basic Stops. Basic Stops have limited potential to generate increased ridership and, therefore, only require minimal amenities.

25% SEATING

A. Sign on Post or Utility Pole
B. Basic Service Information
C. Lighting
D. Trash Can
E. Paved Waiting Pad
F. Bench
G. Landscape Enhancements
H. Bike Rack (where needed)

Provide benches at stops with at least 10 boarding's a day

20% SHELTER

A. Totem
B. Comprehensive Information
C. Lighting
D. Trash Can
E. Paved Waiting Pad
F. Bench and Casual Seating
G. Landscape Enhancements
H. Bike Rack (where needed)
I. Bus Shelter
J. Development Strategies for TOD

Provide shelters at stops with at least 25 boarding's a day
Bus Stops - Distribution

As ridership and development density increase, the waiting environments include additional amenities such as benches, shelters, and environmental enhancements.

Photos and distribution information and strategies have been taken from the Transit Waiting Environments Ideabook (TWE) study conducted in 2004.

A. Totem
B. Comprehensive Information
C. Lighting
D. Trash Can
E. Paved Waiting Pad
F. Bench and Casual Seating
G. Landscape Enhancements
H. Bike Rack (where needed)
I. Bus Shelter
J. Development Strategies for TOD
K. Real-time Display
L. Transit System Map
M. Public Art
N. Local Information and Attractions Map

A. Totem
B. Comprehensive Information
C. Lighting
D. Trash Can
E. Paved Waiting Pad
F. Bench and Casual Seating
G. Landscape Enhancements
H. Bike Rack (where needed)
I. Bus Shelter
J. Development Strategies for TOD
K. Real-time Display
L. Transit System Map
M. Public Art
N. Local Information and Attractions Map
O. Unique Design
Boarding and Alighting – Route 13/3

Route 7 Outbound Stops
- Size is proportional to total riders per stop
- Boardings: Green
- Alightings: Pink
- Route 3: Blue

Transportation Center: 260 Boardings
Walmart: 91 Alightings

Route 7 Inbound Stops
- Size is proportional to total riders per stop
- Boardings: Green
- Alightings: Pink
- Route 3: Blue

Transportation Center: 230 Alightings
Walmart: 77 Boardings

Ridership Data Route 3
Winston-Salem Transit Authority
Forcyth County

Data Sources: NCDOT OneMap Forsyth County
Proposed Changes to Route 10/7

Route 10/7 – Inbound/Outbound

- DSS
- Patterson Ave & Liberty St
- Patterson Ave & Northwest Blvd
- Patterson Ave & 15th St
- Patterson Ave & Glenn Ave
- Patterson Ave & 25th St
- Patterson Ave & 28th St
- Patterson Ave & 30th St
- Patterson Ave & Akron
- Possible minor stop near Patterson Ave & Frampton St
- Patterson Ave & Kapp St
- Possible minor stop near Patterson Ave & Park Plaza Dr
- Patterson Ave & Motor Rd
- Patterson Ave & Germantown Rd
- Patterson Ave & Forsyth Tech Transportation Technology Center
- Patterson Ave & Vulcan Materials
- University Pkwy & Summit Square Blvd
- Walmart
Proposed Changes to Route 13/3

**Route 13/3 - Outbound**
- Transportation Center
- 2\textsuperscript{nd} & Liberty St
- 1\textsuperscript{st} & Spruce St
- 1\textsuperscript{st} & Between Brookstown/Broad St
- Peters Creek Pkwy & Park Circle
- Peters Creek Pkwy & Academy St
- Peters Creek Pkwy & Link Rd
- Peters Creek Pkwy & Between Hutton Street/Market Place Mall
- Peters Creek Pkwy & Silas Creek Pkwy
- Peters Creek Pkwy & Trademart Blvd
- Peters Creek Pkwy & Brewer Road
- Peters Creek Pkwy & Ethel Drive
- Peters Creek Pkwy & Southpark Blvd
- Walmart

**Route 13/3 - Inbound**
- Walmart
- Peters Creek Pkwy & Southpark Blvd
- Peters Creek Pkwy & Ethel Drive
- Peters Creek Pkwy & Brewer Road
- Peters Creek Pkwy & Trademart Blvd
- Peters Creek Pkwy & Silas Creek Pkwy
- Peters Creek Pkwy & Between Hutton St/Market Place Mall
- Peters Creek Pkwy & Link Rd
- Peters Creek Pkwy & Academy St
- Peters Creek Pkwy & Park Circle
- Broad St & 2\textsuperscript{nd} St
- Spruce St & 2\textsuperscript{nd} St
- Spruce St & 4\textsuperscript{th} St
- Spruce St & 5\textsuperscript{th} St
- Transportation Center
Bus Stop Types - Basic

A. Little to no ROW, existing sidewalk and curb

B. No curb and gutter, add landing pad

C. No curb and gutter, existing sidewalk with grass strip
Bus Stop Types - Basic

C. Curb and gutter, grass strip and existing sidewalk

D. Curb and gutter, grass strip, existing sidewalk
Bus Stop Types - Seating

A. Existing sidewalk, building, add leaning rail

B. Existing sidewalk, narrow ROW, add leaning rail

C. Existing sidewalk on curb and gutter, add bench pad and bench
Bus Stop Types - Shelter

A. Wide ROW, no curb and gutter, no existing sidewalk, adjacent to parking lot

B. Wide ROW, no curb and gutter, existing sidewalk along ROW.
Bus Stop Types - Shelter

C. Wide ROW, curb and gutter, existing sidewalk along curb

D. Wide ROW, curb and gutter, existing sidewalk, grass strip
Bus Stop Types - Shelter

E. Narrow ROW, curb and gutter, grass strip

F. Narrow ROW, curb and gutter
A. Shelter with Integral Bench

Bus Shelter - $4-6,000
Bus Shelter - $6-8,000

A. Stop Identification
B. Shelter with Cantilevered Roof & Logos
C. Freestanding Bench
D. Trash Can
A. Stop Identification
B. Enhanced Shelter with Signage, Solar Lighting, and Logo on Glass Panel
C. Freestanding Bench
D. Trash Can
E. Wayfinding Totem with Real-Time Display and Route Information
Two-Post options are selected for aesthetics or in places with a narrow right of way where front posts would encroach on the accessible path.
Solar Options are additions that shelter manufacturers are familiar with. A ballpark additional cost would be roughly $1,500 per shelter. Solar panels at bus shelters usually power lights inside the shelter, although they may also power other components, such as a charging station or real-time display.
Real-time displays come in a wide variety of sizes. The primary difference is the number of lines desired for text. Examples include shelter-mounted, totem-mounted, or wall-mounted.
Functional Elements of the Waiting Environment can be enhanced through integrated artwork.

Most common instances include: Glass Panels, Benches, and/or Metal Screens.

Public Art is also proven to reduce vandalism by 40-60%.
NCDOT requires that any bus shelter in state right of way go through an approval process. This process begins when the manufacturer submits signed and sealed drawings from a NC engineer confirming that the shelter can stand up to regional wind speeds. Once complete, the submitted shelter is placed on the Approved Products List for the state.
Next Steps

• Encroachment agreements
  - City of Winston Salem
  - NCDOT

• Plan review through the City
  - No site plan review in ROW
  - Site plan review for private property

• NEPA
  - Review and discussion with FTA
  - Should be a Categorical Exclusion (CE)

• Public Meetings
  - Date, time, location
  - Amount of information
Thank You!