



## Forsyth and Guilford Counties Transit Vision for 2025

### Final Results and Recommendations Report

November 2010

The Regional Transit Development Plan (RTDP) was undertaken by the Piedmont Authority for Regional Transportation to explore the development of a sustainable, effective and efficient regional transportation system. The RTDP's goal was to work with communities, residents, stakeholders and transit systems of the Piedmont Triad to 1) identify ways to manage the benefits and challenges of growth, 2) recognize its impact on our region's transportation system, and 3) address these challenges in a sustainable fashion that is sensitive to residents, resources and the environment.

The RDTP includes the following elements:

- *Transit Development Plan [Transit plan for Forsyth and Guilford County]*
- *Strategic Corridors Analysis [Transit plans for Alamance, Randolph, Rockingham, Stokes, Surry and Yadkin Counties]*
- *Financial Plans*
- *Public Outreach*

This document contains the specific recommendations for Guilford and Forsyth Counties and the details of the planning and technical process used to generate the recommendations.

The plan was prepared by PART and HDR Engineering, Inc., in cooperation with each county and transit systems that operate within Forsyth and Guilford.





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# 1 Background & Introduction

In February 2010, the Piedmont Authority for Regional Transportation (PART) contracted with HDR Engineering of the Carolinas (HDR) and its partners to conduct the *Regional Transit Development Plan* (RTDP) for public transportation in Forsyth and Guilford Counties. This report presents the findings and recommendations of that plan.

Transit service in the study area is provided by five operators – PART, Winston-Salem Transit Authority (WSTA), Greensboro Transit Authority (GTA), High Point Transit (Hi-Tran), and Guilford County Transportation and Mobility Services (TAMS). This transit plan is designed to review the individual plans of these agencies, identify any missing elements for a true regional system, and estimate the costs for the combined services.

## 1.1 Study Purpose

The purpose of this study is to prepare a transit development plan for Forsyth and Guilford Counties through 2025. This plan encompasses all providers in the two counties and includes service expansions and new capital facilities. Cost estimates have been developed for each component. A key objective is to create the plan in such a way that it satisfies the requirements of SL 2009-527, formerly known as House Bill 148. This new law established the *Congestion Relief and Intermodal Transportation 21st Century Fund*. To meet the requirements of this fund, a housing plan has been incorporated into the transit development plan as a way to encourage coordination between affordable housing and the availability of public transportation.

A separate *Strategic Corridors Analysis* has been conducted for PART for the remaining counties of its service area. These two plans are coordinated such that a comprehensive transit plan for the PART region is developed.

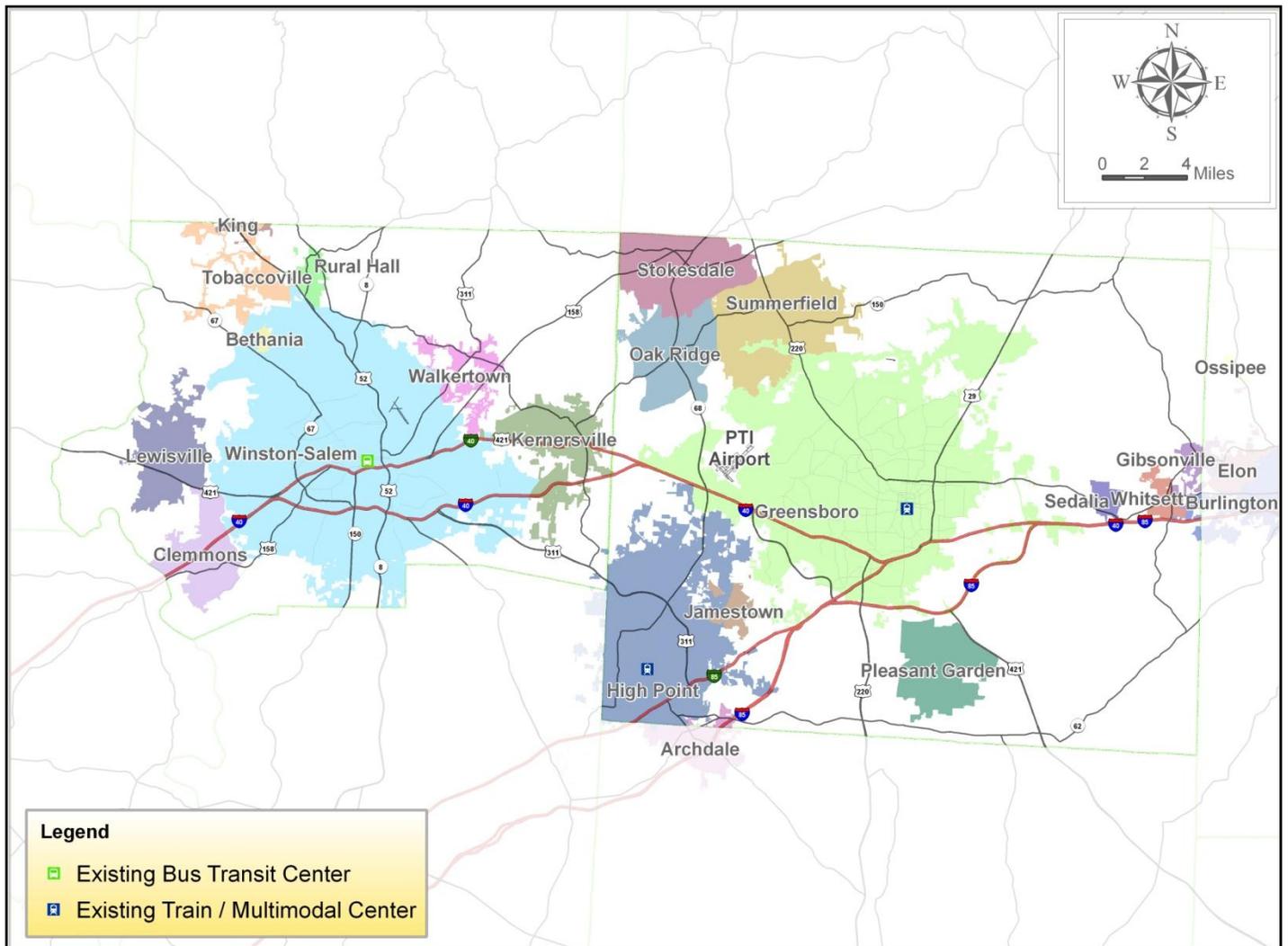
The main components of the development plan are:

- Consider existing and future demographics and land use
- Examine existing routes and current plans
- Conduct a survey of rider and non-riders
- Coordinate with local jurisdictions, transit operators, and key stakeholders
- Complete recommendations for new services and enhancements to existing services by taking into account the previous components
- Meet the requirements for House Bill 148 and create a financial plan

## 1.2 Study Area

The study area for the *Regional Transit Development Plan*, shown in **Exhibit 1-1** is Forsyth and Guilford Counties.

**Exhibit 1-1**  
**Study Area**



## 1.3 Project Team

To ensure the goals and recommendations of the *Regional Transit Development Plan* reflect the interests and considerations of all persons in the two counties, a project team has been established to monitor and guide the process of the study.

### 1.3.1 Study Steering Committee

The work of the study was guided by a steering committee composed of representatives and staff of PART. The study would not have been possible without the long hours and dedication shown by these individuals. The Steering Committee included:

Brent McKinney	Executive Director
Mark Kirstner	Project Manager & Senior Transportation Planner
Scott Rhine	Programs Manager
David Morris	Operations Manager
Teraesa (TJ) Jones	Finance Officer
Brooke Kochanski	Marketing and Communications Coordinator
Lisa Chislett	Marketing Coordinator
JD Stewart	Transportation Demand Planner

### 1.3.2 Local Transit and Transportation Partners

Beyond the Steering Committee, there are many other individuals that played a part in the development of this plan and study. They were made of up of local transit and transportation partners. The following were part of the project team:

Adam Fischer	Greensboro DOT Director
Libby James	Greensboro DOT Public Transportation Manager
Bruce Adams	Greensboro DOT – Senior Transit Planner
Mark McDonald	High Point DOT Director
Buddy Cox	Hi-Tran Director – High Point
Stan Polanis	Winston-Salem DOT Director
Greg Errett	Winston Salem DOT Transportation Planner
Art Barnes	WSTA Director
Myra Thompson	Guilford Co. TAMS

### 1.3.3 Consulting Team

The consulting team for this study was led by HDR Engineering of the Carolinas (HDR). Assisting HDR was the firm Planning Communities, Inc (PCI) for stakeholder involvement. The following were the principal team members on this project:

Kirk Stull	Project Manager
Robert Bush	Transit Principal
David Taylor	Land Use Planning
John Jamison	GIS / Analyst
Vickie Miller	Analyst
Mike Surasky	Transportation Planner
Ann Steedly (PCI)	Stakeholder Involvement
Kevin Hall (PCI)	Stakeholder and Survey Support

## 2 Study Area Characteristics

In order to better understand the transit needs in the area, a background in the characteristics of the counties and municipalities was warranted. This chapter provides information on ridership propensity, transit-supportive density, travel patterns, and congested roadways that lead to the vision of selecting areas of need for improved or new transit service. This chapter also discusses the stakeholder involvement and ridership survey. These also indicate target locations for improved or new service.

### 2.1 Ridership Propensity

Transit Propensity is the concept that measures the inclination or likelihood of using public transit. Propensity is an economic term used to measure consumer behavior. A higher propensity toward an action means a greater likelihood to do the action. Propensity can be quantified such that someone with a propensity of “2” is twice as likely to do something, such as take transit, as someone with a propensity value of “1”.

To identify the transit propensity for each of the Block Groups, nine demographic factors were considered. They were carefully selected based upon industry research regarding the potential users of transit. The background analysis is contained in Transit Cooperative Research Program<sup>1</sup> (TCRP) *Report 28: Transit Markets of the Future, The Challenge of Change*. The specific factors examined were:

- Population density
- Percentage of households without cars
- Percentage of persons with mobility limitations
- Percentage of persons with work disabilities
- Percentage of persons who were not White, non-Hispanic
- Percentage of low-income households
- Percentage of recent (< 10 years) immigrants
- Percentage of female persons
- Percentage of persons in the workforce age 65 or older

An index for each of these factors was developed that determined the relative rank of the Block Group compared with the highest ranked Block Group for that factor by county. These indexes were then weighted to develop a Composite Score for each Block Group. The weights for each factor are based upon the industry research.

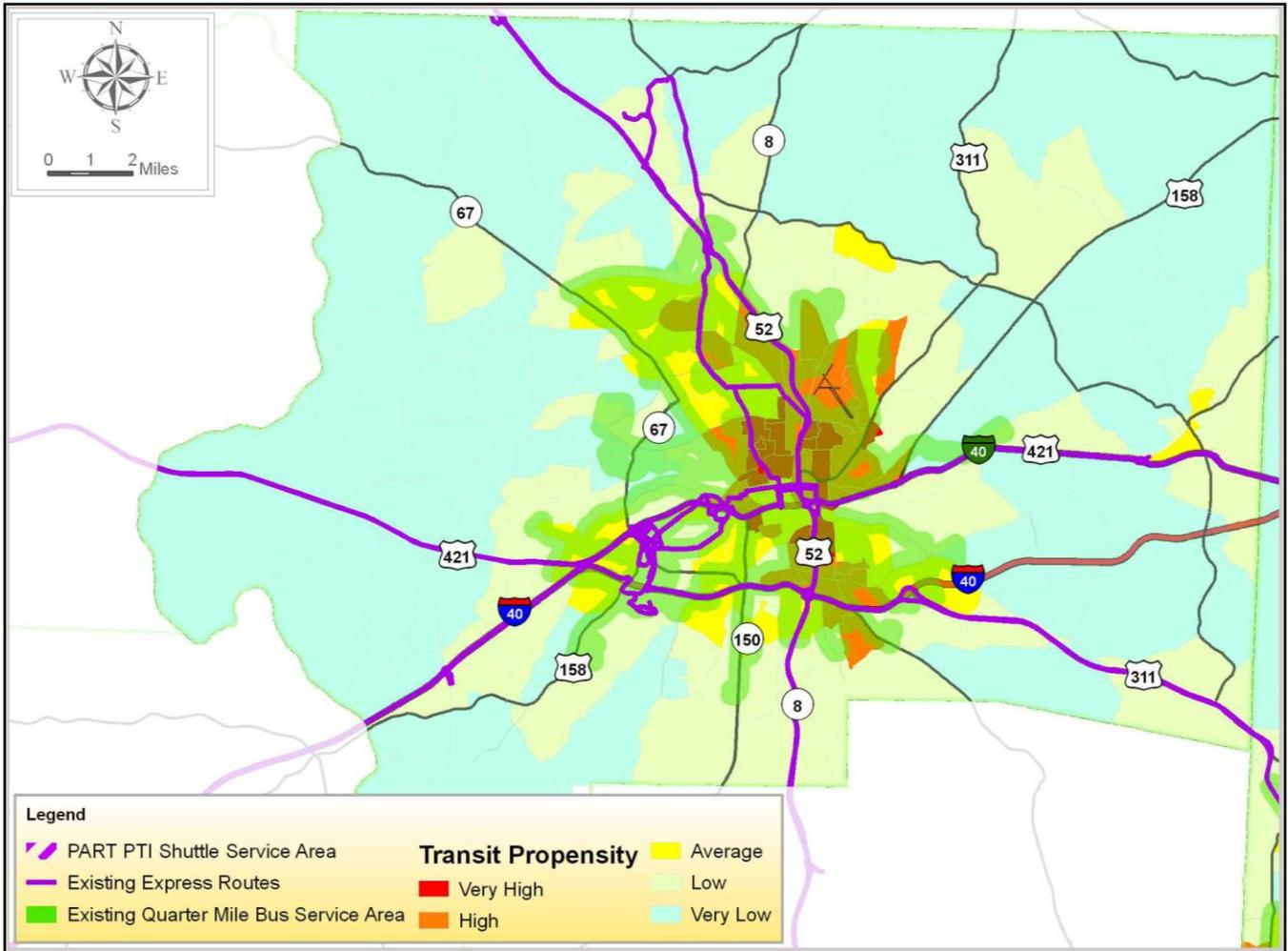
The Composite Scores were then statistically grouped into five categories, from “Very Low” to “Very High” based upon their relationship to the scores of the other Block Groups within each county.

**Exhibits 2-1 and 2-2** show the relative ranking of the Block Groups for Forsyth and Guilford Counties for transit propensity with the existing transit service included. The graphics tell the story of where existing transit service covers the propensity and where it does not.

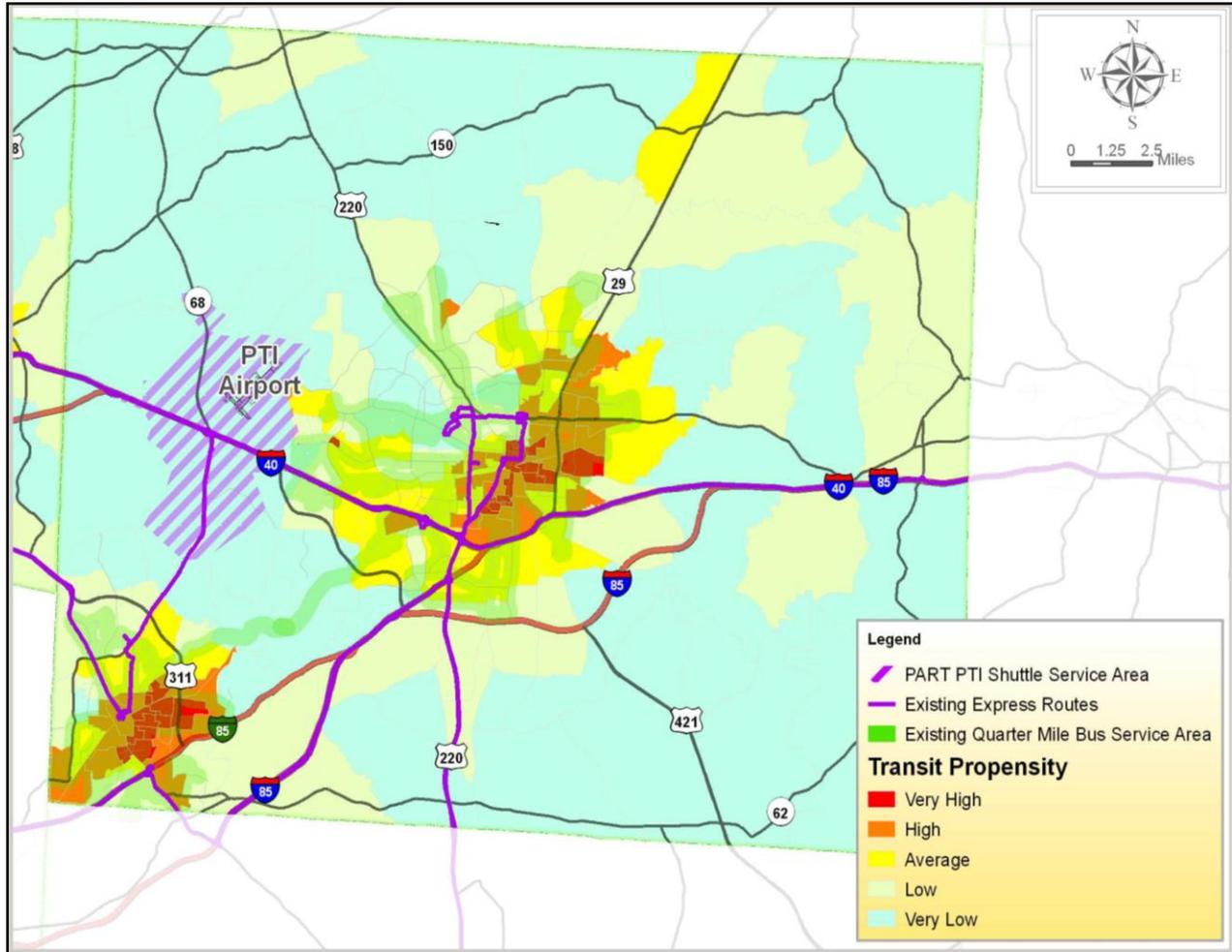
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<sup>1</sup> The Transit Cooperative Research Program is part of the Transportation Research Board of the National Research Council. Its extensive publications are available free on the internet at [www.tcrponline.org](http://www.tcrponline.org).

**Exhibit 2-1  
Forsyth County Propensity with Existing Routes**



**Exhibit 2-2  
Guilford County Propensity with Existing Routes**

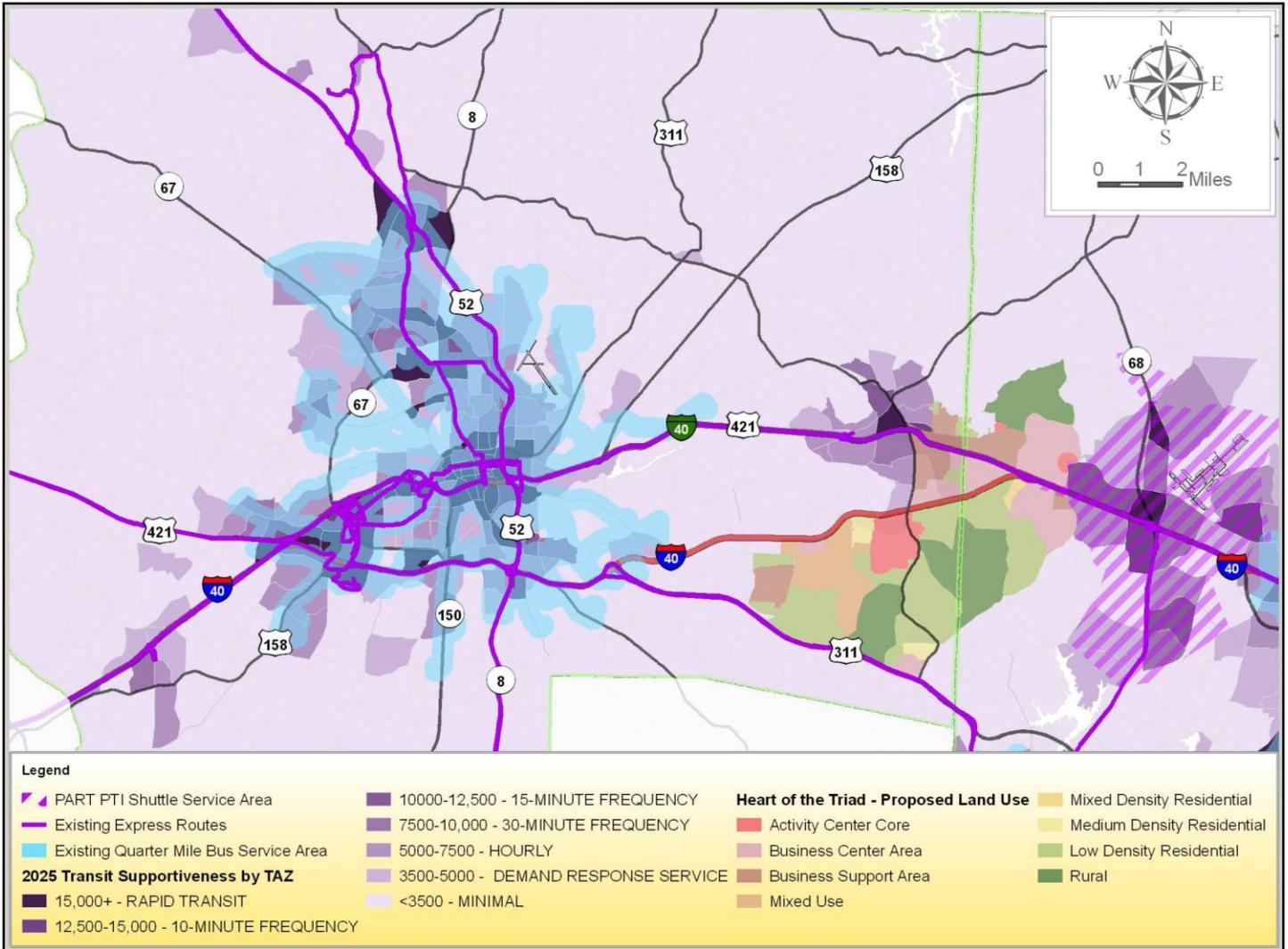


## 2.2 Transit Supportive Density

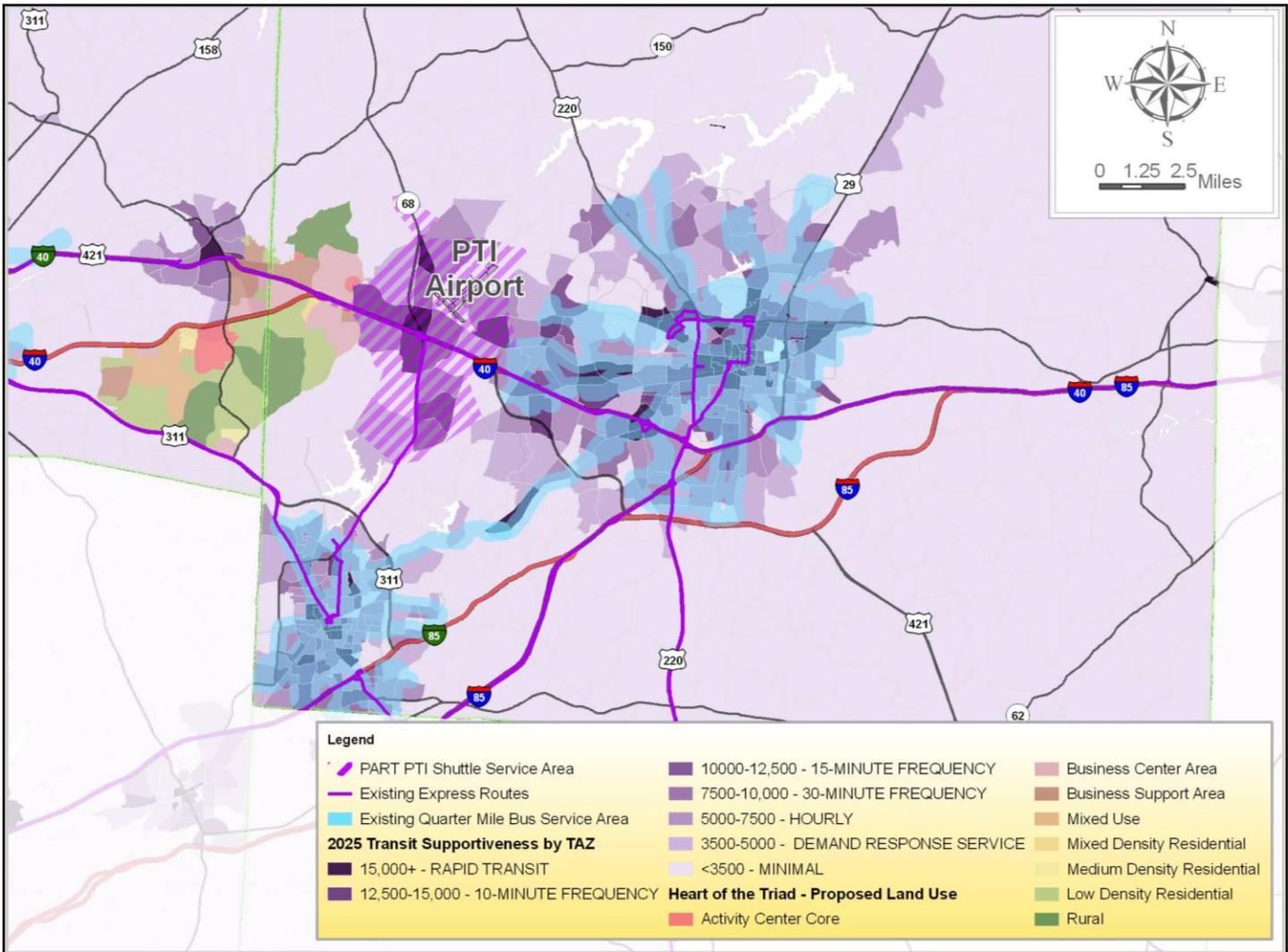
The literature gives some guidance on how to determine if an area is “transit supportive”. This analysis is described in the *TCRP Report 100: The Transit Capacity and Quality of Service Manual*. “Transit Supportive” areas are identified by the density of the population and employment within the block group. The higher the density, the more intensive the transit service that can be supported. This source suggests that a density of at least 3 housing units per gross acre, or a density of at least 4 jobs per acre are necessary to support hourly bus service. An equivalent combination of housing and jobs would have the same effect.

The data for the transit supportive density analysis comes from the Piedmont Triad Regional Model. This model provides data on a traffic analysis zone (TAZ) basis for both population and employment. Based upon the above ratio, the transit supportive density for Forsyth and Guilford Counties can be calculated. **Exhibits 2-3 and 2-4** show the results for 2025. Coupled with the propensity analysis in the previous section, the location of transit need and the level of transit supply can be estimated for the study area.

**Exhibit 2-3  
2025 Forsyth County Transit Supportive Density**



**Exhibit 2-4  
2025 Guilford County Transit Supportive Density**



The maps show an increasing number of TAZs can support intensive transit services from current years to the projected 2025 levels. Several TAZs even have sufficient density under this analysis to support the most intensive capital projects, such as light-rail transit. Notable concentrations in Forsyth County are around downtown Winston-Salem, the Forsyth Memorial Hospital/Hanes Mall area, Wake Forest University, downtown Kernersville, and the Tobaccoville/Rural Hall area. Some of the more remote concentrations, such as Tobaccoville, should be viewed cautiously since they are heavily influenced by the presence of a few large employers.

In Guilford County, the major concentrations are around downtown Greensboro from NC A&T to UNC-G, the Women’s Hospital/Wesley Long Hospital area, at W. Market/Muirs Chapel, at I-40/High Point Rd, west of the airport, and individual locations around High Point.

The maps also tell us that there are many areas that would be underserved in the future by the existing service. These areas include Kernersville, areas around PTI Airport, the NC 68 Corridor, and the Heart of Triad project. These results tend to support previous studies that examined the potential for rail transit service or bus rapid transit service from N.C. A&T Univ. in Greensboro to Hanes Mall in Winston-Salem. Most of the high density locations are within close proximity to I-40 and the NCRR/NS rail lines to the north. On the surface at least, this data supports more intensive transit service. The concentrations in downtown are also supportive of intensive transit circulation service, such as streetcars.

## 2.3 Corridor Congestion

The Piedmont Triad Regional Model was examined to identify any corridors with forecasted congestion that might be suitable for transit services. **Exhibits in Appendix A** show the results from different parts of the study area for forecasted 2025 traffic congestion. The red corridors on the exhibits are those that have a volume to capacity ratio ( $v/c$ ) of over 0.9 and level of service (LOS) E or F. Most roadway systems are considered under capacity and effective with a LOS D or better ( $v/c < 0.9$ ). Most of the deficiencies were taken into account with the creation of crosstown routes to possibly alleviate traffic that is not necessarily going through the downtown areas.

The forecasted deficiencies in Winston-Salem include:

- Downtown area roadways, including US 421/I-40 Bus.
- I-40 through much of south of Downtown
- Silas Creek Parkway and Robinhood Road, west of Downtown
- Old Greensboro Road, east of Downtown

The forecasted deficiencies in Greensboro include:

- I-40 (with US 29, US 70, and US 220) South of Downtown
- Norwalk and Hewitt Streets West of Downtown
- Wendover Avenue near I-40
- Ballinger Road, Northwest of Downtown near New Garden Road
- Summit Ave and Market Street near Wendover Avenue

The forecasted deficiencies in High Point include:

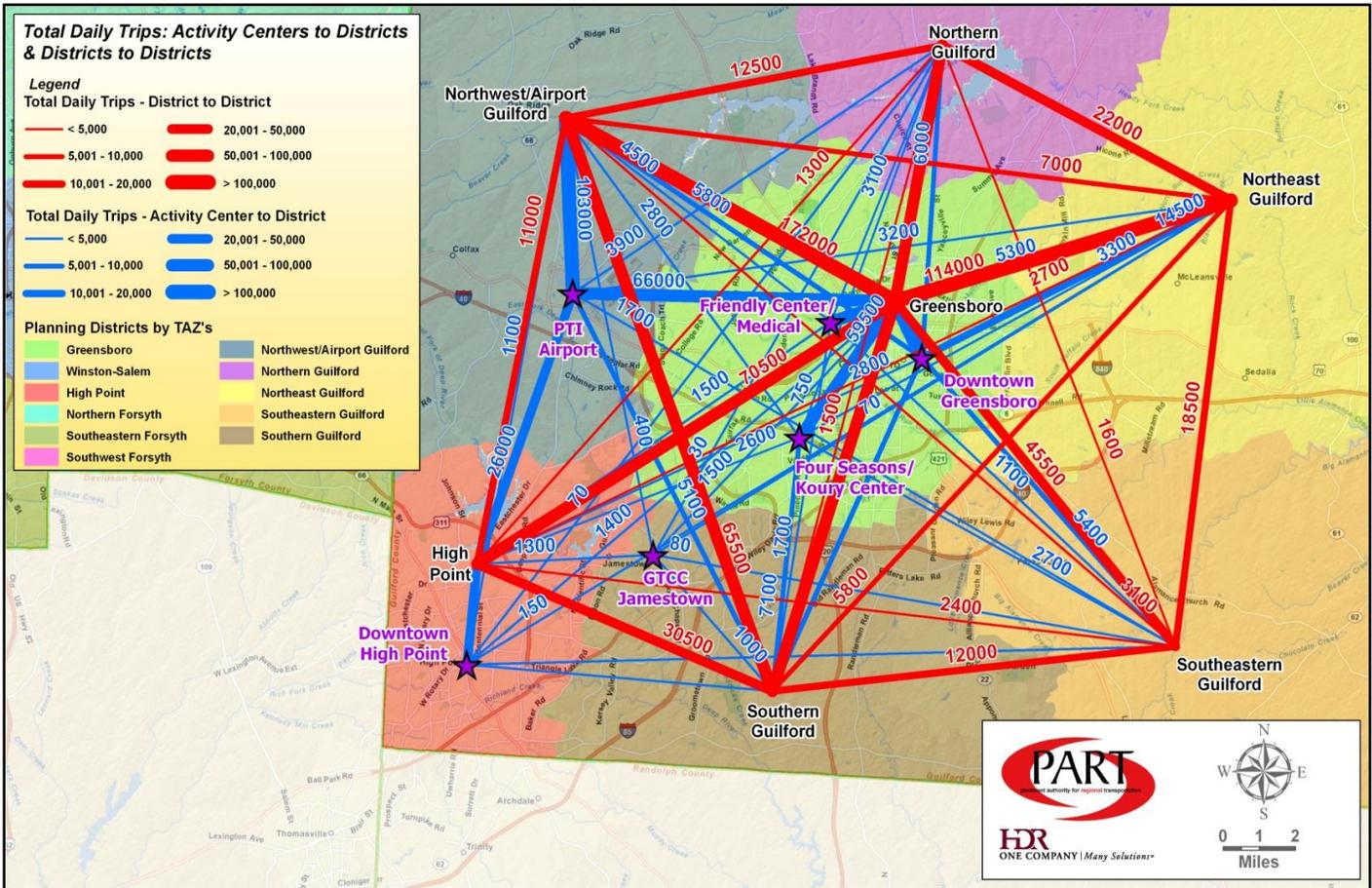
- Deep River Road and Greensboro Road, near US 311
- Dillon Road, North of Kivett drive
- Harvey Road, near River Road
- US 29-70 near Guilford/Randolph Border

The forecasted deficiencies in Center of the Triad include:

- I-40, both East and West of the split with US 421
- West Market Street between Bunker Hill Road and Pleasant Ridge Road
- NC 68 (Eastchester Drive) between Wendover Avenue and US 311
- Wendover Avenue, between I-73 and NC 68
- Regional Road, North of I-40
- Gallimore Dairy Road, near NC 68
- I-40, West of Interchange with I-73
- US 421/I-40 Bus. Between I-40 and future I-74

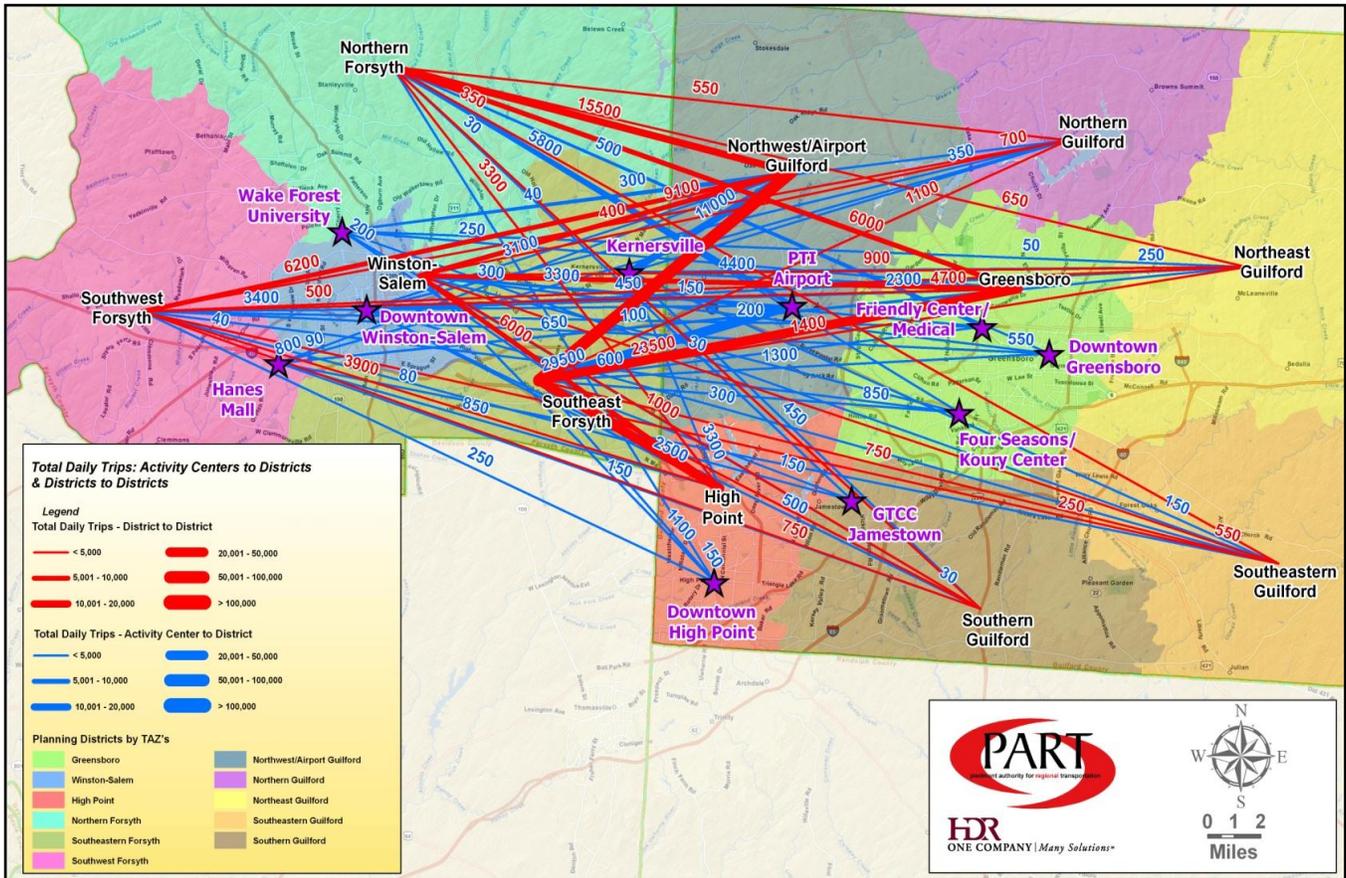


## Exhibit 2-6 Guilford County Travel Patterns



The exhibits show that while the existing routes cover the areas that are most densely populated and have a higher transit propensity, some of those areas are not directly connected to each other. Most of the existing routes take passengers from these areas to the downtown areas. If a current passenger needed to go from one activity center to another, they would most likely take a route downtown and transfer to another route out to their destination. These exhibits show the need for crosstown and inter-county routes that would efficiently connect activity centers outside of downtown areas.

## Exhibit 2-7 Inter-County Travel Patterns



### 2.5 Housing Needs Assessment

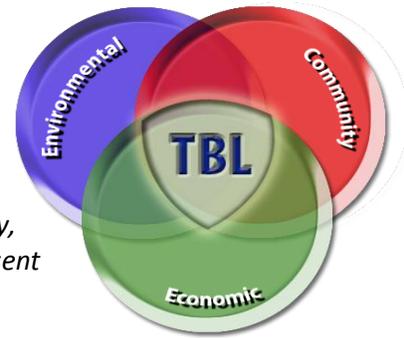
A housing needs assessment was incorporated into the transit development plan as a way to encourage coordination between affordable housing and the availability of public transportation. The housing assessment supplemented and validated the ridership propensity and transit supportive density analyses. In Forsyth County, goals, strategies and actions for housing needs over a five-year period were addressed by the Winston-Salem/Forsyth County Consolidated Housing and Community Development Plan, 2009-2013. In Guilford County, goals, strategies and actions for housing needs over a five-year period are addressed by the Greensboro/Guilford County Consolidated Plan for Housing 2005-2009 and the update 2010-2014. After discussions with planning and economic development stakeholders from both counties and municipalities therein, these plans dictate how the housing needs will be met in reference to nearby transit systems. See **Appendix B** for the housing needs assessment and associated details.

## 2.6 Human Ecologic and Sustainability Factors

The development of the RTDP comes at an extremely opportune time, as there is growing national interest in sustainable communities built around integrated transportation and land use strategies. This national interest is paired with the even larger global interest in sustainability. As will be defined further, there are three dimensions to sustainability – **environment, community and economy**. These three encompass the ideas of the human ecologic factors expressed by PART in the development of the RTDP. The intent of this section is to reveal benefits from communities with robust transit systems.

There are numerous definitions of sustainability, and they all deal with the needs of the present and future generations. For the purpose of the RTDP, the following definition is used, along with an accompanying diagram.

*Sustainability is the **act** of balancing the environmental, community, and economic needs of the built and natural environments for present and future generations.*



The first dimension of environment is fundamental to the entire concept because it provides the larger setting where the other two can flourish. Transit can have positive effects on supporting environmental protection and enhancement. Among the benefits are minimizing the need for wider roadways, clean technology to help reduce pollution, fuel efficiency to conserve energy and serving compact development to take pressure off sensitive natural resources.

Sustainability’s second dimension consists of “people and place”- the social and built aspects of community. One basic ethic is social equity and that applies to access to adequate housing and services, as well as the cross-over factor of the next dimension - access to employment.

Having a viable economic future is important to all Triad residents, so it is the anchor sustainability dimension. Economic health, equitable access to jobs and sustainable return on investment (SROI) are core principles. As economic cycles and technological changes occur, the need for continuous innovation, market focus and tracking opportunities grows daily. This factor, as noted in the community dimension, is related to how places grow and move. Employment centers should be well-located.

While the definition is clear and simple, places are faced with the challenge of how to manage the constant interaction of the three aspects of sustainability. The Triad region is not exempt from this challenge, and the following diagram illustrates the overlap between. If these three are seen as revolving circles, and constantly intersecting, the Triad is faced with new and emerging challenges. Just a review of a few challenges that face the Triad, reading clockwise from the top, are: **Greenhouse Gas Management Plan, Complete Streets, Risk Analysis, Carbon Markets, Climate Action Plans and SROI (Sustainable Return on Investment)**. Even five years ago, most of these challenges likely were not on the radar screen of PART and its constituent communities. However, the multi-modal approach of Regional Transit Development Plan is an important first step to help bring a comprehensive sustainability to the region.

Starting with *Growing Together in the Triad*, the region recognized that a “business-as-usual” philosophy would not advance its future positively. That said, there are few true, coordinated regional efforts. One such successful effort was the creation of the Piedmont Authority for Regional Transportation (PART), with its ten county members. Through PART, land use and transportation issues are discussed, and the new Sustainable Communities Planning Grant could be used as a means to develop a regional vision and implementation program. The Regional Transit Development Plan is a good start, since the plan begins addressing urban, suburban and rural needs. As PART and its constituent jurisdictions move forward, they should consider how to employ the Livability Principles to activate long-term, sustainable environmental, community, mobility systems in the Triad.



**Human Ecologic and Sustainability Implications for the Triad**

Against this backdrop of definition and challenges to the region, following are more specific sustainability implications with respect to the RTDP, arranged by dimension.

Environment:

- Improvements of Air Quality and Impacts on Non-Attainment Status
- Changes in Greenhouse Gas Emissions
- Changes in Energy (Fuel) Consumption
- Impacts on Water Quality and Quantity

Community:

- Benefits of a Multi-Modal Transportation System
- Coordination and Planning with Local Education Agencies
- Benefits of Compact Development
- Potential to Provide Affordable, Accessible Housing
- Tested Methods and Tools to Implement Compact Development

Economy

- Improve Access to Employment Opportunities with Enhanced Mobility
- Locate Employment Centers Proximate to Transit Lines
- Use Transit as an Employment Opportunity
- Improve Access to Education Opportunities

## **Sustainability Benefits of Transit for the Triad**

PART recognizes that the Regional Transit Development Plan can be an important step to advance the Triad as a livable, sustainable region. In response to the three dimensions of sustainability's triple bottom line - *Environment, Community and Economy*, PART introduced four important themes to help move toward implementation. These themes recognize that the Triad must:

- Broaden its the range of transportation choices
- Increase its citizens' accessibility to employment, housing and essential services
- Strengthen and deepen regional partnerships
- Invest for the future to reach the goals of an enhanced environment, flourishing communities and a resilient economy.

As part of the theme of sustainability, Transit will do the following:

- Broaden Transportation Choices
  - A range of mobility choices
  - Increased highway safety
  - Saving natural resources
  - Managing growth
  - Stress relief
  - The future of transit
- Increase Accessibility
  - Employment opportunities
  - A range of services and institutions
  - Independent travel for seniors
- Strengthen Partnerships
  - The public sector
  - The Private Sector
  - The institutional sector
- Invest for the Future
  - Reducing transportation costs
  - Create job opportunities
  - Enhance regional quality of life

## 2.7 Stakeholder Participation

A major part of the RTDP is meeting with the public and the stakeholders. Valuable information was gained from more than 25 such meetings regarding the existing service and performance. The purpose of the Stakeholder Participation Program (SPP) was to provide outreach to various project stakeholders and interests in order to educate, inform, solicit input, and build consensus on the RTDP. This task included the development of outreach strategies and methods, stakeholder meetings, community forums and information gathering activities. Comments received as a result of this task were used in the development of the recommendations contained in the plan.

The overall goal of this SPP was to establish a positive and collaborative working relationship with interested parties and raise awareness of the RTDP efforts by providing ample opportunities to learn about the project, provide feedback and participate in the decision-making process. Dialogue with transit and transportation agency representatives, elected officials, transit riders, interest groups, local universities, and business owners were on-going throughout the process.

Early in the process, the project team identified stakeholders to interview by identifying representatives from the following agency types:

- Transit/Transportation
- Economic Development
- Social/Public Services
- Community Development and Land Use Planning Staff

The project team amassed a group of questions to ask each type of stakeholder for the interviews to start conversation and comments. There were also second interviews with stakeholders from the major municipalities after the initial recommendations were considered. Below are a synopsis of the interviews with the stakeholders by category, and a short description of those interviews:

### **Stakeholder Interviews**

#### **Transit/Transportation:**

##### **Hi-Tran (High Point Transit), March 26, 2010**

The top priority for Hi-Tran was the addition of later evening service. Consensus was that a future route to the Heart of Triad Area was a good idea and that Wal-Mart would make a good anchor for transit services. They did not believe that the council or community would support increased taxes.

##### **Winston-Salem Transit Authority (WSTA), March 26, 2010**

Top priority is to decrease headways to 30 minutes during the peak and hourly during the mid-day. Considered express routes to other cities with the use of park and ride lots. They liked the idea of a Westside crosstown connecting Wake Forest University and the Baptist Medical Center. Also liked the idea of Sunday service, but were concerned with the accompanying ADA requirement.

##### **Guilford County Transportation and Mobility Services (TAMS), April 8, 2010**

TAMS felt the areas for new potential service include McLeansville Road (new subdivisions), Citi Card offices, Wal-Mart at Rock Creek Dairy [note: no Wal-Mart in this area; closest is Burlington]; and Wendover to NC 68 (Palladium Theatre). NCDOT has recently given them money to purchase AVLS and MDTs.

**Greensboro Transit Authority (GTA), April 28, 2010**

The general consensus was that more crosstown routes are needed, notably the Cone Crosstown Route. GTA agreed that further service hour increases, especially on the weekends, were warranted.

Economic Development:**Piedmont Triad Partnership (PTP), March 22, 2010**

Growth in the Triad will be slow in the upcoming years, but FedEx is developing, the Piedmont Center (on NC 68) has a large cluster of jobs, and Union Cross and Rock Creek are hot spots for future development and employment. Second and third shift employees may bring the need for 24 hour transit service. Connecting all of the 20 institutions of higher learning is vital. Most of the riders are taking transit out of need. Does not believe that rail will work because there is not enough congestion on the roads now. Connections to destinations and frequency of service for smaller communities are lacking. With the lack of traffic congestion and density of land uses, commuter rail service will be a tough sell.

**High Point Chamber and Market Authority, March 29, 2010**

This group mentioned that high speed rail is not cost effective and that buses are more practical. No weekend service for PART is a problem to the furniture market. Companies have asked about transit access when considering sites in the area. The development of the Heart of the Triad project and Piedmont Center need to be served by transit. Other areas that could benefit from transit are: NC 68 (congested), Guilford Tech (40 k students), High Point University and High Point campus of Guilford Tech. They believed that a sales tax would not pass because there is no congestion to correct.

**Winston-Salem Chamber and Economic Development, March 29, 2010**

Both PART and WSTA have a public relations problem as both have empty buses. There has to be a culture shift to get people to use transit. Vanpools may work, but people don't want to get stuck at work and use a fixed schedule. Transit may save money, but at great time expense. Growth in the area will happen between Winston-Salem and Greensboro. Development is not clustered at nodes, no density, not transit supportive. Economic development may react favorably to the planned street car. No new tax until economy picks up and empty busses disappear. Leadership W-S took bus from downtown transit center to Salvation Army. They found it to be an "unpleasant experience". Voters will need to see potential benefits. Environmental benefits will be well received as green buses are a positive. There will be public school bond referendum soon; transit could accompany that.

**Winston-Salem Downtown Partnership, April 23, 2010**

They are interested in sustainability. There is a problem with consistency in the transit linkages. They realize that retail is attracted to tracks (i.e. streetcar). Access to the airport is important. Some barriers to bus usage are routes are different going in and out, distance to stops, quantity (frequency) not there and people want flexibility of car. They feel that the younger crowd is missing from the transit conversation. Leaders will approve a tax increase and taxpayers will approve if sold as promoting economic development & jobs. The main items for buses are change perception and improve availability. The perception now is getting low income workers to downtown. The system needs to be getting commuters from outlying communities to workplaces.

### **Piedmont Triad Research Park, May 12, 2010**

Research Parkway was designed to accommodate street car. Research Park will create 27,000 jobs. Need infrastructure to support development i.e. – light rail to airport. Could use a dependable bus route to airport right now. Need incentives and infrastructure from City, County, State, (i.e., funding for Research Parkway). Maybe new or increased taxes would be OK, but need visible results. Baptist Bus-Pedestrian connections are important. Streetcar route went through the Research Park during the planning phase. Need alternate sources of transportation to promote housing in district. Need access/transportation to outlying shopping areas. Need to connect Baptist Hospital hub to downtown Winston-Salem.

### Social/Public Services:

#### **Winston-Salem Urban League, March 11, 2010**

Triad is in a unique position for attracting employers because of its skilled but inexpensive workforce, reasonable cost of land, convenient access to airports and interstates. Transit service within the Triad, particularly to and from the airport (major employment center), is efficient; airport serves as the major hub for distributing transit users throughout the Triad. Much of the transit-dependent population in Winston-Salem is located east of US-52 in 27105 and 27103 zip codes. Transit service for second and third shift workers. Lack of park-n-ride locations. Senior citizen usage of transit could be increased; promotion and access necessary. Regional connectivity; not in the Triad region, but transit service connecting the Triad region with Charlotte and the Triangle (quality and amount of regional rail service is inadequate)

#### **Forsyth in Motion, March 17, 2010**

Rural Hall and Kernersville are in need of transit service enhancements. Kernersville is in need of a transit circulator and Sunday service. WSTA service hours need to be extended so that the 3<sup>rd</sup> shift workers can use transit. Additional sidewalks and shelters are needed throughout the area. Very complimentary of the travel training offered by PART. Thinks this service should be extended to all providers. Hours of the Amtrak connector need to be extended. It's a problem if the train is delayed past midnight; buses don't operate this late.

#### **Forsyth County JobLink, March 17, 2010**

Service shortcomings include needing service to Stanleyville. They have potential employees who can't reach worksites in this area. Also need service into Stokes County. In Forsyth, areas mentioned that are in need of service are past the Wal-Mart on NC 150/Peters Creek; on the southeast side of NC 109 heading toward High Point; and around the Dell plant. Crosstown service is also desirable. WSTA service hours need to be extended from 5 AM to midnight 7 days/week. Need to add Sunday service. Expanded hours open up more employment opportunities. Very complimentary of WSTA's service changes to improve routing to this JobLink location.

#### **Forsyth County Aging Services Planning Committee, March 19, 2010**

Winston-Salem has great public transportation within its boundaries; the issue lies with service in rural communities and getting residents to the larger urban areas. PART should expand its services in these rural areas and let the municipalities focus on their jurisdictions. Having more frequent and convenient shuttle service to hubs is a need. The number of transfers needed to move from community to community is a major issue for the elderly. The amount and location of park-n-ride stations can be improved. In terms of funding sources, there is State money available for smaller communities to fund transit services, but the application process is too arduous.

#### **Various Human Services Groups, March 22, 2010**

Getting seniors and people with disabilities to and from destinations efficiently is a definite need (keep them mobile). The routes are too rigid; need flexibility in transit services to events and medical facilities. The frequency of transit services needs to be increased. Land planning is one, if not the largest, contributing factor to an efficient transit system; need to focus densities in major corridors to get ridership levels higher. Coordination between affordable housing locations and transit services needs to be better coordinated. There needs to be a central “call center” for transportation service requests; these requests would then be directed to the appropriate transit agency. Traffic congestion is not bad enough (and gas prices are not high enough) at this point to warrant a mass transit system and pass a local referendum to fund transit service.

#### **High Point JobLink, March 23, 2010**

Connectivity is the largest issue; too many transfers between various transit systems. HiTran needs to operate longer hours for non-daytime workers. The number and location of park-n-ride facilities is also an issue; these facilities are not convenient enough to use. There are enough transit routes in the region; frequency of service and getting to those routes is the issue. Transit in the Triad region is not being used because of its convenience, but rather out of necessity. Coordination with students at the various educational institutions will be key since they are transit/potential transit users; ensure they are able to fill out surveys. Taxing local residents will not work; focus on other funding sources.

#### Community Development and Land Use Planning Staff:

#### **City of High Point Planning and Community Development Staff, March 10, 2010**

Revitalizing Downtown is a top priority as well as developing the NW area plan (airport noise area) to create employment base. The current transit systems stops running at 6pm, which isolates the transit dependent. Access to jobs via transit is not there as well the long headways on the current system. A lot of people in High Point don't work in High Point. The outcommute issue affects demand for transit. Right now, the attitude is that there is no reason to go downtown. The temporary transit system for Furniture Market works great for visitors, but there is still transit potential. Need transit service to airport and jobs near airport. There is a lack of sidewalk and accessibility.

#### **City of Greensboro Planning Staff, March 12, 2010**

Some transit needs that were identified included: more stations for vehicle choice, get people to jobs, ease of access to routes, increase amenities at stops (benches, shelters, sidewalks, etc.), and that the current system is only for the transit dependent. The vision for transit in the future includes: transit to Coliseum for special events, downtown circulator, don't specify technology, link to Triangle Transit needed, High Point road line needed. The challenges are in the mindset and marketing of the transit system. The system needs a new product line and better equipment.

#### **City of Winston-Salem Planning Staff, March 22, 2010**

W-S is planning a streetcar around Downtown, from Baptist Hospital to PTRP to W-S State, up to Wake Forest U. Street car could be built in 10 years and be funded locally. Difference between street car and busses: street car attracts development to corridor vs. transit system which gets people to jobs. Better stops/shelters/access would attract people to system. Need to attract non-dependent riders. Need to serve non-dependent suburbanites. Need good local transit system to support the PART regional system. W-S State – Forsyth Tech students are potential users. Wake Forest U. has started their own shuttle service to downtown. HUD – DOT -EPA partnership on livability may lead to additional federal funding opportunities A PART route to Durham would be useful. PART route to airport is needed.

**Town of Kernersville Elected Officials and Staff, April 29, 2010**

Kernersville should be connected with the airport area circulators. Service is needed along the length of US 421/Mountain/Market. Service should be provided to the Triad Business Center. A new hospital is opening that should have service. Midday service is needed for seniors. Concerns were expressed about past PART decisions. The group felt that PART did not explain why their requests for an additional stop on NC 66 and a bench/shelter at the existing lot were not satisfied. They would like more communication with PART.

Follow-Up Interviews – Review of the First Draft of the Plan:

**City of Greensboro Technical Group, May 24, 2010**

Transit Emphasis Corridors should be on Randleman and Battleground Road. Add the Cone Holden Crosstown. May need more sidewalks added per year. There are concerns about the plan making promises to citizens then the City has to backtrack. We will have to demonstrate need in order to qualify for funding. Look for transit dependent and density with no gaps, especially around the 13 adopted activity centers. The connectivity is just as important as density. Need to get people to Wendover and Pisgah Church has potential to expand. City wants regional rail. Gold line mimics the rail line. Implement Bus Rapid Transit (BRT) and then progress to rail.

**City of Winston-Salem Technical Group, May 24, 2010**

Recommend that some routes have Sunday service. Verify capacity of downtown transit center and plan on appropriate expansion (could occur at Union Station). Expand Clemmons park & ride lot. Extend streetcar to operate on central roadway through PTRP to Stadium Dr to WSSU. Minimum level of service: 30 min peak, 60 min off peak, 14 hours a day service. Saturday and Sunday as needed. There might be a need for new transit center at Union Cross. Concentrate social services on transit emphasis corridors, need to hit Wake Forest U.

**City of High Point Technical Group, May 25, 2010**

Change NC 68 Route to a Flex Route. Extend the service by 3 hours on the major routes. Add express route from High Point CBD to Greensboro (extension of Archdale service into downtown High Point to supplement Archdale service originating in outer counties). Main Street transportation corridor will benefit Furniture Market. Need connection to Thomasville, HiTran gets daily requests for this. Sandy Ridge Road from Bunker Hill to Gallimore Dairy, service off of Bunker Hill could also serve this new area.

**Town of Kernersville Technical Group, May 25, 2010**

Consider extension of services west of the Union Cross transit center to the Winston-Salem Business Center. Modify circulator route by Hospital to use planned roadway; modify to go by High Point Park. Change circulator to not operate on Hopkins. Include preservation of land for parking in downtown along rail line. Noted that connections need to be made to business parks, but they are difficult to serve with transit. Different transit needs in the community, therefore a family of differing services is planned to meet those needs.

## **Survey Analysis and Results**

One of the important ways to get information from users of the system and citizens in general is through the use of surveys. In spring 2010, the Project Team launched an online survey to better understand local and regional issues, interests and needs as related to transit and transportation issues. The survey was announced through various channels, including: the project website, social media (Facebook and Twitter), a media release and an e-mail to PART's contact database. The survey was distributed during the PART Commuter Challenge Event on April 10 and discussed with more than 50 Triad area agencies, businesses and organizations. An online survey station was also provided at an Open House on June 29. The survey was available between April 15 and July 8. Input received through the survey was used in the development of the Regional Transit Development Plan. Some snapshots from the survey include the following:

- **Transportation (particularly commute time)**  
An important factor in choosing where to live and work (96% transit riders, 90% non-riders)
- **Most important factors in a successful system**  
Convenient schedules and minimal transfers (82% respondents)
- **Least important factors in a successful system**  
On-board comfort (10% respondents) and amenities (12% respondents)
- **Of transit riders, 85% use the PART transit system most frequently**  
Followed by GTA (18% respondents) and WSTA (14% respondents)
- **Primary funding sources**  
Increase rental car fees (31% respondents) and increase transit fares (25% respondents)

## **Workshops**

Apart from stakeholder interviews, the Project Team conducted a series of workshops on June 28, 2010 and June 29, 2010. PART invited community leaders, board members, elected officials, project team members, and the public to review the Draft Regional Transit Development Plan and provide comments.

The schedule was as follows:

<b>Event</b>	<b>Monday, June 28</b>
Project Team	12:30 - 2:30 pm
Set-up for remainder of event	3:00 - 5:00 pm
Transit Boards Meeting	5:00 - 7:00 pm
<b>Event</b>	<b>Tuesday, June 29</b>
Forsyth County Elected Officials Briefing	8:00 - 9:30 am
Forsyth County Stakeholder Workshop	10:00 - 12:00 pm
Guilford County Elected Officials Briefing	12:30 - 2:00 pm
Guilford County Stakeholder Workshop	3:00 - 5:00 pm
Open House (Public Workshop)	5:00 - 8:00 pm

Day One of the workshop was dedicated to discussion on the plan from both the project team and Transit Board perspective. The project team was also preparing the program for the rest of the workshop and a presentation was given to each group highlighting the transit development plan and certain aspects such as the results of the survey and proposed route changes.

The Transit Boards (GTA, WSTA, selected HiTran users) offered the following comments:

- There was a general concern about service hours and the need to expand service hours past 6pm on weekdays and on Saturday. Most of the concern was coming from High Point.
- The High Point downtown terminal is not convenient to services.
- High Point (HiTran) does not have a board like the other transit agencies in the area.
- The transit board members were not convinced that a new tax would pass a referendum because they have failed in the past. PART pointed out that in the past, requests for an increase in sales tax were not specific, whereas this increase would be used for specific purposes of increasing transit.

On Day Two, the elected officials and other stakeholders joined the discussions. The elected officials wanted to know what the offset would be to the taxpayer on auto savings per year. There was a question about non-internet users. The answer is the creation of a centralized regional call center for all transit agencies. The elected officials also requested that there was transit to libraries where citizens could use the computers and internet. They stated that libraries should be a high priority destination and along transit priority corridors. There was a request to separate user cost (farebox) out from the rest of the financials (from federal/state).

The stakeholders took part in interactive sessions that included discussions about transit enhancements to ensure an effective and efficient transit system, methods and strategies to create awareness of the regional transit development plan, and possible funding sources for improvements and expansions.

Ideas from the stakeholder meetings included:

- Improved downtown circulators
- Sunday service
- Increase in frequency and service hours
- Consideration of bus technology instead of streetcar
- Better amenities at stops including sidewalks and shelters
- Transit Centers in some of the suburban towns/cities
- Regional call center
- Market plan for bus and rail advertisements
- Better technology such as GIS-based bus tracking and free WiFi on the buses and at the stations
- Regional transit passes
- Coordination with local businesses, community organizations, and hospitals for awareness of the plan
- Expand services to the colleges and universities and ask for subsidies
- Provide incentives for developers to build within transit corridors
- Provide incentives for reducing the amount of vehicle miles traveled per year

## **Results**

The stakeholder participation plan was a valuable step in the process of developing the RTDP. All of the ideas, thoughts, and comments were brought together to help the project team consider alternatives, new routes, financial constraints, and common themes.

### 3 Mobility Recommendations

After collection of all on the information and data discussed within chapter 2, the Project Team then set forth its recommendations for the transit development plan. The objectives for the recommendations were as follows:

- To increase all routes to a minimum amount of service in terms of frequency and span of service;
- To add weekend services where warranted;
- To fill in gaps in the service coverage (based upon propensity and density analysis);
- Add routes to meet unsatisfied travel patterns;
- Identify heavily used corridors for more intensive transit service;
- Connect outlying areas into downtown through premium express services;
- Tie the region together with a premium transit service (the BRT) and set the stage for future major capital investments;
- Create the enhanced circulation system in the two main downtowns (through streetcars);
- Increase general public service in the outlying areas of the county by increasing the demand-response service and selectively offering circulator services; and
- Adding more passenger amenities (park & ride lots, transit centers, information systems, sidewalks, shelters, etc) throughout the area.

The recommendations below are categorized in 3 ways: for all systems, for Forsyth County, and for Guilford County. The route types (local, express, etc.) are described in more detail in Section 4 (p. 29).

#### 3.1 Recommendations for All Systems

##### 1. Service Enhancements – to policy service levels

- a. Headway Reduction
  - i. Decrease headways on all local routes to no more than 30-minutes weekday peaks, and 60-minutes at other times.
  - ii. Decrease headways on core express routes to no more than 15-minutes weekday peaks, and 60-minutes at other times.
- b. Span of Service
  - i. Increase the span of service on all local routes to at least 14 hours per weekday.
  - ii. Maintain the span of service on express routes at a minimum 12 hours per weekday.
- c. Weekend Service
  - i. Offer Saturday and Sunday/Holiday service on all local routes where demand warrants for no more than a 60-minute headway and at least a 12-hour span. [Generally, 500 weekday riders for Saturday service; 750 weekday riders for Sunday service.]
  - ii. Offer Saturday service on core express routes where demand warrants for no more than a 60-minute headway and at least a 10-hour span.
- d. General Public
  - i. Offer general public service throughout both counties

## 2. Capital Improvements

- a. Technology
  - i. Implement AVL, APC systems on all fleets
  - ii. Provide wireless internet at facilities and on-board
  - iii. Implement transit signal priority on transit emphasis corridors
- b. Passenger Facilities
  - i. Implement an amenity program including signage, lighting, benches, shelters, and sidewalks
  - ii. Expand network of transit centers
  - iii. Provide additional parking opportunities
  - iv. Provide retail at major transit centers
- c. Vehicles & Support Facilities
  - i. Establish 3 joint operating bases, one in each city
  - ii. Consolidate vehicle acquisitions and prepare a vehicle replacement plan
  - iii. Purchase over-the-road coaches for express service
  - iv. Purchase alternate fueled vehicles
- d. Corridor preservation expenses

## 3. Other

- a. Implement a joint marketing program among all providers and increase budget amount
- b. Establish joint coordinated programs as outlined in the Seamless Mobility Study
- c. Implement a unified fare structure with other providers
- d. Establish consistent college/university/major employer discounts
- e. Implement a travel training program areawide

## 3.2 Forsyth County Recommendations

### 1. Service Enhancements

- a. Headway Reductions
  - i. Decrease headways on ~19 routes to at least every 30 minutes peak, hourly base
- b. Span of Service Increases
  - i. No changes
- c. Weekend Service
  - i. Add Sunday service to routes with 750 or more weekday riders
- d. General Public DR Service
  - i. Offer additional general public service in county
- e. Vanpools
  - i. Additional vanpools throughout the county

## **2. New Routes/Extensions**

### **a. Local Routes**

- i. Union Cross/Walmart Crosstown via Union Cross Rd
- ii. Union Cross/HOT/Kernersville Crosstown
- iii. Union Cross/Sprague/Silas Creek/Hanes Mall
- iv. Westside Crosstown: Hanes Mill/WFU/Mount Tabor/Hanes Mall via University, Polo, Peace Haven, Country Club, Jonestown, Hanes Mall Blvd.
- v. Kernersville Circulator
- vi. Kernersville-Greensboro Connector
- vii. Extend Route 25 to Kernersville Walmart
- viii. Extend Route 29 to Kernersville Walmart

### **b. PART Express Routes**

- i. From Rural Hall/Hanes Mills to downtown (w/ other county)
- ii. From Walkertown to downtown (w/ other county)
- iii. Express from Lewisville (w/ Hanes Mall & other county)
- iv. Express from Clemmons (w/ Hanes Mall & other county)
- v. High Point/HOT/downtown
- vi. High Point/Union Cross/downtown

## **3. Transit Emphasis Corridors**

*(Higher frequency, Transit Signal Priority (TSP), queue jumps, shelters, sidewalks, lighting, focused development)*

- a. 1<sup>st</sup>/Cloverdale/Stratford Rd: Downtown – Hanes Mall
- b. Thurmond/N. Cherry/University: Downtown – Hanes Mill Walmart
- c. Peters Creek: Downtown – Walmart
- d. Liberty: Downtown - Akron

## **4. Piedmont Gold Line BRT/Rail Precursor**

*(FTA requires 10/15 headway with 14-hour span serving 3000 daily riders)*

- a. NC A&T, Downtown Greensboro, Friendly Center, PTI, HOT/Kernersville, Downtown Winston-Salem, Baptist Med Center, Forsyth Med Center, Hanes Mall

## **5. Streetcar in downtown Winston-Salem**

- a. East-West connecting WSSU, PTRP, downtown, Wake Forest Baptist Medical Center
- b. North-South connecting Wake Forest Univ., downtown, UNC School of the Arts

## 6. Capital Improvements

- a. Transit Centers
  - i. Summit Square (with P&R)
  - ii. Hanes Mall (with P&R)
  - iii. Union Cross (with P&R)
  - iv. Downtown Kernersville
  - v. Major renovation of Winston-Salem downtown transit center
- b. Park & Ride Lots
  - i. Peter's Creek
  - ii. Walkertown
  - iii. Kernersville Walmart
  - iv. Rural Hall
  - v. Lewisville
- c. Streetside Amenities
  - i. Sidewalks – 10 miles per year within county
  - ii. Shelters – bus stops with 50 or more daily boardings
  - iii. Benches – bus stops with 25 or more daily boardings
  - iv. Lighting – install solar-powered lighting at selected stops
  - v. Information (next bus)
  - vi. High \$\$\$ (pedestrian overpasses, bus connections)
    - 1. e.g. between Forsyth Med Center & Hanes Mall
- d. Vehicles & Support Facilities
  - i. Expand WSTA facility (1 bay per 11 buses)
  - ii. Purchase additional buses
- e. Other Capital
  - i. Union Station rehabilitation

## 7. Other

- a. Marketing Program
- b. Expand UPASS to all area universities

### 3.3 Guilford County Recommendations

#### 1. Service Enhancements

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- a. Headway Reductions
  - i. GTA – decrease headway on route 15 to 30 minutes peak
  - ii. GTA – decrease headway on connectors to 30 minutes peak
- b. Span of Service Increases
  - i. GTA – none
  - ii. HT – increase weekday span to 14 hours on all routes
- c. Weekend Service
  - i. GTA – add Sunday service to routes with more than 750 weekday riders
  - ii. HT – increase Saturday span to 12 hours; no new routes
  - iii. HT – no Sunday service based upon existing ridership
- d. General Public DR Service
  - i. Offer additional general public service in county
- e. Vanpools
  - i. Additional vanpools throughout the county

## **2. New Routes/Extensions**

- a. Local Routes
  - i. GTA – New Holden Crosstown: Friendly Center, Koury, Wet & Wild, Walmart (replaces 12A)
  - ii. GTA – New Wendover Crosstown: GTCC – Friendly Center
  - iii. GTA – New Kernersville-Greensboro Connector from W. Wendover to Kernersville weekdays
  - iv. GTA – New Guilford College/New Garden Crosstown: W. Wendover to Battleground
  - v. GTA – New Florida Crosstown: Lee Rd – Four Seasons
  - vi. GTA – New Cone Blvd Crosstown: Carolina Circle Mall – Friendly Center
  - vii. GTA – Split route 12 into two routes
  - viii. GTA – Extend route 1 to take over connector
  - ix. Kernersville-Greensboro Connector
  - x. HT – NC 68 local from HP transit center to PART transit center operating as a flex route
  - xi. HT – new local route on Lexington: Chestnut to US 311

## **3. PART Express Routes**

- a. From McLeansville/Sedalia/Rock Creek/Walmart area (w/ other county)
- b. From New Garden & Battleground and Summerfield (w/ other county)
- c. From Oak Ridge to PTI and downtown

- d. From South Guilford (w/ other county)
- e. From south High Point P&R to HOT and Winston-Salem downtown
- f. From south High Point P&R to Union Cross and Winston-Salem downtown

**4. Transit Emphasis Corridors (note: the plan funds seven corridors for Guilford Co.)**

*(15/30 headways, Transit Signal Priority (TSP), queue jumps, shelters, sidewalks, lighting, focused development)*

- a. Randleman: Downtown – Walmart/I-85
- b. E Market: Downtown – GTCC East
- c. Summit: Downtown – Walmart/Carolina Circle Mall
- d. W. Market/Spring Garden/W. Wendover: Downtown – Walmart/I-73
- e. W. Market: Downtown – future PTI transit center
- f. High Point Rd: Downtown Greensboro – GTCC
- g. Battleground Rd: Downtown Greensboro – New Garden
- h. High Point’s Main Street: US 311 N – US 311 S

**5. Piedmont Gold Line BRT/Rail Precursor**

*(FTA requires 10/15 headway with 14-hour span serving 3000 daily riders)*

- a. NC A&T, Downtown Greensboro, Friendly Center, PTI, HOT/Kernersville, Downtown Winston-Salem, Baptist Med Center, Forsyth Med Center, Hanes Mall

**6. Downtown Greensboro Streetcar**

- a. Connecting UNC-G, downtown, NC A&T, Moses Cone, Guilford County

**7. Capital Improvements**

a. Transit Centers

- i. Koury Center/Four Seasons
- ii. Friendly Center
- iii. NC A&T
- iv. UNC-G
- v. Moses Cone
- vi. GTCC-Jamestown
- vii. West Wendover
- viii. Major renovation of the High Point downtown transit center and relocation of Greyhound
- ix. Remodel Gaylon Depot

b. Park & Ride Lots

- i. Expanded PART Airport transit center parking
- ii. McLeansville/Sedalia/Rock Creek/Walmart
- iii. Battleground & New Garden

- iv. Oak Ridge
- v. Summerfield
- vi. South Guilford

c. Streetside Amenities

- i. Sidewalks – 10 miles per year within county
- ii. Shelters – bus stops with 50 or more daily boardings
- iii. Benches – bus stops with 25 or more daily boardings
- iv. Lighting – install solar-powered lighting at selected stops
- v. Information (next bus)
- vi. High \$\$\$ (pedestrian overpasses, bus connections)  
For example between Friendly Center & Wesley Long Hospital

d. Vehicles & Support Facilities

- i. Add TAMS to new GTA facility
- ii. Expand Hi-Tran facility (1 bay per 11 buses)
- iii. Purchase additional buses

**8. Other**

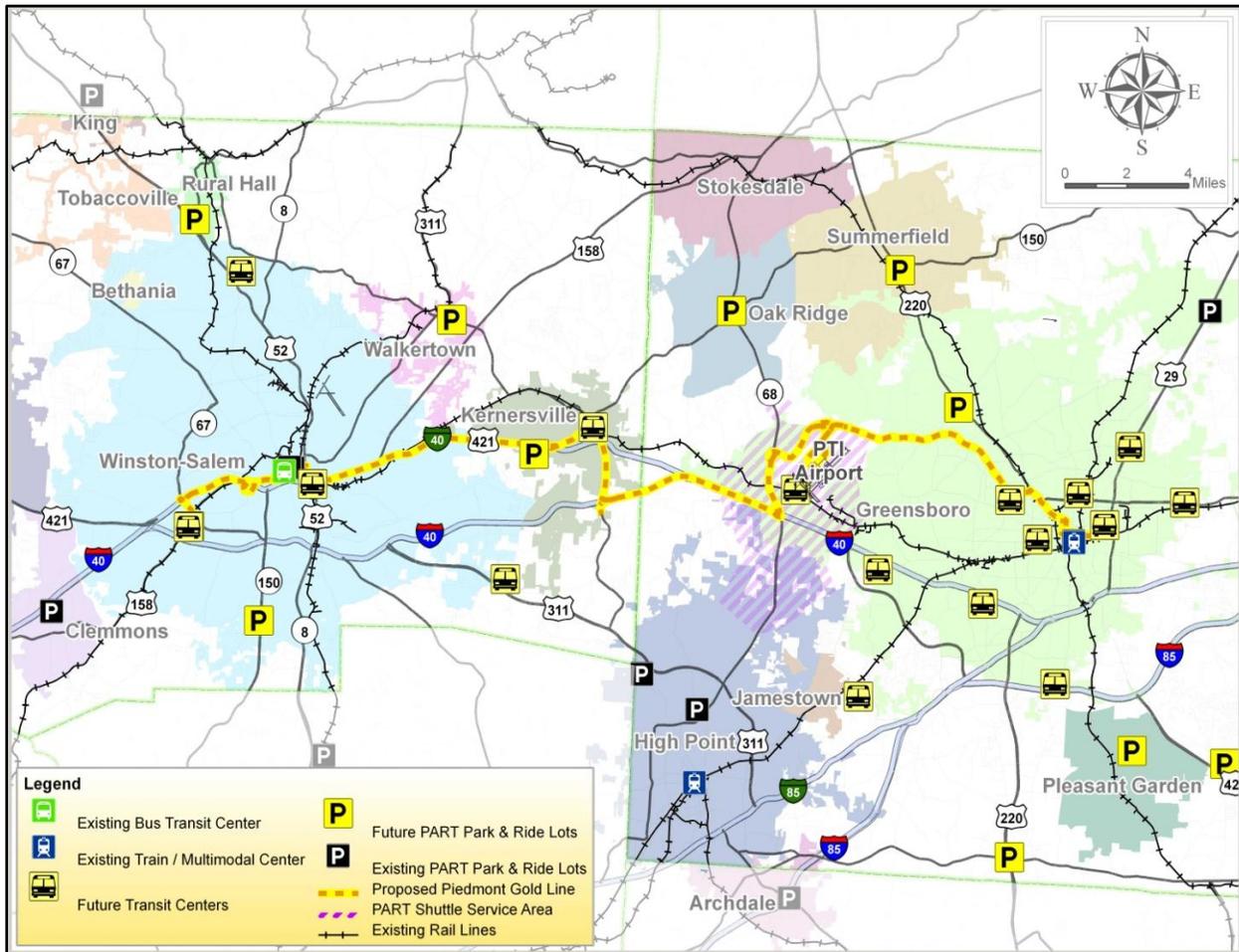
- a. Marketing Program
- b. Expand UPASS to all area universities

## 4 Route Maps and Information

The Project Team created route maps from the recommendations for each county that display the new locations by route type: Bus Rapid Transit (BRT) Gold Route, Local Routes (additions/extensions), Express Routes, Transit Emphasis Corridors (transit-friendly corridor improvements, see pp. 25 & 28, Item 3), and Streetcars. Within each display include the following information for each proposed route or extension: headways, hours of service, time of service, days of service, and route locations.

### 4.1 BRT Gold Route

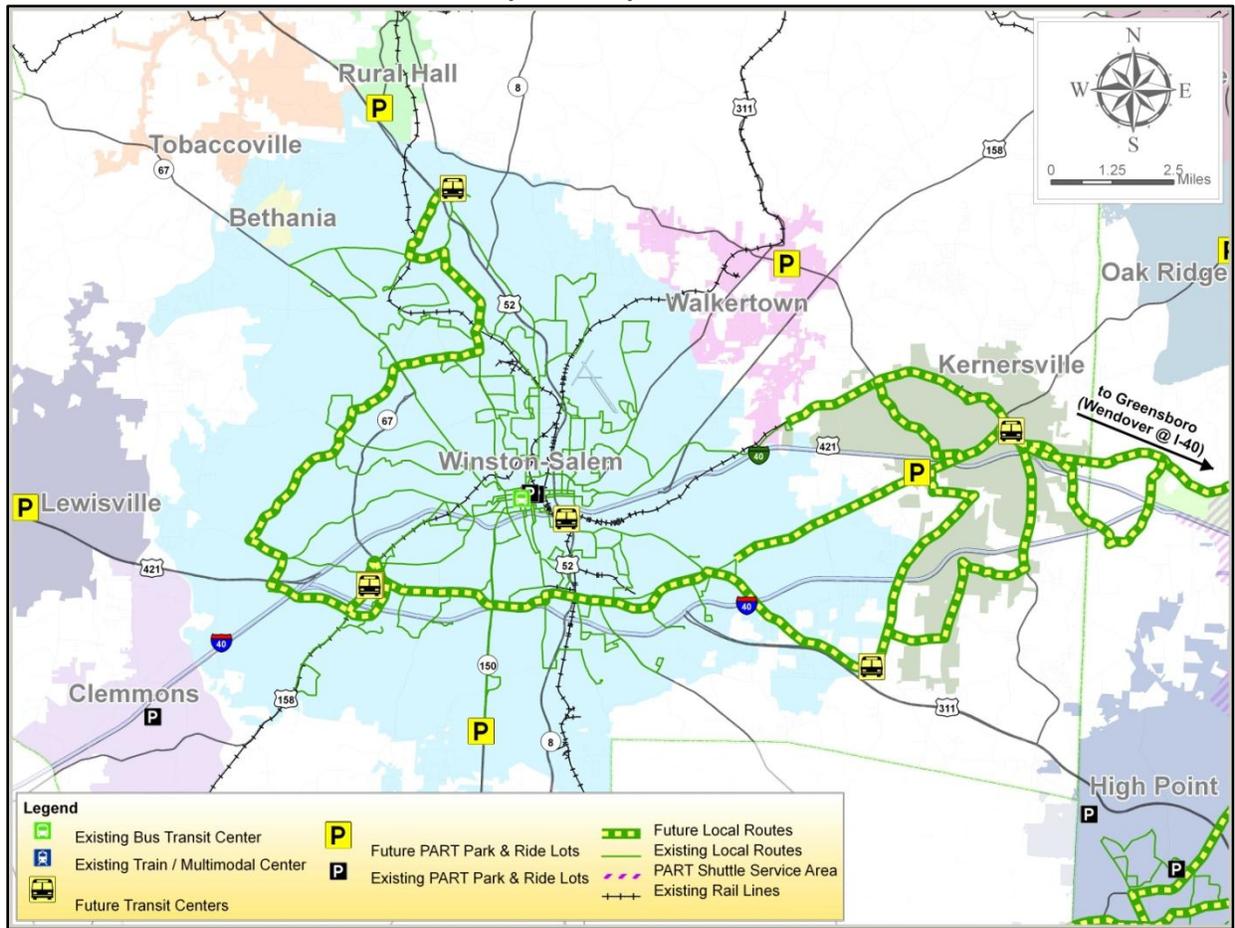
**Exhibit 4-1  
Gold Route**



Gold Line BRT					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
NC A&T, Downtown Greensboro, Friendly Center, PTI, HOT/Kernersville, Downtown Winston-Salem, Baptist Medical Center, Hanes Mall	6am-8pm	Mon.-Fri.	10 min. peak 15 min. off-peak	295 hours	Limited stop, high frequency service connecting Greensboro, PTI, Kernersville, and Winston-Salem
	6am-8pm	Sat.	30 min.	121 hours	

## 4.2 Forsyth County Local Routes

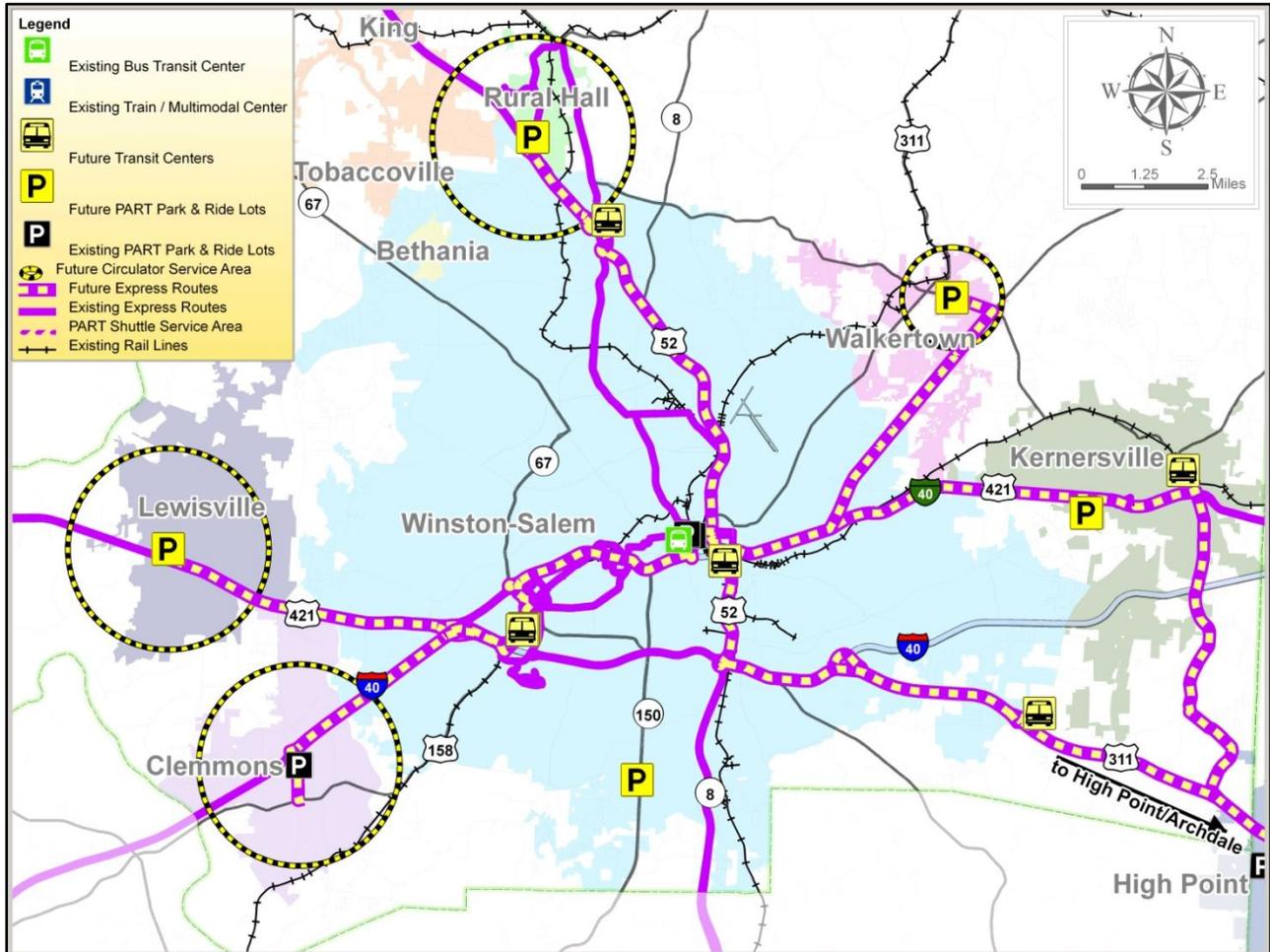
Exhibit 4-2  
Forsyth County Local Routes



Local Routes (WSTA)					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
Union Cross Road Crosstown	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	20 hours	Connects Union Cross area to shopping district
		Sat.	60 min.	14 hours	
Union Cross-Kernersville Crosstown	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	30 hours	Connects Union Cross area to Kernersville through Heart of Triad
		Sat.	60 min.	21 hours	
Sprague Crosstown (Union Cross-Hanes Mall)	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	50 hours	Connects Union Cross, Forsyth Tech, and Hanes Mall
		Sat.	60 min.	35 hours	
Westside Crosstown	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	60 hours	Connects Hanes Mill, Wake Forest Univ, and Hanes Mall
		Sat.	60 min.	42 hours	
Kernersville Circulator	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	30 hours	Provides local circulation around Kernersville
		Sat.	60 min.	21 hours	
Kernersville-Greensboro Connector	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	60 hours	Connects Kernersville, commercial shopping area on NC 68 near PTI, W.
		Sat.	60 min.	42 hours	
Extension of WSTA Route 25	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	20 hours	Extends route 25 to Kernersville along West Mountain and Hopkins
		Sat.	No service	n/a	
Extension of WSTA Route 29	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	15 hours	Extends route 29 to Kernersville along Kernersville Road.
		Sat.	60 min.	10.5 hours	

### 4.3 Forsyth County Express Routes

**Exhibit 4-3  
Forsyth County Express Routes**



Express Routes (PART)					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
Rural Hall/Hanes Mills to Downtown	TBD	Mon.-Fri.	30 min. peak	2 hours	Supplemental express service from Rural Hall with stop at Hanes Mills
Walkertown to Downtown	6am-6pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	9 hours	Express service from Walkertown
Lewisville/Hanes Mall to Downtown	TBD	Mon.-Fri.	30 min. peak	3 hours	Express service from Lewisville to downtown with stop at Hanes Mall
Clemmons/Hanes Mall to Downtown	7am-6pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	7.5 hours	Express service from Clemmons to downtown with stop at Hanes Mall
High Point/HOT to Downtown	6am-9am 3pm-6pm	Mon.-Fri.	15 min. peak	30 hours	Express service from High Point to downtown Winston-Salem via HOT
High Point/Union Cross to Downtown	6am-9am 3pm-6pm	Mon.-Fri.	15 min. peak	30 hours	Express service from High Point directly to downtown Winston-Salem

## 4.4 Forsyth County Transit Emphasis Corridors (TEC)

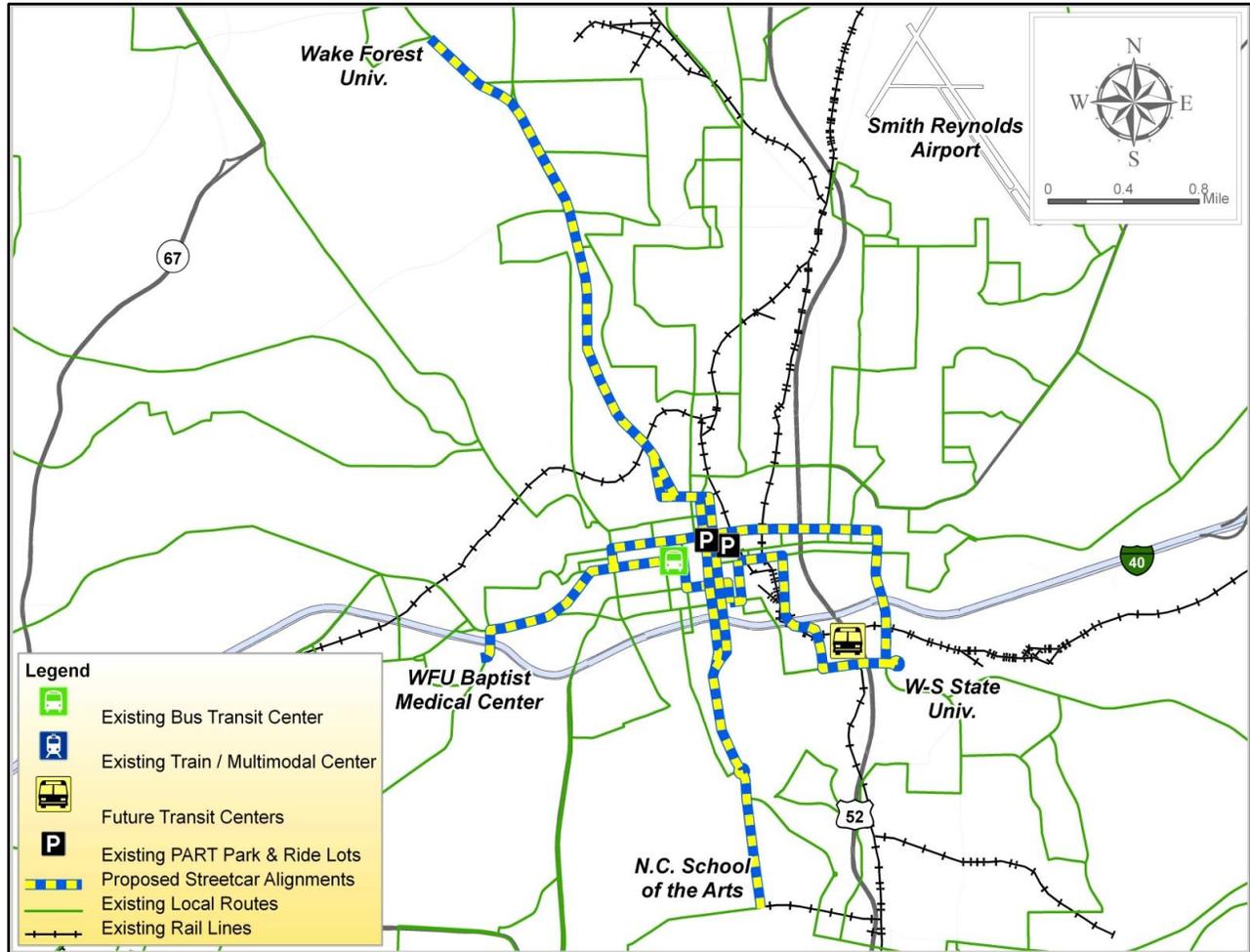
Exhibit 4-4  
Forsyth County TEC



Transit Emphasis Corridors (WSTA)					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
Hanes Mall to Downtown	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	15 hours	Service supplementing local routes along corridor.
		Sat.-Sun.	60 min.	10.5 hours	
Wake Forest University to	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	20 hours	Service supplementing local routes along corridor.
		Sat.-Sun.	60 min.	14 hours	
Peters Creek to Downtown	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	15 hours	Service supplementing local routes along corridor.
		Sat.-Sun.	60 min.	10.5 hours	
Liberty to Downtown	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	10 hours	Service supplementing local routes along corridor from Akron Rd
		Sat.-Sun.	60 min.	7 hours	

## 4.5 Forsyth County (Winston-Salem) Streetcar

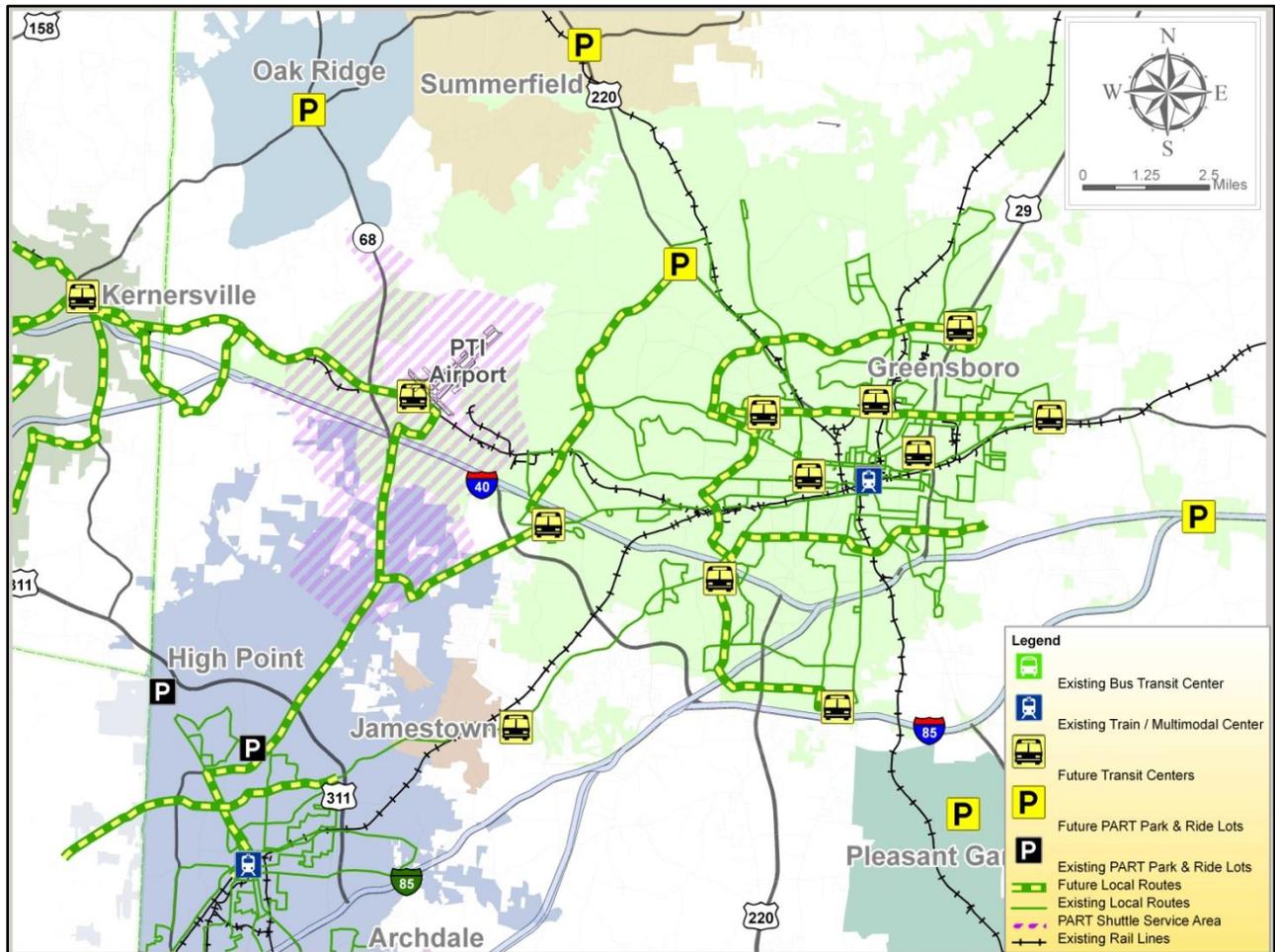
**Exhibit 4-5  
Winston-Salem Streetcar**



Winston-Salem Streetcar					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
Winston-Salem State University to Downtown to Wake Forest Baptist Medical Center	6am-10pm	Mon.-Sat.	15 min.	96 hours	Two streetcar routes connecting in downtown
	6am-8pm	Sun.	15 min.	84 hours	

## 4.6 Guilford County Local Routes

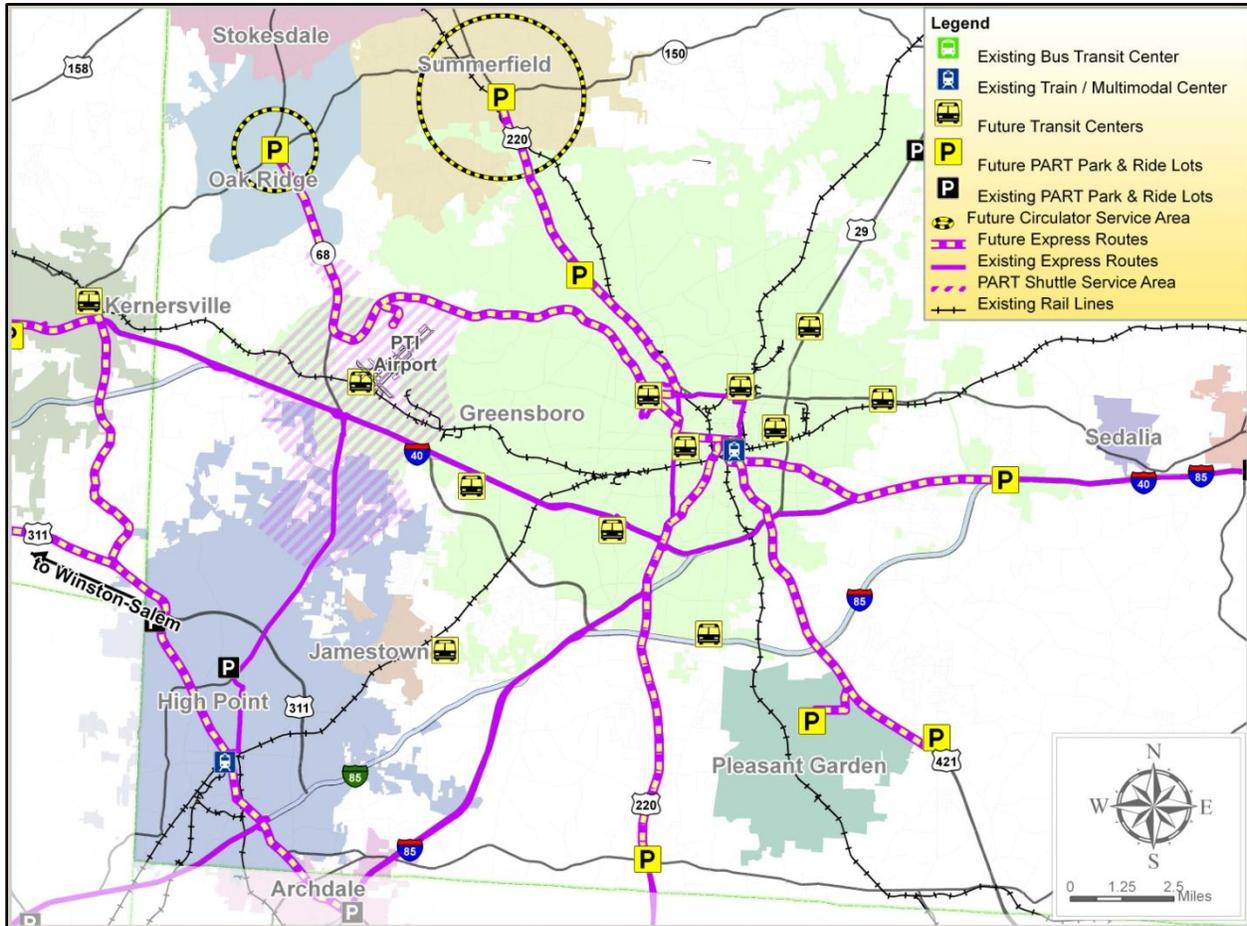
Exhibit 4-6  
Guilford County Local Routes



Local Routes (GTA and HiTran)					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
Holden Crosstown	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	30 hours 21 hours	Replacing Route 12A: Connects Friendly Center, Koury Convention Area, Wet & Wild, Wal-mart
Wendover Crosstown	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	20 hours 14 hours	Connects Guilford Tech to the Friendly Center
Kernersville-Greensboro	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	60 hours 42 hours	Connects Kernersville, commercial shopping area on NC 68 near PTI, W. Wendover shopping district
Guilford College/New Garden	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	20 hours 14 hours	Connects West Wendover to Battleground
Florida Crosstown	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	20 hours 14 hours	Connects Lee Road to the Four Season Mall Area
Cone Blvd. Crosstown	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	30 hours 21 hours	Connects Carolina Circle Mall to the Friendly Center
NC 68 Local Flex Route	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak 60 min.	40 hours 28 hours	Connects the High Point Transit Center to the PART Transit Center - operating as a flex route
Lexington Crosstown	6am-8pm	Mon.-Fri. Sat.	30 min. peak, 60 min. non-peak no service	20 hours n/a	Connects Chestnut to US 311

## 4.7 Guilford County Express Routes

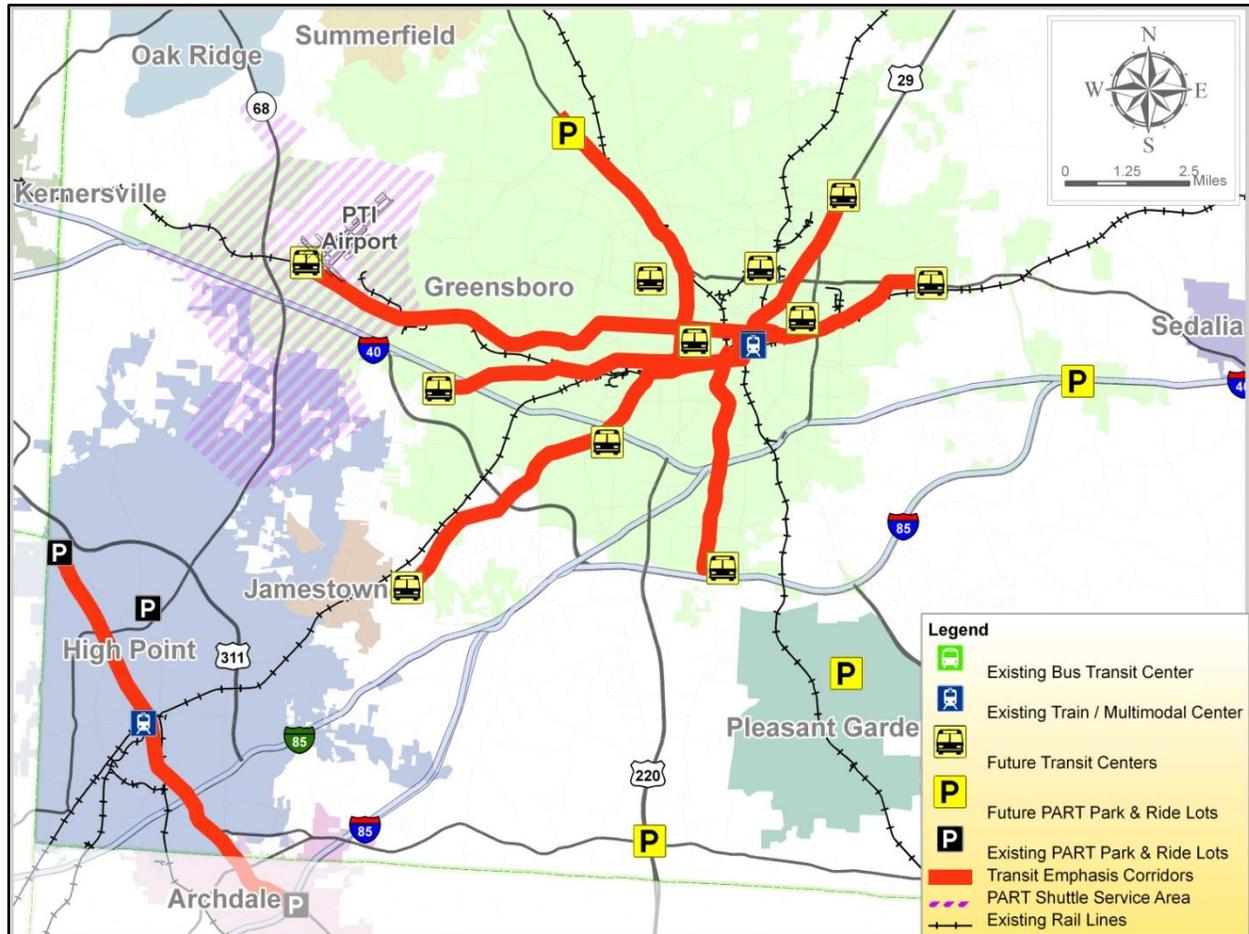
Exhibit 4-7  
Guilford County Express Routes



Express Routes (PART)					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
McLeansville/Sedalia to Downtown	6am-6pm	Mon.-Fri.	15 min. peak, 60 min. non-peak	15 hours	Express service to downtown Greensboro from the vicinity of McLeansville and Sedalia
Summerfield & New Garden/Battleground to Downtown	6am-9am 3pm-6pm	Mon.-Fri.	15 min. peak	12 hours	Express service to downtown Greensboro from Summerfield with a stop at New Garden/Battleground
Oak Ridge to PTI & Downtown	6am-6pm	Mon.-Fri.	15 min. peak, 60 min. non-peak	22.5 hours	Express service to downtown Greensboro from Oak Ridge with a stop at PTI
South Guilford to Downtown	6am-6pm	Mon.-Fri.	15 min. peak, 60 min. non-peak	15 hours	Express service to downtown Greensboro from the southern part of Guilford County
High Point/HOT to Winston-Salem Downtown	6am-9am 3pm-6pm	Mon.-Fri.	15 min. peak	30 hours	Express service from High Point to downtown Winston-Salem via HOT
High Point/Union Cross to Winston-Salem Downtown	6am-9am 3pm-6pm	Mon.-Fri.	15 min. peak	30 hours	Express service from High Point directly to downtown Winston-Salem

## 4.8 Guilford County Transit Emphasis Corridors (TEC)

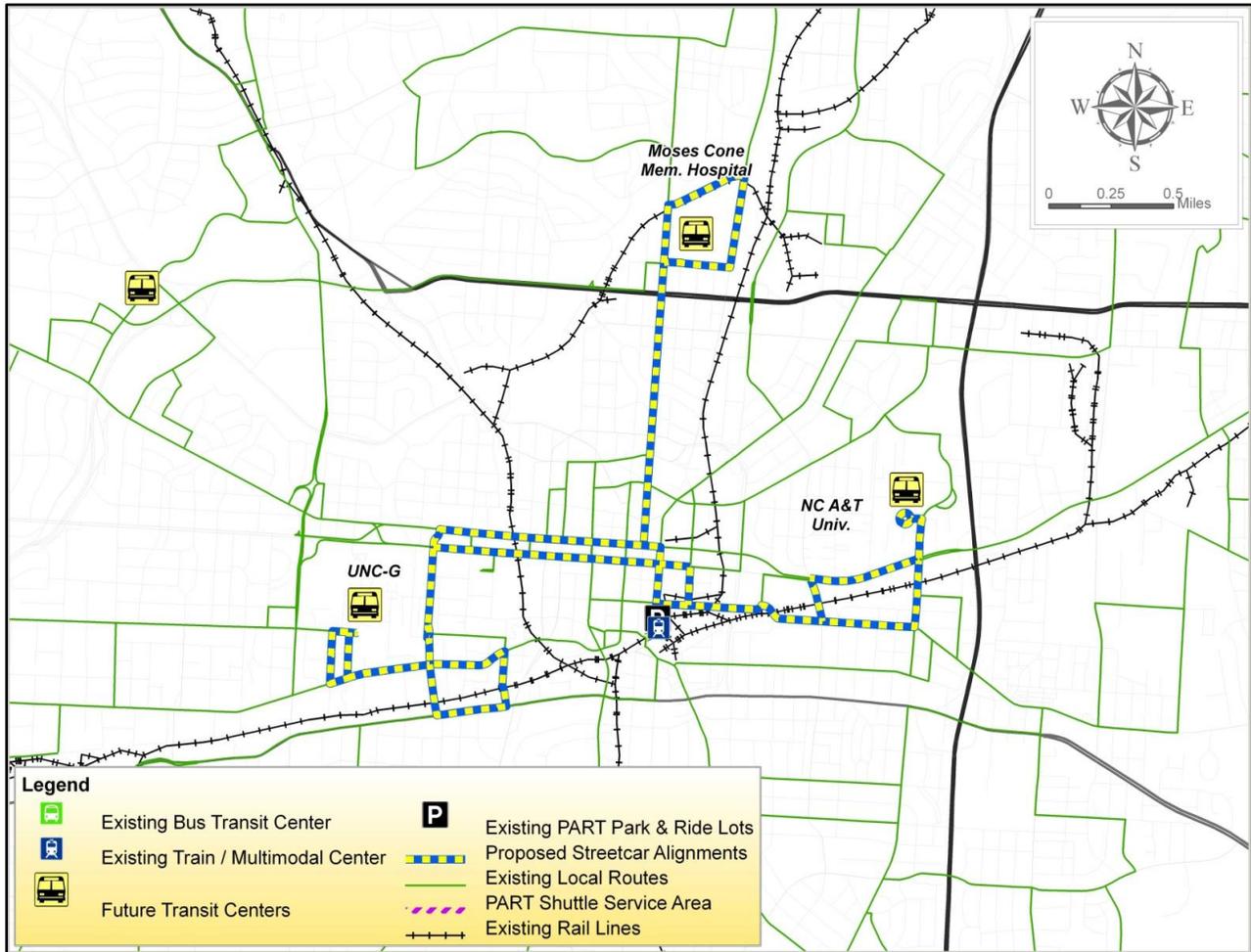
Exhibit 4-8  
Guilford County TEC



Transit Emphasis Corridors (GTA & HiTran)					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
Randleman Road Corridor	6am-8pm	Mon.-Fri.	15 min. peak, 30 min. non-peak	30 hours	Service supplementing local routes from Wal-mart/I-85 to Downtown
		Sat.-Sun.	30 min.	21 hours	
East Market Corridor	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	15 hours	Service supplementing local routes from Guilford Tech East to Downtown
		Sat.-Sun.	60 min.	10.5 hours	
Summit Street Corridor	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	10 hours	Service supplementing local routes from Carolina Circle Mall to Downtown
		Sat.-Sun.	60 min.	7 hours	
W. Market/Spring Garden/W. Wendover Corridors	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	20 hours	Service supplementing local routes from I-73/Wal-mart to Downtown
		Sat.-Sun.	60 min.	14 hours	
High Point Road Corridor	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	30 hours	Service supplementing local routes from Guilford Tech to Downtown
		Sat.-Sun.	60 min.	21 hours	
Battleground Road Corridor	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	20 hours	Service supplementing local routes from New Garden to Downtown
		Sat.-Sun.	60 min.	14 hours	
Main Street - High Point	6am-8pm	Mon.-Fri.	30 min. peak, 60 min. non-peak	15 hours	Service supplementing local routes along Main Street through High Point
		Sat.-Sun.	60 min.	10.5 hours	

## 4.9 Guilford County (Greensboro) Streetcar

**Exhibit 4-9  
Greensboro Streetcar**



Greensboro Streetcar					
Route	Operating Hours	Days of Service	Service Frequency	Daily Bus Hours	Notes
UNC-Greensboro to Downtown to NC A&T, Moses Cone, Guilford County Offices	6am-10pm	Mon.-Sat.	15 min.	80 hours	New downtown area circulator service using streetcars
	6am-8pm	Sun.	15 min.	70 hours	

## 5 Financial Summary

A financial plan was developed as it is extremely important to test the affordability of the new system and discuss new funding sources. House Bill 148, as discussed previously, will give the Triad region the ability to use new funding sources to complete the transit plan. The financial plan estimated Capital Cost and Operating Costs in order to derive annualized costs that could be compared to available funding. The results of this analysis are assembled in a table on the next page.

The financial plan includes:

- Unit and Capital Costs
- Operating Costs
- Affordability
- Funding Sources

The following is a detailed explanation of how each of these were derived.

### **Unit and Capital Costs**

Costs for the PART Regional Transit Development Plan were estimated for capital items by determining the unit costs for each type of improvement and multiplying by the number of units. Costs for most transit items, such as buses, transit centers, and park & ride lots, were determined based upon recent purchases by PART when available, or similar costs from other projects around the United States. Capital cost estimates include the cost for all fixed capital items, plus an estimated expense for rolling stock including spare vehicles. Additional costs were included for the increase in maintenance facility capacity to support the expanded fleet.

### **Operating Costs**

Operating costs were estimated by determining the annual increase in hours for bringing current services up to the minimum standards and for the additional revenue hours for new routes. A cost-per-hour amount was applied to the additional service hours to determine total annual costs. The cost-per-hour was based upon the 2008 cost-per-revenue-hour for each system as reported in the National Transit Database.

### **Affordability**

A reasonableness test was conducted to determine if the anticipated additional capital and operating costs were affordable by the affected Triad communities. This calculation was done on an annualized basis for comparison with the potential new revenues that could be generated annually. The capital costs were annualized assuming a 13-year implementation period. This assumption was based upon a new funding source being in place by 2013 and the desire to implement all improvements by 2025. Operating costs were calculated on an annual basis and the reasonableness test assumes all improvements are in place.

### **Funding Sources**

Once the annual costs were calculated, the expected annual funding sources were estimated. Capital costs were assumed to be funded by a combination of 50 percent of the costs funded by the federal government, 25 percent by the state government, and the remaining 25 percent being funded locally. Federal and state funds are not available for operating costs, so all operating costs were assumed to be paid by local sources, less 17 percent of the operating costs that are paid for by fares, based upon the average cost recovery of the Triad systems.

**Results**

The resulting calculation estimated that the additional annual cost for capital and operating expense that would have to be covered through local sources is \$50.9 million annually (\$18.7 million in average capital expenses and \$32.1 million in operating expenses). Coincidentally, a half-cent sales tax in Forsyth and Guilford Counties is estimated to raise \$51.0 million annually, slightly above the estimated increase in annual transit costs that must be paid for using funds other than those from the federal and state governments. Below are tables with the results for the Triad Region.

**Table 1: Summary of Financial Analysis**

<b>Annualized Costs</b>	
<b>Operating Costs</b>	\$32,130,364
<b>Capital Costs</b>	\$18,744,329
<b>Total</b>	<b>\$50,874,693</b>

<b>Potential Revenue and Difference</b>	
<b>½ Cent Sales Tax Increase Revenue</b>	\$50,972,338
<b>Total Annualized Costs</b>	\$50,874,693
<b>Difference</b>	<b>\$97,645</b>

<b>Benefits to the Region</b>	
<b>Increase in Capital Jobs</b>	314
<b>Business Gains from Capital Spending</b>	\$30,000,000
<b>Business Gains from Operating Spending</b>	\$32,000,000
<b>Transportation Cost Savings</b>	\$15,000,000

Regarding the revenue amount from the ½ cent sales tax, this is the amount that must be raised from non-State and Federal sources. It could also come from the counties’ and cities’ general fund, new taxes, or from other sources such as tax increment financing, which taps into the increase in property values as a result of the new transit improvements, or through some other mechanism to generate private sector participation, such as joint development opportunities. Ultimately the funding for the improvements can come from a variety of sources. The streetcar expense may be most suited to being paid for, at least in part, by the private sector through a TIF and joint development. The reasonableness analysis (difference between revenue and annualized costs), however, did not assume any of these other sources and only tested whether the projected revenue from the new sources in HB 148 would be sufficient to cover expenses if they were the only funding source available.

On job creation, to assess the job impact of all national spending on public transportation, we need to consider the current national mix of that spending. According to APTA the national total is 71% for operations spending and 29% for capital spending. That yields a blended average of 36,108 jobs within the United States that are supported per billion dollars of public transportation spending.

Below is a breakdown of these jobs, distinguishing categories of direct effects (public transportation manufacturing /construction and operations jobs), indirect effects (jobs at suppliers of parts and services) and induced jobs (jobs supported by workers re-spending their wages).

**Table 2: Jobs Generated in the US per Billion Dollars of Spending on Public Transportation (National Spending Mix, 2007)<sup>1</sup>**

	Operations Spending	Capital Spending	Blended Average Spending
Direct Effect	21,227	8202	17,450
Indirect Effect	2934	7875	4367
Induced Effect	16,979	7711	14,291
<b>Total Jobs</b>	<b>41,140</b>	<b>23,788</b>	<b>36,108</b>

<sup>1</sup> "Job Impacts of Spending on Public Transportation: An Update"; Prepared for: American Public Transportation Association; Prepared by: Economic Development Research Group, Inc.; April 29, 2009.

Prorating these values to the estimated \$50.9 million cost of this plan, the following table shows an estimate of new jobs created through the year 2025, at which time the plan would be fully implemented.

**Table 3: Jobs Created Through 2025**

	Operating Jobs		Capital Jobs		Total Jobs
	Rate/\$1 billion	Estimate	Rate/\$1 billion	Estimate	Estimate
Direct Jobs	21,227	824	8202	615	<b>1439</b>
Indirect Jobs	2934	114	7875	590	<b>704</b>
Induced Jobs	16,979	659	7711	578	<b>1237</b>
<b>Total Jobs</b>		1597		1784	<b>3381</b>
<b>Total Rounded Est.</b>		<b>1600</b>		<b>1800</b>	<b>3400</b>

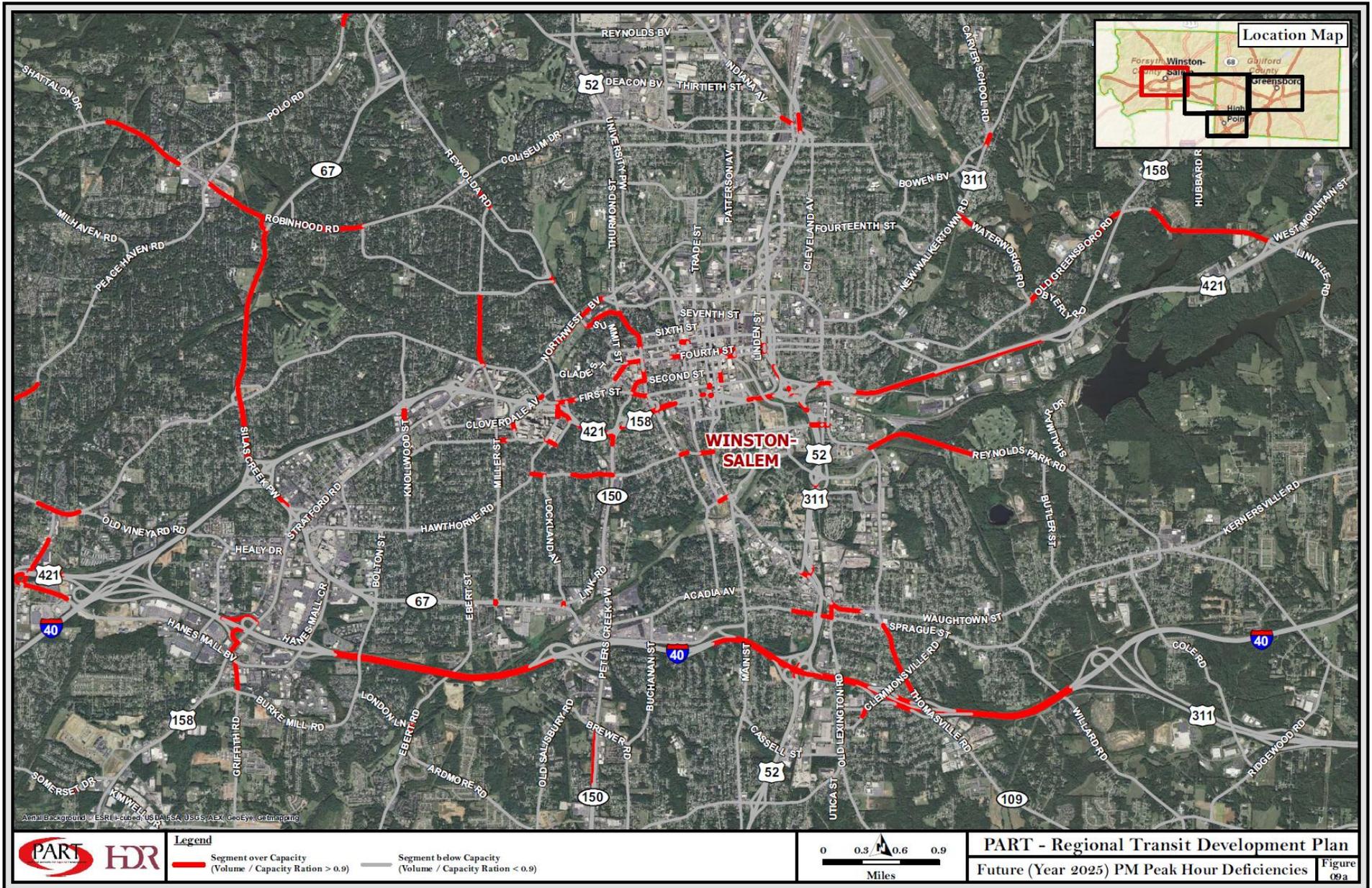
## 6 Conclusion

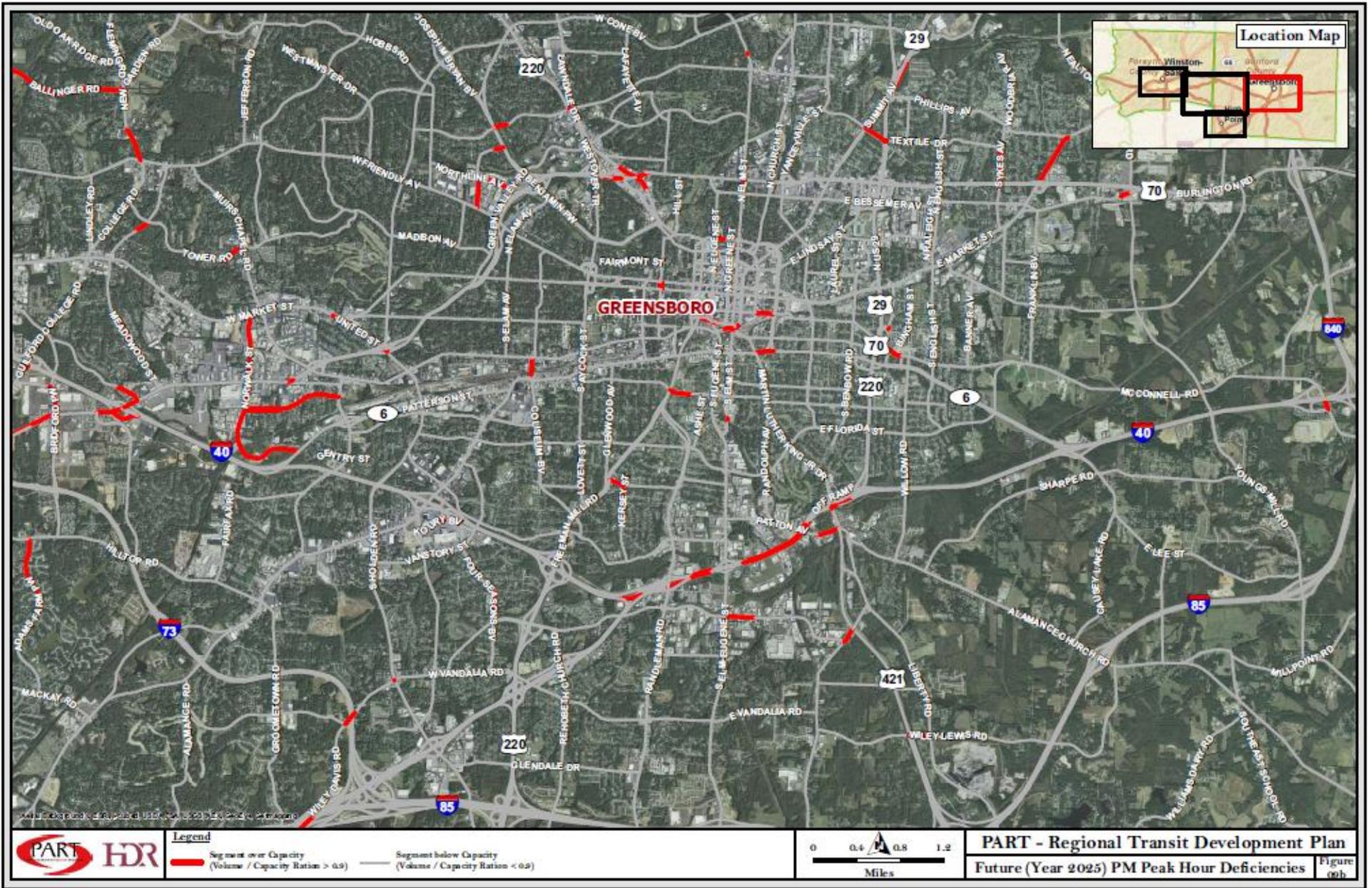
The overall goal for this transit development plan was to meet the requirements of SL 2009-527 (House Bill 148). Within this legislation, it states that the transit plan must include the following:

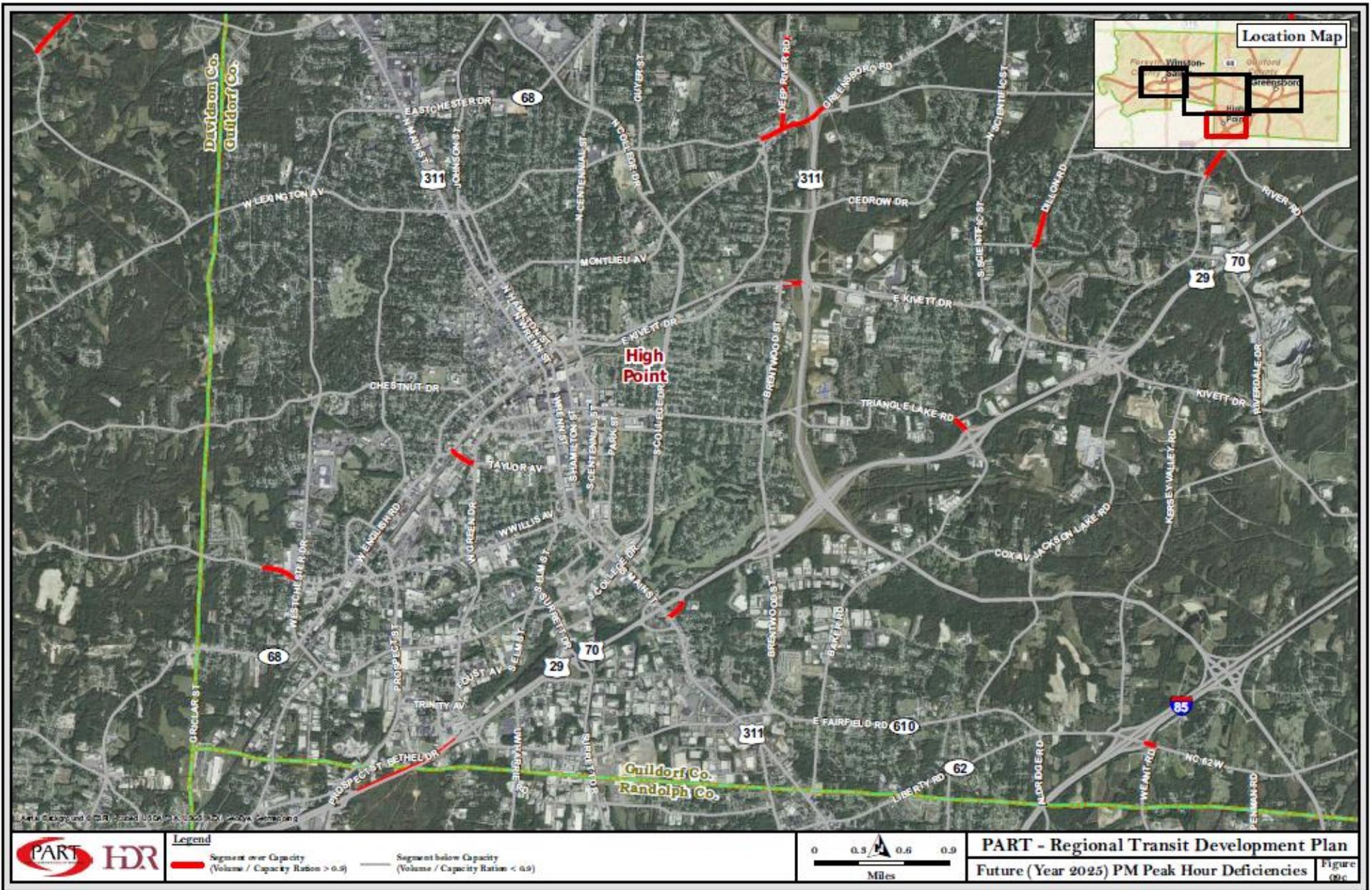
- a. Relief of anticipated traffic congestion.
- b. Improvement of air quality.
- c. Reduction in anticipated energy consumption.
- d. Promotion of a pedestrian- and bike-friendly environment around and connected to transit stations.
- e. Promotion of mixed-use and transit-oriented developments and other land-use tools that encourage multimodal mobility.
- f. Coordination with the housing needs assessment and plan provided in subdivision (3) of this subsection.
- g. Promotion of access to public transportation for individuals who reside in areas with a disproportionate number of households below the area median income.
- h. Coordination and planning with local education agencies to reduce transportation costs.
- i. Coordination with local governments with zoning jurisdiction to carry out elements of the plan.

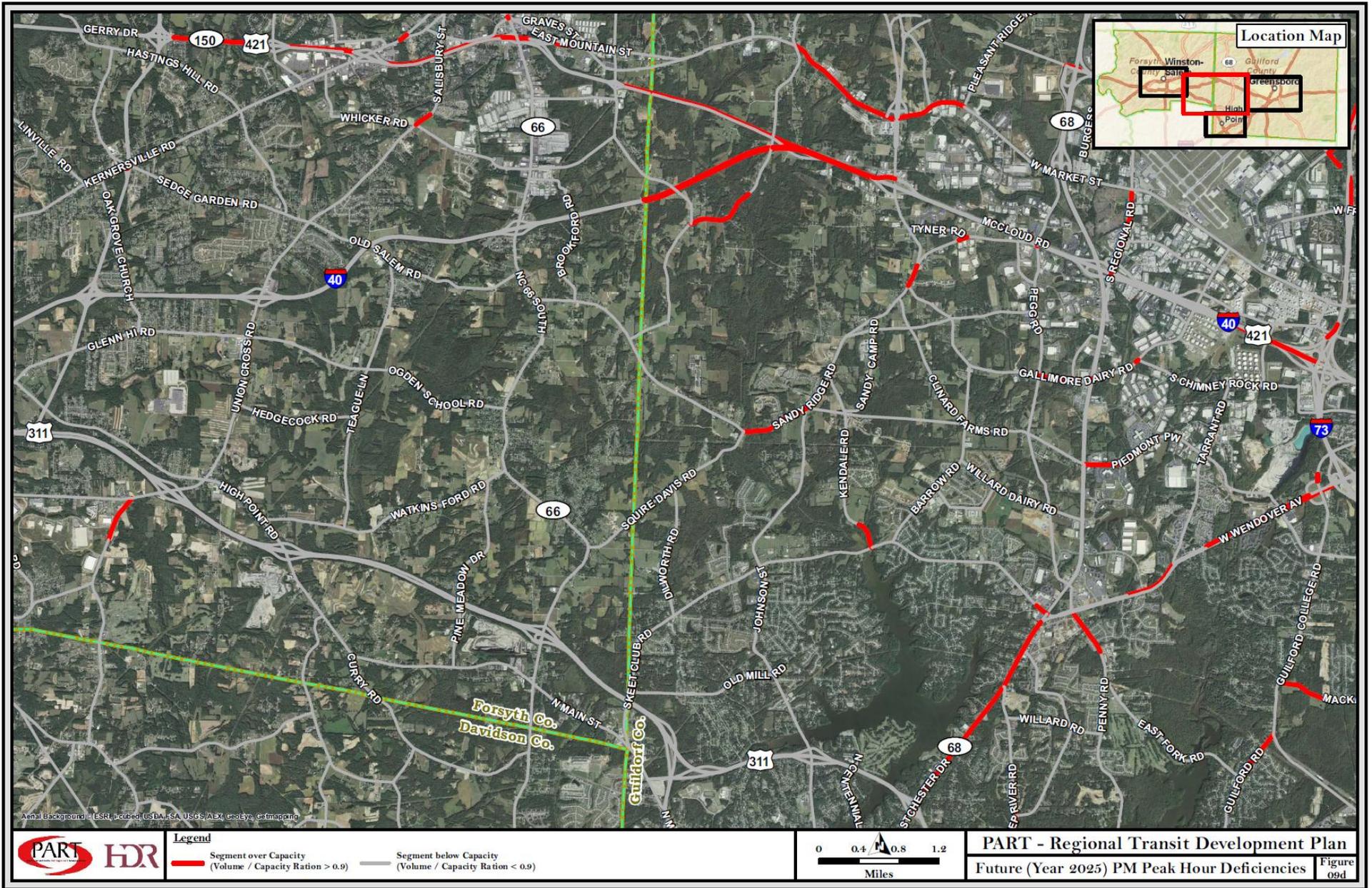
The Project Team has set forth a plan that achieves all of these aspects through interviews with stakeholders, relying on ridership surveys, or looking at gaps in service area by matching the existing service to transit-supportive density. This transit development plan will set a course for the future of transit in the Triad Region.

## Appendix A: Congestion Maps









## Appendix B: Housing Needs Assessment

## Housing Needs Assessment

This Housing Needs Assessment is an important part of the Regional Transit Development Plan since it represents the area – housing – that is a major producer of transit trips. In addition, the associated demographic information allows for a more focused attention on those residents that may be more transit dependent. When viewed in association with other factors, such as ridership propensity, the relationships become even clearer. The assessment includes housing and socioeconomic information for the state of North Carolina, Forsyth and Guilford counties. Potential resources and strategies to address affordable housing needs are provided in each county assessment. A catalogue of available resources to address housing needs for each county is also included. Unless otherwise noted, the information provided in this assessment is from the 1990 and 2000 U.S. Census, or the 2006-2008 American Community Survey (ACS) of the U.S. Census. This assessment meets the requirements set forth in House Bill 148 (Session Law 2009-527) which requires the following:

*The applicant has approved a housing needs assessment and plan, or includes with its application such assessment and plan (or assessments and plans) approved by another unit or units of local government within its service area that includes the following:*

- a. A housing inventory of market rate, assisted housing units, and vacant residential parcels.*
- b. An analysis of existing housing conditions, affordable housing needs, and housing needs for specific population groups, such as people who are elderly, are disabled, have special needs, or are homeless.*
- c. A catalogue of available resources to address housing needs.*
- d. Identification of potential resources and a strategy to provide replacement housing for low-income residents displaced by transit development and to create incentives for the purpose of increasing the stock of affordable housing to at least fifteen percent (15%) within a one-half mile radius of each transit station and bus hub to be affordable to families with income less than sixty percent (60%) of area median income.*
- e. Goals, strategies, and actions to address housing needs over a five-year period.*

This Housing Needs Assessment also utilizes information and documentation produced by the cities of Winston-Salem and Greensboro. The Consolidated Housing and Community Development Plan (CHCDP) 2009-2013 Five-Year Plan by Winston-Salem and Forsyth County include a Community Profile and Needs Assessment, Five-Year Strategy, and an Annual Plan. The City of Greensboro/Guilford County Consolidated Plan (2005-2009) and the updated Plan 2010-2014 includes a Community Profile, Housing Market Analysis, Needs Assessment and Five-year Strategic Plan. Adoption of these plans by any authority requesting grants or funding will meet the criteria specified in House Bill 148 with some minor additions dealing with Item d in the above quote from House Bill 148.

## State of North Carolina

To provide a point of comparison for the county-level assessments, an examination of was undertaken. Several housing characteristics for the state are provided in Figure 1, including rental market data.

Descriptions apply to both the state-level data reported here as well as the county-level data provided hereafter.

**Figure 1 - Housing Characteristics, North Carolina, 2000-2008**

Housing and Economic Characteristics	2000	2008 (est.)	% Change
Median Housing Values	\$95,800*	\$145,600	52%
Median Annual Household Income	\$39,184	\$46,107	18%
Housing Affordability Ratio (housing value/income)	2.44	3.16	--
Poverty Status (% of population)	12.3%	14.6%	--
Vacancy Rate (% of housing units)	11.1%	14.2%	--

\*North Carolina QuickFacts from the US Census Bureau note this value as \$108,300. This would be 34% change.  
Data Source: Census 2000 and ACS.

### 6.1.1 Housing Affordability

The housing affordability ratio divides housing values by household income as a measure of housing affordability. A ratio of 2.0 or less is considered affordable. In other words, housing is considered affordable when housing values are no more than twice that of household income. Figure 1 above indicates that median housing values vs. incomes in the state were above the 2.0 threshold of affordability in 2000 and even higher in 2008.

### 6.1.2 Poverty Status

Poverty status is determined by comparing income levels to poverty thresholds developed by the U.S. Census. Figure 2 reports poverty thresholds by family size for the years 1990, 2000, and 2008. The table notes that the defined poverty levels rose over the 18 year reporting period.

**Figure 2 - Poverty Thresholds by Family Size**

Family Size	1990	2000	2008
One person	\$6,652	\$8,794	\$10,991
Two persons	\$8,509	\$11,239	\$14,051
Three persons	\$10,419	\$13,738	\$17,163
Four persons	\$13,359	\$17,603	\$22,025

Census 1990, 2000, and ACS.

### 6.1.3 Rental market

In addition to income data from the U.S. Census, Fair Market Rent (FMR) data was used to examine the rental markets in the state and counties. FMRs are gross rent estimates developed by the U.S. Department of Housing and Urban Development (HUD), and include shelter plus utility costs. Fair Market Rent for a two-bedroom unit in North Carolina is \$656 per month (NC Housing Coalition-NC Housing Facts).

Based on these data, a household would have to earn \$26,229 per year or \$12.61 per hour to afford two-bedroom rents in the state. This assumes that no more than 30% of a household’s annual income is spent on housing (the generally accepted standard of affordability). Approximately 43% of renters do not earn enough to afford a two-bedroom apartment at Fair Market Rent, and 37% of renters have

housing problems (either having to pay more than 30% of income for housing, having inadequate kitchen or plumbing facilities, or having over-crowded housing) (NC Housing Coalition). When transportation costs are added, affordability becomes even more aggravated.

## County Assessments

### 6.1.4 Forsyth County

Forsyth County is the fourth largest county in North Carolina by population and contains eight municipalities. The total Forsyth County population in 2008 was approximately 343,028, an increase of 12% since 2000. By 2025, the population of Forsyth County will be an estimated 412,109 (Office of State Budget and Management). Several housing characteristics for Forsyth County are provided in Figure 3.

**Figure 3 – Housing and Economic Characteristics**

Housing and Economic Characteristics	2000	2008 (est.)	% Change
Median Housing Values	\$114,000	\$148,700	30%
Median Annual Household Income	\$42,097	\$47,537	13%
Housing Affordability Ratio (housing value/income)	2.71	3.13	--
Poverty Status (% of population)	11.1%	14.9%	--
Vacancy Rate (% of housing units)	6.9%	11.6%	--

Data Source: *Census 2000 and ACS.*

### *Market Rate, Assisted Housing Units, and Vacant Parcels*

Area housing characteristics important to communities and their development include market rents, available housing, and assisted housing units. The market rate analysis below is based on Fair Market Rents available from HUD for 2010. The information related to assisted housing was obtained from the CHCDP and the vacancy information was based on the CHCDP and census data.

#### Market Rate

Figure 4 details information on Fair Market Rents for Forsyth County. As noted previously in the state description, the state FMR rate for a two-bedroom rent is \$656. Therefore, Winston-Salem/Forsyth County's FMR is higher than the state's average. A household would have to earn \$26,760 per year or \$12.87 per hour to afford two-bedroom rents in this area. This assumes that no more than 30% of a household's annual income is spent on housing (the generally accepted standard of affordability). Approximately 25% of renters do not earn enough to afford a two-bedroom apartment at Fair Market Rent rates in Forsyth County, based on income data from the 2006-2008 ACS. Like the state numbers, Forsyth County exceeds the housing affordability ratio in 2000 and 2008, with the latter above 3.0.

**Figure 4 - Fair Market Rent Data, Forsyth County**

Number of Bedrooms	Fair Market Rent	Yearly Income Required	Hourly Wage Required
Zero	\$507	\$20,280	\$9.75
One	\$577	\$23,080	\$11.10
Two	\$669	\$26,760	\$12.87
Three	\$912	\$36,480	\$17.54
Four	\$1072	\$42,880	\$20.62

Data Source: U.S. HUD. Schedule B – FY 2010 Final Fair Market Rents for Existing Housing

### Assisted Housing Units

The County’s total stock of assisted housing currently numbers 10,558 units, which represents 7.9% of the occupied housing units in Forsyth County. Of the total assisted inventory, rental units number 10,171, consisting of 5,881 project-based units and 4,290 tenant-based units. Owner units number 387. Assisted rental units represent 23.2% of the 43,922 occupied renter units (CHCDP).

### Vacant Housing

The number of vacant housing units grew between 2000 and 2008. The CHCDP states there were 9,242 vacancies (7%) in 2000, rising to 13,665 vacant units (9%) in 2005. According to the ACS, Forsyth County has approximately a 12% vacancy rate or 17,613 vacant housing units in 2008. . Overall the vacancy rate in the area increased over the past 10 years; however, it is still below the state’s vacancy rate for those same years. As population grows there is a substantial supply of available stock, although location and quality can be limiting factors.

### *Existing housing conditions and housing needs*

The following section details information on existing housing conditions and housing needs for Forsyth County. The information provided on existing housing conditions and housing needs were obtained from the CHCDP and census data.

### Existing Housing Conditions

The City of Winton-Salem and Forsyth County define substandard units as those that violate the Minimum Housing Code (the “Code”). These units maybe considered unfit for human habitation if the condition threatens public health or safety. Units may also be considered unfit when there are six or more minor code violations. Inspections are done in response to citizen complaints and in a strategic manner as determined by City officials. In the County, enforcement of the Code is based on citizen complaints.

Some units that are determined unfit may be suitable for rehabilitation. If the cost of correcting the condition that renders the unit unfit exceeds 65% of the unit’s structural value, and the owner refuses to correct the violations, then the unit may be identified for demolition. At the end of 2006, 5,204 units of the city’s housing inventory (90,120 units) were labeled substandard. Of those units, 41% were concentrated in eight Census Tracts.

## Affordable Housing Needs

According to the CHCDP, renter housing units that are affordable to low income households are not distributed evenly throughout the county. A low income household (one earning up to 50% of the county median income- \$21,049/\$23,769 for 2000 and 2008, respectively) could afford a monthly rent of approximately \$525 in 2000 and \$595 in 2008. Based on the ACS 2008 survey, only 22% of the occupied rental units have a rent of less than \$500/month (Less than \$500 was used due to the way the US Census distributes the units of contract rent).

## Housing Needs for Specific Population Groups

### Elderly

There are 28,001 elderly households in Forsyth County. Of those, 52.9% were low- and moderate income, earning up to 80% of the median income for the county. One in six (17.6%) of elderly households were extremely low income (Less than 30% of the median income). There are 1,422 subsidized housing units for the elderly/handicapped available at 20 facilities in Forsyth County. In addition, the Housing Authority of Winston-Salem owns and operates 551 additional units in four public housing facilities designated for the elderly.

According to Senior Services of Winston-Salem, there is a need for subsidized units, particularly for persons 55 to 61 years of age. The need for independent elderly housing is expected to increase as the Baby Boomers age. With increased age, health deteriorates, and the elderly will need adult care facilities (rest homes or assisted living) or nursing homes. According to Senior Services, there currently are sufficient beds in the county; however, affordability is a key issue (CHCDP).

### Disabled and Special Needs

The consolidated planning regulations define other special needs population as elderly and frail elderly, persons with disabilities (mental, physical, and developmental), persons with alcohol or other drug addiction, and persons with HIV/AIDS and their families.

According to the 2005 ACS, 17,824 persons in Forsyth County over the age of five had one type of disability, while 19,577 had two or more types of disabilities. The number of persons with disabilities is significant, yet the extent to which these persons have supportive housing needs is not well known. The type of supportive housing needed will depend on the type of disability.

Approximately 2.5 to 3 percent of the total population is estimated to have mental retardation, which translates into approximately 7,900 to 9,500 persons in Forsyth County. The 2005 American Community Survey indicated that 12,930 persons in Forsyth County over the age of 5 have a mental disability. The primary issue for persons with developmental disabilities is the lack of housing appropriate to their ability to live independently. The disability also affects their mobility, again demonstrating the need for an affordable, accessible transit system.

If national mental disorder percentages were applied to Forsyth County, in one year approximately 65,392 adults would be suffering from a diagnosable mental disorder, and approximately 14,975 adults would have a serious mental illness. Major depressive disorder would affect approximately 16,818 adults in Forsyth County. Center Point Human Services

administers programs for clients experiencing mental illness, substance, and developmental disabilities. At any one time, CenterPoint's Adult Mental Health Services Division serves about 1,200 persons. It is the primary provider of services for persons with severe and persistent mental illness.

Non-crisis housing options for persons with mental illness may include group homes, half-way houses, foster homes, family care homes, nursing homes, clustered and scattered-site apartments, SROs, and houses. Twenty Section 811 scattered-site units, 50 HOME Tenant Based Rental Assistance vouchers, 21 leased housing units, and 120 Shelter Plus Care rental assistance coupons for homeless persons are available in Forsyth County for this population; however, none are exclusively for persons with mental illness. In 2008, CenterPoint partnered with Recovery Innovations to create 12 additional leased apartments for peer specialists who will be working in the field of behavioral health.

In Forsyth County, an estimated 7,286 persons age 12 and older need but would not receive treatment for an illicit drug use. The number of persons with alcohol or other drug addictions who have a supportive housing need is unknown. However, Center Point Human Services has indicated that the supportive housing needs of these persons are the same as for persons who are seriously mentally ill since many persons who are seriously mentally ill also have alcohol or other drug addictions.

Forsyth County represents one-third of the cases of people living with HIV and AIDS in the multicounty planning area; thus it can be inferred that one-third of the estimated gap, or 33 people, is in need of housing assistance (CHCDP).

### Homeless

In the most recent survey conducted on January 30, 2008, 452 individuals were homeless in Forsyth County (423 sheltered and 29 unsheltered). Currently, there are 14 different facilities providing emergency shelter for the homeless in Forsyth County. Although surplus emergency shelter beds are available in some facilities, the categories to which these beds are designated (for example some shelters are men only) were not transferable to meet other sub-population needs. There is a need for a 20-bed overflow shelter indicates the ongoing need for emergency shelter. The greatest need in the community is for more permanent supportive housing beds (CHCDP).

### *Catalogue of resources to address housing needs*

Financial resources available to address housing needs include the following:

- Federal Community Development Block Grants (CDBG) entitlement and program income
- Federal HOME Investment Partnership (HOME) entitlement and program income
- Federal Emergency Shelter Grants (ESG) entitlement
- Federal Supportive Housing Program (SHP) and Shelter Plus Care (SPC) through the Continuum of Care competitive process
- Local Housing Finance Fund Program income and fund balance

- Balance of the General Obligation (G.O.) Bonds approved by voters in 2000 but not yet expended

In the past, Forsyth County was successful in obtaining funding from the State of North Carolina for use in the unincorporated area and cooperating municipalities. This includes CDBG funds for single-family rehabilitation and New Homes funds for first-time homebuyer assistance. The County also administers the New Century Individual Development Account (IDA) program for first-time homebuyers in Forsyth County.

### *Replacement Housing for Low-Income Residents Displaced by Transit Development /Incentives for Increasing Affordable Housing near Transit Stations and Bus Hubs*

Forsyth County is an employment magnet for residents of surrounding counties. In 2006, approximately 49,711 persons commuted into and 26,866 persons commuted out of Forsyth County daily. The overall trend is toward single-occupant vehicles as the main mode of commuting in Forsyth County (83% - 2008 ACS).

The existing Bus Center/Hub in Winston-Salem is located within downtown and in an area with a high percentage of low income households. Currently, the percentages of low income households by census block within the ½ mile radius of the bus hub range from 39.7 percent to 72.9 percent. The majority of the ½ –mile area is in Census Block 370670001001 with 60.4 percent low income households.

The Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Uniform Relocation Act of 1987, ensures the fair and equitable treatment of persons whose real property is acquired or who are displaced as a result of a Federal or Federally-assisted project. Government-wide regulations provide procedural and other requirements (appraisals, payment of fair market value, notice to owners, etc.) in the acquisition of real property and provides for relocation payments and advisory assistance in the relocation of persons and businesses.

### *Goals, Strategies and Actions for Housing Needs over a Five-year Period*

Goals, strategies and actions for housing needs over a five-year period are addressed by the Winston-Salem/Forsyth County Consolidated Housing and Community Development Plan, 2009-2013. This plan outlines their Five-Year Strategic Plan as follows:

- Context for Strategy Development
- Priority Analysis
- Goals, Strategies and Programs
- Institutional Structure and Coordination
- Public Housing Improvements
- Lead-Based Paint Hazard Reduction Plan
- Non-Housing Community Development Plan
- Antipoverty Strategy and Initiatives
- Monitoring Standards and Procedures.

### 6.1.5 Guilford County

Guilford County is the third largest county in North Carolina by population and contains the third largest city, Greensboro, in the State. The total Guilford County population in 2008 was approximately 472,216, an increase of 12% since 2000. By 2025, the population of Guilford County will be an estimated 567,914 (Office of State Budget and Management). Several housing characteristics for Guilford County are provided in Figure 5.

**Figure 5 – Housing and Economic Characteristics**

Housing and Economic Characteristics	2000	2008 (est.)	% Change
Median Housing Values	\$116,900	\$151,700	30%
Median Annual Household Income	\$42,618	\$47,308	11%
Housing Affordability Ratio (housing value/income)	2.74	3.21	--
Poverty Status (% of population)	10.6%	15.5%	--
Vacancy Rate (% of housing units)	6.5%	11.0%	--

Data Source: *Census 2000 and ACS.*

#### *Market Rate, Assisted Housing Units, and Vacant Parcels*

Area housing characteristics important to communities and their development include market rents, available housing, and assisted housing units. The market rate analysis below is based on Fair Market Rents available from HUD for 2010. The information related to assisted housing and vacancy rates were obtained from the Draft Consolidated Plan 2010 and census data.

#### Market Rate

Figure 6 details information on Fair Market Rents for Guilford County. As noted previously in the state overall description, the state FMR rate for a two-bedroom rent is \$656. Therefore, the Greensboro/Guilford County's FMR is higher than the state's average. A household would have to earn \$28,120 per year or \$13.52 per hour to afford two-bedroom rents in this area. This assumes that no more than 30% of a household's annual income is spent on housing (the generally accepted standard of affordability). Around 30% of renters don't earn enough to afford a two-bedroom apartment at Fair Market Rent rates in Guilford County based on Income from the 2006-2008 ACS. According to the Consolidated Plan (2010), over 60,659 households in Greensboro (55% of all Greensboro households) cannot afford to pay the Fair Market Rent as determined by HUD. Like the state numbers, Guilford County exceeds the housing affordability ratio in 2000 and 2008, with the latter above 3.0.

**Figure 6 – Fair Market Rent Data, Guilford County**

Number of Bedrooms	Fair Market Rent	Yearly Income Required	Hourly Wage Required
Zero	\$553	\$22,120	\$10.64
One	\$631	\$25,240	\$12.13
Two	\$703	\$28,120	\$13.52
Three	\$891	\$35,640	\$17.13
Four	\$953	\$38,120	\$18.33

Data Source: U.S. HUD. Schedule B – FY 2010 Final Fair Market Rents for Existing Housing

### Assisted Housing Units

There are four distinct housing authorities within the Greensboro HOME Consortium: Greensboro, High Point, Burlington and Graham. The High Point Housing Authority serves a total of 2,698 individuals in its 10 multi-family housing projects and scattered site properties. Greensboro’s Housing Authority has a total of 2,105 public housing units in 17 communities. These units serve 420 elderly tenants, 464 tenants classified as disabled, and 1941 single individuals. As of 2010, there were over 2,500 applicants on the public housing waiting list. Greensboro Housing Authority also administers over 2,600 Section 8 vouchers that provide rental assistance to families renting housing units owned by private landlords (Consolidated Plan 2010).

### Vacant Housing

The number of vacant housing units grew between 2000 and 2008. The Consolidated Plan states there are 15,438 vacant units (Draft Consolidated Plan 2010). According to the ACS, Guilford County has approximately an 11% vacancy rate or 11,724 vacant housing units. Overall the vacancy rate in the area increased over the past 10 years; however, it is still below the state’s vacancy rate for those same years. As population grows there is a substantial supply of available stock, although location and quality can be a limiting factor.

### *Existing housing conditions and housing needs*

The following section details information on existing housing conditions and housing needs for Guilford County. The information provided on existing housing conditions and housing needs were obtained from the Consolidated Plan, Draft Consolidated Plan 2010, and census data.

### Existing Housing Conditions

The public housing stock in Guilford County and Greensboro Public Housing is generally in good Condition. Greensboro Public Housing units have a high median inspection score of 88.95 out of 100. Assisted housing in Guilford County also received high inspection scores with a median of 88.79(2010 Consolidated Plan). The 2010 Draft Plan states 2,654 units are considered substandard.

## Affordable Housing Needs

There isn't a housing shortage in Greensboro/Guilford County at this time, but there is a serious shortage of affordable housing for the lowest income group. The need for new housing units over the next five years will be minimal, and should occur at the rate of population growth for the entire population. However, there is a need to provide 8,000 to 10,000 units of affordable housing. To meet this demand, 2,000 units a year would need to be provided, either by converting existing housing stock, or building new (Draft Consolidated Plan 2010).

## Housing Needs for Specific Population Groups

### Elderly

In Guilford County there has been a substantial increase in the number of elderly households earning less than 30% of the Median Family Income (MFI), from 5,893 to 10,857, an increase of 84%. This was true for both renters and owners. In Greensboro, there was also this increase of elderly households at all income levels, but particularly less than 30% of MFI, from 3,078 to 4,477, an increase of 45% that impacted both renters and owners (Draft Consolidated Plan 2010).

The types of housing for the elderly (and all those with supportive housing needs) vary depending on the services needed to meet the requirements of the residents. In general, those who provide special housing needs provide an array of services. Efforts are made to ensure maximum independence in the least restrictive setting, but onsite support of those with special needs is often needed (Consolidated Plan).

### Disabled

Greater need for housing and other supportive services is present among households in Greensboro with at least one disabled member. Although such households comprise just 8.5% of Greensboro households, 74.5% of all households with a disabled member have income at or below 80% of the median (Draft Consolidated Plan 2010).

### Special Needs

Greensboro and Guilford County have considered the needs of the elderly, persons with disabilities (including mental, physical and developmental), alcohol and substance abusers and persons with HIV/AIDS. People with supportive housing needs have special housing and care needs, largely because they are out of the workforce and/or have substantial medical and care requirements. Service providers for people with special needs face substantial challenges. According to the Substance Abuse and Mental Health Services Administration (SAMHSA) survey, 7.9 percent of the adult population or 26,154 people use illegal drugs and 17 percent abuse alcohol. There are also 18,006 mentally ill people in Guilford County as reported in the 2000 Census and North Carolina estimates that 30.7 percent of these, or 5,402 people, have severe and persistent mental illness. The Guilford County Mental Health Center became a Local Management Entity (LME) and has responsibility for coordinating efforts of private care facilities to treat persons with disabilities (Consolidated Plan).

The Eastern Triad HIV Consortium provides annual housing needs assessments for people living with HIV/AIDS. Greensboro Housing Authority needs 15 to 20 tenant-based rental vouchers designated for households with HIV/AIDS each year. These units are provided at D'Lashment Crossing facility which has a dozen one- and two-bedroom units (Consolidated Plan).

### Homeless

The survey conducted on December 15, 2003 indicated there were 1,051 homeless individuals in Guilford County; of these, 346 were considered chronically homeless (Consolidated Plan). In 2009, surveys noted 1,049 homeless individuals in Guilford County. Of Guilford County's homeless total, 274 persons in families with dependent children and 446 individuals reside in Greensboro. Although the total number of beds at homeless shelters in Greensboro would be almost enough to accommodate the City's known homeless population (including those not currently sheltered) most of the shelters or beds are reserved for specific sectors of the homeless population, such as transitional housing, women only, teen only, family only, etc. Most notably, transitional housing is currently over supplied by more than 200 units. Some degree of re-allocation could help to close much of the current gap in shelter availability. Otherwise, a significant number of new emergency shelter resources and permanent supportive housing options will be needed to accommodate the current known homeless population. (Draft Consolidated Plan 2010).

### *Catalogue of resources to address housing needs*

Financial resources available to address housing needs include the following:

- Federal Community Development Block Grants (CDBG) entitlement and program income
- Federal HOME Investment Partnership (HOME) entitlement and program income
- Federal Emergency Shelter Grants (ESG) entitlement
- Federal Supportive Housing Program (SHP) and Shelter Plus Care (SPC) through the Continuum of Care competitive process

Greensboro and Guilford County have also been successful in obtaining funding from the State of North Carolina for use in the unincorporated area and cooperating municipalities, for single-family rehabilitation and New Homes funds for first-time homebuyer assistance. Other programs include:

- Housing Assistance Programs
- Greensboro Affordable Home Loan Initiative (GAHLI)
- Homeowner Housing Rehabilitation Program
- Lead Safe Housing Program
- Rental Housing Improvement Program (RHIP)
- Affordable Housing Development
- Greensboro Housing Development Partnership

### *Replacement Housing for Low-Income Residents Displaced by Transit Development / Incentives for Increasing Affordable Housing near Transit Stations and Bus Hubs*

Guilford County is an employment magnet for residents of surrounding counties. In 2006, approximately 80,356 persons commuted into and 22,883 persons commuted out of Guilford County daily. The overall trend is toward one-occupancy vehicles as the main mode of commuting in Guilford County (81% - 2008 Census).

Guilford County has three existing bus or train centers. The existing transit center in Greensboro is located within downtown and in an area with a high percentage of low income households. Currently, the percentages of low income households by census block within the ½ mile radius of the center range from 36.4 percent to 77.3 percent with the majority of the area in Census Block 370810108011 (65.3 percent low income households). The existing transit center located in downtown High Point is in an area with a high percentage of low income households. The percentages of low income households by census block within the ½ mile radius of the center range from 30.2 percent to 89.2 percent. Census Block 370810146001 falls within a majority of the radius and contains 82.5 percent of low income households. The PART Regional Hub is located in an area which is more suburban and has smaller percentages of lower income households and larger census blocks within the ½ mile radius as compared to those located within downtown. The percentages of low income households for the census blocks range from 13.8 percent to 38.8 percent with just over half of the area in Census Block 370810164031 (23.3 percent).

The Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Uniform Relocation Act of 1987, ensures the fair and equitable treatment of persons whose real property is acquired or who are displaced as a result of a Federal or Federally-assisted project. Government-wide regulations provide procedural and other requirements (appraisals, payment of fair market value, notice to owners, etc.) in the acquisition of real property and provides for relocation payments and advisory assistance in the relocation of persons and businesses.

### *Goals, Strategies and Actions for Housing Needs over a Five-year Period*

Goals, strategies and actions for housing needs over a five-year period are addressed by the Greensboro/Guilford County Consolidated Plan for Housing 2005-2009 and the update 2010-2014. This plan outlines their Five-Year Strategic Plan as follows:

- Priority Analysis and Strategy Development
- Objectives, Strategies, and Performance Indicators
- Anti-poverty Strategy
- Institutional Structure and Coordination of Resources
- Public Housing Improvements and Resident Initiatives.

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