

2026 Triangle Regional Fixed Route Surveys

Scope of Services under CAMPO On-Call Program Management Technical Assistance Services

prepared for

City of Raleigh / GoRaleigh

prepared by

Cambridge Systematics, Inc.

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Date

March 13, 2026

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Introduction

The Consultant will conduct a system-wide tablet-based survey of fixed-route riders for regional routes serving Durham, Orange (extending to include City of Mebane in Alamance County), and Wake Counties to obtain demographic, ridership and origin-destination data. Information obtained from the surveys will be used to support regional transit plans, and Metropolitan Transportation Plan (MTP) updates. The survey results help improve the Triangle regional travel demand model, to meet air quality requirements and support long range transportation network plans across modes. Survey efforts will remain consistent with past surveying efforts in Wake, Durham and Orange counties and build on discussions and draft materials (survey instrument and methodology) developed in the 2023-2024 survey effort. Customer feedback questions will not be included in the survey as this feedback is currently collected with paper-based instruments by the agencies. The survey will be conducted through the regional partnership for Wake, Durham and Orange Counties in accordance with a regional Interlocal Agreement.

Task 1: Project Management and Interagency Team Coordination

The consultant will provide proactive project governance, coordination, quality assurance, and schedule/budget control to deliver the survey program on time, within budget, and in alignment with regional goals and the Interlocal Agreement.

The consultant will coordinate with GoRaleigh to lead engagement and coordination on behalf of the agency with CAMPO, TWTPD, NC State's Institute for Transportation Research and Education (ITRE) and regional partners including GoCary/GoApex, GoDurham, GoTriangle, Orange County Transportation Services, and Wolfline. The Consultant will coordinate with GoRaleigh and regional partners to:

- collect updated agency data,
- finalize the survey instrument and methodology, including methodology details (e.g. whether to sample weekend routes, desired times of day) and desired origin-destination, trip characteristic and/or rider demographic characteristic data
- coordinate logistics for the survey.

After a project team kickoff meeting, regular meetings with GoRaleigh will follow on a bi-weekly basis (60 minutes), depending on the needs of the project at that time. Additional meetings may be scheduled for specific purposes, such as reviewing the instrument design.

The consultant will plan an initial meeting with the regional interagency team that will serve as a kick-off meeting for the group. This meeting will provide overview of the project, confirm all data received, determine any follow up needed on requested data, level set expectations for the current survey, and elicit any updated MPO or transit agency specific surveying goals for 2026 (related to modeling, planning, grant applications, future services, etc.). The 2026 survey project schedule will also be reviewed at the meeting, including 3 additional meetings in subsequent tasks. This will be an opportunity for input and consultation with the regional team, including updated survey goals, objectives, and needs of each agency.

The prime consultant, CS will be the main point of contact for this project. The project manager is Brent Selby with principal-in-charge Clay Barnes and deputy project manager Monika Pal. Subcontractor Planning Communities will also be assisting with management, especially for interagency coordination. ETC is

implementing the survey including training and management of surveyors and data collection. Each firm will be present in relevant meetings and available for direct communication with GoRaleigh and regional partners.

Key Tasks

- Conduct a project team kick-off meeting with GoRaleigh
- Set up regular meetings with GoRaleigh
- Maintain a detailed schedule (e.g. Gantt chart) with milestones for data collection, methodology updates, survey implementation, and reporting.
- Implement QA/QC for instruments, sampling plans, survey programming, field protocols, geocoding, weighting/expansion, and reporting.
- Prepare monthly progress reports and invoices.
- Set up a secure Sharepoint site and maintain a shared project repository with organized folders and document control.
- Coordinate with GoRaleigh and engage with CAMPO, TWTPD, ITRE, and partners (GoCary/GoApex, GoDurham, GoTriangle, Orange County Transportation Services, Wolfline).
- Conduct an interagency kick-off meeting to confirm goals, data status, schedule, and expectations.
- Document agency-specific surveying goals for the current effort (modeling, planning, grants, post-pandemic trends).

Deliverables

- Detailed project schedule (Gantt) and monthly schedule/budget status updates.
- Kickoff meeting agendas, materials, and summaries for team meeting with GoRaleigh and Interagency meeting.
- Bi-weekly meetings action log.
- Monthly progress memos and invoices.
- Centralized project file repository site and permissions.
- Agendas, materials, and summaries for regional interagency coordination calls/meetings (4)

Task 2: Updated Survey Methodology, Sampling Plan and Survey Instrument

Sampling Plan

The first step to creating the sampling plan is collecting the following key data:

- Daily weekday ridership data by route, direction, and time of day
 - For On to Off (O2O) routes, stop-level counts are also needed – ideally boarding and alighting
 - Data should be the most recent available as well as some historical data (e.g. months of 2025).
 - Counts by month show how the daily boardings fluctuate.
 - For accuracy, ridership from APC and other sources (i.e. fare collection) should be provided along with any information about coverage of the data if it is known to not account for 100% of trips.
- GTFS feed from participating and connected operators
 - Non-participant GTFS information will be important for transfers

To streamline the current data facilitation across all transit agencies, our team will provide an online depository and track the data shared including details such as source, time period, and week days represented. At this time we will also gather garage locations and key contacts to be used later.

Sampling targets will be created for the O2O survey and for the Origin-Destination (OD) survey. The O2O will cover high ridership routes only, while the OD survey will represent all routes. The sampling plans will use ridership data to identify appropriate random sample sizes by route, direction, and time of day, which will be updated from those previously developed. The targeted data collection will allow for the expansion of the statistically significant survey results to the system level.

The overall OD survey collection goal will be ten percent (10%) of weekday boardings; sampling targets may vary, especially for lower ridership routes, with higher percentages required in some instances; if these adjusted needs on lower ridership routes are substantial, collection goals on the highest volume routes may be adjusted to provide the necessary surveying capacity, consistent with previous years' surveys.

Oversampling – the targeted collection of a higher share of riders – will occur on certain routes of interest for each operator. Oversampling will be conducted on approximately 20% of routes identified by the regional agencies to support future transit planning and analysis, with an oversampling target range of 25-50% (12-15% of boardings) as requested. Routes for oversampling will be coordinated with the participating/funding transit agencies in Task 1 and are anticipated to include similar routes to those oversampled in 2023, including those that are planned for future BRT by various agencies, routes that parallel or cross planned regional commuter rail routes, or routes that have specific agency interest or reason (service goals,

demographic goals, etc.), which may be new or different than those oversampled in the prior survey. Oversampling recommendations and target ranges may be fine-tuned based on the O2O surveys. These routes will be evaluated to determine feasibility in terms of level of effort and propensity to respond.

Methodology

The Consultant will review and update the 2023 draft memorandum outlining the survey methodology and prepare updated sampling plans based on the current detailed ridership data. The methodology will reflect past onboard survey efforts and the input and consultation with the regional team at the kick-off meeting for the current effort, including updated survey goals, objectives, and needs of each agency.

The methodology will identify strategies on specific routes to address literacy, limited English proficiency/non-English-speaking or other transit user characteristics that may affect participation rates. The survey methodology update will also include updating estimates for the number of temporary workers required to administer the surveys.

Instrument Design

The draft survey instrument prepared in 2023 will also be reviewed and updated. The existing draft reflects questions from previous onboard surveys in Wake, Durham and Orange Counties, prior years' consultation with regional partners and input from GoRaleigh. The survey instrument includes questions to meet data requirements of the regional travel demand model and MTP updates and may be adapted to reflect the current state of travel.

Review and Revision of Planning Documents

The updated draft survey methodology, revised sampling plans and edited survey instrument will be reviewed by the interagency team through a team meeting or briefing call. The purpose will be to discuss and share feedback on these materials and to discuss the origin-destination survey preparation and On to Off (O2O) survey – sometimes referred to as boarding to alighting survey (B2A). This meeting will be formatted to encourage interactive input and dialogue by the regional team. The methodology, sampling plan and survey instrument will be finalized based on input and comments received. The finalized survey will be programmed into the software for onboard data collection and translated into additional languages as needed.

Each planning deliverable will have a review process starting with the delivery of the draft document. Agency staff will have a suggested 3-week period to review and provide comments. The team meeting will follow, addressing comments and providing a forum for discussion and further input. The consultant will then revise the documents and provide a new version. This document will be subject to approval by GoRaleigh for finalization.

Key Tasks

- Collect ridership data, detailed data on routes, stops, schedules, runs, and service hours by route, garage locations, APC data, and GTFS feeds from agencies
- Prepare draft sampling plan by system/route/time-of-day, followed by revised plan based on feedback

- Review and update 2023 draft survey instrument.
- Facilitate an in person interagency team meeting/briefing to review methodology, sampling plans, and instrument.
- Program the finalized survey into the software for onboard data collection and translate into additional languages as needed.

Deliverables

- Draft and Final Survey Instrument, Survey Methodology, and Sampling Plans
- Programmed and translated survey instrument (languages as agreed).

Task 3: On-to-Off Survey

On-to-Off (O2O) Survey

In the O2O sampling plan a subset of routes will be identified. These will include higher ridership routes and additional high priority routes and locations for surveying identified by the agencies may be considered. A sampling goal of 20% for each combination of route, direction, and time of day is recommended for the O2O survey. Following the O2O phase, the survey instrument, surveyor interview methods and sampling plans may be revised. A meeting will be scheduled with the interagency team to review results of the testing and team comments will be incorporated in the final survey instrument and sampling plans.

Key Tasks

- Conduct the O2O survey
- Use O2O results to refine the sampling plan, including oversampling recommendations, as needed.
- Incorporate feedback into the final survey instrument and sampling plans.

Deliverables

- Documentation of O2O surveys (methods memo, results summary, updated targets)
- Meeting/briefing materials and summary for O2O results review

Task 4: Survey Management Plan and Full On-Board Survey to Collect Origin to Destination Data

Survey Management Plan

The Consultant will update the survey management plan to share separately and/or attach to the previously described survey methodology memorandum. It will include:

- Transit Operations points of contact – staff at regional transit agencies to coordinate for onboard surveying (coordination will begin with agencies involved in the O2O phase).
- Staff – requirements, roles, and requirements
- Classroom and field training
- Field Protocols
- Survey technology
- Survey tracking management system and QAQC

Training and Recruiting

The Consultant will recruit workers to administer the survey. The Consultant will update materials, prepare and lead two training sessions for all temporary staff on the proper procedures for administering the survey to ensure data collection is consistent with the survey design, and will provide accompanying written materials/guidance to surveyors.

Survey Implementation

The surveys will be conducted on typical weekdays and include runs from all system routes for regional agencies in accordance with the sampling plan.

Key Tasks

- Update the Survey Management Plan (attach or cross-reference in the methodology memo).
- Recruit temporary workers
- Hold two (2) training sessions
- Coordinate with each regional agency and operating points of contact
- Conduct the OD survey
- Implement daily QA checks and monitor data collection

Deliverables

- Final Survey Management Plan
- Survey training materials (slides/handbook/quick guides)
- Documentation of onboard surveys (field logs, response-rate dashboards, daily QA summaries)

Task 5: Data Processing, Analysis, and Survey Reporting

Processing and Expansion

The Consultant will apply QAQC to ensure that all data meet the standards for completeness and accuracy. Incomplete records will be kept, but excluded from expansion and analysis. Geocoding of trips will be performed and reviewed.

The Consultant will provide expansion factors for survey responses from the OD survey to match the weekday ridership by route, direction, and time of day as well as route segment for those routes with sufficient O2O data.

Reports and Briefings

Once the data has been fully cleaned and processed, the Consultant will analyze the data, develop figures and tables to present key data and prepare a report of the results for all systems, as well as providing individual agency summaries in report or memo format for each partner agency. The all systems report will include final attachments for the materials documenting aspects of carrying out the survey (e.g. final survey methodology, survey instrument, sampling plan, survey management plan). All reports shall contain tables, charts, and graphs as needed to improve clarity.

A review period determined at kickoff (suggested: 3 weeks) will be available for review and comment on the Draft All Systems Report. A meeting will be scheduled with the interagency team to review the initial summary of findings with the regional team and check-in on deliverables coming to each agency and other coordination related items (e.g. briefings) consistent with the project schedule.

Following acceptance of the draft all systems report, an electronic final report shall be delivered to the GoRaleigh project manager and to all project partners with all corrections and comments incorporated. Individual systems reports will be drafted and submitted to the GoRaleigh project manager and respective agency. The smaller systems will have more limited reports, consistent with the lesser amount of data. These will have a designated review period as well. The Consultant will review comments for consistency across reports prior to incorporation in final reports and memos and final determination on any issues of consistency resolved by the GoRaleigh project manager.

The Consultant will develop presentations and provide briefings on overall and agency-specific results to TPAC and TWTPO.

Dashboard

The Consultant will update the GIS dashboard of results from 2023 to highlight key findings and allow users enhanced access the results. Additional customization will be included based on feedback received from each agency.

Data Delivery

At the conclusion of the survey, the final survey database with unweighted, verified, geocoded transit trip records, as well as weighting and expansion factors will be provided to GoRaleigh and/or shared with regional partners as desired (e.g. with ITRE staff administering the TRM). This will include data from the O2O survey, as well as the full onboard survey. Data will be packaged in a format similar to the previous survey for ease of use and comparison except where changes are requested. It will be accompanied by a data dictionary.

Key Tasks

- Clean, validate, QAQC, and geocode records
- Calculate expansion factors
- Build a GIS dashboard to visualize major findings and enable exploration by stakeholders.
- Prepare the Triangle Regional Survey Report (All Systems)
- Provide agency summaries, per agency needs
- Conduct agency briefings and incorporate feedback
- Deliver the final survey database

Deliverables

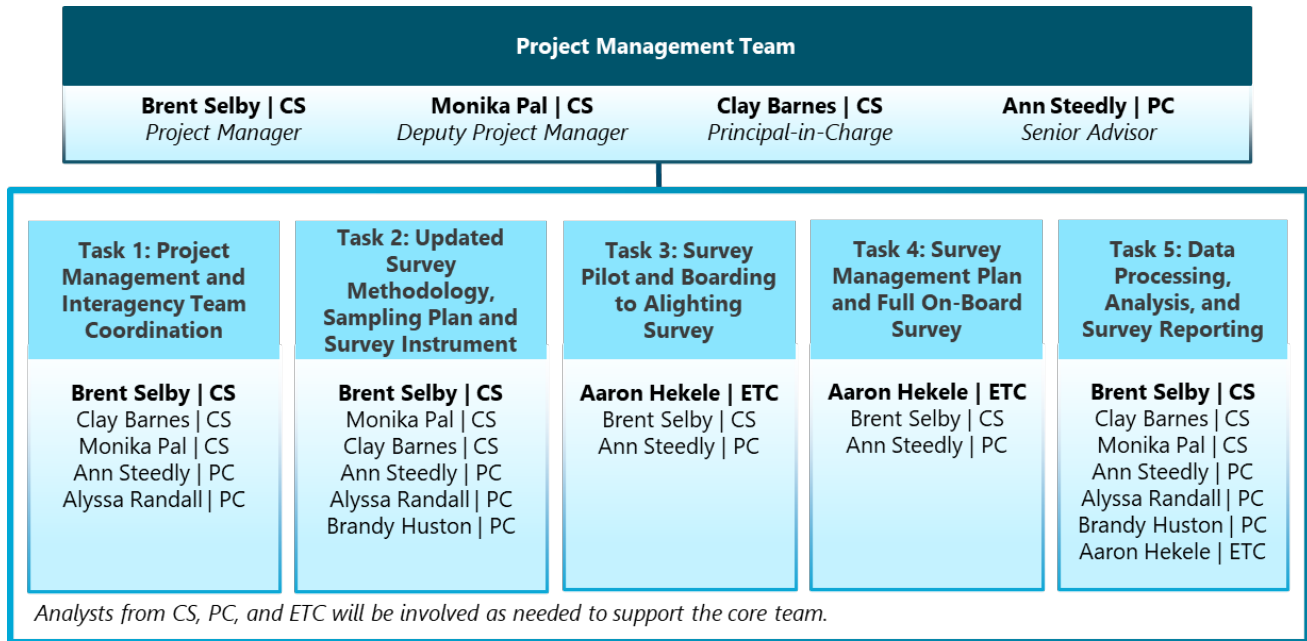
- Triangle Regional Survey Report (All Systems), including trend analysis (Draft and Final in PDF)
- Agency Summaries — 6 reports (format per agency requirements/funding).
- GIS dashboard of survey results (web-based, with documentation).
- Final survey database
- Agency Briefings (2) — presentation materials and meeting summaries

Schedule

2026 Triangle Region Origin-Destination Survey	2026							2027				
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Task 1: Project Management and Interagency Team Coordination												
Project kick-off meeting with GoRaleigh												
Interagency kick off meeting												
Task 2: Updated Survey Methodology, Sampling Plan and Survey Instrument												
Distribute regional transit agency data requests												
Respond to agency data requests												
Draft survey memorandum												
Draft survey instrument												
Update survey memorandum and instrument												
Wrap up / supplemental data collection												
Partner agencies review of survey memo and instrument												
Interagency methodology, instrument, and sampling plan review meeting												
Finalize survey memorandum, sampling plan, and instrument												
Task 3: Survey Pilot and Boarding to Alighting Survey												
Prepare for Boarding to Alighting Survey and train surveyors												
Conduct Boarding to Alighting Survey and pilot test												
Interagency test results and final survey preparations and materials meeting												
Task 4: Survey Management Plan and Full On-Board Survey to Collect Origin to Destination Data												
Final modifications to OD survey instrument, survey management plan, and sampling plans												
Finalize training materials												
Conduct OD survey												
Task 5: Data Processing, Analysis, and Survey Reporting												
Data weighting and expansion												
Analyze survey results												
Draft All Systems Summary Report and agency individual survey reports												
Interagency survey results review meeting												
Review draft survey reports												
Finalize survey reports & materials												
Assigned agency presentations												

Interagency meeting												
Draft Deliverable												
Final Deliverable												

Organization Chart



CS Cambridge Systematics, Inc.
 PC Planning Communities
 ETC ETC Institute

Task lead denoted in **bold**.

Budget

Wake County	Budget
GoRaleigh	\$290,685
GoCary (including GoApex)	\$38,825
Wolfline	\$220,137
GoTriangle (Wake portion-50%)	\$53,371
County Total - Wake	\$603,018

Durham/Orange Counties	Budget
GoDurham	\$262,770
Orange County Transportation Svcs	\$11,130
GoTriangle (Durham portion*)	\$26,686
GoTriangle (Orange portion*)	\$26,686

Total	\$930,290
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*25% or by ridership