

Polk County Transportation Authority



Community Transportation Service Plan July 2015



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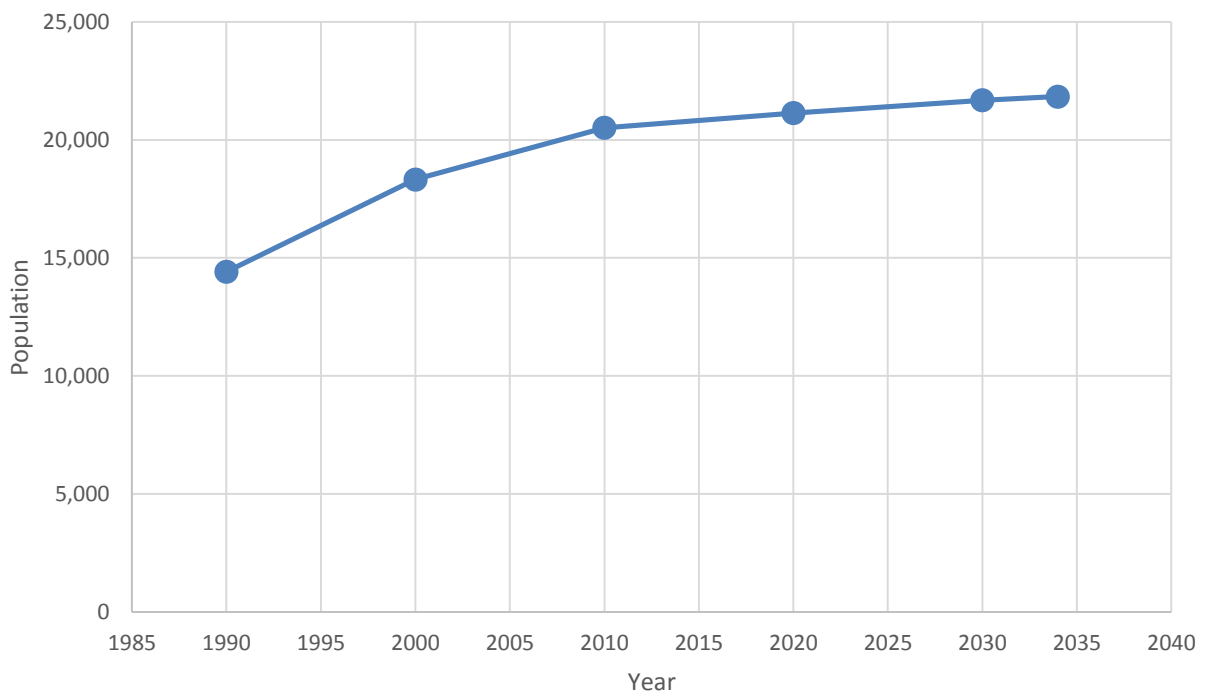
1. Executive Summary

The purpose of the Community Transportation Service Plan (CTSP) is to describe the current performance and organizational direction of the Polk County Transportation Authority (PCTA) system; recommend operations and management strategies to increase mobility options for passengers; and improve the efficiency and effectiveness of the organization and transportation services in Polk County. This five-year CTSP was developed through a public education and involvement process that includes the general public, private and non-profit transportation providers, human service providers and targeted populations that include individuals with disabilities, low incomes, and limited English proficiency (LEP). The coordination of community transit services has been a priority of the State of North Carolina and NCDOT for decades. The goal of the CTSP is to help ensure that those who need or would like transit services are provided for in an efficient and cost-effective manner. This planning effort will result in overall growth and expansion goals and recommendations that the community can support.

Demographic Characteristics

Polk County is a predominately rural county nestled in the foothills between the Blue Ridge Mountains and Piedmont regions of North Carolina. According to the 2010 U.S. Census, the Polk County population was 20,510. While Polk County has experienced population growth of roughly 40 percent over the past 25 years, population growth in the county is expected to remain relatively flat over the next twenty years, according to data from the North Carolina Office of State Budget and Management. The projected population in 2034 is 21,800, an overall growth of just six percent, as shown on Figure 1.

Figure 1 – Historical and Projected Population

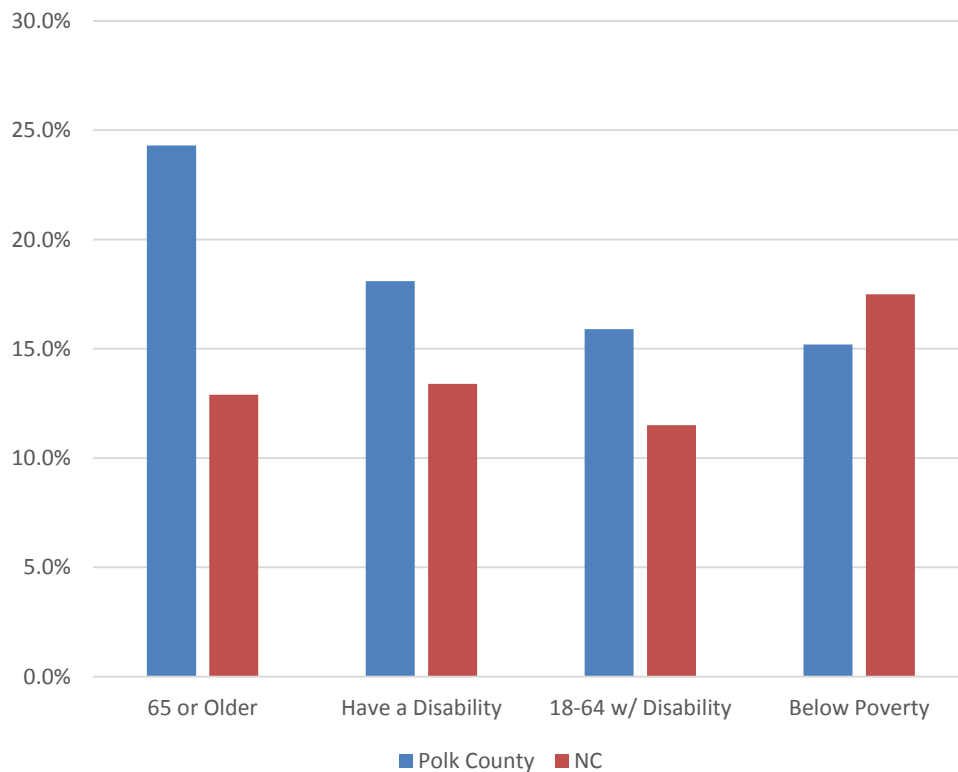


While natural growth has been negative over the past three years (i.e. more deaths than births), the population has remained relatively stable due to a net migration, largely of older adults and retirees. According to Census American Community Survey (ACS) 3-Year Summary Data, approximately 24 percent of the residents in Polk County are 65 years and above, compared to 13 percent across the state, as shown on Figure 2. The median age has grown from 39.1 in 1980 to 50.1 in 2013, significantly higher than the state median age of 37.6 in 2013.

The population of disabled individuals in Polk County (18.1 percent) is also higher than the state as a whole (13.4 percent). This is partially due to a much higher percentage of individuals 65 years of age or older, which are more likely to have a disability. However, even the percentage of disabled individuals aged 18 to 64 years is higher at 15.9 percent compared to 11.5 percent across the state. The reason for this is not known; however, it is possible that many support services in place for older individuals also serve individuals with disabilities, attracting these individuals and their families to the area.

While the median income is lower than the state average, a lower percentage of individuals are below poverty than at a state level. This reflects more parity in income levels and likely a larger percentage of middle class residents compared to the state as a whole. Older individuals, individuals with disabilities, and individuals with lower incomes and access to private vehicles are more likely to be dependent on transit for mobility needs.

Figure 2 – Demographics of Potential Transit-Dependent Population Groups



Existing Transit Services

PCTA offers demand-response service to any resident of Polk County, Monday through Friday, from 5:30 A.M. to 5:30 P.M., excluding county government holidays. Service operates on a reservation basis; those

needing rides must call to schedule a ride at least two business days in advance for in-county trips and five business days in advance for out-of-county trips. The service provides door-to-door transportation which fulfills several functions:

- Human Services Transportation: This consists of trips through agencies for purposes such as medical, job training, school, work, child care, social services, public hearings, and senior centers.
- Rural General Public service: This includes all other trips requested by individual riders (also known as RGP service).

PCTA primarily focuses on serving locations within Polk County, but rides can be scheduled to out-of-county destinations for certain services as well. Often agencies cover the cost of rides, but RGP services cost \$1.00 per trip if along an existing subscription route, and \$0.135 per mile otherwise.

Service effectiveness is perhaps best measured by "productivity," which is defined as the number of one-way passenger trips provided per each service hour. PCTA's productivity has declined roughly 27 percent from 3.1 trips per vehicle hour in FY 2010 to 2.3 in FY 2014. Another measure of transit's effectiveness is the number of one-way passenger trips provided per vehicle service mile. PCTA provided 0.12 one-way passenger trips per vehicle mile in FY 2014 compared to 0.14 trips per vehicle mile in 2010, a decline of roughly 11 percent. This decline could be attributed to increased deadhead miles associated with driver limitations, namely requiring part-time drivers to return from a run if in danger of exceeding their allotted hours. This limitation was introduced at the same time a dispatcher with 30 years of experience retired, providing an additional limiting factor in dispatching and scheduling routes and drivers, and reducing service effectiveness. PCTA has recently amended duplication of responsibilities between scheduler and dispatcher by delineating the positions concretely; this change should improve service efficiency.

The financial efficiency of a given transit system can be measured by the operating cost per one-way passenger trip, which has increased roughly 27 percent from \$10.69 in FY 2010 to \$15.30 in FY 2014. Driver turnover, resulting from drivers holding part-time positions, adds to training costs and driver inefficiency, which could explain some of the cost increase. The decline in ridership would also increase the cost per trip, since the fixed costs associated with providing the service only decrease marginally with a ridership decrease. PCTA identified three factors that may explain the decrease in ridership:

1. Change from a manual method of tracking and reporting trips (stroke count) to automated scheduling and reporting (TRiP_Maker)
2. Discontinuation of trips for private parties, church outings, home tours (charter service)
3. Restrictions on the use of part time drivers' hours (this group worked full time hours prior to 2013)

Trips provided by PCTA are subsidized by funding from federal, state, and county contributions. The subsidy per trip shown in Table 1 does not consider contract revenue from agencies that purchase transportation from PCTA as part of this subsidy. However, the overall operating subsidy per passenger is an important measure of a transit system performance particularly because it directly compares the most significant public input (public subsidy funding) with the most significant output (one-way passenger trips). To determine the overall subsidy per one-way passenger trip, the total cost to provide service less the farebox revenue is divided by the number of one-way passenger trips. PCTA required a subsidy of \$14.81 per one-way passenger trip in FY 2014. Contract revenue accounts for \$6.07 per trip, or 40 percent of the total \$15.30 per trip cost.

Table 1 – Five-Year Performance Analysis

Year	Passenger Trips	Vehicle Hours	Vehicle Miles	Operating Expenses	Trips per Vehicle Hour	Trips per Vehicle Mile	Cost per Trip	Cost per Hour	Cost per Mile	Subsidy per Trip
2010	55,068	17,760	403,152	\$588,441	3.1	0.14	\$10.69	\$33.13	\$1.46	\$4.29
2011	56,081	18,422	410,157	\$716,907	3.0	0.14	\$12.78	\$38.92	\$1.75	\$5.17
2012	54,707	19,097	354,948	\$696,746	2.9	0.15	\$12.74	\$36.48	\$1.96	\$4.77
2013	47,916	18,689	371,596	\$587,609	2.6	0.13	\$12.26	\$31.44	\$1.58	\$5.35
2014	40,420	17,884	332,026	\$618,240	2.3	0.12	\$15.30	\$34.57	\$1.86	\$6.84

Transit Needs and Demand

Transit Dependence Index

ITRE developed a transit dependence index (TDI) based on populations for which there are environmental justice concerns and/or a likelihood of being transit-dependent. The TDI was developed using the research from a 2004 National Cooperative Highway Research Program (NCHRP) report that utilized an index based on concentrations of minority and low-income individuals, but ITRE modified the index to instead analyze concentrations of no-vehicle households, older adults, youth, individuals with disabilities, and below-poverty individuals. The TDI was calculated on a Census block group level for Polk County, with a theoretical range from 0-100, where higher values represent areas with a large presence of transit-dependent individuals in an area with a high overall population density. The twelve block groups in Polk County have a minimum TDI value of 7, maximum of 18, and a mean of 10. The low TDI values in Polk County are largely driven by the relatively low population density of each block group. The highest TDI values in the county span Highway NC 108 from Tryon through Columbus, Mill Spring, and to the east.

Transit Needs and Demand Estimation

Transit demand in Polk County was analyzed in order to help identify opportunities for future growth of the transit system. Three methods were used to estimate the maximum transit trip need and feasible demand for existing services in Polk County. These methods were developed by ITRE based on numerous trip estimation research methods and best practices. The basis for these methods comes from the Transportation Cooperative Research Program (TCRP) "Web-Only Document 49: Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation". All three methods use Census data on households with no vehicles, the population of older adults, and/or mobility-impaired individuals to create an estimate of the demand for transit or the maximum need for transit service in the county.

Overall, PCTA is performing well in terms of meeting the overall transit demand, particularly given Polk County's small size and low density. The three estimation need and demand estimation methods show that PCTA is providing close to the estimated demand in the County. However, there are specific geographic areas where PCTA may not be meeting the transit needs and demands of residents, particularly those who are transit-dependent. With 97 percent of Polk County residents using a private automobile to get to work, either by driving or riding with someone, there is a large market for PCTA to

provide work trips to those who have a transportation choice. Chapter Five provides more depth on transit need and demand estimation methods and measurements.

Financial Characteristics

Cost Allocation Model

PCTA expenses are shown below in Table 2. Expenses for FY 2014 totaled \$662,936. The specific operating cost line items were allocated to a quantity of service (vehicle service hours, vehicle service miles, vehicle, or fixed cost) for the purposes of constructing a cost allocation model. The fully-allocated hourly cost is calculated by dividing the total operating cost by the annual vehicle service hours operated, which yields \$37.07. The cost equation and fully-allocated hourly cost, scaled to account for inflation, can be used to estimate costs associated with service changes, such as changes in the hours of service.

Table 2 - Cost Allocation Model

Line Item	Total Expense	Fixed Costs	Costs Based on Vehicle Service	
			Hours	Miles
Administrative Costs				
Employee Salaries & Fringes	\$134,885	\$134,885		
Advertising & Promotions	\$5,839	\$5,839		
Employee Development	\$1,935	\$1,935		
Utilities and Office Expenses	\$12,578	\$12,578		
Other Administrative Costs	\$3,550	\$3,550		
<i>Administrative Costs Subtotal</i>	\$158,787	\$158,787		
Operating Costs				
Employee Salaries & Fringes	\$337,640		\$337,640	
Fuel	\$79,008			\$79,008
Vehicle Operating & Maintenance	\$40,905		\$4,100	\$36,805
Other Operating Expenses	\$46,596	\$792	\$45,804	
<i>Operating Costs Subtotal</i>	\$504,149	\$792	\$387,904	\$115,427
Grand Total	\$662,936	\$159,579	\$387,544	\$115,813
<i>Unit Quantities</i>		N/A	17,884	332,026
	<i>Cost Per Unit</i>	\$159,579	\$21.69	\$0.35
Fully Allocated Cost per Hour of Service		\$37.07		

Source: PCTA FY 2014 Expenses and Revenue and FY 2014 OPSTATS

Costs and Revenue Sources

Operating Costs

In FY 2014, PCTA received revenues from five sources to subsidize its operating costs, as shown in Table 3. The costs of operating PCTA's service were funded primarily by agency contracts (37 percent), followed by federal assistance (22 percent), state assistance (20 percent), and county government assistance (14

percent). Farebox revenue accounted for around 3percent of the overall funding, and NC Division on Aging funding accounted for around 4.5 percent of funding.

Table 3 - Revenue Sources: Operating Costs (FY 2014)

Revenue Source	Revenue	% of Revenue
Federal assistance (Section 5311 Administrative)	\$145,635	22.0%
State assistance	\$130,953	19.8%
<i>CTP Administrative</i>	\$9,101	
<i>ROAP</i>	\$121,852	
Local assistance	\$91,504	13.8%
<i>County Government Administrative & Operating</i>	\$91,504	
Farebox	\$19,714	3.0%
Contracts	\$245,307	37.0%
NC Division on Aging (HCCBG Reimbursement)	\$29,823	4.5%
Total Revenue	\$662,936	100.0%

Source: PCTA FY 2014 Expenses and Revenue and FY 2014 OPSTATS

Capital Costs

In FY 2014, PCTA received revenues from three sources to subsidize its capital costs, as shown in Table 4. Federal and state assistance combined comprised 90 percent of funding of PCTA's capital revenue in FY 2014. Local assistance accounted for 10 percent of the total.

Table 4 - Revenue Sources: Capital Costs (FY 2014)

Revenue Source	Revenue	% of Revenue
Federal	\$96,289	80.0%
State assistance	\$12,036	10.0%
Local assistance	\$12,037	10.0%
Total Assistance	\$120,362	100.0%

Source: PCTA FY 2014 Expenses and Revenue and FY 2014 OPSTATS

Service Recommendations

The recommendations in this plan focus on identifying growth opportunities for the PCTA system while improving the efficiency and effectiveness of service. A primary recommendation for growth is to expand the number of rural general public (RGP) trips, employment trips, and trips for those who are not transit-dependent, including trips to shopping, education, recreation, special events, and other activities. Everyone in the county should know that they have an option to take PCTA wherever they want to go. The recommendations in this plan strive to increase ridership and system performance with a focus on policies, marketing and outreach, service expansion, and regional coordination. Some major recommendations include hiring a Mobility Coordinator, rebranding the service, extending afternoon service hours, adding Saturday service, implementing a deviated fixed route, reducing the reservation window, expanding the Hendersonville shopping shuttle, providing targeted service to the Tryon

International Equestrian Center (TIEC), increasing vanpool services, implementing billing changes, enhancing technology, investigating a new transit facility, and pursuing other capital needs.

Summary and Prioritization of Recommendations

Table 5 provides a summary of major recommendations to PCTA policies, marketing, services provided, capital, and coordination. The needs addressed by each recommendation are included, as well as the plan where the need or recommendation was identified. Recommendations and needs not previously identified in a plan were developed through conversations with PCTA, the project Steering Committee, and analysis as part of this study. The project Steering Committee was asked to prioritize their recommendations by “funding” each project from a \$100 budget. The “funding” amounts were totaled and then normalized so the sum of all recommendations equals \$100. This “priority weight” is shown for each recommendation in Table 5, with higher numbers denoting higher priorities for the Steering Committee.

Table 5 – Service Recommendations and Needs Addressed

Recommendation	Needs Addressed	Plans Where Need Identified	Steering Committee Priority Weight
Service Recommendations			
Extended Weekday Service Hours	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	8
Saturday Service	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	10
Shuttle to Tryon International Equestrian Facility	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	3
Expand Hendersonville Shopping Shuttle	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	3
Facilitate Vanpools or Brokered Trips	<ul style="list-style-type: none"> • More employment and Rural General Public service • Improve efficiency of service 	<ul style="list-style-type: none"> • Locally Coordinated Plan 	3
Hire Additional Full-Time Drivers or Increase Some Part-Time Drivers to Full-Time	<ul style="list-style-type: none"> • Expand capacity • Improve efficiency of service 	<ul style="list-style-type: none"> • Locally Coordinated Plan 	4
Deviated Fixed Route Service	<ul style="list-style-type: none"> • More employment and Rural General Public service • Improve efficiency of service 	<ul style="list-style-type: none"> • Locally Coordinated Plan • CTSP Survey Results 	10

Modified Billing System	<ul style="list-style-type: none"> Expand funding opportunities 	<ul style="list-style-type: none"> ITRE Performance Plan 	6
Marketing, Branding, and Outreach Recommendations			
Hire Mobility, Marketing, and Outreach Coordinator	<ul style="list-style-type: none"> Improve mobility More employment and Rural General Public Service Increase visibility 	<ul style="list-style-type: none"> N/A 	2
Rebrand PCTA	<ul style="list-style-type: none"> More employment and Rural General Public Service Increase visibility 	<ul style="list-style-type: none"> N/A 	0
Advertising on Vehicles	<ul style="list-style-type: none"> Expand funding opportunities 	<ul style="list-style-type: none"> N/A 	0
Capital Recommendations			
New Transit Facility	<ul style="list-style-type: none"> Expand capacity Provide secure vehicle storage 	<ul style="list-style-type: none"> N/A 	4
Technology Enhancements	<ul style="list-style-type: none"> Improve efficiency of service Expand capacity 	<ul style="list-style-type: none"> N/A 	14
Coordination Recommendations			
Work with Neighboring Systems to Provide Afternoon Out-of-County Trips	<ul style="list-style-type: none"> Coordination of transit services Improve efficiency of service 	<ul style="list-style-type: none"> ITRE Performance Plan Locally Coordinated Plan CTSP Survey Results 	12
Policy Recommendations			
24 hour reservation window	<ul style="list-style-type: none"> More employment and Rural General Public service 	<ul style="list-style-type: none"> ITRE Performance Plan 	19

Financial Plan

The basic idea of the financial plan is to improve system efficiency, while expanding PCTA's current services and their capacity to provide future service to meet the needs of Polk County residents. These new services also seek to expand the types of users and trips that PCTA serves, which are currently largely medical, to include more rural general public and employment trips.

There is a lot of flexibility to the financial plan depending on which program elements are to be implemented and when they will be implemented. Table 9 shows the plan phasing that is desired today. The spreadsheet tool that accompanies this document provides the flexibility to easily modify new service implementation and a number of assumptions as needs and desires change.

The plan was created and compared to a base case which assumed that operating characteristics stayed the same except for 4% ridership growth per year; this growth is greater than the expected population growth in Polk County over the next five years, but represents the growth projections provided for Polk County by ITRE in the North Carolina Community Transportation System Technology Implementation Plan

from August, 2014. The base case and plan also include inflation which was assumed to be 2 percent in FY 2015, 4 percent in FY 2016-2019, and 0 percent in FY 2020, based on the inflation numbers used by NCDOT TIP Development Unit. This base case provides an example of what PCTA's finances and service might look like in the future if no new services or programs were implemented, and it assumes a continued reliance on S. 5311 and ROAP funds. The plan alternatives are then added to that base case each year, following the phasing of their implementation, and subtracting from their costs the expected new revenues.

This plan is built around five main component categories, as detailed in the section Summary and Prioritization of Recommendations.

1. Services
2. Marketing, branding, and outreach
3. Coordination
4. Capital
5. Policies

Services

A modified billing system would reduce payments in arrears for RGP passengers and increase revenue by charging contracting agencies rates closer to the actual costs of providing service. For FY 2014, PCTA revenue from agency contracts was roughly 2/3 of the actual operating costs to provide these services. In other words, PCTA would need to bill 50% higher to cover operating costs for agency contract trips. For this financial plan, it is assumed that the revised billing system will increase revenue from agency contracts and passenger fares by 15%, as an across the board increase of 50% may be considered too onerous or infeasible. Furthermore, some of the agencies have a set budget that cannot be increased and/or will not allow for zone-based or fixed-fare billing. These agency policies and financial constraints limit PCTA's ability to realize revenue closer to the cost of providing service for some agencies.

Saturday service could be funded under ROAP and S. 5311 funding, for operating and administrative expenses, respectively. While the former S. 5316 Job Access and Reverse Commute (JARC) program was consolidated into the S. 5311 program, there is not currently S. 5311 funding availability for operating expenses. Despite limitations to the availability of ROAP and S. 5311 funds, it is hoped that efficiency gains and financial improvements can fund Saturday service from these fund. Saturday service would enable medical, recreational, and employment trips for many who would otherwise have no transportation option. For instance, food services employment is by far the largest employment sector in Polk County. Saturday service would enable transportation to food services and other retail employment jobs.

An expanded shopping shuttle and a new deviated fixed route could be funded under S. 5310, formerly under the S. 5317 "New Freedom" application that targets populations that may otherwise not have transportation. The local match could potentially be provided by the retailers served by the shopping shuttle if a cost-sharing agreement can be reached. These services would provide access to shopping, groceries, recreational, and social activities for seniors, low-income individuals, people with disabilities, and others.

PCTA has applied for a S. 5310 grant to cover 50% of the salary costs for a new deviated fixed-route for the first year. The remaining 50% will be funded through rider fares, local funding from the county, and

efficiency gains accrued by converting many trips currently provided by PCTA from demand response to deviated fixed route trips at a much lower cost. PCTA has also applied for an Appalachian Development Public Transportation Program (ADTAP) grant to fund capital costs associated with the new route, such as stops, signage, etc. One or two vehicles will be required for the new service, but can be accommodated using the existing fleet through efficiency gains associated with more full-time drivers, by providing out-of-county trips with regional partners, and by providing trips to different destinations on set days of the week only.

A shuttle to/from the Tryon International Equestrian Center (TIEC) for employees could be funded as part of ROAP Employment Transportation Assistance Program, with potential funding through a partnership with the TIEC. The shuttle on Sunday/Monday for visiting workers on the equestrian teams should be pursued through a funding agreement with the TIEC.

Two part-time driver positions should be converted to full-time positions, including benefits. The additional cost would be provided through a combination of ROAP funding, increased agency contract revenue, and efficiency gains accrued through improved routing and scheduling. Similarly, the expansion of PCTA service hours from 5:30 pm to 6:30 pm could be funded under ROAP as part of the Employment Transportation Assistance Program, as the additional afternoon service hour would enable significantly more employment trips to be served in the afternoon.

With many Polk County residents working outside of the county and clustered around various town and city centers, vanpools would be an ideal mode to serve these employment trips. Vanpools are a ridesharing idea where a vehicle owned and insured by a local agency is shared and driven by a group of commuters who pay a small fee for the service. Vanpools can be arranged for Charlotte-bound commuters although there is not currently a vanpool leaving from Polk County; the closest are from Shelby, Flat Rock, and King's Mountain. Vanpools could also possibly be arranged to Asheville or other destinations. The funding from NCDOT for vanpools is not guaranteed, so the costs would need to be paid for by employers and vanpool users. There is the potential for the user to save money, reduce congestion and emissions, and reduce costs and stress associated with traffic, parking, etc.

Marketing, Branding, and Outreach

A Mobility Coordinator could be funded through a S. 5310 – Elderly and Persons with Disabilities Program application, and treated as a capital cost with the federal government covering 80% of expenses. The Mobility Coordinator would be tasked to build relationships, coordinate new services, grow and promote the system, seek new funding, help with any rebranding, and improve service efficiency. The Mobility Coordinator would help to expand the employment and other transportation services offered by PCTA and increase its visibility.

PCTA should rename or rebrand the system in conjunction with the introduction of the deviated fixed route service. For this plan it is assumed that this would be a simple rename of "Authority" to "Agency" to minimize additional costs, but a rebranding could also be done with a new logo, new name, etc. as desired.

PCTA can also use vehicles for advertising. This can be done with advertisements inside the vehicles, on the sides of the vehicles, on the rear of the vehicles, or in a full wrap of the vehicles. External

advertisements bring in more revenue but can be confusing for branding. Internal advertisements are most consistent with PCTA goals, but bring in less revenue.

Coordination

PCTA should coordinate with neighboring systems to provide out of county trips, as well as change their policy to provide trips to specific out-of-county destinations only on set days of the week. These changes would reduce the driver and vehicle burden on PCTA, and enable PCTA and partner agencies to provide afternoon medical trips. Cherokee, Macon, and Clay counties are an example of regional coordination; the transit agencies in these counties coordinate trips to the VA hospital in Asheville to reduce costs.

Capital

A new transit facility would replace the currently inadequate facility that PCTA rents in downtown Columbus. The construction of a new facility would first require a facility feasibility study, which PCTA should pursue in FY 2017, as this is the earliest year possible with current funding cycles. Polk County must submit a request to NCDOT Public Transportation Division (PTD) to have this study scheduled in the PTD 6 Year Master Plan. The facility feasibility study could be funded under the Rural Capital Program. Until a new facility can be constructed (which will fall outside of this study's 5-year window), PCTA will need to seek a new facility to lease that will adequately accommodate vehicles, existing staff, and future staff over the next five years. A new phone system and other technology improvements could be funded through S. 5310 or Rural Capital funding.

Policies

A 24-hour reservation window would reduce no-shows and encourage more spontaneous trips.

Costs of Service Plan Recommendations

The fully allocated costs of service from FY 2014 were used to develop estimates of costs for new service recommendations. The fully allocated cost per service hour used for these calculations is \$28.99, which is the hourly operating cost minus administrative grants but including program and capital reserve. An hourly rate of \$8.91, based on the total fixed administrative costs per service hour, was used to calculate administrative costs for service recommendations. The cost for two additional full-time drivers was calculated using an hourly rate for current drivers plus the cost of benefits for two individuals, assuming an increase from 30 to 40 hours weekly. The position of Mobility Coordinator was assumed to cost \$35,000, a transit facility feasibility study \$75,000, and technology upgrades \$20,000 in the base year (FY 2014). The inflation factors used for estimating future year operating costs were provided by the NCDOT Public Transportation Division in the *Community Transportation Service Plan – General Scope of Work* from April, 2014.

Using these cost estimates and assumptions for inflation and service characteristics, the future service plan operating, administrative, and capital costs were estimated for all service improvement recommendations over the five-year study period, as presented in Table 6. As example of how the calculations are made, the TIEC shuttle is expected to use 1 vehicle, operating 12 hours a day, 20 days a

year, with an operating cost of \$28.99 per hour. Multiplying these assumptions together and adding in inflation gives an estimate of \$7,984 in operating costs in fiscal year 2018. During the five-year CTSP period, the estimated costs for the proposed recommendations total \$1.04 million, a 30 percent increase from the base case scenario of roughly \$3.5 million, estimated over the same time period. This base case is a scenario that assumes no changes in policies or services and as such is the “business as usual” scenario.

Table 6 – Operating, Administrative, and Capital Costs of Service Plan Recommendations

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Base Case Operating Costs	\$655,829	\$682,043	\$709,369	\$737,746	\$737,746	\$3,522,732
Operating						
Evening Service Expansion	\$0	\$43,287	\$45,022	\$46,823	\$46,823	\$181,954
Weekend Service	\$0	\$0	\$0	\$19,957	\$17,299	\$37,255
Expanded Shopping Shuttle	\$0	\$0	\$3,327	\$3,460	\$3,460	\$10,246
Tryon International Equestrian Center (TIEC) Shuttle	\$0	\$0	\$7,984	\$8,303	\$8,303	\$24,591
Deviated Fixed Route	\$78,427	\$81,562	\$84,830	\$88,223	\$88,223	\$421,265
Additional Full-Time Drivers	\$0	\$0	\$32,445	\$33,743	\$33,743	\$99,932
Afternoon Medical Trips & Regional Coordination	\$0	\$0	\$0	\$0	\$0	\$0
Administrative						
Mobility Management	\$0	\$38,612	\$40,159	\$41,766	\$41,766	\$162,302
Rebranding	\$4,000	\$2,000	\$0	\$0	\$0	\$6,000
Advertising on Vehicles	\$0	\$0	\$0	\$0	\$0	\$0
Shortened Reservation Window	\$0	\$0	\$0	\$0	\$0	\$0
Modified Billing System	\$0	\$0	\$0	\$0	\$0	\$0
Facilitate Vanpools	\$0	\$0	\$0	\$2,000	\$2,000	\$4,000
Capital						
Transit Facility Feasibility Study	\$0	\$82,740	\$0	\$0	\$0	\$82,740
Technology Upgrades	\$0	\$22,064	\$0	\$0	\$0	\$22,064
Total Service Plan Incremental Costs	\$82,427	\$270,265	\$213,766	\$244,274	\$241,616	\$1,052,350
Total Costs	\$738,256	\$952,308	\$923,135	\$982,020	\$979,362	\$4,575,082
Percent Increase for Service Plan vs. Base Case	12.6%	39.6%	30.1%	33.1%	32.8%	29.9%
NCDOT Inflation Factors	1.0608	1.1032	1.1474	1.1933	1.1933	

Local Match Funding

Much of the additional costs of services in the plan are funded through federal and state funding, though the associated local match that is required increases as well. Table 7 shows the local matching funds required for all service plan recommendations and Table 8 shows the local matching funds needed for vehicle replacement costs in order to leverage federal grant funding. Currently, Polk County government has been contributing to the PCTA annual budget to make up for shortfalls, which may not be sustainable. The “Base Case Local Match” shown in Table 7 is the amount that Polk County is projected to contribute based on FY 2014 funding. Given the plan recommendations, the contribution from Polk County would be reduced, largely due to the modified billing system that would reduce payments in arrears for RGP passengers and increase revenue by charging contracting agencies rates closer to the actual costs of

providing service, where possible. As previously discussed, for this financial plan it assumed that the revised billing system will increase contract revenue from agency contracts and passenger fares by 15%, which is an increase of just a third of the additional revenue from these contracts that would be required to fund the full operating costs of providing these services. The increased fare and agency contract revenue would not be used in lieu of a local match, but would instead be used to reduce PCTA's current operating deficit.

Table 7 – Local Funding for Operating and Administrative Costs

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Case Local Match	\$113,548	\$118,090	\$122,810	\$127,730	\$132,840	\$132,840
Additional Local Match	\$0	(\$4,723)	\$836	(\$7,356)	(\$8,077)	(\$8,344)
Total Plan Local Match	\$113,548	\$113,367	\$123,645	\$120,374	\$124,762	\$124,496

Table 8 – Local Match for Vehicle Capital Costs

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Case Local Match	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500
Additional Local Match	\$0	\$0	\$0	\$0	\$0
Total Plan Local Match	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500

Implementation Plan and Schedule

Table 9 shows the implementation timeline for new services, policies, and capital changes. The timeline is arranged in a logical order that allows PCTA time to seek funding and coordinate changes in advance of the implementation year. FY 2016, for instance, contains only recommendations that are already likely to be funded or can be implemented at no additional cost using existing resources. In addition to implementation year, the implementation schedule includes total costs, local match, and potential funding sources. PCTA should continually monitor service changes and their effects on costs, revenues, service miles, service hours, etc. to compare to financial plan estimates and adjust assumptions of the plan accordingly in the budget spreadsheet tool. Any changes affecting riders should be advertised well in advance through the PCTA website, county social media, newspapers, flyers, and other media.

For each plan recommendation, a potential funding source is shown. These funds may be accessed via grant applications in some cases or may use formula-allocated funding source (e.g., Section 5311 funds or ROAP funds). In these cases, new service does not imply new funding will be available. However, the recommendations listed are eligible for the listed funding sources. Recommendations may be funded via those funding sources with efficiency gains that free up funds to implement the service recommendations.

Table 9 - Service Implementation Schedule and Potential Funding

Service Recommendation	Description	Total Cost over 5 Year Period (FY 2016-20)		Potential Funding Sources	Total Local Match over 5 Year Period (FY 2016-20)		Implementation Fiscal Year
		Operating and Admin	Capital		Operating and Admin	Capital	
Operating							
Evening Service Expansion	Extend weekday service one hour from 5:30 pm to 6:30 pm	\$181,954		ROAP, S. 5311, Agency Contracts	\$17,544		2017
Weekend Service	Begin Saturday service from 8:00 am to 6:00 pm	\$37,255		ROAP, S. 5311, Agency Contracts	\$3,594		2019
Expanded Shopping Shuttle	Expand shopping shuttle from bi-weekly to weekly service	\$10,246		S. 5310, Retail Partners	(\$9)		2018
Tryon International Equestrian Center (TIEC) Shuttle	Shuttle between TIEC and Columbus/Tryon Sunday evening and Monday morning during	\$24,591		TIEC Assistance, Local Funding	\$5,004		2018
Deviated Fixed Route	Daily route from Tryon to Columbus to Mill Spring	\$421,265		S. 5310, Local Funding	\$0		2016
Additional Full-Time Drivers	Increase two drivers from 30 to 40 hours, plus benefits and insurance	\$99,932		ROAP, Agency Contracts	\$9,951		2018
Afternoon Medical Trips & Regional Coordination	Out-of-County trips on set days only. Coordinate with surrounding counties to provide afternoon medical trips	\$0		None Required	\$0		2018
Administrative							
Mobility Management	Hire a Mobility Coordinator for marketing, growth, efficiency, new funding opportunities		\$162,302	S. 5310		\$16,230	2017
Rebranding	At a minimum, rename from "Authority" to "Agency"		\$6,000	ADTAP or Rural Capital		\$600	2016

Service Recommendation	Description	Total Cost over 5 Year Period (FY 2016-20)		Potential Funding Sources	Total Local Match over 5 Year Period (FY 2016-20)		Implementation Fiscal Year
Advertising on Vehicles	Place advertisements inside vehicles	\$0	\$0	N/A	\$0	\$0	2016
Shortened Reservation Window	Reduce in-county reservation window to 24-hours in advance	\$0		N/A	\$0		2019
Modified Billing System	Destination-based fixed fares	\$0		N/A	\$0		2016
Facilitate Vanpools	Coordinate vanpools to major out-of-county employment destinations	\$4,000		ROAP, Charlotte Area Transit	\$400		2019
Capital							
Transit Facility Feasibility Study	Conduct a feasibility study for a new PCTA administrative facility.		\$82,740	Rural Capital Program		\$8,274	2017
Technology Upgrades	Upgrade office telephone system and mobile radios.		\$22,064	Rural Capital Program		\$2,195	2017

Ridership Growth

Ridership projections were developed for the base case “business as usual” scenario, as well as for each service recommendation. For the base case, ridership was based on FY 2014 actual ridership, with projected growth of 4% annually based on projections provided for Polk County by ITRE in the North Carolina Community Transportation System Technology Implementation Plan from August, 2014.

Ridership effects of each service recommendation were also developed. Ridership for most new or expanded transit services was estimated using the FY 2014 person trips per vehicle service hour rate of 2.26. For the deviated fixed route a rate of three person trips per vehicle service hour was used for estimates, which represents a number more consistent with the potential for trips given the number of households in the corridor and existing demand response trips. Small ridership gains were also estimated for technology and efficiency gains.

The plan recommendations are projected to increase ridership by nearly 60,000 trips over five years, an annual average of nearly 12,000 additional trips. The introduction of the deviated fixed route accounts for nearly two-thirds of ridership growth over the five-year period. The average ridership increase per year is nearly 11 percent, or a compounding annual growth rate of just over 9 percent, increasing from a projected 42,037 trips in FY 2015 to 64,904 trips in FY 2020. Estimated ridership is shown in Table 10.

Table 10 – Ridership Growth Projections from Service Plan Recommendations

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Base Case Ridership	43,718	45,467	47,286	49,177	51,144	236,792
Operating						
Evening Service Expansion	0	2,882	2,882	2,882	2,882	11,528
Weekend Service	0	0	0	1,130	1,130	2,260
Expanded Shopping Shuttle	0	0	226	226	226	678
Tryon International Equestrian Center (TIEC) Shuttle	0	0	542	542	542	1,627
Deviated Fixed Route	7,650	7,650	7,650	7,650	7,650	38,250
Additional Full-Time Drivers	0	0	236	246	256	738
Afternoon Medical Trips & Regional Coordination	0	0	-236	-246	-256	-738
Administrative						
Mobility Management	0	909	946	984	1,023	3,861
Rebranding	0	0	0	0	0	0
Advertisements in Vehicles	0	0	0	0	0	0
Shortened Reservation Window	0	0	0	246	256	502
Modified Billing System	0	0	0	0	0	0
Facilitate Vanpools	0	0	0	0	0	0

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Capital						
Transit Facility Feasibility Study	0	0	0	0	0	0
Technology Upgrades	0	45	47	49	51	193
Total Service Plan Incremental Ridership	7,650	11,487	12,293	13,709	13,760	58,900
Total Ridership	51,368	56,954	59,579	62,886	64,904	295,692
Percent Increase for Service Plan vs. Base Case	17.5%	25.3%	26.0%	27.9%	26.9%	24.9%
Service Plan Percent of Total Ridership	14.9%	20.2%	20.6%	21.8%	21.2%	19.9%

Performance Measurement Plan

One of the critical components of growing the PCTA system is ensuring that the efficiency and effectiveness of the system is improving as ridership grows and new services are introduced. Table 11 shows how growth from the plan improves PCTA operating characteristics compared to peer systems and itself over the base year, FY 2014. PCTA is in Community Transportation Peer Group 5, which includes Cherokee, Clay, Graham, Swain, Jackson, Transylvania, Madison, Yancey, Mitchell, McDowell, Avery, Ashe, Alleghany, and Polk Counties. Many of PCTA's peer counties are more rural in nature and have smaller transit systems than PCTA.

Nonetheless, the peer averages provide a good baseline for comparison as PCTA strives to improve services and grow the system. For most performance measures in FY 2014, PCTA was slightly above the peer average, providing more daily one-way passenger trips, higher passenger trips per service hour, higher passenger trips per service mile, and a lower cost per trip.

PCTA should perform an internal review annually to ensure that established metrics for system growth, efficiency, and effectiveness are being met. Based on projections from the recommended service plan, there are some targets that PCTA should strive to achieve.

- Increase weekday average daily passengers by 10 percent each year. With a significant increase in service (including weekday service hours, Saturday service, more frequent shopping shuttle, TIEC shuttles, new employment trips, additional full-time drivers, and a full-time mobility coordinator) 10% annual ridership growth should be the minimum target for PCTA.
- Reduce no shows from 3% to peer average 1.5% of daily trips. A clear, consistent policy for wait times would help rectify some of these no shows. PCTA should also begin recording more detailed information on cancellations and no shows and sharing the information with affected passengers. The documentation of passenger no-show and cancellation information should be automated to the greatest extent possible using existing software, and appended to existing passenger information databases.
- Reduce cost per trip by 2% annually. While the current cost per trip is lower than its peers, the historical peer averages were much lower, at around \$13.49 per trip in FY 2012, for instance. Regional coordination for out-of-county trips, additional full-time drivers enabling more flexibility in routes and scheduling, more trips provided via a lower cost deviated fixed route, and a full-time mobility coordinator are all recommendations of the plan that should enable a reduction in cost per trip of at

least 2% annually. There are other cost reductions that should be pursued as well, such as additional volunteer drivers and improved utilization of recently implemented scheduling software.

- Improve revenue streams. PCTA should strive to utilize creative partnerships with employers, retailers, and community event sponsors for additional funding, advertising, and support. PCTA should stress to potential funding partners that their money is leveraged with additional federal, state, and local funding. Furthermore, PCTA should strive to receive free or low-cost advertising at local events, ball-parks, community centers, in newspapers, and on the radio, emphasizing to the provider that they are providing a community service through their support.
- Increase trips per service hour by 2% annually. PCTA should be able to provide more passenger trips per vehicle service hour each year by improving scheduling, routing, and trip consolidation. Similar to a reduction in cost per trip, plan recommendations should provide adequate support for this target.

PCTA is projected to grow by over 50% in terms of daily/annual passenger trips over the five-year plan term. Costs are projected to grow by a similar amount, which is effectively a 16% reduction in cost per trip when considering inflation. The plan recommendations are projected to increase service effectiveness as well, increasing from 2.3 passenger trips per vehicle service hour to 2.6 passenger trips per vehicle service hour. Similarly, passenger trips per vehicle service mile are projected to increase from 0.12 to 0.14, roughly a 15% improvement over the base year and more than a 20% increase over the peer average in the base year.

Table 11 – Peer and Temporal Comparison of Performance Measures

	Peer Systems	PCTA						
	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Daily One-way Passenger Trips	134	159	165	202	224	234	247	255
Expenses	N/A	618,240	630,605	734,256	950,308	939,358	996,892	994,234
Revenue	N/A	534,454	545,143	734,256	950,308	939,358	996,892	994,234
Average Daily Vehicle Service Hours	62	70	73	84	91	92	95	98
Average Daily Vehicle Service Miles	1,261	1,302	1,354	1,566	1,685	1,705	1,765	1,822
Passenger Trips / Vehicle Service Hours	2.16	2.26	2.26	2.39	2.46	2.55	2.60	2.60
Passenger Trips / Vehicle Service Miles	0.109	0.122	0.122	0.129	0.133	0.137	0.140	0.140
Cost per Passenger-Trip	\$15.57*	\$15.30	\$15.00	\$14.28	\$16.67	\$15.75	\$15.84	\$15.31

*FY 2013 used (most recent available)

Capital Plan

The capital plan for PCTA consists of replacement vehicles, with no expansion vehicles required for any service recommendations.

The replacement cost of the current PCTA fleet of vehicles is shown in the capital plan. This is based on the expected year of replacement and an estimated FY 2016 cost of \$50,000 for a lift-equipped van, \$63,000 for a

light-transit vehicle, and \$38,000 for a lift-equipped minivan. Funding would likely come from the state, federal S. 5311 funding, and a local match. The annual capital costs are shown in Table 12.

It is recommended that PCTA constructs a new administrative facility to replace the currently inadequate facility and better accommodate existing personnel and vehicles. Due to funding cycles and necessary planning steps, including a facility feasibility study, the timeline to begin construction would occur after the 5-year window of this plan. However, it is important to begin the process towards a new facility as soon as possible. In the meantime, PCTA will need to seek a new facility to lease that will adequately accommodate vehicles, existing staff, and future staff over the next five years.

Table 12 – Capital Plan

	Year 1	Year 2	Year 3	Year 4	Year 5
Replacement Vehicles	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2000 Ford LTV					\$50,000
2003 Ford LTV					
2008 Crossover	\$38,000				
2009 Conversion Van	\$63,000				
2010 Conversion Van					\$63,000
2010 Sedan					\$15,000
2011 Conversion Van			\$63,000		
2011 Lift-Equipped Van		\$50,000			
2011 Lift-Equipped Van		\$50,000			
2011 Conversion Van			\$63,000		
2011 Conversion Van		\$63,000			
2012 Sedan (County owned)					
2012 Minivan				\$20,000	
2014 Lift-Equipped Van				\$50,000	
2014 Lift-Equipped Van				\$50,000	
2014 Minivan				\$20,000	
Replacement Vehicle Costs	\$101,000	\$163,000	\$126,000	\$140,000	\$125,000
Federal	\$80,800	\$130,400	\$100,800	\$112,000	\$100,000
State	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500
Local	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500

Service Plan Summary

The implementation timeline, costs, funding sources, and funding amounts are consolidated in the full financial plan for the five-year CTSP shown below in Table 13 and Table 14.

Table 13 provides a summary of costs and revenue, including Federal, State, and Local Assistance. At the top of the table is the base, or “business as usual,” case if no new services or policy changes were implemented. This reflects projected four percent annual ridership growth, as well as increasing costs due to inflation. The funding sources are also assumed to stay proportionally the same. The base case costs are \$3.52 million over five years. Below the base case are the costs for recommendations of the plan, which total \$1.05 million over five years. At the bottom of the table are total costs for the base case plus plan recommendations and the associated breakdown of revenue sources. The total cost for PCTA services over the five-year plan is \$4.57

million, the revenue for which comes from agency contract revenue (34%), federal funding (27%), state funding (23%), local government (9%), other local revenue (1%), farebox (4%), and cost reductions (1%),

Table 14 provides a detailed synopsis of service plan recommendations, including annual costs and associated funding sources and programs. The total cost for the new service plan recommendations over five years is \$1.04 million. The revenue for the plan recommendations comes from federal funding (42%), state funding (29%), and local funding (29%). Local funding is a combination of local government dollars, and retail and employment partners.

Table 13 – Service Plan Cost and Revenue Summary

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Base Case						
Operating Costs	\$655,829	\$682,043	\$709,369	\$737,746	\$737,746	\$3,522,732
Farebox Revenues	\$20,913	\$21,749	\$22,620	\$23,525	\$23,525	\$112,331
Contract Revenue	\$223,422	\$232,352	\$241,662	\$251,329	\$251,329	\$1,200,095
Other Revenue	\$0	\$0	\$0	\$0	\$0	\$0
Total Operating Assistance	\$411,494	\$427,942	\$445,087	\$462,892	\$462,892	\$2,210,307
Operating Assistance Breakdown						
Federal Assistance	\$154,490	\$160,665	\$167,102	\$173,786	\$173,786	\$829,828
State Assistance	\$138,915	\$144,467	\$150,255	\$156,266	\$156,266	\$746,170
Local Government Assistance	\$118,090	\$122,810	\$127,730	\$132,840	\$132,840	\$634,309
Plan Recommendations						
Operating Costs of Plan Recommendations	\$82,427	\$270,265	\$213,766	\$244,274	\$241,616	\$1,052,350
Farebox Revenue from Plan Recommendations	\$8,115	\$10,015	\$12,209	\$13,362	\$13,369	\$57,069
Operating Subsidy Requirements	\$74,312	\$260,251	\$201,557	\$230,913	\$228,248	\$995,281
Base Case + Plan Recommendations						
Operating Costs	\$738,256	\$952,308	\$923,135	\$982,020	\$979,362	\$4,575,082
Cost Savings from Mobility Manager	\$0	\$11,190	\$12,104	\$13,092	\$13,092	\$49,478
Farebox Revenues	\$29,028	\$31,763	\$34,829	\$36,887	\$36,893	\$169,400
Contract Revenue	\$262,301	\$274,401	\$287,147	\$300,526	\$300,526	\$1,424,902
Other Revenue (retail/employment partners)	\$1,000	\$1,000	\$7,884	\$8,160	\$8,160	\$26,204
Federal Assistance	\$189,646	\$313,944	\$240,464	\$252,209	\$250,081	\$1,246,343
State Assistance	\$138,915	\$194,364	\$220,333	\$244,385	\$244,114	\$1,042,111
Local Government Assistance	\$113,367	\$123,645	\$120,374	\$124,762	\$124,496	\$606,644

Table 14 – Service Plan Recommendation Summary

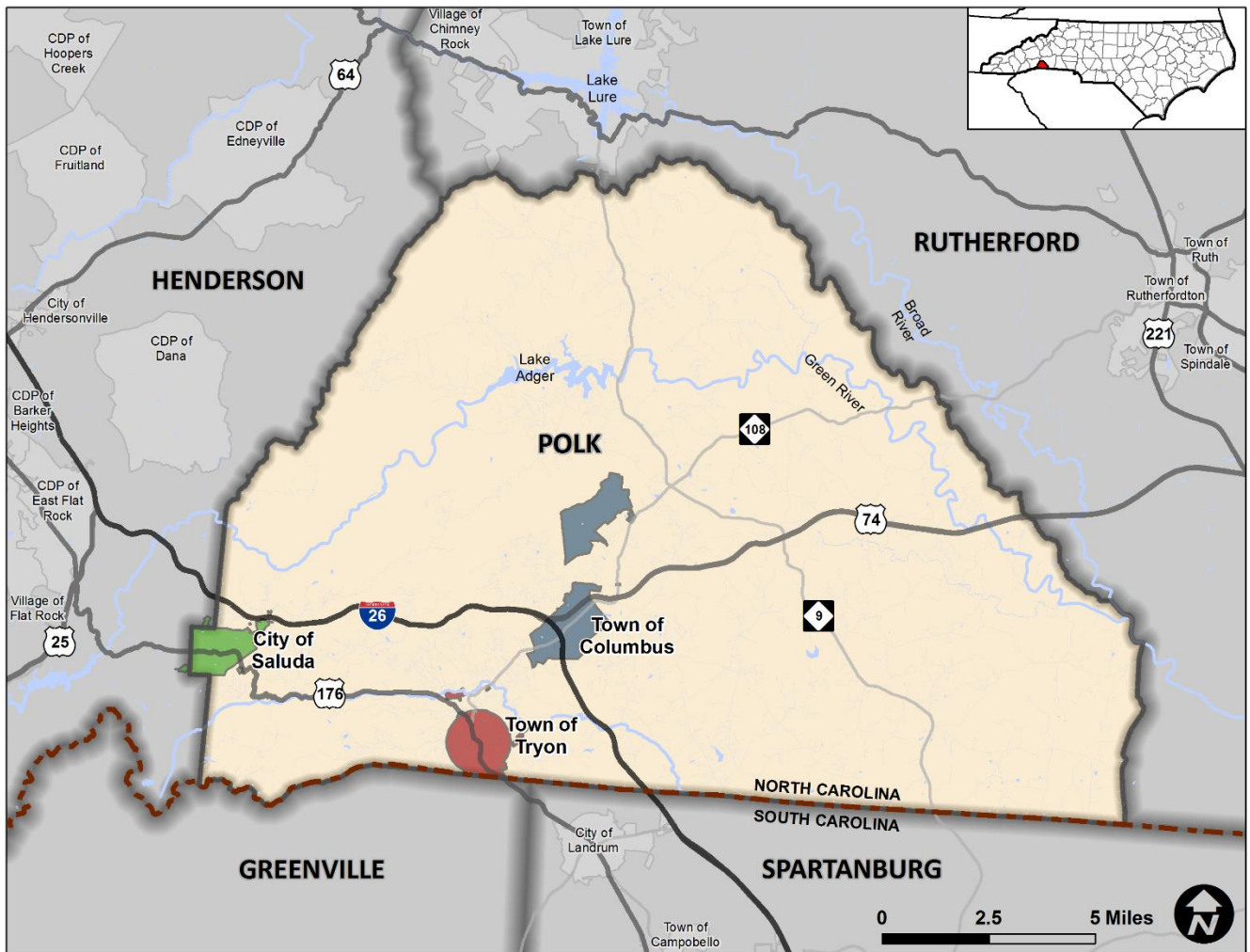
Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total							
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20	Funding Source and Program						
Operating							Federal		State		Local		Program
Evening Service Expansion (Operating)	\$0	\$40,781	\$42,415	\$44,112	\$44,112	\$171,419	0%	\$0	90%	\$154,277	10%	\$17,142	ROAP
Evening Service Expansion (Admin)	\$0	\$2,506	\$2,607	\$2,711	\$2,711	\$10,535	80%	\$8,428	10%	\$1,054	10%	\$1,054	S. 5311
Weekend Service (Operating)	\$0	\$0	\$0	\$17,299	\$17,299	\$34,597	0%	\$0	90%	\$31,138	10%	\$3,460	ROAP
Weekend Service (Admin)	\$0	\$0	\$0	\$2,658	\$0	\$2,658	80%	\$2,126	10%	\$266	10%	\$266	S. 5311
Expanded Shopping Shuttle	\$0	\$0	\$3,327	\$3,460	\$3,460	\$10,246	50%	\$5,123	0%	\$0	50%	\$5,123	S. 5310, Retail Partners
Tryon International Equestrian Center (TIEC) Shuttle	\$0	\$0	\$7,984	\$8,303	\$8,303	\$24,591	0%	\$0	0%	\$0	100%	\$24,591	TIEC Assistance, Local Funding
Deviated Fixed Route	\$78,427	\$81,562	\$84,830	\$88,223	\$88,223	\$421,265	50%	\$210,633	0%	\$0	50%	\$210,633	S. 5310, Local Funding
Additional Full-Time Drivers	\$0	\$0	\$32,445	\$33,743	\$33,743	\$99,932	0%	\$0	90%	\$89,939	10%	\$9,993	ROAP
Afternoon Medical Trips & Regional Coordination	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required
Administrative													
Mobility Management	\$0	\$38,612	\$40,159	\$41,766	\$41,766	\$162,302	80%	\$129,842	10%	\$16,230	10%	\$16,230	S. 5310
Rebranding	\$4,000	\$2,000	\$0	\$0	\$0	\$6,000	80%	\$4,800	10%	\$600	10%	\$600	ADTAP or Rural Capital Program
Advertisements in Vehicles	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required
Shortened Reservation Window	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required
Modified Billing System	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total							
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20							
Facilitate Vanpools	\$0	\$0	\$0	\$2,000	\$2,000	\$4,000	80%	\$3,200	10%	\$400	10%	\$400	None Required
Capital													
Transit Facility Feasibility Study	\$0	\$82,740	\$0	\$0	\$0	\$82,740	80%	\$66,192	10%	\$8,274	10%	\$8,274	Rural Capital Program
Technology Upgrades	\$0	\$22,064	\$0	\$0	\$0	\$22,064	80%	\$17,651	10%	\$2,206	10%	\$2,206	Rural Capital Program
Total Service Plan Incremental Costs	\$82,427	\$270,265	\$213,766	\$244,274	\$241,616	\$1,052,350	42%	\$447,995	29%	\$304,383	29%	\$299,971	
Service Plan Estimated Local Match	\$39,614	\$59,651	\$63,825	\$68,574	\$68,308	\$299,971							
NCDOT Inflation Factors	1.0608	1.1032	1.1474	1.1933	1.1933								

2. Project Overview

The purpose of the Community Transportation Service Plan (CTSP) is to describe the current performance and organizational direction of the Polk County Transportation Authority (PCTA) system, recommend operations and management strategies to increase mobility options for passengers, and improve the efficiency and effectiveness of the organization and transportation services in Polk County. This five-year CTSP was developed through a public education and involvement process that included the general public, private and non-profit transportation providers, human service providers and targeted populations of individuals with disabilities, low incomes, and limited English proficiency (LEP). The coordination of community transit services has been a priority of the State of North Carolina and NCDOT for decades. The goal of the CTSP is to help ensure that those who need or would like transit services are provided for in an efficient and cost-effective manner. This planning effort will result in overall growth and expansion goals and recommendations that the community can support.

Figure 3 – Map of Polk County



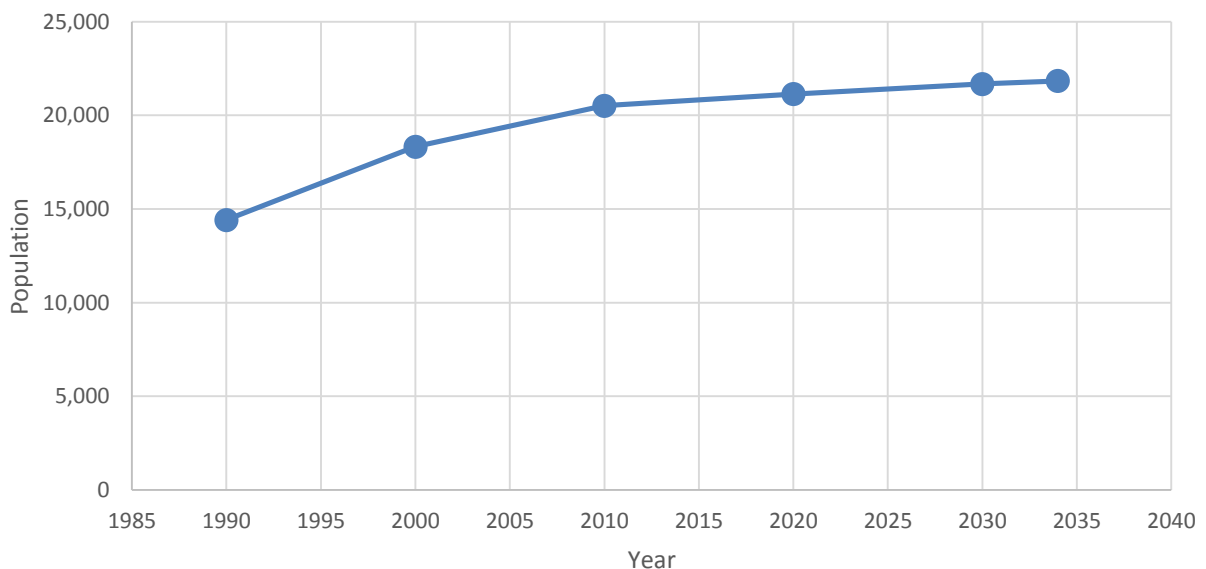
3. Background Information

PCTA currently operates demand-response transit service for residents of Polk County, providing trips within and outside of the county. The service performs relatively well, with over 40,000 annual trips, based on FY 2014 Operating Statistics. Given the larger-than-state-average transit-dependent populations residing in the county, a growing retirement population, and very few individuals utilizing transit to access work, there is ample opportunity for the system to grow. These themes, among many others, will be explored in greater detail in this report. This background information on existing conditions is intended to analyze existing PCTA services and uncover opportunities to expand services and ridership, all while improving the overall system efficiency.

Existing Demographic Characteristics

Polk County is a predominately rural county nestled in the foothills between the Blue Ridge Mountains and Piedmont regions of North Carolina. According to the 2010 U.S. Census, the Polk County population was 20,510. While Polk County has experienced population growth of roughly 40 percent over the past 25 years, population growth in the county is expected to remain relatively flat over the next twenty years, according to data from the North Carolina Office of State Budget and Management. The projected population in 2034 is 21,800, an overall growth of just six percent, as shown on Figure 4.

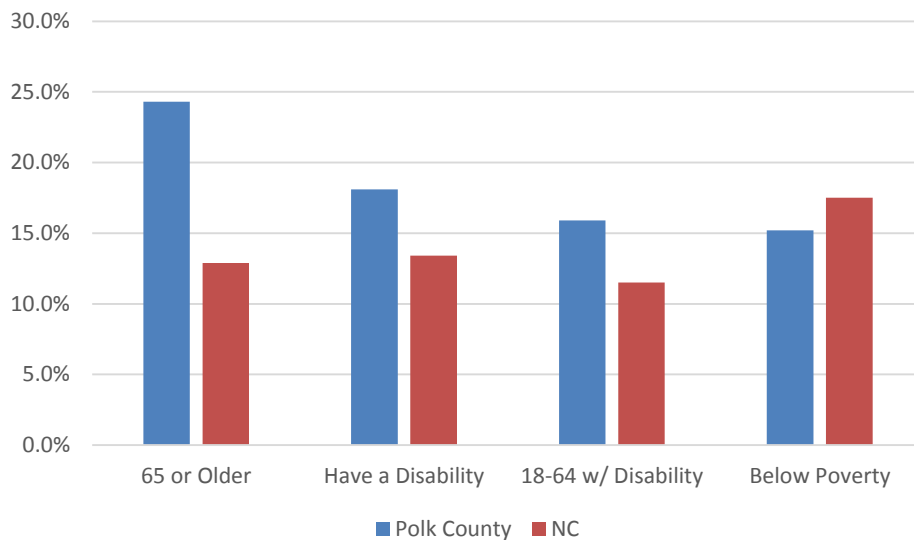
Figure 4 – Historical and Projected Population



While natural growth has been negative over the past three years (i.e.: more deaths than births), the population has remained relatively stable due to a net migration, largely of older adults and retirees.

According to Census American Community Survey (ACS) 3-Year Summary Data, approximately 24 percent of the residents in Polk County are 65 years and above, compared to 13 percent across the state, as shown on Figure 5. According to Census data, the median age has grown from 39.1 in 1980 to 50.1 in 2013, significantly higher than the state median age of 37.6 in 2013. The population of disabled individuals in Polk County (18.1 percent) is also higher than the state as a whole (13.4 percent). The higher population of disabled individuals is partially due to a much higher percentage of individuals 65 years of age or older, which are more likely to have a disability. However, even among individuals 18 – 64 years of age, the percent of disabled individuals is higher at 15.9 percent (with a margin of error of +/-3.2) compared to 11.5 percent across the state (with a margin of error of +/-0.1). Despite a fairly large margin of error for the Polk County estimate, the number of disabled individuals in the county still appears higher than average. The reason for this is not known; however, it is possible that many support services in place for older individuals also similarly serve other individuals with disabilities and attract them to the area. While the median income is lower than the state average, a lower percentage of individuals are below poverty than at a state level. This reflects more parity in income levels and likely a larger percentage of middle class residents compared to the state as a whole. Older individuals, individuals with disabilities, individuals with lower incomes, and individuals with limited access to private vehicles are more likely to be dependent on transit for mobility needs, as is shown in the later section, “Transit Needs and Demand Analysis.”

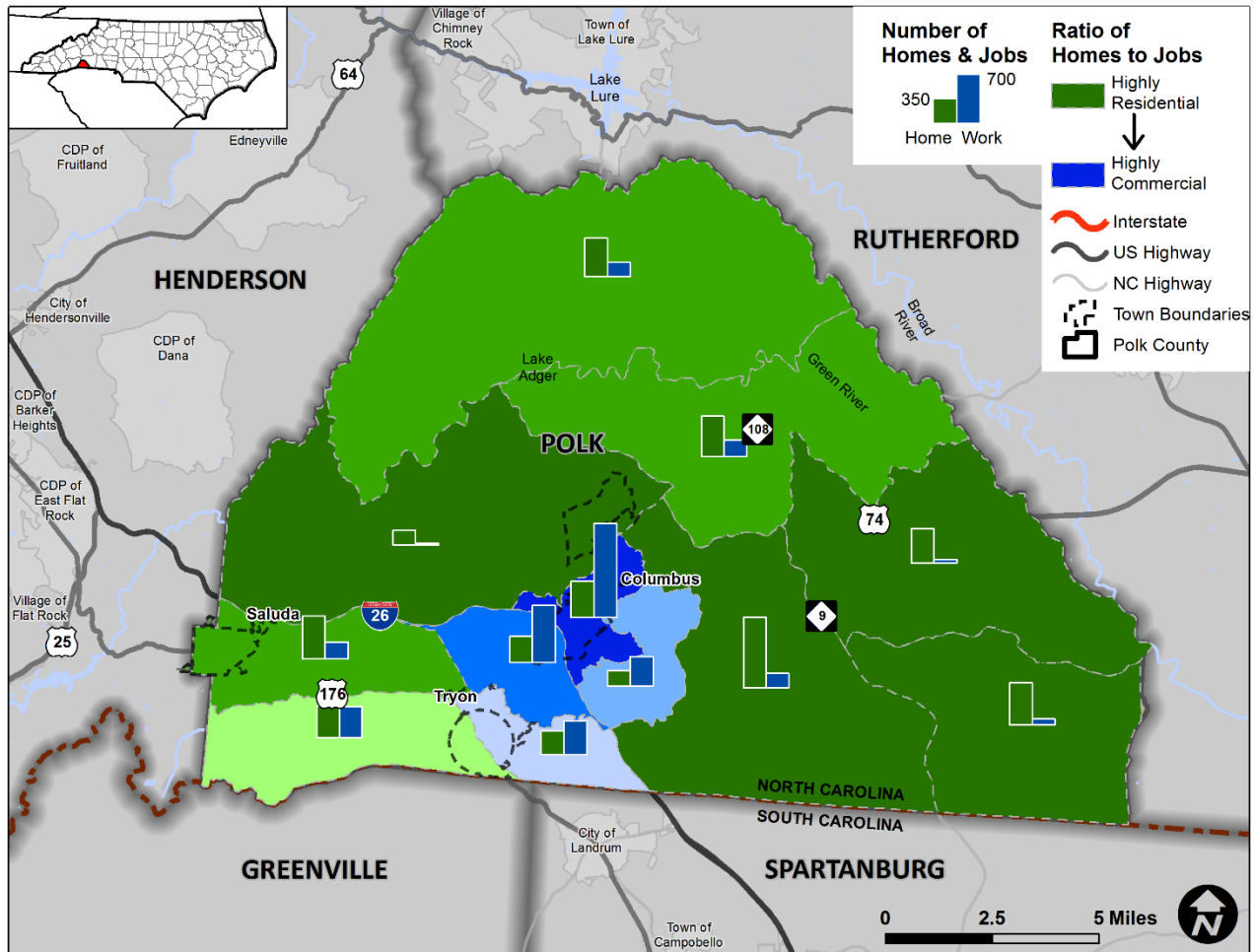
Figure 5 – Demographics of Potential Transit-Dependent Population Groups



There are three towns and two unincorporated communities located in Polk County: Town of Columbus, Town of Tryon, Town of Saluda, Mill Spring community, and Lynn community. The highest residential and commercial densities are in the towns of Tryon and Columbus, with most employment in the county located on or near NC 108, from Tryon to Mill Spring. This can be seen on Figure 6, which shows both a bar chart of total homes and jobs, as well as the ratio of homes to jobs by Census block group, with the darkest blue representing the highest ratios of jobs and the darkest green representing the highest ratios of residences. Historically, the unemployment rate in Polk County has been lower than the state average. As of September, 2014, the Polk County unemployment rate was 4.8 percent, while the state average for North Carolina was 6.1 percent. Unemployment has dropped significantly in recent years, from 8.1 percent in September, 2010 which was still lower than the 10.0 percent average rate statewide across

North Carolina. According to the U.S. Census Bureau American Community Survey 2013 3-year estimate, approximately 50.2 percent of the residents in Polk County that were over the age of 16 were in the workforce compared to 62.0 percent across the state. This reflects the large retirement community in the county.

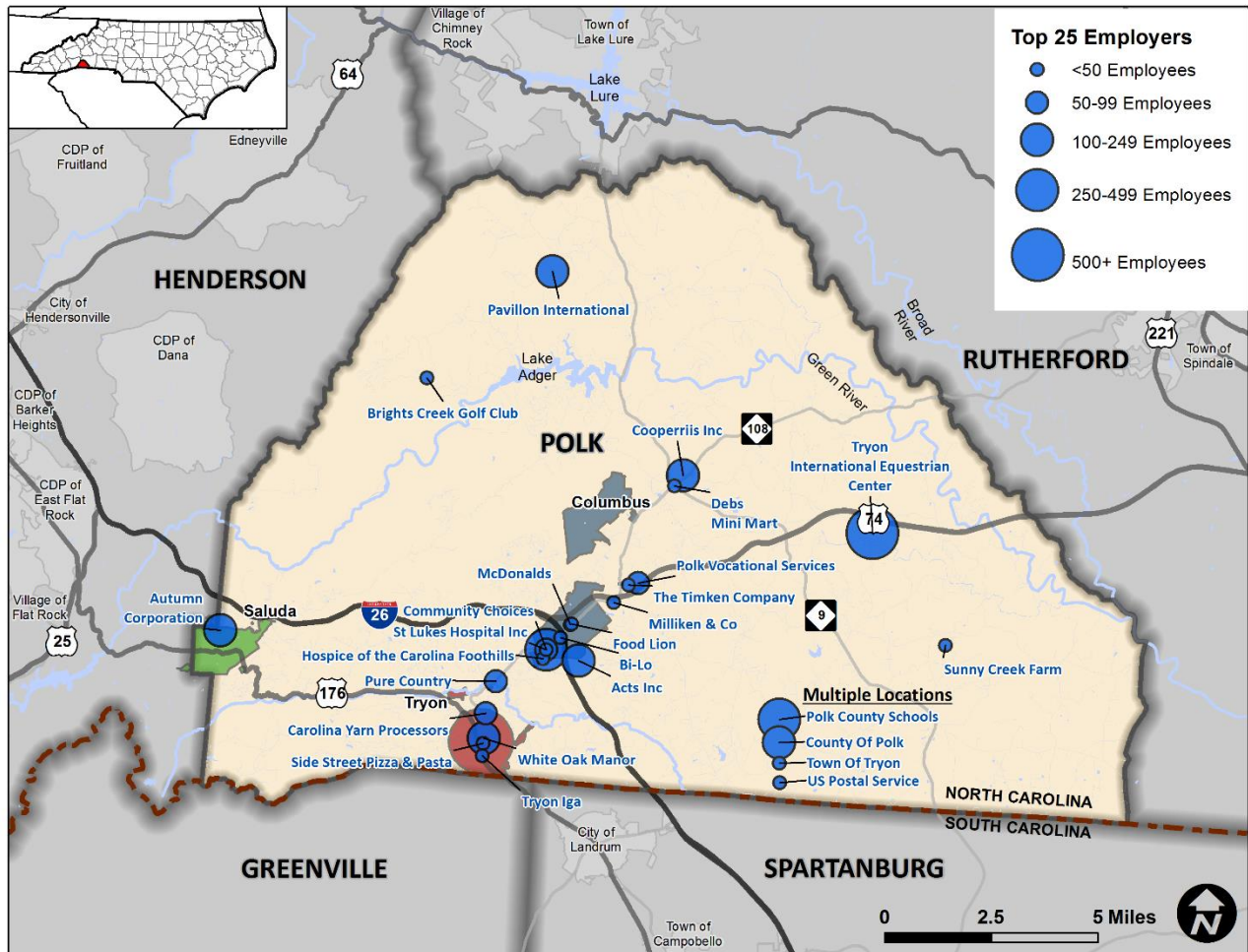
Figure 6 – Employment and Residential Density



Employment Centers

The economy in Polk County is heavily focused on the education and health services sector. According to the North Carolina Department of Commerce data from the first quarter of 2014, the largest employer in the study area is the Polk County Schools system, with between 250 and 499 employees. St. Luke’s Hospital also employs between 250 and 499 persons. Polk County also considers itself one of the top equine communities in the United States, and Tryon has the highest per capita horse ownership in North Carolina. In fact, the recently opened Tryon International Equestrian Center is slated to be the largest employer in the county once complete, with more than 500 permanent jobs. Other employers with more than 100 employees include the County of Polk, Acts Inc., CooperRiis Inc., White Oak Manor Inc., Pavillon International, and the Autumn Corporation. The locations of the largest 25 employers in the county are shown on Figure 7, though the County of Polk, Polk County Schools, Town of Tryon, and U.S. Postal Service have employment in multiple locations and are not shown.

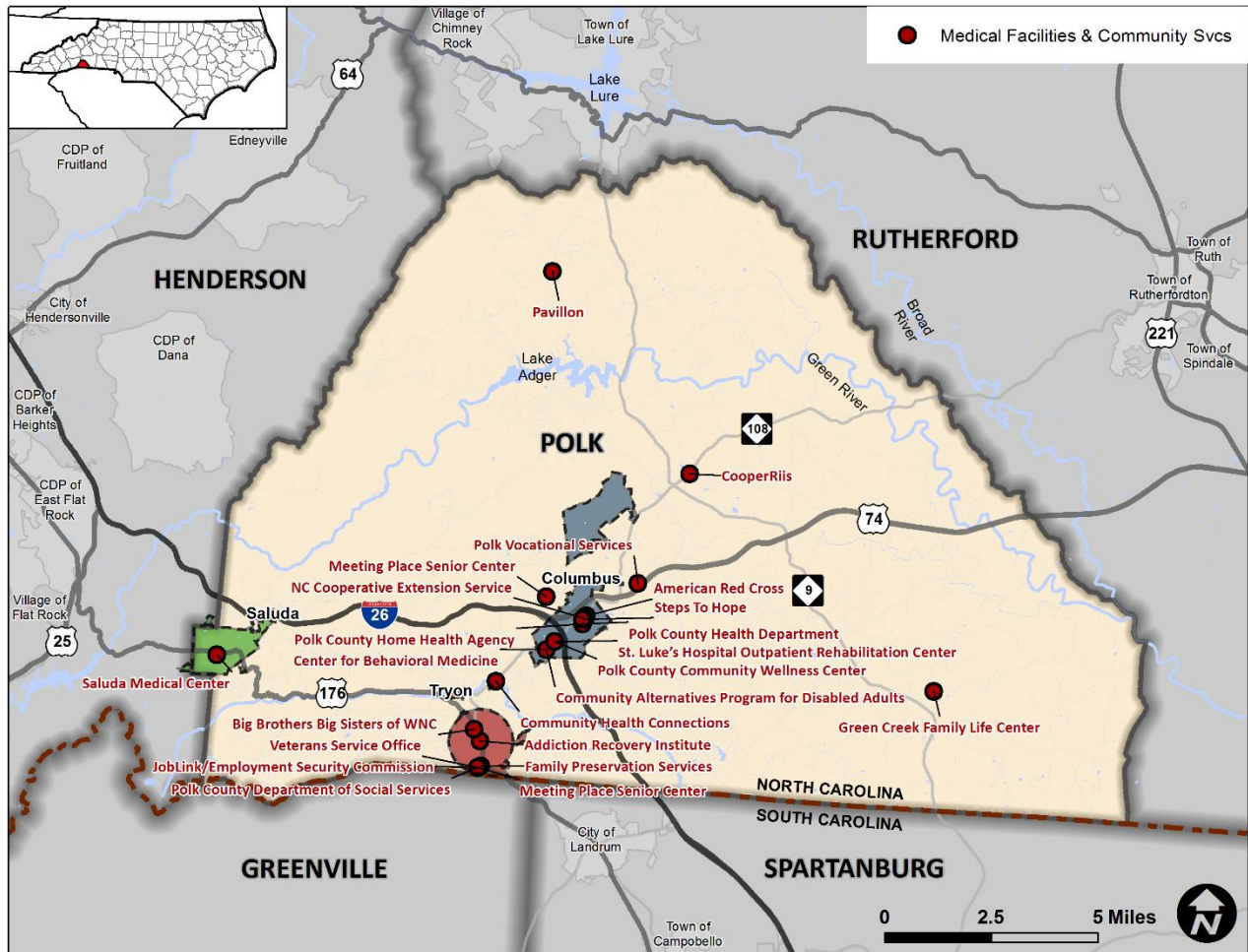
Figure 7 – Top 25 Employment Locations



Medical Centers and Clinics

As previously described, education and health services represents the largest employment sector in the county by far, with a large percentage of retirees and older adults living in the county. The locations of major medical facilities, clinics, and community services are shown on Figure 8. These facilities are highly clustered in the towns of Tryon and Columbus, with a few others located in Saluda, Mill Spring, and outlying areas. St. Luke’s Hospital is the only hospital in the county, though it is affiliated with Carolinas HealthCare System of Charlotte and coordinates with nearby hospitals in Spartanburg, Greenville, Asheville, and Charlotte. Many healthcare facilities are clustered near St. Luke’s Hospital and have close coordination with each other and the hospital, which is made easier by the geographic proximity. Despite an extensive number of facilities covering a range of medical and community service’s needs, PCTA must provide many trips outside of the county to Marion, Landrum, Spartanburg, and other cities for specialty clinics and medical services needs that can’t be met within the county. In survey conducted for the 2007 Polk County Visioning Committee Report, only a little over half of respondents felt good about availability of family doctors in Polk County, and 56 percent of respondents felt that availability of medical specialists was fair to poor. Addressing the healthcare needs of county residents locally would not only improve healthcare access and health of residents, it would improve the ease of providing transportation to healthcare facilities, provide additional jobs in the county, and benefit the overall local economy.

Figure 8 – Medical Facilities, Clinics, and Community Services Facilities



Recent Studies

Isothermal Region: Locally Coordinated Human Service Transportation Plan (2013)

As part of the 2013 update to the 2009 Locally Coordinated Human Service Transportation Plan (LCP), a variety of stakeholders in Polk County from various government, human services, and community services agencies gathered on two occasions to develop priorities for regional coordination in Polk County and the region. Some key observations from a survey conducted in 2008 for creation of the 2009 plan were the need for greater coordination among the three transit providers in the region (Rutherford County Transit, Polk County Transit, and McDowell County Transit) and less duplication of services.

Some service priorities from discussions in 2013 surfaced as part of the update. Green Creek community, in the southeast portion of Polk County, was identified as an area that needs additional transit service. Some of the major service needs identified include later or after-hours service; last-minute and weekend trips, particularly for low-income workers; improved service to existing employers; service to and from after school activities; a deviated fixed route between the towns; and greater connectivity to other transportation modes and providers, such as Greyhound, Amtrak, and nearby airports. Reduced costs

among operators, a regional transit center, access to tourist destinations and expanded service to grocery stores, farmer's markets, and food banks were also identified as needs, though determined to be a lower priority.

The LCP also included a chapter with a non-exhaustive list of specific needs for the region. A major, over-arching theme focused on vanpool and rideshare strategies to increase awareness of existing services, better coordinate trips, provide park-and-ride lots, and secure additional funding for vanpool operations, in addition to expanding existing demand-response and human services transportation. Given the large number of out-of-county employment and medical trips, vanpools and ridesharing services will be an important part of a cost-effective package of services in Polk County that will be further developed as part of this CTSP.

In terms of coordination, the groups identified the highest priorities as having one call-center for the region to assess the most appropriate service or provider, improving schedule coordination among the three transit providers, and coordinating with EMS for non-emergency transportation services. Lower priority needs include coordinating out-of-town shuttle schedules and trips, utilizing software to schedule and coordinate out-of-county retail and employment trips, and utilizing "non-traditional" partners, such as church groups, non-profits, and taxis that may be more cost-effective for after-hours or remote trips.

Four factors were developed for evaluating potential projects that will be important to consider when developing potential transit options for PCTA as part of this CTSP. The factors are:

- Balance capital and operating funds to address the greatest needs for near and long-term
- Develop projects that "support and optimize schedule adherence" to improve cost-effectiveness
- Consider projects that serve the development of smart growth and mixed-use districts
- Develop projects that enhance employment travel to employment centers outside of the Isothermal RPO region

Polk County 20/20 Vision Plan (2010)

In 2010, Polk County adopted its 20/20 Vision Plan: a comprehensive plan with the aim of establishing goals and objectives for the county to guide long-term growth and development for the next twenty years. While the role of transportation wasn't explicitly discussed, the goal of creating growth sectors, with higher residential densities and mixed-uses concentrated in nodes, is more conducive to transit, and will enable PCTA to better serve its residents, despite the largely rural nature of the county.

Draft Polk County Performance Plan and Analysis (2014)

The Institute for Transportation Research and Education (ITRE) at North Carolina State University (NCSU) is in the process of preparing a Performance Plan and Analysis for Polk County; a draft of this document was reviewed. The Performance Planning Analysis is designed to provide the transit system with a guide to achieve higher performance measures and improve business practices. The Plan involves a Business Practice Questionnaire and Employee Information Worksheet which are filled out by the transit system, and a site visit to observe conditions. The Performance Plan and Analysis covers human resource practices, operational policies, organizational culture, and the system's planning process. Vehicle Utilization Data is also used to compare the transit system against a set of peer systems to analyze

performance on a specific set of performance measures. The report also includes recommendations, steps for achieving objectives, and timeframes for implementation.

The Polk County Performance Plan and Analysis identifies PCTA's consistent growth in trips over the last year while still improving efficiency as the system's strongest area. The area needing most improvement is identified as increasing overall passengers per service mile rate by targeting inefficient runs. The number of passengers per service mile could be improved by better scheduling and reducing the number of deadhead miles. Based on conversations with PCTA, much of this inefficiency in scheduling can be attributed to staff resources and an insufficient number of full-time budgeted drivers. This will be discussed further in the section on Operational and Management Structure. In general, most of the vehicle utilization and system efficiency measures are in line with, but slightly below, the peer system average. Passengers per weekday are slightly above the peer system average.

The Polk County Performance Plan and Analysis highlighted four specific target areas for improvement. These were:

1. Improved performance measures – raising efficiency of the system.
2. Come to a consensus on the ordering of trips – drivers and schedulers are not always on the same page for trip ordering, and drivers sometimes do not follow the manifest.
3. Increase passengers per service mile – vehicles are sometimes active for short periods and short trips should be combined with other established runs, where possible.
4. Coordinate out-of-county services – communicate with neighboring counties to coordinate trips and combine out-of-county trips within PCTA.

A few other areas for improvement were noted in the report, such as reexamining the windows for trip reservations with the goal of shortening the windows from 48-hours for an in-county trip and five days for an out-of-county trip. PCTA also may have some trouble scheduling trips efficiently with its small fleet of lift-equipped vehicles relative to the average number of passengers requiring wheelchairs per day. The report also notes that PCTA does a good job with staff training, staff meetings, and job placement. PCTA has a clear No-Show Policy that is also available in Spanish. PCTA has good billing practices and is involved in planning efforts.

4. Existing Transit Services

Demand-Response Service

PCTA offers demand-response service to any resident of Polk County, Monday through Friday, from 5:30 A.M. to 5:30 P.M., excluding county government holidays. Service operates on a reservation basis; those needing rides must call to schedule a ride at least two business days in advance for in-county trips and five business days in advance for out-of-county trips. The service provides door-to-door transportation which fulfills several functions:

- Human Services Transportation: This consists of trips through agencies for purposes such as medical, job training, school, work, child care, social services, public hearings, and senior centers.
- Rural General Public service: This includes all other trips requested by individual riders (also known as RGP service).

PCTA primarily focuses on serving locations within Polk County, but rides can be scheduled to out-of-county destinations for certain services as well. Often, agencies cover the cost of rides, but RGP service rides cost \$1.00 per trip if along an existing subscription route, and \$0.135 per mile otherwise.

PCTA currently operates 16 vehicles, 5 of which are wheelchair accessible. PCTA contracts with a local car dealership and a small automotive repair shop for maintenance services for PCTA vehicles. Table 15 shows the vehicles currently operated by PCTA. Three replacement vehicles were recently acquired.

Table 15 – Vehicle Fleet

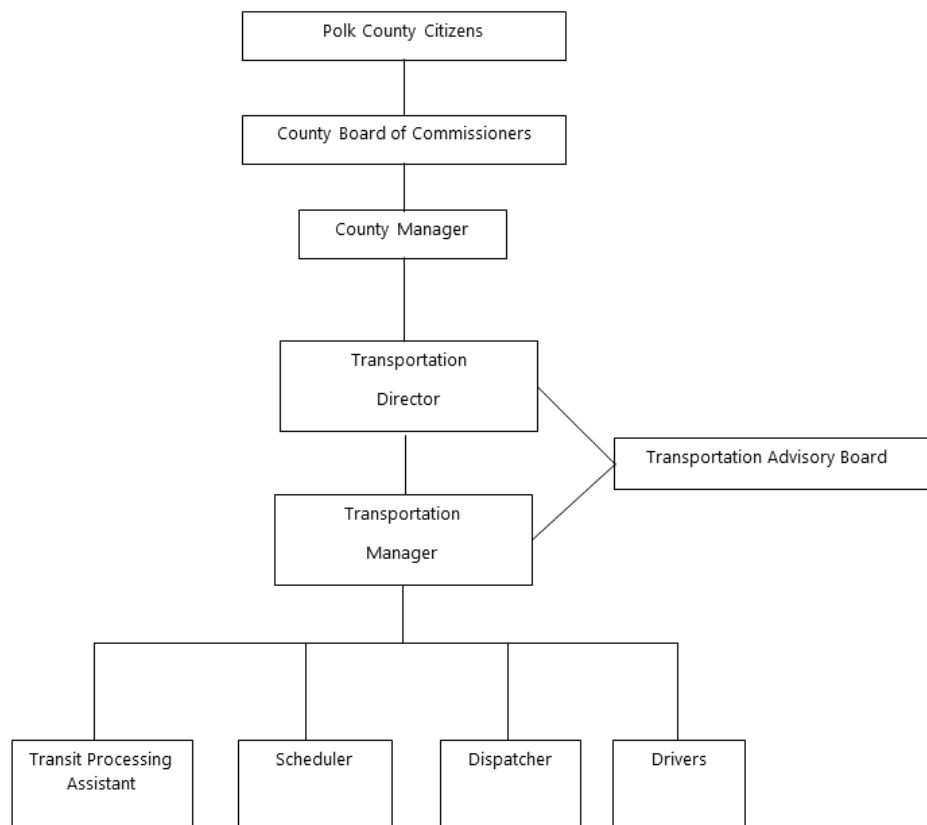
Model Year	Vehicle Type	Seating Capacity	Odometer Reading (June 2014)	Year Of Planned Replacement
2004	22-ft Light Transit	20	189,649	2015
2004	25-ft Light Transit	24	95,960	2022
2009	Sedan	4	157,252	2015
2009	Conversion Van	12	106,318	2017
2010	Conversion Van	12	107,591	2016
2011	Conversion Van	12	78,647	2015
2011	Sedan	4	87,829	2016
2011	Lift-Equipped Van	8/2	85,627	2016
2011	Crossover	5	116,476	2016
2011	Conversion Van	12	73,511	2017
2011	Conversion Van	12	49,091	2018
2012	Lift-Equipped Van	8/2	79,319	2017
2012	Minivan	7	40,150	2018
2014	Lift-Equipped Van	8/2	N/A	2017
2014	Lift-Equipped Van	8/2	N/A	2017
2014	Minivan	6	N/A	2018

Operational and Management Structure

PCTA works alongside and is advised by a Transportation Advisory Board, and overseen by the County Board of Commissioners and the County Manager, which represent the citizens of Polk County. The organizational and management structure is shown on Figure 9. As the designated transportation provider in the County, the PCTA staff has the following budgeted positions: a director, a manager, a transit processing assistant, a scheduler, a dispatcher, four full-time bus operators, six part-time bus operators (up to 25 hours per week), and eight part-time bus operators (up to 12 hours per week). Much of the PCTA staff is new to the agency since 2012, when a new director and administrative support were hired, a dispatcher retired after 30 years, and two bus operators with twelve years of experience left PCTA.

Part-time employees are restricted to no more than 28 hours per week of work. In 2012, there were eight drivers with typical full-time schedules, despite only four budgeted full-time driver positions. This practice has since been reversed through a reduction in hours, though no additional drivers have taken on full-time roles due to budget constraints. This presents a major limiting factor in efficiently scheduling routes and drivers, and leads to frequent job turnover as part-time drivers seek full-time employment elsewhere. Budgeting for additional full-time drivers will be an important and necessary part of future growth strategies. As of December 1, 2014, the roles of scheduler and dispatcher are more clearly delineated, with the aim of preventing overlap and any confusion or duplication in the roles. PCTA staff hope this will improve efficiency, communication, and accuracy of the respective functions.

Figure 9 – Organization and Management Structure of PCTA



PCTA Trip Origins and Destinations

In order to determine the areas in Polk County where transit needs are unmet, it is necessary to look at both areas where there is need and areas where PCTA currently provides service. Address data for all trip origins from January 1 to August 14 was geocoded to determine the areas where PCTA service is currently most focused. It was only necessary to look at trip origins because destinations become origins for the reverse part of the two-way trip. The average number of daily trips during this period is shown on Figure 10 and Figure 11.

Looking at the location of all trip origins, the over 97 percent of the geocoded PCTA trips are in-county trips, as can be seen on Figure 10. The locations with the largest number of transit trips include Polk Vocational Services, The Meeting Place Senior Center, New View Apartments, Isothermal Community College, Columbus Children's Center, Synergy in Action, Laurelwoods Apartments, and Abby's Learning Center.

PCTA has considered the development of a deviated fixed route, roughly following the corridor shown on Figure 11. The majority of trips have their origin, destination, or both concentrated along this 10-mile section of NC 108, from Tryon to Mill Spring. 37 percent of trip origins are within a quarter mile of this section of NC 108, and 57 percent fall within a half mile, represented by the yellow buffer on Figure 11. This data implies that a deviated fixed route in the corridor is worthy of strong consideration, and would more efficiently provide service for many existing demand response trips in this vicinity. Additionally, the route would likely provide additional trips for "choice" riders (i.e. those who have other options and are not transit-dependent), as well as additional impromptu trips for transit-dependent riders that may not otherwise occur given the 48-hour reservation window for demand-response service.

Figure 10 – Regional Trips Provided by PCTA

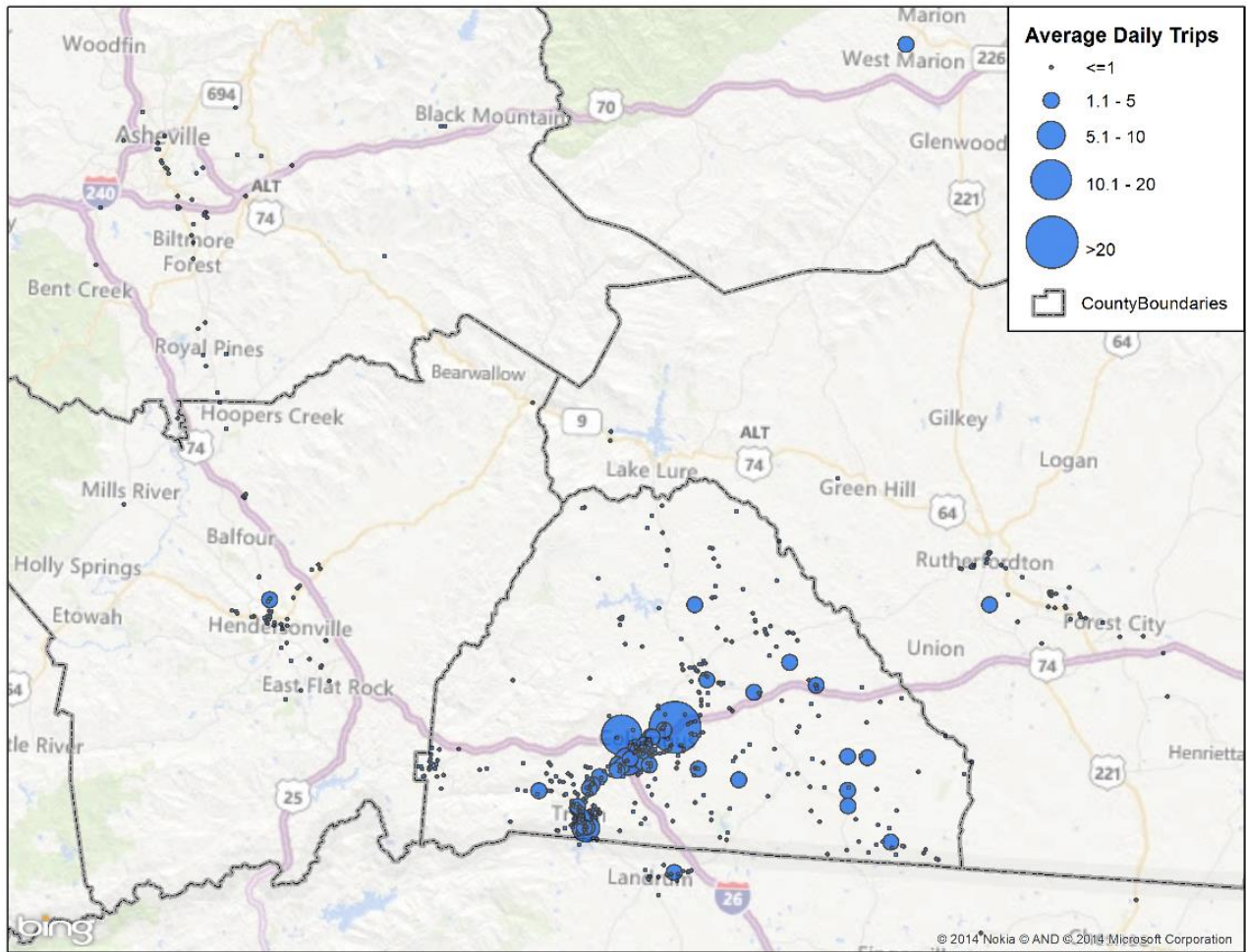
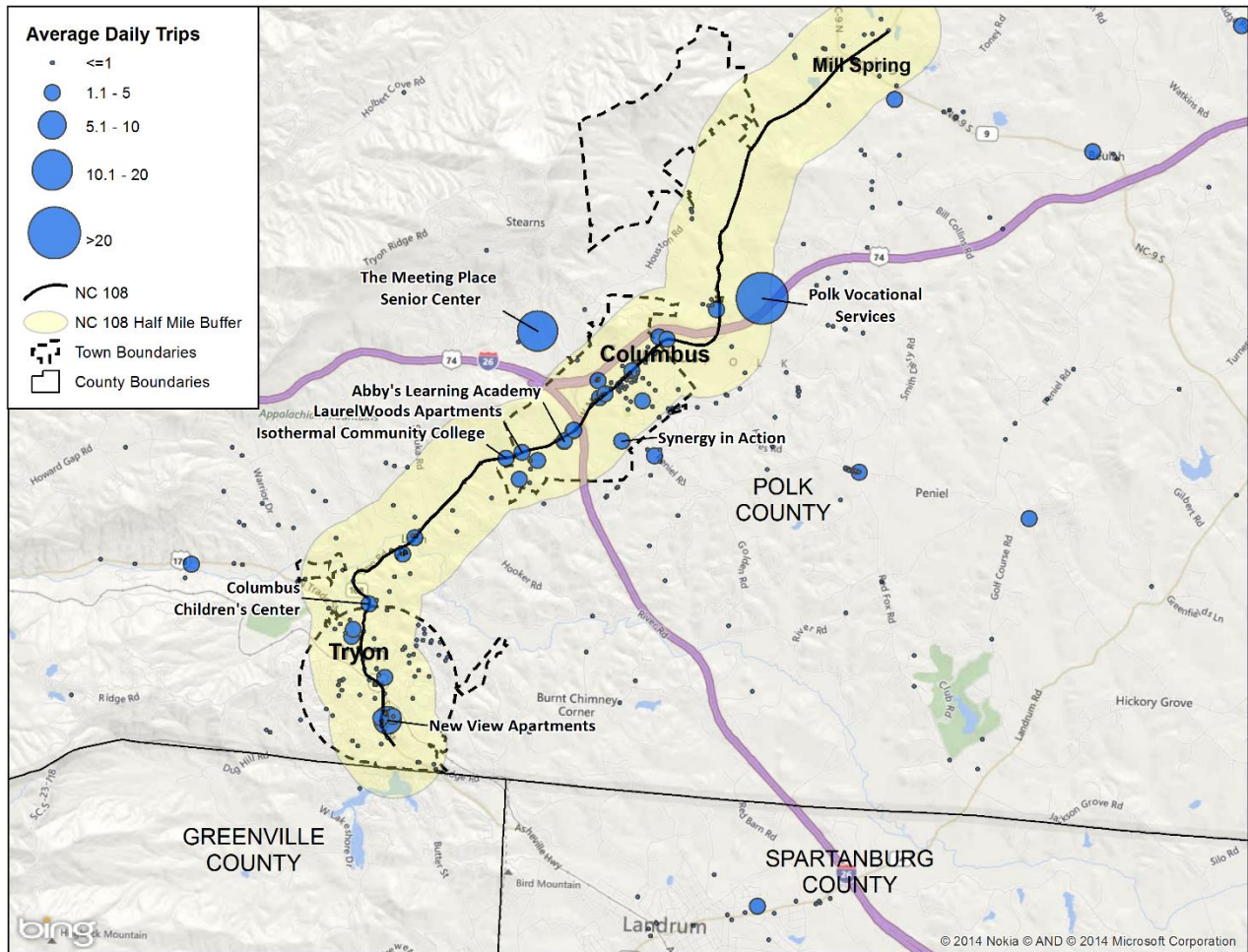


Figure 11 – Local Trips Provided by PCTA



Performance Analysis

As part of this study, an analysis of ridership and operating data was conducted in order to gain further insight into the efficiency and effectiveness of PCTA services. Five years of historical data from OpStats was reviewed to identify passenger activity levels, marginal costs, allocated costs, and allocated subsidy. The results of this performance analysis are shown below in Table 17. This data differs from the analysis in the Draft Polk County Performance Plan and Analysis recently conducted by ITRE, which uses a monthly snapshot from each spring and fall to calculate values for average daily passengers, passengers per service mile, passengers per revenue mile, passengers per service hour, and passengers per revenue hour. Data from the ITRE report is provided in Table 16. While some discrepancies between the two data sources are to be expected given the different methodologies, one would expect the general trends to be consistent. However, the OpStats show a decline in passenger trips that is not reflected in the average daily trips from the ITRE Performance Plan. There is perhaps more room for error and inconsistencies when comparing annual reports, such as OpStats, versus comparing monthly snapshots taken each spring and fall. The decline shown in the OpStats could be an error based on current or previous reporting or methods of reporting. It could also reflect an actual decline in ridership, and as such would be neglectful to ignore. Consistent reporting and record keeping is essential in setting and achieving growth and efficiency benchmarks. Temporal inconsistencies could be a result of new procedures as a result of new

staffing that began in 2012 and new scheduling and billing software and electronic data collection that were implemented in 2013. Current PCTA staff found some instances with the prior recording methods where trips falling under two agency contracts were potentially double-counted. Nonetheless, the efficiency and effectiveness measure discussed below assume that the historical data is correct.

Table 16 – Current and Historical PCTA Performance (from ITRE Performance Plan)

	2012		2013		2014	Current	% Difference
	Spring	Fall	Spring	Fall	Spring	Fall 2014	
Average Daily Passengers	144	157	161	163	159	164	13%
Passengers per Service Hour	2.36	2.23	2.37	2.09	2.17	2.09	-13%
Passengers per Revenue Hour	2.60	2.45	2.72	2.42	2.61	2.46	-6%
Passengers per Service Mile	0.124	0.113	0.126	0.117	0.118	0.1108	-15%
Passengers per Revenue Mile	0.142	0.127	0.147	0.136	0.139	0.126	-13%

Service effectiveness is perhaps best measured by “productivity,” which is defined as the number of one-way passenger trips provided per each service hour. PCTA’s productivity was at 2.3 one-way passenger trips per vehicle hour in FY 2014 compared to 3.1 trips per vehicle hour in 2010, a decline of roughly 27 percent. Another measure of transit’s effectiveness is the number of one-way passenger trips provided per vehicle service mile. PCTA provided 0.12 one-way passenger trips per vehicle mile in FY 2014 compared to 0.14 trips per vehicle mile in 2010, a decline of roughly 11 percent. This decline could be attributed to increased deadhead miles associated with driver limitations, namely requiring part-time drivers to return from a run if in danger of exceeding their allotted hours. This limitation was introduced at the same time a dispatcher with 30 years of experience retired, providing an additional limiting factor in dispatching and scheduling routes and drivers, and reducing service effectiveness. There was previously some duplication of responsibilities between scheduler and dispatcher, which PCTA has recently amended to more concretely delineate the positions, which should improve some efficiencies.

The financial efficiency of a given transit system can be measured by the operating cost per one-way passenger trip, which has increased roughly 27 percent from \$10.69 in 2010 to \$15.30 in FY 2014. Driver turnover, resulting from drivers holding part-time positions, adds to training costs and driver inefficiency, which could explain some of the cost increase. The decline in ridership would also increase costs per trip, since fixed costs associated with providing the service only decrease marginally with a ridership decrease. PCTA staff is not aware of any potential explanation for the decrease in ridership.

Trips provided by PCTA are subsidized by funding from federal, state, and county contributions. The subsidy per trip shown in Table 17 does not consider contract revenue from agencies that purchase transportation from PCTA as part of this subsidy. However, the overall operating subsidy per passenger is an important measure of a transit system performance particularly because it directly compares the most significant public input (public subsidy funding) with the most significant output (one-way passenger trips). To determine the overall subsidy per one-way passenger trip, the total cost to provide service less the farebox revenue is divided by the number of one-way passenger trips. PCTA required a subsidy of \$14.81 per one-way passenger trip in FY 2014. Contract revenue accounts for \$6.07 per trip, or 40 percent of the total \$15.30 per trip cost.

Table 17 – Five-Year Performance Analysis

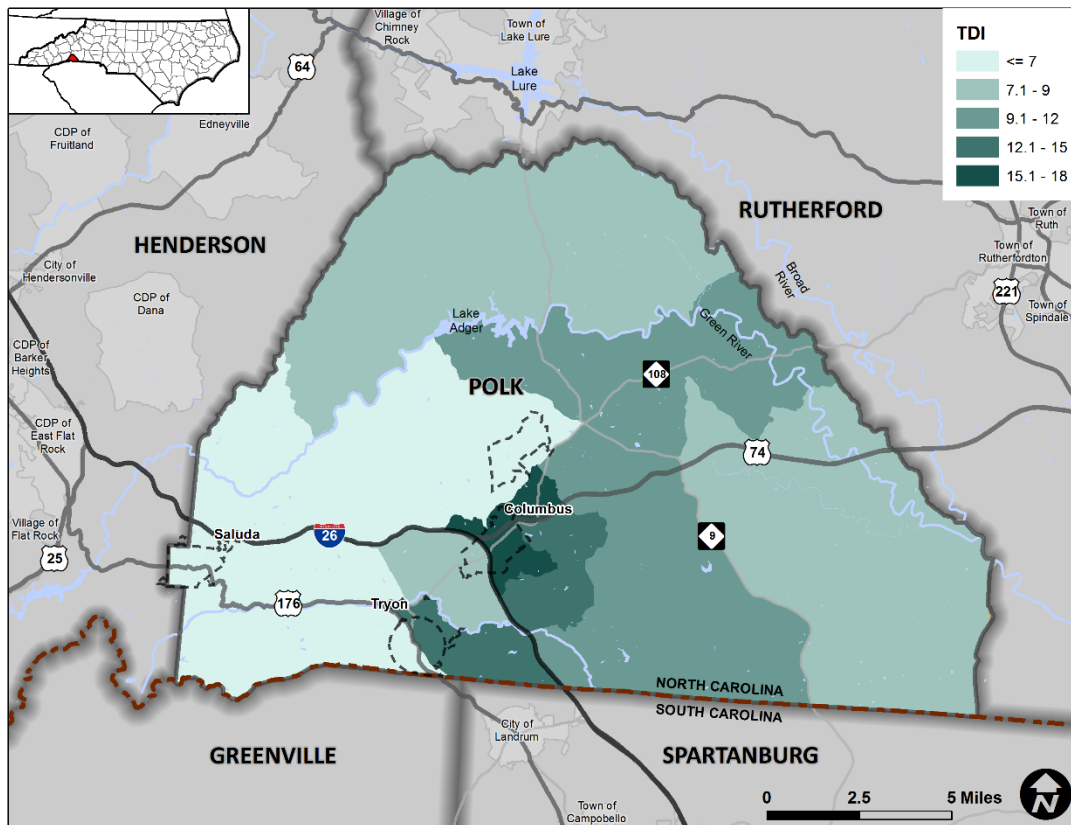
Year	Passenger Trips	Vehicle Hours	Vehicle Miles	Operating Expenses	Trips per Vehicle Hour	Trips per Vehicle Mile	Cost per Trip	Cost per Hour	Cost per Mile	Subsidy per Trip
2010	55,068	17,760	403,152	\$588,441	3.1	0.14	\$10.69	\$33.13	\$1.46	\$4.29
2011	56,081	18,422	410,157	\$716,907	3.0	0.14	\$12.78	\$38.92	\$1.75	\$5.17
2012	54,707	19,097	354,948	\$696,746	2.9	0.15	\$12.74	\$36.48	\$1.96	\$4.77
2013	47,916	18,689	371,596	\$587,609	2.6	0.13	\$12.26	\$31.44	\$1.58	\$5.35
2014	40,420	17,884	332,026	\$618,240	2.3	0.12	\$15.30	\$34.57	\$1.86	\$6.84

5. Transit Needs and Demand Analysis

Transit Dependence Index

ITRE developed a transit dependence index (TDI) based on populations for which there are environmental justice concerns and/or a likelihood of being transit-dependent. The TDI was developed using the research from a 2004 National Cooperative Highway Research Program (NCHRP) report that utilized an index based on concentrations of minority and low-income individuals. The index was modified to instead analyze concentrations of no-vehicle households, older adult populations, youths, individuals with disabilities, and below-poverty individuals. The TDI was calculated on a Census block-group level for Polk County, with a theoretical range from 0-100 where higher values represent areas with a large presence of transit-dependent individuals in an area with a high overall population density. The twelve block groups in Polk County have a minimum TDI value of 7, maximum of 18, and a mean of 10. The low TDI values in Polk County are largely driven by the relatively low population density of each block group. The highest TDI values in the county span Highway NC 108 from Tryon through Columbus, Mill Spring, and to the east, as shown on Figure 12.

Figure 12 – Transit Dependence Index for Polk County Census Block Groups



Transit Needs and Demand Estimation

Transit demand in Polk County was analyzed in order to help identify opportunities for future growth of the transit system. Three methods were used to estimate the maximum transit trip need and feasible demand for existing services in Polk County. These methods were developed by ITRE based on numerous trip estimation research methods and best practices. The basis for these methods comes from the TCRP "Web-Only Document 49: Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation". One method determines transit trip need based on the number of households with no vehicle. The second method determines transit trip demand based on populations of older adults, mobility-impaired individuals, and individuals in households with no vehicle. The third method is linked to the existing number of PCTA annual transit vehicle miles, as well as the transit need calculated in the first method.

The first measure of potential additional rural transit ridership is referred to as transit need. This measure is calculated based on the number of households in the county that do not have a private vehicle, and is often referred to as the "mobility gap." The Census region for North Carolina has a mobility gap of 1.3, meaning that it is estimated that households with access to a private vehicle take, on average, 1.3 times more daily trips than those with no access to a private vehicle. The total transit need in Polk County based on this methodology is estimated to be 152,100 annual one-way passenger trips. The transit need by block group is shown on Figure 13 utilizing a daily trips per square mile basis. This demand is 3.75 times the number of trips PCTA provided in FY 2014. It is important to note that this estimate is measuring the full potential need, which no transit system can likely provide given resource constraints.

The second measure of potential additional rural transit ridership is referred to as transit demand. This measure is calculated based on the populations of older adults, mobility-impaired individuals, and individuals in households with no vehicle. The total transit demand in Polk County based on this methodology is estimated to be 20,400 annual one-way passenger trips. The transit need by block group is shown on Figure 14 utilizing a daily trips per square mile basis. PCTA provided nearly two times as many trips as this estimated demand in FY 2014.

The third method is linked to the existing number of PCTA annual transit vehicle miles (332,026), as well as the transit need of 152,100 trips calculated in the first method. This results in an estimated transit demand of 46,500 annual one-way passenger trips, which is very close to the actual 40,420 one-way passenger trips provided by PCTA in FY 2014.

Overall, PCTA is performing well in terms of meeting the overall transit demand, particularly given Polk County's small size and low density. However, there are specific geographic areas where PCTA may not be meeting the transit needs and demands of residents, particularly those who are transit-dependent. With 97 percent of Polk County residents using a private automobile to get to work, either by driving or riding with someone, there is a large market for PCTA to provide work trips to those who have a transportation choice. These unmet needs will be further explored in the following two sections.

Figure 13 - Non-Program Rural Transit Need (Trips per Day per Square Mile)

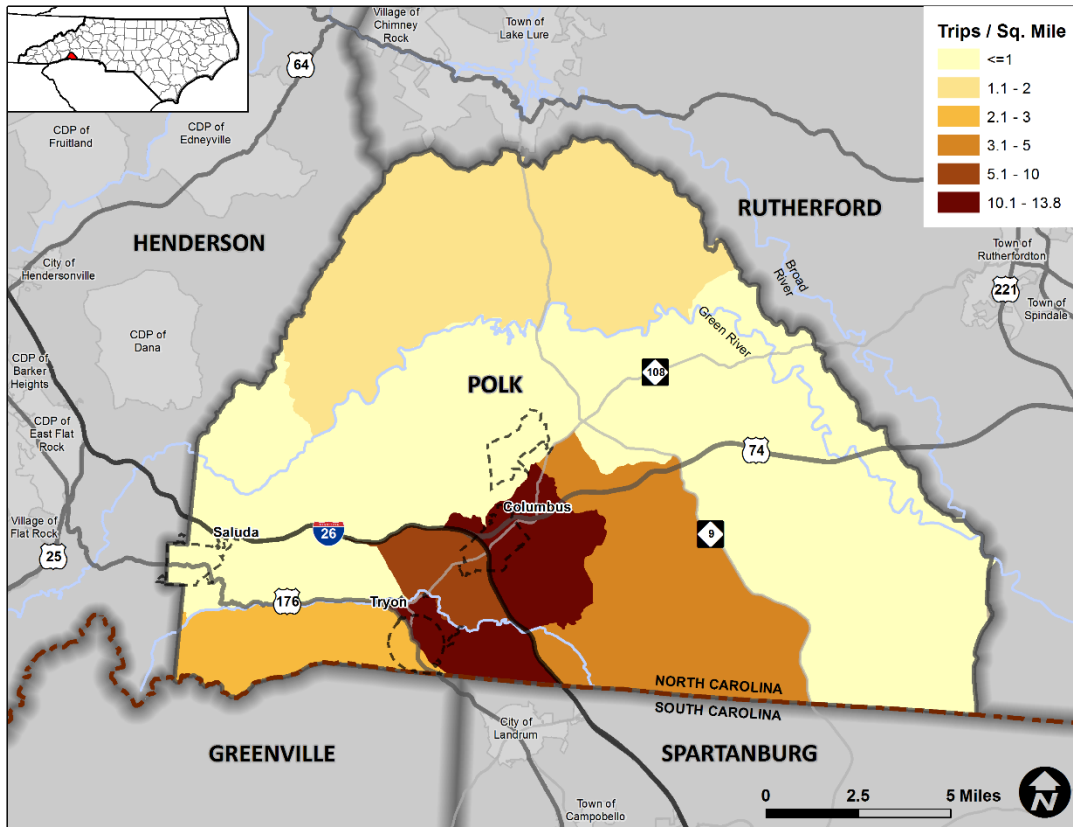
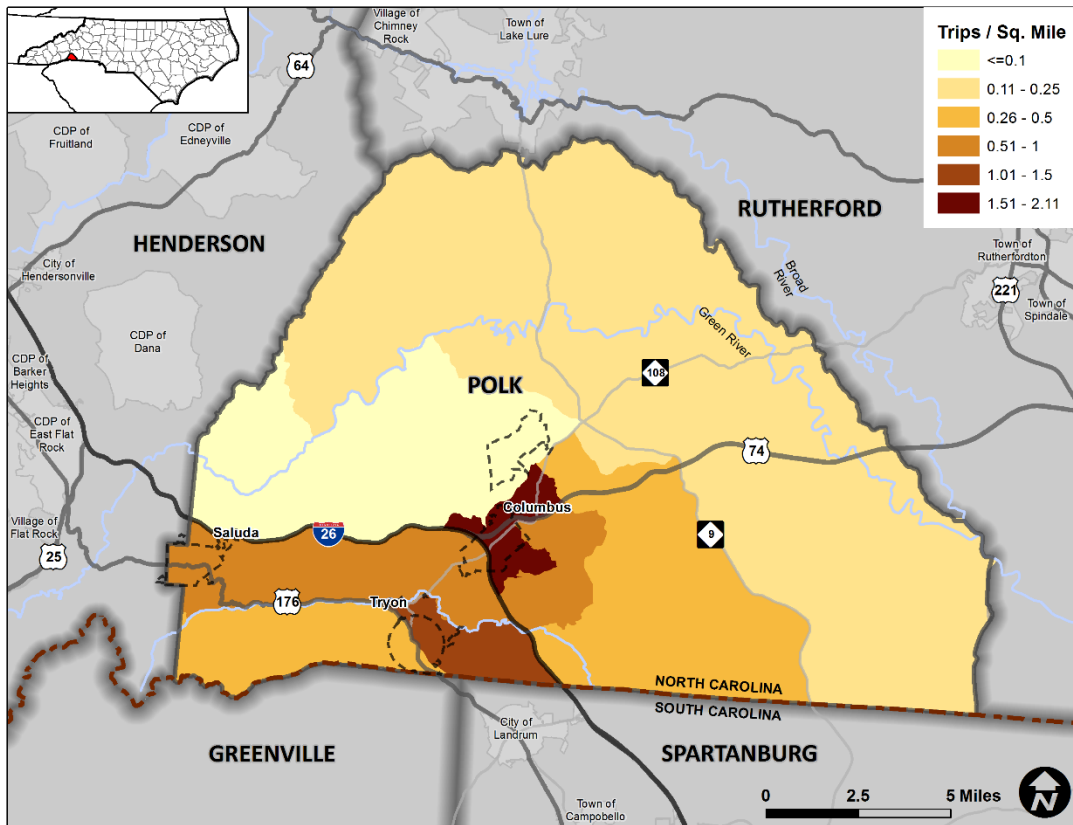


Figure 14 – Non-Program Rural Transit Demand (Trips per Day per Square Mile)



Transit Gap Analysis

The transit need and transit demand discussed in the previous section was compared to the existing PCTA trips to determine areas where PCTA may not be adequately fulfilling the needs of many transit-dependent riders. The ratio of estimated need and demand to existing trips was calculated by Census block group.

Figure 15 shows the ratio of daily transit need to actual number of daily trips, where block groups in green met or exceeded transit need and block groups in yellow through red fell short. Again, it is important to note that the “need” estimate is measuring the full potential for trips if these households had access to a private automobile, which no transit system can likely provide given resource constraints. Many of these households may be combining multiple trips and trip purposes into one trip, whereas with access to a private automobile these would often be split into separate trips. For instance, someone with a private automobile may make multiple weekly visits to the supermarket, whereas someone relying on transit may limit grocery trips to once a week.

Census Tract 920200 Block Group 1 in the Cooper Gap area in the northern part of the county has the highest gap in meeting transit need. This area has one of the lowest residential and commercial/employment densities in the county, though it does contain the 8th largest employer in the county, Pavillon, which is a center for treatment of alcohol and drug addictions. Recalling that the “need” calculation is based on the number of households with no vehicle, it is especially important to address unmet needs in this area, given the minimal options residents have for necessities within the area and the remote proximity to retail/commercial, medical, employment, and other common destinations. The remote proximity and low density can be challenging for a transit provider to adequately serve, but they do not make it any less important to meet the needs of residents in the area. The two block groups east of Columbus (Tract 920104 BG 1, and Tract 920103 BG 1) also have an estimated transit need of more than 900 percent of the number of existing trips in these areas. Given the closer proximity to Columbus and Tryon, these areas may be less costly and challenging to provide with transit service than the northern part of the county, though the deficiency of service in all three block groups needs to be addressed and will be explored as part of this CTSP. Potential causes for the deficiency could be: lack of awareness of PCTA services being open to any resident for any trip purpose; the two-day reservation window, which may limit convenience; combining of trips or deciding not to take certain trips given remote proximity, which can increase fare. Providing a rate structure that doesn’t penalize those requiring longer trips is one option to address this deficiency, particularly given that many of the remote areas of the county have the highest transit need.

Figure 15 – Transit Need Gap Analysis

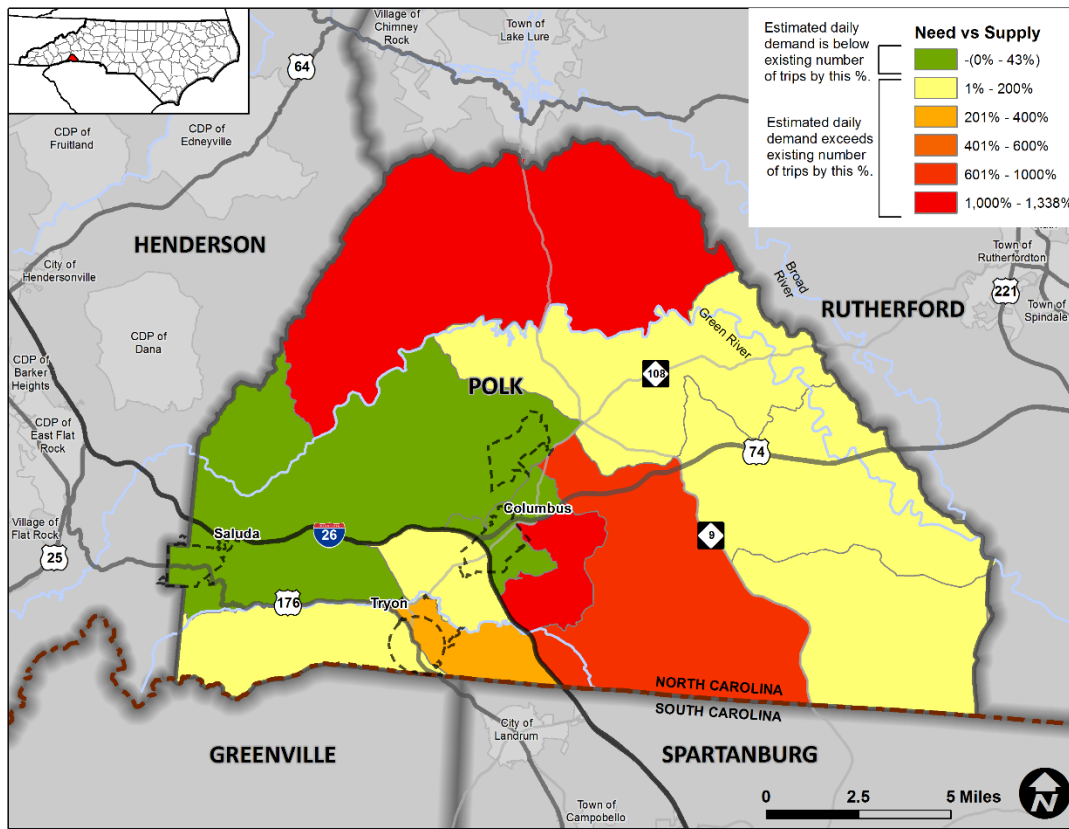
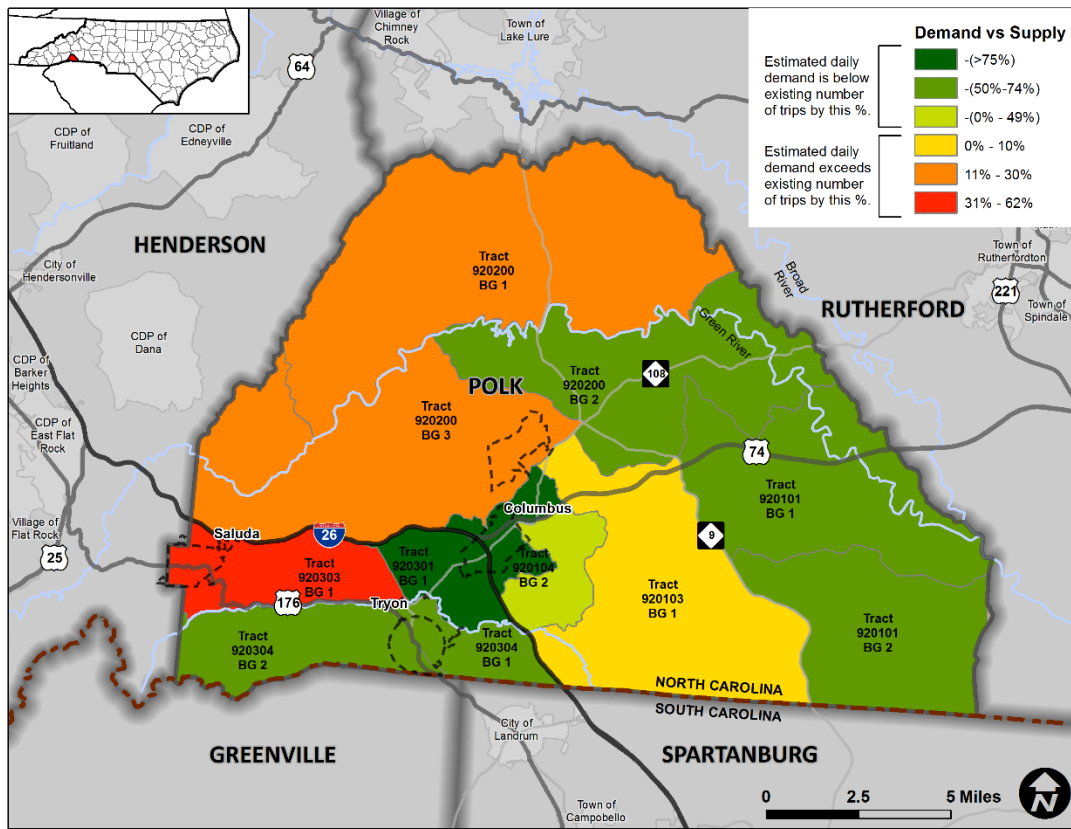


Figure 16 shows the ratio of daily transit demand to actual number of daily trips, where block groups in green met or exceeded transit need and block groups in yellow through red fell short. Recall that the “demand” calculation is based on the populations of older adults, mobility-impaired individuals, and individuals in households with no vehicle. Census Tract 920303 Block Group 1 in the Saluda area and to the east has the highest gap in meeting transit need; with nearly 62 percent more demand than is currently being provided by PCTA. Given the mix of residential and commercial retail activities in Saluda, many trips may be met internally by means other than transit. A fairly large number of internal work trips within the block group (both live and work in the block group) reflect this as well. Saluda also has one of the lowest Transit Dependence Index values in the county. Thus, the transit demand deficiency may not necessarily reflect a need to provide additional transit service in this area. Given the proximity of Saluda to Hendersonville, coordination of out-of-county trips is important for providing transit options. Tract 920200 Block Group 3 has 26 percent more demand than is currently being provided by PCTA, with a demand of 2.8 trips per day compared to the current 2.2 trips per day on average provided by PCTA, the lowest of all block groups in terms of trips provided and estimated demand. It is mostly undeveloped and has by far the lowest residential density in the county, as well as almost no commercial activity. It is also one of the most mountainous areas, making it potentially challenging to serve with transit, both in terms of terrain and navigability. Despite all of these factors, the demand deficiency should not be ignored. Tract 920200 Block Group 1 in the Cooper Gap area fell short of estimated demand by 17 percent. This was the only area in the county with a sizeable deficiency in meeting both transit need and transit demand.

Figure 16 - Transit Demand Gap Analysis



Current Work Travel Patterns

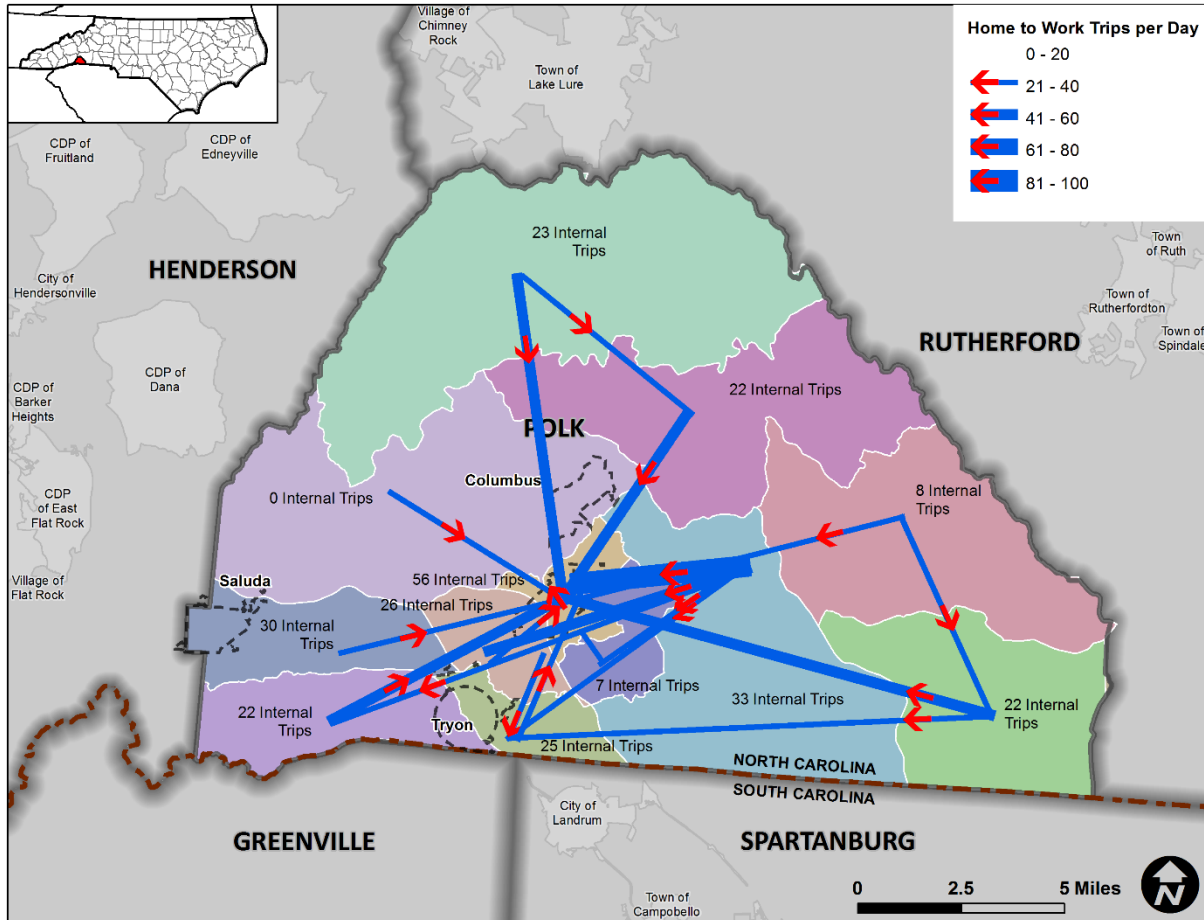
According to Census American Community Survey (ACS) 2013 3-year estimates, over 90 percent of Polk County residents travel to work via automobile, whether driving alone (75.7 percent) or carpooling (14.5 percent), and 7.3 percent work from home. Thus, over 97 percent of those who travel to work rely on a private automobile. Just over two percent walk and only 0.3 percent, fewer than 20 workers, take public transportation. With an average commute time of roughly 25 minutes and nearly three quarters of Polk County residents working outside of the county, providing transit for many of these trips to work would be difficult and costly. However, given the low current use of PCTA for work trips, there is a significant opportunity to expand this ridership. The following two sections provide a detailed analysis of work trips for residents of Polk County. The data is from the Census Longitudinal Employer-Household Dynamics (LEHD) database, which links every individual’s home and work Census block group, thereby providing a fairly accurate snapshot of commuter flows for all workers.

Polk County Internal Work Trips

Figure 17 shows daily home to work trips by Census block group for those who live and work in Polk County. The arrows indicate the direction from home to work and the line thickness represents the number of daily work trips. The labeled number of internal trips for each block group represents the daily work trips for individuals who both live and work within the same block group. The block group that largely contains Columbus has by far more employment than any other block group, shown on Figure 17

by the large commute flows lines with arrows into the Columbus block group, as well as 56 internal trips. There are also numerous work trips to Tryon; however, Columbus appears to be the hub of commercial and employment activity in the county.

Figure 17 – Polk County Internal Home to Work Trips by Census Block Group



Polk County External Work Trips

Polk County has a net outflow of work trips, meaning that more workers reside in Polk County and work in a different county than reside outside of Polk County and work in Polk County. Specifically, 4,300 Polk County residents work outside of Polk County, while 2,900 workers in Polk County reside outside of Polk County. There are an additional 1,600 workers that both live and work in Polk County. Thus, there are currently about 4,500 jobs held in Polk County and a working population of about 5,900 residing in the county.

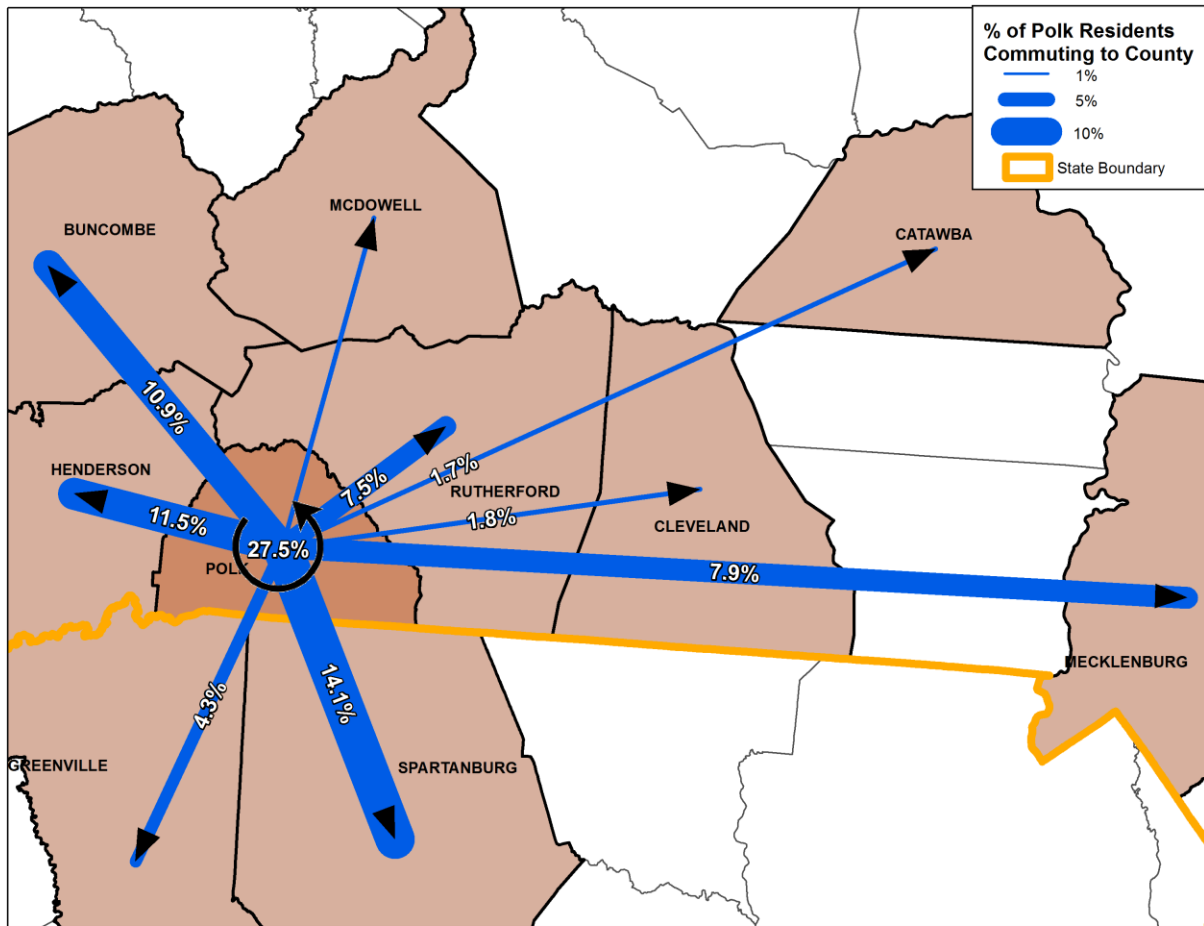
Of the roughly 5,900 workers that live in Polk County, only 1,600 (27 percent) also work in Polk County. The out-of-county jobs are mostly in Spartanburg County, SC (14 percent); Henderson County, NC (12 percent); Buncombe County, NC (11 percent); Mecklenburg County, NC (8 percent); and Rutherford County, NC (8 percent).

Many of these out-of-county work trips could be most cost-effectively served using vanpools. Expanding awareness of available vanpool services and providing increased funding for vanpools is a need that was

expressed in the 2013 LCP. As part of MAP-21, funding for Job Access and Reverse Commute (JARC) projects now falls under Section 5311 and Section 5307 funding, which can include vanpool expenses. Vanpools could be provided through PCTA as well as existing services, such as Charlotte Area Transit System (CATS) vanpool program for Polk County commuters to Mecklenburg County or private providers such as Enterprise Rideshare and VPSI. The ridematching website SharetheRideNC.org helps coordinate carpools and vanpools statewide and is a good resource to encourage vanpool use.

Internal work trips are a relatively small market and the larger set of out-of-county trips are difficult for PCTA to serve cost-effectively using demand response service. Nonetheless, given that the current system is not frequently used for work trips, there is an opportunity to increase ridership by providing additional work-related trips within Polk County, and to expand and promote the use of vanpools for out-of-county work trips.

Figure 18 - Out-of-county Work Trips



6. Financial Characteristics

Cost Allocation Model

PCTA expenses are shown below in Table 18. Expenses for FY 2014 totaled \$618,240. The specific operating cost line items were allocated to a quantity of service (vehicle service hours, vehicle service miles, vehicle, or fixed cost) for the purposes of constructing a cost allocation model. The fully-allocated hourly cost is calculated by dividing the total operating cost by the annual vehicle service hours operated, which yields \$37.07. The cost equation and fully-allocated hourly cost, scaled to account for inflation, can be used to estimate costs associated with service changes, such as changes in the hours of service.

Table 18 - Cost Allocation Model

Line Item	Total Expense	Fixed Costs	Costs Based on Vehicle Service	
			Hours	Miles
Administrative Costs				
Employee Salaries & Fringes	\$134,885	\$134,885		
Advertising & Promotions	\$5,839	\$5,839		
Employee Development	\$1,935	\$1,935		
Utilities and Office Expenses	\$12,578	\$12,578		
Other Administrative Costs	\$3,550	\$3,550		
<i>Administrative Costs Subtotal</i>	\$158,787	\$158,787		
Operating Costs				
Employee Salaries & Fringes	\$337,640		\$337,640	
Fuel	\$79,008			\$79,008
Vehicle Operating & Maintenance	\$40,905		\$4,100	\$36,805
Other Operating Expenses	\$46,596	\$792	\$46,164	
<i>Operating Costs Subtotal</i>	\$504,149	\$792	\$387,904	\$115,427
Grand Total	\$662,936	\$159,579	\$387,904	\$115,813
<i>Unit Quantities</i>		N/A	17,884	332,026
	<i>Cost Per Unit</i>	\$159,579	\$21.69	\$0.35
Fully Allocated Cost per Hour of Service		\$37.07		

Source: PCTA FY 2014 Expenses and Revenue and FY 2014 OPSTATS

Costs and Revenue Sources

Operating Costs

In FY 2014, PCTA received revenues from five sources to subsidize its operating costs, as shown in Table 19. The costs of operating PCTA's service were funded primarily by agency contracts (37 percent),

followed by federal assistance (22 percent), state assistance (20 percent), and county government assistance (14 percent). Farebox revenue accounted for around 3 percent of the overall funding, and NC Division on Aging funding accounted for around 4.5 percent of funding.

Table 19 - Revenue Sources: Operating Costs (FY 2014)

Revenue Source	Revenue	% of Revenue
Federal assistance (Section 5311 Administrative)	\$145,635	22.0%
State assistance	\$130,953	19.8%
<i>CTP Administrative</i>	\$9,101	
<i>ROAP</i>	\$121,852	
Local assistance	\$91,504	13.8%
<i>County Government Administrative & Operating</i>	\$91,504	
Farebox	\$19,714	3.0%
Contracts	\$245,307	37.0%
NC Division on Aging (HCCBG Reimbursement)	\$29,823	4.5%
Total Revenue	\$662,936	100.0%

Source: PCTA FY 2014 Expenses and Revenue and FY 2014 OPSTATS

Capital Costs

In FY 2014, PCTA received revenues from three sources to subsidize its capital costs, as shown in Table 20. Federal and state assistance combined comprised 90 percent of funding of PCTA's capital revenue in FY 2014. Local assistance accounted for 10 percent of the total.

Table 20 - Revenue Sources: Capital Costs (FY 2014)

Revenue Source	Revenue	% of Revenue
Federal	\$96,289	80.0%
State assistance	\$12,036	10.0%
Local assistance	\$12,037	10.0%
Total Assistance	\$120,362	100.0%

Source: PCTA FY 2014 Expenses and Revenue and FY 2014 OPSTATS

Billing and Fare Structure

Most PCTA trips are coordinated through human services agencies or specific programs and funding mechanisms. PCTA has contracts in place to provide transportation services to Polk County Department of Social Services, Polk Vocational Services, the Veteran's Administration, and the NC Division on Aging, Title III-B Home and Community Care Block Grant. Each of these organizations has different billing rates that have been agreed upon with PCTA for PCTA's provision of transportation services. PCTA also provides transportation funded through the NC Rural Operating Assistance Program (ROAP) under the Elderly and Disabled Transportation Assistance Program (EDTAP), Employment Transportation Assistance Program, and Rural General Public (RGP) Program.

PCTA trips have different cost structures depending on the program, agency, and type of trip, including various per-trip rates and per-mile rates. The general ride fare is \$1.00 per trip for rides that take place on

an existing subscription route. The Rural General Public fare is \$0.135 per mile for trips not on a subscription route, which is 10 percent of the ROAP – Elderly and Disabled rate, to reflect a local match. There are also some special fares for certain destinations (e.g., Walmart is \$2.00). Out-of-county rates for airport rides appear reasonable to recover much of the trip cost.

The various billing rates can be confusing to passengers and human services agencies, difficult for these agencies to budget for, and complicated for PCTA to track and bill. A flat-rate or zone-based billing system can help simplify these issues, and has been recently explore by PCTA in cooperation with ITRE. Developing a fare system that is reasonable, fair, easy to understand, and that adequately covers local operating and capital costs is a key goal of this CTSP that will be further developed. The breakdown of the current fare structure is shown in Table 21 below.

Table 21 – Billing and Fare Structure

Program	Passenger Fare	Program Rate
Per Trip Rates		
Medical Trips – III-B HCCBG		\$6.55/Trip
Shopping Trips – III-B HCCBG		\$5.65/Trip
Board of Education		\$1.00/Trip
Senior/Disabled Group Trips	\$50.00/Trip	
Polk Vocational Trips		\$4.10/Trip
Polk Vocational Group	\$50.00/Trip	
Ride Along	\$2.00/Trip	
Farebox	\$1.00/Trip	
Walmart	\$2.00/Trip	
Airport – Charlotte	\$100.00/Trip	
Airport – Asheville or Greenville-Spartanburg	\$50.00/Trip	
Veteran Reimbursement	\$12.50/Trip	
Meeting Place	\$3.00/Trip	
Per Mile Rates		
Department of Social Services		\$2.85/Mile
ROAP – Elderly and Disabled		\$1.35/Mile
Rural General Public		\$0.135/Mile
Other Rates		
ROAP – Employment Assistance	\$6.75/Day	
Local Government Employee Trips		Gas Only

7. Capacity Analysis

Vehicle Utilization

Using data provided by ITRE, a week of vehicle utilization was analyzed to determine the operating characteristics for each of the vehicles. The week that was analyzed was August 5, 2014 to August 9, 2014, which represents a typical week of PCTA operations. Note that vehicle number 14 was being transitioned to a new replacement vehicle during this time. This data shows that Tuesday, August 6th between 9:00 am and 10:00 am was the highest period of usage for the week, with 14 of PCTA’s 16 vehicles in revenue service for that period. For the week overall, the highest usage occurred between 8:30 am and 11:00 am, with an average of ten to eleven vehicles in use during those times. Table 22 shows the utilization throughout the day for each of the fleet vehicles; this data is for one week and the number shown represents the number of days in that week that each vehicle was in use during that time period. The bottom line shows the average number of vehicles in use during each time period.

Table 22 – Vehicle Utilization

Vehicle #	Vehicle Type	TIME PERIOD												5	6															
		5	6	7	8	9	10	11	12	1	2	3	4																	
No. 2	Conversion Van	0	0	0	0	0	3	4	3	4	4	4	4	4	4	2	2	2	1	1	1	1	1	2	2	2	2	0	0	
No. 3	Conversion Van	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	1	2	4	4	4	4	4	4	4	4	4	1	0	0
No. 4	Sedan	0	0	0	2	3	3	3	3	3	3	4	4	4	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
No. 5	Conversion Van	0	0	0	0	1	1	1	2	3	3	3	4	3	3	3	3	3	4	3	3	3	4	4	4	4	4	3	0	0
No. 6	Lift Equipped Van	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5	3	0	3	5	5	5	5	4	1	0	0
No. 8	Lift Equipped Van	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	4	4	4	5	5	5	5	4	1	0	0	0
No. 9	Crossover	0	0	0	0	0	0	0	0	3	4	4	2	3	3	3	2	3	3	4	4	3	2	2	2	1	1	1	0	0
No. 10	22 ft. LTV	0	0	0	0	0	0	0	4	4	1	1	1	1	1	1	1	0	0	0	0	0	0	4	4	3	3	1	0	0
No. 12	Sedan	0	0	0	1	1	1	3	4	4	5	5	5	5	4	3	2	1	1	1	1	1	1	0	0	0	0	0	0	0
No. 14	Minivan	0	0	0	0	0	0	0	0	0	0	2	3	4	4	4	4	5	5	1	1	1	1	0	0	0	0	0	0	0
No. 15	Conversion Van	0	0	0	0	5	5	5	5	5	5	2	0	0	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0
No. 16	Conversion Van	0	0	0	0	1	4	4	4	4	5	5	5	5	3	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0
No. 17	25 ft. LTV	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
No. 18	Mini-Van with Ramp	0	0	0	2	2	2	2	2	4	5	5	5	4	4	4	2	2	2	1	0	0	0	0	0	0	0	0	0	0
No. 19	Lift Equipped Van	0	0	1	1	2	2	2	2	3	3	3	3	3	3	2	1	1	2	2	2	2	2	2	2	1	1	1	0	0
No. 20	Lift Equipped Van	0	0	0	1	1	2	2	3	4	4	4	3	2	4	4	3	3	3	3	3	3	3	3	1	0	0	0	0	0
Totals:		0	0	1	7	16	25	32	39	50	54	54	51	50	46	39	34	35	39	29	28	31	34	31	26	21	11	0	0	
Average vehicles in use		0	0	0	1	3	5	6	8	10	11	11	10	10	9	8	7	7	8	6	6	6	7	6	5	4	2	0	0	

Given the current operating schedule, 5:30 am to 5:30 pm, there are a maximum of twelve hours of vehicle use per day. On average, each vehicle is in use a little less than 5 hours per day, or 38 percent of the maximum amount. Of course, no system would or should operate with all vehicles in use all the time, but this gives some sense of the vehicle utilization throughout the day. On average, the more fuel efficient lift-equipped vans were used the most – 6.18 hours per day on average – followed by conversion vans at 5.06 hours per day on average. The two light transit vehicles were used the least frequently, at 2.45 hours per day on average.

Capacity and Potential Constraints

For the one-week snapshot discussed, PCTA had 14 vehicles operating in maximum service and 2 spare vehicles, for roughly a 14 percent spare ratio, which at times could be inadequate. Unlike a fixed route system, schedules for a demand-response system such as PCTA can differ dramatically from month to month. These systems must often be flexible and fluid in terms of capital and labor requirements, which can be difficult to achieve. The small fleet of lift-equipped vehicles relative to the average number of wheelchair passengers per day may also be a limiting factor. Having some smaller vehicles and part-time drivers helps PCTA with some of this flexibility. However, as previously noted, having part-time drivers that can't exceed 28 weekly hours can strain routing, scheduling, and dispatching systems. As the system grows, it will be important to project future growth and demand in order to adequately plan for capital and labor requirements.

The current policy requiring a two business day window for passengers to request an in-county trip and five days for an out-of-county trip enables PCTA to more easily coordinate routes, vehicles, passenger manifests, and driver schedules. However, it may also be limiting the number of reservations, particularly for trips that are not typically scheduled well in advance, such as shopping or recreational trips.

PCTA staff has expressed the desire to improve several areas relating to technology. The current office phone system is limited to two lines and does not have the capability for would-be riders to leave a message. This could be frustrating and discouraging to some customers. The current radio communications between drivers and dispatch can be heard over the transit vehicles, as well as via simple radio scanners, which could lead to some privacy concerns for passengers. Furthermore, given the varied elevation and terrain in Polk County, there are some fringe areas where radio communication is lost between drivers and dispatch, and they must rely on mobile phones. A Microsoft Access-based scheduling software, TripMaker, was implemented in 2013 as well as new billing software to help track payments, grant funding, and other revenue. TripMaker can also be used to better integrate scheduling and billing, though PCTA has just begun using these billing capabilities. NCDOT Public Transportation Division (PTD) has certain mandates for ridership thresholds that must be met before providing transit systems with advanced scheduling software and vehicle technology. PCTA does not meet these criteria and is unlikely to do so in the near future. Thus, utilizing existing software packages to their fullest will be a critical element of providing efficient and effective transit service.

Facilities

PCTA's current office facility is located adjacent to the Polk County Courthouse in Columbus. There are space constraints for staff with the existing facility. The interior of the office building does not adequately accommodate wheelchair passengers and the size and number of rooms does not accommodate the myriad needs of the facility. For instance, the "conference room" is used for storage, as a staff break room, for training, passenger layovers, taking passenger payments, job applicants, and many other uses that often conflict. Furthermore, the office restrooms are external to the building and do not have direct wheelchair/ADA access. A system of secure collection and storage of payments is also needed, both in the office and in vehicles once PCTA begin accepting onboard payments.

Transit vehicles are parked in general public parking spaces that are shared with PCTA employee vehicles, courthouse employee vehicles, and visitor vehicles. This can present a challenge for drivers and employees

reporting to work; it limits fleet expansion capabilities and vehicle size; and it does not provide a secure storage location for vehicles when not in use. There are several county-owned properties that may be suitable for relocation of PCTA services, which will be further explored as part of this CTSP.

8. Public Outreach

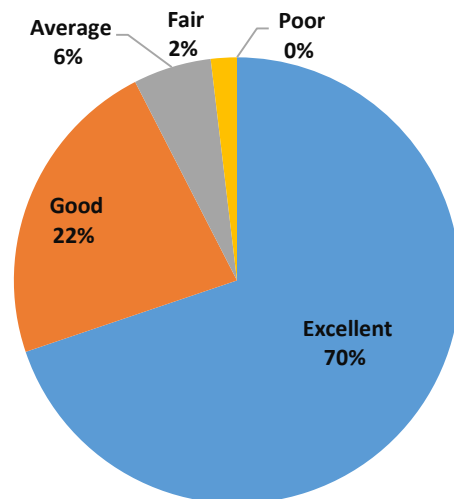
Engaging the public and members of the Polk County community is a key component in developing awareness of issues as well as areas for growth of a transit system. As part of the development of this CTSP, community stakeholders are engaged through a steering committee, interviews, onboard surveys, public forums, and other outreach methods. As part of this initial outreach, onboard surveys and interviews were conducted with PCTA passengers. Representatives of contracting agencies and other stakeholders not represented by the steering committee were also interviewed as part of this initial data gathering effort.

Onboard Surveys

Fifty-seven (57) riders were interviewed by consulting staff or filled out an onboard survey given to them by their transit driver over the course of several weeks. The findings of the survey, including the types of passengers served, trip purposes, recommendations and desires for services, and areas where respondents felt PCTA could use some improvement, will be utilized along with other analytical methods to develop recommendations and service alternatives for PCTA. Many of the findings of the survey confirm anecdotal statements heard in conversations with PCTA, stakeholders, and other residents of Polk County.

Overall, passengers are very pleased with the service, with numerous respondents stating that “service is terrific”, they feel “thankful” and “blessed” to have the service available to them, and many other high praises. Overall, 92 percent of respondents rated PCTA service as “Good” or “Excellent,” as shown on Figure 19. For each detailed category of service quality, most respondents rated PCTA service “Good” or “Excellent.”

Figure 19 - Overall, how do you rate the PCTA service?



The majority of survey respondents are regular passengers that have reserved their trip more than a week in advance (or they are regularly scheduled), as shown on Figure 21. 75 percent have been riding PCTA for at least one year, as shown on Figure 20. Medical and dental services are the largest category of trip purpose (43%), followed by work trips (22%), human and social services (17%), and school (10%). Recreational/social, shopping, and personal business trip purposes accounted for less than 10% of respondents stated trip purpose, as shown on Figure 22.

Figure 21 - When did you make the reservation for this trip?

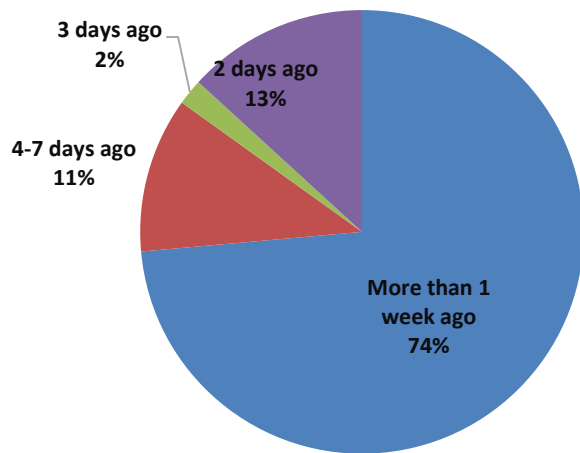


Figure 20 - How long have you been riding the PCTA service?

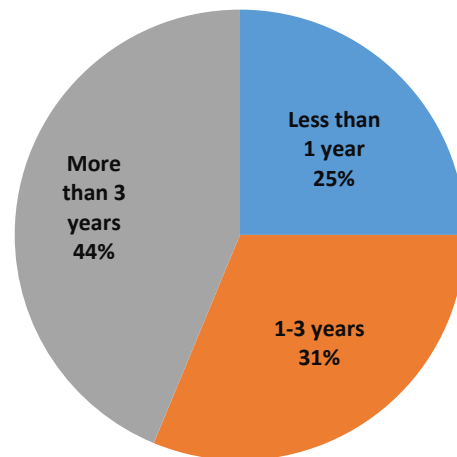
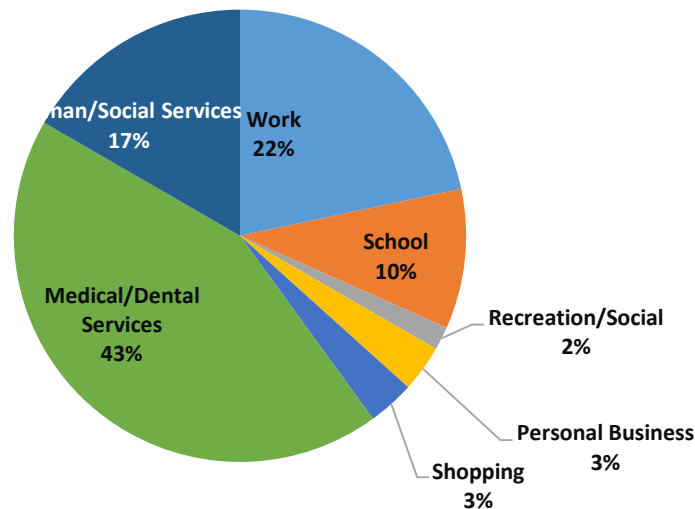


Figure 22 - What is the purpose of this trip?



Most survey respondents are dependent on transit to get around. Respondents mostly stated their reason for riding PCTA as a lack of alternatives (23%), limited mobility (21%), convenience (20%), and/or disability (15%), as shown on Figure 24. If PCTA did not exist, most respondents said they would have ridden with someone (41%) or would not have made the trip (36%), as shown on Figure 23.

Figure 24 - Why did you choose to ride the PCTA service for this trip?

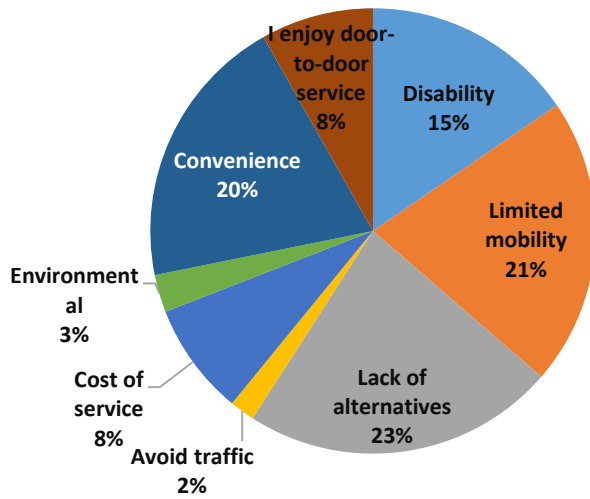
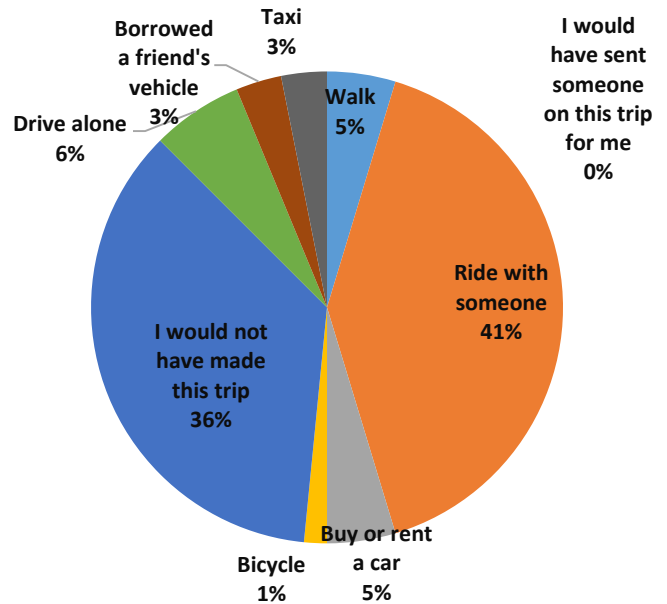


Figure 23 - If the PCTA service did not exist, how would you have made this trip?



According to responses, shown on Figure 25, PCTA service excels in the places that are served and the cost to ride (highest percentage of "Excellent" or "Good" responses). The areas that could use improvement include the length of pick-up time window, information via printed material, the phone reservation system, and hours of service. The highest factors that would encourage respondents to take at least an occasional additional trip, as shown on Figure 26, include (in descending order): Saturday service; Sunday service; a deviated fixed route between Tryon, Columbus, and Mill Spring; providing more trips to Asheville and Spartanburg; and increased frequency of service. In terms of factors that respondents stated would encourage them to take at least two additional trips per week, the highest percentage of respondents selected a deviated fixed route between the towns, increased frequency, increased reliability, increased safety, and better phone information. Several respondents also stated they would like to be able to schedule out-of-county appointments in the afternoon.

Figure 25 - Please indicate your opinion of the following PCTA service qualities.

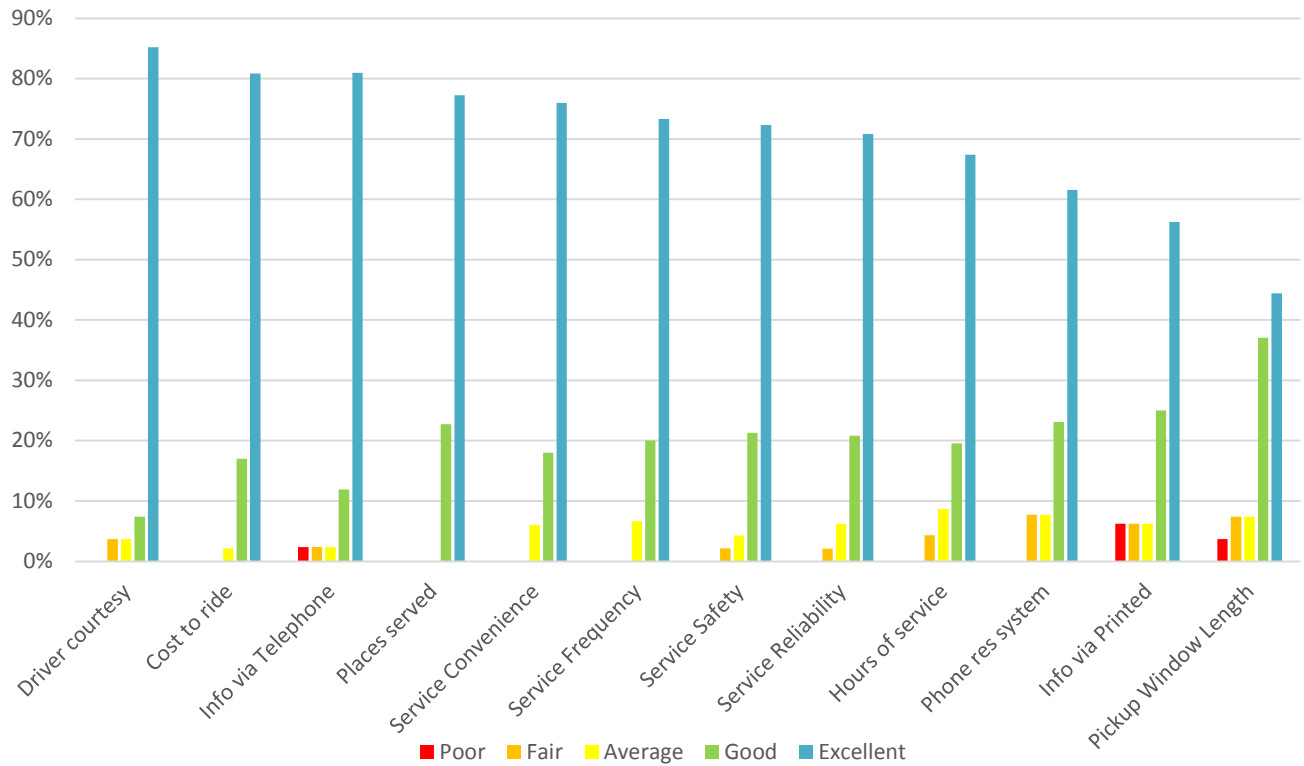
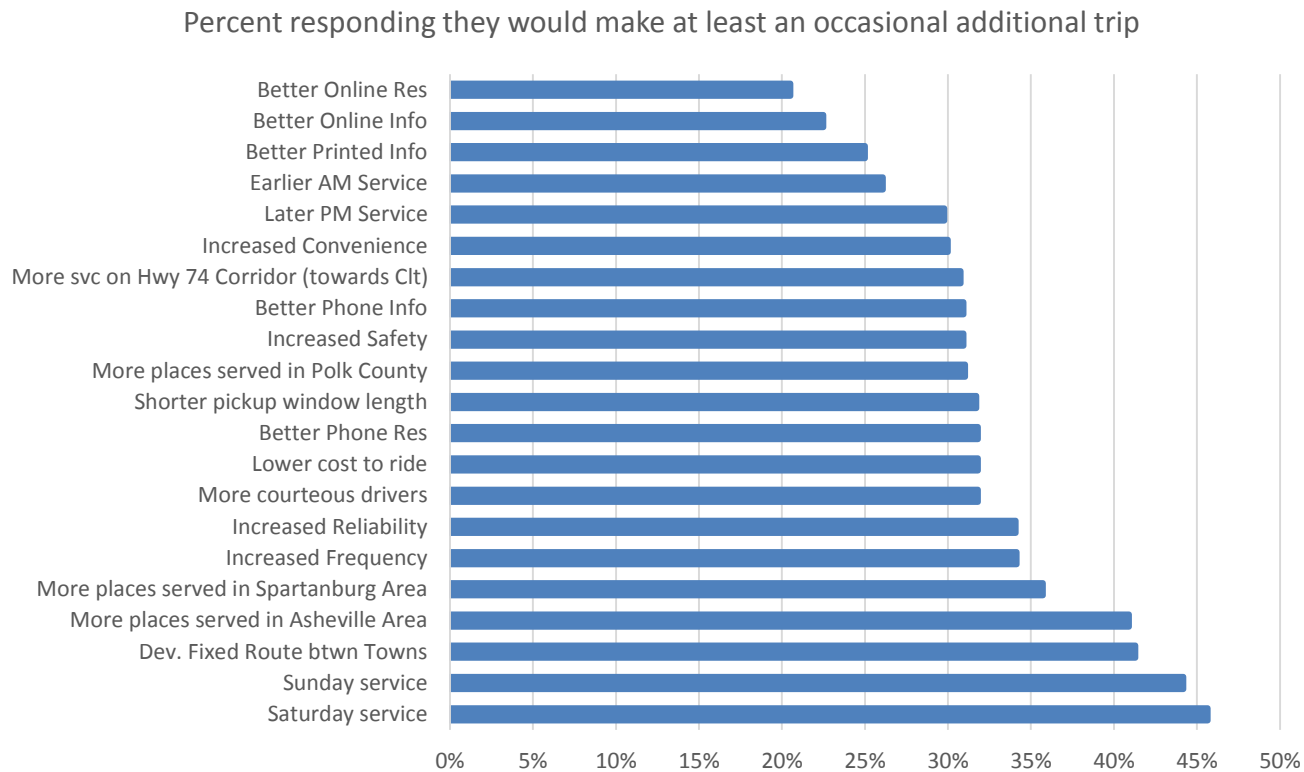


Figure 26 - If the following IMPROVEMENTS were made, how many MORE TRIPS would you make, on average?



Stakeholder Interviews

Interviews were conducted with key stakeholders representing a number of contracting agencies, community leaders, and government officials. Table 23 lists the names, agencies, and a description for the individuals interviewed. The interview instruments in Appendix B represent the types of questions discussed with interviewees, though the interviews were not a rigid question-and-answer session. Some key issues and opportunities that arose from these interviews are discussed below.

Issues and Opportunities

In discussions and interviews with stakeholders, there were some concerns and opportunity areas that were expressed.

One key opportunity area mentioned repeatedly is for regional coordination with other counties, including those in neighboring South Carolina. This was mentioned in reference to regional partnerships and planning, regional funding, or even a regional transit system. Another opportunity area is the expansion of service to include evenings, weekends, and a deviated-fixed route service between Tryon, Columbus, and Mill Spring. A third desire and opportunity area is in providing transit service to jobs, including retail and the new Tryon International Equestrian Center.

There were some issues discussed regarding recent changes in policies and procedures, though it was recognized that there can be growing pains associated with new staff, new software, and the desire to improve service efficiency. Specifically, the need to re-confirm prior to out-of-county trips, a short pick-up window before being considered a “no-show,” and the lack of a Spanish-speaking staff-member at PCTA were mentioned.

Table 23 – List of Stakeholders Interviewed

Name	Agency	Description
Mr. Jim Wright, Mayor	Town of Tryon	Stakeholder
Mr. Neal Bebbler, President	Polk Vocational Services	Contracting Agency; Transportation Advisory Board Member
Ms. Karyl Fuller, Planner – Region C	Isothermal Planning & Development Commission	Stakeholder; Transportation Advisory Board Member
Ms. Susan Blair, Executive Director	Capital Senior Living – Laurelhurst and Laurelwoods	Non-contracting Agency
Mr. Miguel Roman, Owner	El Campesino Restaurant	Stakeholder; Business Owner
Mr. Marche Pittman, Interim County Manager	Polk County Government	Stakeholder; Transportation Advisory Board Member
Mr. Robert Williamson, Interim Executive Director	Polk County Economic Development	Stakeholder
Ms. Laura Lynch, Director	NC Division on Aging – Region C	Contracting Agency
Ms. Lou Parton, Director; Ms. Angel Berman, Medicaid Transportation Coordinator; Ms. Calan Halford, Work First Transportation Coordinator	Polk County Department of Social Services	Contracting Agency; Transportation Advisory Board Member
Ms. Janet Sciacca, Executive	Carolina Foothills Chamber	Stakeholder

Name	Agency	Description
Director	of Commerce	
Mr. Mike McCue, President	Kangaroo Products	Stakeholder; Business Owner
Mr. Mike Melton, Exceptional Children Director	Polk County School System	Contracting Agency

Interviews with Contracting Agencies

Polk Vocational Services, operating from 8 AM until 4 PM on weekdays and located in a Columbus industrial park off NC Highway 74, currently has 20 employees who rely upon PCTA for their transportation to and from work. PCTA operates six routes to accommodate the workers, most who are Polk County residents and live in close proximity to Highway 108. Polk Vocational does have one eight-passenger van that it uses to transport an out-of-county program participant, but it has budgeted approximately \$3,250 per month to compensate PCTA for its services. This does not include additional funds paid for special events transportation. Since approximately 15 percent of the clients require lift-equipped vehicles, PCTA is the recognized provider of the agency. The President has of late received some complaints regarding the service; however, the concerns have been overshadowed by the fact that PCTA is trying to be more cost-effective and is optimizing the use of its vehicles. As a long-standing member of PCTA's Transportation Advisory Board (TAB), the President is also pleased that it is becoming more effective and is more aware of the actual costs to provide transportation within the County.

Polk County Department of Social Services is also reliant on PCTA services since no private transportation provider operates in the county. Of the 400 to 500 current clients, approximately 150 receive direct reimbursement for transportation. The department has five vehicles assigned to it that social workers operate when required. The implementation of new operating policies and procedures by PCTA has created some challenges for DSS and its Medicaid clients, even though DSS Staff understand the changes are necessary for the transportation system to be more cost-effective, more productive, and to meet the increasing demands for service in the county. One example is that PCTA now waits only two minutes upon arriving for a pick-up. If the rider does not come out for the ride within the two minutes, the vehicle can and will depart; thus, a 'No Show' incident is incurred. Another example is that DSS clients must re-confirm their out-of-county transports no later than 10:00 am the day before the scheduled trip. If this confirmation is not made, PCTA cancels the trip.

The Medicaid Transportation Coordinator has been in her job position for less than a year and has established a good working relationship with PCTA's Administrative Assistant (the position responsible for billing) and the providers' Schedulers. The aforementioned persons are working together to automate PCTA's operations, which will benefit DSS and its clients; but the undertakings have not been without some glitches and resulting errors.

DSS Work First program has between 15 and 20 client applications every month. The number of employment opportunities, particularly dayshift work, in the county is limited; thus, the Work First program could benefit greatly if PCTA offered more service, such as extended hours into the evening and on weekends, coordinated trips with neighboring counties, and/or a deviated fixed route.

The **Exceptional Children program for Polk County School System** contracts PCTA to transport students with special needs who have no transportation alternative. The Director, employed with the county for not quite two years, has seen the same number of program participants that existed before his

employment: three to four students each school year, with students attending Tryon Elementary or Polk Central Elementary (located in Columbus). PCTA is compensated \$1.00 per trip for a shared ride and \$1.35 per trip for unshared trips. The transportation provider is used not only because of the lifts on its equipment but in instances where a school system vehicle is unable (road conditions making maneuverability difficult) to make the transport. The Director said that in his short tenure he has established a good working relationship with PCTA Staff and that the services have been excellent based upon the fact that no complaints from either the teachers or principals have been received.

The aging population of the County is represented as a multi-county region, **NC Division on Aging – Region C**, and the administrator and her staff have offices located at the Isothermal Planning Commission’s building in Rutherfordton, NC. The Division on Aging region includes not only Polk County but also McDowell, Rutherford, and Cleveland Counties. With regards to meeting the elderly populations’ transportation needs, PCTA is said to be the most responsive provider. Without fail, it applies for block grants which help fund the service costs and ultimately afford more rides to the senior-focused programs, such as outings sponsored by the Senior Centers in the community. The administrator knows that PCTA transports Polk County citizens to medical appointments, the two Senior Centers, and grocery stores for personal needs. The fact that the County subsidizes PCTA’s operations with funds indicates that the county commissioners recognize that transportation is a life-sustaining service to senior citizens that also benefits the entire community.

Interviews with Other Stakeholders

Kangaroo Products is a privately owned business that has thirty employees and operates a single day shift on weekdays. The President and Owner knows all his employees and is keenly aware of their personal circumstances, particularly when lack of dependable transportation adversely affects the employees’ ability to actually get to the worksite and/or when the employees are unavailable to work certain hours because there is a shared vehicle in the family. The President lives in Buncombe County (Asheville) where a fixed bus route exists; he thinks that the Highway 108 corridor between Tryon and Mill Spring is conducive to consideration of transportation service. He contends that there are unmet transportation needs in Polk County, specifically with low income (Ashley Meadows Apartment Complex, Ridge Oak Apartment Complex, and Fox Mountain Road in Columbus cited as examples), elderly (Highwood Apartments), and Hispanic populations (modular homes off of 108 near Highway 9 South) that reside just off of Highway 108. Kangaroo Products is located on this same highway (immediately after exiting Highway 74 and headed into Columbus), and employees have expressed an interest in having bus service to get to work, especially during inclement weather. The President also thinks that governmental officials can be convinced to support a fixed route bus service because, in the past, they have supported other organizations that have benefited the community (referencing a ‘save’ of an elderly day care center that was subject to closing without the county’s financial support).

While the Capital Senior Living communities, called **Laurelhurst and Laurelwoods**, have their own 13-passenger minibuses and sedan for transporting residents, the Executive Director said that some utilize the services of PCTA when the properties’ vehicles are not available or running. One resident takes PCTA multiple days a week to the senior center. Another resident, who is mentally challenged, uses PCTA every weekday to travel to Polk Vocational. However, transportation requests beyond those offered by the administration are fulfilled by residents’ family members. Occasionally, the communities’ vehicle driver will

provide transports at a charge of \$15.00 per hour, normally to either the Asheville or Greenville/Spartanburg airports.

The administrator said that the trend is for senior adults to remain in residence at their homes until it is absolutely necessary to relocate to a senior living community. Laurelhurst and Laurelwoods both have vacancies at the time of this writing; it is expected, however, that as retirees relocate to Polk County, all units will be filled. PCTA fulfills a much-needed service to the community when a senior can no longer operate his/her own vehicle and a family member is unavailable. The administrator knows that PCTA is reliable and safe and recommends the service when transportation needs not be met internally.

The Executive Director of **Carolinas Foothills Chamber of Commerce** has lived in the community since 2006. She personally knows two PCTA employees and sees the vehicles daily. She said that she has heard nothing but good comments regarding the service that she recommends to visitors at her office; therefore, she makes referrals to callers inquiring about using the PCTA service. When asked if she knew who was eligible to ride, she quickly responded, "It's for everyone's use, not just the poor or persons who don't own a car." She added that PCTA has marketed the service as a general public transportation. To that end, she would recommend that "a regular route with signage designating where the bus stops" would be beneficial, especially to tourists and new residents. Having knowledge of Tryon International Equestrian Center's (TIEC) activities – both current and those planned for the future – the Executive Director sees an imminent need for enhancing PCTA's existing service and possibly providing a shuttle bus from the Center to the County's towns on Sunday evenings and Mondays. This request was made known to her by the Director of Sales for the Center because the aforementioned days and times are when the workers of the horses are off-duty and would like to spend time away from the worksite and stables.

The Executive Director also envisions that more local businesses, specifically in the hospitality industry, will be created and that employees could benefit from a more robust transportation service. One such new business that has evolved from TIEC is a limousine company called 'LimoZen'. The owner has been in the truck and trailer sales industry for several years and has seen the niche to become a private transportation provider to service the patrons and visitors of TIEC. The Executive Director thinks that this is just the start of other small businesses that may benefit from the presence of the horse shows.

The Interim Executive Director of the **Polk County Economic Development Department** is focused on promoting businesses that align with the opportunities presented by TIEC's presence in the County. Transportation for the general public is going to be necessary, and the Executive Director hopes to involve PCTA as the site on Pea Ridge Road continues to be built. He thinks that a shuttle from the Center to Columbus and other neighboring towns would be utilized by the Center's workers while also affording a transportation alternative for Polk County residents to travel to work at the Center. As of this writing, 500- to 800 jobs have been filled by the under-employed and unemployed residents of the region.

Government officials are fully cognizant that transportation needs are sorely needed by the unemployed and elderly which is why they have continued to support funding for PCTA. The **Mayor of the Town of Tryon** contends that travels to TIEC and other major employment centers (he specifically named Hendersonville and Spartanburg) must become part of the strategic plan and visioning of local officials. The Mayor said that collaboration will have to occur on a regional basis, and not be dictated by county or state borders. He adds that there are populations of black and Hispanic low-income individuals that can

benefit from the employment opportunities at TIEC, and that transportation should not be a barrier to persons who want and are willing to work.

Public Workshops

VHB facilitated two forums with the general public during the study in order to provide general information on existing service and solicit comments, and feedback on recommendations for future transit services and needs.

The two public information sessions were held on Saturday April 18, 2015 at the Columbus Tailgate Market and Monday April 20, 2015 in front of the Bi-Lo supermarket in Columbus. At both events, a PCTA bus was parked adjacent to the booth to enhance its visibility. Consultant staff manned a booth at both events that included two poster boards of Polk County transit needs, existing PCTA services, and service recommendations. Participants were able to provide input and feedback directly on the poster boards and were asked to fill out a comment sheet. Consultant staff conversed with over one hundred individuals, and received forty completed comment sheets.

The overall purpose of the event was to:

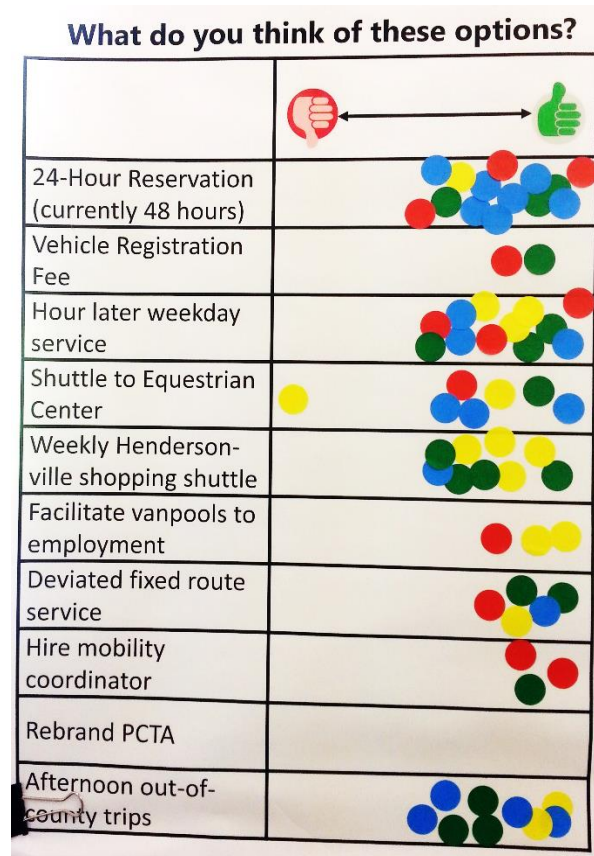
- Introduce the transit plan study to the public
- Inform the public about the existing services
- Obtain public comments, concerns, and ideas
- Obtain feedback on recommendations



Summary of Results

Consultant staff conversed with over one hundred individuals, many of whom provided verbal feedback and opinions or weighed in on recommendations on the poster boards. In general, people liked most recommendations, as shown on Figure 27, and most of the deviated fixed route stops they mentioned were already included in the draft map. Several expressed a desire for more stops in the Lynn vicinity.

Figure 27 – Forum Participant Opinions on Recommendations



Forty comment sheets were received from forum participants. The comment sheet and results are included in Appendix D – Public Forum Comment Sheet. Much like the passenger survey results, the community is very supportive of PCTA and proud to have the service available in Polk County, whether they use the service or not. Several mentioned that they hope service is never reduced or faced with budget cuts, as PCTA is an asset to the community. Over three fourths of respondents were aware that any Polk County resident is eligible to ride PCTA, as shown on Figure 28. Roughly one fourth of respondents use the service at least occasionally, as shown on Figure 29. When asked what would encourage them to try PCTA or make more trips using PCTA, the highest number of respondents said that “Better schedule and information available,” “Later weekday service,” “Saturday service,” and a “Deviated fixed route” would encourage more trips, as shown on Figure 30. Over three fourths of respondents stated they would at least occasionally used a deviated fixed route service, as shown on Figure 31.

While most participants were aware that anyone can use the PCTA service, many expressed that they weren’t sure who to call or how to go about booking a trip with PCTA. A Mobility Coordinator would be able to improve marketing of PCTA services to better inform county residents. Respondents were enthusiastic about the prospect of a deviated fixed route, stating that the community would use the service and it would be good for teenagers, one-car households, college students, elderly, medical appointments, and more timely pickup and drop-off for doctor’s appointments. Respondents most often stated they would consider using PCTA for shopping, medical trips, and work/volunteering. Nearly all respondents were supportive of plan recommendations, particularly Saturday service, a 24-hour reservation window, and later afternoon/evening service. Some respondents suggested that more trips should be targeted to tourists, support groups, education, and the general public.

Figure 28 - Before today, were you aware that any Polk County resident can ride PCTA?

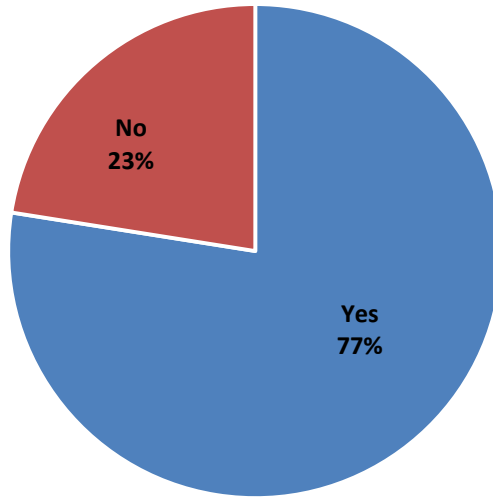


Figure 29 - How frequently do you ride PCTA?

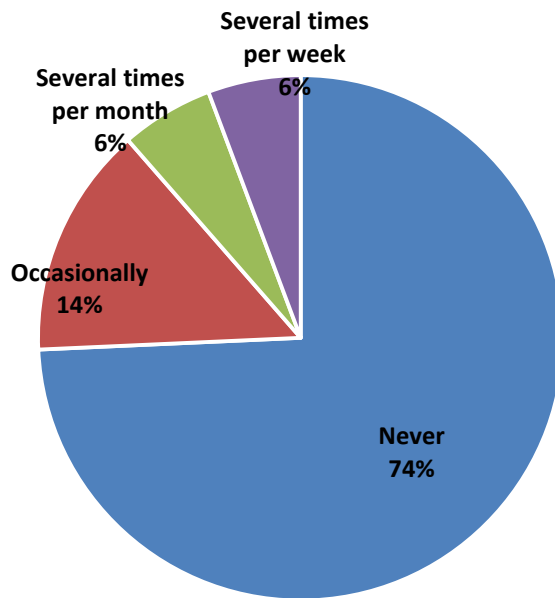


Figure 30 - Which of the following would encourage you to try PCTA or make more trips using PCTA?

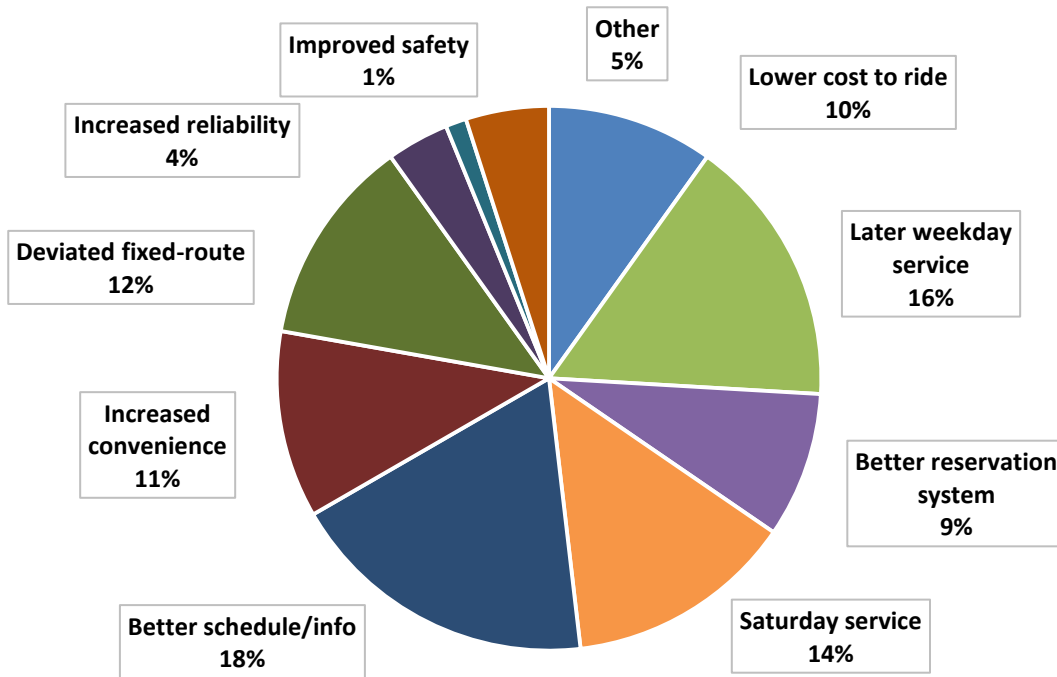
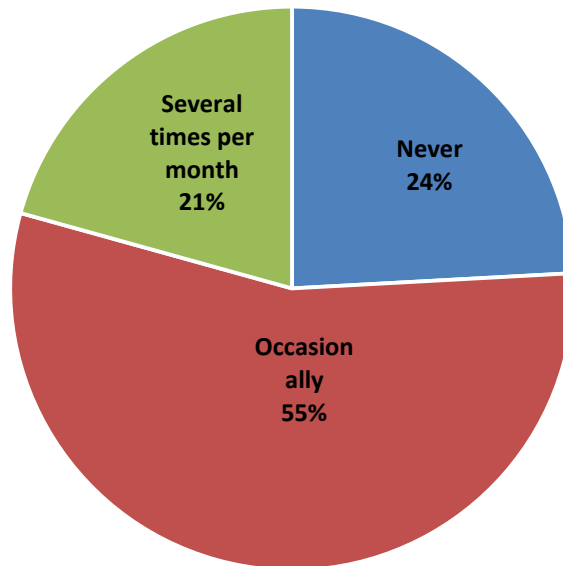


Figure 31 - PCTA is considering a deviated fixed route between Tryon, Columbus, and Mill Spring. How often would you use this service?



9. Recommendations

A key focus of the recommendations is to identify growth opportunities the PCTA system, while improving the efficiency and effectiveness of service. A primary recommendation for growth is to expand the number of RGP trips, employment trips, and trips for those who are not transit-dependent, including trips to shopping, education, recreation, special events, and other activities. Everyone in the county should know that they have an option to take PCTA wherever they want to go. The recommendations of this plan strive to increase ridership and system performance with a focus on policies, marketing and outreach, service expansion, and regional coordination. Some major recommendations include hiring a Mobility Coordinator, rebranding the service, extending afternoon service hours, adding Saturday service, implementing a deviated fixed route, reducing the reservation window, expanding the Hendersonville shopping shuttle, providing service to the Tryon International Equestrian Center (TIEC), increasing vanpool services, implementing billing changes, enhancing technology, investigating a new transit facility, and pursuing other capital needs.

The service alternatives that have been developed were selected for their ability to address identified needs. Some of these needs have been identified in previous studies, including the Isothermal Region Locally Coordinated Plan (LCP) and ITRE's Performance Plan. Others have been developed through analysis, rider surveys, and stakeholder interviews conducted for this study, public forums, as well as conversations with PCTA staff. The LCP provided numerous recommendations for Polk County, many of which are congruent with the recommendations of this plan. These recommendations include:

- Greater regional coordination
- Later service
- Weekend service
- Improved service to employment
- A deviated fixed route between towns
- Increased vanpool and rideshare
- Non-traditional partners, such as church groups, non-profits, and taxis

This five year plan has also studied the populations and transportation needs of Polk County; these needs have been documented in the rider surveys and this report. This study has identified expanding service beyond medical and human service agency trips as an important goal, especially providing more RGP and employment trips. The service alternatives seek to expand PCTA's services to these employment and general public riders while enhancing areas of unmet needs and ensuring core service is not diminished.

Administration and Management

PCTA Mission

The mission of PCTA, based on discussions with the agency and the published mission statement on their website, is to enhance human service and public transportation in the Polk County Community by providing service that is "efficient, safe, reliable, and convenient." These goals and the keywords shown

below, which were also pulled from the mission statement, were at the heart of the development of recommendations for PCTA.



Policies

The current policies and procedures of PCTA were analyzed based on system performance, efficiency, transparency, and customer service. These policies need to be made clear and available to the public, and as they are updated, it should be communicated to the community via updates to the website, brochure, and social media, if applicable. At times these goals and policies may be contradictory, which presents a challenge. Some of the policies reviewed include:

- Confirmation for out-of-county trips
- Reservation window
- No-show and cancellation policies

Confirmation Policy for Out-of-County Trips

From interviews and passenger surveys conducted, many felt that the requirement to call and reconfirm out-of-county trips is onerous to the customer and may limit the number of trips provided. This must be balanced by the fact that a no-show for these trips is quite expensive, as vehicles and driver time have been allocated for these lengthy trips.

Recommendation: It is recommended that this policy be maintained; however, it could be possible to instead reach out to these customers for confirmation, either manually or via an automated phone system, text message, and/or email based on what is most convenient to the customer. The cost of an automated system could be shared with neighboring transit agencies, with a centralized database for out-of-county

trips. This could be funded through a Veterans Transportation and Community Living Initiative (VTCLI) grant, which supports veterans who must often travel long distances to receive the health care they need. The National Rural Health Association (NRHA) estimates that rural residents must travel an average of thirty miles to reach their primary health care provider, and for veterans the average distance is more than sixty miles to access Veterans Health Administration (VHA) facilities. Advanced technology that can help lift barriers for veterans needing health care transportation would be eligible for these grants.

Reservation Window Policy

The current reservation policy requires scheduling two business days in advance for in-county trips and five business days in advance for out-of-county trips.

Recommendation: It is recommended that the policy be changed to 24 hours for in-county trips. Currently, most trips provided by PCTA are reserved well in advance of two business days or follow a regularly scheduled subscription route. Allowing reservations 24 hours in advance of passenger trips will encourage additional ridership and should not excessively inconvenience PCTA scheduling. The out-of-county reservation requirement could be modified by having published set days for which service is provided to specific destinations and coordinating with neighboring transit agencies to provide these services. This is discussed further in the Regional Coordination section of this document.

No-Show and Cancellation Policies

Upon arrival to pick up a passenger, PCTA has a policy to wait for five minutes before departing and considering the passenger a "no-show." However, some passengers mistakenly believe that this window is two minutes. The "Requirements of Passenger" document posted on the website states that the bus will honk and wait one minute.

Recommendation: The wait-time policy should be made clear and publicly available, and should be consistently followed by all drivers and dispatcher to avoid any confusion. Based on surveys completed by 134 paratransit providers across the United States for TCRP Synthesis 60, the average no-show rate is 2.9% of passenger trips. PCTA is slightly higher at 3%, and has twice the percentage of no-shows compared to its peer agencies (3% versus 1.5%). A clear, consistent policy would help rectify some of these no-shows. PCTA should begin recording more detailed information on cancellations and no-shows. The documentation of passenger no-show and cancellation information should be automated to the greatest extent possible using existing software, and appended to existing passenger information databases. Details recorded could include:

- Passenger no-show:
 - Driver is on time
 - Driver is late
- Passenger cancellation on driver arrival due to:
 - Unpreventable cause (e.g. illness/emergency)
 - Preventable cause (e.g. patron forgot to cancel)
 - Undetermined cause (patron cannot give a reason)
- Address error by:
 - Patron

- Reservationist
- Dispatcher
- Unknown
- Document no-show steps taken (arrival and departure, attempts to contact patron, etc.)

PCTA could also institute some additional practices to discourage no-shows, such as leaving a card or door hanger stating trip was missed or requiring patrons with repeated no-shows to reach out at some set interval prior to service.

Budgeting

Since 2012, PCTA has reduced hours for many drivers to comply with the Affordable Care Act, which considers employees with an average of 30 or more hours per week or 130 or more hours per month to be considered full-time if they work more than 120 days per year. Full-time drivers receive benefits, which include health care coverage. While the reduction in driver hours has reduced costs related to driver salaries and benefits, as shown on Figure 32, it has potentially degraded the level of service and number of transit trips by reducing scheduling and routing efficiency and requiring excessive service denials. While this could be somewhat remedied by hiring additional part-time drivers, the turnover rate for part-time drivers is substantially higher and requires marketing, training, drug testing, and other new-hire costs. Given these costs combined with the lower driver efficiency of inexperienced drivers, it is preferable to hire full-time drivers with a longer expected tenure. PCTA full-time drivers currently have an average tenure of more than 13 years, compared to just three years for current part-time drivers.

While expenses have decreased over the past four years, revenue has decreased by a larger amount, creating the largest budget deficit of these four years, as shown on Figure 33. This is largely due to a decrease in human service agency contract revenue, farebox/RGP revenue and donations, and some fluctuations in Rural Operating Assistance (ROAP) funding from the state. The first thing necessary to correct this increasing deficit is to rectify the discrepancy between cost and revenue per trip. This can be accomplished through service efficiencies to reduce the cost per trip while correcting billing rates to more accurately reflect actual costs. As it currently stands, a growth in ridership would result in a larger annual budget deficit. Once the billing rate is more accurately set, expanding ridership while improving passengers per service hour will result in a lower cost per trip and increased revenue.

Figure 32 – Breakdown of Costs over Time

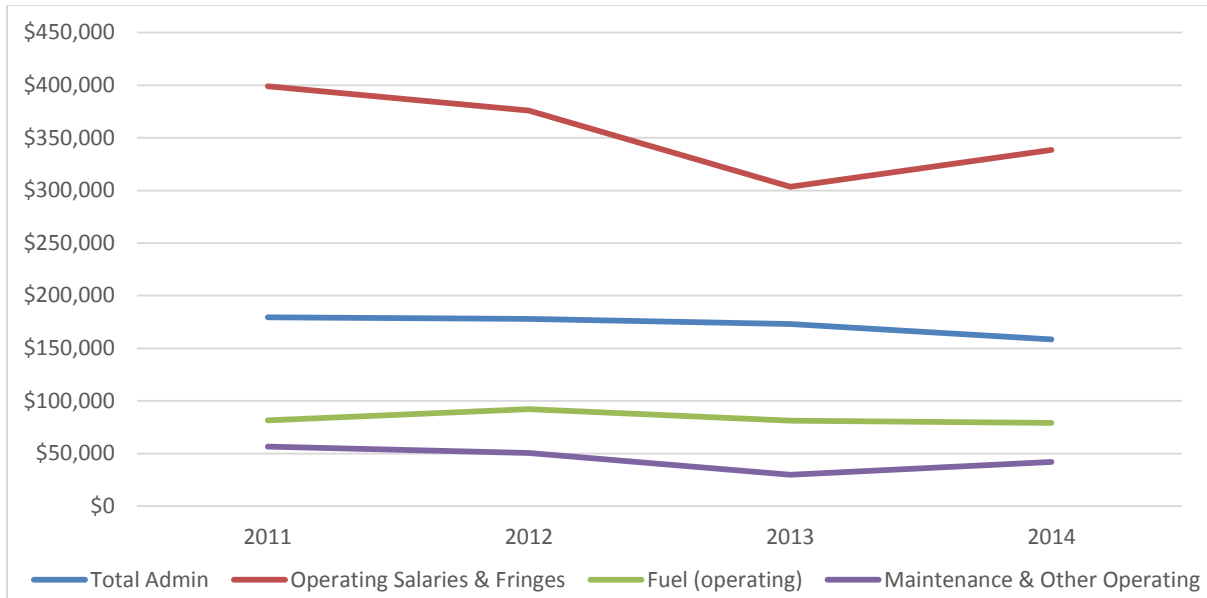
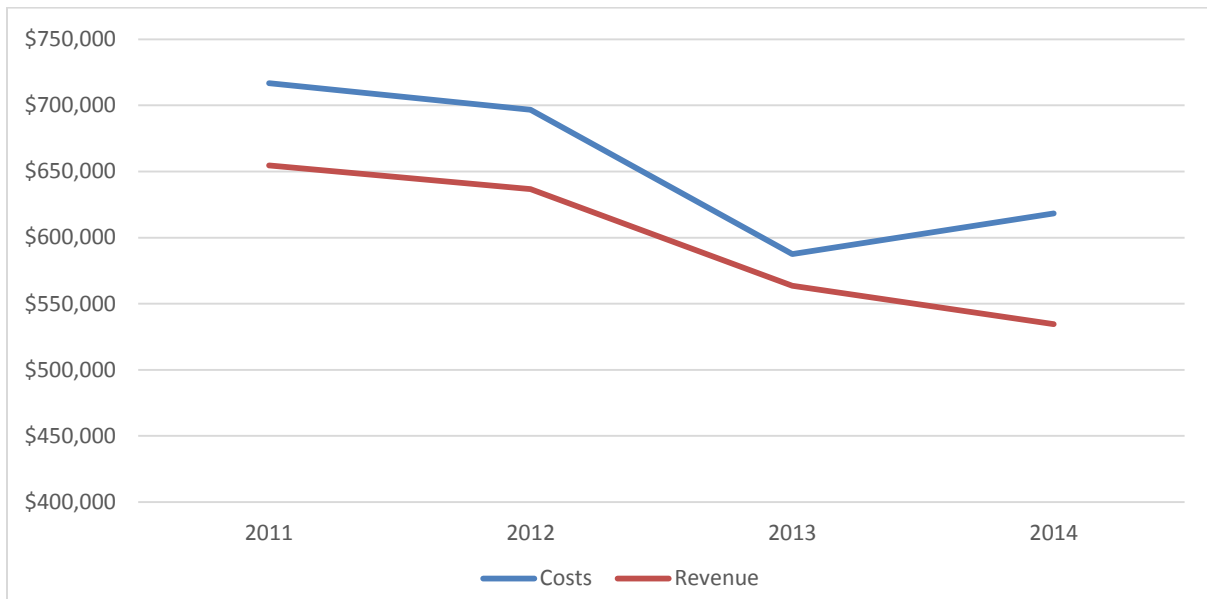


Figure 33 –Costs versus Revenue



Source: PCTA 2011-2014 OpStats

Billing

Administrative and other fixed cost are covered by CTP grant funds from federal Section 5311 and state CTP contributions. Only in rare instances are these funds to be used for operating assistance. The fully allocated cost to provide service is thus based on total costs minus fixed costs, which are covered by CTP grant funds.

Recommendation: The fully allocated cost per trip, service mile, or service hour should be the target when billing for services rendered to cover all operating costs, plus a program and capital reserve. In FY 2014, PCTA had a fully allocated cost per trip of \$11.96, excluding any money set aside for capital funding or program reserves. Inclusive of capital and a 5 percent program reserve, the cost per trip is \$12.83. This

should be the target average billing rate per passenger. This will enable PCTA to accrue a 25% program reserve over five years, per NCDOT guidelines. The current costs of service with CTP grant funds discounted is shown in Table 24.

Table 24 – FY 2014 Fully Allocated Costs of Service

	Per Hour	Per Mile	Per Passenger
Base Rate	\$27.036	\$1.456	\$11.962
Rate with Program Reserve	\$28.388	\$1.529	\$12.560
Rate with Capital Reserve	\$27.641	\$1.489	\$12.229
Rate with Program and Capital Reserve	\$28.993	\$1.562	\$12.827

As shown in Table 25, for billing purposes, trips have been broken into two types of trips, each with two service geographies, which are recommended to have unique billing rates.

Recommendation: The fares for RGP trips should be set to recover at least 10% of the cost of each trip, with the remainder provided by ROAP funding. Agency contracts and other trip rates should be set to cover the average cost per trip. Currently, revenue from agency contracts only covers around two thirds of the cost of these trips. Many of these agencies billed on a per service mile rate are billed at a rate lower than the average cost per service mile of \$1.56. Similarly, many agencies are being billed on a per trip basis, which is much lower than the average cost per trip of \$12.83. The Department of Social Services is the only agency that appears to be covering the average cost of service for their patrons.

Table 25 –Types of Billing Rates

	RGP	Agency Contracts and Other Trips
In-County	A set rate (fare) for service anywhere in the county	A set rate for anywhere in the county by billing zones
Out-of-County	Fixed rate (varies depending on location)	Fixed rate (varies depending on location)

Agency Contract Trips

As previously discussed, PCTA’s current billing methods and rates, as shown in Table 26, can be confusing to passengers and human services agencies, difficult for these agencies to budget for, and more complicated for PCTA to track and bill. Furthermore, the current billing rates are not covering the costs to provide these trips. A flat-rate or zone-based billing system for in-county trips would help simplify budgeting, billing, and fare collection.

Table 26 – Current PCTA Agency Billing Rates

Program	Passenger Fare	Program Rate
Per Trip Rates		
Medical Trips – III-B HCCBG		\$6.55/Trip
Shopping Trips – III-B HCCBG		\$5.65/Trip
Board of Education		\$1.00/Trip
Senior/Disabled Group Trips	\$50.00/Trip	
Polk Vocational Trips		\$4.10/Trip
Polk Vocational Group	\$50.00/Trip	
Ride Along	\$2.00/Trip	
Farebox	\$1.00/Trip	
Walmart	\$2.00/Trip	
Airport – Charlotte	\$100.00/Trip	
Airport – Asheville or Greenville-Spartanburg	\$50.00/Trip	
Veteran Reimbursement	\$12.50/Trip	
Meeting Place	\$3.00/Trip	
Per Mile Rates		
Department of Social Services		\$2.85/Revenue Mile
ROAP – Elderly and Disabled		\$1.35/Service Mile
Rural General Public		\$0.135/Service Mile
Other Rates		
ROAP – Employment Assistance	\$6.75/Day	
Local Government Employee Trips		Gas Only

Flat-Rate Billing System

One option for simplifying billing is to introduce a flat-rate fee per passenger trip for agency trips within the county. A flat-rate per passenger trip attempts to solve the billing issue by the simplest means possible. Agencies would be billed the same amount for an in-county ride, regardless of distance or the presence of other passengers. This has the advantage of being very easy to budget for and bill. However, it also means that agencies with lots of short trips or trips that typically have multiple riders would likely end up paying significantly more because on a per mile basis these trips are currently relatively inexpensive. PCTA would bill agencies an amount that is based on the total cost per passenger. Because this method encourages the transit agency to group trips and put more passengers on each vehicle, there could be efficiencies realized that would lead to cost savings which would hold the rate down. Due to the varied terrain and distances of agency trips within Polk County, it is not recommended that PCTA pursue this billing option for human service agencies.

Zone-Based Billing System

This method would be similar to the flat-rate billing system in that there is one rate charged per trip regardless of how many passengers are traveling together; however, this method adds a component to account for distance traveled. Under a zone-based system, Polk County would be broken down into zones with different, but transparent, fares for trips in and between zones. The advantage of this approach is that it is more predictable and simpler for agencies to understand, which aids in budgeting, while creating a pricing system that is more equitable than a simple per passenger, flat-rate system. Table 27 shows the pros and cons of zone-based billing compared to flat-rate billing and the current method of billing based on service miles. With zone-based billing, some human services organizations could see significant

increases or decreases in billing, depending on the types of trips taken by their clients. For instance, short trips and/or trips with a large number of passengers traveling together would be billed at a higher per-passenger rate using zone-based billing. Similarly, longer trips and/or trips with fewer passengers traveling together would be billed at a lower per passenger rate using zone-based billing. In this way, there is an incentive for PCTA to improve efficiency by utilizing more effective routing and grouping of passengers.

Recommendation:

In-County Trips

A zone-based billing system is recommended to simplify budgeting, billing, and fare collection, while still considering service miles as a pricing factor. Figure 34 shows a potential zone structure for Polk County using three zones and three billing rates. Trips would be billed at a rate based on the highest zone for either the beginning or end of the trip. Thus, trips beginning and ending in Zone 1 would be charged a Zone 1 fare; trips beginning and/or ending in Zone 2 (but not Zone 3) would be charged a Zone 2 fare; and trips beginning and/or ending in Zone 3 would be charged a Zone 3 fare. The increased pricing tiers would account for passenger miles, as well as non-revenue (deadhead) miles traveled. A potential fare structure could be to charge \$5 for a Zone 1 trip, \$9 for a Zone 2 trip, and \$12 for a Zone 3 trip. An analysis of existing trips from 2014 shows that these billing rates would result in a revenue neutral system.

Figure 34 – Potential Billing Zones

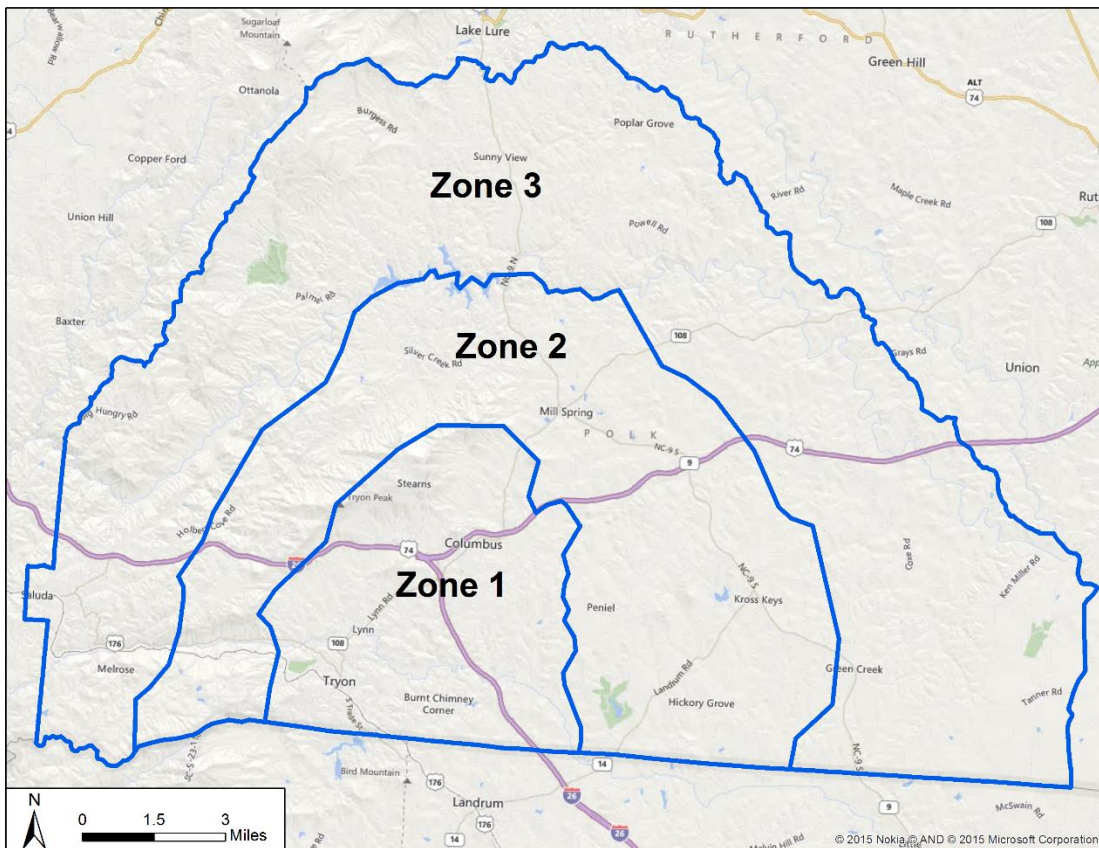


Table 27 – Agency Billing Methods

Billing Method	Pros	Cons
Service Miles	<ul style="list-style-type: none"> • Currently in use • Rate charged tied closely to true cost of service received 	<ul style="list-style-type: none"> • Hard to budget for trips
Flat Rate	<ul style="list-style-type: none"> • Easy to use and budget for • Encourages grouping of trips 	<ul style="list-style-type: none"> • Rate not necessarily reflective of cost of trip • Short trips will pay more vs. existing billing method
Zone	<ul style="list-style-type: none"> • Easy to use and budget for • Encourages grouping of trips • More equitable than flat rate 	<ul style="list-style-type: none"> • More complex to set up • Short trips and/or trips with multiple passengers might pay more vs. existing billing method

Out-of-County Trips

For out-of-county trips, a flat-rate system for specific destinations should be developed at a rate that would cover the entire cost of providing these trips. The rates shown in Table 28 were developed based on the road mileage from the PCTA office in Columbus to the center of each destination at a rate of \$1.56 per mile. An analysis of existing in-county and out-of-county trip origins and destinations shows that these out-of-county rates in conjunction with the previously described in-county zone rates would result in a revenue-neutral system.

Table 28 – Out-of-County Agency Billing Rate

Town/City	Rate per Trip
Landrum	\$12
Hendersonville	\$30
Rutherfordton	\$30
Asheville	\$60
Spartanburg	\$45
Greenville	\$75
Shelby	\$60
Marion	\$60
Gastonia	\$90
Hickory	\$110
Charlotte	\$120

Rural General Public Fares

The current policy of billing RGP passengers for trips that are not along current subscription routes at a per-mile rate has resulted in escalating payments in arrears. A flat-rate policy would simplify the fare and

require payment to be made upon entering the vehicle. This would reduce fare confusion for RGP riders and the burden of fare billing and collection for PCTA.

NCDOT will pay up to 90% of the cost of RGP service through ROAP funding from the state of North Carolina. However, the annual allocation is subject to state budgets and therefore funding fluctuates from one year to the next.

Recommendation:

In-County Trips

It is recommended that PCTA strives to recoup 15 to 20 percent of the cost of RGP trips. The current fare of \$1.00 recoups less than 8 percent of the \$12.83 cost per trip. A target fare of \$2.00 is recommended, which would recoup 16% of RGP trip costs. This fare increase should be implemented incrementally over the next five years, which will be detailed further in the implementation plan.

Out-of-County Trips

For out-of-county trips, a flat-fare should be charged by the destination and required immediately from the passenger. Costs were calculated for frequent out-of-county destinations based on distance to the destination at a cost of \$1.56 per mile. It was assumed that the passenger would pay 20 percent of this total cost, with the other 80 percent from ROAP funds. For example, Hendersonville and Rutherfordton are roughly 20 miles. With a cost of \$1.56 per mile, the resulting one-way fare for the passenger would be \$6. A similar calculation was used to develop fares for common destinations served by PCTA, as shown in Table 29. Airport trips are charged at a higher rate, as they often have only one or two passengers, and are more costly to operate than other out-of-county trips, which typically have larger groups of passengers.

Table 29 – Out-of-County RGP Fares

Town/City	Fare
Landrum	\$3
Hendersonville	\$6
Rutherfordton	\$6
Asheville Airport	\$50
Asheville	\$12
Spartanburg	\$9
Greenville-Spartanburg Airport	\$50
Greenville	\$15
Shelby	\$12
Marion	\$12
Gastonia	\$18
Hickory	\$22
Charlotte (City, Airport, or Amtrak)	\$100

Reserves and Local Financial Assistance

PCTA has been operating for at least the past four years with no annual reserves. The county currently budgets roughly \$30,000 dollars annually to PCTA and has typically provided additional funding to make up for budget shortfalls. While the county is very supportive of PCTA services and has been amenable to this in the past, it is desirable to have a predictable, consistent budget and county funding. PCTA could work with the county to develop a higher agreed-upon annual budget, but it is also important that PCTA close this budget gap by pricing services at a higher rate to reflect actual costs of services. The higher rates should also include capital and program reserves, to have a “nest egg” to fund services as budget shortfalls arise, given fluctuations in funding sources from the state and others.

Marketing and Public Involvement

PCTA currently markets the service through newspaper advertisements, the county website, and the phone book. They also work with the Carolina Foothills Chamber of Commerce and other local organizations to spread the word through local events, such as the Chamber’s Business and Community Expo.

Recommendation: PCTA should consider additional advertising at events and places such as ball fields, concert venues, and any other places where advertising is welcome. In many cases, it may be possible to work with event coordinators for events such as the Blue Ridge Barbeque and Music Festival to provide free or reduced-cost advertising as a service to the community. PCTA should work with the TIEC to market transit services to existing employees and new employees, as part of their orientation. A Mobility, Marketing, and Outreach Coordinator, henceforth referred to as “Mobility Coordinator,” is recommended as a new full-time staff member. This position would be pivotal in marketing roles and many others to expand the visibility of PCTA in the community.

Title VI Plan

PCTA currently has a Title VI Plan that was approved by the County Board of Commissioners in 2010. The latest Title VI circular was updated in 2012, and PCTA has not yet updated their Title VI Plan to reflect some of the changes.

Recommendation: PCTA should update their Title VI Plan to reflect the 2012 changes, which include a four-factor analysis to ensure effective communication with the local population of persons with Limited English Proficiency (LEP), as well as other new requirements that need to be addressed in the PCTA Plan. The most recent Title VI Circular can be found online at http://www.fta.dot.gov/documents/FTA_Title_VI_FINAL.pdf.

Rebranding

It is recommended that PCTA rename and rebrand itself to better market and promote the service, improve visibility, and increase ridership. The renaming and rebranding could reflect the rich and unique culture, history, scenery, climate, and pride in the county. There are numerous reasons to prioritize rebranding of PCTA, which would provide benefits to the system as discussed below.

The current use of “Authority” in the name Polk County Transportation Authority is not accurate, as a transit authority denotes a distinct government or chartered corporate entity with capabilities to acquire rights-of-way, impose taxes, and otherwise operate independently from the cities and counties that it is a part of. PCTA has encountered some issues in grant applications and other documentation due to having “Authority” in the name. Thus, the renamed service should avoid the term.

PCTA is currently working with stakeholders to develop a deviated fixed-route system between Tryon, Columbus, and Mill Spring, mostly along NC 108. Bringing this new service online will provide an optimal time to rebrand PCTA service, not just for the new route but also for demand-response and other PCTA services. The transit vehicles could be wrapped in a design that stands out and emphasizes the new brand.

Often, many residents across North Carolina are unaware that Community Transit Systems provide transportation for everyone and are not limited to medical trips or specific user groups. While the stakeholders interviewed in Polk County are well aware that anyone can ride, many Polk County residents may not be. The new brand should emphasize that anyone can use the service.

PCTA has previously explored exterior bus wrapping as a source of advertising revenue. This would not be advisable during the rebranding and for some time following, as it would be confusing and the additional revenue would likely not offset the benefits of “self-advertising” the new brand. Advertising inside the vehicles is a potential option that could be further explored.

Website and Brochure

Improvements to the website and enhanced marketing should coincide with the rebranding of the service. The website should contain information in a visually appealing, eye-catching manner. The website should highlight the new brand and the PCTA mission; provide information on service options; reiterate that anyone can use the service; clearly spell out policies and the costs to take a trip in the county or to destinations outside of the county; provide contact and reservation information, and provide a simple, easy-to-understand map and schedule for the deviated fixed route. PCTA could also incorporate an online reservation form for passengers to request trips. PCTA should also provide similar information in a succinct, user-friendly brochure, which should be available for download from the PCTA website and distributed to businesses, employment centers, medical facilities, senior centers, and other community establishments, particularly those on or near stops along the deviated fixed route. PCTA should work with Polk County Economic Development to use this as a tool to highlight amenities within the county.

Service

The sections below describe service recommendations and potential expansion options that could realistically be implemented within the five year planning horizon, cost estimates to provide the services, and the funding sources that could be used to help pay for the potential service changes. An implementation and financial plan, with detailed costs, funding opportunities, and rollout schedule will be developed as part of the final report.

Service to underserved areas

Currently, there are cases where PCTA will decline to provide a trip, particularly to patrons residing in remote areas of the county, due to insufficient capacity to provide service. Service denials due to lack of vehicles, drivers, and/or trip type, such as a preference to not provide a one-passenger “taxi-like” service, should be avoided whenever possible. This will require additional driver hours and full-time drivers, additional vehicles, and improved service efficiency, particularly as PCTA service grows. For trips that exceed PCTA’s capacity or are requested for times outside of normal service hours, PCTA could contract with a local taxi company to provide these trips as long as the passenger is aware that the trip will be provided via a third party. The third-party taxi company would be required to meet PCTA’s standards of service, including drug policy and insurance.

Service denials often occur in areas where need, based on households with no vehicle, is highest, such as the Cooper’s Gap area in the northern portion of the county, which has the highest gap in need compared to the number of existing trips being provided by PCTA. Low density, limited vehicle availability, and few nearby commercial, retail, and employment options make this area especially vulnerable. This should be one focus area for marketing and outreach efforts. The Saluda area has a large gap in transit demand compared to supply. With a higher density of amenities and more vehicle availability, the trip demand in the vicinity of Saluda may be served by means other than transit and is less of a concern. PCTA should be especially cognizant of vulnerable, underserved areas and avoid service denials if at all possible.

Fleet

PCTA currently has 16 vehicles, with an additional expansion vehicle to be added soon. At peak, PCTA operates 14 vehicles. With the addition of the expansion vehicle, this provides three spare vehicles at peak service for a spare ratio of 21 percent. If the new vehicle is utilized for the deviated fixed-route service, they would have two spare vehicles, with a spare ratio of about 14 percent.

Recommendation: While this is an acceptable spare ratio, it is recommended that PCTA more efficiently utilize their existing fleet to limit the number of peak vehicles in service and improve overall operating efficiency. There are instances where vehicles are in service for just one to two hours at a time or there are large gaps in operation for an individual vehicle. PCTA needs to improve trip consolidation by combining multiple short runs or incorporating these trips into more of the established subscription routes. PCTA should also consider offering trips to some out-of-county destinations only on set days of the week to consolidate these trips and reduce vehicle and driver demand. At present, PCTA has a higher percentage of wheelchair passengers than its peers, but a lower percentage of vehicles that can accommodate these passengers. Any replacement vehicles purchased should be lift-equipped or wheelchair accessible to improve the fleet proportion of ADA/wheelchair accessible vehicles.

Vanpools

Many residents of Polk County travel significant distances to work, as far as 200+ miles daily roundtrip. Most of these trips are taken by driving alone, which is costly, stressful, and adds significantly to vehicle miles traveled, emissions, and traffic congestion. While these trips cannot be effectively served with transit, PCTA should assist in funding and coordinating potential vanpools. ROAP Employment Transportation Assistance Program (ETAP) funding can be used to fund up to 100% of the costs of

vanpools for low-income individuals. Once vanpools are established from Polk County to some of the larger employment centers, the pool of available jobs for those seeking employment can be broadened dramatically. Matching potential carpool and vanpool rideshares can be done via SharetheRideNC.org. It can also be coordinated through major employers, such as the TIEC. The employer can use employee addresses to assist in developing potential rideshares. Given limited funding availability and the significant costs of vehicles, fuel, and maintenance, PCTA should explore partnerships with large employers, such as the TIEC, not only to assist in coordinating rideshares, but to potentially provide funding assistance to employees who choose alternative commute modes, such as vanpools. Otherwise, the end-user cost for vanpools can be prohibitive to many individuals seeking employment.

Commuters to Charlotte could utilize CATS vanpool system that is in place. The CATS monthly cost per rider for a 7 passenger van is \$136.83 and a 15 passenger van would be \$94.50, assuming full vehicles. This would be an average monthly savings of \$200-\$300 per passenger compared to driving a single-occupancy vehicle.

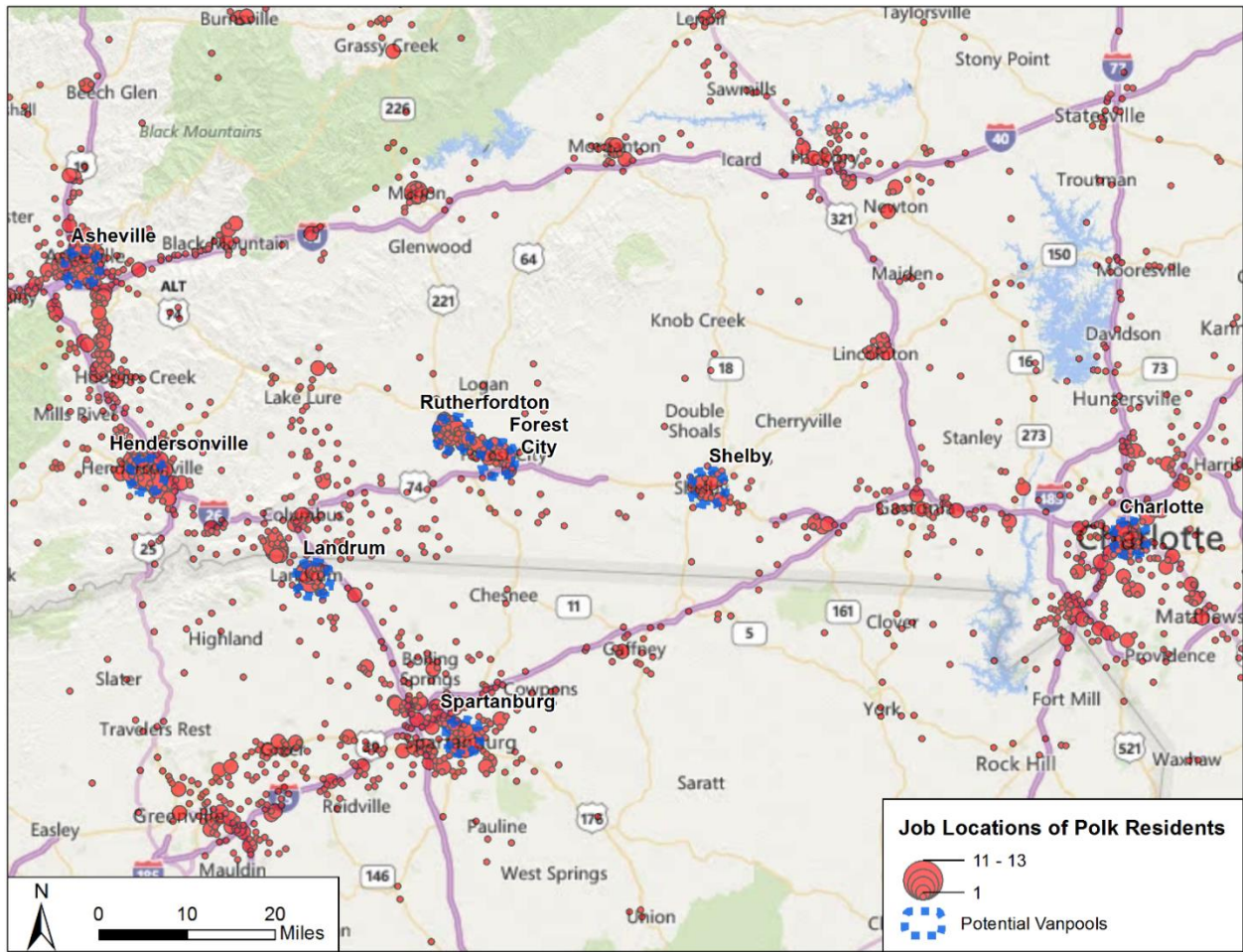
To streamline the pickup of passengers once a vanpool is established, “park and pool” parking lot locations should be implemented through formal or informal agreements with governments or a private office/retail establishment with excess capacity. This could also be located at an expanded PCTA office or in locations where transit vehicles are out stationed. For westbound vanpools, Saluda could be an ideal location. For eastbound vanpools, the Tryon International Equestrian Center (TIEC) could be an ideal location (if willing).

Data from the U.S. Census Longitudinal Employer-Household Dynamics (LEHD) database was used to analyze the employment patterns of Polk County residents. The largest clusters of employment for Polk County residents are Hendersonville, Asheville, Charlotte, Spartanburg, Rutherfordton, Landrum, Shelby, and Forest City. Each of these locations has at least 30 Polk County residents that work within a two-mile radius of roughly the town/city center, as shown in Table 30.

Table 30 – Potential Vanpools

City/Town	Employment in 2-Mile Radius Cluster
Hendersonville	98
Asheville	81
Charlotte	50
Spartanburg	44
Rutherfordton	43
Landrum	38
Shelby	34
Forest City	34

Source: 2011 U.S. Census LEHD



Source: 2011 U.S. Census LEHD

Technology Considerations

PCTA has requested funding to upgrade the existing phone system. The current system has two lines and will give the caller a busy signal if the two lines are occupied. It is recommended that the upgraded phone system include voicemail and multiple additional lines of service, with separate numbers for office personnel, scheduling, and billing.

Instead of requiring patrons to call to confirm out-of-county trips, an automated system could be implemented to reach out to patrons via phone, email, or text for confirmation of these trips. This could potentially be coordinated with neighboring agencies to share the costs of such a system.

The mobile radio system loses signal in certain remote areas of the county, largely due to the varied terrain in the county. Also, the radio can currently be heard by passengers in the vehicles or by anyone with a scanner. This is not just a nuisance to passengers; it can also be a major privacy concern. PCTA should explore the possibility of headsets for drivers, a new radio system that is encrypted, and/or a radio system with increased power, repeaters, and a lower frequency capable of longer range communications.

PCTA could potentially fund part of these capital expenses through Section 5310 grant funding or VTCLI grant funding. However, the costs for an improved phone system and a new or upgraded mobile radio

system would be substantial and would require a significant local match. PCTA could look to the county to provide the additional funding and/or include this in their capital reserve that is built up over time.

Feasibility of Advanced Technology

NCDOT currently mandates 300 daily trips to be eligible for advanced technologies, including advanced scheduling software and mobile data computers with automated vehicle locators. As of FY 2014, only 24 of 80 community transportation systems in North Carolina, less than one third, have the ridership to be eligible. PCTA had 161 average daily passengers in FY 2014 and passenger trips are projected to grow by four percent annually. The addition of the deviated fixed route system is estimated to add as many as 40 trips per day to the PCTA system. Additional ridership from service improvements, marketing, and recommendations for expanded service is estimated to add as many 20 daily passenger trips per day. This would result in approximately 260 trips by FY 2019. Thus, it is unlikely PCTA will be able to pass the threshold of 300 daily trips needed for advanced software and hardware for the foreseeable future. PCTA should maximize the utility of all capabilities of the existing TripMaker scheduling software, including billing features, to analyze opportunities to consolidate trips, improve scheduling, and ensure that manifests are updated in the software to reflect any changes in vehicles and drivers and adjust routes and schedules accordingly to maximize efficiency of all runs.

Expansion of Service Hours

PCTA can gradually begin to expand their service hours beyond 5:30 am to 5:30 pm. While service beginning at 5:30 am is typically adequate for most trips, many individuals require trips after 5:30 pm, particularly for return trips from employment to home, as well as other needs, such as shopping trips that may not be feasible during the workday. This expansion of evening service could be done incrementally over the course of the five year plan as ridership, capacity, and funding allows. Additional evening service was one of the most commonly requested service types from the rider survey, and added hours can be particularly beneficial to employment travelers whose work hours may make utilizing PCTA during the current service hours difficult. This service can be ramped up and expanded slowly so as not to tax existing administrative or capital resources. The cost of providing one additional hour of off-peak evening service (assuming 5 vehicles) is \$37,000. Administrative funding could come through Section 5311 funds; operating funding could come through the Rural Operating Assistance Program (ROAP).

Mobility, Marketing, and Outreach Coordinator

A Mobility Coordinator should be funded as a full-time position, with the goal of enhancing mobility for residents of Polk County, largely by helping PCTA improve service to existing customers and expanding the customer base to new users and user types. PCTA is doing a good job of providing service to its core customers, particularly human service agencies. A Mobility Coordinator would be able to make contacts and build new connections in the community to find new customers who would benefit from PCTA's services or whose mobility needs are not currently being met. This individual's responsibilities could include, but are not limited to the following:

- Marketing and growing the new deviated fixed route system
- Finding new funding mechanisms and partnerships, including assistance in grant applications

- Working to rebrand PCTA and improve marketing and outreach, including brochure and website development, service advertising, social media, and working with the local business community
- Coordinating work and recreational trips to the new Tryon International Equestrian Center
- Coordinating transportation with job opportunities
 - Vanpools/carpools
 - PCTA services
- Coordinating special event shuttles, such as for the Blue Ridge BBQ festival
- Ensuring that the transit needs are being met in areas where service may currently be deficient or there is low vehicle ownership/access
- Serving as a liaison to the Hispanic community in Polk County (Spanish speaking requirement)
- Analyzing subscription routes, previous passenger manifests, and other ridership data to determine potential service efficiencies, through improved routing, volunteer drivers, or other creative means
- Analyzing the potential to broker some services to another agency, such as taxis or LimoZen

Mobility management could be funded as a capital expense through a Seniors and Persons with Disabilities Program (Section 5310) grant.

Advertising on Vehicles

PCTA can also use vehicles for advertising. This can be done with advertisements inside the vehicles, on the sides of the vehicles, on the rear of the vehicles, or in a full wrap of the vehicles. External advertisements bring in more revenue but can be confusing for branding. Internal advertisements are most consistent with PCTA goals, but bring in less revenue.

Expand Shopping Shuttle

The current shopping shuttle goes to Wal-Mart and other shopping destinations in Hendersonville on the first and third Tuesday of every month. PCTA should expand this to a weekly service and brand it as a Hendersonville Shopping Shuttle to increase awareness that it serves more than just Wal-Mart. The current cost of this service is roughly \$3,000, and would double in cost to \$6,000.

Saturday Service

PCTA does not currently offer Saturday demand response service. This service option would provide Saturday service from 8:00 am until 6:00 pm. This service could be provided with no administrative staff present and would provide service for dialysis and other medical trips, retail and manufacturing jobs, and RGP leisure, shopping, and recreational trips. A skeletal, one-vehicle service could be operated for ten hours per day (8:00 am to 6:00 pm, for instance) for \$15,000 annually. There would be negligible capital costs since existing vehicles could be used. Saturday service could be funded through the former New Freedom program (formerly Section 5317), which is now incorporated into (Section 5310), to target individuals who might be homebound otherwise, allowing them to participate in employment or social activities. Using Section 5310 funds for operating assistance would require a 50 percent local match.

Service to Tryon International Equestrian Center

A strong partnership with the TIEC would be mutually beneficial to PCTA as well as the TIEC. This community asset provides an opportunity for PCTA to grow its ridership, while helping the TIEC expand their employment pool and providing services that benefit employees and visitors.

Shuttle Service

This service option would provide an option for visiting workers on equestrian teams to access Columbus or Tryon in the downtime following competitions on Sunday afternoons and Mondays. This could provide access to dining, retail, and recreational opportunities for the workers who don't have a car or would prefer not to drive, given they're unfamiliar with the region. This service would only operate on weekends when major competitions are present at the TIEC. The TIEC would need to be an instrumental partner in providing the service, helping plan the service and schedule, promoting the service, and potentially funding some or all of the costs. Additional funding could be some combination of a fare, Section 5310 funding, or county funding for economic development purposes. Shuttles could also be provided to concerts and events at the facility and marketed along with ticket sales or even bundled into ticket pricing.

Employee Service

With the TIEC expected to employ over 500 workers upon completion, it will become the largest employer in Polk County. Service to the new facility would provide employment opportunities to those who may not otherwise have access, broadening the potential pool of employees for the TIEC, expanding the number of employment trips provided by PCTA, and increasing the visibility of PCTA vehicles in the community.

Additional Full-Time Drivers

Prior to reducing driver hours in 2012 to comply with regulations for full-time employees as part of the Affordable Care Act, as many as nine drivers were working an average of 30 or more hours per week. Presently, there are only four budgeted full-time drivers, however the number of part-time drivers has increased. A higher reliance on part-time drivers has inhibited PCTA's ability to efficiently structure routing and passenger manifests. At times, part-time drivers that could easily serve nearby patrons must be recalled and another driver dispatched to avoid potential risk of a driver operating more hours than legally allowed. Furthermore, the additional reliance on part-time drivers has led to increased staff turnover, which increases costs associated with hiring, training, drug-testing, and other new-hire costs. In addition, newer drivers are typically less efficient as they learn the system, policies, routes, addresses, etc. Given these costs combined with the lower driver efficiency of inexperienced drivers, it is preferable to hire full-time drivers with a longer expected tenure. PCTA full-time drivers currently have an average tenure of more than 13 years, compared to just three years for current part-time drivers.

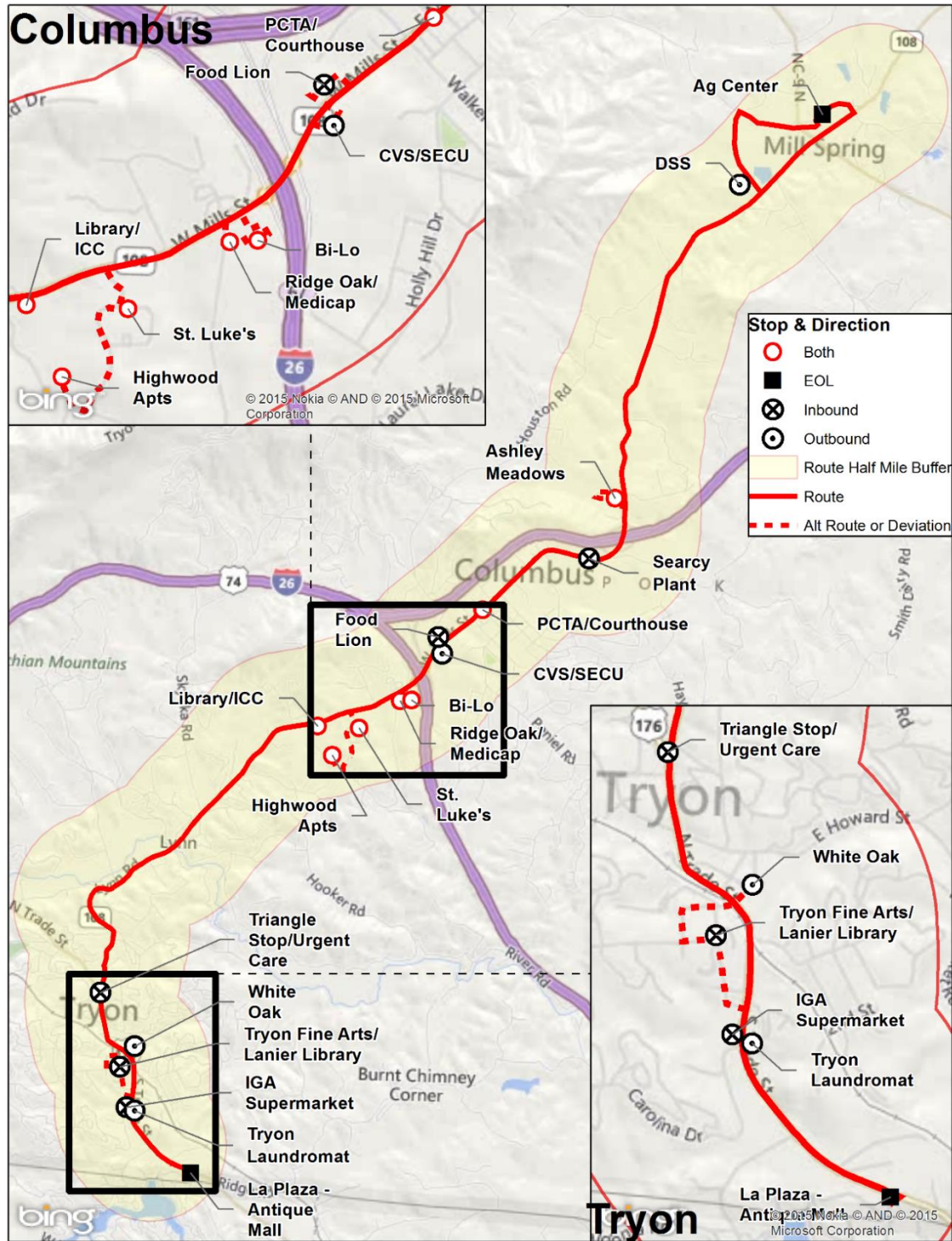
It is recommended that PCTA convert two part-time positions to full-time. The scheduling should be closely monitored to ensure that route efficiencies are improving and determine over time if additional full-time or part-time drivers are needed. The addition of two full-time drivers is meant to cover existing staff shortfalls, as well as provide additional capacity needed to provide expanded afternoon service

hours, Saturday service, and shuttle service to the TIEC. The additional capacity should enable PCTA to reduce or eliminate service denials and improve the efficiency of routing and scheduling. The cost to convert two part-time drivers to full-time is roughly \$28,000 annually.

Deviated Fixed Route

PCTA is currently working to develop a deviated fixed route that would roughly follow a ten mile corridor along NC 108 from Tryon through Columbus to Mill Spring. Ideally, a fixed route or deviated fixed route should have a frequency of one hour or less to provide the convenience necessary to attract regular users. For PCTA this is unlikely without the use of two buses, given the length of the corridor, route deviations, and stops that would not be directly on NC 108. PCTA is currently considering from ten to twenty stops along the route at high demand locations. Placing a stop every half mile along the route trunk on NC 108 would result in roughly twenty stops, with some additional stops not along NC 108. In addition, there would be route deviations at locations with no scheduled bus stop. With no stops, the roundtrip route would take roughly 40 minutes. With twenty stops averaging two minutes each, the route would take nearly 1.5 hours at a minimum. With the addition of route deviations, the roundtrip is likely to take nearly two hours. Based on conversations with PCTA staff, the map shown on Figure 35 shows preliminary routing and stop locations.

Figure 35 – Draft Map of Deviated Fixed Route and Potential Stops



Most neighboring deviated fixed route systems will deviate from the trunk route either one half mile or three fourths of a mile. Given the high clustering along NC 108, it is recommended that PCTA deviate a maximum of one half mile.

An analysis of current PCTA trips shows that approximately 23% of trips currently provided have both their origin and destination within a half mile buffer of the proposed route, hereafter referred to as “the corridor.” This equates to about 35 trips per day. Some of these trips would still be provided with

demand-response service, due to patrons with special needs that may not be well served by a deviated fixed route system.

The potential for new transit trips along the corridor is substantial. Based on an estimate of 1,600 households in the corridor, and an average daily trip rate from the 2009 National Household Travel Survey of 9.5 trips per household, the total number of daily trips originating in the corridor is roughly 15,000. Granted, many of these trips are to destinations outside of the corridor. Furthermore, only a small percentage of these trips will be taken by transit. However, assuming 50 percent of trip destinations are also within the corridor and one percent of those trips are taken by transit mode, this would result in an estimate of 75 daily transit trips using the deviated fixed route if operational five days per week and twelve hours per day. Given the existing PCTA trips in the corridor and ridership of peer systems, this seems like a reasonable ridership goal. For instance, the Chatham Transit Network deviated fixed route in Chatham County provides about 70 trips per day. Apple Country transit provides about 135 daily trips on average on each of its fixed routes. Rutherford Transit provides only about 20 trips per day. The Rutherford County Transit deviated fixed route operates in a loop, which is typically less effective than a linear route, takes one hour and 45 minutes to perform each run, and makes just five runs per day.

The cost of demand response service, including program and capital reserve, is currently \$28.99 per service hour with federal grants discounted. The cost per trip for deviated fixed route trips (assuming twelve hours of operation and 75 daily trips) would be less than \$5.00 per trip, significantly lower than the current cost of nearly \$13.00 per trip system wide. With a fare of \$1.00 and service operating three to five days per week, PCTA could expect to receive between \$5,000 and \$20,000 in annual fare revenue. PCTA is currently considering service from 8:00 AM until 4:00 PM, three days per week using two buses. This would cost roughly \$71,000 to operate, assuming 51 weeks per year to account for holidays), and would likely have ridership much lower than 75 trips per day average, given fewer operating days and hours of service. It is recommended that PCTA consider operating the service five days per week to provide a robust system with consistent operation and visibility in the community. The cost of this service, with two buses operating eight hours per day, would be \$118,279. Operating five days per week and twelve hours per day would cost \$177,400. PCTA should strongly consider options for operating the service with only one bus, potentially shortening the route to improve service frequency enough to be viable with just one bus. This would cut these cost estimates in half and reduce driver and vehicle needs.

While some of the deviated fixed route passenger trips would supplant existing demand response trips, serving trips via the deviated fixed route is preferable as the cost per trip is lower. The additional costs could be met through additional federal grants, such as the Section 5310 Program, additional local funding from Polk County, a ¼ cent local option sales tax or vehicle license fee, advertising, or other means.

Administrative and Vehicle Facilities Upgrade

As previously discussed, PCTA is currently housed in a small facility adjacent to the Polk County Courthouse in Columbus. This facility is inadequate in size and basic amenities necessary for operations. A larger facility is necessary for future needs as the current facility exceeds capacity. The new facility would require space for secure vehicle storage, as well as accommodations for office staff, drivers, and passengers, including a driver break room, lockers, storage, waiting room, and a conference/meeting room.

The costs of a new facility would not be insignificant. Several neighboring counties, such as Haywood and Graham, have recently constructed such facilities at a cost of \$700,000 to \$1 million, though costs could potentially be even higher. There are land acquisition, planning, design, and engineering costs in addition to construction and relocation costs. Some of these costs could be reduced by using an existing county property and/or building. Ideally, the facility would be located to minimize deadhead miles and provide optimal mobile radio communications, given the varied terrain in the county and existing coverage issues in some fringe areas. This facility should be pursued through a feasibility study in cooperation with NCDOT to be eligible for capital funding. This process should be initiated as soon as possible, as it can take several years to procure funding for a facility following a feasibility study. The funding for this facility would require a 10% local match with 90% of the costs being paid by the federal and state governments. PCTA should consider increasing capital reserves to cover the local match of such a future facility.

Local Option Sales Tax or Vehicle Registration Funding

North Carolina approved the use of a local option sales tax and/or additional vehicle registration fee through House Bill 148, signed into law in 2009. As of November, 2014 there have been 66 counties to hold referenda for a ¼ cent sales tax increase, of which 29 were approved. Referenda in Henderson and Rutherford counties were unsuccessful, while Haywood and Buncombe counties approved the tax increase. A ¼ cent sales tax increase would increase revenue for transit in Polk County by roughly \$250,000; likely excessive for Polk County. A vehicle registration fee increase is a more suitable option for Polk County. With roughly 17,000 vehicles in Polk County, a vehicle license fee of \$1.00 to \$5.00 could increase transit revenue by \$17,000 to \$85,000 annually. At this time, neither a local option sales tax nor a vehicle registration fee are recommended funding sources within the time horizon of this CTSP,

Regional Coordination

Coordination with surrounding counties, other regional transit providers, and even private transportation providers, such as senior centers or taxi services can be an effective way to improve the availability of transportation services in Polk County and potentially provide more cost-effective service. Cherokee, Macon, and Clay counties are an example of successful regional coordination. These counties work together to coordinate trips to the VA Hospital in Asheville, saving costs by grouping riders from all systems.

Medical Trips

PCTA currently provides out-of-county medical trips in the morning only. By coordinating out of county medical trips, PCTA may be afforded additional capacity that could be used to provide afternoon trips as well. PCTA currently runs out-of-county trips to all areas Monday through Thursday with no set schedule for service to specific out-of-county destinations. While this does provide more convenience for patrons, it is taxing on PCTA's vehicle and staff capacity, which could be used more effectively to provide trips within the county.

Recommendation: It is recommended that PCTA consolidate its out-of-county trips by providing service on specific days to specific destinations. While some patron scheduling flexibility would be reduced, this could be offset by providing afternoon trips as well.

Regional Coordination Options

Several surrounding counties were contacted to gauge interest and seek feedback related to regional coordination options. Phone and email discussions were conducted with Kerry Giles from Rutherford County Transit and Bill Crisp of Apple Country Transit in Henderson County. Both expressed some interest in regional coordination, but had similar concerns regarding the feasibility of billing, coordinating, and providing mutual benefit between agencies. Neither peer system seemed interested in a regional call center or a regional transit system. Both also expressed concern in sub-contracting services to PCTA while PCTA is waiting for patrons, feeling that the billing and payment of services would be difficult. Rutherford County Transit has recently switched to a set, published out-of-county schedule, and has reduced the capacity needs of vehicles and drivers, requiring only three drivers for out-of-county trips compared to seven drivers previously required.

One advantage of having a set schedule for out-of-county destinations is improved ease of coordination with surround transit agencies, assuming all follow a similar schedule. For instance, Rutherford Transit currently provides trips to Asheville and Hendersonville on Mondays and Thursdays, and trips to Charlotte and Gastonia on Tuesdays and Thursdays. If PCTA was to follow a similar schedule, eastbound trips to Charlotte/Gastonia could be provided by PCTA, while westbound trips to Asheville/Hendersonville could be provided by Rutherford County Transit. Billing agreements would have to be negotiated, but ultimately it would be beneficial for each system, as the cost per trip would be reduced. There may also be opportunities for an out-of-county provider to serve medical trips in one direction (e.g. PCTA from Polk to Rutherford) and the local transit agency (e.g. Rutherford Transit) to provide the return trip. This would eliminate dwell times while waiting on medical appointments and would provide a more proximate provider to pick up the passengers once they are ready, given the length of many appointments can fluctuate.

Additional Private Operators

Some residential communities for seniors, such as Laurelhurst and Laurelwoods, have their own vehicles for transporting residents. PCTA services are used mostly when their vehicles are not available or running. A new private transportation provider called "LimoZen" has evolved from the development of the TIEC, geared towards patrons and visitors to the TIEC. There are also several taxi services based in Rutherford and Henderson counties. PCTA could explore the opportunity to partner with these companies to provide brokered trips when demand for PCTA exceeds capacity or trips are requested outside of normal business hours.

Multi-Modal Trips

Airport trips and trips to transit stations for intercity travel, such as Greyhound and Amtrak, are an ideal opportunity for regional coordination, as they are costly and infrequent. Currently, airport trips are provided to Asheville, Greenville/Spartanburg, and Charlotte airports. Trips are also provided to Amtrak in

Charlotte and could be provided to Greyhound in Asheville if requested. When airport trips are requested, PCTA could reach out to partner transit agencies to determine if they have requests for an airport or other trip in the vicinity to help offset costs. Airport trips may also be a trip type where it is more cost effective to broker the trip with a private provider.

Coordination with Neighboring Fixed Route Services

Apple Country Transit in Henderson County currently has three fixed routes that serve the county. PCTA could provide trips to the Apple Country Route 2 end of line at Parkside Commons. From this route, a patron could theoretically transfer to Apple Country Route 3, then Asheville ART Transit S3 for service to Downtown Asheville and beyond. Greater coordination with fixed route services in Henderson, Spartanburg, and Greenville counties is unlikely, due to Polk County’s distant proximity to the fixed route services in these areas.

Summary and Prioritization of Recommendations

Table 31 provides a summary of major recommendations to PCTA policies, marketing, services provided, capital, and coordination. The needs addressed by each recommendation are included, as well as the plan where the need or recommendation was identified. Recommendations and needs not previously identified in a plan were developed through conversations with PCTA, the project Steering Committee, and analysis as part of this study. The project Steering Committee was asked to prioritize their recommendations by “funding” each projects from a \$100 budget. The “funding” amounts were totaled and then normalized so the sum of all recommendations equals \$100. This “priority weight” is shown for each recommendation in Table 31. Higher values indicate more priority is placed on that recommendation.

Table 31 – Service Recommendations and Needs Addressed

Recommendation	Needs Addressed	Plans Where Need Identified	Steering Committee Priority Weight
Service Recommendations			
Extended Weekday Service Hours	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	8
Saturday Service	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	10
Shuttle to Tryon International Equestrian Facility	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	3
Expand Hendersonville Shopping Shuttle	<ul style="list-style-type: none"> • More employment and Rural General Public service • Expanded operating hours 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	3

Recommendation	Needs Addressed	Plans Where Need Identified	Steering Committee Priority Weight
Facilitate Vanpools or Brokered Trips	<ul style="list-style-type: none"> • More employment and Rural General Public service • Improve efficiency of service 	<ul style="list-style-type: none"> • Locally Coordinated Plan 	3
Hire Additional Full-Time Drivers or Increase Some Part-Time Drivers to Full-Time	<ul style="list-style-type: none"> • Expand capacity • Improve efficiency of service 	<ul style="list-style-type: none"> • Locally Coordinated Plan 	4
Deviated Fixed Route Service	<ul style="list-style-type: none"> • More employment and Rural General Public service • Improve efficiency of service 	<ul style="list-style-type: none"> • Locally Coordinated Plan • CTSP Survey Results 	10
Modified Billing System	<ul style="list-style-type: none"> • Expand funding opportunities 	<ul style="list-style-type: none"> • ITRE Performance Plan 	6
Marketing, Branding, and Outreach Recommendations			
Hire Mobility, Marketing, and Outreach Coordinator	<ul style="list-style-type: none"> • Improve mobility • More employment and Rural General Public Service • Increase visibility 	<ul style="list-style-type: none"> • N/A 	2
Rebrand PCTA	<ul style="list-style-type: none"> • More employment and Rural General Public Service • Increase visibility 	<ul style="list-style-type: none"> • N/A 	0
Advertising on Vehicles	<ul style="list-style-type: none"> • Expand funding opportunities 	<ul style="list-style-type: none"> • N/A 	0
Capital Recommendations			
New Transit Facility	<ul style="list-style-type: none"> • Expand capacity • Provide secure vehicle storage 	<ul style="list-style-type: none"> • N/A 	4
Technology Enhancements	<ul style="list-style-type: none"> • Improve efficiency of service • Expand capacity 	<ul style="list-style-type: none"> • N/A 	14
Coordination Recommendations			
Work with Neighboring Systems to Provide Afternoon Out-of-County Trips	<ul style="list-style-type: none"> • Coordination of transit services • Improve efficiency of service 	<ul style="list-style-type: none"> • ITRE Performance Plan • Locally Coordinated Plan • CTSP Survey Results 	12
Policy Recommendations			
24 hour reservation window	<ul style="list-style-type: none"> • More employment and Rural General Public service 	<ul style="list-style-type: none"> • ITRE Performance Plan 	19

10. Financial Plan

The basic idea of the financial plan is to improve system efficiency, while expanding PCTA's current services and their capacity to provide future service to meet the needs of Polk County residents. These new services also seek to expand the types of users and trips that PCTA serves, which are currently largely medical, to include more rural general public and employment trips.

There is a lot of flexibility to the financial plan depending on which program elements are to be implemented and when they will be implemented. Table 35 shows the plan phasing that is desired today. The spreadsheet tool that accompanies this document provides the flexibility to easily modify new service implementation and a number of assumptions as needs and desires change.

The plan was created and compared to a base case which assumed that operating characteristics stayed the same except for 4% ridership growth per year; this growth is greater than the expected population growth in Polk County over the next five years, but represents the growth projections provided for Polk County by ITRE in the North Carolina Community Transportation System Technology Implementation Plan from August, 2014. The base case and plan also include inflation which was assumed to be 2 percent in FY 2015, 4 percent in FY 2016-2019, and 0 percent in FY 2020, based on the inflation numbers used by NCDOT TIP Development Unit. This base case provides an example of what PCTA's finances and service might look like in the future if no new services or programs were implemented, and it assumes a continued reliance on S. 5311 and ROAP funds. The plan alternatives are then added to that base case each year, following the phasing of their implementation, and subtracting from their costs the expected new revenues.

This plan is built around five main component categories, as detailed in the previous section, Summary and Prioritization of Recommendations.

1. Services
2. Marketing, branding, and outreach
3. Coordination
4. Capital
5. Policies

Services

Saturday service could be funded under ROAP and S. 5311 funding, for operating and administrative expenses, respectively. While the former S. 5316 Job Access and Reverse Commute (JARC) program was consolidated into the S. 5311 program, there is not currently S. 5311 funding availability for operating expenses. Saturday service would enable medical, recreational, and employment trips for many who would otherwise have no transportation option. For instance, food services employment is by far the largest employment sector in Polk County. Saturday service would enable transportation to food services and other retail employment jobs.

An expanded shopping shuttle and a new deviated fixed route could be funded under S. 5310, formerly under the S. 5317 "New Freedom" application that targets populations that may otherwise not have

transportation. The local match could potentially be provided by the retailers served by the shopping shuttle if a cost-sharing agreement can be reached. These services would provide access to shopping, groceries, recreational, and social activities for seniors, low-income individuals, people with disabilities, and others.

PCTA has applied for a S. 5310 grant to cover 50% of the operating costs for a new deviated fixed-route. The remaining 50% will be funded through rider fares, local funding from the county, and efficiency gains accrued by converting many trips currently provided by PCTA from demand response to deviated fixed route trips at a much lower cost. PCTA has also applied for an Appalachian Development Public Transportation Program (ADTAP) grant to fund capital costs associated with the new route, such as stops, signage, etc. One or two vehicles will be required for the new service, but can be accommodated using the existing fleet through efficiency gains associated with more full-time drivers, by providing out-of-county trips with regional partners, and by providing trips to different destinations on set days of the week only.

A shuttle to/from the Tryon International Equestrian Center (TIEC) for employees could be funded as part of ROAP Employment Transportation Assistance Program, with potential funding through a partnership with the TIEC. The shuttle on Sunday/Monday for visiting workers on the equestrian teams should be pursued through a funding agreement with the TIEC.

A modified billing system would reduce payments in arrears for RGP passengers and increase revenue by charging contracting agencies rates closer to the actual costs of providing service. For FY 2014, PCTA revenue from agency contracts was roughly 2/3 of the actual operating costs to provide these services. In other words, PCTA would need to bill 50% higher to cover operating costs for agency contract trips. For this financial plan, it is assumed that the revised billing system will increase revenue from agency contracts and passenger fares by 25%, as an across the board increase of 50% may be considered too onerous. Furthermore, some of the agencies have a set budget that cannot be increased and/or will not allow for zone-based or fixed-fare billing.

Two part-time driver positions should be converted to full-time positions, including benefits. The additional cost would be provided through a combination of ROAP funding, increased agency contract revenue, and efficiency gains accrued through improved routing and scheduling. Similarly, the expansion of PCTA service hours from 5:30 pm to 6:30 pm could be funded under ROAP as part of the Employment Transportation Assistance Program, as the additional afternoon service hour would enable significantly more employment trips to be served in the afternoon.

With many Polk County residents working outside of the county and clustered around various town and city centers, vanpools would be an ideal mode to serve these employment trips. The funding from NCDOT for vanpools is not guaranteed, so the costs would need to be paid for by employers and vanpool users. There is the potential for the user to save money, reduce congestion and emissions, and reduce costs and stress associated with traffic, parking, etc.

Marketing, Branding, and Outreach

A Mobility Coordinator could be funded through a S. 5310 – Elderly and Persons with Disabilities Program application, and treated as a capital cost with the federal government covering 80% of expenses. The Mobility Coordinator would be tasked to build relationships, coordinate new services, grow and promote

the system, seek new funding, help with any rebranding, and improve service efficiency. The Mobility Coordinator would help to expand the employment and other transportation services offered by PCTA and increase its visibility.

PCTA should rename or rebrand the system in conjunction with the introduction of the deviated fixed route service. For this plan it is assumed that this would be a simple rename of "Authority" to "Agency" to minimize additional costs, but a rebranding could also be done with a new logo, new name, etc. as desired.

Coordination

PCTA should coordinate with neighboring systems to provide out of county trips, as well as change their policy to provide trips to specific out-of-county destinations only on set days of the week. These changes would reduce the driver and vehicle burden on PCTA, and enable PCTA and partner agencies to provide afternoon medical trips.

Capital

A new transit facility would replace the currently inadequate facility that PCTA rents in downtown Columbus. The construction of a new facility would first require a facility feasibility study, which PCTA should pursue in FY 2017, as this is the earliest year possible with current funding cycles. Polk County must submit a request to NCDOT Public Transportation Division (PTD) to have this study scheduled in the PTD 6 Year Master Plan. The facility feasibility study could be funded under the Rural Capital Program. Until a new facility can be constructed (which will fall outside of this study's 5-year window), PCTA will need to seek a new facility to lease that will adequately accommodate vehicles, existing staff, and future staff over the next five years. A new phone system and other technology improvements could be funded through S. 5310 or Rural Capital funding.

Policies

A 24-hour reservation window would reduce no-shows and encourage more spontaneous trips.

Costs of Service Plan Recommendations

The fully allocated costs of service from FY 2014 were used to develop estimates of costs for new service recommendations. The fully allocated cost per service hour used for these calculations is \$28.99, which is the hourly operating cost minus administrative grants but including program and capital reserve. An hourly rate of \$8.91, based on the total fixed administrative costs per service hour, was used to calculate administrative costs for service recommendations. The cost for two additional full-time drivers was calculated using an hourly rate for current drivers plus the cost of benefits for two individuals, assuming an increase from 30 to 40 hours weekly. The position of Mobility Coordinator was assumed to cost \$35,000, a transit facility feasibility study \$75,000, and technology upgrades \$20,000 in the base year (FY 2014). The inflation factors used for estimating future year operating costs were provided by the NCDOT Public Transportation Division in the *Community Transportation Service Plan – General Scope of Work* from April, 2014.

Using these cost estimates and assumptions for inflation and service characteristics, the future service plan operating, administrative, and capital costs were estimated for all service improvement recommendations over the five-year study period, as presented in Table 32. As example of how the calculations are made, the TIEC shuttle is expected to use 1 vehicle, operating 12 hours a day, 20 days a year, with an operating cost of \$28.99 per hour. Multiplying these assumptions together and adding in inflation gives an estimate of \$7,984 in operating costs in fiscal year 2018. During the five-year CTSP period, the estimated costs for the proposed recommendations total \$1.04 million, a 30 percent increase from the base case scenario of roughly \$3.5 million, estimated over the same time period. This base case is a scenario that assumes no changes in policies or services and as such is the “business as usual” scenario.

Table 32 – Operating, Administrative, and Capital Costs of Service Plan Recommendations

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Base Case Operating Costs	\$655,829	\$682,043	\$709,369	\$737,746	\$737,746	\$3,522,732
Operating						
Evening Service Expansion	\$0	\$43,287	\$45,022	\$46,823	\$46,823	\$181,954
Weekend Service	\$0	\$0	\$0	\$19,957	\$17,299	\$37,255
Expanded Shopping Shuttle	\$0	\$0	\$3,327	\$3,460	\$3,460	\$10,246
Tryon International Equestrian Center (TIEC) Shuttle	\$0	\$0	\$7,984	\$8,303	\$8,303	\$24,591
Deviated Fixed Route	\$78,427	\$81,562	\$84,830	\$88,223	\$88,223	\$421,265
Additional Full-Time Drivers	\$0	\$0	\$32,445	\$33,743	\$33,743	\$99,932
Afternoon Medical Trips & Regional Coordination	\$0	\$0	\$0	\$0	\$0	\$0
Administrative						
Mobility Management	\$0	\$38,612	\$40,159	\$41,766	\$41,766	\$162,302
Rebranding	\$4,000	\$2,000	\$0	\$0	\$0	\$6,000
Advertising on vehicles	\$0	\$0	\$0	\$0	\$0	\$0
Shortened Reservation Window	\$0	\$0	\$0	\$0	\$0	\$0
Modified Billing System	\$0	\$0	\$0	\$0	\$0	\$0
Facilitate Vanpools	\$0	\$0	\$0	\$2,000	\$2,000	\$4,000
Capital						
Transit Facility Feasibility Study	\$0	\$82,740	\$0	\$0	\$0	\$82,740
Technology Upgrades	\$0	\$22,064	\$0	\$0	\$0	\$22,064
Total Service Plan Incremental Costs	\$82,427	\$270,265	\$213,766	\$244,274	\$241,616	\$1,052,350
Total Costs	\$738,256	\$952,308	\$923,135	\$982,020	\$979,362	\$4,575,082
Percent Increase for Service Plan vs. Base Case	12.6%	39.6%	30.1%	33.1%	32.8%	29.9%
NCDOT Inflation Factors	1.0608	1.1032	1.1474	1.1933	1.1933	

Local Match Funding

Much of the additional costs of services in the plan are funded through federal and state funding, though the associated local match that is required increases as well. Table 33 shows the local matching funds required for all service plan recommendations and Table 34 shows the local matching funds needed for vehicle replacement costs in order to leverage federal grant funding. Currently, Polk County government has been contributing to the PCTA annual budget to make up for shortfalls, which may not be sustainable.

The “Base Case Local Funding” shown in Table 33 is the amount that Polk County is projected to contribute based on FY 2014 funding. Given the plan recommendations, the contribution from Polk County would be reduced, largely due to the modified billing system that would reduce payments in arrears for RGP passengers and increase revenue by charging contracting agencies rates closer to the actual costs of providing service. As previously discussed, for this financial plan it assumed that the revised billing system will increase contract revenue from agency contracts and passenger fares by 15%, which is an increase of just a third of the additional revenue from these contracts that would be required to fund the full operating costs of providing these services. The increased fare and agency contract revenue would not be used in lieu of a local match, but would instead be used to reduce PCTA’s current operating deficit.

Table 33 – Local Funding for Operating and Administrative Costs

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Case Local Match	\$113,548	\$118,090	\$122,810	\$127,730	\$132,840	\$132,840
Additional Local Match	\$0	(\$4,723)	\$836	(\$7,356)	(\$8,077)	(\$8,344)
Total Plan Local Match	\$113,548	\$113,367	\$123,645	\$120,374	\$124,762	\$124,496

Table 34 – Local Match for Vehicle Capital Costs

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Case Local Match	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500
Additional Local Match	\$0	\$0	\$0	\$0	\$0
Total Plan Local Match	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500

Implementation Plan and Schedule

Table 35 shows the implementation timeline for new services, policies, and capital changes. The timeline is arranged in a logical order that allows PCTA time to seek funding and coordinate changes in advance of the implementation year. FY 2016, for instance, contains only recommendations that are already likely to be funded or can be implemented at no additional cost using existing resources. In addition to implementation year, the implementation schedule includes total costs, local match, and potential funding sources. PCTA should continually monitor service changes and their effects on costs, revenues, service miles, service hours, etc. to compare to financial plan estimates and adjust assumptions of the plan accordingly in the budget spreadsheet tool. Any changes affecting riders should be advertised well in advance through the PCTA website, county social media, newspapers, flyers, and other media.

For each plan recommendation, a potential funding source is shown. These funds may be accessed via grant applications in some cases or may use formula-allocated funding source (e.g., Section 5311 funds or ROAP funds). In these cases, new service does not imply new funding. However, the recommendations listed are eligible for the listed funding sources. Recommendations may be funded via those funding sources with efficiency gains that free up funds for the service recommendations.

Table 35 - Service Implementation Schedule and Potential Funding

Service Recommendation	Description	Total Cost over 5 Year Period (FY 2016-20)		Potential Funding Sources	Total Local Match over 5 Year Period (FY 2016-20)		Implementation Fiscal Year
		Operating and Admin	Capital		Operating and Admin	Capital	
Operating							
Evening Service Expansion	Extend weekday service one hour from 5:30 pm to 6:30 pm	\$181,954		ROAP, S. 5311, Agency Contracts	\$17,544		2017
Weekend Service	Begin Saturday service from 8:00 am to 6:00 pm	\$37,255		ROAP, S. 5311, Agency Contracts	\$3,594		2019
Expanded Shopping Shuttle	Expand shopping shuttle from bi-weekly to weekly service	\$10,246		S. 5310, Retail Partners	(\$9)		2018
Tryon International Equestrian Center (TIEC) Shuttle	Shuttle between TIEC and Columbus/Tryon Sunday evening and Monday morning during	\$24,591		TIEC Assistance, Local Funding	\$5,004		2018
Deviated Fixed Route	Daily route from Tryon to Columbus to Mill Spring	\$421,265		S. 5310, Local Funding	\$0		2016
Additional Full-Time Drivers	Increase two drivers from 30 to 40 hours, plus benefits and insurance	\$99,932		ROAP, Agency Contracts	\$9,951		2018
Afternoon Medical Trips & Regional Coordination	Out-of-County trips on set days only. Coordinate with surrounding counties to provide afternoon medical trips.	\$0		None Required	\$0		2018
Administrative							
Mobility Management	Hire a Mobility Coordinator for marketing, growth, efficiency, new funding opportunities		\$162,302	S. 5310		\$16,230	2017
Rebranding	At a minimum, rename from "Authority" to "Agency"		\$6,000	ADTAP or Rural Capital		\$600	2016

Service Recommendation	Description	Total Cost over 5 Year Period (FY 2016-20)		Potential Funding Sources	Total Local Match over 5 Year Period (FY 2016-20)		Implementation Fiscal Year
Advertising on vehicles	Place advertisements inside vehicles	\$0		N/A	\$0		2016
Shortened Reservation Window	Reduce in-county reservation window to 24-hours in advance	\$0		N/A	\$0		2019
Modified Billing System	Destination-based fixed fares	\$0		N/A	\$0		2016
Facilitate Vanpools	Coordinate vanpools to major out-of-county employment destinations	\$4,000		ROAP, Charlotte Area Transit	\$400		2019
Capital							
Transit Facility Feasibility Study	Conduct a feasibility study for a new PCTA administrative facility.		\$82,740	Rural Capital Program		\$8,274	2017
Technology Upgrades	Upgrade office telephone system and mobile radios.		\$22,064	Rural Capital Program		\$2,195	2017

Ridership Growth

Ridership projections were developed for the base case “business as usual” scenario, as well as for each service recommendation. For the base case, ridership was based on FY 2014 actual ridership, with projected growth of 4% annually based on projections provided for Polk County by ITRE in the North Carolina Community Transportation System Technology Implementation Plan from August, 2014.

Ridership effects of each service recommendation were also developed. Ridership for most new or expanded transit services was estimated using the FY 2014 person trips per vehicle service hour rate of 2.26. For the deviated fixed route a rate of three person trips per vehicle service hour was used for estimates, which represents a number more consistent with the potential for trips given the number of households in the corridor and existing demand response trips. Increased ridership from phone and technology improvements is projected to be 0.1 percent. The addition of two full-time drivers and a 24-hour reservation window are each projected to increase ridership by 0.5 percent. The consolidation of out-of-county medical trips to set days of the week is projected to decrease ridership by 0.5 percent due to decreased convenience, despite allowing for afternoon medical trips.

The plan recommendations are projected to increase ridership by nearly 60,000 trips over five years, an annual average of nearly 12,000 additional trips. The introduction of the deviated fixed route accounts for nearly two-thirds of ridership growth over the five-year period. The average ridership increase per year is nearly 11 percent, or a compounding annual growth rate of just over 9 percent, increasing from a projected 42,037 trips in FY 2015 to 64,904 trips in FY 2020. Estimated ridership is shown in Table 36.

Table 36 – Ridership Growth Projections from Service Plan Recommendations

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Base Case Ridership	43,718	45,467	47,286	49,177	51,144	236,792
Operating						
Evening Service Expansion	0	2,882	2,882	2,882	2,882	11,528
Weekend Service	0	0	0	1,130	1,130	2,260
Expanded Shopping Shuttle	0	0	226	226	226	678
Tryon International Equestrian Center (TIEC) Shuttle	0	0	542	542	542	1,627
Deviated Fixed Route	7,650	7,650	7,650	7,650	7,650	38,250
Additional Full-Time Drivers	0	0	236	246	256	738
Afternoon Medical Trips & Regional Coordination	0	0	-236	-246	-256	-738
Administrative						
Mobility Management	0	909	946	984	1,023	3,861
Rebranding	0	0	0	0	0	0
Advertising in vehicles	0	0	0	0	0	0
Shortened Reservation Window	0	0	0	246	256	502
Modified Billing System	0	0	0	0	0	0

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Facilitate Vanpools	0	0	0	0	0	0
Capital						
Transit Facility Feasibility Study	0	0	0	0	0	0
Technology Upgrades	0	45	47	49	51	193
Total Service Plan Incremental Ridership	7,650	11,487	12,293	13,709	13,760	58,900
Total Ridership	51,368	56,954	59,579	62,886	64,904	295,692
Percent Increase for Service Plan vs. Base Case	17.5%	25.3%	26.0%	27.9%	26.9%	24.9%
Service Plan Percent of Total Ridership	14.9%	20.2%	20.6%	21.8%	21.2%	19.9%

Performance Measurement Plan

One of the critical components of growing the PCTA system is ensuring that the efficiency and effectiveness of the system is improving as ridership grows and new services are introduced. Table 37 shows how growth from the plan improves PCTA operating characteristics compared to peer systems and itself over the base year, FY 2014. PCTA is in Community Transportation Peer Group 5, which includes Cherokee, Clay, Graham, Swain, Jackson, Transylvania, Madison, Yancey, Mitchell, McDowell, Avery, Ashe, Alleghany, and Polk Counties. Many of PCTA's peer counties are more rural in nature and have smaller transit systems than PCTA. Nonetheless, the peer averages provide a good baseline for comparison as PCTA strives to improve services and grow the system. For most performance measures in FY 2014, PCTA was slightly above the peer average, providing more daily one-way passenger trips, higher passenger trips per service hour, higher passenger trips per service mile, and a lower cost per trip.

PCTA should perform an internal review annually to ensure that established metrics for system growth, efficiency, and effectiveness are being met. Based on projections from the recommended service plan, there are some targets that PCTA should strive to achieve.

- Increase weekday average daily passengers by 10 percent each year. With a significant increase in service (including weekday service hours, Saturday service, more frequent shopping shuttle, TIEC shuttles, new employment trips, additional full-time drivers, and a full-time mobility coordinator) 10% annual ridership growth should be the minimum target for PCTA.
- Reduce no shows from 3% to peer average 1.5% of daily trips. A clear, consistent policy for wait times would help rectify some of these no shows. PCTA should also begin recording more detailed information on cancellations and no shows and sharing the information with affected passengers. The documentation of passenger no-show and cancellation information should be automated to the greatest extent possible using existing software, and appended to existing passenger information databases.
- Reduce cost per trip by 2% annually. While the current cost per trip is lower than its peers, the historical peer averages were much lower, at around \$13.49 per trip in FY 2012, for instance. Regional coordination for out-of-county trips, additional full-time drivers enabling more flexibility in routes and scheduling, more trips provided via a lower cost deviated fixed route, and a full-time mobility coordinator are all recommendations of the plan that should enable a reduction in cost per trip of at least 2% annually. There are other cost reductions that should be pursued as well,

such as additional volunteer drivers and improved utilization of recently implemented scheduling software.

- Improve revenue streams. PCTA should strive to utilize creative partnerships with employers, retailers, and community event sponsors for additional funding, advertising, and support. PCTA should stress to potential funding partners that their money is leveraged with additional federal, state, and local funding. Furthermore, PCTA should strive to receive free or low-cost advertising at local events, ball-parks, community centers, in newspapers, and on the radio, emphasizing to the provider that they are providing a community service through their support.
- Increase trips per service hour by 2% annually. PCTA should be able to provide more passenger trips per vehicle service hour each year by improving scheduling, routing, and trip consolidation. Similar to a reduction in cost per trip, plan recommendations should provide adequate support for this target.

PCTA is projected to grow by over 50% in terms of daily/annual passenger trips over the five-year plan term. Costs are projected to grow by a similar amount, which is effectively a 16% reduction in cost per trip when considering inflation. The plan recommendations are projected to increase service effectiveness as well, increasing from 2.3 passenger trips per vehicle service hour to 2.6 passenger trips per vehicle service hour. Similarly, passenger trips per vehicle service mile are projected to increase from 0.12 to 0.14, roughly a 15% improvement over the base year and more than a 20% increase over the peer average in the base year.

Table 37 – Peer and Temporal Comparison of Performance Measures

	Peer Systems	PCTA						
	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Daily One-way Passenger Trips	134	159	165	202	224	234	247	255
Expenses	N/A	618,240	630,605	734,256	950,308	939,358	996,892	994,234
Revenue	N/A	534,454	545,143	734,256	950,308	939,358	996,892	994,234
Average Daily Vehicle Service Hours	62	70	73	84	91	92	95	98
Average Daily Vehicle Service Miles	1,261	1,302	1,354	1,566	1,685	1,705	1,765	1,822
Passenger Trips / Vehicle Service Hours	2.16	2.26	2.26	2.39	2.46	2.55	2.60	2.60
Passenger Trips / Vehicle Service Miles	0.109	0.122	0.122	0.129	0.133	0.137	0.140	0.140
Cost per Passenger-Trip	\$15.57*	\$15.30	\$15.00	\$14.28	\$16.67	\$15.75	\$15.84	\$15.31

*FY 2013 used (most recent available)

State Transportation Improvement Program (STIP) and Strategic Transportation Investments (STI)

The Strategic Transportation Investments Act (STI) was signed into law in 2013 with the goal of maximizing the benefit of projects across the state. The STI allows for a data-driven ranking of projects using a formula that combines local input and needs with various metrics, such as benefit-cost and

efficiency. The proposed projects and associated costs are then included in the state's 10-year State Transportation Improvement Program (STIP).

While there are capital costs associated with the PCTA financial plan, such as a facility feasibility study, new phone and mobile radio technology, and a Mobility Coordinator, there are no major capital costs, such as vehicle expansions, facility improvements, or fixed-guideway construction that would mandate inclusion in the STI or STIP. Federal grant funding, such as S. 5310 and S. 5311, is administered by NCDOT PTD, but no additional effort is required on the part of PCTA for inclusion in the STIP, other than normal grant application procedures. General capital and operating costs grant funding are often included in the STIP for the current fiscal year during which development of the STIP occurs, but would not typically be in STIP future years.

Capital Plan

The capital plan for PCTA consists of replacement vehicles, with no expansion vehicles required for any service recommendations.

The replacement cost of the current PCTA fleet of vehicles is shown in the capital plan. This is based on the expected year of replacement and an estimated FY 2016 cost of \$50,000 for a lift-equipped van, \$63,000 for a light-transit vehicle, and \$38,000 for a lift-equipped minivan. Funding would likely come from the state, federal S. 5311 funding, and a local match. The annual capital costs are shown in Table 38. The total cost for replacement vehicles is expected to be about \$700,000 with a local match of \$70,000 over the next 5 fiscal years. It is important to note many of the vehicles in PCTA's fleet are scheduled to be replaced in the next three to four years, but maintenance costs and breakdown frequency should be continually monitored and capital and replacement needs modified as appropriate.

It is recommended that PCTA constructs a new administrative facility to replace the currently inadequate facility and better accommodate existing personnel and vehicles. A new administrative facility would greatly expand the capacity for PCTA to provide new services as well. The administrative facility could be funded under the Rural Capital Program which is 80% federally funded and requires a 20% local match. There is potential for up to 10% state funding as well, but it is not guaranteed. The costs of the new facility are estimated to be roughly \$700,000. The 20% local match would leverage \$560,000 of federal money in return for a \$140,000 local contribution. The local match could be in-kind funding, such as a donation of county land. Due to funding cycles and necessary planning steps, including a facility feasibility study, the timeline to begin construction would occur after the 5-year window of this plan. However, it is important to begin the process towards a new facility as soon as possible. In the meantime, PCTA will need to seek a new facility to lease that will adequately accommodate vehicles, existing staff, and future staff over the next five years.

Table 38 – Capital Plan

	Year 1	Year 2	Year 3	Year 4	Year 5
Replacement Vehicles	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2000 Ford LTV					\$50,000
2003 Ford LTV					
2008 Crossover	\$38,000				
2009 Conversion Van	\$63,000				
2010 Conversion Van					\$63,000
2010 Sedan					\$15,000
2011 Conversion Van			\$63,000		
2011 Lift-Equipped Van		\$50,000			
2011 Lift-Equipped Van		\$50,000			
2011 Conversion Van			\$63,000		
2011 Conversion Van		\$63,000			
2012 Sedan (County owned)					
2012 Minivan				\$20,000	
2014 Lift-Equipped Van				\$50,000	
2014 Lift-Equipped Van				\$50,000	
2014 Minivan				\$20,000	
Replacement Vehicle Costs	\$101,000	\$163,000	\$126,000	\$140,000	\$125,000
Federal	\$80,800	\$130,400	\$100,800	\$112,000	\$100,000
State	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500
Local	\$10,100	\$16,300	\$12,600	\$14,000	\$12,500

Service Plan Summary

The implementation timeline, costs, funding sources, and funding amounts are consolidated in the full financial plan for the five-year CTSP shown below in Table 39 and Table 40.

Table 39 provides a summary of costs and revenue, including Federal, State, and Local Assistance. At the top of the table is the base, or “business as usual,” case if no new services or policy changes were implemented. This reflects projected four percent annual ridership growth, as well as increasing costs due to inflation. The funding sources are also assumed to stay proportionally the same. The base case costs are \$3.52 million over five years. Below the base case are the costs for recommendations of the plan, which total \$1.04 million over five years. At the bottom of the table are total costs for the base case plus plan recommendations and the associated breakdown of revenue sources. The total cost for PCTA services over the five-year plan is \$4.57 million, the revenue for which comes from agency contract revenue (34%), federal funding (27%), state funding (23%), local government (9%), other local revenue (1%), farebox (4%), and cost reductions (1%),

Table 40 provides a detailed synopsis of service plan recommendations, including annual costs and associated funding sources and programs. The total cost for the new service plan recommendations over five years is \$1.04 million. The revenue for the plan recommendations comes from federal funding (42%), state funding (29%), and local funding (29%). Local funding is a combination of local government dollars, and retail and employment partners.

Table 39 – Service Plan Cost and Revenue Summary

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20
Base Case						
Operating Costs	\$655,829	\$682,043	\$709,369	\$737,746	\$737,746	\$3,522,732
Farebox Revenues	\$20,913	\$21,749	\$22,620	\$23,525	\$23,525	\$112,331
Contract Revenue	\$223,422	\$232,352	\$241,662	\$251,329	\$251,329	\$1,200,095
Other Revenue	\$0	\$0	\$0	\$0	\$0	\$0
Total Operating Assistance	\$411,494	\$427,942	\$445,087	\$462,892	\$462,892	\$2,210,307
Operating Assistance Breakdown						
Federal Assistance	\$154,490	\$160,665	\$167,102	\$173,786	\$173,786	\$829,828
State Assistance	\$138,915	\$144,467	\$150,255	\$156,266	\$156,266	\$746,170
Local Government Assistance	\$118,090	\$122,810	\$127,730	\$132,840	\$132,840	\$634,309
Plan Recommendations						
Operating Costs of Plan Recommendations	\$82,427	\$270,265	\$213,766	\$244,274	\$241,616	\$1,052,350
Farebox Revenue from Plan Recommendations	\$8,115	\$10,015	\$12,209	\$13,362	\$13,369	\$57,069
Operating Subsidy Requirements	\$74,312	\$260,251	\$201,557	\$230,913	\$228,248	\$995,281
Base Case + Plan Recommendations						
Operating Costs	\$738,256	\$952,308	\$923,135	\$982,020	\$979,362	\$4,575,082
Cost Savings from Mobility Manager	\$0	\$11,190	\$12,104	\$13,092	\$13,092	\$49,478
Farebox Revenues	\$29,028	\$31,763	\$34,829	\$36,887	\$36,893	\$169,400
Contract Revenue	\$262,301	\$274,401	\$287,147	\$300,526	\$300,526	\$1,424,902
Other Revenue (retail/employment partners)	\$1,000	\$1,000	\$7,884	\$8,160	\$8,160	\$26,204
Federal Assistance	\$189,646	\$313,944	\$240,464	\$252,209	\$250,081	\$1,246,343
State Assistance	\$138,915	\$194,364	\$220,333	\$244,385	\$244,114	\$1,042,111
Local Government Assistance	\$113,367	\$123,645	\$120,374	\$124,762	\$124,496	\$606,644

Table 40 – Service Plan Recommendation Summary

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total							
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20	Funding Source and Program						
Operating							Federal		State		Local		Program
Evening Service Expansion (Operating)	\$0	\$40,781	\$42,415	\$44,112	\$44,112	\$171,419	0%	\$0	90%	\$154,277	10%	\$17,142	ROAP
Evening Service Expansion (Admin)	\$0	\$2,506	\$2,607	\$2,711	\$2,711	\$10,535	80%	\$8,428	10%	\$1,054	10%	\$1,054	S. 5311
Weekend Service (Operating)	\$0	\$0	\$0	\$17,299	\$17,299	\$34,597	0%	\$0	90%	\$31,138	10%	\$3,460	ROAP
Weekend Service (Admin)	\$0	\$0	\$0	\$2,658	\$0	\$2,658	80%	\$2,126	10%	\$266	10%	\$266	S. 5311
Expanded Shopping Shuttle	\$0	\$0	\$3,327	\$3,460	\$3,460	\$10,246	50%	\$5,123	0%	\$0	50%	\$5,123	S. 5310, Retail Partners
Tryon International Equestrian Center (TIEC) Shuttle	\$0	\$0	\$7,984	\$8,303	\$8,303	\$24,591	0%	\$0	0%	\$0	100%	\$24,591	TIEC Assistance, Local Funding
Deviated Fixed Route	\$78,427	\$81,562	\$84,830	\$88,223	\$88,223	\$421,265	50%	\$210,633	0%	\$0	50%	\$210,633	S. 5310, Local Funding
Additional Full-Time Drivers	\$0	\$0	\$32,445	\$33,743	\$33,743	\$99,932	0%	\$0	90%	\$89,939	10%	\$9,993	ROAP
Afternoon Medical Trips & Regional Coordination	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required
Administrative													
Mobility Management	\$0	\$38,612	\$40,159	\$41,766	\$41,766	\$162,302	80%	\$129,842	10%	\$16,230	10%	\$16,230	S. 5310
Rebranding	\$4,000	\$2,000	\$0	\$0	\$0	\$6,000	80%	\$4,800	10%	\$600	10%	\$600	ADTAP or Rural Capital Program
Advertising on vehicles	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required
Shortened Reservation Window	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required
Modified Billing System	\$0	\$0	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	None Required

Recommendation	Year 1	Year 2	Year 3	Year 4	Year 5	Total							
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-20							
Facilitate Vanpools	\$0	\$0	\$0	\$2,000	\$2,000	\$4,000	80%	\$3,200	10%	\$400	10%	\$400	None Required
Capital													
Transit Facility Feasibility Study	\$0	\$82,740	\$0	\$0	\$0	\$82,740	80%	\$66,192	10%	\$8,274	10%	\$8,274	Rural Capital Program
Technology Upgrades	\$0	\$22,064	\$0	\$0	\$0	\$22,064	80%	\$17,651	10%	\$2,206	10%	\$2,206	Rural Capital Program
Total Service Plan Incremental Costs	\$82,427	\$270,265	\$213,766	\$244,274	\$241,616	\$1,052,350	42%	\$447,995	29%	\$304,383	29%	\$299,971	
Service Plan Estimated Local Match	\$39,614	\$59,651	\$63,825	\$68,574	\$68,308	\$299,971							
NCDOT Inflation Factors	1.0608	1.1032	1.1474	1.1933	1.1933								

Appendices

Appendix A – Potential Funding Sources

Current Funding

PCTA receives funding from the federal government via the Federal Transportation Administration (FTA), the State of North Carolina via NCDOT, and local sources, in addition to the farebox and human service agency transportation purchases. Federal, state, and local funds are used for both operating and capital costs. In Federal Transit funding, there is a distinction between large urban areas (populations above 200,000), small urban areas (populations from 50,000 to 200,000), and rural areas. Polk County is classified as rural for funding purposes, so PCTA is only eligible for funding for rural programs. The following description of project categories and FTA funding programs is not exhaustive, but augments NCDOT guidance and describes types of projects for which PCTA could pursue funding. This includes funding sources already used by PCTA, as well as others that could be pursued in the future.

In examining funding options it is important to note that nearly all sources of federal and state money require a local match. Because the federal and state contribution to a program can be large (a combined 90% potentially for capital costs under many programs), a relatively small amount of local funding can be leveraged into significant amounts of funding for PCTA. It is important that programs and services are carefully selected to ensure that quality service is being provided and the appropriate funding sources are being accessed.

PCTA has applied for two grants to provide funding in support of a deviated fixed route and other services. One of these grants is the Appalachian Development Transportation Assistance Program (ADTAP) grant for fiscal year 2016. If approved, these funds would be used for capital expenses for new and existing services, such as bus stops, fare boxes, an upgraded phone system, and bus wraps for the new deviated fixed route. PCTA also applied for a Section 5310 grant, for Enhanced Mobility of Seniors and Individuals with Disabilities. Under MAP-21, previous Section 5317 New Freedom funding and projects now fall under Section 5310.

Activities Eligible for Funding

Capital Projects

FTA's definition of a capital project is expansive. It includes not only buildings, vehicles and other major equipment, but also less obvious items such as preventive maintenance, technology purchases and mobility management. Typically, the FTA funds up to 80 percent of the cost of capital projects. NCDOT will often fund up to one-half of the remaining cost, but it depends on the specific program. Certain expenses are eligible for 90 percent federal funding, including improvements to bicycle access to transit and equipment required for either ADA or Clean Air Act Amendment compliance.

Operating Expenses

FTA programs fund up to 50 percent of net operating costs (operating costs minus certain types of revenue like fares) with NCDOT providing additional funding for certain rural services through ROAP.

Operating costs include fuel, drivers' and dispatchers' wages and benefits, licenses, vehicle maintenance, and insurance.

Planning Activities

Planning activities include technical studies aimed at improving transit facilities, equipment, or service. The studies may focus on all or part of a transit agency: eligible areas of study include management, such as the efficiency of administrative or operating procedures; operations, including service evaluation and restructuring; and identification of service or capital needs. Alternatively, planning activities may be project-specific, including evaluations of previously funded projects, economic feasibility studies for proposed projects and detailed design work for capital projects, such as preparation of engineering and architectural surveys, plans and specifications. FTA will fund up to 80 percent of the cost of a planning activity; NCDOT will fund up to 10 percent of the cost of studies in urbanized areas and 10 to 20 percent of the cost of studies in rural areas, depending on the scope. Community Transportation Service Plans (CTSPs) are 90% funded by the State.

Key Funding Programs

State and Federal

Various FTA and NCDOT funding programs support the activities described above, though not all programs support all categories of activity. The most general FTA programs are split by geography, with one (Section 5311) targeted to rural areas. Other programs are confined to particular categories of activity (i.e., capital projects only) or activities targeted toward certain populations. Each FTA program is described in brief below with examples of applicable projects. Applicable or comparable NCDOT programs are described under the FTA program headings. For rural areas, most FTA funding is channeled through NCDOT, which in some cases adds its own funds to programs. For this reason, the FTA and NCDOT funding streams are described together.

Section 5311 – Nonurbanized Area Formula Program

The Section 5311 program funds capital, operating, planning, and administrative expenses for agencies operating in rural areas. NCDOT bundles Section 5311 funds into its Community Transportation Program (CTP), which provides up to 90 percent of capital costs, 85 percent of administrative costs and 50 percent of operating costs. Funding for operating costs is available only in rare cases. PCTA is currently a recipient of CTP funds for administrative expenses; like most county transportation agencies, PCTA does not receive operating funds through Section 5311.

Section 5311 funds are allocated to each state by a formula that considers nonurbanized population and land area relative to those of all states. Certain rapidly growing states are eligible for additional funds. Outside of the general purposes described above, certain percentages of each state's Section 5311 funds must be allocated to training (not described here) and intercity bus service (described separately below).

Section 5311(f) – Intercity Bus Program

The Intercity Bus Program (Section 5311(f)) funds support operation of rural intercity bus services as well as “feeder” services that provide connections to intercity bus stops from surrounding rural areas. NCDOT must either allocate 15 percent of its statewide Section 5311 funding to this program or certify that sufficient rural intercity bus service exists to meet the residents’ needs. The funds are intended foremost for private operators, though some North Carolina public transit agencies have implemented rural intercity routes along corridors that private carriers have declined to serve.

Capital projects eligible for Section 5311(f) funding include vehicle purchases for rural intercity or feeder service and depots and transfer centers that will be served jointly by transit and intercity operators. Operationally, intercity bus service (per FTA’s definition) connects two distant urban areas, operates on a regular schedule and fixed route with limited stops, has capacity for luggage transport and provides “meaningful” connections with scheduled intercity service to more distant points. Feeder service may take more diverse forms and be as simple as an extension of hours on existing services to provide timed connections with intercity trips.

Rural Capital Program

The Rural Capital Program is the funding source for most capital projects in rural areas in North Carolina. This program is composed of three capital programs that have been consolidated into one capital program for rural recipients. The program provides 80% federal funds and the possibility of a 10% state match. The local match is between 10% and 20% depending on state participation. Funds are available for the purchase of vehicles, communications equipment and related capital equipment; the purchase or upgrade of computer equipment, file servers, software, printers, telephone systems, mobile data terminals, automatic vehicle locators and other technologies; and the purchase or renovation of facilities for administrative and/or operating use. Funds typically cover up to 90% of feasibility plan preparation, land acquisitions, design and construction costs.

Section 5310 – Elderly and Persons with Disabilities Program

The Elderly and Persons with Disabilities Program (Section 5310) funds projects and services that improve mobility for senior citizens and people with disabilities. The primary funding recipients are private, non-profit organizations that serve the particular transportation needs of these populations. However, a public transit agency may receive funding under limited circumstances: it must either certify that no private organizations exist to provide specialized service or must be designated by NCDOT and local jurisdictions as the lead coordinator of human-service transportation programs.

Most Section 5310 funds support capital projects. Mobility management strategies are eligible for funding, as are vehicles and related equipment. Projects selected for funding under the Section 5310 program must be derived from a locally developed and coordinated human services transportation plan, which Polk County has adopted. Section 5310 funds are distributed by formula. Each state receives funding based on its populations of elderly and people with disabilities. However, unlike the 5311 program, Section 5310 funds are allocated competitively within the state.

Section 5316 – Job Access and Reverse Commute Program (discontinued)

The Job Access and Reverse Commute (JARC) Program has been discontinued as part of MAP-21; however, projects previously eligible for JARC funding can now be funding through Section 5311 grants. JARC serves two primary goals: (1) reducing low-income individuals’ and welfare recipients’ transportation

barriers to employment, training and job support services; and (2) increasing transit service for all populations to suburban employment. JARC-funded services may therefore include new shuttle routes that serve worksites directly, expanded demand-response vehicle service in low-density employment areas, extended evening and weekend service hours to serve employees whose shifts do not coincide with typical peak commute times, and new express routes to suburban job concentrations. Typically, JARC funds support the start-up of such services, with a transit agency or other funding partners expected to assume responsibility for operating costs once the grants expire. Purchases of vehicles to operate these services and other capital projects that support the program's goals may be funded, including vanpool vehicles.

Section 5317 – New Freedom Program (now under Section 5310)

The former New Freedom Program (formerly Section 5317, now falls under Section 5310 funding) aims to reduce transportation barriers for people with disabilities to enter the workforce. The program supports new transit services, accessibility improvements, and employment-related transportation alternatives beyond those required by ADA. New Freedom funds could be applied to enhancements to complementary ADA paratransit service, for instance, such as expansion of service beyond the mandated $\frac{3}{4}$ -mile fixed route buffer, extension of service hours, or provision of same-day service. Feeder service to intercity bus or rail stations is also eligible for New Freedom funding, given that intercity services do not carry complementary paratransit requirements. New Freedom funds cannot otherwise be used to expand the coverage, hours or days of general-public service. Eligible capital projects under the New Freedom program include vehicle accessibility improvements, such as the purchase of wheelchair lifts that can accommodate larger or heavier mobility aids than those required by ADA.

Standard FTA funding shares apply for this program: 80 percent for capital projects and planning activities and 50 percent for operating costs. Grants fund three years of service. As with Sections 5310, projects funded through the New Freedom program must be derived from a locally developed and coordinated human services transportation plan, and funding is allocated competitively. NCDOT provides up to 10% of funding for capital costs. A project may be funded through the New Freedom program indefinitely (i.e., receive successive New Freedom grants) provided that it remains in the human services transportation plan; however, NCDOT encourages applicants to identify other funding sources that could be applied following expiration of the initial grant.

Appalachian Development Public Transportation Assistance Program (ADTAP)

The Appalachian Development Public Transportation Program was established as part of MAP-21 to increase access to public transportation for residents of the Appalachian Region. Much like Section 5311, this program is intended to enhance access to health care, shopping, education, employment, public services, and recreation.

Standard FTA funding shares apply for this program: 80 percent for capital projects and planning activities and 50 percent for operating costs.

Rural Operating Assistance Program

PCTA currently receives about 21% of its revenue through Rural Operating Assistance Programs (ROAP), which is really three individual programs that are bundled together: Elderly and Disabled Transportation Assistance Program (EDTAP), Employment Transportation Assistance Program (ETAP or EMPL), and Rural

General Public (RGP). ROAP is a state program administered by NCDOT that distributes money to counties for assistance in transporting the elderly (EDTAP), to provide access to employment options (ETAP), and to assist other rural residents in transportation (RGP). These NCDOT funds can be used as a local match for federal programs. The current amount of ROAP funds that PCTA receives from the state in each of the three programs is shown in Table 41.

Table 41 – PCTA ROAP Funding

Program	Amount (FY 2014)
Employment Transportation Assistance Program (ETAP) (also known as EMPL)	\$6,992
Elderly and Disabled Transportation Program (EDTAP)	\$53,714
Rural General Public (RGP)	\$61,146

Local

Local Option Sales Tax/Vehicle Registration Fees

North Carolina approved the use of a local option sales tax and/or additional vehicle registration fee through House Bill 148, signed into law in 2009. As of November, 2014 there have been 66 counties to hold referenda for a ¼ cent sales tax increase, of which 29 were approved. Referenda in Henderson and Rutherford counties were unsuccessful, while Haywood and Buncombe counties approved the tax increase. A ¼ cent sales tax increase would increase revenue for transit in Polk County by roughly \$250,000; likely excessive for Polk County. A vehicle registration fee increase is a more suitable option. With roughly 17,000 vehicles in Polk County, a vehicle license fee of \$1 to \$5 could increase transit revenue by \$17,000 to \$85,000. Neither a local option sales tax nor a vehicle registration fee increase are recommended at this time; however, both remain long-term funding options.

General Fund Contributions

Numerous cities, counties and states support transit systems in part through general fund contributions. Polk County currently provides funding to PCTA through general fund appropriations. Increased general fund contributions from local jurisdictions, either through tax or fee increases or budget reallocations, can allow a transit agency to obtain increased state and federal funds to expand service or undertake capital projects. Because local funds can be leveraged through federal and state programs, small increases in local funding can have large impacts on a transit agency's revenue.

Agency Service Contracts

Currently, the majority of PCTA's revenue comes from service contracts with several human service agencies, such as the Department of Social Services. Having multiple agency contracts leads to economies of scale. Many (but not all) of the agency-funded trips can be combined, with several agency and/or RGP riders in a vehicle at any time. Without these economies of scale, agencies would pay more per rider, and PCTA's RGP cost per rider would also increase.

PCTA can expand beyond the traditional human service agency market into service contracts with other key employers or institutions. These partners would pay the fully allocated cost (or a significant share of it) of the service, either through monthly payments to PCTA or the purchase of a certain number of fares on behalf of employees or clients. The contract would stipulate the amount and conditions of payment to PCTA and the service to be provided in return, which would likely consist of purchases of general public demand response trips (akin to a subscription service). For example:

- A cluster of service or health-sector employers could fund additional evening service to provide employees with transit home after work
- Late-evening subscription trips could be arranged with a large employer to provide employees with direct service to dispersed home locations
- Service to a work site in an adjacent county could be developed in collaboration with the employer and the adjacent county's public transportation provider
- Particular human-service needs, such as later-evening or Sunday service, could be addressed through collaboration with social service agencies to obtain a foundation grant

Any contracted services must act as public transportation, rather than as private charters, to conform to federal regulations which restrict transit agencies from using federally-funded assets for charter service. In particular, the services must be open to the public, and cannot be restricted to partners' employees or clients.

Farebox Revenue

Farebox revenue from RGP riders, although a relatively small source of income, is an important one – partly because PCTA has direct control over many elements of the fare structure, and partly because it directly affects riders. PCTA can increase or decrease the basic fare, which will increase or decrease revenue for each trip, but also increase or decrease the number of trips (a cost increase will discourage ridership, a cut will encourage ridership). Overall, at least in the short-term, incrementally raising or lowering fares will raise or lower income, respectively.

Advertising Income

Many transit systems allow advertisements to be placed on their vehicles which then serve as moving billboards throughout the county. Advertisements can also be placed inside vehicles which will be seen by riders. PCTA has previously explored exterior bus wrapping as a source of advertising revenue.

Appendix B – Onboard Survey Instrument

1. When did you make the reservation for this trip?

- More than 1 week ago 4-7 days ago 3 days ago 2 days ago

2. What is the purpose of this trip?

- Work School Recreation/Social Personal Business
 Shopping Medical/Dental Services Human/Social Services

3. Why did you choose to ride the PCTA service for this trip? Mark all that apply.

- Disability Limited mobility Lack of alternatives Avoid traffic
 Cost of service Environmental Convenience I enjoy door-to-door service

4. If the PCTA service did not exist, how would you have made this trip?

- Walk Ride with someone Buy or rent a car
 Bicycle I would not have made this trip Drive alone
 I would have sent someone on this trip for me Borrowed a friend’s vehicle Taxi

5. How long have you been riding the PCTA service?

- Less than 1 year 1-3 years More than 3 years

6. On average, how often do you ride each of the following transit services?

	<u>5+ per week</u>	<u>2-4 per week</u>	<u>1-4 per month</u>	<u>Occasionally</u>	<u>Never</u>
PCTA Service (<i>within</i> Polk County)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCTA Service (<i>outside</i> Polk County)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Please indicate your opinion of the following PCTA service qualities

	<u>Excellent</u>	<u>Good</u>	<u>Average</u>	<u>Fair</u>	<u>Poor</u>	<u>No Opinion</u>
Driver courtesy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost to ride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hours of service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places served	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service: Convenience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schedule/information: Telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone reservation system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length of window of time for pick-up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Overall, how do you rate the PCTA service?

- Excellent Good Average Fair Poor

9. Are there any locations within Polk County that need PCTA service – if so, which ones? Please provide town and specific destination name or street.

Location: _____
 Location: _____
 Location: _____

Please turn over →

10. If the following IMPROVEMENTS were made, how many MORE TRIPS would you make, on average?

	<u>5+ per week</u>	<u>2-4 per week</u>	<u>1-4 per month</u>	<u>Occasional</u>	<u>None</u>
More courteous drivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower cost to ride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Longer service hours: Weekday Earlier AM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weekday Later PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saturday service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sunday service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More places served: Polk County	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asheville Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spartanburg Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hwy 74 Corridor (towards Charlotte)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased: Convenience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better schedule/information: Telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better Reservation System: Telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shorter pick-up time window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A scheduled, all-day route between Tryon, Columbus, and Mill Spring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Please provide any other comments or suggestions: _____

Thank you for participating. If you have any questions, comments, or suggestions, please contact Paul Winn at: (919) 741-5507 (p) or PWinn@vhb.com.

Appendix C – Interview Guides

PCTA Community Transportation Service Plan Government Officials / TAB Survey

A *Community Transportation Service Plan* is being prepared for Polk County. Studying public transportation needs in the County is an integral part of the plan. We would like to know what you think. We appreciate your time and interest in providing valuable input. ***Thank you!***

1. What are your goals for transit in Polk County?

2. How do you see the current level of service?

3. Does more service need to be provided? Where is additional service needed?

4. What other types of enhancements need to be made (e.g. longer operating hours, Saturday/Sunday service, more frequency, etc.)?

5. Is there any desire to increase services available to the general public? (County)

6. What's your opinion on a deviated fixed route between Mill Spring to Tryon, passing through Columbus? Do you think that there is a demand for a rural general public route such as this?

7. What level of emphasis should be placed on regional (i.e. connections to other counties') transit systems / coordination?

8. Which of the following funding methods would you be in favor of, in addition to current funding levels for PCTA?

Additional County Funding _____

Funding by Incorporated Municipalities _____

Vehicle Registration Tax (legislative authority) _____

Grants _____

State Funding Increase _____

PCTA Community Transportation Service Plan Agency Representatives

Agency Name _____

Date Survey Completed _____

Contact Person _____ Title _____

Address _____ Telephone (_____) _____

_____ Fax Number (_____) _____

E-mail address _____

Please try to answer as many questions as you can. Thank you for your participation!

A. AGENCY INFORMATION: *This section requests information about your organization and the type of services provided to your clients.*

1. Which of the following best describes your agency?
 Private, non-profit Private, for-profit Public Other:

2. Which services does your agency provide? (Please check all that apply)

- | | | |
|---|--|--|
| <input type="checkbox"/> Congregate Nutrition | <input type="checkbox"/> Medicaid | <input type="checkbox"/> Senior Center |
| <input type="checkbox"/> Day Care | <input type="checkbox"/> Medical/Dental | <input type="checkbox"/> Sheltered Employment |
| <input type="checkbox"/> Education/Training | <input type="checkbox"/> Mental Health | <input type="checkbox"/> Supported Employment |
| <input type="checkbox"/> Head Start | <input type="checkbox"/> Recreational/Social | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Home-Delivered Meals | <input type="checkbox"/> Rehabilitation | <input type="checkbox"/> Volunteer Opportunities |
| <input type="checkbox"/> Job Placement | <input type="checkbox"/> Residential Care | <input type="checkbox"/> Other: _____ |

3. What geographic area(s) does your agency serve? The entire county of: _____
 the city of: _____
 other (please specify): _____
4. What are your agency's hours of operation? _____ to _____. Days per week: _____
5. Does your agency provide services to customers at more than one location? ___yes ___no If
 YES, please list the locations of other
 sites: _____

B. OVERVIEW OF CUSTOMER TRANSPORTATION NEEDS AND AVAILABLE SERVICES:
This section addresses the variety of ways in which customers access your agency's programs, and the adequacy of transportation.

6. How many of your agency's customers are dependent upon some sort of transportation assistance to receive full access to your agency's services? _____
7. How many of your agency's customers have transportation needs that **can not** be accommodated? _____
 Why are they unable to receive transportation services? _____

If your agency provides, purchases, or reimburses for client transportation, please continue on the next question. If you provide no transportation services or assistance, please skip to Section H.

8. Approximately how many agency customers receiving transportation assistance require an attendant, escort or a wheelchair lift?
 _____Attendant _____Escort _____Wheelchair Lift

C. AGENCY OPERATED TRANSPORTATION

If your agency operates its own vehicles to transport clients, please complete this section. If your agency does not operate vehicles to transport clients, please skip to Section D.

9. What types of transportation services does your agency provide? (please check all that apply)
- _____ Demand-responsive service: origins, destinations, and schedules vary according to service request. No specific routes or schedules.
 - _____ Subscription service: routes and schedules are tailored to regular riders and are adjusted as riders leave or new riders join the route.
 - _____ Charter-type service: group transportation for special events.
 - _____ Other -- please describe: _____
10. How many agency vehicles (by type) are used to transport customers (e.g. one 7-passenger minivan, two lift-equipped 14-passenger vans, etc)? _____

11. How far in advance must clients request service (DR, subscription, charter)? _____
12. Who operates your agency's vehicles? (Please check all that apply)
- _____ Full-time drivers -- how many? _____
 - _____ Part-time drivers -- how many? _____
 - _____ Volunteers -- how many? _____
 - _____ Full-time staff with other primary job functions -- how many? _____
 - _____ What is their primary job function? _____
13. If you provide service, what are the geographic limits of this service?

 What are the hours of availability of this service? _____ to _____. Days per week: _____
14. Does your agency maintain data on **one way passenger trips**? _____ yes _____ no
15. Does your agency prepare a "ridership report" or have any published documents that would provide information on ridership during the past fiscal year? _____yes _____ no
16. What are the primary IN-COUNTY destinations for trips?

17. What are the primary OUT-OF-COUNTY destinations for trips?

18. How many vehicle-miles of service did your agency provide with your agency's vehicles during the past fiscal year? _____ Is this an estimate? _____yes _____ no _____ unknown
19. Does your agency maintain a "mileage report" or have any published documents that would provide information on total miles operated during the past fiscal year? _____yes _____ no

20. Does your agency charge the client for all or a portion of the trip, or does the agency request contributions for transportation? ____yes ____ no
 If YES, which?
 _____charge (i.e. fares) -- please specify the amount: _____
 _____contributions -- what is the suggested contribution? _____
21. Does your agency place restrictions on who is eligible to use your transportation services? ____yes ____ no If YES, please explain:_____
22. Does your agency currently transport clients of other agencies or organizations? ____yes ____ no
 If YES, is the number of one-way passenger trips available for the past fiscal year, the billing rate and basis, and the total charge for the past fiscal year for each agency or organization.

Organization Name, Contact Person, Telephone Number	One-Way Passenger Trips	Unit Charge (\$ per mile, \$ per pass.)	Total Charge for the Past Fiscal Year

D. REIMBURSEMENT OF STAFF/VOLUNTEERS

23. Does your agency reimburse staff or volunteers to transport clients using personal vehicles?
 _____Staff _____Volunteers _____Neither -- **please go to Section E**
24. What is your agency's reimbursement rate? \$_____ per mile
25. What was the total amount or an estimate spent on staff/volunteer reimbursement for client transportation during the past fiscal year? \$_____
26. On the average, how many staff hours per week are spent transporting clients in personal vehicles?

27. How many one-way passenger trips were provided in this manner during the past fiscal year? (Please estimate if necessary) _____

E. REIMBURSEMENT OF CLIENTS

28. Does your agency reimburse clients for providing their own transportation? ____yes ____ no
If NO, please go to Section F.
29. What is your agency's client reimbursement rate? \$_____ per mile
30. What was the total amount spent on client reimbursement during the past fiscal year? \$_____

F. COSTS TO PROVIDE CLIENT TRANSPORTATION: *This section identifies the costs involved in transporting clients or reimbursing for their transportation.*

31. For which fiscal year is the data on this survey reported? ____FY 13-14 ____ FY12-13
 ____Other -- please specify:_____
32. What were your agency's operating expenditures for transporting clients in the past fiscal year?
 Operating Expenses Total \$_____

Appendix D – Public Forum Comment Sheet



**Polk County Transportation Authority (PCTA)
Community Transportation Service Plan
Public Forum Comment Sheet**

Before today, were you aware that any Polk County resident can ride PCTA?

Yes No

How frequently do you ride PCTA?

Never Occasionally Several times per month Several times per week

Which of the following would encourage you to try PCTA or make more trips using PCTA?

Lower cost to ride Later weekday service Saturday service Better schedule/info

Deviated fixed-route btwn Tryon, Columbus, Mill Spring More places served (e.g. _____)

Better reservation system Better schedule & info available More courteous drivers

Increased convenience Increased reliability Improved safety Other (describe)

PCTA is considering a deviated fixed route between Tryon, Columbus, and Mill Spring.

How often would you use this service?

Never Occasionally Several times per month Several times per week

Do you have any additional thoughts or comments on a deviated fixed route between Tryon, Columbus, and Mill Spring? Do you think the community would use the service?

For what types of trips would you consider using PCTA? Work? School? Shopping? Leisure? Medical? Other?

(turn over)

What do you think of the proposed service alternatives (longer weekday hours, Saturday service, weekly Hendersonville shopping shuttle, etc.)? Do these adequately address the transportation shortcomings for Polk County?

Are there other services or transportation ideas you would like to see in Polk County?

What do you think of the types of trips targeted for increased service (employment trips, general public trips, shopping and leisure trips)? Should other types of trips be the focus?

Do you have any other general comments about PCTA, funding opportunities, or future service plans?

Thank you for your input!

Please enter your full mailing address below if you wish to be entered in today's raffle for a \$50 gift.

Name: _____
Street Address: _____
City: _____
Zip Code: _____
Phone Number: _____
Email: _____

Summary

Before today, were you aware that any Polk County resident can ride PCTA?

Yes No

How frequently do you ride PCTA?

Never Occasionally Several times per month Several times per week

Which of the following would encourage you to try PCTA or make more trips using PCTA?

Lower cost to ride	<input type="text" value="8"/>	Later weekday service	<input type="text" value="13"/>	Saturday service	<input type="text" value="11"/>		
More places served	<input type="text" value=""/>	Better reservation system	<input type="text" value="7"/>	More courteous drivers	<input type="text" value=""/>		
Better schedule/info	<input type="text" value="15"/>	Deviated fixed-route btwn Tryon, Columbus, Mill Spring	<input type="text" value="10"/>				
Increased convenience	<input type="text" value="9"/>	Increased reliability	<input type="text" value="3"/>	Improved safety	<input type="text" value="1"/>	Other (describe)	<input type="text" value="4"/>

Uber-style, Asheville appointments, less wait-time for pickup, clearer rates to destinations.

PCTA is considering a deviated fixed route between Tryon, Columbus, and Mill Spring. How often would you use this service?

Never Occasionally Several times per month Several times per week

Do you have any additional thoughts or comments on a deviated fixed route between Tryon, Columbus, and Mill Spring? Do you think the community would use the service?

Hendersonville shuttle cool. Good. Late hours & weekends. Yes, community would use. Off-hours shuttle to evening functions/dinner. Great idea. Lynn stop needed. Would be helpful. E&D would use. Would help seek employment (no car). Good for visitors. Good for teenager (one-car HH). College students & elderly would benefit. After-hours medical. Timeliness for pickup & dropoff to doc. Less wait time. More frequent.

For what types of trips would you consider using PCTA? Work? School? Shopping? Leisure? Medical? Other?

Shopping - 13 Hendersonville - 3 Asheville - 2 Leisure - 5 DSS/Medical - 9 Work/volunteer - 8

Errands (vehicle repairs, after-school, extra-curricular) - 3

What do you think of the proposed service alternatives (longer weekday hours, Saturday service, weekly Hendersonville shopping shuttle, etc.)? Do these adequately address the transportation shortcomings for Polk County?

Saturday nice. Good for seniors Yes! Likes. Saturday morning and evening service good ideas.

Yes. Yes Yes Very important. These will help. Great ideas. Need later weekday hours. Yes.

Longer weekday hours. Weekend would be helpful. Love ideas and they'd benefit community.

Afternoon trips and 24-hour res are good. Likes 24-hour res, longer weekday, Sat service, Hendersonville shuttle.

Great! Yes! Likes Sat service and longer evening hours. Loves 24-hour res.

Are there other services or transportation ideas you would like to see in Polk County?

Recreation - Pearson's Falls, Asheville, Carl Sandburg house, etc. Off-hour group trips to functions (Charter???)

Greenville shopping. Bicycle paths to schools and shopping. Spartanburg trips. Late night service.

Asheville medical appointments. Marketing directly to specific age groups. Shorter trip length. Longer weekday hours.

What do you think of the types of trips targeted for increased service (employment trips, general public trips, shopping and leisure trips)? Should other types of trips be the focus?

Spartanburg - Costco. Shopping, education (library/ICC) Support groups. Dental clinic in Hendersonville.

Education Students More general public shuttles. E.g. movie Saturday for teens. Tourists benefit.

Do you have any other general comments about PCTA, funding opportunities, or future service plans?

Glad for this study. One of Polk County's highlights. Great job!

Glad for the service. Service has been needed for spouse injured in car wreck.

Likes Saturday service.

Saturday service is needed

Would like to use for rides in bad weather.

Want to see public transportation expanded.

Don't think commissioners would be on board for vehicle registration fee.

Sandy Plains area only has demand response, no deviated fixed service.

Enjoys service.

Hopes no budget cuts will ever come to the system as it's great for the area.

Wants to make sure transportation stays available in the future.

Would like more schedule flexibility.

Loves the service. Don't know what we'd do without it.

Appendix E – Survey Responses

**Appendix F – Public Forum Comment Sheet
Responses**