

Town of Apex

Transit Circulator Study Draft Recommendations

October 2019

Prepared by
The Town of Apex Planning Department with the Town of Cary



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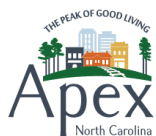


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EXECUTIVE SUMMARY

The Town of Apex, with assistance from the Town of Cary, has prepared draft recommendations for the highest-priority bus route in Apex, called GoApex Route 1. This report includes draft recommendations for: bus route, bus stops, schedule, fares, paratransit service, and a potential financial plan. The results of this study are intended to inform possible implementation of the first local bus serving Apex.

Bus Route

GoApex Route 1 is planned to provide residents and visitors with access to local destinations and connections to regional transit. The proposed route would provide connections to key destinations such as downtown Apex, Beaver Creek Commons, Publix Pointe, WakeMed Healthplex, the NC 55 Corridor, and Walmart. The proposed service would provide transit connections from Apex to Raleigh, Cary, Holly Springs, and the Research Triangle Park. The route was designed to serve the areas with the highest propensity to use transit in Apex. Figure 1 displays the proposed bus route and bus stops. Figure 2 displays the route map with directions. Start at Town Campus, and follow the blue arrows to understand the proposed route of the bus.

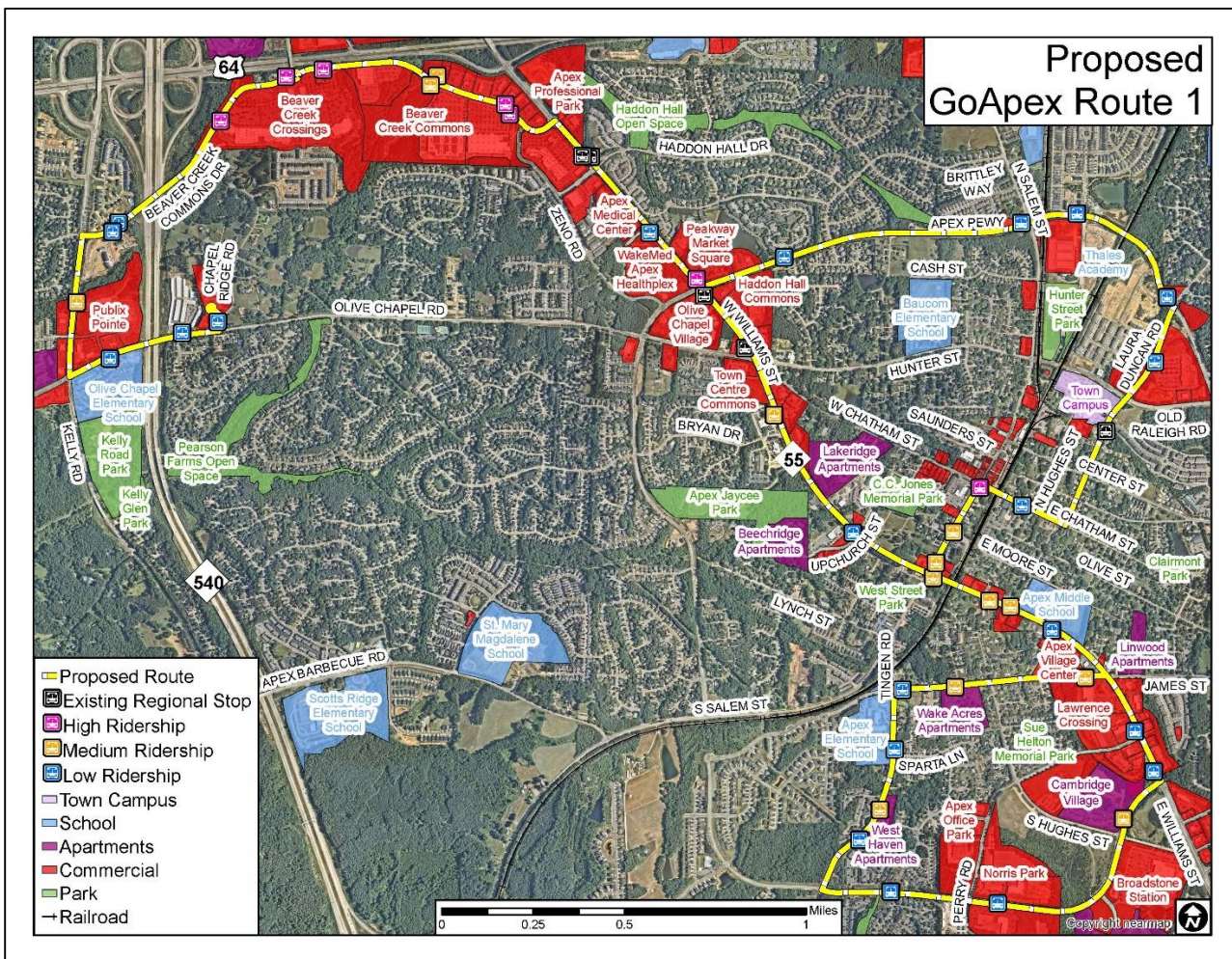


Figure 1. GoApex Route 1 shown with stops

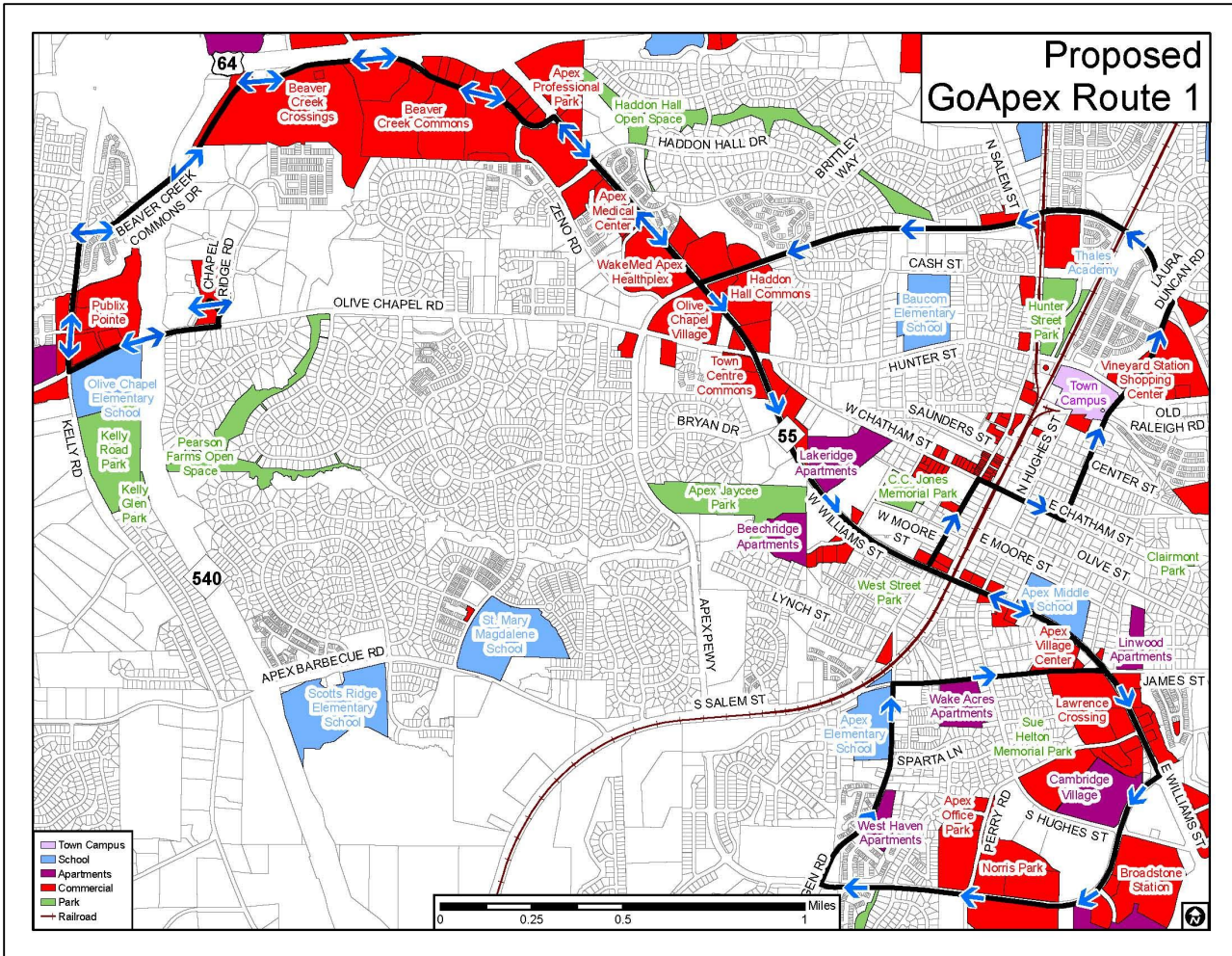


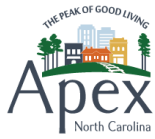
Figure 2. GoApex Route 1 with directions

Bus Stops

Proposed bus stop locations were selected based on input gathered during the public engagement process, existing regional bus stops, existing bus stop facilities, planned regional transfer points, and an assessment of infrastructure needs. All new bus stops are required to have accessible pedestrian facilities, an accessible landing pad, lighting, and a bus stop sign. Recommended bus stop improvements beyond the minimum requirements correspond with anticipated ridership.

Service Scenarios

Multiple schedule alternatives, paratransit eligibility alternatives, and fare options are evaluated in the report. Table 1 summarizes the advantages and disadvantages for four fare and paratransit service scenarios. The four scenarios in the table are under Schedule Alternative 3 (60-minute, all-day service, and no service on Sundays). The regional fare option and a fare free option are considered in this study. Two paratransit eligibility alternatives are explored in this study – one where paratransit service is only offered to individuals with a disability, referred to as the FTA-minimum model, and



a second where service is expanded to include individuals over age 60, referred to as the GoCary model. The cost to provide paratransit service may decrease substantially if the Town implements an alternative paratransit service delivery model such as a taxi voucher program or a potential partnership with GoWake Access.

Table 1. Comparison of advantages and disadvantages for four fare and paratransit service scenarios under schedule Alternative 3

Factors	Regional Fare + FTA- Minimum Paratransit	Regional Fare + GoCary Paratransit	Fare Free + FTA Minimum Paratransit	Fare Free + GoCary Paratransit
Estimated Annual Revenues	\$19,576	\$23,520	\$0	\$0
Estimated Annual Operating Expenses	\$815,958	\$815,958	\$815,958	\$815,958
Estimated Total Annual Net Costs	\$796,382	\$792,438	\$815,958	\$815,958
Estimated Annual Fixed-Route Ridership	30,285	28,005	39,437	37,157
Estimated Annual Paratransit Ridership	2,280	4,560	2,583	9,120
Reliability to make a Paratransit reservation	High	Average	Average	Low
Convenience for Riders	Low	Average	Average	High
Public Expectations	Low	Average	High	High

Next Steps

Study recommendations may be used to inform a Wake Transit Community Funding Area Program Capital and Operating funding application. Items for further investigation include: alternative paratransit service delivery models, a customer service plan, and integration of GoApex Route 1 GPS tracking into regional mobile application and Google Maps.



INTRODUCTION

The Apex Circulator Study is intended to provide the details necessary to implement the Town of Apex’s priority local transit route. The study was completed by the Town of Apex, in partnership with the Town of Cary, and with funding support from the Wake Transit Community Funding Area Program. The priority route was recommended in the Western Wake Comprehensive Operational Analysis and *Advance Apex: The 2045 Transportation Plan*. The goal of the Apex Circulator is to provide a transportation service that connects the community to local destinations and provides access to regional transit services. This report includes a summary of public input received throughout the study, and detailed recommendations for: capital needs, bus operations, paratransit service, vehicles, fare structure, marketing, and a financial plan. These draft recommendations include necessary next steps for further investigation. The intent of this study is to inform a potential application for capital and operating funds available through the Wake Transit Community Funding Area Program. The Town of Cary was a partner in this study as it is anticipated GoCary would operate the Apex Circulator service. The Town of Apex Transit Committee provided guidance and review of recommendations throughout the study process.



PUBLIC INPUT SUMMARY

A thorough public outreach process was conducted as part of the Apex Circulator Study. The overall outreach strategy, and a summary of input received through that process is provided in this section.

Public Engagement Plan

The public input strategy was guided by a Public Engagement Plan (see Appendix A) reviewed by the Wake Transit Public Engagement Subcommittee, the Town of Apex Transit Committee, and partners with the Town of Cary. The purpose of outreach for the Circulator Study was to specifically engage people along the proposed route to gather input on the following topics:

1. Proposed route alignment
2. Bus stop locations
3. Route schedule
4. Bus stop amenities
5. Bus fare
6. Deviated fixed-route service versus on-demand service for persons with disabilities
7. Trip purpose

Nine targeted outreach events were held along the proposed transit corridor as shown in Table 2.

Table 2. Locations and dates of targeted outreach events

Location	Date
Compare Foods/S. Hughes Bus Stop	Tuesday, July 9 th
WakeMed Healthplex	Thursday, July 11 th
Chick-fil-A	Thursday, July 11 th
Lake Pine Plaza Park-and-Ride	Thursday, July 11 th
Hunter Street Park	Monday, July 15 th
Apex Community Center	Friday, July 19 th (AM & PM)
Apex Farmers Market	Saturday, July 20 th
Walmart	Saturday, July 20 th

An online public survey was conducted from July 8, 2019 through August 9, 2019. The survey questions were designed to gather the same types of input as the targeted outreach events.

The following steps were taken to spread the word about opportunities to participate in the Apex Circulator Study:

- A flyer was distributed at a public open house held for the Town of Apex Downtown Master Plan and Parking Study.
- Updates were made to the Town of Apex transit web page with public outreach event details – day, time, and location.
- English and Spanish versions of a flyer advertising outreach events and the online survey were distributed to the following locations: Apex Jaycee Park, Compare Foods, S Hughes Street Park-and-Ride, Downtown Apex Ambassador Garden, Town Hall, Cambridge Village, Lakeridge Apartments, WakeMed Healthplex, Target,



Walmart, Beechridge Apartments, Wake Acres Apartments, West Haven Apartments, Apex Community Center, Lake Pine Park-and-Ride, and Eva Perry Library.

- Online survey link was available at in-person engagement events.
- Online survey link and the Town of Apex transit web page link were posted on the Town’s Facebook page.
- Transit committee members were asked to distribute information about the study and survey.
- The Western Wake Crisis Ministry encouraged clients to participate in the survey.

The public engagement plan identified three performance measures to gauge the success of the outreach phase of the Apex Circulator Study. The measures and outcomes are described in Table 3.

Table 3. Public engagement performance measures and outcomes

Performance Measure	Outcome
Online survey completed by a minimum of 50 stakeholders	484 individuals participated in the online survey
Pop-up booths visited by a minimum of 50 stakeholder	At least 100 stakeholders visited the pop-up booths
Pop-up booths held at a minimum of three locations	Pop-up booths were held at eight locations

Public Input Results

Public input gathered at all targeted outreach events and through the online survey is compiled and summarized in Appendix B. Key takeaways and similar comments made with high frequency across all topic areas are summarized briefly below:

- Most online survey respondents never ride a bus.
- Most online survey respondents own a car or have access to a car.
- 18% of online survey respondents prefer to use a mode of transportation other than a personal vehicle.
- 45% of online survey respondents would use the proposed bus service.
- Top 5 proposed alignment comments:
 - Serve Downtown Apex
 - Provide service along Apex Peakway
 - Provide service to the west (Olive Chapel Road / Kelly Road)
 - Connect to regional transit services (GoTriangle service to Raleigh and RTP)
 - Connect to Cary / GoCary system
- Top 10 suggested bus stop locations:
 - Beaver Creek Commons
 - Downtown Apex
 - Walmart
 - Town Campus
 - Eva Perry Library
 - Beaver Creek Crossings
 - S Salem Street and NC 55
 - S Hughes Street Park-and-Ride



- Post Office
- Haddon Hall Commons
- Online survey respondents and pop-up booth participants are more likely to use the proposed bus service on weekdays and Saturdays.
- Online survey respondents and pop-up booth participants would use the proposed bus service throughout the day on weekdays.
- Online survey respondents and pop-up booth participants are more likely to use the proposed bus service between 11:00 am – 4:00 pm on weekends.
- There were multiple requests for 30-minute frequency.
- Top bus stop amenity preferences include: shelter, bench, route information signage, and trash receptacle.
- 17% of online survey respondents and pop-up booth participants prefer a fare-free service.
- 35% of online survey respondents and pop-up booth participants would pay up to \$2 for a one-way trip on the proposed bus service.
- Most online survey respondents and pop-up booth participants prefer a separate, on-demand paratransit service compared to allowing the bus to deviate from its regular route.
- Most pop-up booth participants prefer to expand paratransit service beyond requirements to include all seniors.
- 33% of online survey respondents and pop-up booth participants would use the proposed bus service for a shopping trip.



CAPITAL AND OPERATIONS PLAN

The capital and operations plan component of the Apex Circulator Study addresses the bus route and schedule, stop locations and needs, initial paratransit recommendations, vehicles, and fare structure.

Bus Route

The Apex Circulator is a priority local bus route that is planned to provide residents and visitors with access to local destinations and connections to regional transit. As the first local bus route in Apex, from this point forward, the Apex Circulator will be referred to as GoApex Route 1.

The proposed route would operate within the Town of Apex, providing mobility between employment, health care, retail, commercial, and recreational destinations. This proposed service would provide transit connections from Apex to Raleigh, Cary, Holly Springs, and the Research Triangle Park.

GoApex Route 1 was identified as a priority recommendation in *Advance Apex: The 2045 Transportation Plan* and in the Western Wake Comprehensive Operations Analysis. The conceptual route was shown along NC 55 from Beaver Creek Commons to Walmart. This route was designed to serve the areas with the highest propensity to use transit in Apex.

As part of study recommendations, the original route has been extended to include Downtown Apex and destinations in the western part of Apex in response to input gathered through a comprehensive public engagement process. The route was designed to maximize service coverage area and maintain at least hourly frequency with one bus in operation. Figure 3 displays the proposed bus route and bus stops. Figure 4 displays the route map with directions. Start at Town Campus, and follow the blue arrows to understand the proposed route of the bus.

Bus Stops and Needs

Proposed bus stop locations were selected based on input gathered during the public engagement process, existing regional bus stops, existing bus stop facilities, planned regional transfer points, and an analysis of infrastructure needs. A determination of needs at each proposed bus stop was made based on an analysis of existing conditions, anticipated ridership, frequency of similar public comments, land uses, and demographics.

The bus stops shown in Figure 3 are designated as Regional, Low, Medium, and High. These designations correspond with the level of improvements recommended for each stop. Regional stops are those bus stops serving GoApex Route 1 that also serve regional routes. Recommendations for improvements to these stops are made as part of this study; however, those needs are not anticipated to be funded by a capital improvement project sponsored by the Town of Apex. Improvements for these stops are anticipated to be funded by regional providers through the Wake Transit Plan. All new bus stops are required to have accessible pedestrian facilities, an accessible landing pad, lighting, and a bus stop

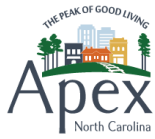
GoApex Route 1 Key Destinations and Connections

Key Destinations

- Downtown Apex
- Town Campus
- Beaver Creek Commons
- Beaver Creek Crossings
- Publix Pointe
- Western Wake Crisis Ministry
- WakeMed Healthplex
- Apex Jaycee Park
- Apex Middle School
- NC 55 Corridor
- Walmart

Transit Connections

- GoTriangle Route 305 (Lake Pine – Cary – Raleigh)
- GoTriangle Route 311 (Apex – Regional Transit Center)
- Future GoCary Route HSX (Holly Springs – Apex – Cary Express)



sign. Only these required improvements were recommended for new local bus stops anticipated to have low ridership, with the exception of a few benches recommended for bus stops in areas where riders are more likely to have a disability, such as near medical facilities. In addition to the required improvements, benches are recommended at bus stops anticipated to have medium ridership on a case-by-case basis. Finally, most stops anticipated to have high ridership are recommended to have additional amenities such as benches, trash receptacles, bicycle parking, and car parking. In an effort to control costs, and to allow for evaluation of needs based on actual ridership, shelters are not recommended for installation as part of the start of service; however, potential locations for future installation of shelters are identified. Finally, recommendations for wayfinding signage are included to inform a separate wayfinding study and implementation project. A table of bus stop needs with cost estimates can be found in Appendix C.

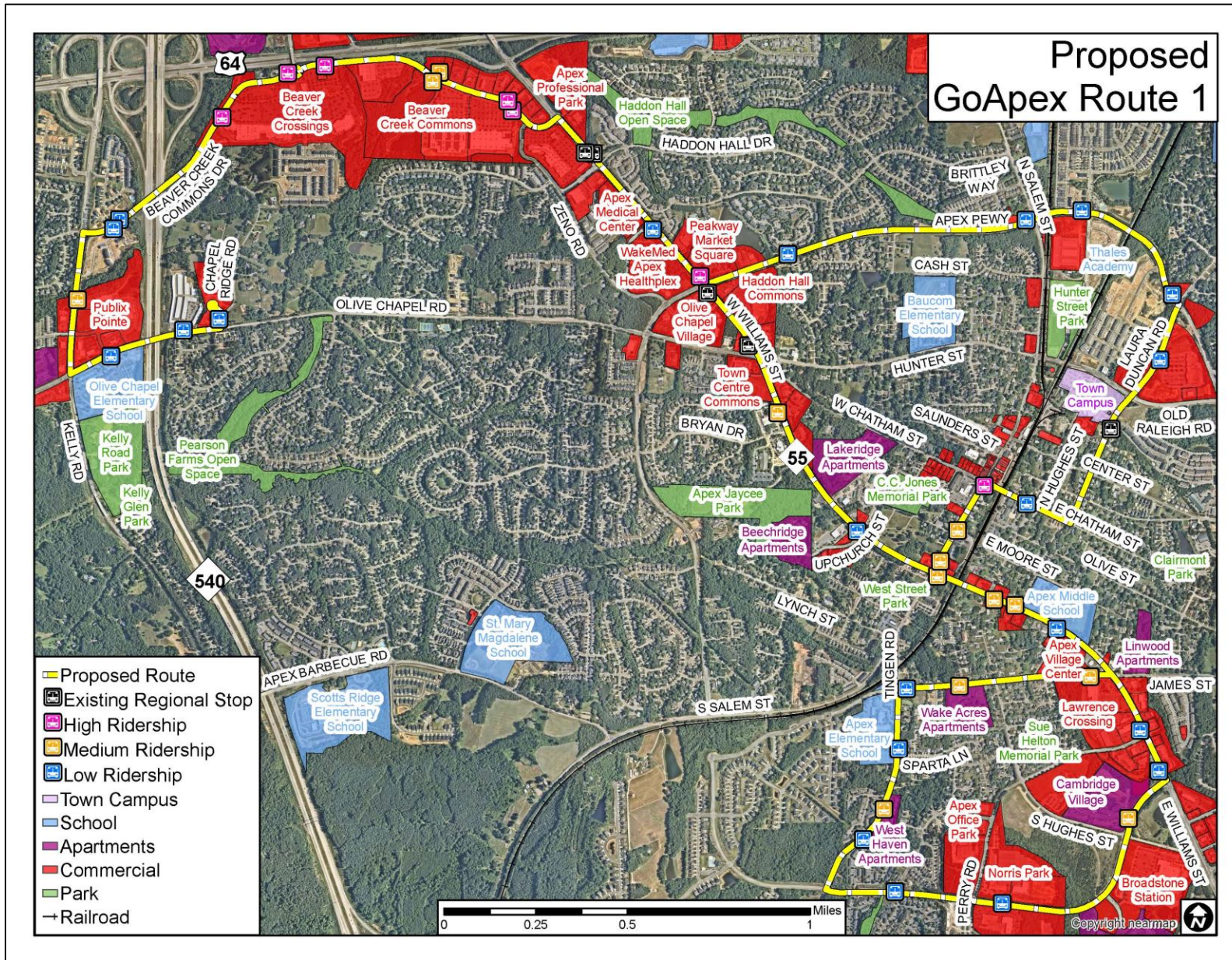


Figure 3. GoApex Route 1 shown with stops

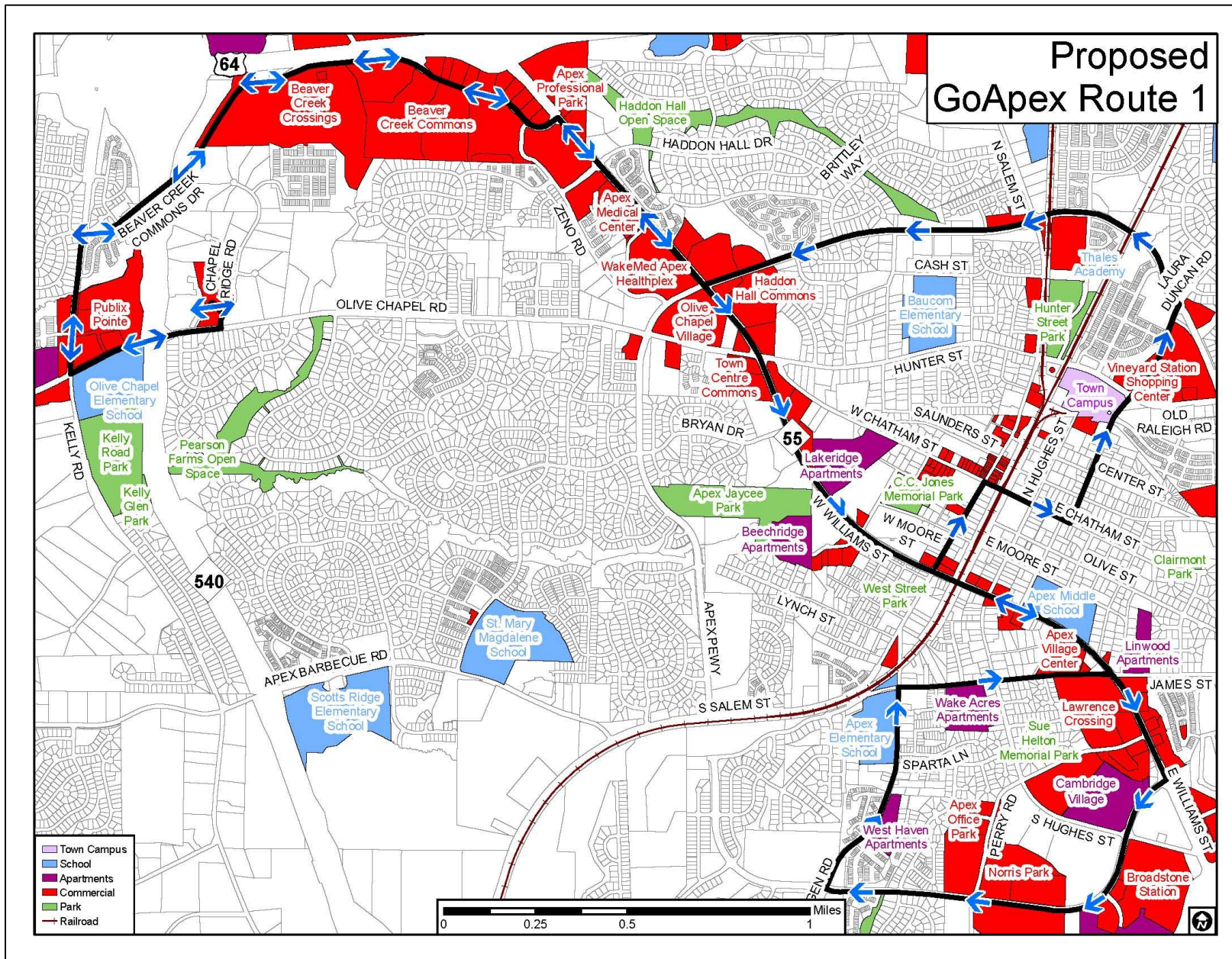


Figure 4. GoApex Route 1 with directions



Bus Schedule

Three bus schedule alternatives are considered in this study:

- **Alternative 1** - Provide 60-minute all-day service Monday through Saturday from 6:00am to 10:00pm and 60-minute all day service on Sunday from 7:00am to 9:00pm, as recommended in the Western Wake Comprehensive Operations Analysis.
- **Alternative 2** - Provide 30-minute service Monday through Friday during peak periods of 6:00am to 9:00am and 4:00pm to 7:00pm, 60-minute service Monday through Friday from 9:00am to 4:00pm and 7:00pm to 10:00pm, 60-minute all-day service on Saturday from 6:00am to 10:00pm, and 60-minute all-day service on Sunday from 7:00am to 9:00pm. The second alternative is presented in response to public comments that 60-minute frequency is not enough to provide convenient transit service in Apex.
- **Alternative 3** – Provide 60-minute, all-day service Monday through Saturday from 6:00 am to 10:00 pm. This third alternative, which is similar to Alternative 1 but eliminates service on Sunday, was evaluated in an effort to control the cost of providing the new transit service. Based on public input, Sunday is the day people indicated they are least likely to use transit.

While costs are provided in this report for each alternative, there is no way to accurately predict an increase/decrease in ridership for Alternative 2 and Alternative 3, so ridership projections are not shown.

An example schedule based on timings done both in person and using the transit planning platform Remix is provided in Table 4.

- Red times indicate trips that would not run on Sundays under Alternative 1 and 2 (there would be no Sunday service with Alternative 3).
- Bold times indicate transfers are available to GoCary Holly Springs Express and GoTriangle Route 311 at the S Hughes Street Park-and-Ride (Compare Foods).
- If a 30-minute peak period option is desired, trips would run beginning at 6:30, 7:30, and 8:30 AM, as well as 4:30, 5:30, and 6:30 PM.

Actual times would be refined continuously based on on-time performance and traffic conditions.



Table 4. GoApex Route 1 60-Minute All Day Option

Apex Community Center	Peakway Market Square	Beaver Creek Commons (Chick Fil A)	Olive Chapel Professional Park	Beaver Creek Commons (Target)	WakeMed Apex	S Hughes Park-and-Ride (eastbound)	James St at Tingen Rd	S Hughes Park-and-Ride (westbound)	Apex Community Center
6:00 AM	6:07 AM	6:10 AM	6:18 AM	6:26 AM	6:29 AM	6:34 AM	6:44 AM	6:48 AM	6:53 AM
7:00 AM	7:07 AM	7:10 AM	7:18 AM	7:26 AM	7:29 AM	7:34 AM	7:44 AM	7:48 AM	7:53 AM
8:00 AM	8:07 AM	8:10 AM	8:18 AM	8:26 AM	8:29 AM	8:34 AM	8:44 AM	8:48 AM	8:53 AM
9:00 AM	9:07 AM	9:10 AM	9:18 AM	9:26 AM	9:29 AM	9:34 AM	9:44 AM	9:48 AM	9:53 AM
10:00 AM	10:07 AM	10:10 AM	10:18 AM	10:26 AM	10:29 AM	10:34 AM	10:44 AM	10:48 AM	10:53 AM
11:00 AM	11:07 AM	11:10 AM	11:18 AM	11:26 AM	11:29 AM	11:34 AM	11:44 AM	11:48 AM	11:53 AM
12:00 PM	12:07 PM	12:10 PM	12:18 PM	12:26 PM	12:29 PM	12:34 PM	12:44 PM	12:48 PM	12:53 PM
1:00 PM	1:07 PM	1:10 PM	1:18 PM	1:26 PM	1:29 PM	1:34 PM	1:44 PM	1:48 PM	1:53 PM
2:00 PM	2:07 PM	2:10 PM	2:18 PM	2:26 PM	2:29 PM	2:34 PM	2:44 PM	2:48 PM	2:53 PM
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6:00 PM	6:07 PM	6:10 PM	6:18 PM	6:26 PM	6:29 PM	6:34 PM	6:44 PM	6:48 PM	6:53 PM
7:00 PM	7:07 PM	7:10 PM	7:18 PM	7:26 PM	7:29 PM	7:34 PM	7:44 PM	7:48 PM	7:53 PM
8:00 PM	8:07 PM	8:10 PM	8:18 PM	8:26 PM	8:29 PM	8:34 PM	8:44 PM	8:48 PM	8:53 PM
9:00 PM	9:07 PM	9:10 PM	9:18 PM	9:26 PM	9:29 PM	9:34 PM	9:44 PM	9:48 PM	9:53 PM

Paratransit Recommendations

GoCary, the anticipated service provider for GoApex Route 1, is a recipient of Federal Transit Administration (FTA) grants and is therefore subject to FTA regulations regarding the provision of complementary Americans with Disabilities Act (ADA)-accessible paratransit service within ¾ mile of its fixed routes. This requirement would be applicable to areas within ¾ mile of GoApex Route 1. Below are service recommendations and analysis for complementary ADA paratransit in Apex.

Eligibility and Area Subject to Paratransit Service

The FTA requires that transit agencies make paratransit services available to customers whose residence is within ¾ mile of a fixed route service, with verified disabilities that prevent them from going to the bus stop and/or getting on and off the bus. Passengers go through an application process where their disability is verified by a physician. Some agencies, including GoCary, also extend this courtesy to seniors above a given age (often 60 or 65). However, FTA guidance only requires agencies to serve those with a disability. Two paratransit service scenarios are explored in this study – one where paratransit service is only offered to individuals with a disability, referred to as the FTA-minimum model, and a second where service is expanded to individuals over age 60, referred to as the GoCary model. The paratransit service area for GoApex Route 1 is shown in Figure 5.

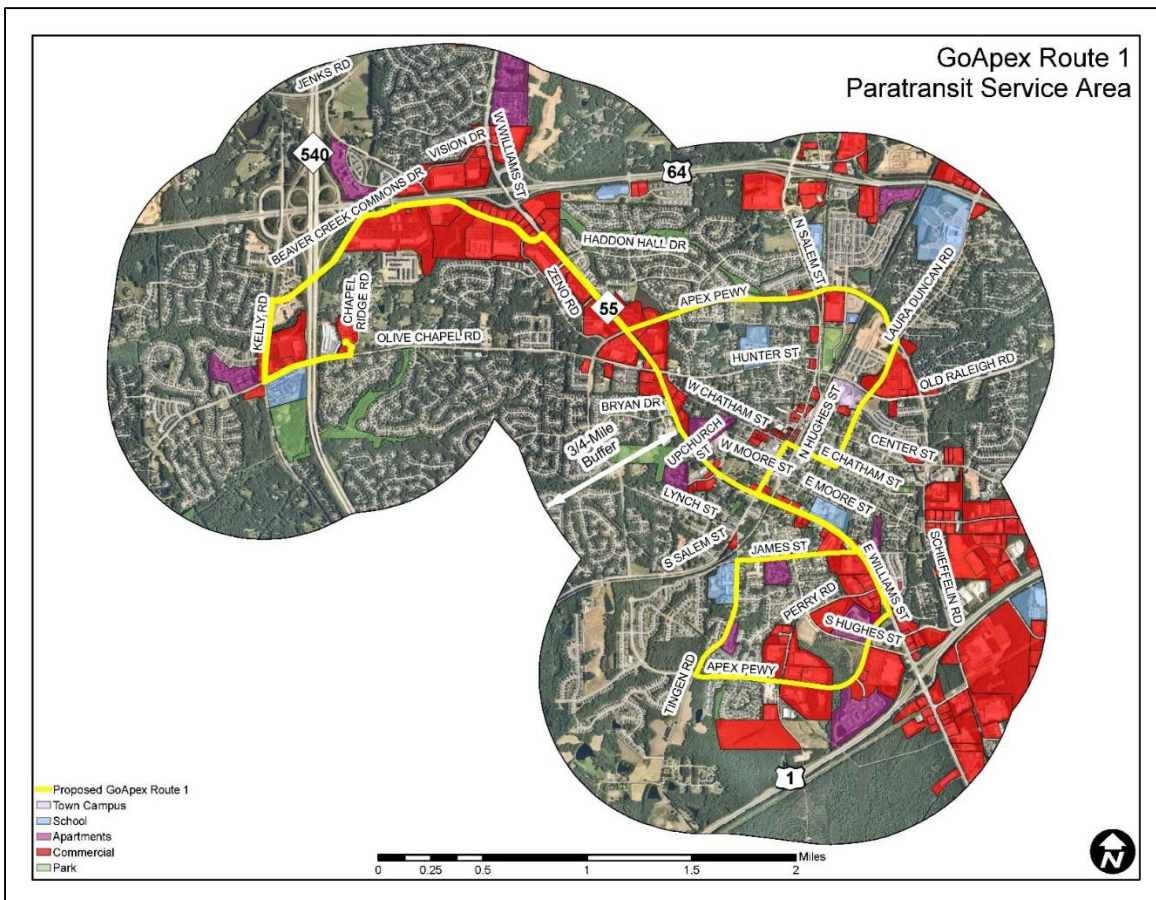


Figure 5. Paratransit Service Area



Service Delivery Model

Most ADA paratransit service is delivered in a door-to-door or curb-to-curb model. This means that a passenger is picked up by a separate vehicle dedicated to paratransit service directly at the nearest curb to their origin and dropped off at the nearest curb to their destination. Curb-to-curb means that a passenger is picked up at the nearest curb to their origin and dropped off at the nearest curb to their destination. Door-to-door means that the driver assists the passenger from the door of their origin, past the curb to the vehicle, or from the vehicle, past the curb to the door of their destination. Most transit agencies establish curb-to-curb service as their baseline, with the provision that assistance beyond the curb will be provided as needed. If a system establishes door-to-door as the baseline, this means that the driver must assist the passenger past the curb for every trip, whether or not the assistance is needed.

There are no set bus stops in paratransit service, and vehicles can enter private driveways, parking lots, and drop-off locations. Thus, vehicles for paratransit service are usually no larger than passenger vans that can fit into tight driveways. In some instances, smaller “cutaway” buses can be used for trips where there is a higher number of expected riders.

Another delivery model, allowing the regular bus to deviate from its fixed route to pick up customers with disabilities, was initially investigated as part of this study. Based on strong public feedback that this model would not provide the reliability expected for the fixed route service, nor the customer service needed for passengers with disabilities, this service option was eliminated from further study.

Paratransit service is usually by reservation-only. GoCary Door-to-Door rides can be scheduled as much as 14 days in advance and must be scheduled at least one day in advance. Rides are scheduled on a first-come, first-serve basis. However, efficiencies can often be achieved by having multiple riders use one vehicle. For example, Passenger A is picked up at location A, then Passenger B is picked up at location B, then Passenger A is dropped off at location C, and finally Passenger B is dropped off at location D.

FTA regulations state that paratransit service must be available for all hours that the corresponding fixed route is in service, including nights, weekends, and holidays. Furthermore, the fare for a paratransit trip may be no more than twice the cost of a trip on the corresponding fixed route. Therefore, if GoApex Route 1 is priced at \$1.25 for a full fare, the paratransit service can cost no more than \$2.50 per trip. If GoApex Route 1 is fare free, the corresponding paratransit service must also be fare free as well.

All paratransit vehicles are required to be equipped to handle mobility devices such as wheelchairs and walkers.

Paratransit Service Ridership Projections

GoCary’s Tier I Door-to-Door service is an approximate peer to a potential Apex paratransit service. This service is available to anyone with a disability that prevents them from using fixed route service, or any Cary resident age 60 and older. Both towns have similar demographics and density within their transit service areas to make comparisons. In FY19, Tier I ridership on GoCary Door-to-Door averaged 1,265 riders per month. Trips were split relatively evenly between ADA-eligible passengers and seniors at 47.5% and 48.7%, respectively. The remainder of trips were made by courtesy riders or personal care attendants.

The $\frac{3}{4}$ mile Tier I radius covers approximately 32.9 miles in the Town of Cary, averaging out to 38 monthly passengers per mile served. The proposed mileage served by GoApex Route 1 is approximately 10 miles. Using the same passengers



per mile standard as GoCary Door-to-Door Tier I, the Apex Paratransit service will average approximately 380 passengers per month, or about 12-16 per weekday and 6-10 per weekend day. This number would be roughly cut in half if trips are limited only to ADA-eligible boardings.

If GoApex Route 1 is fare free, then the paratransit service must also be fare free per FTA regulations. This is projected to at least double the ridership on the paratransit service, as there would be no incentive to use the circulator for anyone paratransit-eligible. For comparison, GoCary’s fixed-route senior ridership is about equal to its Tier I ridership, meaning if seniors are eligible for paratransit, most of those boardings would move from the circulator to the paratransit service. Furthermore, almost all disabled individuals would opt for the more convenient, curb-to-curb service. Disabled boardings count for about 1% of GoCary fixed route ridership. Ultimately, the fare-free scenario would greatly impact the utility of the circulator.

Comparison of anticipated ridership between four potential service delivery and fare combinations is provided in Table 5. More information about the fare scenarios is provided in the next section.

Table 5. Paratransit ridership comparison for different service and fare scenarios

Paratransit Service Model	Anticipated Annual Ridership - Regional Fare Scenario	Anticipated Annual Ridership - Fare-Free Scenario
FTA-minimum model	2,280	2,624
GoCary model	4,560	9,120

Paratransit Vehicle and Staffing Needs

Under all scenarios, a dedicated Apex paratransit vehicle will allow for greater scheduling efficiency and distinguish Apex paratransit service from Cary paratransit service, which may have its own eligibility requirements. Operationally, Apex paratransit service will be incorporated into the larger GoCary Door-to-Door operations, using the same dispatchers and reservationists as GoCary Door-to-Door. The Town of Apex would be billed by the Town of Cary for the all-day use of the paratransit vehicle, as well as overhead costs that are incorporated into the hourly rate. If this vehicle is out of service for maintenance or any other reason, a normal GoCary-branded vehicle could be used until the dedicated Apex vehicle is back in service.

Alternative Paratransit Service Delivery Models

Alternative paratransit service delivery models will be considered to reduce paratransit operating costs. While there are advantages to having a designated, Apex-branded vehicle for paratransit service that is incorporated into the larger GoCary Door-to-Door operations, the cost may become prohibitive. Alternative options to consider include taxi vouchers or a partnership with GoWake Access. GoRaleigh uses taxi vouchers to meet FTA paratransit requirements. GoWake Access is an existing paratransit service in Wake County. Additional information about these two options will be gathered and provided as an update to this report.

Taxi Voucher Model

The Wake Forest Loop is a weekday local circulator service that is operated by GoRaleigh and uses the taxi voucher model to provide complementary paratransit service to the fixed-route service. The Wake Forest Loop paratransit service is incorporated into the larger GoRaleigh taxi voucher program. The Wake Forest Loop is a fare-free service and the associated paratransit service is also fare free. The taxi voucher model would not require a dedicated paratransit vehicle to serve the GoApex Route 1 Paratransit Service Area during all fixed-route service revenue hours. Instead, a taxi



would only be dispatched when an eligible resident makes a trip reservation. Based on initial information provided by the City of Raleigh, the average cost per ADA paratransit trip is approximately \$21. Based on this information, this option has the potential to drastically reduce the costs to provide complementary paratransit service for GoApex Route 1.

GoWake Access Model

GoWake Access is an existing door-to-door, shared ride service in Wake County that provides service to those in the general public who: are age 60 or older, have a disability, need work-related transportation, reside in rural service zones of Wake County, or participate in a sponsored eligible service. As a follow-up to the initial GoApex Route 1 study recommendations provided in this report, additional investigation of a potential partnership with GoWake Access will be conducted to determine potential applicability to the Town of Apex paratransit needs.

Fare Structure

Prior to starting service, the Town of Apex will need to determine whether to charge a fare for boarding GoApex Route 1. Two alternative scenarios will be explored in this section: a fare structure identical to most other regional transit providers, and a fare-free structure similar to the Wake Forest Loop operated by GoRaleigh. These two fare structures and their anticipated impacts on ridership, overall revenues, and overall costs are explained in this section.

Regional Fare Structure Scenario

In 2018 the regional fare structure was adopted by the transit agencies in Wake County (GoRaleigh, GoTriangle, and GoCary). The basic regional fare structure is detailed in Table 6.

Table 6. Regional fare structure adopted in 2018

Fares/Multipliers	Local Routes	Regional/Express Routes
Base	\$1.25	\$2.50
Day Pass	\$2.50	\$5.00
7-Day Pass	\$12.00	\$24.00
31-Day Pass	\$40.00	\$80.00
Base Discount*	\$0.60	\$1.25
Discount Day Pass	\$1.25	\$2.50
Discount 7-Day Pass	\$6.00	\$12.00
Discount 31-Day Pass	\$20.00	\$40.00
Seniors (over age 65)	Free	Free
Youth (under age 18)	Free	Free

**Mainly applies to disabled passengers*

If the Town of Apex charges a fare, it is recommended that Apex adopt the local fare structure shown in Table 4. It is anticipated that this fare system would result in ridership similar to GoCary fixed route services, which averaged 5.61 passengers per revenue hour in FY 2019. Revenue hours are a measurement of time the bus is in operation serving customers. It does not include hours in maintenance or other time out of service traveling to and from the operations base (“deadhead”). Assuming an hourly operating schedule for 16 hours on weekdays and 14 hours on Sundays over 363 days of the year (excluding Thanksgiving and Christmas), this fare structure would likely result in an estimated 32,089 boardings per fiscal year if paratransit service is extended to seniors, and 34,369 if paratransit is limited to disabled-only, and seniors will then use the circulator in greater numbers.



FTA-minimum Paratransit: 5.61 average boardings/hour * 5,720 annual revenue hours + average senior-only paratransit boardings = 34,369 boardings/year

GoCary Paratransit: 5.61 average boardings/hour 5,720 annual revenue hours = 32,089 boardings/year

Figure 6. Regional Fare Scenario Anticipated Fixed-Route Ridership under Schedule Alternative 1

FTA-minimum Paratransit: 5.61 average boardings/hour * 4,992 annual revenue hours + average senior-only paratransit boardings = 30,285 boardings/year

GoCary Paratransit: 5.61 average boardings/hour 4,992 annual revenue hours = 28,005 boardings/year

Figure 7. Regional Fare Scenario Anticipated Fixed-Route Ridership under Schedule Alternative 3 (No Sunday service)

For the two months of data available since GoCary adopted the regional fare structure (July-August 2019), the average fare per boarding totaled 48 cents per customer (revenue of \$18,961.35 divided by 40,342 passengers). Using the estimated total of 32,089 annual boardings for the GoCary paratransit scenario and 34,369 for the FTA-Minimum paratransit scenario, this would result in annual fare revenue of approximately \$15,403 and \$16,497, respectively.

Under the regional-fare scenario, the required paratransit service would cost \$2.50 as a base fare (twice the fixed route rate). In July 2019, GoCary Door-to-Door Tier I service averaged a fare of \$2.21 per customer (revenue of \$2,782.50 divided by 1,257 passengers). Based on the analysis of paratransit ridership using the two paratransit models, GoCary and FTA-Minimum, this would result in annual paratransit fare revenue of approximately \$10,078 and \$5,039 respectively. The total projected revenue under the regional-fare scenario is provided in Table 7.

Table 7. Projected revenue for regional fare scenario under Schedule Alternative 1

Revenue Source	FTA-Minimum Paratransit Model	GoCary Paratransit Model
Fixed Route Revenue	\$16,497	\$15,403
Paratransit Fare Revenue	\$5,039	\$10,078
TOTALS	\$21,536	\$25,480

Table 8. Projected revenue for regional fare scenario under Schedule Alternative 3 (No Sunday service)

Revenue Source	FTA-Minimum Paratransit Model	GoCary Paratransit Model
Fixed Route Revenue	\$14,537	\$13,442
Paratransit Fare Revenue	\$5,039	\$10,078
TOTALS	\$19,576	\$23,520



Revenues are collected using GFI Odyssey fareboxes, which are on all fixed route vehicles. Paratransit fares are currently collected via ticket books, which can be purchased from the Town of Cary, as there are no fareboxes on paratransit vehicles. GoCary hopes to move to a prepaid debit/credit card fare system for Door-to-Door in FY21.

Looking ahead, the regional transit partners also hope to implement a mobile ticketing application in 2020 that will allow for bus fares to be purchased online and scanned on buses using validators. Furthermore, the mobile application will allow for fare capping, where frequent riders can turn individual trips into daily, weekly, and monthly passes based on the number of trips taken, so that riders are never paying more than they need to.

Fare Free Scenario

Under a fare-free scenario, the Town of Apex would not receive any fare revenue from either fixed route or paratransit service. Currently, Wake County has one other fare-free fixed route transit service: The Wake Forest Loop, operated by GoRaleigh. In July 2019, this route averaged 8.2 riders per revenue hour, 46% higher than GoCary fixed routes. However, this number is slightly skewed because the Loop only operates on weekdays, when ridership is higher. Revised to include weekend service, the projected ridership rate is 7.9 riders per revenue hour (based on the difference between GoCary weekday and weekend ridership). Thus, the estimated annual ridership for GoApex Route 1 under a fare-free scenario would be 45,188 using the ADA-only paratransit model, and 42,908 using the GoCary paratransit model, as seniors and disabled will opt to use paratransit if fares are free on both modes (assuming 5,720 annual revenue hours). In this scenario, paratransit costs do not change since the paratransit vehicle is dispatched to Apex all day in both scenarios. However, there is no paratransit revenue to help make up part of the difference.

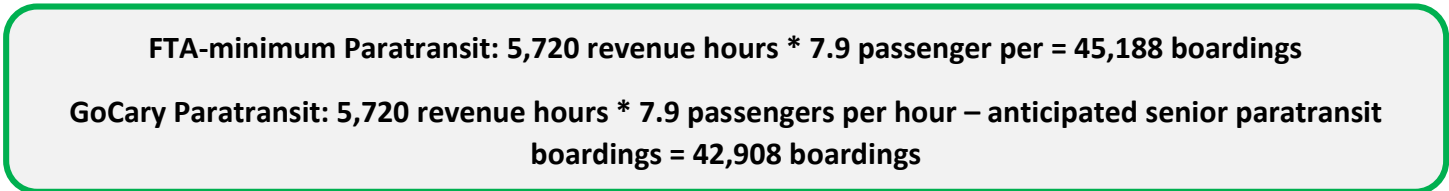


Figure 8. Fare-Free Scenario Anticipated Fixed-Route Ridership under Schedule Alternative 1

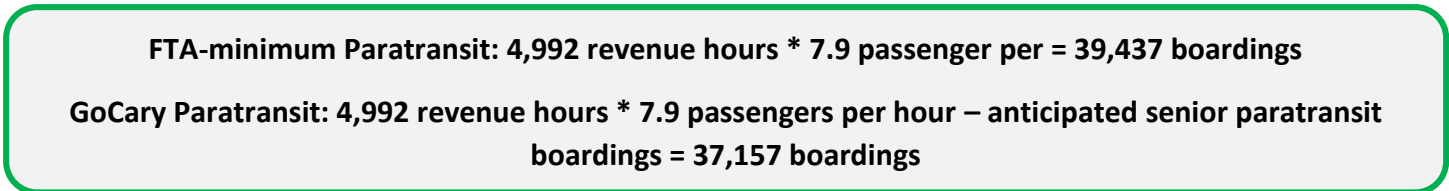


Figure 9. Fare-Free Scenario Anticipated Fixed-Route Ridership under Schedule Alternative 3 (No Sunday service)

Side-by-Side Comparison

Table 9 and Table 10 detail the pertinent changes in revenue and expenses between the four fare and paratransit service scenario combinations for schedule Alternative 1 and Alternative 3, respectively.



Table 9. Comparison of revenues and expenses for two fare scenarios under Schedule Alternative 1

	Regional Fare + FTA- Minimum Paratransit	Regional Fare + GoCary Paratransit	Fare Free + FTA- Minimum Paratransit	Fare Free + GoCary Paratransit
Fixed Route Expenses (\$85/revenue hour)	\$506,311	\$506,311	\$506,311	\$506,311
Fixed Route Revenue (fares)	\$16,497	\$15,403	\$0	\$0
Paratransit Expenses(\$75/revenue hour)	\$429,000	\$429,000	\$429,000	\$429,000
Paratransit Revenue (fares)	\$5,039	\$10,078	\$0	\$0
TOTAL ANNUAL NET COSTS	\$913,775	\$909,831	\$935,311	\$935,311

Table 10. Comparison of revenues and expenses for two fare scenarios under Schedule Alternative 3 (No Sunday service)

	Regional Fare + FTA- Minimum Paratransit	Regional Fare + GoCary Paratransit	Fare Free + FTA- Minimum Paratransit	Fare Free + GoCary Paratransit
Fixed Route Expenses (\$85/revenue hour)	\$441,558	\$441,558	\$441,558	\$441,558
Fixed Route Revenue (fares)	\$14,537	\$13,442	\$0	\$0
Paratransit Expenses(\$75/revenue hour)	\$374,400	\$374,400	\$374,400	\$374,400
Paratransit Revenue (fares)	\$5,039	\$10,078	\$0	\$0
TOTAL ANNUAL NET COSTS	\$796,382	\$792,438	\$815,958	\$815,958

There are advantages and disadvantages to both the regional-fare and fare-free scenarios, as well as the two paratransit models. Those are summarized in Table 11. Town of Cary’s recommendation is to use the regional fare structure and FTA-Minimum paratransit model, potentially paired with an initial service marketing period where no fare is charged to familiarize the service with potential users.

Under a 30-minute peak period scenario, additional costs would total \$192,748 per fiscal year (6 revenue hours per weekday over a 260-day weekday schedule). This is due to six additional revenue service hours per weekday, plus deadhead time to and from GoCary’s operations base in both the AM and PM (since the contractor is paid for deadhead time, keeping the vehicle in Apex all day is unadvisable). Furthermore, the additional vehicle needed would increase the base hourly rate.



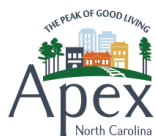
Table 11. Comparison of advantages and disadvantages for four fare and paratransit service scenarios under schedule Alternative 1

Factors	Regional Fare + FTA-Minimum Paratransit	Regional Fare + GoCary Paratransit	Fare Free + FTA Minimum Paratransit	Fare Free + GoCary Paratransit
Estimated Annual Revenues	\$21,536	\$25,480	\$0	\$0
Estimated Annual Operating Expenses	\$935,311	\$935,311	\$935,311	\$935,311
Estimated Total Annual Net Costs	\$913,775	\$909,831	\$935,311	\$935,311
Estimated Annual Fixed-Route Ridership	34,369	32,089	45,188	42,908
Estimated Annual Paratransit Ridership	2,280	4,560	2,624	9,120
Reliability to make a Paratransit reservation	High - Paratransit trips will be easiest to schedule due to both the fare charged and the limiting to ADA-only trips.	Average – Paratransit trips may be more difficult to schedule due to ADA and senior trips, but double the base fixed-route fare will dampen demand somewhat.	Average – Paratransit trips may be more difficult to schedule due to not being charged a fare, but limiting trips to ADA-only will dampen demand somewhat.	Low – High demand for free paratransit trips from both disabled and senior may result in trip denials.
Convenience for Riders	Low – Required to purchase a ticket, bring cash, or pay using mobile technology and seniors would be required to use the circulator.	Average – Required to purchase a ticket, bring cash, or pay using mobile technology, but provides door-to-door service for seniors.	Average – No need to pay, but seniors would be required to use the circulator.	High – No need to pay, and provides door to door service for seniors.
Public Expectations	Low – Sets the expectation from the outset that there is a fee to ride the bus, and that seniors would use the circulator to travel. If demand is shown, customers may react favorably to future increases in service.	Average – Sets the expectation from the outset that there is a fee to ride the bus, and that there is a premium service for seniors. May cause pushback if paratransit eligibility rules are tightened to coincide with Wake County Coordinated Human Service Plan objectives.	High – Sets the expectation from the outset that it is free to ride the bus, and that seniors would use the circulator to travel, but can potentially cause pushback during economic or other downturns if service needs to be decreased or fares need to be instituted.	High – Sets the expectation from the outset that it is free to ride the bus, and that there is a premium service for seniors. Can potentially cause pushback during economic or other downturns if service needs to be decreased or fares need to be instituted.



Table 12. Comparison of advantages and disadvantages for four fare and paratransit service scenarios under schedule Alternative 3 (No Sunday service)

Factors	Regional Fare + FTA-Minimum Paratransit	Regional Fare + GoCary Paratransit	Fare Free + FTA Minimum Paratransit	Fare Free + GoCary Paratransit
Estimated Annual Revenues	\$19,576	\$23,520	\$0	\$0
Estimated Annual Operating Expenses	\$815,958	\$815,958	\$815,958	\$815,958
Estimated Total Annual Net Costs	\$796,382	\$792,438	\$815,958	\$815,958
Estimated Annual Fixed-Route Ridership	30,285	28,005	39,437	37,157
Estimated Annual Paratransit Ridership	2,280	4,560	2,583	9,120
Reliability to make a Paratransit reservation	High - Paratransit trips will be easiest to schedule due to both the fare charged and the limiting to ADA-only trips.	Average – Paratransit trips may be more difficult to schedule due to ADA and senior trips, but double the base fixed-route fare will dampen demand somewhat.	Average – Paratransit trips may be more difficult to schedule due to not being charged a fare, but limiting trips to ADA-only will dampen demand somewhat.	Low – High demand for free paratransit trips from both disabled and senior may result in trip denials.
Convenience for Riders	Low – Required to purchase a ticket, bring cash, or pay using mobile technology and seniors would be required to use the circulator.	Average – Required to purchase a ticket, bring cash, or pay using mobile technology, but provides door-to-door service for seniors.	Average – No need to pay, but seniors would be required to use the circulator.	High – No need to pay, and provides door to door service for seniors.
Public Expectations	Low – Sets the expectation from the outset that there is a fee to ride the bus, and that seniors would use the circulator to travel. If demand is shown, customers may react favorably to future increases in service.	Average – Sets the expectation from the outset that there is a fee to ride the bus, and that there is a premium service for seniors. May cause pushback if paratransit eligibility rules are tightened to coincide with Wake County Coordinated Human Service Plan objectives.	High – Sets the expectation from the outset that it is free to ride the bus, and that seniors would use the circulator to travel, but can potentially cause pushback during economic or other downturns if service needs to be decreased or fares need to be instituted.	High – Sets the expectation from the outset that it is free to ride the bus, and that there is a premium service for seniors. Can potentially cause pushback during economic or other downturns if service needs to be decreased or fares need to be instituted.



Vehicles

This section addresses the potential types, technical specifications, maintenance, and quantity of vehicles for the proposed service.

Current GoCary Vehicle Inventory

All vehicles in the GoCary fixed route inventory are owned or leased by MV Transportation, GoCary’s service contractor. Fixed route vehicles are cycled through different routes and service days in order to comply with FTA Title VI regulations regarding service standards and policies. However, some lesser-traveled routes, such as Routes 1 and 2, typically use the 19-seat Fixed Route Cutaways exclusively. The Town of Cary retains options to request more vehicles for usage in fixed route service at any point in the contract, but this does increase the hourly rate on both fixed-route and paratransit.

Vehicle Technical Specifications

Transit vehicles typically include multiple technology solutions in order to achieve efficient operation of services, collect data, and enhance passenger safety and comfort. These technologies include Computer Aided Dispatch/Automated Vehicle Locators (CAD/AVL), fareboxes, Automatic Passenger Counters (APCs), security cameras, Wi-Fi routers, two-way communication, and variable electronic signage. GoCary vehicles are equipped with the devices described in Table 13.

Table 13. GoCary Fleet Technology

Technology Type	Technology	Vendor
Voice Communications	Push-to-talk radios	Nextel/Verizon
Data Communications	Ranger tablet	Tripspark
Fare Collection*	GFI Odyssey farebox	Genfare
CAD/AVL	Fixed-route management software and Automatic vehicle locator systems	Tripspark
CAD	Pre-trip inspections	Zonar
Security	Camera surveillance system/Drive Cam	Seon
Passenger Wi-Fi	Local Wi-Fi hotspot router	Verizon
Passenger Information Display (route and stop information, special messages i.e. “Happy Holidays”, etc.)	Digital Signage Hardware (interior and exterior)	Twinvision and Luminator
Automatic Vehicle Annunciation (stop and route announcements)	T-Box	Tripspark

*GoCary anticipates mobile ticketing capabilities to be implemented on buses in 2020.

All vehicles are equipped with kneeling wheelchair ramps. The ramps must be in good working order for the vehicle to be placed into revenue service. If the ramp malfunctions during revenue service, the vehicle must be swapped for a working vehicle immediately.



Number of Vehicles

In the transit industry, a vehicle assignment for one day is called a “block.” The GoApex Route 1 turn-by-turn plan indicates that the route is designed to be completed in an hour, including time for recovery (driver break + catching up for any unexpected delays). Thus, one vehicle block would be needed to run all-day service under this scenario.

If more frequent service is desired (for example, 30-minute service during peak periods), one additional vehicle block would need to be implemented. However, this would include bringing the vehicle back to the operations base at the conclusion of the AM peak period service (“deadheading”) and deadheading back to Apex for the start of PM peak period service. Our contractor is paid for deadhead time, so this would be incorporated into the Financial Plan for GoApex Route 1.

Vehicle needs for both scenarios are included in Table 14.

Table 14. GoApex Vehicle Needs by Service Scenario

Vehicle	All-Day Hourly Service	Midday and Evening Hourly Service Plus Peak-Period 30-minute service
Vehicles Needed	One (1)	One (1) in hourly service, one (1) additional in peak period service
Spare Vehicle Needed	One (1)	One (1)
TOTAL VEHICLES NEEDED	Two (2)	Three (3)

This total does not include any vehicles that would be needed to operate the required $\frac{3}{4}$ mile paratransit service.

Vehicle Type Recommendation

Due to its low cost relative to other vehicles in the fleet, ability to better navigate tight intersections (such as in Downtown Apex), and lack of need for additional capacity, the GoCary 19-seat Ford E450 Cutaways are the recommended revenue vehicles for GoApex Route 1.



Figure 10. Images of Recommended Vehicle Type



Vehicle Maintenance Plan

The vehicles chosen for GoApex Route 1 will be maintained in accordance with the Town of Cary's services contract with MV Transportation (or any other service contractor going forward). As a recipient of Federal funds, GoCary is required to comply with FTA regulations regarding vehicle maintenance. Below are some highlights of the preventative maintenance plan:

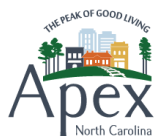
Gas engines (Cutaways)

- Every 5,000 miles or 90 days: complete vehicle inspection with oil change and lube
- Every 30,000 miles: complete inspection, oil change, air filter, and transmission service
- Every 60,000 miles: same as above with rear end fluid change, wheel bearing service.

Diesel engines (larger buses)

- Every 3,000 miles or 90 days: inspection and lube only
- Every 6,000 miles: complete inspection, oil change, oil filter, and lube
- Every 12,000 miles: complete inspection, oil change, and oil filter
- Every 60,000 miles: same as above with air filter and transmission service

The Town of Cary vehicle contract does not include an option for using alternative fuel vehicles.



MARKETING AND BRANDING

Purpose

A thorough marketing process is needed to share information about the service and encourage ridership. The Apex Circulator bus service will be branded as GoApex for consistency with the GoTransit branding system as it illustrates an integrated transit network among the transit providers in the region. The marketing plan includes strategies intended to ensure information is available to the entire Apex community and that targeted efforts are made to promote GoApex bus service to audiences most likely to use the proposed transit service. Target audiences, a marketing strategy, budget, and performance measures are described in this section. The Transfort 2014-2016 Marketing Plan was used as a resource to develop marketing recommendations.

Target Audiences and Messages

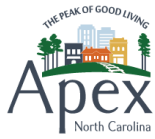
Based on feedback during public outreach, the following targeted audiences have been identified as the most promising sector for GoApex ridership:

- Persons with low incomes
- Persons with disabilities
- Seniors
- Teenagers
- Festival go-ers
- Young families (overlap with Festival go-ers)
- Major employers and businesses along the route

Specific marketing messages and tools, tools are organized by target audience in Table 15.

Table 15. Target audiences and marketing messages

Target Audience	Marketing Messages	Tools
Persons with low incomes	<ul style="list-style-type: none"> • Expand opportunities • Connect to regional transit routes • Ride the bus to everyday destinations – work, shops, medical facilities, restaurants, and recreational facilities • Discounts available for regular riders 	<ul style="list-style-type: none"> • Pop-up events at existing park-and-ride bus stops, Western Wake Crisis Ministry, St. Mary’s AME Church Food Pantry, Walmart, and Dunkin’ Donuts • Posters and flyers at apartments, restaurants, parks, and businesses • Utility bill mailer
Persons with disabilities	<ul style="list-style-type: none"> • Door-to-door or curb-to-curb service available for eligible riders • Expand travel opportunities • Connect to regional bus services • Ride the bus to everyday destinations – work, shops, medical facilities, restaurants, and recreational facilities 	<ul style="list-style-type: none"> • Pop-up events at WakeMed Healthplex and Apex Medical Center • Distribution of information to medical providers who can connect their patients with transit • Utility bill mailer • Paratransit service flyer



Target Audience	Marketing Messages	Tools
Seniors	<ul style="list-style-type: none"> Expand travel opportunities Reduce dependency on cars Free fare for 65+ 	<ul style="list-style-type: none"> Pop-up events during Town sponsored senior events at Apex Community Center and Apex Senior Center (future) Posters in restaurants, retail, businesses, apartments, and Town facilities Presentations at service groups Town event program ads
Teenagers	<ul style="list-style-type: none"> Easy trip planning with travel tools Ride the bus from home or school to the movies, parks, downtown, shopping, and restaurants Reduce dependency on parents Free fare with Youth GoPass 	<ul style="list-style-type: none"> Pop-up events at Hunter Street Park and Apex Community Center during open gym Sharing information with local middle and high schools Share information in Parks and Recreation Program Guide
Festival go-ers	<ul style="list-style-type: none"> Viable transportation option to downtown Easy trip planning with travel tools Avoid parking hassles Avoid drinking and driving 	<ul style="list-style-type: none"> Posters in retail, restaurants, and businesses Advertise park-and-ride locations on festival websites and flyers Info table at downtown festivals and Finally Friday events Social media Print Publication - Chamber of Commerce Map
Young families (overlap with Festival go-ers)	<ul style="list-style-type: none"> Viable transportation option Easy trip planning with travel tools Kids love to ride the bus! Ride GoApex to a variety of family-oriented attractions and activities 	<ul style="list-style-type: none"> Pop-up events at Villages of Apex amenity center, Old Mill Village amenity center, Apex Farmers Market, Chick-fil-A, and Publix Pointe Partnerships with local breweries, beer dispensaries, and wine shops Print publications – <i>Be Local</i> magazine and <i>Cary Magazine</i> Social media Town event program ads and email notifications
Major employers and businesses along the route	<ul style="list-style-type: none"> Customers and employees are riding GoApex New visibility due to GoApex route Easy trip planning with travel tools 	<ul style="list-style-type: none"> Pop-up events at Walmart, Beaver Creek Commons, and Downtown Apex Posters and brochures at major employers and Downtown Apex businesses Long-term transit passes (regional fare scenario only) Wi-Fi on bus



Target Audience	Marketing Messages	Tools
	<ul style="list-style-type: none"> • Offer bus passes as an employee benefit • Reduce commuting hassles - sit back and relax or work 	<ul style="list-style-type: none"> • Seek partnership and assistant from Triangle Transportation Demand Management program

Marketing Strategy

The overall marketing strategy includes a campaign motto, materials, online resources, ads, targeted events, promotional items, and fare incentives. The Town of Apex will use a variety of paid, low-cost, partnership-leveraged, and free marketing tools to shape its campaign. With this strategy, GoApex will be visible in numerous venues – meeting the targeted audiences where they are. Strategically placing promotions and materials helps create positive experience for riders – before, during, and after their contact with GoApex.

The following strategies will be used to engage the targeted audiences:

- Marketing material development & distribution
- Online resources
- Print & online advertisements
- Events
- Promotional material distribution
- Fare Incentives (Regional Fare Scenario Only)

Campaign

Connecting the community! Ride GoApex to shop, work, and play!

GoApex’s main competition is the car, especially when considering choice riders. This campaign will illustrate that GoApex provides convenient connections to local destinations and regional transit services. The campaign will be incorporated into all of the marketing materials.

Marketing Material Development

A variety of marketing materials will be developed to spread awareness about GoApex and to provide education about how to use this new service. Most of the materials will be developed in Fall 2020 by the Apex Planning Department, with support from other departments and agencies as noted in Table 16.

Table 16. Marketing materials and anticipated assignments

Deliverable	Task	Partners
Bus map brochure	Develop a bus map brochure (Spanish and English) with bus fares, service hours, holiday schedule, regular schedule, route map, real-time online tracking info and QR code, and bike on bus info.	Apex Communications staff, Town of Cary, and translation service



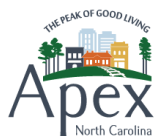
Deliverable	Task	Partners
Bus map poster	Develop a poster (Spanish and English) with similar information as the bus map brochure.	Apex Communications staff, Town of Cary, and translation service
Paratransit service brochure	Develop a paratransit service brochure (Spanish and English) with a service area map (3/4 mile buffer), fare information, service hours, holiday schedule, how to schedule a trip, and fare payment.	Apex Communications staff, Town of Cary, and translation service
Bus route information signage	Develop an 8.5"x11" sign with the bus route, stops, and schedule for each bus stop. Integrate GoCary and GoTriangle bus route and schedule information at locations where transfers are available. Coordinate with GoTriangle and GoCary to update signs as needed.	Apex Public Works and Transportation, GoCary, and GoTriangle
Transit 101 brochure	Develop a Transit 101 brochure (Spanish and English) with information regarding service hours, contact information, bikes on buses, online bus tracking, and how to ride. Use GoCary's Transit 101 brochure as a template.	Apex Communications and translation service
Utility bill mailer	Develop a utility bill mailer with a service description and links to the website and real-time online tracking application.	Apex Communications

Marketing Material Distribution

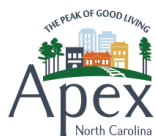
Recommendations for the distribution of informational and promotional materials are provided in Table 17, including target audiences for each location. While the Town of Apex Planning Department would lead distribution of materials, possible partners are also noted in the table.

Table 17. Distribution recommendations for marketing materials

Material	Description	Partners	Audience
Bus map brochure	Distribute on buses that provide service to GoApex, GoCary Route HSX, and GoTriangle Routes 305 and 311.	GoCary GoTriangle	All
Bus map poster and brochure Paratransit service brochure	Distribute information to apartment residences including move-in packets and common areas at: Colonial Village at Beaver Creek Lake Ridge Apartments Wake Acres Apartments West Haven Apartments Linwood Apartments Beechridge Apartments Bell Apex Village at Broadstone Station Apartments Cambridge Village	Apex Newcomers and Friends Organization	All



Material	Description	Partners	Audience
Bus map brochure	Include in the Town of Apex new employee packet.	Apex Human Resources	Major Employers and Businesses
Bus map brochure	Include in new church member packets. (If Sunday service is provided) for: Apex Baptist Church Apex United Methodist Church St. Mary's AME Church Apex First Baptist Church Sovereign Grace Church The Church of Jesus Christ of Latter Day Saints Potter's Hand Bible Church Jordan Lutheran (future)	Apex Communications	All
Bus map brochure Paratransit service brochure	Distribute to medical facilities along the route and ask staff to share transit brochures with patients: WakeMed Healthplex Apex Medical Center UNC Rex Rehabilitation and Nursing Care Center	Apex Communication	Persons with Disabilities
Bus map brochure and Youth GoPass form (if applicable)	Distribute brochure and Youth GoPass form to middle and high schools and request they share them with students	Wake County Public School System GoTriangle	Youth
Bus map poster and brochure	Meet with HR or operations manager of major employers and businesses along the route to add a transit pass into employee benefits package (for regional fare scenario). Display bus map poster and distribute bus map brochure. Town of Apex Target Bland Landscaping Walmart Wake County Public School System Harris Teeter Lowes Foods Publix Food Lion	Apex Communications Triangle Transportation Demand Management Program	Major Employers and Businesses
Bus map poster and brochure	Display posters and distribute brochures at shops and restaurants in the following locations: Downtown Apex Beaver Creek Commons Beaver Creek Crossings Haddon Hall Commons Olive Chapel Village Peakway Market Square	Apex Communications, Downtown Coordinator	All



Material	Description	Partners	Audience
	Apex Village Center Lawrence Crossings		
Bus map poster	Display at Apex Jaycee Park, Hunter Street Park, and Apex Community Center, Apex Senior Center (future), and Halle Cultural Arts Center.	Apex Parks, Recreation, and Cultural Resources Department	Teenagers, Seniors, Young Families
Bus route information signage	Display at every bus stop. Display GoCary and GoTriangle bus route information at locations where transfers are available.	GoCary GoTriangle	All
Utility bill mailer	Distribute GoApex information to all Apex residents.	Apex Communications	All
Canvas tote bag	Use at retail pop-up events	Apex Communications	All
Reusable water bottle	Use at amenity center, park, and medical pop-up events	Apex Communications	All
Hat	Use at all pop-up events	Apex Communications	All
USB stick	Use at all pop-up events	Apex Communications	All
Coffee mugs	Use at downtown events	Apex Communications	All
Pint glass	Use at brewery, dispensary, and wine bar events	Apex Communications	Festival go-ers, Young Families

Online Resources

In addition to printed marketing material, online resources will be used extensively to share information about GoApex. Marketing recommendations for GoApex using online resources are provided in Table 18.

Table 18. Recommendations for marketing GoApex using online resources

Resource	Description	Partners	Audience
GoApex.org	Post all print marketing materials online. Provide an online trip planner application. Use a format consistent with the other “Go” transit websites.	Apex Communications	All
Regional transit agency websites	Incorporate GoApex information into regional transit websites.	GoCary GoTriangle GoRaleigh	All
Bus tracking application	Provide real-time bus tracking information through an online application. Integrate GoApex tracking information into the online platform that regional transit systems use.	GoCary	Teenagers, Festival Go-ers, Young Families, Major Employers and Businesses



Resource	Description	Partners	Audience
Google Transit integration	Share transit information with Google to incorporate into Google Maps application.	GoCary	Teenagers, Festival Go-ers, Young Families, Major Employers and Businesses
Social media updates and notifications	Post information and updates on Facebook, Twitter, Instagram, and Nextdoor.	Apex Communications	Festival Go-ers, Young Families
How to ride the bus video	Produce a video that shows and describes the process of riding a GoApex bus.	Apex Communications Video production company	All
Bike on bus video	Produce a video that shows and describes how to load and unload a bike onto the bus. Alternatively, GoCary's bike on bus video may be used.	Apex Communications Video production company	All

Print & Online Advertisements

Recommendations for print and online advertisements in local publications and websites are provided in Table 19. It is anticipated that each ad will include the *Ride GoApex!* logo with website URL and mobile application QR code.

Table 19. Print and online advertisement recommendations

Publication	Partners	Audience
Chamber of Commerce Map	Apex Communications	Seniors, Young Families, and Major Employers and Businesses
<i>Cary Magazine</i>	Apex Communications	Young Families, Festival Go-ers, Seniors
<i>Be Local</i>	Apex Communications	Young Families
Downtown event web pages, flyers, and social media outlets	Apex Downtown Coordinator Downtown Business Association	Festival Go-ers



Publication	Partners	Audience
Halle Cultural Arts Center event programs and email notifications	Apex Communications Apex Parks, Recreation, and Cultural Resources	Seniors, Festival Go-ers, Young Families
Apex Parks & Rec Program Guide and Senior Program Guide	Apex Communications Apex Parks, Recreation, and Cultural Resources	Seniors, Young Families
Apex Farmers Market website email notification	Apex Downtown Coordinator	Young Families, Festival Go-ers
Downtown Apex restaurant and shop websites	Apex Downtown Coordinator	Major Employers and Businesses, Young Families, Festival-Go-ers
Apex breweries, beer dispensaries, and wine shop websites	Apex Communications	Festival Go-ers, Young Families

Events

In addition to print and online material, it will be important for knowledgeable staff and GoApex representatives to get out and talk with people. Recommendations for possible events to target are included in Table 20.

Table 20. Possible events to share information about GoApex

Event	Venue	Details	Partners	Audience
Chamber of Commerce After Hours Event	Local wine bar, brewery, or beer dispensary.	Meet up via GoApex for happy hour.	Apex Downtown Coordinator and Chamber of Commerce	Major Employers and Businesses
Pop-up events along the corridor	Lake Pine Plaza Park-and-Ride S Hughes Street Park-and-Ride Western Wake Crisis Ministry St. Mary's AME Church Food Pantry Dunkin' Donuts WakeMed Healthplex Apex Medical Center Apex Community Center / Apex Senior Center (future) Hunter Street Park	Staffed tables at popular destinations in order to meet people where they are and put a face to GoApex. Display posters and distribute marketing materials and promotional items. Locations are specific to each target audience.	GoTriangle Apex Communications	All



Event	Venue	Details	Partners	Audience
	Villages of Apex Amenity Center Old Mill Village amenity center Chick-fil-A Publix Walmart Beaver Creek Commons			
Info tables Downtown	Finally Friday Downtown festivals Apex Farmers Market	Staffed tables at Finally Friday, Downtown festivals, and Apex Farmers Markets in order to meet people where they are and put a face to GoApex. Display posters and distribute marketing materials and promotional items.	Apex Communications, Apex Downtown Coordinator, and GoTriangle	Festival Go-ers, Young Families, All
Provide discounts for GoApex riders during a promotional period and pop-up events.	Apex breweries, beer dispensaries, and wine shops: Southern Peak Apex Beer Dispensary Peak of the Vine Brueprint Tap Station Brewery (future)	Riders collect a voucher on the bus and return it to the business to receive a beverage discount during a promotional period. Pop-up event during an event such as Run Club, Pizza Night, craft class, or Wine Down Wednesday.	GoTriangle staff	Festival Go-ers, Young Families
Presentations to local service groups.	Apex service groups: Apex Lions Club Apex Rotary Club	Presentations to local service groups to share information on GoApex and free regional service for seniors.		Seniors
Presentation to Apex Downtown Business Association	Apex Chamber of Commerce board room	Presentation to the Apex Downtown Business Association to share information and encourage business owners and employees to ride GoApex.	Apex Downtown Coordinator	Major Employers and Businesses

Fare Incentives (Regional Fare Scenario Only)

If the Town of Apex proceeds with the regional fare scenario option, temporary fare free service may be considered during the first six months following the launch of GoApex. This incentive would target all transit audiences. Information about the fare-free period would be included in the overall marketing strategy.



Marketing and Branding Budget

The marketing and branding budget will be higher for the initial year of service compared to following years. During the first year of service, the Town of Apex would develop materials and make a substantial effort to spread awareness about the new service. Based on the recommendations in this plan and comparison to similar marketing efforts, a \$25,000 marketing budget is recommended for the initial year of service, with \$10,000 on a recurring annual basis.

Marketing Measurement and Reporting

Every six months, a marketing report will be prepared sharing information from a number of tools. This report will include the following data:

- Website hits and other website data
- Social media interactions and trends
- Ridership numbers
- Customer survey responses
- Number of new partnerships
- Event attendees

The marketing report will be shared with the Apex Transit Advisory Committee. This report will be used to inform the Wake Transit Plan Community Funding Area Program Quarterly Progress Report.



FINANCIAL PLAN

Estimated costs, revenues, and potential funding sources are provided in this section. For all service scenarios considered, the Town should anticipate an initial an ongoing expenditure of local funds that will not be recovered by anticipated revenues or possible grant funding. A detailed summary of estimated expenses, revenues, ridership, and assumptions is provided in Appendix D.

Anticipated Expenses

Implementation of GoApex Route 1 includes operating, capital, and marketing expenses.

Capital Expenses

Capital expenses include construction of improvements at 41 proposed new local bus stops as described in the Bus Stop Needs section and shown in detail in Appendix C. Capital expenses for bus stop improvements are the same for all alternatives considered in this study and are provided in Table 21.

Table 21. Anticipated Capital Costs for GoApex Route 1

Item	Initial Year Cost	Annual Costs
Bus stop improvements at 41 new local bus stops	\$460,000	\$0

Marketing Expenses

As part of implementing GoApex Route 1, the Town will undertake a marketing campaign using the recommendations described in detail in the Marketing and Branding section. It is anticipated that initial costs to prepare for and market the first year of service will be higher than recurring annual costs. Cost estimates for marketing GoApex Route 1 are the same for all alternatives considered in this study and are provided in Table 22.

Table 22. Anticipated Marketing Costs for GoApex Route 1

Item	Initial Year Cost	Annual Costs
Marketing	\$25,000	\$10,000

Operating Expenses

Operating expenses include fixed-route service along proposed GoApex Route 1, complementary paratransit service within ¼ mile of the fixed-route, a potential park-and-ride lease, and maintenance of bus stops. Tables 22 and 23 outline the costs and revenue of four service scenarios.

Table 23. Annual Operating Costs under Schedule Alternative 1

Factors	Regional Fare + FTA-Minimum	Regional Fare + GoCary Model	Fare-Free+ FTA-Minimum	Fare-Free + GoCary Model
Estimated Annual Revenues	\$21,536	\$25,480	\$0	\$0
Estimated Annual Operating Expenses	\$950,890	\$950,890	\$950,890	\$950,890



Factors	Regional Fare + FTA-Minimum	Regional Fare + GoCary Model	Fare-Free+ FTA-Minimum	Fare-Free + GoCary Model
Estimated Total Net Annual Costs	\$929,354	\$925,410	\$950,890	\$950,890

Table 24. Annual Operating Costs under Schedule Alternative 3 (No Sunday service)

Factors	Regional Fare + FTA-Minimum	Regional Fare + GoCary Model	Fare-Free+ FTA-Minimum	Fare-Free + GoCary Model
Estimated Annual Revenues	\$19,576	\$23,520	\$0	\$0
Estimated Annual Operating Expenses	\$831,537	\$831,537	\$831,537	\$831,537
Estimated Total Net Annual Costs	\$811,961	\$808,017	\$831,537	\$831,537

Funding Opportunities

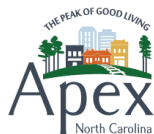
There are several competitive grant opportunities that the Town of Apex may leverage in combination with local funds to implement GoApex. These are briefly described in this section.

Locally Administered Projects Program

The [Locally Administered Projects Program \(LAPP\)](#) is used by the Capital Area Metropolitan Planning Organization (CAMPO) to prioritize transportation projects for federal funding. LAPP can be used for roadway, bicycle and pedestrian, or transit projects. The funding available through LAPP varies from year to year, as does the target percentage allocated to transit projects. For the upcoming fiscal year, it is anticipated that about \$2,000,000 is available for transit projects. LAPP is intended to fund up to 80 percent of a locally-administered project, with increased points awarded for higher local match percentages. Other funding sources, such as the Community Funding Area Program, can be used toward the local match. There is an annual application process for LAPP funding. Typically applications are due October 31st, funding awards are announced in February, and agreements are in place by the start of the following federal fiscal year (October 1st). Since the LAPP program involves federal funding, using this grant program would substantially complicate the implementation requirements for GoApex Route 1 including required training, reporting, environmental documentation, review by the North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA), and adherence to a specific implementation schedule. If this funding source is pursued, it is only recommended for the capital improvement portion of the GoApex Route 1 project.

Community Funding Area Program

The [Community Funding Area Program \(CFAP\)](#) of the overall Wake Transit Plan, makes funding available to communities like Apex to implement local transit projects. The CFAP is guided by a specific Program Management Plan. The Town of Apex was successful in acquiring funding through CFAP for this planning study. Funding is also available through a competitive process for capital and operating projects. The application cycle typically opens in November and closes in January. Funding agreements are in place by the start of the following fiscal year (July 1st). The CFAP is intended to fund up to 50% of a locally-administered transit planning, capital, or operating project; with increased points awarded for



higher local match percentages. Other funding sources, such as LAPP, can be used toward the local match. The program management plan limits the annual funding available to a single CFAP applicant to 30 percent of the annual funding allocation. For the upcoming, 2021 fiscal year, it is anticipated that the maximum possible award for a single applicant will be approximately \$326,000.

AARP offers a competitive annual [Community Challenge Grant](#) for projects intended to make communities livable for people of all ages. This grant source is typically for smaller projects, but may help to fund items such as benches, lighting, and signage at new local bus stops. The application process typically opens in April, with awards granted the following fall.

Potential Financial Scenario

Different possible combinations of service scenarios, funding opportunities, and ridership will determine the ultimate initial and recurring annual costs to the Town. One possible financial scenario is depicted in Table 25 for consideration. This scenario is based on the following scenario:

- Schedule: Alternative 3 (60-minute, all-day service, no service on Sundays)
- Fare: Regional model
- Paratransit: FTA-Minimum (ADA eligible passengers only)

Assumptions are provided for the percentage of costs that may be covered by LAPP and CFAP. The AARP grant is nominal and is not included in the example scenario. Further investigation of paratransit service options, in particular, could substantially change this scenario. Updates to this report will be made once further information is available about possible alternative paratransit service delivery options.

Table 25. Example Financial Plan for one Service Delivery Scenario

Item	Local	LAPP (Assume 60%)	CFAP (assume \$326K cap)	Total
Initial Year – Assumes 6 months of capital improvements (October 2020 through March 2021) and 3 months of operations (April 2021 through June 2021)				
Capital	\$58,000*	\$276,000	\$126,000	\$460,000
Operations	\$0	\$0	\$200,000	\$200,000
Marketing	\$25,000	\$0	\$0	\$25,000
TOTAL – First Year	\$83,000	\$276,000	\$326,000	\$685,000
Recurring Annual Costs – Assumes 12 months of operations (July 2021 through June 2022)				
Capital	\$0	\$0	\$0	\$0
Operations**	\$485,961	\$0	\$326,000	\$811,961
Marketing	\$10,000	\$0	\$0	\$10,000
TOTAL – Annual	\$495,961	\$0	\$326,000	\$821,961

*Construction expenses only, does not include Preliminary Engineering & Design or Right of Way.

**Includes anticipated costs of one park-and-ride lease

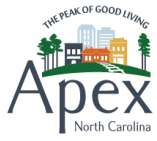


CONCLUSION AND NEXT STEPS

Study recommendations may be used to inform a Wake Transit Community Funding Area Program Capital and Operating funding application. This application may be submitted in partnership with the Town of Cary as it is anticipated GoCary would operate GoApex Route 1 fixed-route service. Items for further investigation include: alternative paratransit service delivery models, a customer service plan, and integration of GoApex Route 1 GPS tracking into regional mobile application and Google Maps.

Next steps include:

- Consider alternative paratransit service delivery models including the Taxi Voucher Model and GoWake Access Model
- Prepare a Customer Service memo
- Develop a plan to integrate GPS tracking into regional mobile application and Google Maps
- Potentially submit a LAPP application for transit funds to construct bus stops
- Potentially submit a Wake Transit Community Funding Area Program funding application for capital and operating funds
- Potentially apply for an AARP Community Challenge Grant to fund a small capital project
- Continue coordination with the Apex Transit Advisory Committee



APPENDIX A: PUBLIC ENGAGEMENT PLAN



Public Engagement Plan

The goal of GoApex Route 1 is to provide a transportation service that connects the community to local destinations and provides access to regional transit services. The success of GoApex Route 1 is dependent upon its ability to meet the needs of the community. A thorough public outreach process is needed to ensure that the local circulator achieves these goals.

The purpose of the Apex Circulator Study Public Engagement Plan is to guide how the Town will share information about a proposed transit circulator, and gather and use public input on the proposed alignment, stop locations, and schedule to ensure that the proposed circulator will meet the community's needs. Town staff will also ask community members about their anticipated trip purpose, preferences regarding alternative approaches to accommodate ADA requirements, and priorities among bus stop amenities. The public engagement plan includes strategies intended to ensure information is available to the entire Apex community and that targeted efforts are made to engage with populations along the proposed corridor who are most likely to use future transit service.

Town of Apex staff will hold targeted outreach events along the proposed GoApex Route 1 and release an online public survey to gather public input on the following topics:

1. Proposed route alignment
2. Bus stop locations
3. Bus stop amenities
4. Route schedule
5. Bus fare
6. Deviated fixed-route service versus on-demand service for persons with disabilities
7. Trip purpose

Marketing/Public Awareness

The following steps will be taken to spread the word about opportunities to participate in the Apex Circulator Study:

- Update Town of Apex transit webpage with public outreach event details – day, time, location.
- Post flyers (Spanish and English) advertising outreach events and online survey on at Target, Chick-fil-a, WakeMed, Walmart, Wake Acres Apartments, Cambridge Village of Apex, Beechridge Apartments, Lakeridge Apartments, Linwood Apartments, West Haven Apartments, Apex Community Center, Apex Town Hall, Downtown Apex Ambassador Garden, Compare Foods, Apex Jaycee Park, and the park-and-ride stops at Compare Foods and Lake Pine Plaza.
- Circulate online survey link (in English and Spanish) and opportunities for in-person engagement to those who sign up for notifications on the Town of Apex transit webpage.
- Post online survey link and opportunities for engagement on multiple social media platforms including Facebook, Instagram, and Twitter.

Public Input Strategy

Public input will be gathered through interactive engagement activities at pop-up events and through a survey available in both online and paper formats. The following table outlines the types of activities and questions that will be used to



gather community input. A draft version of the survey is provided as Attachment 1. A draft list of materials necessary for the pop-up events is provided as Attachment 2.

We need input on...	Outreach Event	Comment Form/Online Survey
Proposed alignment	Write comments on mini sticky notes and place on poster-size route alignment map.	Provide comments at the end of the survey.
Bus stop locations	Mark locations on the poster-size map and add a tally if you agree.	Provide the intersection or address of suggested bus stop locations.
Bus stop amenities	Place allocated poker chips in the bucket(s) labeled with different amenities to indicate preferences.	Rank a list of preferred transit amenities at bus stops.
Bus schedule	Use a dot-voting board with stickers to indicate which times of day and days of the week you would use the bus.	Answer questions regarding day of the week and time of day that you would use the proposed bus service.
Bus fare	Use a dot-voting board with stickers to indicate the highest fare you would pay for a one-way trip.	Answer question regarding willingness to pay a fare to use the proposed bus service.
Deviated fixed-route vs. on-demand service	Read a poster that clearly describes each type of service with a map showing a ¼ mile buffer along the proposed route. Use a dot-voting board with stickers to indicate preferred service type.	Read text describing the different types of transit service and answer question regarding service type preference.
Trip purpose	Use a dot-voting board with stickers to indicate how you would most likely use the proposed service.	Answer question regarding how you would most likely use the proposed service.

Outreach Schedule

Public input gathering activities will mainly take place during the month of July. Updates to the Town’s Transit Committee and Town Council will take place at several milestones throughout the study.

Event	Date	Purpose	Stakeholders	Staff (Anticipated)
Downtown Plan Public Open House	Thursday, May 9	Distribute initial information about study	Downtown residents, visitors, employees, and business owners	Jenna Shannon
Discussion topic at Downtown Plan Design Charrette	June 17-20	Gather input regarding need for transit serving downtown Apex	Downtown residents, visitors, employees, and business owners	Jenna Shannon



Event	Date	Purpose	Stakeholders	Staff (Anticipated)
Online survey	July 1 – July 31	Provide a low-effort, low-touch way for a broad audience to provide input on the Apex Circulator study	Apex residents, downtown residents, residents of apartments along the proposed route, and employees and patrons of businesses along the proposed route	Administered by Town of Apex
Pop-up booths at S Hughes Street Park-and-Ride and Compare Foods	Tuesday, July 9	Provide information about the study and gather input from current and potential transit users and transit dependent populations.	Current transit users and residents of neighborhoods in the James Street, Tingen Road, and Lynch Street vicinity	Jenna Shannon Spanish translator (contracted)
Apex Transit Advisory Committee Meeting	Wednesday, July 10	Share input gathered from the community. Provide committee with project updates.	Apex Transit Advisory Committee	Jenna Shannon
Pop-up booths at Lake Pine Plaza Park-and-Ride, WakeMed, and Beaver Creek Commons or Crossings	Thursday, July 11	Provide information about the study and gather input from transit users and members of the community along the proposed route	Current transit users, WakeMed HealthPlex visitors and employees, and Beaver Creek Commons patrons and employees	Jenna Steering Committee member
Pop-up booths at Apex Community Center Open Gym, Senior Activity, and Hunter Street Park	Friday, July 19	Provide information about the study and gather input from the youth and senior communities	Youth and senior populations in the Apex Town Center	Jenna Steering Committee member
Pop-up booths at Apex Farmers Market and Walmart	Saturday, July 20	Provide information about the study and gather input from downtown stakeholders and members of the community along the proposed route	Downtown residents, visitors, employees, and business owners, and members of the community in the southeast section of the corridor	Jenna Steering Committee member(s)
Town Council Update	Tuesday, August 20	Share input gathered from the community. Provide Town Council with project updates.	Town Council	Jenna Shannon
Town Council Update	Tuesday, September 17	Share input gathered from the community. Provide Town Council with project updates.	Town Council	Jenna Shannon



Event	Date	Purpose	Stakeholders	Staff (Anticipated)
Apex Transit Advisory Committee Meeting	Weekday in September	Share input gathered from the community. Provide committee with project updates.	Apex Transit Advisory Committee	Jenna Shannon Kevin
Present final recommendations to Town Council	Tuesday, October 15	Present final recommendations to Town Council with potential support from the Apex Transit Advisory Committee	Apex Town Council	Jenna Shannon Kevin

Reporting and Using Input

All materials and recommendations will be vetted through the Apex Transit Advisory Committee. Committee responsibilities include: participation in public outreach efforts, review of materials throughout the project, review of the Wake Transit Plan Community Funding Area Program Capital and Operating funding application, and a potential recommendation to the Mayor and Town Council regarding the Capital and Operating application.

Input gathered throughout the public engagement process will guide recommendations in the Apex Circulator Study and a potential Capital and Operating funding application. An input summary will be prepared following public outreach events and the survey. All engagement materials and summaries will be shared with the Town of Cary, whose transit staff is partnering with the Town of Apex in this study. Town of Apex and Town of Cary staff will use the public input that is provided from members of the community, Apex Transit Advisory Committee, and Apex Town Council when developing recommendations. Recommendations will be presented to the Apex Transit Advisory Committee and the Apex Town Council. All input and comments will be considered in the final recommendations.

Evaluation – Performance Measures

- Online survey completed by a minimum of 50 stakeholders
- Pop-up booths visited by a minimum of 50 stakeholders
- Pop-up booths held at a minimum of three locations
- Majority of Apex Transit Committee members support recommendations made to Town Council
- Clear connections are made between input gathered and final study recommendations



ATTACHMENT 1: Draft Survey (Available online and in paper format)

General Transit Preference Questions

The following questions will help planners to understand your general interest in using transit and do not refer to a specific service or route.

1. How often do you currently ride a bus?
 - a. *Daily*
 - b. *2-3 times per week*
 - c. *Weekly*
 - d. *2-3 times per month*
 - e. *Monthly*
 - f. *2-3 times per year*
 - g. *Never*
2. Do you own a car or have access to a car?
 - a. *Yes*
 - b. *No*
3. What is your preferred mode of travel?
 - a. *Personal vehicle*
 - b. *Car/van pool*
 - c. *Bus*
 - d. *Uber/Lyft/other ride share service*
 - e. *Taxi*
 - f. *Bicycle*
 - g. *Walk*
 - h. *Other: _____*
4. If a car is not available, what type of transportation do you use?
 - a. *Bus*
 - b. *Uber/Lyft/other ride share service*
 - c. *Taxi*
 - d. *Bicycle*
 - e. *Walk*
 - f. *Other: _____*
5. Where are you usually going when you ride a bus? (Select all that apply)
 - a. *Not applicable – I never ride the bus*
 - b. *Work*
 - c. *Shopping*
 - d. *Dining*
 - e. *School*
 - f. *Church*
 - g. *Medical/Dental*
 - h. *Visit Friends/Relatives*



- i. *Recreation*
 - j. *Connect to other (regional) transit service*
 - k. *Other: _____*
6. Rank the following bus stop amenities:
- a. *Bench*
 - b. *Shelter*
 - c. *Trash receptacle*
 - d. *Bike parking*
 - e. *Park-and-ride spaces*
 - f. *Landscaping*
 - g. *Route information signage*
 - h. *Other: _____*

Apex Circulator Questions

The following questions refer specifically to the proposed Apex Circulator, shown in the map below.

[INSERT MAP]

7. How often would you use the proposed bus service?
- a. *Daily*
 - b. *2-3 times per week*
 - c. *Weekly*
 - d. *2-3 times per month*
 - e. *Monthly*
 - f. *2-3 times per year*
 - g. *Never*
8. Which days of the week would you use the proposed bus service? (*Select all that apply*)
- a. *Weekdays*
 - b. *Saturdays*
 - c. *Sundays*
 - d. *Never*
9. At what time of day would you use the proposed bus service on **weekdays**? (*Select all that apply*)
- a. *Morning (6:00am – 11:00am)*
 - b. *Midday (11:00am – 4:00pm)*
 - c. *Evening (4:00pm – 9:00pm)*
 - d. *Late night (9:00pm – 12:00am)*
 - e. *Never*
10. At what time of day would you use the proposed bus service on **weekends**? (*Select all that apply*)
- a. *Morning (6:00am – 11:00am)*
 - b. *Midday (11:00am – 4:00pm)*
 - c. *Evening (4:00pm – 9:00pm)*
 - d. *Late night (9:00pm – 12:00am)*
 - e. *Never*



11. What would be the main purpose of your trips using the proposed bus service? (Select all that apply)

- a. *Work*
- b. *Shopping*
- c. *Dining*
- d. *School*
- e. *Church*
- f. *Medical/Dental*
- g. *Visit Friends/Relatives*
- h. *Recreation*
- i. *Connect to other (regional) transit service*
- j. *Other: _____*

12. On the map below, mark locations where you would recommend bus stops along the proposed bus route (Use the Public Input interactive mapping tool)

[Insert Map]

13. What is the highest dollar amount you would pay for a one-way trip on this service?

- a. *\$0*
- b. *\$1*
- c. *\$2*
- d. *\$3*
- e. *\$4*
- f. *\$5*
- g. *More than \$5*

14. Which type of service would you prefer to accommodate bus riders with a disability?

- a. *Fixed-route service that can deviate up to ¼ mile from the established route*
- b. *A separate, on-demand transit service*

[Note: Insert map showing a ¼ mile buffer around the proposed alignment. Describe the two types of services and the advantages and disadvantages of each.]

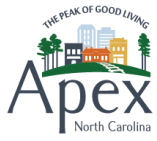
15. Do you have any comments on or suggested changes to the proposed route alignment?

16. Additional Comments/Suggestions:



ATTACHMENT 2: Check list of Materials for Pop-up Events

- Tent with Apex Planning Department logo
- Table, chairs, and easels
- Table cloth
- Small, round stickers
- Mini sticky notes
- Pens and markers
- Tape and scissors
- Three foam core boards
- 8.5"x11" display cases
- Paper surveys
- Basket to collect paper surveys
- Candy
- Apex Circulator Study flyers
- Downtown Plan flyers
- Poster-size map of the proposed alignment with key destinations labeled. Also include Routes 305, 311, and HSX.
- Metal buckets with transit amenities labels
- Voting chips
- Informational board



APPENDIX B: PUBLIC INPUT SUMMARY



Public Input Summary

The Town of Apex, in partnership with the Town of Cary and with funding support from Wake Transit, is completing the planning process for the Town’s priority transit circulator route, as recommended in the Western Wake Comprehensive Operations Analysis and Advance Apex: The 2045 Transportation Plan (Advance Apex). The goal of GoApex Route1 is to provide a transportation service that connects the community to local destinations and provides access to regional transit services. The success of GoApex Route 1 is dependent upon its ability to meet the needs of the community. A thorough public outreach process was conducted to ensure that the local circulator achieves these goals. A summary of input received through that process is provided in this document.

Public Input Strategy

The public input strategy was guided by a Public Engagement Plan reviewed by the Wake Transit Public Engagement Subcommittee, the Town of Apex Transit Committee, and partners with the Town of Cary. The purpose of outreach for the Circulator Study was to specifically engage people along the proposed route to gather input on the following topics:

1. Proposed route alignment
2. Bus stop locations
3. Route schedule
4. Bus stop amenities
5. Bus fare
6. Deviated fixed-route service versus on-demand service for persons with disabilities
7. Trip purpose

Nine targeted outreach events were held along the proposed transit corridor at the locations and dates shown in Table 1.

Table 1. Locations and dates of targeted outreach events

Location	Date
Compare Foods/S. Hughes Bus Stop	Tuesday, July 9 th
WakeMed Healthplex	Thursday, July 11 th
Chick-fil-A	Thursday, July 11 th
Lake Pine Plaza Park-and-Ride	Thursday, July 11 th
Hunter Street Park	Monday, July 15 th
Apex Community Center	Friday, July 19 th (AM & PM)
Apex Farmers Market	Saturday, July 20 th
Walmart	Saturday, July 20 th

An online public survey was conducted from July 8, 2019 through August 9, 2019. The survey questions were designed to gather the same types of input as the targeted outreach events.

The following steps were taken to spread the word about opportunities to participate in the Apex Circulator Study:



- A flyer was distributed at a public open house held for the Town of Apex Downtown Master Plan and Parking Study.
- Updates were made to the Town of Apex transit web page with public outreach event details – day, time, and location.
- English and Spanish versions of a flyer advertising outreach events and the online survey were distributed to the following locations: Apex Jaycee Park, Compare Foods, S Hughes Street Park-and-Ride, Downtown Apex Ambassador Garden, Town Hall, Cambridge Village, Lakeridge Apartments, WakeMed Healthplex, Target, Walmart, Beechridge Apartments, Wake Acres Apartments, West Haven Apartments, Apex Community Center, Lake Pine Park-and-Ride, and Eva Perry Library.
- Online survey link was available at in-person engagement events.
- Online survey link and the Town of Apex transit web page link were posted on the Town’s Facebook page.
- Transit committee members were asked to distribute information about the study and survey.
- The Western Wake Crisis Ministry encouraged clients to participate in the survey.

The public engagement plan identified three performance measures to gauge the success of the outreach phase of the Apex Circulator Study. The measures and outcomes are described in Table 2.

Table 2. Public engagement performance measures and outcomes

Performance Measure	Outcome
Online survey completed by a minimum of 50 stakeholders	484 individuals participated in the online survey
Pop-up booths visited by a minimum of 50 stakeholder	At least 100 stakeholders visited the pop-up booths
Pop-up booths held at a minimum of three locations	Pop-up booths were held at eight locations

Public Input Results

Public input gathered at all targeted outreach events and through the online survey is compiled and summarized in this section. Information about general transit preferences are provided first, followed by input specific to the proposed Apex Circulator.

Input Highlights

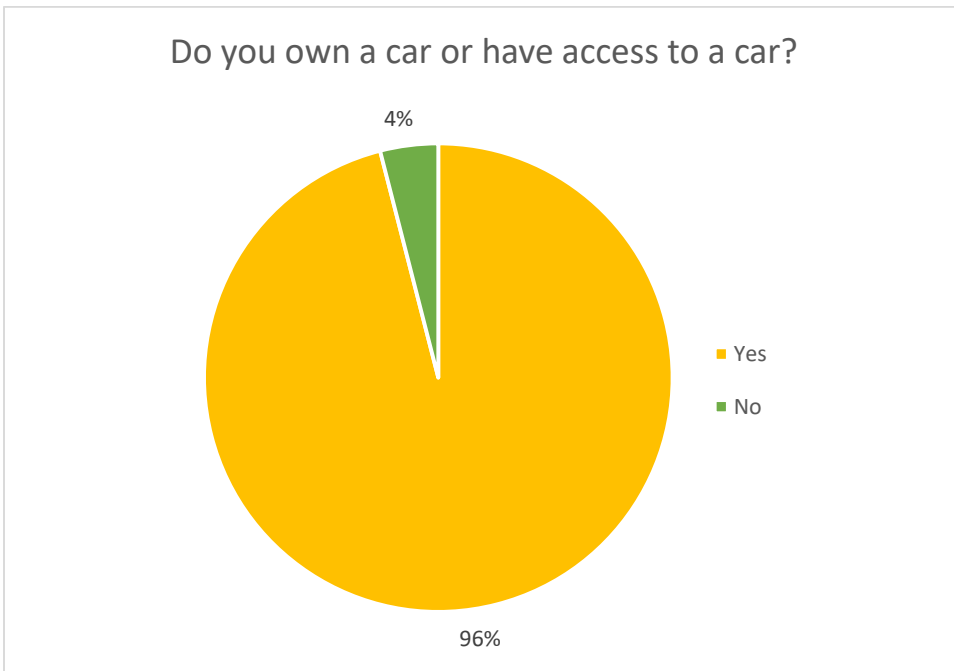
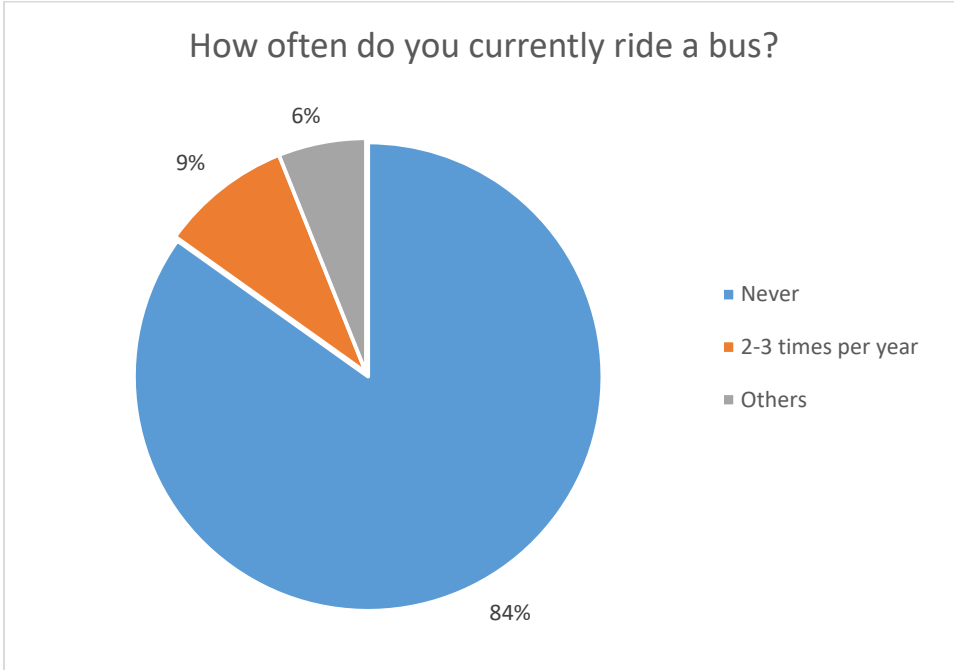
- Detailed information about the input received is provided in the next two sections. Key takeaways and comments made with high frequency across all topic areas is summarized briefly below:
- Most online survey respondents never ride a bus.
- Most online survey respondents own a car or have access to a car.
- 18% of online survey respondents prefer to use a mode of transportation other than a personal vehicle.
- 45% of online survey respondents would use the proposed bus service.
- Top 5 proposed alignment comments:
 - Serve Downtown Apex
 - Provide service along Apex Peakway
 - Provide service to the west (Olive Chapel Road / Kelly Road)

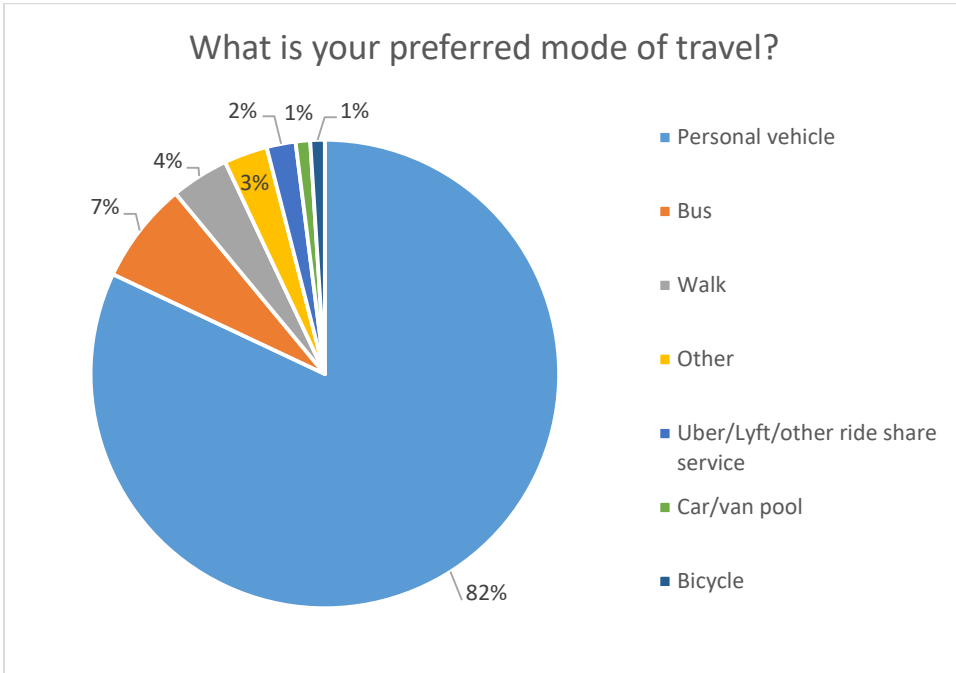


- Connect to regional transit services (GoTriangle service to Raleigh and RTP)
- Connect to Cary / GoCary system
- Top 10 suggested bus stop locations:
 - Beaver Creek Commons
 - Downtown Apex
 - Walmart
 - Town Campus
 - Eva Perry Library
 - Beaver Creek Crossings
 - S Salem Street and NC 55
 - S Hughes Street Park-and-Ride
 - Post Office
 - Haddon Hall Commons
- Online survey respondents and pop-up booth participants are more likely to use the proposed bus service on weekdays and Saturdays.
- Online survey respondents and pop-up booth participants would use the proposed bus service throughout the day on weekdays.
- Online survey respondents and pop-up booth participants are more likely to use the proposed bus service between 11:00 am – 4:00 pm on weekends.
- There were multiple requests for 30-minute frequency.
- Top bus stop amenity preferences include: shelter, bench, route information signage, and trash receptacle.
- 17% of online survey respondents and pop-up booth participants prefer a fare-free service.
- 35% of online survey respondents and pop-up booth participants would pay up to \$2 for a one-way trip on the proposed bus service.
- Most online survey respondents and pop-up booth participants prefer a separate, on-demand paratransit service.
- Most pop-up booth participants prefer to expand paratransit service beyond requirements to include all seniors.
- 33% of online survey respondents and pop-up booth participants would use the proposed bus service for a shopping trip.

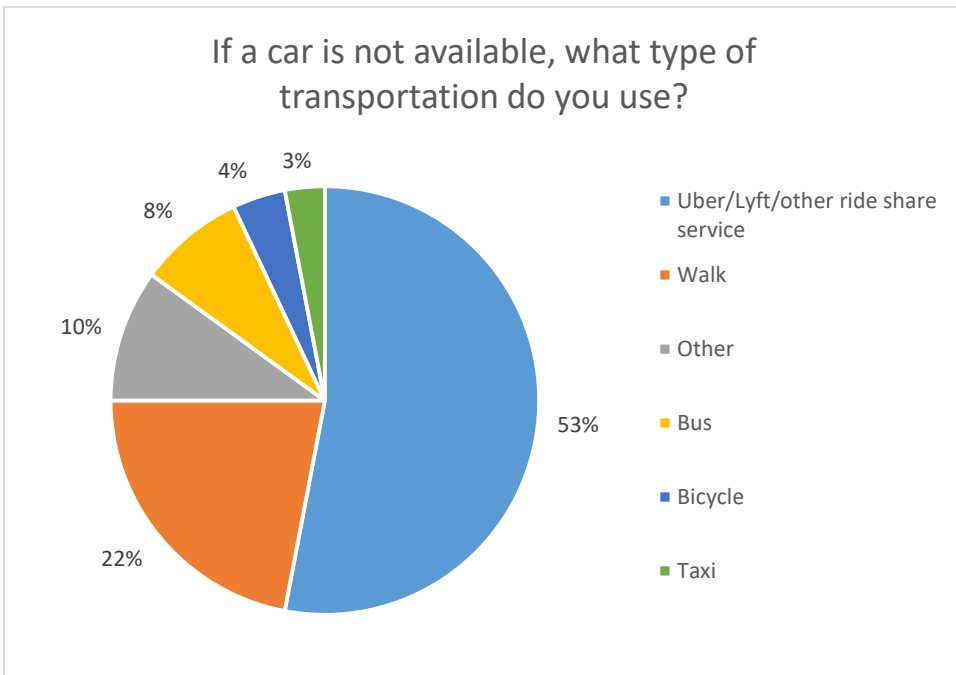
Input Regarding General Transit Usage and Preferences

The following input on general transit preferences was gathered through the online survey.





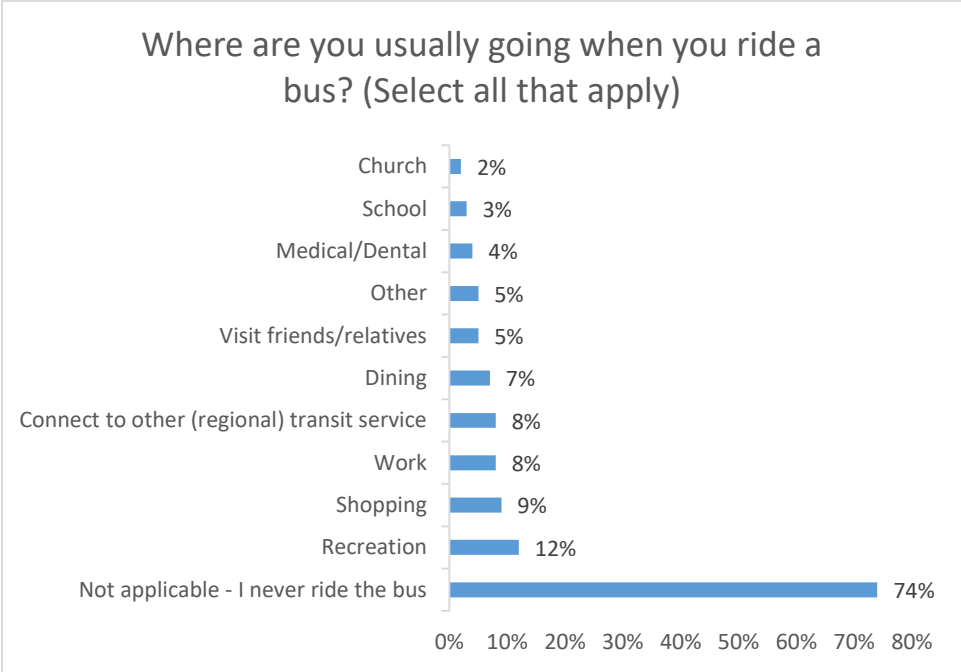
'Other' Responses	Votes
Trail or Light Rail	2



'Other' Responses	Votes
Ride with friend / family / coworker	26



'Other' Responses	Votes
Rent a car	1



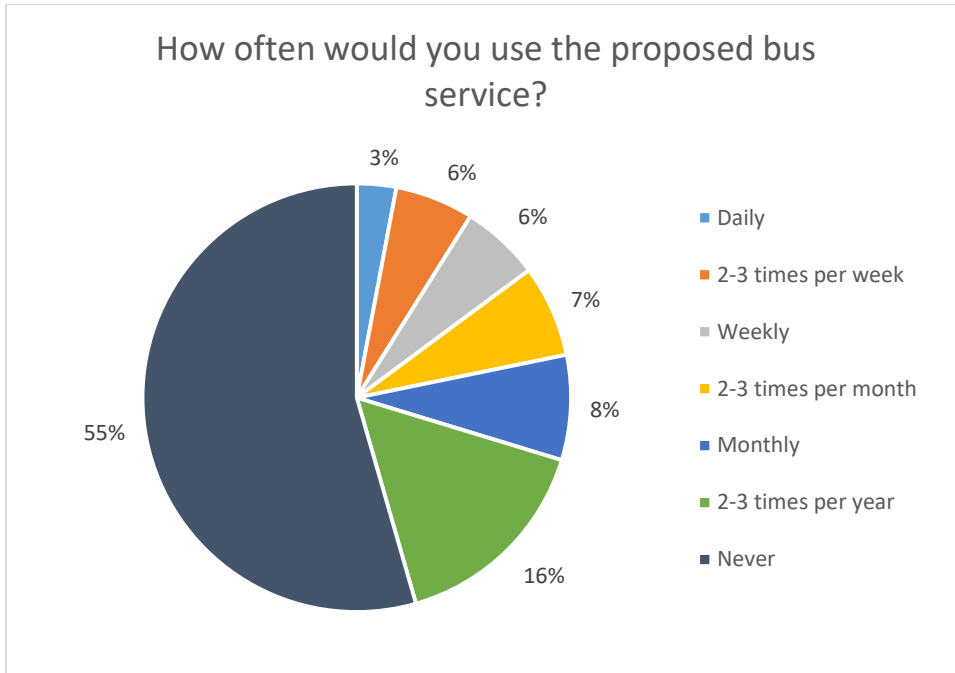
'Other' Comments	Votes
Ride a bus while travelling	7
Airport	2
Shuttle for special events	2
Car dealership	1
State Fair	1



Input Specific to the Apex Circulator

Anticipated Usage

The following input on anticipated usage was gathered through the online survey.



Proposed Route Alignment

The following comments regarding the proposed alignment were submitted at in-person engagement events and through the online survey.

Proposed Alignment Comments	Votes
Serve Downtown Apex	27
Provide service along Apex Peakway	18
Provide service to the west (Olive Chapel Road / Kelly Road)	17
Connect to regional transit services (GoTriangle service to Raleigh and RTP)	14
Connect to Cary / GoCary system	13
Connect to Raleigh	13
Serve Town Campus	12
Connect to major attractions / shopping areas	12
Extend north to Jenks Road	11
Connect to Holly Springs	8
Support proposed alignment	8
Serve the library	7
Connect to park-and-ride lots (Beaver Creek Commons, Walmart, Ting Park in Holly Springs, Walgreens at Olive Chapel Road and W Williams Street, Apex Town Hall)	7



Proposed Alignment Comments	Votes
Provide service to the east - Hunter Street / Old Raleigh Road	6
Serve Hunter Street Park	6
Connect to airport	6
Don't use NC 55	6
Provide service along Apex Barbecue Road	4
Connect to schools	4
Provide service to Laura Duncan Road / US 64	4
Extend south along E Williams Street	3
Serve mobile homes at S Salem Street and Apex Peakway	3
Do not support proposed alignment	3
Connect to Wake Tech South Campus	3
Serve more areas within Apex	3
Provide Service along Ten Ten Road / Center Street	2
Extend north to High House Road	2
Connect to Fuquay-Varina	2
Serve mobile homes off Markham Street	2
Serve seniors in the Golden View and Perry Hills area off Tingen Road	1
Connect to Morrisville	1
Only use NC 55	1
Provide service along NC 55 and Davis Drive	1
Allow slight 1-2 mile deviations off NC 55	1
Connect to areas of affordable housing	1
Account for disabled ridership	1

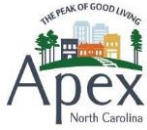
Bus Stop Locations

The following bus stop locations were suggested at in-person engagement events and through the online survey.

Proposed Bus Stop Locations	Votes
Beaver Creek Commons	62
S Salem Street / Downtown Apex	46
Walmart	42
Town Campus	36
Eva Perry Library	32
Beaver Creek Crossings	27
S Salem Street and NC 55	24
S Hughes Street Park-and-Ride	15
Post Office	15
Haddon Hall Commons	14
Town Centre Commons (Olive Chapel Road and NC 55)	14
WakeMed Apex Healthplex	14
Peakway Market Square	13



Proposed Bus Stop Locations	Votes
NC 55 and Hunter Street	13
NC 55 and James Street	13
Olive Chapel Village	10
Apex Jaycee Park	10
Hunter Street Park	8
Publix Pointe	7
NC 55 and Haddon Hall Drive (west side of NC 55)	7
Kelly Road and Olive Chapel Road	7
Apex High School	7
S Salem Street and Chatham Street	6
NC 55 and Apex Peakway (East Williams vs West Williams unspecified)	6
Apex Community Park	6
Apex Peakway and Tingen Road	6
E Williams Street and Apex Peakway	6
Olive Chapel Road & NC 540 (Western Wake Crisis Ministry)	6
Cambridge Village	6
NC 55 and Upchurch Street	5
N Salem Street and Center Street area	5
NC 55 and Haddon Hall Drive (east side of NC 55)	5
NC 55 and Old Jenks Road / Jenks Road	5
Apex Middle School	5
Costco Area	5
S Salem Street and Apex Peakway	4
NC 55 and James Street (east side of NC 55)	4
West Haven Apartments	4
NC 55 and Perry Road	4
Vineyard Station Shopping Center	4
Markham Street (mobile homes)	3
Wake Acres Apartments	3
Olive Chapel Road and Apex Peakway	3
Apex Peakway and Perry Road	3
Village at Broadstone Station	3
Old Raleigh Road and Laura Duncan Road	3
W Williams Street and Apex Peakway	3
Salem Street and W Chatham Street	3
Beaver Creek Apartments and Townhomes	3
Aldi	3
Tingen Road and James Street	3
Apex Nature Park	3
Duke Health (Orchard Villas Avenue)	3
Apex Middle School (west side of NC 55)	2
NC 55 and Vision Drive (Apex Crossing)	2



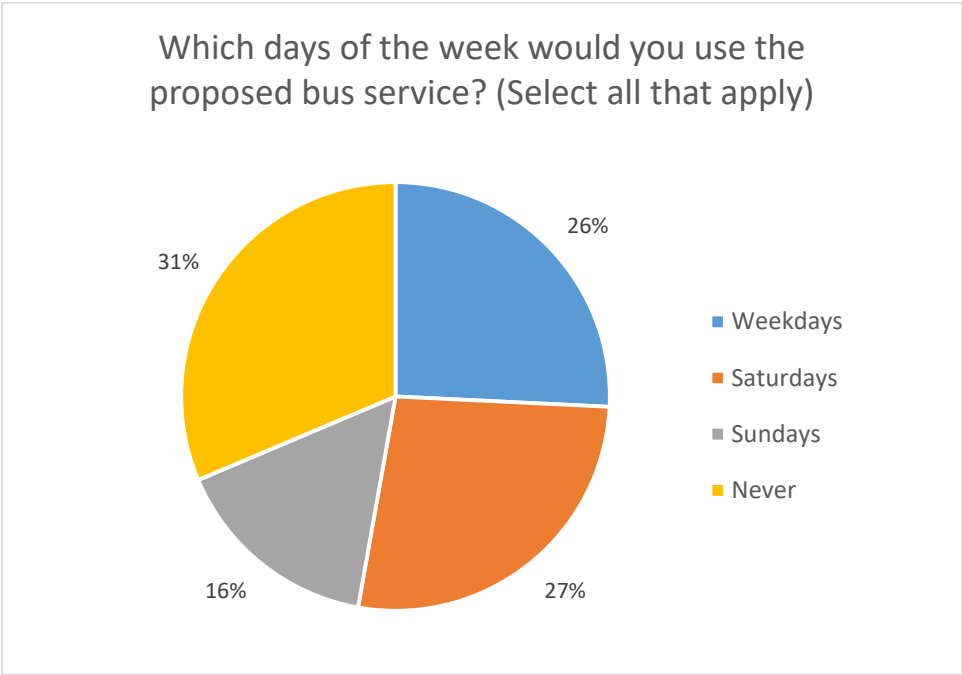
Proposed Bus Stop Locations	Votes
Pizza Hut	2
S Hughes Street and Apex Peakway	2
James Street and S Hughes Street	2
Cary Depot	2
NC 55 and White Dogwood Road	2
NC 55 and US 1 area	2
Lake Pine Plaza	2
Laura Duncan Road and Apex Peakway	2
Peak Plaza Shopping Center	2
Apex Elementary	2
Perry Road and S Hughes Street	2
N Salem Street and Apex Peakway	2
Kelly Road and Beaver Creek Commons Drive	1
Molly Maid (534 E Williams Street)	1
NC 55 and First Street	1
Seagrove's Farm	1
Apex Professional Park	1
Haddon Hall Drive and Zeno Road	1
Chelsea Run subdivision	1
Scotts Mill	1
Old Raleigh Road and Apex Peakway (NW corner)	1
Lake Ridge Apartments at NC 55	1
Apex Village Center	1
Skipper's area off NC 55	1
Kelly Road and Apex Barbecue Road	1
N Salem Street and Saunders Street	1
Preserves at White Oak neighborhood	1
NC 55 and Lufkin Road	1
NC 55 and S Mason Street	1
Hunter Street and N Salem Street	1
NC 55 and US 64	1
Lake Cameron Apartments	1
NC 55 and Bryan Drive	1
Apex Peakway and Old Mill Village	1
Tingen Road and Peace Haven Place	1
Salem Street and Apex Peakway (north vs south side of Salem Street unspecified)	1
Senior community under construction near Apex Community Park on Laura Duncan Road	1
Daniel's Restaurant	1
GoTriangle Route 311 Stop 1446 at NC 55 at Vision Dr (southbound)	1
Richardson Road and Olive Chapel Road	1
Humie Olive Road and Evans Road	1
Apex Barbecue Road and Old US 1	1



Proposed Bus Stop Locations	Votes
Peak UMC	1
Apex UMC	1
Morris Acres Road	1
Spring Arbor	1
Rex Nursing Care & Rehabilitation	1
Orchard Villas	1
Car dealerships / rental car places	1
James Street and Briarcliff Street once Apex Peakway is complete	1

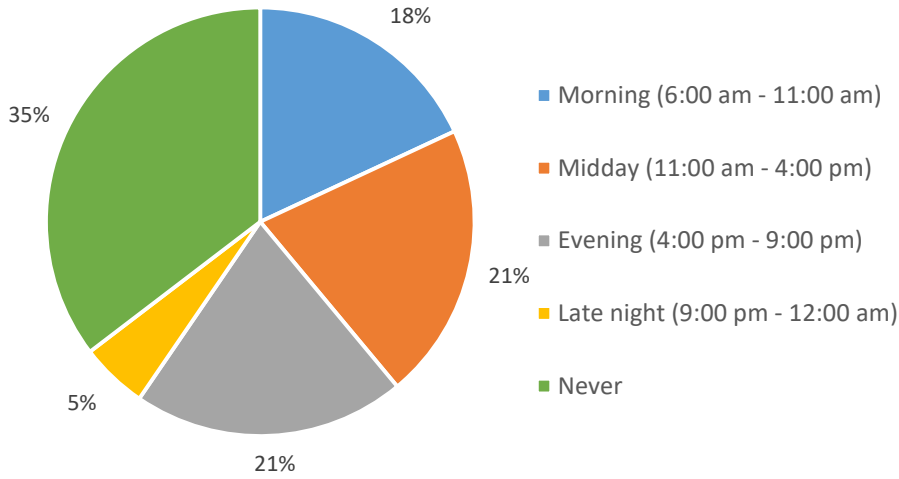
Bus Schedule

The following input on the bus schedule was gathered at in-person engagement activities and through the online survey.

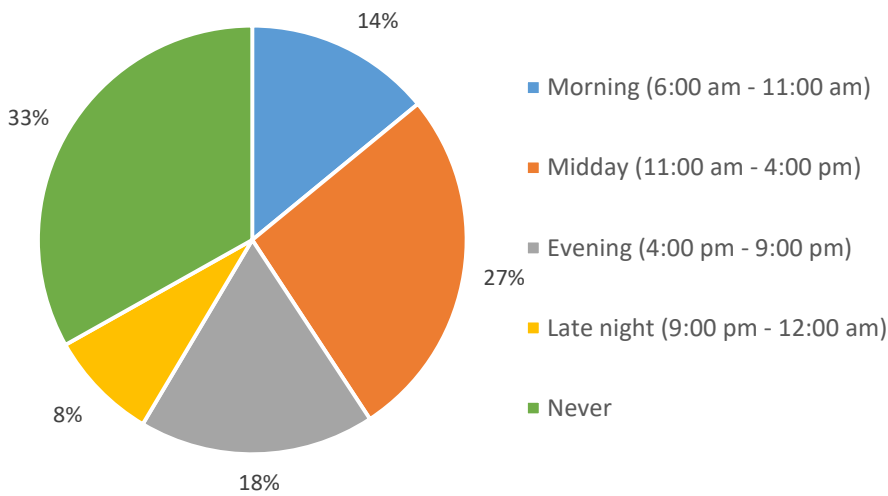




At what time of day would you use the proposed bus service on **weekdays**? (Select all that apply)



At what time of day would you use the proposed bus service on **weekends**? (Select all that apply)



The following comments regarding bus schedule were submitted at in-person engagement events and through the online survey.

Bus Schedule Comments	Votes
Provide 30-minute frequency	Multiple at in-person events
Include some evening hours to return home after dinner	1



Bus Schedule Comments	Votes
Serve Western Wake Crisis Ministry at least once during the hours between 11am – 2pm	1
Provide service from 6am – 9 pm	1

Bus Stop Amenities

The following input on bus stop amenities was gathered through the online survey. Survey respondents were asked to rank bus the following stop amenities.

Amenity	Rank
Shelter	1
Route information signage	2
Bench	3
Trash receptacle	4
Car parking	5
Wayfinding signage	6
Bike parking	7
Landscaping	8
Other	9

The following comments regarding bus stop amenities were submitted through the online survey.

Bus Stop Amenities Comments	Votes
Adequate lighting	3
Public art	2
Restrooms	1
Emergency call box	1
Digital bus schedule	1
Accessible bus stops	1
Parking lot with adequate lighting	1

The following input on bus stop amenities was gathered at in-person engagement events.

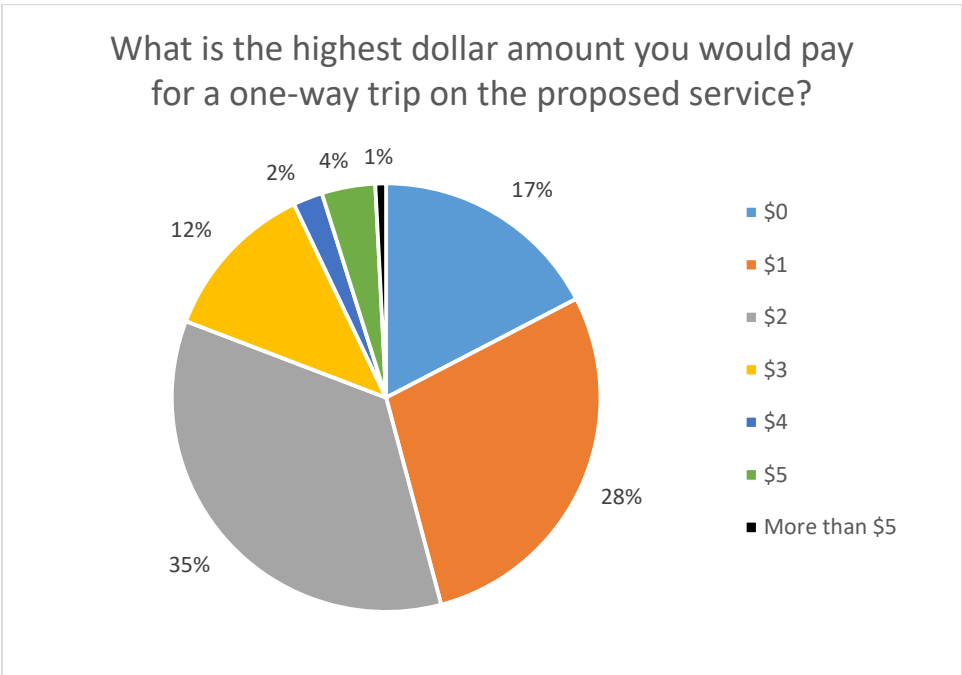
Amenity	Votes
Shelter	67
Bench	60
Route information signage	42
Trash receptacle	30
Landscaping	24
Wayfinding signage	19
Park-and-ride spaces	15



Amenity	Votes
Bike parking	14
Other: Transloc (mobile application with real-time information)	1

Bus Fare

The following input on bus fare was gathered at in-person engagement events and through the online survey.

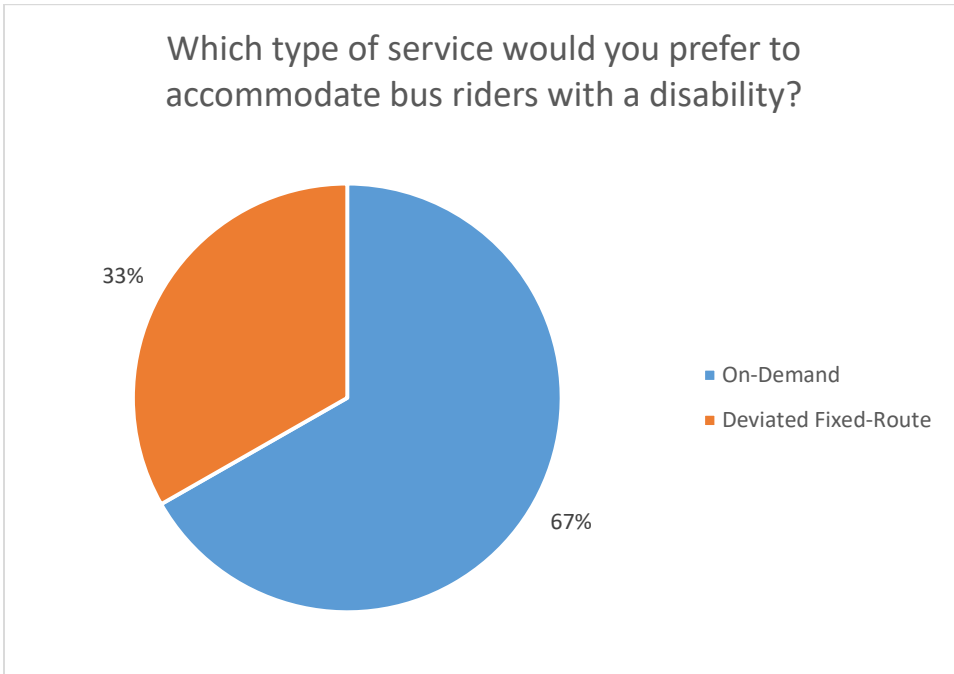


The following comments regarding bus fare were submitted at in-person engagement events and through the online survey.

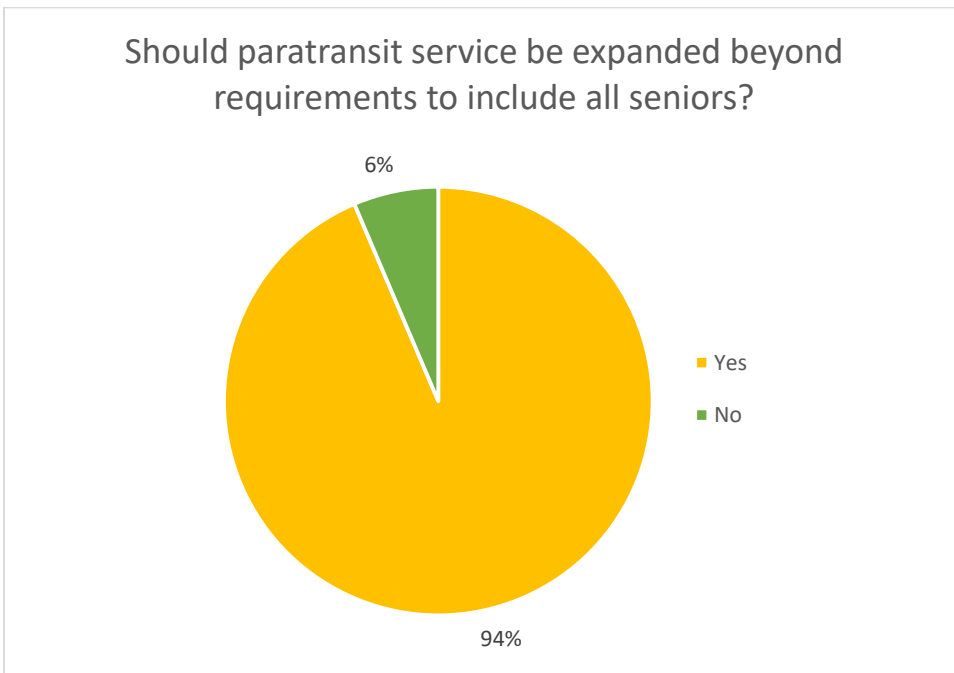
Bus Fare Comment	Votes
Provide a monthly / long-term pass	4
Provide discounted passes for people on a fixed income	3
Provide fare-free service	2
Provide a student pass	2
Provide a senior pass	2
Would pay \$2.5 for a one-way trip	2
Provide the option to purchase several rides at once	1
Would pay up to \$8 each way for a trip to RDU airport	1
Provide fare-free service for young children	1

Paratransit Service

The following input on paratransit service was gathered at in-person engagement activities and through the online survey.



The following input on paratransit service was gathered at in-person engagement activities.



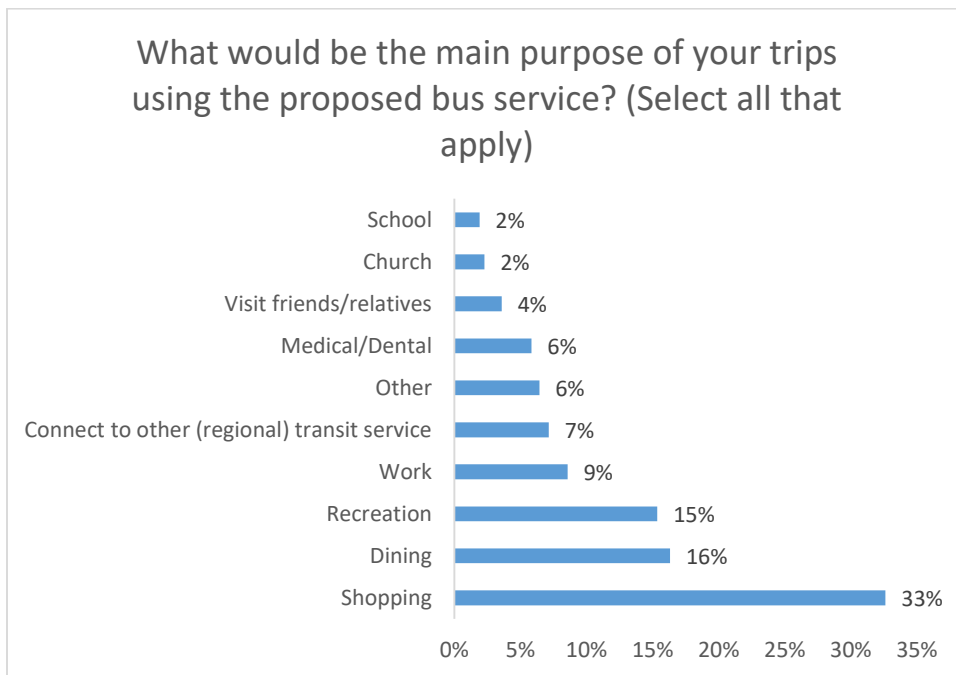


The following comments regarding paratransit service were submitted at in-person engagement events and through the online survey.

Paratransit Comments	Votes
Deviated fixed-route service could delay service	2
Consider loading/unloading time for people with disabilities	2
A separate, on-demand service is the best fit for riders with disabilities and elderly residents	2
Provide service similar to GoCary	2
Existing paratransit service does not meet current needs	2
Partner with GoTriangle for comprehensive area transportation	1
Paratransit service is already available	1
A separate, on-demand service would serve many clients at Western Wake Crisis Ministry	1
Provide paratransit service with connections to GoTriangle	1
Allow people with disabilities to call and schedule a ride	1
On-demand service should be a high priority as the community ages	1

Trip Purpose

The following input on trip purpose was gathered at in-person engagement events and through the online survey.



The following comments regarding trip purpose were submitted through the online survey.



Trip Purpose Comments	Votes
Would not use the proposed bus service	30
Downtown shopping / dining	4
Public library	2
Downtown events	1
Auto repair shop	1

Additional Comments

The following transit comments (paraphrased) were submitted at in-person engagement events and through the online survey.

Additional Comments	Votes
Do not support the proposed bus service	20
Provide bicycle / pedestrian connections	17
Concerned about traffic	14
Support the proposed bus service	13
Proposed bus service is not worth the cost	12
Proposed service is a lower priority than other projects	12
Improve existing regional service	10
Anticipate low ridership	6
Provide commuter rail / light rail	4
Provide microtransit / use a small vehicle	4
Provide rideshare service	3
Add an east-west connector route	2
Prioritize safety at bus stops	2
Provide a mobile tracking application	2
Provide additional transit connections to Lake Pine Plaza Park-and-Ride	2
Provide trolley / shuttle service	2
Would not use the proposed bus service	2
Provide space on bus for shopping bags	2
Do not currently ride the bus because there are not car seats for kids	1
Improve bus stop maintenance	1
Incorporate the Town's history in the bus name or design	1
Not a good investment at this time	1
Prefer an on-demand service over fixed-route service	1
Prefer an on-demand service for senior and handicapped residents over fixed-route service	1
Provide neighborhood bus stops	1
Provide sufficient bike parking on the bus	1
Stop on demand anywhere feasible along the route via smart-phone request	1



APPENDIX C: BUS STOP NEEDS

GoApex Route 1 Bus Stop Needs Cost Estimates

Stop ID	Bus Stop Name	Roadway	Direction	Votes	Anticipated Ridership	Existing stop?	Concrete pad extension needed?	Pedestrian improvements needed?	Detailed pedestrian improvements	Lighting needed? Can be street lighting or stop-specific	Signage needed?	Route information signage?	Additional recommended improvements?	Amenity Pad?	Shelter?	Bench?	Trash receptacle?	Car parking?	Wayfinding signage?	Bike parking?	Apex total capital cost estimate - without pedestrian improvement contingency and NCDOT oversight	Apex total operating cost estimate	Regional total capital cost estimate	Regional total operating cost estimate	Anticipated Transit Easement?
1	Olive Chapel Professional Park	Olive Chapel Ridge Road	SB	0	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 4,700.25	\$ -	\$ -	\$ -	No
2	Western Wake Crisis Ministry	Olive Chapel Road	WB	6	Low	No	Yes	Yes	Complete sidewalk gap along the north side of Olive Chapel Road from Ashley Downs to west of Chapel Ridge Road.	No	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	\$ 32,620.51	\$ -	\$ -	\$ -	No
3	Olive Chapel Elementary School	Olive Chapel Road	EB	7	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 4,700.25	\$ -	\$ -	\$ -	Yes
4	Kelly Road at Publix Pointe	Kelly Road	NB	7	Medium	No	No	No		Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	\$ 15,300.25	\$ -	\$ -	\$ -	No
5	BC Commons Dr at Diamond Dove Ln	Beaver Creek Commons Drive	EB	1	Low	No	Yes	No		No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 3,600.25	\$ -	\$ -	\$ -	No
6	BC Commons Dr at Diamond Dove Ln	Beaver Creek Commons Drive	WB	1	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 4,700.25	\$ -	\$ -	\$ -	No
7	BC Commons Dr West	Beaver Creek Commons Drive	EB	27	High	No	Yes	Yes	Detectable surfaces (4) at the driveway to the north and the driveway to the south.	No	Yes	Yes	Yes	No	No	No	Yes	No	No	No	\$ 8,600.25	\$ -	\$ -	\$ -	Yes
8	BC Commons Dr at Creekside Landing	Beaver Creek Commons Drive	WB	27	High	No	Yes	Yes	Sidewalk extension along the north side of Beaver Creek Commons Drive to the west	Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 7,882.23	\$ -	\$ -	\$ -	No
9	BC Commons Dr at Regal Cinemas	Beaver Creek Commons Drive	EB	27	High	No	Yes	No		No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	No	\$ 19,700.25	\$ -	\$ -	\$ -	Yes
10	BC Commons Dr at BC Greenway EB	Beaver Creek Commons Drive	EB	62	Medium	No	Yes	No		No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 3,600.25	\$ -	\$ -	\$ -	No
11	BC Commons Dr at BC Greenway WB	Beaver Creek Commons Drive	WB	62	Medium	No	Yes	No		Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	\$ 4,700.25	\$ -	\$ -	\$ -	No
12	BC Commons Dr at Chick-fil-A	Beaver Creek Commons Drive	WB	62	High	No	Yes	No		Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	\$ 22,300.25	\$ -	\$ -	\$ -	Yes
13	BC Commons Dr at Lowe's	Beaver Creek Commons Drive	EB	62	High	No	No	No		No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	\$ 16,700.25	\$ 15,579.00	\$ -	\$ -	No
14	W Williams St at Beaver Creek Commons	W Williams Street	SB	7	Low	Yes	Yes	Yes	Detectable surface (1) at the intersection of W Williams Street and Haddon Hall Drive. Crosswalks across the west and south legs of the intersection of W Williams Street and Haddon Hall Drive. Signal upgrade and ped signals required if crosswalks are striped (\$50,000).	No	No	Yes	No	No	No	No	No	No	No	No	\$ -	\$ -	\$ 3,632.75	\$ -	No

GoApex Route 1 Bus Stop Needs Cost Estimates

Stop ID	Bus Stop Name	Roadway	Direction	Votes	Anticipated Ridership	Existing stop?	Concrete pad extension needed?	Pedestrian improvements needed?	Detailed pedestrian improvements	Lighting needed? Can be street lighting or stop-specific	Signage needed?	Route information signage?	Additional recommended improvements?	Amenity Pad?	Shelter?	Bench?	Trash receptacle?	Car parking?	Wayfinding signage?	Bike parking?	Apex total capital cost estimate - without pedestrian improvement contingency and NCDOT oversight	Apex total operating cost estimate	Regional total capital cost estimate	Regional total operating cost estimate	Anticipated Transit Easement?
15	W Williams St at Haddon Hall	W Williams Street	NB	5	Low	Yes	Yes	Yes	Detectable surfaces (2) at the intersection of W Williams Street and Haddon Hall Drive. Detectable surfaces (2) at the intersection of W Williams Street and Pemberton Hill Road. Crosswalk on the south and east legs of the intersection of W Williams Street Pemberton Hill Road. Signal upgrade and ped signals required if crosswalks are striped (\$50,000).	No	No	Yes	No	No	No	No	No	No	No	No	\$ -	\$ -	\$ 5,132.75	\$ -	No
16	W Williams St at Healthplex Way	W Williams Street	SB	14	Low	No	Yes	No		Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	\$ 17,800.25	\$ -	\$ -	\$ -	Yes
17	W Williams St at Apex Peakway	W Williams Street	NB	50	High	No	Yes	No		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	\$ 25,700.25	\$ -	\$ -	\$ -	Yes
18	W Williams St at Apex Peakway	W Williams Street	SB	50	High	Yes	Yes	Yes	Detectable surfaces (2) at the right-in/right-out access to Olive Chapel Village off W Williams Street. Detectable surfaces (2) at the Shell gas station driveway off W Williams Street.	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	\$ -	\$ -	\$ 28,582.75	\$ -	Yes
19	W Williams St at Olive Chapel Rd	W Williams Street	SB	27	Medium	Yes	Yes	No		Yes	No	Yes	No	No	No	No	No	No	No	No	\$ -	\$ -	\$ 4,232.75	\$ -	No
20	W Williams St at Bryan Dr / Post Office	W Williams Street	SB	16	Medium	No	Yes	Yes	Detectable surfaces at Post Office driveway (2), Bryan Drive (2), and Jayce Park driveway (2). Sidewalk along W Williams Street, fronting the post office needs repair (Public Works complete this repair separately).	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	\$ 19,700.25	\$ -	\$ -	\$ -	Yes
21	W Williams St at Upchurch St	W Williams Street	SB	5	Low	No	Yes	Yes	Sidewalk extension along the west side of W Williams St from Upchurch Street. Accessible ramp at the intersection of W Williams St an Upchurch Street.	Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 22,523.60	\$ -	\$ -	\$ -	No
22	E Williams St at Salem St	E Williams Street	SB	24	Medium	No	Yes	Yes	Sidewalk extension along the south/west side of W Williams St from S Salem St at the intersection ramp.	No	Yes	Yes	Yes	No	No	No	No	No	Yes	No	\$ 7,903.03	\$ -	\$ -	\$ -	No
23	E Williams St at Hughes St / Park and Ride	E Williams Street	EB	17	Medium	No	Yes	Yes	Sidewalk extension along the south / west side of E Williams Street from the intersection ramp.	Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 10,363.59	\$ -	\$ -	\$ -	No
24	E Williams St at S Mason St / Apex Middle School	E Williams Street	NB	21	Medium	No	Yes	Yes	Sidewalk repair along the north / east side of E Williams Street close to the intersection with S Mason Street. This may wait until NC 55 Widening Project. Public Works can repair the sidewalk.	Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 5,200.25	\$ -	\$ -	\$ -	No
25	E Williams St at Apex Village Center	E Williams Street	SB	2	Low	No	Yes	Yes	Sidewalk extension along the south / west side of E Williams Street to Apex Village Center driveway	No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 9,572.51	\$ -	\$ -	\$ -	No
26	E Williams St at Perry Rd	E Williams Street	SB	4	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 5,200.25	\$ -	\$ -	\$ -	No
27	E Williams St at Apex Peakway	E Williams Street	SB	6	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 5,200.25	\$ -	\$ -	\$ -	No
28	Apex Peakway at Cambridge Village	Apex Peakway	SB	48	Medium	No	Yes	No		No	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	\$ 16,700.25	\$ -	\$ -	\$ -	Yes
29	Apex Peakway at Norris Park	Apex Peakway	WB	3	Low	No	Yes	Yes	Sidewalk extension along the north side of Apex Peakway. Detectable surfaces (2) at the driveway to the east.	No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 8,903.03	\$ -	\$ -	\$ -	No
30	Apex Peakway at Shackleton Rd	Apex Peakway	WB	0	Low	No	Yes	Yes	Sidewalk extension along the north side of Apex Peakway. Detectable surfaces (2) at Shackleton Rd.	Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 10,003.03	\$ -	\$ -	\$ -	No

GoApex Route 1 Bus Stop Needs Cost Estimates

Stop ID	Bus Stop Name	Roadway	Direction	Votes	Anticipated Ridership	Existing stop?	Concrete pad extension needed?	Pedestrian improvements needed?	Detailed pedestrian improvements	Lighting needed? Can be street lighting or stop-specific	Signage needed?	Route information signage?	Additional recommended improvements?	Amenity Pad?	Shelter?	Bench?	Trash receptacle?	Car parking?	Wayfinding signage?	Bike parking?	Apex total capital cost estimate - without pedestrian improvement contingency and NCDOT oversight	Apex total operating cost estimate	Regional total capital cost estimate	Regional total operating cost estimate	Anticipated Transit Easement?
31	Tingen Rd at Baberton Dr	Tingen Road	NB	4	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 4,700.25	\$ -	\$ -	\$ -	No
32	Tingen Rd at Peace Haven Pl	Tingen Rd	NB	4	Medium	No	Yes	No		Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	\$ 17,800.25	\$ -	\$ -	\$ -	Yes
33	Tingen Rd at Spara Ln	Tingen Rd	NB	3	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 5,200.25	\$ -	\$ -	\$ -	No
34	James St at Tingen Rd	James St	EB	5	Low	No	Yes	No		Yes	Yes	Yes	No	No	No	No	No	No	No	No	\$ 4,700.25	\$ -	\$ -	\$ -	No
35	James St at Germaine St	James St	EB	3	Medium	No	Yes	Yes	Detectable surfaces at Wake Acres Apartments driveways (4) and S Hughes Street (2).	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	\$ 20,800.25	\$ -	\$ -	\$ -	No
36	James St at E Williams St	James St	EB	22	Medium	No	Yes	Yes	Detectable surfaces on the commercial driveway to the east (1) and on the commercial driveway to the west (2).	No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 5,100.25	\$ -	\$ -	\$ -	No
37	S Salem St at Williams St	S Salem St	NB	24	Medium	No	Yes	No		No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	\$ 16,700.25	\$ -	\$ -	\$ -	Yes
38	S Salem St at Moore St	S Salem St	NB	46	Medium	No	Yes	No		No	Yes	Yes	Yes	No	No	No	No	No	Yes	No	\$ 3,600.25	\$ -	\$ -	\$ -	No
39	S Salem St at W Chatham St	S Salem St	NB	55	High	No	Yes	Yes	Detectable surfaces (4) at the intersection of N Salem Street and Chatham Street.	No	Yes	Yes	Yes	No	No	No	No	No	Yes	No	\$ 5,600.25	\$ -	\$ -	\$ -	No
40	E Chatham St at S Hughes St	E Chatham St	EB	1	Low	No	Yes	No		Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	No	\$ 5,200.25	\$ -	\$ -	\$ -	No
41	N Mason St at Old Mill Village Dr / Town Hall	N Mason St	NB	36	High	Yes	Yes	No	ADA improvements are not required as this is an existing stop. Sidewalk extension along the east side of N Mason Street from Old Mill Village Drive. Crosswalk across N Mason Street at Old Mill Village Drive/Town Campus driveway.	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	\$ -	\$ -	\$ 25,232.75	\$ -	No
42	Laura Duncan Rd at Vineyard Station	Laura Duncan Road	NB	7	Low	No	Yes	Yes	Detectable surfaces (2) at the Vineyard Station driveway.	No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 4,600.25	\$ -	\$ -	\$ -	No
43	Apex Peakway at Laura Duncan Rd	Apex Peakway	WB	2	Low	No	Yes	No		No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 3,600.25	\$ -	\$ -	\$ -	No
44	Apex Peakway at Ambergate Station	Apex Peakway	WB	0	Low	No	Yes	No		No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 3,600.25	\$ -	\$ -	\$ -	No
45	Apex Peakway at N Salem St	Apex Peakway	WB	2	Low	No	Yes	No		No	Yes	Yes	Yes	No	No	No	No	No	Yes	No	\$ 3,600.25	\$ -	\$ -	\$ -	No
46	Apex Peakway at Portobello Rd	Apex Peakway	WB	0	Low	No	Yes	Yes	Detectable surfaces at the intersection of Apex Peakway and Brittlely Way (2), Portobello Road (2), and commercial driveways to the west (4).	No	Yes	Yes	No	No	No	No	No	No	No	No	\$ 7,600.25	\$ -	\$ -	\$ -	No

GoApex Route 1 Bus Stop Cost Estimates and Assumptions

BUS STOP NEEDS	COST
Apex Total Capital Costs	\$453,351.16
Apex Total Operating Costs	\$15,579.00
Regional Total Capital Costs	\$66,813.75
Regional Total Operating Costs	\$0.00

COST ASSUMPTIONS	PER UNIT
Shelter	\$4,500.00
Shelter Solar Lighting (Panel plus light fixture)	\$1,350.00
Cobra style lighting	\$1,600.00
Pedestrian style lighting (acorn lighting)	\$1,100.00
Bench	\$3,100.00
Trash Receptacle	\$3,000.00
Bicycle Rack	\$1,500.00
Concrete Landing Pad (between curb and sidewalk)	\$3,000.00
Amenity Pad (concrete pad for shelter, etc.)	\$10,000.00
Stop Signage (background)*	\$37.50
Stop Signage (Route and info decals)	\$2.75
Stop Sign Post	\$430.00
Template design for bus stop signs	\$5,000.00
Route Information Signage	\$130.00
Detectable surface	\$500.00

Cost of wayfinding signage is not included

ASSUMPTIONS	MULTIPLIER
Pedestrian improvement contingency	1.3
Pedestrian improvement NCDOT oversight	1.05

Transit Easement Criteria

Transit Easement Criteria	
Posted Speed Limit	ROW from back of curb
25 mph roadway	12'
35 mph roadway	14'
45 mph roadway	16'



APPENDIX D: DETAILED CALCULATIONS

**GoApex Route 1 Operating Costs and Ridership Projections
Schedule Alternative 1**

	Regional Fare + FTA-Minimum	Regional Fare + GoCary Model	Fare Free + FTA- Minimum	Fare Free + GoCary Model
Paratransit Ridership	2,280	4,560	2,624	9,120
Fixed Route Ridership	34,369	32,089	45,188	42,908
TOTAL ANNUAL RIDERSHIP	36,649	36,649	47,812	52,028
Fixed Route Expenses	\$ 506,311	\$ 506,311	\$ 506,311	\$ 506,311
Paratransit Expenses	\$ 429,000	\$ 429,000	\$ 429,000	\$ 429,000
TOTAL ANNUAL OPERATING EXPENSES	\$ 935,311	\$ 935,311	\$ 935,311	\$ 935,311
Fixed Route Fare Revenue	\$ 16,497	\$ 15,403	\$ -	\$ -
Paratransit Fare Revenue	\$ 5,039	\$ 10,078	\$ -	\$ -
TOTAL ANNUAL REVENUE	\$ 21,536	\$ 25,480	\$ -	\$ -
TOTAL ANNUAL NET COSTS	\$ 913,775	\$ 909,831	\$ 935,311	\$ 935,311
TOTAL ANNUAL NET COST/RIDER	\$ 25	\$ 25	\$ 20	\$ 18
Additional 30-minute peak period	1,898	1,898	1,898	1,898
Additional Fixed Route Expenses (bus 2)	\$ 168,922	\$ 168,922	\$ 168,922	\$ 168,922
Additional Fixed Route Expenses (bus 1)	\$ 23,826	\$ 23,826	\$ 23,826	\$ 23,826
Total additional Fixed Route Expenses	\$ 192,748	\$ 192,748	\$ 192,748	\$ 192,748

ASSUMPTIONS	
Weekday revenue hours	16
Weekday revenue hours + deadhead	16.65
Weekdays days and Saturday days per year	312
Sunday revenue hours	14
Sunday revenue hours + deadhead	14.65
Sunday days per year	52
Total Annual Fixed Route Revenue Hours	5,720
Total Annual Fixed Route Revenue Hours + Deadhead	5,957
Total Annual Paratransit Revenue Hours	5,720
Fixed Route Cost/Revenue Hour + Deadhead	\$ 85
Paratransit Cost/Revenue Hour	\$ 75
GoCary Door-to-Door Total Avg Monthly Passengers/Mile Served	38
GoCary Average Fixed Route Boardings/Revenue Hour	5.61

**GoApex Route 1 Operating Costs and Ridership Projections
Schedule Alternative 1**

ASSUMPTIONS	
Wake Forest Loop Average Boardings/Revenue Hour	7.9
Percentage of GoCary Door-to-Door Senior Riders/Month	50%
GoCary Door-to-Door Disabled Riders/Month	50%
GoApex Miles Served	10
GoCary Average Revenue per Fixed Route Passenger	\$ 0.48
GoCary Average Revenue per Paratransit Passenger	\$ 2.21
Percentage of Disabled Passengers using GoCary Fixed	1%
Anticipated multiplier of senior riders if paratransit is fare free	2

30-Minute Peak Period Service Assumptions	
Weekday peak period revenue hours + deadhead	7.3
Weekday days per year	260
Fixed Route Cost/Revenue Hour + Deadhead - 2nd Bus	\$ 89
Fixed Route Cost/Revenue Hour + Deadhead - Additional cost applied to first bus	\$ 4

GoApex Route 1 Operating Costs and Ridership Projections
Schedule Alternative 3 (No Sunday Service)

	Regional Fare + FTA-Minimum	Regional Fare + GoCary Model	Fare Free + FTA- Minimum	Fare Free + GoCary Model
Paratransit Ridership	2,280	4,560	2,583	9,120
Fixed Route Ridership	30,285	28,005	39,437	37,157
TOTAL ANNUAL RIDERSHIP	32,565	32,565	42,020	46,277
Fixed Route Expenses	\$ 441,558	\$ 441,558	\$ 441,558	\$ 441,558
Paratransit Expenses	\$ 374,400	\$ 374,400	\$ 374,400	\$ 374,400
TOTAL ANNUAL OPERATING EXPENSES	\$ 815,958	\$ 815,958	\$ 815,958	\$ 815,958
Fixed Route Fare Revenue	\$ 14,537	\$ 13,442	\$ -	\$ -
Paratransit Fare Revenue	\$ 5,039	\$ 10,078	\$ -	\$ -
TOTAL ANNUAL REVENUE	\$ 19,576	\$ 23,520	\$ -	\$ -
TOTAL ANNUAL NET COSTS	\$ 796,382	\$ 792,438	\$ 815,958	\$ 815,958
TOTAL ANNUAL NET COST/RIDER	\$ 24	\$ 24	\$ 19	\$ 18
Additional 30-minute peak period	1,898	1,898	1,898	1,898
Additional Fixed Route Expenses (bus 2)	\$ 168,922	\$ 168,922	\$ 168,922	\$ 168,922
Additional Fixed Route Expenses (bus 1)	\$ 20,779	\$ 20,779	\$ 20,779	\$ 20,779
Total additional Fixed Route Expenses	\$ 189,701	\$ 189,701	\$ 189,701	\$ 189,701

ASSUMPTIONS	
Weekday revenue hours	16
Weekday revenue hours + deadhead	16.65
Weekdays days and Saturday days per year	312
Sunday revenue hours	0
Sunday revenue hours + deadhead	0
Sunday days per year	52
Total Annual Fixed Route Revenue Hours	4,992
Total Annual Fixed Route Revenue Hours + Deadhead	5,195
Total Annual Paratransit Revenue Hours	4,992
Fixed Route Cost/Revenue Hour + Deadhead	\$ 85
Paratransit Cost/Revenue Hour	\$ 75
GoCary Door-to-Door Total Avg Monthly Passengers/Mile Served	38
GoCary Average Fixed Route Boardings/Revenue Hour	5.61
Wake Forest Loop Average Boardings/Revenue Hour	7.9

**GoApex Route 1 Operating Costs and Ridership Projections
Schedule Alternative 3 (No Sunday Service)**

ASSUMPTIONS	
Percentage of GoCary Door-to-Door Senior Riders/Month	50%
GoCary Door-to-Door Disabled Riders/Month	50%
GoApex Miles Served	10
GoCary Average Revenue per Fixed Route Passenger	\$ 0.48
GoCary Average Revenue per Paratransit Passenger	\$ 2.21
Percentage of Disabled Passengers using GoCary Fixed Route	1%
Anticipated multiplier of senior riders if paratransit is fare free	2

30-Minute Peak Period Service Assumptions	
Weekday peak period revenue hours + deadhead	7.3
Weekday days per year	260
Fixed Route Cost/Revenue Hour + Deadhead - 2nd Bus	\$ 89
Fixed Route Cost/Revenue Hour + Deadhead - Additional cost applied to first bus	\$ 4