



Northern Bus Rapid Transit Major Investment Study

Spring 2026

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Executive Summary

Wake Transit BRT Program Overview and Northern Corridor Project History

In November of 2016, Wake County voters approved a one-half percent sales tax to be dedicated to the further development and enhancement of public transportation systems within the county. The voters' approval of the sales tax, for which collection began in April 2017, was a significant milestone that enabled transportation planning and transit-providing organizations in Wake County to implement an ambitious, community-transformative countywide transit plan.

The result, known as the Wake Transit Plan, was sponsored by Wake County with participation from seven (7) regional partners. The plan was adopted in June 2016 and includes “Four Big Moves” to:

- Connect the region.
- Connect all Wake County communities.
- Create frequent, reliable urban mobility.
- Enhance access to transit.

The adopted plan provided recommendations for both long-range and near-term solutions for the region, focusing on tripling countywide bus service, increasing the number of high frequency routes running every 15 minutes or less, adding Bus Rapid Transit (BRT), and funding additional on-demand trips to serve the unincorporated area of the county.

In the beginning stages of Wake County Transit Plan implementation, the Major Investment Study (MIS) was commissioned for the four (4) corridors to define specific BRT project alternatives for each corridor. In order of readiness to move forward, the BRT corridors defined (shown in Figure 1) were:

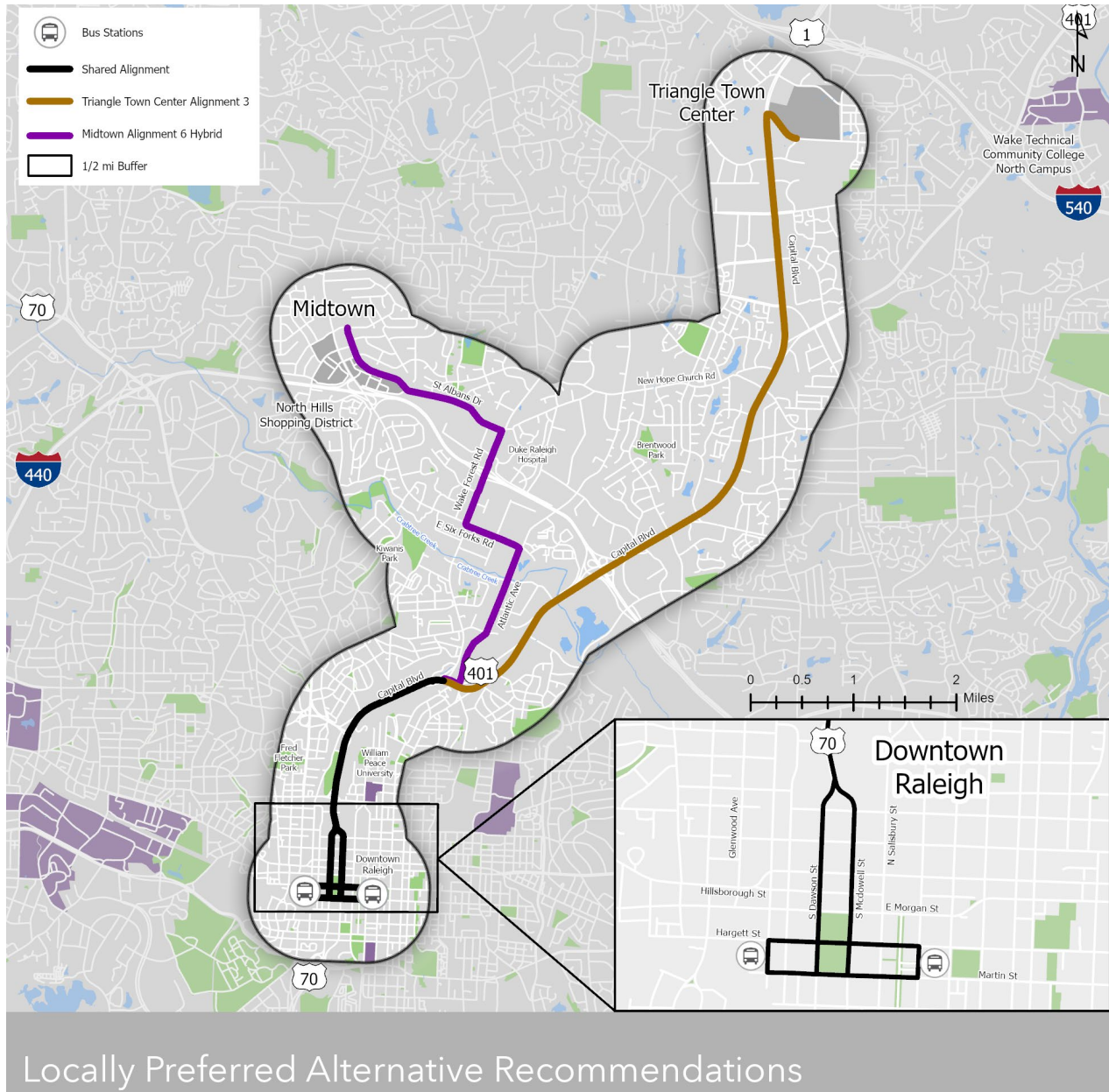
- New Bern Avenue corridor from downtown Raleigh to New Hope Road (now under construction)
- Southern corridor from downtown Raleigh to Garner (now in final design)
- Western corridor from downtown Raleigh to downtown Cary (now in final design)
- Northern corridor from downtown Raleigh to Crabtree Blvd. In 2021, the Wake Transit Vision plan extended the corridor to Triangle Town Center and Midtown (the subject of this study).

Figure 1 Original Wake Transit BRT Major Investment Study Corridors, 2018



Locally Preferred Alternative (LPA) Recommendations

Figure 2 Locally Preferred Alternatives for Midtown and Triangle Town Center (TTC) Corridors



This study builds on the initial work done in the 2018 MIS by completing a detailed alternative analysis of ten different alignments extending from the 2018 corridor’s northern endpoint. This study makes the following recommendations:

The Midtown 6 alignment is recommended as the Locally Preferred Alternative along the Midtown corridor. Strengths of the Midtown 6 corridor include:

- Excellent redevelopment opportunity
- Second-best bus ridership among Midtown alignments
- Highest level of City right-of-way control

The Triangle Town Center 3 alignment is recommended as the Locally Preferred Alternative along the Triangle Town Center corridor. Strengths of the Triangle Town Center 3 alignment include:

- Highest ridership potential of any corridor and strongest existing bus ridership
- Significant current and future population and employment density
- Fastest travel time between Downtown and Triangle Town Center
- Lowest traffic impact risk among Triangle Town Center alignment candidates

Additional data and discussion supporting these recommendations can be found in the full body of this report.

Next Steps and Project Delivery

GoRaleigh staff will present technical recommendations of this study to City Council in 2026 and will seek adoption of an LPA for each corridor. Once the LPAs are adopted, the Capital Area Metropolitan Planning Organization (CAMPO) can amend the 2055 Metropolitan Transportation Plan, adopted in February 2026, to include both LPAs.

The recently adopted 2035 Wake Transit Plan has designated funds to advance project development and engineering for both Northern Corridor LPAs to Midtown and Triangle Town Center, with both corridors anticipated to be built following the construction of the Southern and Western BRT corridors.

Wake Transit Plan: Northern Corridor BRT Project History

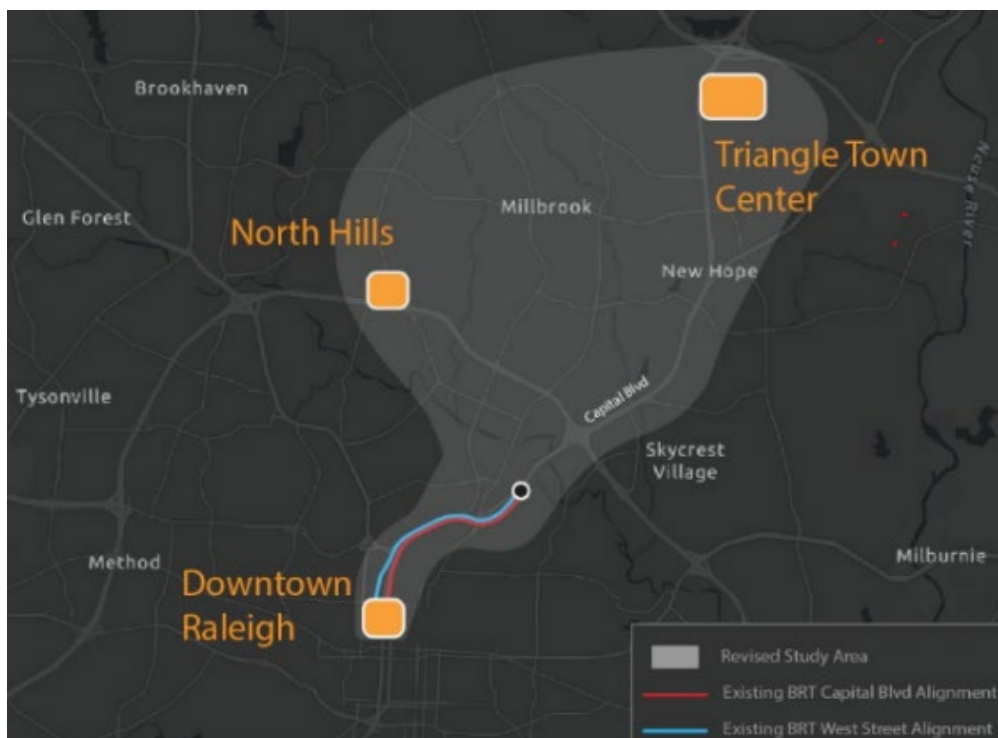
In 2018, the Wake Transit Major Investment Study (MIS) was commissioned for the New Bern Avenue, Southern, and Western corridors to define specific BRT project alternatives for each corridor (see Figure 1). The 2018 MIS also analyzed and identified two alternatives from downtown Raleigh to Crabtree Boulevard: Capital Boulevard or West Street (see Figure 3).

In the 2021 Wake Transit Plan update, the vision for the Northern Corridor was expanded to connect Downtown Raleigh to both Triangle Town Center (TTC) and Midtown with BRT infrastructure. The areas surrounding the TTC and Midtown corridors are expected to see significant growth in the years to come.

The 2019 Connecting the Dots Study by the Triangle J Council of Governments (TJCOG) projected that the Northern Corridor between downtown Raleigh and I-440 will add another 20,000 jobs and 9,000 residents by 2045.

To accommodate the projected growth, the City of Raleigh developed The Capital North Corridor Plan in 2021. This plan envisioned the development of four Multimodal Districts that would feature dense housing and commercial development.

Figure 3 2018 Major Investment Study Recommended Alternatives



Why BRT? Evidence of Success from Richmond and Portland

In the past decade, Bus Rapid Transit (BRT) has become one of the most effective and quickest ways to increase the speed and quality of public transportation in American cities.

BRT is an “open source” approach to transit corridor development, allowing it to be implemented quickly and flexibly. For example, BRT vehicles can operate in dedicated lanes on major arterials, on Interstate highway shoulders, and, where necessary, in mixed traffic. Some of the tools that are used to implement BRT include:

- Implementing Transit Signal Priority on existing traffic signals
- Designating queue-jump lanes at key intersections and congestion points to allow buses to move past cars queueing up at rush hour.
- Installing ticket machines at BRT stations to speed up boarding by removing the need to insert cash or make change at a farebox on the bus.
- Deploying 60-foot, articulated buses instead of 40-foot buses. Larger buses not only carry more passengers but also have better turning abilities, making them a preferred option for smaller intersections.

BRT’s ability to run in mixed traffic on rubber tires allows transit agencies to use existing city infrastructure to improve transit service for riders without building new tracks, railyards, and signaling systems.

These advantages of BRT led the Wake Transit Plan to invest in multiple BRT corridors as part of the plan's “Four Big Moves.”

Richmond’s Pulse BRT

Greater Richmond Transit Company (GRTC)’s Pulse is a bus rapid transit (BRT) line connecting Willow Lawn and Rockett’s Landing. Pulse BRT is positioned as the “spine” of the local network because it concentrates frequent, high-demand service on a single corridor.

The service is fare-free and designed to be faster than conventional bus routes through dedicated lanes, fewer stops (station-only stopping) and corridor-focused operations.

Operationally, the Pulse runs every 10 minutes on weekdays until 7:00 PM, every 15 minutes during evenings and on weekends, and every 30 minutes late night (11:30 PM–1:00 AM). The line’s stations include level-boarding platforms and smart traffic-signal technology to support schedule adherence, as well as real-time arrival information at stations.

The Pulse opened in June 2018 and quickly exceeded its projected daily ridership of 3,500 passengers. As of mid-2025, the Pulse had recovered from minor ridership losses that occurred during the COVID-19 pandemic. In FY 2025 the Pulse carried 5,500 to 6,500 riders each weekday, totaling over 2 million rides by the end of the year.

Figure 4 Pulse BRT Center Lane Running (image by GRTC)



Figure 5 Pulse BRT Allison Street Station (image by Virginia Mercury)



Portland's FX2 "Frequent Express" Division St Transit Project

TriMet's FX2-Division is a 15-mile rapid bus line developed through the Division Transit Project, with 42 stations between downtown Portland and Gresham. The service is positioned as a higher-capacity, faster-stop bus service, using articulated vehicles and BRT-style corridor treatments.

Key performance-oriented features include all-door boarding, transit signal priority ("next-generation signals"), and bus lanes at key locations intended to keep buses moving around congestion. The stations and vehicles also emphasize legibility and passenger information, including displaying real-time arrival information.

Overall transit ridership increased after implementation. TriMet recorded 5,860 weekday rides on FX2 in Fall 2022, compared with 4,470 on the prior Line 2-Division in Spring 2022, representing a 23.7% increase. TriMet advertises service every 12 minutes for most of the day, every day, providing a consistent "turn-up-and-go" service pattern relative to many local bus routes.

The advanced cloud-based Transit Signal Priority signals and software on the FX2 corridor automatically trigger green lights for buses as they approach intersections. They also activate a pedestrian signal phase before the green light for buses, helping pedestrians get to the bus stops before the bus arrives. Bus stops are located on the far side of intersections so that buses can proceed immediately after passengers board with no waiting.

On a field visit with TriMet at the 2025 MPact Mobility conference in Portland, a mobile workshop of conference attendees toured the corridor. On the return to downtown, the out-of-service bus, which did not make regular passenger stops, triggered 27 consecutive green lights to demonstrate the performance of the cloud-based TSP system. The FX2 project demonstrates how even streets that may not have room for dedicated lanes can still be upgraded to prioritize bus and pedestrian movements.

Figure 6 TriMet FX2 Arrives at Bus Stop in Portland
(image by Patrick McDonough)



Figure 7 Mark Haines of Portland Bureau of Transportation Explains Traffic Signal Priority for FX2 Bus
(image by Patrick McDonough)



Federal Funding and Cost Per Mile of BRT

In addition to the effectiveness of BRT projects like the Richmond and Portland examples, there have been clear trends over the past decade that show that the US Department of Transportation is increasing its investment in BRT as the primary mode for transit expansion in the United States.

With a comparatively lower cost per mile than most other modes of public transportation and a federal focus on BRT investment, the alignment of the Wake Transit Plan around BRT for major transit corridors has generated success in obtaining federal funds for BRT construction and design. This includes federal funds fully committed to the construction of New Bern Avenue BRT and Medium-High ratings for both the Southern and Western Wake BRT corridors, which indicates they are both likely to receive federal construction funding in the future.

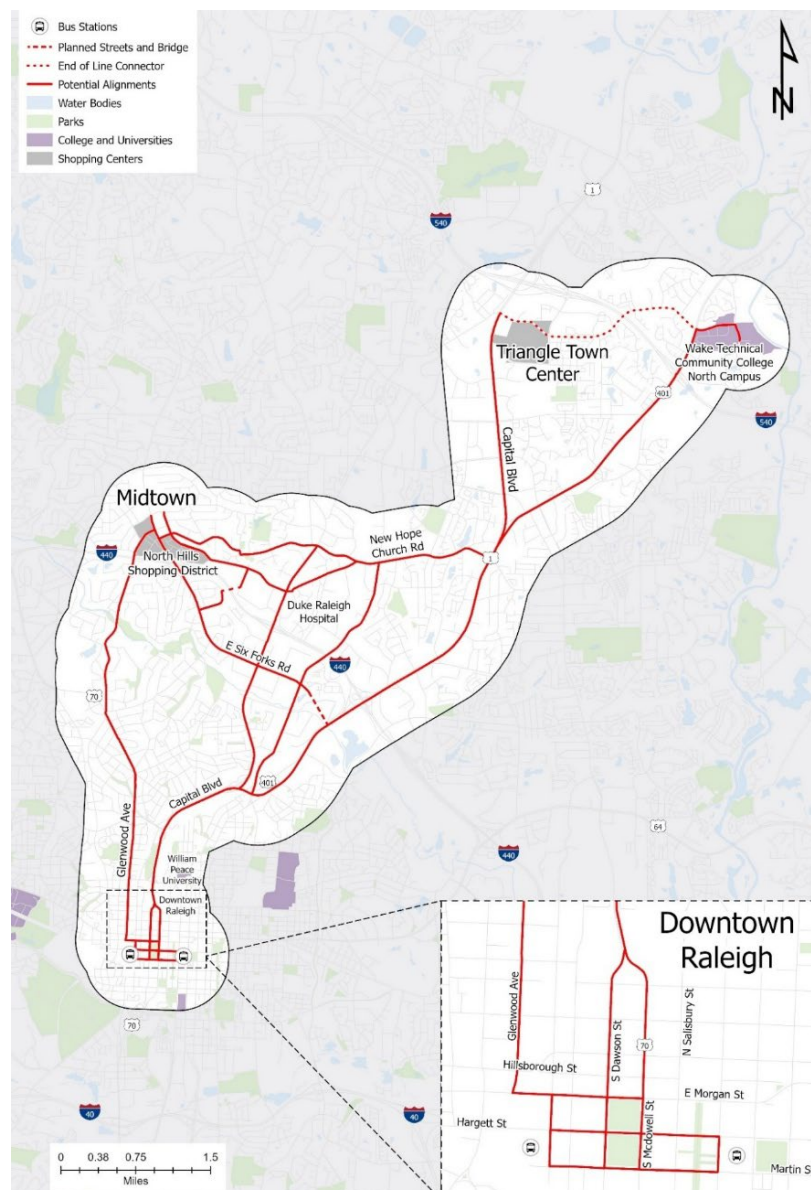
Identification and Evaluation of the Potential Alternatives

Using data and insight gained from prior analyses, a review of existing and on-going plans and connections to key destinations (GoRaleigh Station, Raleigh Union Station Bus Facility, Central Business District, Midtown, Triangle Town Center and Wake Technical Community College Northern Campus), the project team identified a series of potential BRT alignments (see Figure 8).

The potential alignments were screened for fatal flaws to specifically understand if BRT vehicles could effectively operate given the existing built environment and ROW constraints.

Upon completion of the Fatal Flaw Analysis, the remaining alignments went through an initial evaluation and a detailed alternatives analysis, which are described in more detail later in this document.

Figure 8. Initial Alignments



Fatal Flaw Methodology Framework

Purpose

The purpose of the fatal flaw analysis was to identify, analyze, and select potential roadway segments capable of supporting BRT service and infrastructure. The first step in the fatal flaw analysis was to identify roadway segments that could be combined to create potential BRT route alignments.

With a complete set of potential roadway routing alternatives identified, the next step in the analysis process was to assemble those segments into a refined set of alignments for a more detailed analysis.

The final analysis considered key project elements required for projects to be eligible to compete for Federal Transit Administration (FTA) funding and/or match the Wake BRT System Standards. These requirements include a minimum of 50 percent dedicated guideway (bus-only lanes), transit priority at traffic signals, and appropriate station placement and spacing. Using the Wake BRT System Standards, the analysis also assumed a minimum BRT lane width of 11 feet.

Analysis Area

The analysis included an assessment of 106 intersections and 121 roadway segments within the project study area. The intersections studied included both signalized and non-signalized intersections where buses may need to turn. Segments were determined and numbered based on the intersections.

Assumptions

The existing Wake BRT System Standards, including Table 4.1 and Figure 4.2 Station Dimensioning, Table 4.2 Station Typologies, and Table 5.1 Clear Zone Requirements, guided the evaluation process.¹

While the goal is to achieve exclusive BRT lanes for at least 50 percent of the corridor, the analysis considered if some other transit improvements could be implemented to meet BRT mobility goals without necessarily meeting the FTA guideway definition. The project team investigated various options for exclusive BRT lanes – including using existing medians or existing land within the right-of-way (ROW), repurposing an existing travel lane, or obtaining additional property to accommodate BRT infrastructure. The appropriateness of repurposing an existing travel lane to accommodate a BRT lane was examined through 2023 Average Annual Daily Traffic (AADT) count data obtained from NCDOT.

¹ Wake BRT System Standards can be found here: <https://cityofraleigh0drupal.blob.core.usgovcloudapi.net/drupal-prod/COR28/Wake%20BRT%20System%20Standards%20Draft.pdf>

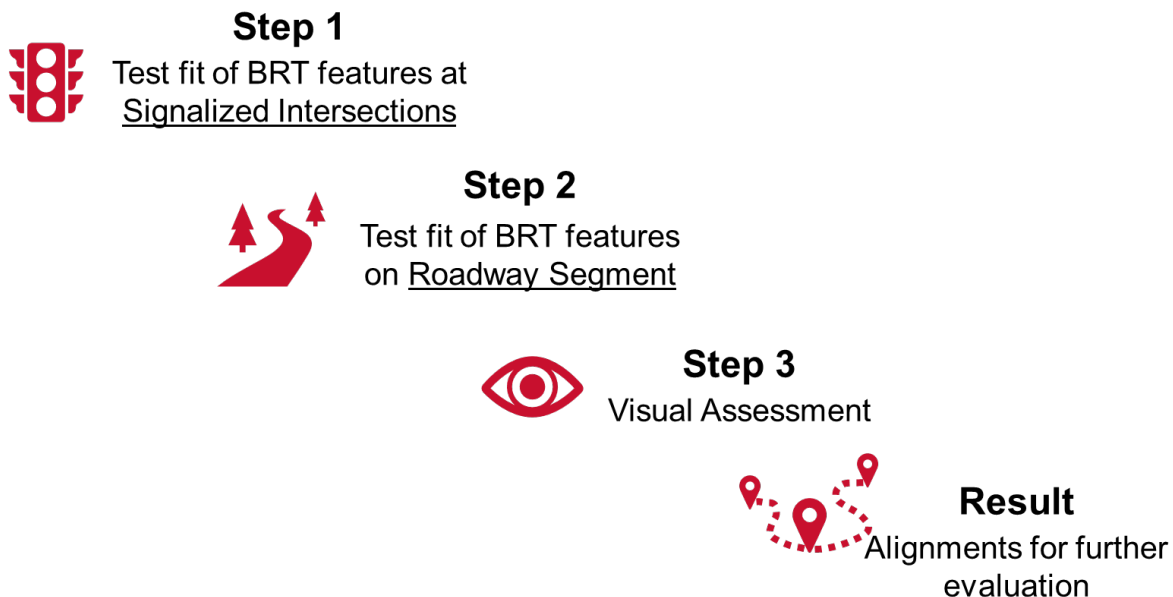
Fatal Flaw Criteria

The following are the fatal flaw screening criteria used for the analysis. These criteria were developed with the City of Raleigh transit department staff and presented before various stakeholder groups, including the Mobility, Strategy, and Infrastructure Division; the Planning Department; the Wake BRT Technical Committee; the Wake BRT Stakeholder Committee, and the Wake BRT Project Management Team. The project team evaluated potential alignments and shared draft results with the City of Raleigh to collaboratively refine and select the most feasible alignments to advance to the next phase of the evaluation process. The fatal flaw analysis focused on:

- **Roadway geometry:** Are there current roadway constraints or future roadway plans that would impact the ability for a BRT vehicle to make the necessary turns at major signalized intersections? Does the geometry of existing or future roadway plans inhibit the effective location of BRT stations or other infrastructure?
- **BRT operability:** Can the existing curb-to-curb roadway accommodate business access and transit (BAT) lanes, transitway, or mixed traffic lanes without widening the roadway?
- **Right-of-way availability:** Is there sufficient right-of-way availability to widen the roadway (if needed) along the route and at major signalized intersections for a BRT vehicle to operate in one of the three running way types (business access and transit (BAT) lanes, transitway, or mixed traffic lanes) with minimal impacts to traffic?

The fatal flaw analysis followed a three-step process, illustrated in Figure 9. The end results of the analysis led to a recommendation to advance specific alignments within the study area.

Figure 9: Fatal Flaw Process



Fatal Flaw Results

Based on the results, it was recommended that the following roadway segments advance for further, more detailed evaluation. The roadway segments below were used to create five individual alignments for both the Midtown and Triangle Town Center (TTC) corridors:

- Wake Forest Road
- Atlantic Avenue
- Capital Boulevard
- New Hope Church Road
- Louisburg Road
- Old Wake Forest Road/Fox Road
- St Albans Drive
- Six Forks Road

Figure 10 shows the five remaining alignments for the Midtown corridor and Figure 11 shows the five remaining alignments for the TTC corridor. These alignments advanced into an initial quantitative and qualitative evaluation.

Figure 10. Midtown Remaining Alignments

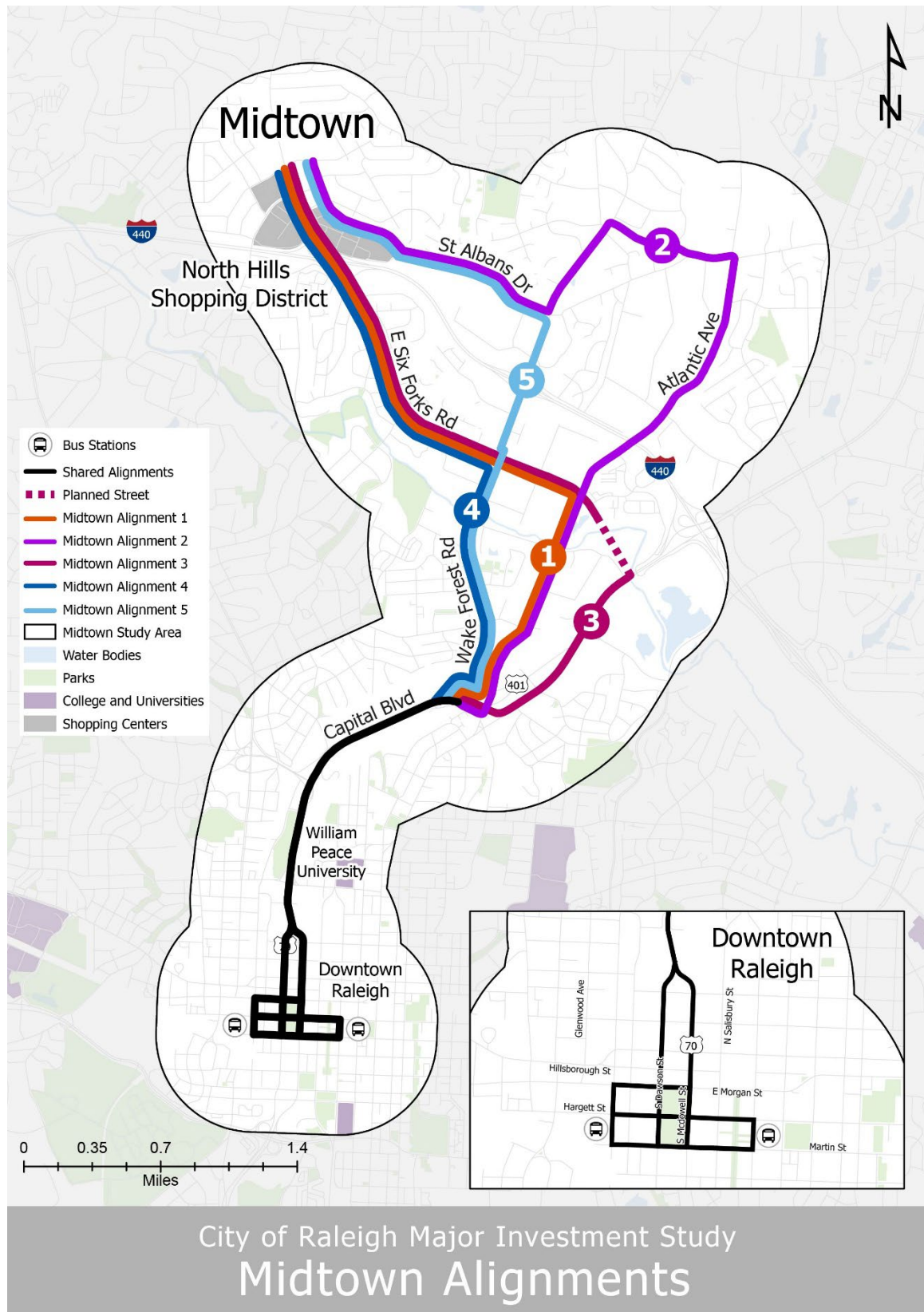
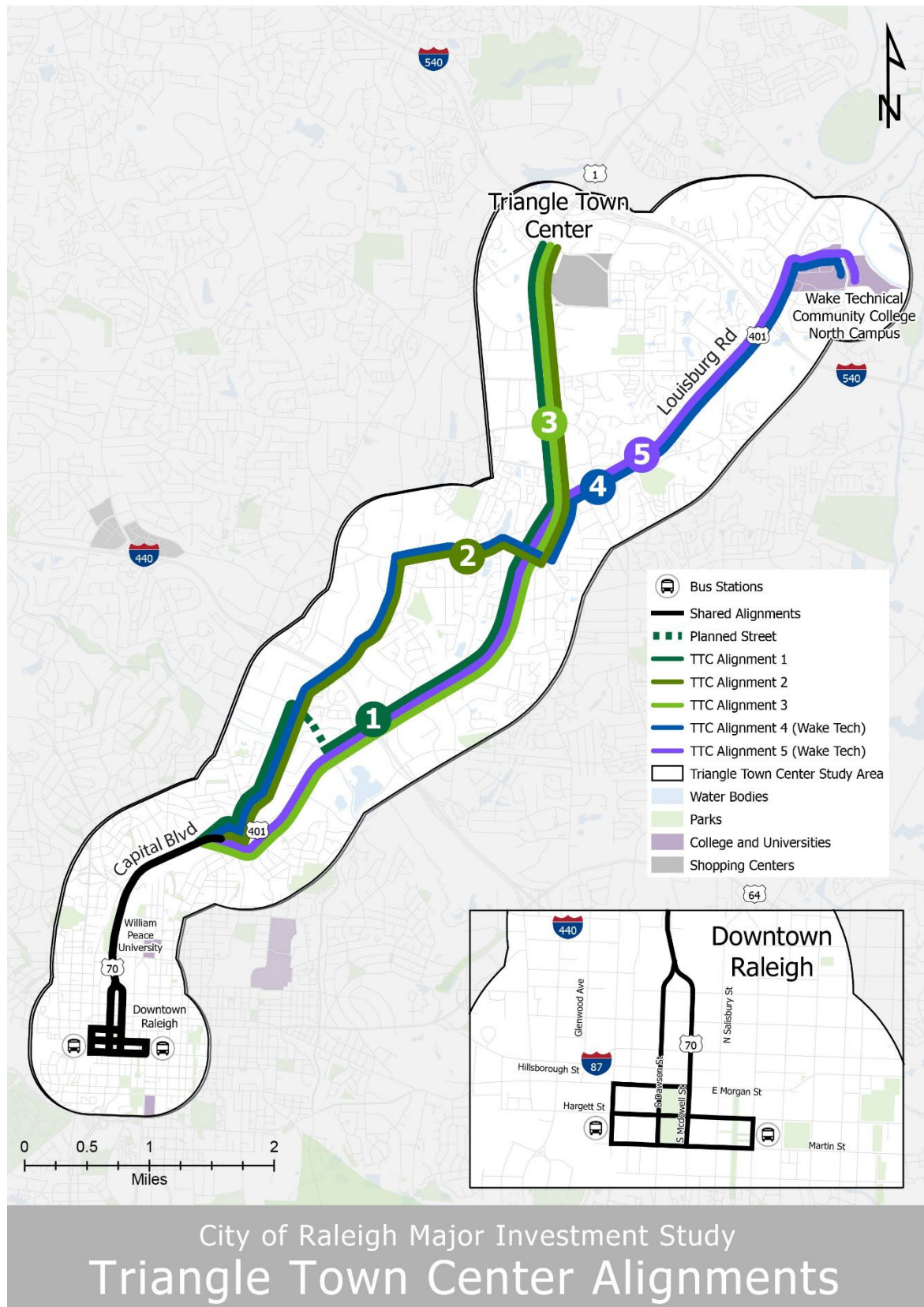


Figure 11. TTC Remaining Alignments



Public Engagement Phase 1

On October 31, 2022, a virtual public meeting was held and a [recording \(Click to Play Recording\)](#) of the presentation was posted on the City's YouTube channel. The meeting showed potential alignments and highlighted next steps.

In-person community engagement stations were offered for those who could not attend the virtual meeting. Information boards and corridor fact sheets were developed to support this outreach.

Response from the public reflected general enthusiasm for the BRT program and overall transit investments; there were no critical feedback questions presented to the public at this time. The informational boards shown below can be found in **Appendix A**.

Information Boards

Figure 12 Public Engagement Phase 1 Public Meeting Board - Northern Corridor History

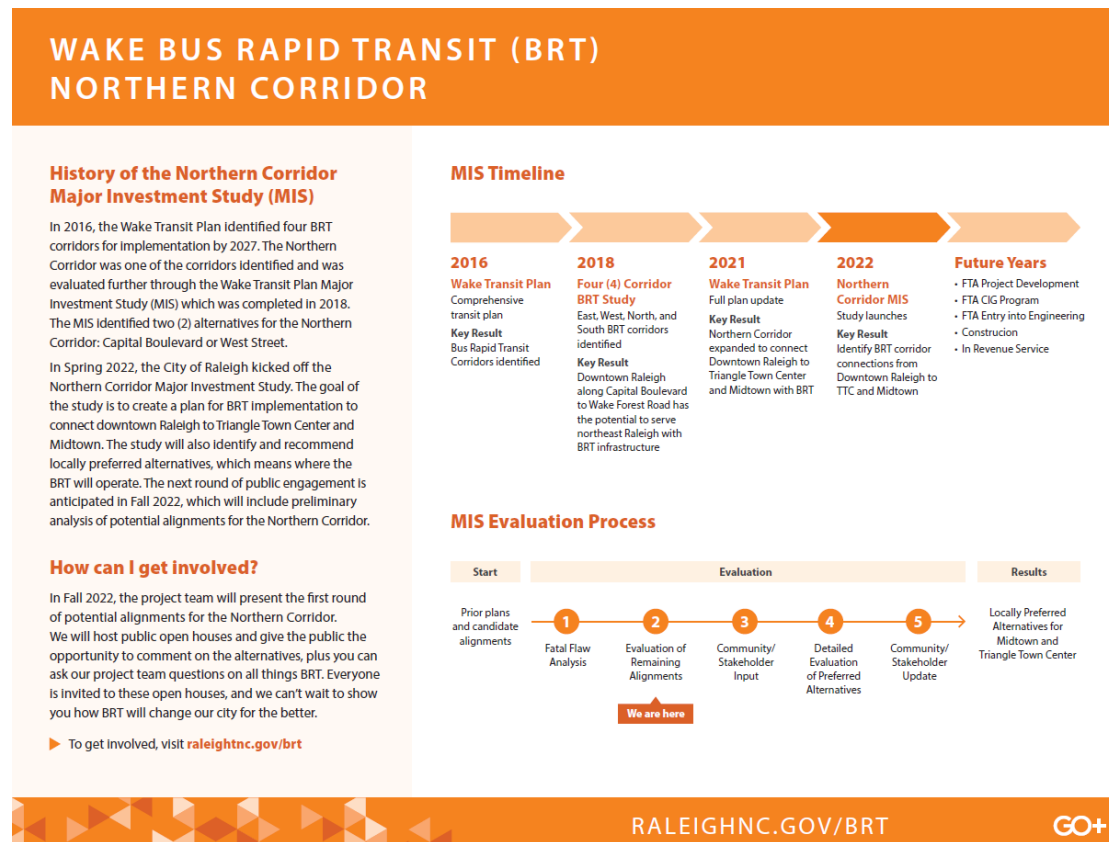
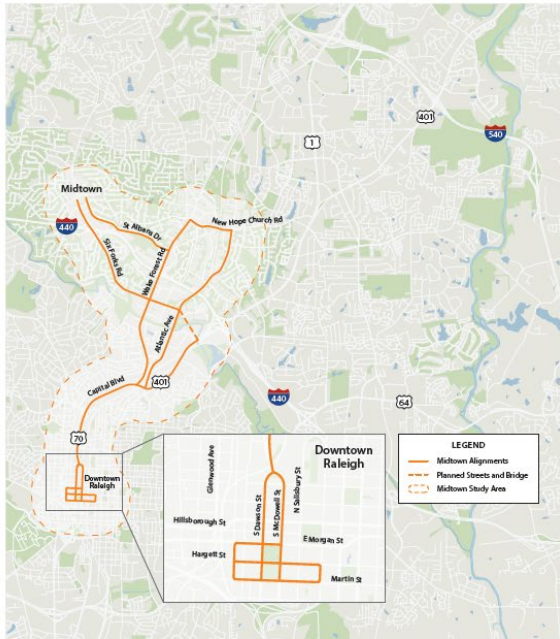


Figure 13 Public Engagement Phase 1 Public Meeting Board – Midtown and Triangle Town Center Study Areas

WAKE BUS RAPID TRANSIT (BRT) NORTHERN CORRIDOR MIS AREAS

Midtown



Triangle Town Center

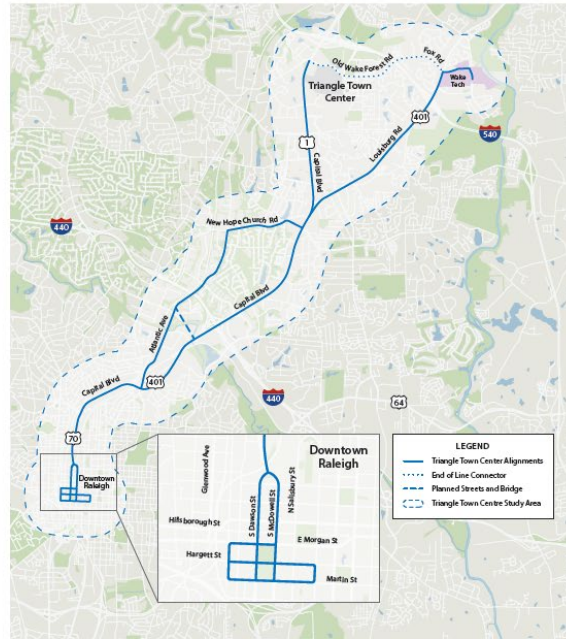


Figure 14 Public Engagement Phase 1 Public Meeting Fact Sheet Handout

WAKE BUS RAPID TRANSIT NORTHERN CORRIDOR MAJOR INVESTMENT STUDY (MIS)

What is the Northern Corridor MIS?

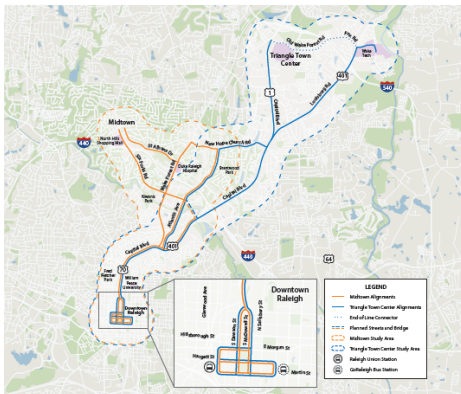
North Raleigh has experienced significant growth over the past several years. What is certain is that the population and employment growth in the area will bring more traffic delays and congestion. To prepare and foster that growth, the City plans to implement two BRT routes or BRT-type services to provide a fast, reliable transit option for the growing region. The Northern Corridor MIS will analyze alternatives and high-capacity transit investments to connect Downtown Raleigh to Triangle Town Center and Midtown.



What is Bus Rapid Transit?

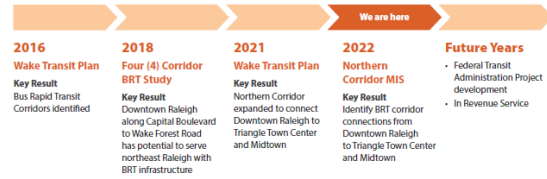
Bus Rapid Transit, or BRT, is a type of fast, modern transit line. BRT systems have frequent service, with vehicles arriving frequently during peak hours. High frequency will mean short wait time and great reliability – if you miss a bus, your next ride is never far behind!

MIS Study Area



WAKE BUS RAPID TRANSIT NORTHERN CORRIDOR MAJOR INVESTMENT STUDY (MIS)

Northern Corridor MIS Timeline



Northern Corridor MIS Evaluation Process



How can I get involved?

In fall 2022, the project team will host a public open house to present the work done to date for the Northern Corridor Major Investment Study (MIS). Everyone is invited to these open houses, and we can't wait to show you how BRT will change our city for the better. Community and stakeholder input associated with the Northern Corridor MIS is planned for spring/summer 2023 and will provide an opportunity to comment on the alignments.

► For more information about the MIS, please visit raleigh.gov/brt

To learn more about BRT visit: RALEIGHNC.GOV/BRT



To learn more about BRT visit: RALEIGHNC.GOV/BRT



Initial Evaluation of Ten Alignments

Based on the results of the Fatal Flaw Analysis, the remaining ten alignments went through further quantitative and qualitative evaluation. There were five alignments analyzed for the Midtown corridor and another five alignments analyzed for the TTC corridor. The evaluation used transit performance criteria, a scoring methodology, and weights to assess each alignment against the others for both the Midtown corridor and the TTC corridor.

- **Evaluation Criteria:** Elements used were based on industry standards, feedback from City of Raleigh staff, experience from similar projects, and insight from the Wake Transit Plan.
- **Scoring Methodology:** Criterion values for each alignment were split into three classes based on natural breaks in the data. Scores were assigned using a simplified scale of 1 to 3, with a “1” representing the lowest performance and “3” representing the highest performance.
- **Weights:** Weights were utilized to reflect each criterion’s relative importance in consideration of the project vision, goals, agency/community priorities, etc. Each evaluation criteria was initially weighted equally at 1.0, with sub-criteria weights divided so that they had a cumulative value of 1.0.

The criteria used to complete the initial evaluation are listed below and are described in more detail in Table 1. The results of this quantitative and qualitative evaluation are illustrated in Tables 2 through 7.

Table 1 Criteria for Initial Evaluation of Ten Alignments

Category	Evaluation Criteria	Measure	Is More of the Measure Positive or Negative?
Transit Oriented Development (TOD) Potential	Urban Form - Frequent Transit Areas	Percent of total corridor acres in frequent transit areas.	Positive ↑
	Urban Form - City Growth Areas	Percent of total corridor acres in city growth areas.	Positive ↑
	Land available for TOD Development	Total land available for TOD development within 1/2 mile of alignment (Acres) * Based on parcels with improvement to land value ratios of 0.0 - 1.0	Positive ↑
Multimodal Connectivity	Connections to Existing and Planned Multimodal Facilities	Total direct connections to existing multimodal facilities	Positive ↑
		Total direct connections to planned multimodal facilities	Positive ↑
Environmental Considerations	Cultural Resources (Section 106) and Section 4(f) Properties	Historic resources and Section 4(f) properties adjacent to and facing the alignment	Negative ↓
	Transit Dependent Population	Population under 18 density within 1/2 mile of alignment	Positive ↑
		Population 65+ density within 1/2 mile of alignment	Positive ↑
		Disabled population density within 1/2 mile of alignment	Positive ↑
		Zero auto household density within 1/2 mile of alignment	Positive ↑
	Environmental Justice Populations	Minority population density within 1/2 of alignment	Positive ↑
		Poverty population density within 1/2 of alignment	Positive ↑
Traffic Operations	Traffic Congestion	Average volume to capacity ratio in alignment	Positive ↑
Transit Connectivity	Integration with Existing Transit	Qualitative assessment of how Alignment integrates with existing transit network <i>Note: focused on connections outside of Downtown</i>	Positive ↑
Service Reliability	Railroad Crossings	Number of railroad crossings	Negative ↓
Population and Employment	Existing (2020) and Future (2040) Population Density	Persons per square mile within 1/2 mile of alignment (2020)	Positive ↑
		Persons per square mile within 1/2 mile of alignment (2040)	Positive ↑
	Existing (2020) and Future (2040) Employment Density	Employees per square mile within 1/2 mile of alignment (2020)	Positive ↑
		Employees per square mile within 1/2 mile of alignment (2040)	Positive ↑
Ridership Potential	Ridership Generators	Number of ridership generators (activity nodes) within 1/2 mile of the alignment	Positive ↑
	Existing Ridership	Visual assessment of connectivity to existing high ridership areas (ridership heat map)	Positive ↑

Midtown Evaluation Results Discussion

Across the 21 evaluation criteria above, the Midtown alignments performed as follows:

Table 2 Performance of Midtown Alignments On 3-Point Scale

Alignment	Evaluation Criteria			Total Score
	High-Performing (3 points)	Moderate-Performing (2 points)	Low-Performing (1 point)	
Midtown 4	10	4	7	45
Midtown 5	8	7	6	44
Midtown 1	3	12	6	39
Midtown 3	4	9	8	38
Midtown 2	2	11	8	36

Based on the evaluation criteria, the Midtown 4 and 5 alignments had the highest number of high-performing metrics with Midtown 1 having the third-highest score. The project team developed pros and cons for each alignment, shown below in Table 2. Midtown 3 scored similarly to Midtown 1 but would be dependent upon the construction of a new road, which would significantly increase project capital cost. Midtown 2 was the lowest scoring across the 21 evaluation criteria, and due to its length, would also generate the longest travel time from end to end.

While the Midtown 4 and 5 alignments were the two highest scoring, they are also very similar in the locations they serve. City staff wanted a detailed examination of how BRT would perform in a broader portion of the study area, and a decision was made to advance Midtown 1 and Midtown 5 to the detailed analysis phase.

Table 3 Midtown Alignment Pros & Cons

Alignment #	Pros	Cons
Midtown Alignment 1	- Moderate connectivity to existing and planned bike/ped facilities - Moderate existing and future population and employment densities	- Primarily industrial uses along Atlantic Ave - Relatively low transit dependent & EJ population densities (relative to other alignments reviewed)
Midtown Alignment 2	- Connects to Duke Raleigh Hospital area and \$1.0B Exchange Raleigh development - High EJ population densities (relative to other alignments reviewed)	- Circuitous routing requires out of direction travel - Low existing and future population and employment densities - One (1) at-grade rail crossing
Midtown Alignment 3	- Moderate connectivity to existing and planned bike/ped facilities - Moderate future population and employment densities	- Requires extension of Six Forks Rd. to Capital Blvd. (potential fatal flaw) - Moderate transit dependent & EJ population densities (relative to other alignments reviewed)
Midtown Alignment 4	- Most linear, direct alignment between downtown Raleigh & Midtown - Wake Forest Rd. is a proven transit corridor (shares portion of alignment with Routes 2 & 24L) - High density of senior and zero auto household populations (relative to other alignments reviewed) - High existing and future population and employment densities	- Minimal connectivity to existing and planned bike/ped facilities - Low transit dependent & EJ population densities (relative to other alignments reviewed)
Midtown Alignment 5	- Most linear, direct alignment between downtown Raleigh & Midtown - Wake Forest Rd. is a proven transit corridor (shares portion of alignment with Routes 2 & 24L) - High density of senior and zero auto household populations (relative to other alignments reviewed) - High existing and future population and employment densities	- Minimal connectivity to existing and planned bike/ped facilities - Low transit dependent & EJ population densities (relative to other alignments reviewed)

Midtown Initial Evaluation Matrix

Table 4 Midtown Evaluation Results

MIDTOWN ALIGNMENT EVALUATION RESULTS			Alignment 1	Alignment 2	Alignment 3	Alignment 4	Alignment 5
Category	Evaluation Criteria	Measure	Capital Blvd, Atlantic Ave, & Six Forks Rd (Length: 8.4 miles)	Capital Blvd, Atlantic Ave, New Hope Church Rd, Wake Forest, & St Albans Dr (Length: 10.3 miles)	Capital Blvd & Six Fork Rd (Length: 8.7 miles)	Capital Blvd, Wake Forest Rd, & Six Forks Rd (Length: 7.9 miles)	Capital Blvd, Wake Forest Rd, & St. Albans Dr (Length: 8.3 miles)
Transit Oriented Development (TOD) Potential	TOD Potential based on the City's Urban Form Map and Land Availability for TOD development	Percent of total corridor acres in frequent transit areas based on the City's Urban Form map.					
		Percent of total corridor acres in city growth areas based on the City's Urban Form map.					
		"Total land available for TOD development within 1/2 mile of alignment (Acres)					
Multimodal Connectivity	Connections to Existing and Planned Multimodal Facilities	Total direct connections to existing multimodal facilities					
		Total direct connections to planned multimodal facilities					
Environmental Considerations	Cultural Resources (Section 106) and Section 4(f) Properties	Historic resources and Section 4(f) properties adjacent to and facing the alignment					
	Transit Dependent Population	Population under 18 density within 1/2 mile of alignment					
		Population 65+ density within 1/2 mile of alignment					
		Disabled population density within 1/2 mile of alignment					
		Zero auto household density within 1/2 mile of alignment					
	Environmental Justice Populations	Minority population density within 1/2 of alignment					
		Poverty population density within 1/2 of alignment					
Traffic Operations	Traffic Congestion	Average volume to capacity ratio in alignment					
Transit Connectivity	Integration with Existing Transit	Qualitative assessment of how alternative integrates with existing transit network					
Service Reliability	Railroad Crossings	Number of railroad crossings					
Population and Employment	Existing (2020) and Future (2040) Population Density	Persons per square mile within 1/2 mile of alignment (2020)					
		Persons per square mile within 1/2 mile of alignment (2040)					
	Existing (2020) and Future (2040) Employment Density	Employees per square mile within 1/2 mile of alignment (2020)					
		Employees per square mile within 1/2 mile of alignment (2040)					
Ridership Potential	Ridership Generators	Number of ridership generators (activity nodes) within 1/2 mile of the alignment					
	Existing Ridership	Visual assessment of connectivity to existing high ridership areas (ridership heat map)					

Metric Performance: High Moderate Low

Triangle Town Center Evaluation Results Discussion

Across the 21 evaluation criteria above, the Triangle Town Center alignments performed as follows:

Table 5 Performance of TTC Alignments on 3-Point Scale

	Evaluation Criteria			
Alignment	High-Performing	Moderate-Performing	Low-Performing	Total Score
TTC 2	11	7	3	50
TTC 3	9	10	2	49
TTC 1	4	15	2	44
TTC 4	5	7	9	38
TTC 5	2	7	12	32

The three alignments that follow Capital Boulevard and terminate at Triangle Town Center all significantly outperform the alignments that follow Louisburg Rd and terminate at Wake Technical Community College. With Triangle Town Center 2 and Triangle Town Center 3 scoring well above Triangle Town Center 1, which would depend on a new road that would significantly increase project capital costs, Triangle Town Center 2 and 3 were advanced to the detailed analysis phase. The project team developed several pros and cons for each alignment. Table 6 provides a summary of those pros and cons.

Table 6. TTC Alignment Pros & Cons

Alignment #	Pros	Cons
Triangle Town Center Alignment 1	• High/moderate connectivity to existing and planned bike/ped facilities respectively • Moderate transit dependent & EJ population densities (relative to other alignments reviewed) • Higher level of growth management planning in City urban form maps	• Requires extension of Six Forks Rd. to Capital Blvd. (potential fatal flaw) • Minimal average traffic volumes and congestion within alignment
Triangle Town Center Alignment 2	• High transit dependent & EJ population densities (relative to other alignments reviewed) • High connectivity to planned bike/ped facilities • High existing and future employment densities • Higher level of growth management planning in City urban form maps	• Minimal connectivity to high ridership areas • Low connectivity to existing bike/ped facilities • Low Transit-Oriented Development Potential
Triangle Town Center Alignment 3	• Most linear, direct alignment between downtown & TTC • Matches alignment of existing Route 1, the highest ridership route. Proven transit corridor. • High connectivity to high ridership areas • Higher level of growth management planning in City urban form maps	• Low Transit-Oriented Development Potential
Triangle Town Center Alignment 4	• High connectivity to planned bike/ped facilities • High/moderate transit dependent population densities (relative to other alignments reviewed)	• Low existing and future population and employment densities • Low connectivity to existing bike/ped facilities • Minimal connectivity to high ridership areas • Lower level of growth management planning in City urban form maps
Triangle Town Center Alignment 5	• Moderate connectivity to existing and planned bike/ped facilities	• Low existing and future population and employment densities • Low transit dependent & EJ population densities (relative to other alignments reviewed) • Minimal average traffic volumes and congestion within alignment • Lower level of growth management planning in City urban form maps



Triangle Town Center Initial Evaluation Matrix

Table 7 TTC Alignment Evaluation Results

TRIANGLE TOWN CENTER EVALUATION RESULTS			Alignment 1	Alignment 2	Alignment 3	Alignment 4	Alignment 5
Evaluation Category	Evaluation Criteria	Measurement	Capital Blvd, Atlantic Ave, Six Forks (extension), & Capital Blvd (Length: 11.7 miles)	Capital Blvd, Atlantic Ave, New Hope Church Rd, & Capital Blvd (Length: 11.2 miles)	Capital Blvd (Length: 11 miles)	Capital Blvd, Atlantic Ave, New Hope Church Rd, & Louisburg Rd to WTCC North Campus (Length: 12.4 miles)	Capital Blvd & Louisburg Rd to WTCC North Campus (Length: 12.2 miles)
Transit Oriented Development (TOD) Potential	TOD Potential based on the City's Urban Form Map and Land Availability for TOD development	Percent of total corridor acres in frequent transit areas based on the City's Urban Form map.	●	●	●	◐	○
		Percent of total corridor acres in city growth areas based on the City's Urban Form map.	●	●	●	○	○
		"Total land available for TOD development within 1/2 mile of alignment (Acres)	◐	○	○	◐	●
Multimodal Connectivity	Connections to Existing and Planned Multimodal Facilities	Total direct connections to existing multimodal facilities	●	○	◐	○	◐
		Total direct connections to planned multimodal facilities	◐	●	◐	●	◐
Environmental Considerations	Cultural Resources (Section 106) and Section 4(f) Properties	Historic resources and Section 4(f) properties adjacent to and facing the alignment	◐	◐	●	○	◐
	Transit Dependent Population	Population under 18 density within 1/2 mile of alignment	◐	●	◐	●	◐
		Population 65+ density within 1/2 mile of alignment	◐	◐	◐	◐	○
		Disabled population density within 1/2 mile of alignment	◐	●	◐	●	◐
		Zero auto household density within 1/2 mile of alignment	◐	●	◐	◐	○
	Environmental Justice Populations	Minority population density within 1/2 of alignment	◐	●	◐	◐	○
		Poverty population density within 1/2 of alignment	◐	●	◐	◐	○
Traffic Operations	Traffic Congestion	Average volume to capacity ratio in alignment	○	◐	○	◐	○
Transit Connectivity	Integration with Existing Transit	Qualitative assessment of how alternative integrates with existing transit network	◐	◐	●	○	○
Service Reliability	Railroad Crossings	Number of railroad crossings	●	●	●	●	●
Population and Employment	Existing (2020) and Future (2040) Population Density	Persons per square mile within 1/2 mile of alignment (2020)	◐	◐	●	○	○
		Persons per square mile within 1/2 mile of alignment (2040)	◐	◐	●	○	○
	Existing (2020) and Future (2040) Employment Density	Employees per square mile within 1/2 mile of alignment (2020)	◐	●	◐	○	○
		Employees per square mile within 1/2 mile of alignment (2040)	◐	●	●	○	○
Ridership Potential	Ridership Generators	Number of ridership generators (activity nodes) within 1/2 mile of the alignment	○	◐	◐	●	◐
	Existing Ridership	Visual assessment of connectivity to existing high ridership areas (ridership heat map)	◐	○	●	○	◐

Metric Performance: ● High ◐ Moderate ○ Low

Public Engagement Phase 2

Place It!

From May 16-18, 2023, the participation-based urban planning practice Place It! was brought onto the project to capture and document meaningful conversations, experiences, and observations throughout the potential alignments by meeting people where they interact with GoRaleigh bus service today. Table 8 shows the complete list of dates and locations of the engagement efforts.

An array of methods was used to capture information along the alignment, including walking/driving the corridors, traveling on the local bus routes, taking photos and video, creating drawings and sketches, investigating the sensory experience of identified areas of the alignments, conversing with local business owners and transit riders, and examining existing land uses, opportunity sites, and zoning.

Table 8 Public Engagement Phase 2 Spring 2023 Meeting Dates and Locations

Date	Location
May 16, 2023	Triangle Town Center - Triangle Town Center Park-and-Ride Midtown - North Hills Shopping Center - Ben & Jerry's (Six Ford Rd. at North Hills St.) - Park and Market North Hills (east side of Six Forks Rd.)
May 17, 2023	Wake Forest Rd. - Duke Raleigh Hospital Miscellaneous Locations - Green Road Community Library (4101 Green Rd.) - NCWorks Career Center (1830 Tillery Place) - Wake County Workforce Development (2321 Crabtree Blvd.) - Brentwood Rd. (bus stop outside of hotel that houses families in need of housing – former Hospitality Inn)
May 18, 2023	Capital Blvd. - Food Bank of Central and Eastern North Carolina (1924 Capital Blvd.) - Greyhound Bus Station (2210 Capital Blvd.) - The Salvation Army (1853 Capital Blvd.) - Mini City Shopping Center (Millbrook Rd. and Capital Blvd.) - Crabtree Blvd. (shopping center, coffee shops, other miscellaneous businesses) - Starbucks @ Spring Forest Rd. and Capital Blvd.

A report was finalized on June 13, 2023 documenting the Place It! findings. It characterized the physical, economic, and sociological characteristics of the corridors.

Core takeaways from the study:

- Two Corridors, Two Realities: Capital Boulevard has high existing transit ridership and transit dependence while Midtown is likely choice-transit riders with some transit-dependent riders.
- Uneven Development: development is happening more significantly along the Midtown alignment than along the Capital Boulevard one.
- Downtown – A Strong Foundation: The design of the corridor and stations for both alignments should take advantage of – and enhance – this vibrant, walkable environment.

- Trees are an Asset: The alignments, station designs, and urban design interventions linking stations to surrounding areas should take advantage of and enhance the tree canopy.

Downtown – A Strong Foundation: Open Houses

From November 13, 2023 through January 12, 2024, the project hosted three in-person open house events and launched an 11-question survey in both paper and online formats. These opportunities aimed to collect public feedback from initial screenings of the alternative route alignments from Downtown Raleigh to Midtown and Triangle Town Center.

Each of the three in-person open houses presented an overview of the Wake Bus Rapid Transit (BRT) Northern Corridor project and the BRT Major Investment Study (MIS) planning process. Participants of these two-hour open house meetings were able to review materials with project staff at the following locations around the alternative route alignments.

Table 9 Public Engagement Phase 2 Fall 2023 Meeting Dates and Locations

Date	Location	Time
November 28, 2023	Sertoma Arts Center, Raleigh Room	5:30 - 7:30 p.m.
November 30, 2023	Durant Nature Preserve, Campbell Lodge	5:30 – 7:30 p.m.
December 12, 2023	Raleigh Union Station	5:30 – 7:30 p.m.

Within two weeks, the project staff gathered in-person data and feedback from 20 total attendees. The data collection materials included an interactive map activity that allowed the public to provide direct input on where they “live, work, and play” along each of the route alignments. After the opportunity to discuss BRT and the northern corridor route alignments with project staff, attendees were also encouraged to complete a paper survey – a replica of an online survey being hosted simultaneously on PublicInput.com. Data from the map and paper survey were combined with results from the online survey.

Figure 15 Fall 2023 Public Engagement Workshop Photos



Online Survey (PublicInput.com)

Open house meeting materials, including a project update video and maps showing route alignments, were embedded in the online version of the survey to provide context about Wake BRT for participants who were unable to attend the in-person events. **The online survey received 7,042 responses and 825 comments from 422 total participants during the 60-day period from November 13, 2023 to January 12, 2024.** A total of nine paper surveys were submitted by open house attendees, mail, and community centers with copies of the survey. **The embedded project update video was viewed a total of 616 times on the survey website.**

Online Comment Themes

Feedback from online survey participants resulted in the following themes:

- More interest in travel along the Downtown to Midtown route compared to the Downtown to Triangle Town Center route
- Traffic along both routes tends to be focused on food related activities – such as dining and grocery shopping – more than any other activity
- Most rely on driving to reach destinations within both routes
- Most use public transit occasionally (between once a month and once a year)
- Convenience was the main factor that influenced the mode of transportation for Midtown travelers, while speed and reliability were the main factors for Triangle Town Center travelers
- Most Midtown travelers mentioned the lack of enough public transit service as a mobility challenge while Triangle Town Center travelers mentioned traffic congestion and the lack of bike and pedestrian facilities as their main mobility challenges
- Wake Forest Road and Atlantic Avenue were among the top preferences for travelers connecting to Midtown
- Atlantic Avenue and Capital Boulevard were among the top preferences for travelers connecting to Triangle Town Center
- Reliability, frequency, and speed were services that travelers found more important than connectivity and bus amenities

Comments from participants also resulted in 132 suggestions that can be summarized by the following:

- Participants added requests for bicycle and pedestrian amenities and better connectivity to increase transit options and walkability through the study area
- Participants requested accessible public transit that runs frequently, reliably, quickly, safely, and that they can access without driving to a station
- Seven comments mentioned desires for different types of public transit like trolley, light rails, or metro systems

Some participants noted the following concerns:

- Investments in public transit are taking too long to implement because of analysis paralysis
- Investments in public transit will not adequately serve different areas of Raleigh

In-Person Comment Themes

Many of the themes from the online survey were reflected in comments received by those who were able to attend the in-person open house events and participate in interactive activities. Feedback that differed from online results reflects the following themes:

- Leisure shopping was among the main reason for travelling along both routes in the study area
- In Midtown, half of the participants used public transit daily or often, while the other half used public transit occasionally
- Participants also mentioned the shortage of public transit options and difficulties safely biking and walking as mobility challenges
- Six Forks Road is another top preference for connecting to Midtown
- Top destinations mentioned by the public within the study area were Iron Works, North Hills, and shops near Old Wake Forest Road (Aldi, Lidl, Walmart, and Food Lion)

This study recognizes that the public engagement activities largely attracted opt-in feedback. Acknowledging this, a qualitative assessment of the various types of comments indicates that the Online Surveys are more likely to have attracted participants who do not currently ride GoRaleigh today but may hope to in the future, while the Place It! Team activities are more likely to have engaged current bus riders.

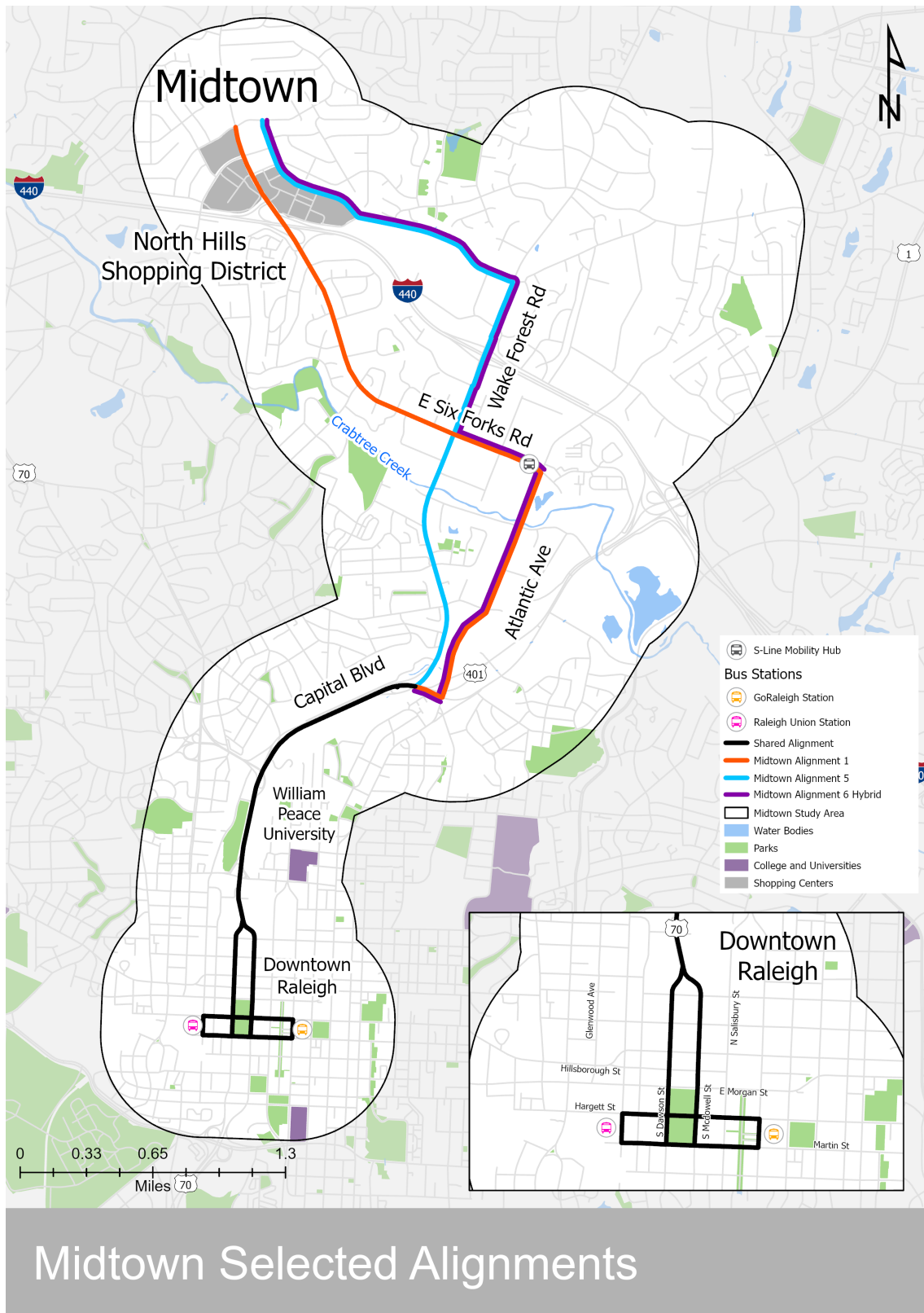
Adding Alignment Midtown 6: Public Engagement Influence on the Detailed Alternative Analysis

As part of the public engagement meetings, the project team heard interest in all the corridors in the Midtown study, with several participants talking about “mix and match” options where they said they make trips that use some of Midtown 1 and some of Midtown 5.

Hearing this and seeing that the two top-performing Midtown alignments (Midtown 4 and Midtown 5) were very similar, City staff directed the project team to add a hybrid alternative Midtown 6 to explore how a slightly longer route would address some of the “mix and match” travel the public discussed would perform.

The Midtown 6 alternative is shown on the map on the next page along with alignments Midtown 1 and Midtown 5.

Figure 16 Midtown Alignments Selected for Detailed Analysis



Detailed Alternative Analysis Screening Results

Ridership

This ridership evaluation used the most recent existing travel demand forecasting model, developed for the Wake Bus Rapid Transit (BRT) Western Corridor project and based on the Federal Transit Administration's Simplified Trips on Project Software (STOPS) model. It includes the primary transit systems in Wake County: GoRaleigh, GoCary, Wolfline (operated by North Carolina State University) and GoTriangle. This model was calibrated to a 2023 base year using October 2023 transit schedules and results from the October 2023 regional on-board survey.² 2045 was chosen as the horizon year based on FTA guidance. This STOPS application was approved by FTA for use in the Western Corridor Small Starts project development. As a part of preliminary planning and design for the selected Northern Corridor LPAs, a refreshed STOPS model will be developed and submitted to the FTA for approval.

The study team evaluated three Midtown and two Triangle Town Center BRT alignment alternatives. Potential station locations were chosen for modeling purposes, but these locations could change. Precise station locations will be determined in future design phases.

Table 10 shows the weekday boarding projections by potential stations for all three Midtown alternatives for 2023 and 2045. This comparison shows that the Midtown Alternative 5 had the highest weekday ridership projections compared to the other two alternatives.

Table 10 Midtown Alternatives Weekday Boardings by Station by Year

Modeled Station	2023 Boarding Projections			2045 Boarding Projections		
	Alt 1	Alt 5	Alt 6	Alt 1	Alt 5	Alt 6
North Hills	226	242	182	344	407	360
Computer Dr	8	n/a	n/a	6	n/a	n/a
Anderston Dr	68	NA	n/a	15	n/a	n/a
Cardinal at North Hills St	0	33	27	n/a	42	34
The Exchange	0	13	11	n/a	5	5
Wake Forest Rd / St Albans Dr	0	193	152	n/a	179	169
Wake Forest Rd / Wake Town Dr	0	83	63	n/a	176	149
Six Forks Rd / Wake Forest Rd	67	45	34	160	82	82
S-Line Mobility Hub (NCDOT)	10	n/a	1	31	n/a	2
Six Forks Rd / Atlantic Ave	27	n/a	5	70	n/a	38
Hodges St-Crabtree Greenway	0	31	n/a	n/a	39	n/a
Wake Forest Rd / Whitaker Mill Rd	0	37	n/a	n/a	77	n/a
Atlantic Ave / Hodges St	5	n/a	2	8	n/a	6
Atlantic Ave / Whitaker Mill Rd	46	n/a	61	82	n/a	75
Sunrise Ave Center	2	3	n/a	n/a	1	n/a

² Wake BRT: Western Corridor Travel Forecasting Results Report (WSP, August 2024)

Modeled Station	2023 Boarding Projections			2045 Boarding Projections		
	Alt 1	Alt 5	Alt 6	Alt 1	Alt 5	Alt 6
Peace St Center	77	100	91	109	109	130
State Govt-SB	32	20	28	54	31	52
State Govt-NB	6	7	4	4	4	4
Hillsborough St-SB	28	69	40	42	80	35
Hillsborough St-NB	36	60	53	61	74	76
GoRaleigh Station	321	418	317	384	516	406
Total Boardings	959	1,354	1,071	1,370	1,822	1,623

Table 11 shows the weekday boarding projections by station for both Triangle Town Center alignment alternatives for 2023 and 2045. This comparison shows that Alternative 3 had the highest weekday ridership projections compared to Alternative 2. Overall, the model showed both Triangle Town Center alternatives to have higher ridership than the Midtown alternatives.

Table 11 Triangle Town Center Alternatives Weekday Boardings by Station by Year

Modeled Station	2023 Boardings Projections		2045 Boarding Projections	
	Alt 2	Alt 3	Alt 2	Alt 3
Triangle Town Center	460	654	773	1194
Oak Forest Dr	49	67	94	123
Spring Forest Rd	61	75	290	362
Millbrook Rd	38	45	77	101
Calvary Dr	281	271	516	492
New Hope Church Rd	227	169	276	136
Green Dr	83	n/a	263	n/a
New Hope Church / Atlantic Ave	102	n/a	113	n/a
Highwoods Blvd	25	n/a	92	n/a
S-Line Mobility Hub (NCDOT)	77	n/a	86	n/a
Atlantic Ave / Hodges St	18	n/a	40	n/a
E Whitaker Mill Rd	37	n/a	58	n/a
Old Buffalo Rd	n/a	311	n/a	963
Starmount Dr	n/a	31	n/a	31
Westinghouse	n/a	142	n/a	556
Crabtree Blvd / Intercity Bus	n/a	129	n/a	231
Fenton St BRT-SB	n/a	30	n/a	78
Fenton St BRT-NB	n/a	22	n/a	61
Sunrise Ave Center	2	7	17	89
Peace St Center	136	212	138	199
State Govt-SB	30	24	45	50
State Govt-NB	28	44	27	68
Hillsborough St-SB	72	127	56	173
Hillsborough St-NB	54	64	138	173
GoRaleigh Station	456	682	964	1746
Total Boardings	2,236	3,106	4,063	6,826

Capital Cost

A rough order of magnitude (ROM) cost estimate was prepared as a part of the detailed alternative analysis screening. To develop the conceptual phase cost estimation, peer BRT projects within North and South Carolina (including the other Wake: BRT corridors currently under construction or in design) were referenced. Recent construction cost bids were also reviewed. The table below summarizes the potential capital cost range for each of the alignment alternatives.

Table 12 Summary of Capital Cost (Base Year 2025)

Alignments	Midtown 6 (6.25 miles)	Midtown 1 (6.43 miles)	Midtown 5 (6.20 miles)	TTC 2 (9.08 miles)	TTC 3 (8.37 miles)
Low Range Estimate (-30%)	\$ 66.6M	\$ 68.0M	\$ 66.1M	\$ 93.9M	\$ 91.8M
High Range Estimate (+50%)	\$ 142.7M	\$ 145.7M	\$ 141.7M	\$ 201.2M	\$ 196.7M

At this early conceptual phase of the project, cost estimates assume an additional dollar amount for professional services equal to 35% of the estimated construction costs based on FTA Standard Cost Categories (SCC) for Bus Rapid Transit projects. Professional services include design services, management, and oversight activities necessary to advance the project from feasibility through project delivery. These include Preliminary Engineering (PE), Final Design (FD), Design Services During Construction (DSDC), Project Management (PM), Construction Management (CM), Surveying & Geotechnical Investigation, Permitting & Legal Services, and other project delivery services.

At this phase of the project, much is still unknown, including how many miles of dedicated lanes the project will have, and where they will be located. To mitigate the impact of any identified or unidentified risks, based on assumptions made at the early phase of the project, a contingency dollar amount equal to 50% of the base cost estimate (including the professional services) has been added as well. The estimate also includes a project uncertainty range (shown by the Low (-30%) and High (+50%) ranges) to reflect the lack of detailed design and engineering at this phase as well as the uncertainty of alignment alternative specifics (such as station locations). These cost estimates are primarily for comparison between alignment options and are unlikely to reflect eventual project design costs. More precise estimates will be created as part of preliminary design work, when more is known about the ultimate physical design of the project.

Operating and Maintenance Cost

To create an operating cost comparison of the three Midtown and two Triangle Town Center alternatives, an operating cost model was developed that assumed dedicated bus lanes as described below for each alternative.

The model integrated current hourly operating cost information from GoRaleigh and assumed a 25% increase in average operating speed from the dedicated lanes, raising GoRaleigh's current average of 12.9 miles per hour to 16.13 miles per hour for the BRT alternatives.

The service pattern assumed 10-minute headways during rush hour and 15-minute headways at all other weekday times and on weekends. A "headway" describes the time elapsed between two buses traveling the same route (i.e., with a 10-minute headway the next bus will arrive at a station 10 minutes after the previous bus departs that station). Table 13 below shows the one-way length of each alternative, the runtime to travel that distance, the annual cost of each alternative, and the number of vehicles required to operate the 10-minute headway during peak traffic conditions (rush hour).

Table 13 Operating Costs, Run Times, and Peak Vehicles Required by Alternative

Alternative	Length (in miles)	End-to-End Run Time (in minutes)	Annual Operating Cost	Peak Vehicles Required
Midtown 1	6.16	22	\$3,640,800	6
Midtown 5	6.02	22	\$3,640,800	6
Midtown 6	6.57	24	\$3,640,800	6
Triangle Town Center 2	8.9	33	\$4,893,600	8
Triangle Town Center 3	8.51	31	\$4,893,600	8

While differences in runtime of 2 minutes affect the rider experience, they are too small to meaningfully affect operating costs, given the layover time built into bus schedules. For example, in the Midtown 1 and 5 alternatives above, during rush hour a northbound bus would leave GoRaleigh Station at 8:00 AM, arrive at Midtown 22 minutes later, spend 8 minutes “laying over”, and then become the 8:30 AM southbound departure back to GoRaleigh Station.

The Midtown 6 alternative would have a 24-minute trip northbound, and despite a shorter, 6-minute layover would still depart southbound for GoRaleigh Station at 8:30 AM. This means that the same number of buses are needed to serve Midtown no matter which alignment is chosen. A similar dynamic occurs with the Triangle Town Center alternatives, which both require eight buses during peak periods and therefore have identical operating cost estimates.

For the purposes of this study, this analysis indicates that operating costs are not a distinguishing factor in choosing between the Midtown alternatives or the Triangle Town Center alternatives.

In future phases of the project, engineering decisions about where dedicated lanes are placed and where BRT vehicles need to operate in mixed traffic will be the most influential variables affecting travel times for the buses, and therefore also the number of vehicles required at peak operation.

Conceptual dedicated BRT lanes assessment

Each alternative was evaluated based on existing roadway width, available Right of Way (ROW), and existing traffic patterns to assess the feasibility of dedicated BRT lanes.

Dedicated, center-running bus-only lanes are proposed along most of the alignment alternatives to ensure both BRT projects increase level transit of service and meet FTA funding eligibility requirements.

Center-running BRT lanes optimize the use of stations by buses running in both directions while minimizing the potential conflicts between buses and general-purpose vehicles making turning movements.

Differences from New Bern Avenue, Western and Southern BRT Corridors

Before creating conceptual designs for the Northern corridor alignments, the project team reviewed the work done to date on the BRT corridors that are further along in the Wake Transit program: New Bern Avenue, Southern, and Western. From a BRT design standpoint, the most important difference between

the Midtown and Triangle Town Center corridors and other corridors is that the roadways in North Raleigh are more built out – with more buildings closer to the street – than on the other corridors.

Within the Midtown Alternatives, it is nearly impossible to widen most of the right-of-way without impacting existing homes or businesses. Along Capital Boulevard, the roadway has already been widened along its sides as far as is realistically possible in some areas, and there are several segments without medians to alternatively widen into.

What this means is that when designing BRT for the Northern corridors, it is far more likely that the projects will need to convert existing traffic lanes to dedicated bus lanes to obtain the most significant traffic-insulating benefits of BRT.

Considerations for Downtown Sections of Alignments

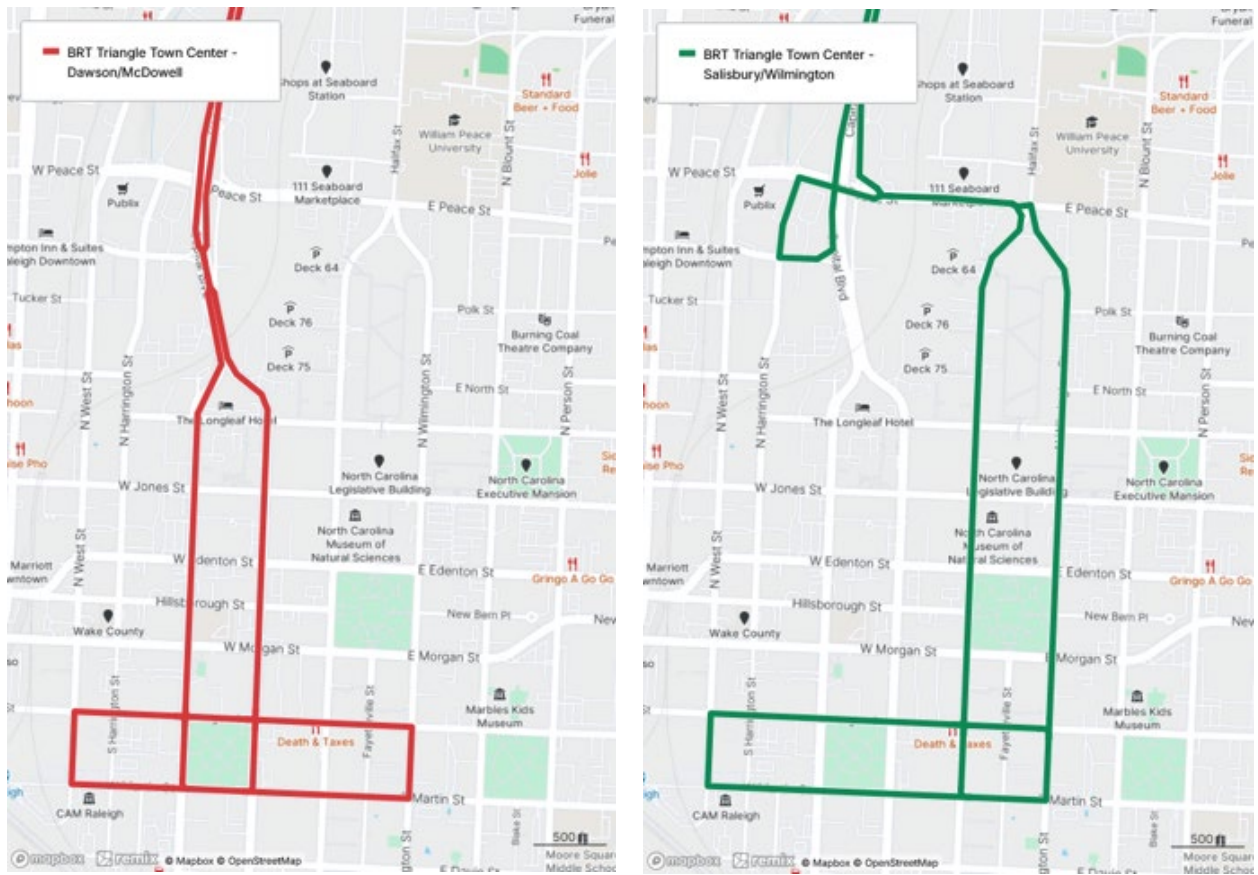
Over the past two decades GoRaleigh service planning efforts have strategically relocated service off of the Dawson/McDowell pair of streets due to concerns around high traffic volume and high speeds and the potential for rear-end collisions.

In terms of traffic volumes, NCDOT data from 2023 shows that Dawson and McDowell between Edenton Street and Morgan Street averaged 20,000 to 23,000 cars per day, while the nearby Salisbury St and Wilmington St pair average only 5,000 to 6,000 cars per day.

Once the Local Preferred Alternative (LPA) is selected, the project will advance to a preliminary planning and design phase, during which detailed traffic analysis and coordination with other plans – such as the 2025 Downtown Mobility Study – and key stakeholders, including NCDOT, shall take place to identify appropriate dedicated BRT lanes for different segments across the entire project corridor.

This study recommends that the Salisbury/Wilmington pair be studied as a potential replacement for the Dawson/McDowell pair in the next phase of this project. Additional discussion of this topic and cross-sections for both pairs of downtown street options can be found in **Appendix D**.

Figure 17 Downtown Alignment Options Proposed for Further Analysis



Initial Proposed Cross-Section by Street Segment for Each Alternative in Detailed Analysis

The following tables provide a summary of the dedicated BRT lane assessment for the Midtown and TTC alignments. “GP Lane” refers to a “General Purpose” travel lane – one which cars, trucks, buses, and other vehicles are all able to utilize. “BRT Lane” refers to a lane that will be restricted to buses only, with some possibly allowing other vehicles to use it when making a right turn.

For the Midtown 6 and TTC3 corridors, which are both recommended for LPAs, the report shows three example cross-sections for each including the narrowest and widest cross-section for each.

To see cross sections for all portions of all alignments, see **Appendix B**.

Table 14. Midtown Alignment 6 Dedicated BRT Lane Assessment

BRT Cross-Section Recommendation	Road Segment(s)
2 Mixed Traffic Lanes	Camelot Dr from Rowan St to Dartmouth Rd
1 Center Bi-directional BRT Lane + 2 General Purpose (GP) Lanes (see Figure 18)	St. Albans Dr from Dartmouth Rd to Wake Forest Rd
2 Center BRT Lanes + 4 GP Lanes (Min) (see Figure 19)	Wake Forest Rd from St. Albans Dr to Six Forks Rd
2 Center BRT Lanes + 2 GP Lanes (Figure 20)	Six Forks Rd from Computer Dr to Anderson Dr , Atlantic Ave from Six Forks Rd to Whitaker Mill Rd
2 Center BRT Lanes + 3 GP Lanes	Six Forks Rd from Anderson Dr to Atlantic Ave
1 Center BRT Lane (NB) + 1 Mixed Lane + 3 GP Lanes	Atlantic Ave from Whitaker Mill Rd to Old Louisburg Rd
1 Center BRT Lane (NB) + 2 GP Lanes	Atlantic Ave from Old Louisburg Rd to Capital Blvd On-Ramp
1 Mixed Traffic Lane	Atlantic Ave to Capital Blvd On Ramp & Off Ramp
2 Side BRT Lanes + 4 GP Lanes (Min)	Capital Blvd from south of Atlantic Ave to Downtown Couplet
1 Right Side BRT Lane + 3 GP Lanes	Downtown Couplet Along Dowson St, Martin St, McDowell St

The section below includes three potential example cross-sections of the Midtown 6 alignment. The ultimate design of each of these cross-sections will be finalized in future phases.

Figure 18 Proposed Conceptual Cross Section between Dartmouth Dr and Wake Forest Rd, Along St. Albans Dr (Midtown 6)

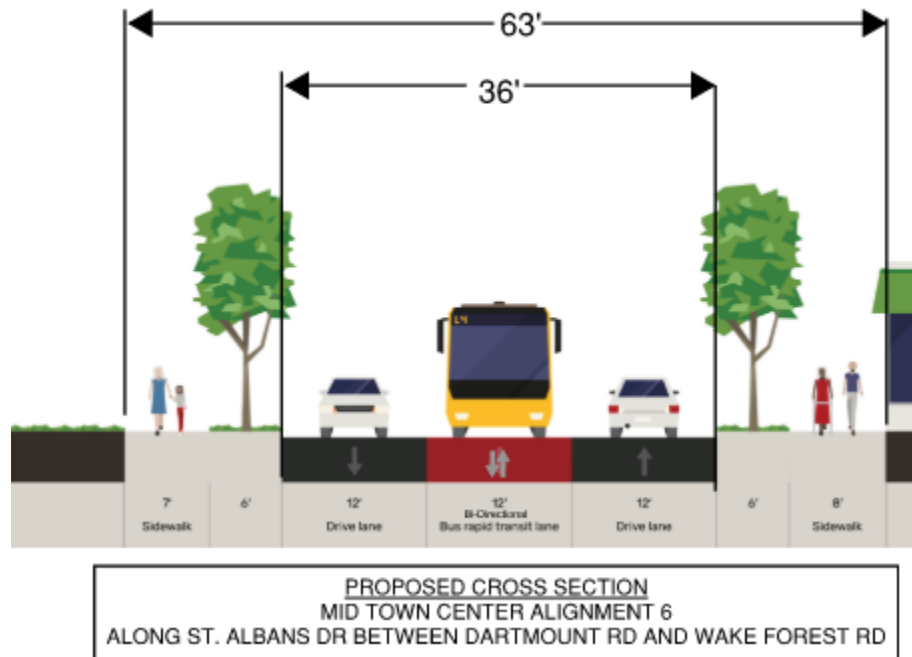


Figure 19 Proposed Conceptual Cross Section between St. Albans Dr and Six Forks Rd, Along Wake Forest Rd (Midtown 6)

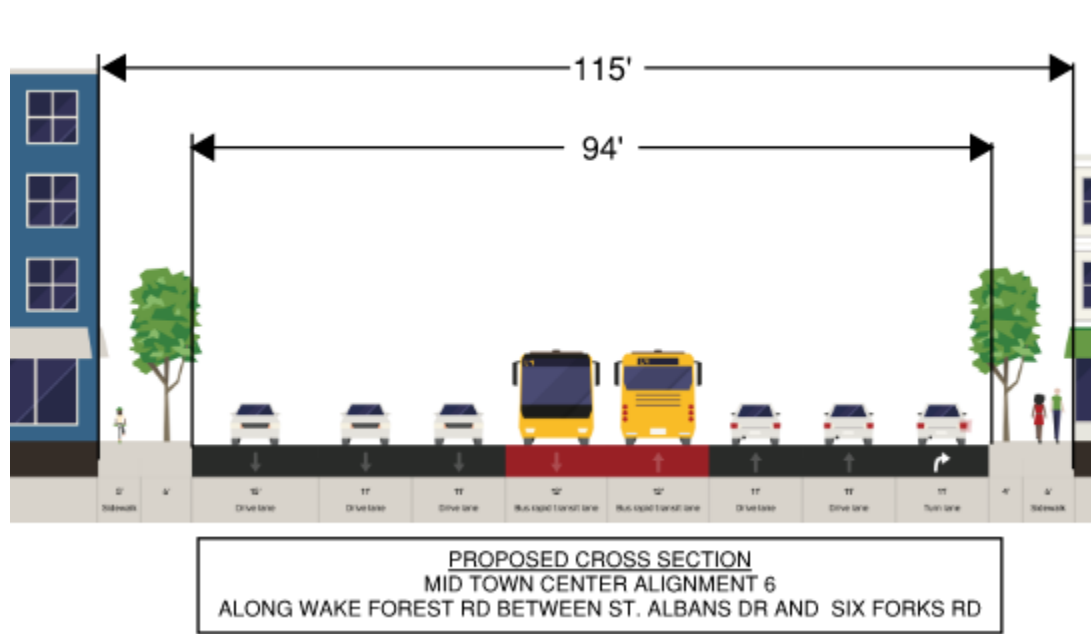


Figure 20 Proposed Atlantic Ave Conceptual Cross Section with Station Platform between Hodges St and Whitaker Mill Rd (Midtown 6)

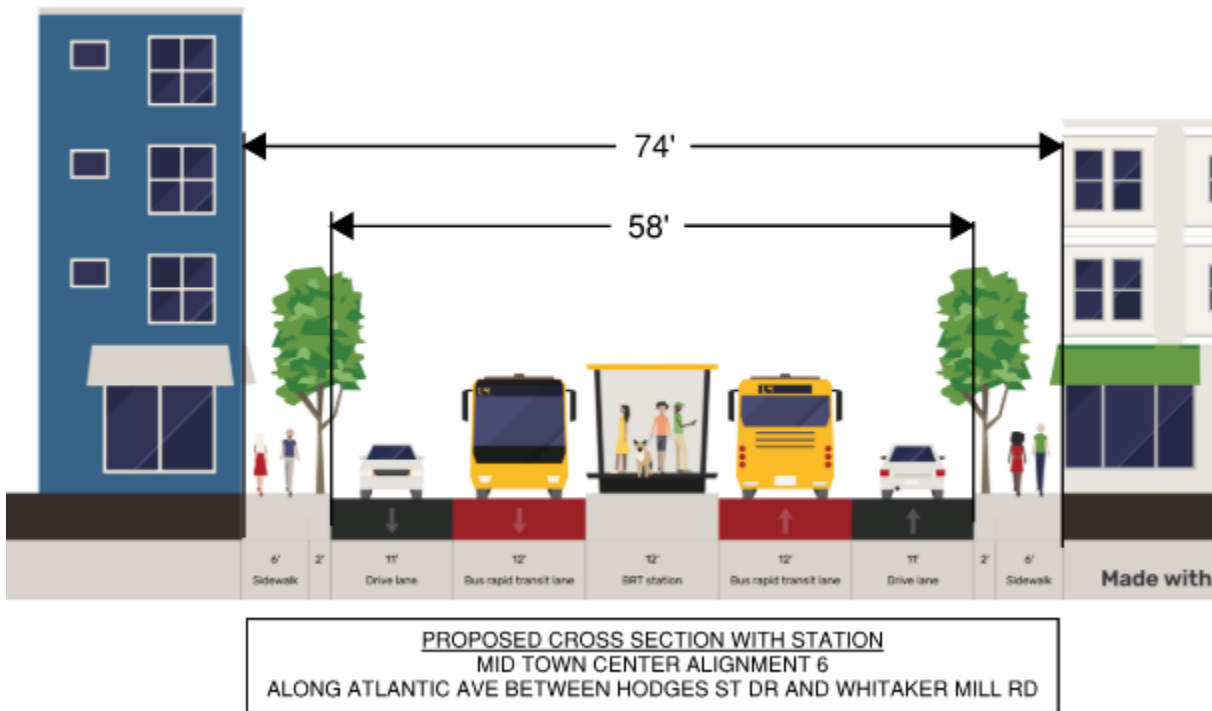


Table 15. Midtown Alignment 1 Dedicated BRT Lane Assessment

BRT Cross-Section Recommendation	Road Segment(s)
2 Center BRT Lanes + 4 General Purpose (GP) Lanes (Min)	Six Forks Rd from Rowan St to Computer Dr
2 Center BRT Lanes + 2 GP Lanes	Six Forks Rd from Computer Dr to Anderson Dr , Atlantic Ave from Six Forks Rd to Whitaker Mill Rd
2 Center BRT Lanes + 3 GP Lanes	Six Forks Rd from Anderson Dr to Atlantic Ave
1 Center BRT Lane (NB) + 1 Mix Lane + 3 GP Lanes	Atlantic Ave from Whitaker Mill Rd to Old Louisburg Rd
1 Center BRT Lane (NB) + 2 GP Lanes	Atlantic Ave from Old Louisburg Rd to Capital Blvd On-Ramp
1 Mixed Traffic Single Lane	Atlantic Ave to Capital Blvd On Ramp & Off Ramp
2 Side BRT Lanes + 4 GP Lanes (Min)	Capital Blvd from south of Atlantic Ave Along Capital Blvd to Downtown Couplet
1 Right Side BRT Lane + 3 GP Lanes	Downtown Couplet Along Dowson St, Martin St, McDowell St

Table 16. Midtown Alignment 5 Dedicated BRT Lane Assessment

BRT Cross-Section Recommendation	Road Segment(s)
2 Mixed Traffic Lanes	Camelot Dr from Rowan St to Dartmouth Rd
1 Center Bi-directional BRT Lane + 2 General Purpose (GP) Lanes	St. Albans Dr from Dartmouth Rd to Wake Forest Rd
2 Center BRT Lanes + 4 GP Lanes (Min)	Wake Forest Rd from St. Albans Dr to McNeil St
2 Center BRT Lanes + 2 GP Lanes	Wake Forest Rd McNeil St to north of Capital Blvd
1 Mixed Traffic Lane	Wake Forest Rd to Capital Blvd Off Ramp & On Ramp
2 Side BRT Lanes + 4 GP Lanes (Min)	Capital Blvd from south of Atlantic Ave to Downtown Couplet
1 Right Side BRT Lane + 3 GP Lanes	Downtown Couplet Along Dowson St, Martin St, McDowell St

Table 17. TTC Alignment 2 Dedicated BRT Lane Assessment

BRT Cross-Section Recommendation	Road Segment(s)
2 Center BRT Lanes + 4 General Purpose (GP) Lanes (Min)	Sumner Blvd from Triangle Town Center to Capital Blvd , Capital Blvd from Sumner Blvd to New Hope Church Rd
1 Center Bi-directional BRT Lane + 4 GP Lanes	New Hope Church Rd from Capital Blvd to Deana Ln
1 Center Bi-directional BRT Lane + 2 GP Lanes	New Hope Church Rd from Deana Ln to Green Rd
2 Center BRT Lanes + 2 GP Lanes	New Hope Church Rd from Green Rd to Atlantic Ave Atlantic Ave from New Hope Church Rd to Wolfpack Ln
2 BRT Lanes + 2 GP Lanes (BRT Transitions from Center to Side BRT Lane)	Atlantic Ave from Wolfpack Ln to Six Forks Rd
2 BRT Lanes + 2 GP Lanes (BRT Transitions from Side to Center BRT Lane)	Atlantic Ave from Six Forks Rd to Whitaker Mill Rd
1 Center BRT Lane (NB) + 2 GP, 1 Mix Lane (SB)	Atlantic Ave from Whitaker Mill Rd to Old Louisburg Rd
1 Center BRT Lane (NB) + 2 GP Lanes	Old Louisburg Rd to Capital Blvd On-Ramp
1 Mixed Traffic Lane	Atlantic Ave to Capital Blvd On Ramp & Off Ramp
2 Side BRT Lanes + 4 GP Lanes (Min)	Capital Blvd from south of Atlantic Ave to Downtown Couplet
1 Right Side BRT Lane + 3 GP Lanes	Downtown Couplet Along Dowson St, Martin St, McDowell St

Table 18. TTC Alignment 3 Dedicated BRT Lane Assessment

BRT Cross-Section Recommendation	Road Segment(s)
2 Center BRT Lanes + 4 GP Lanes (Min) (Figure 21 and Figure 23)	Sumner Blvd from Triangle Town Center to Capital Blvd, Capital Blvd from Sumner Blvd to Westinghouse Blvd
Mixed Traffic Lanes (Various)	Capital Blvd from south of Westinghouse Blvd to Hodges St Capital Blvd from Fenton St to south of Wake Forest Exit/Ramp
2 Side BRT lanes + 4 GP Lanes (Min) (Figure 22)	Capital Blvd from Hodges St to Fenton St Along Capital Blvd from south of Wake Forest Rd to Downtown Couplet
1 Right Side BRT Lane + 3 GP Lanes	Downtown Couplet Along Dowson St, Martin St, McDowell St

The section below includes three potential example cross-sections of the Triangle Town 3 alignment. The ultimate design of each of these cross-sections will be finalized in future phases.

Figure 21 Proposed Conceptual Cross Section between Buffalo Rd and Westinghouse Blvd, Along Capital Blvd (TTC 3)

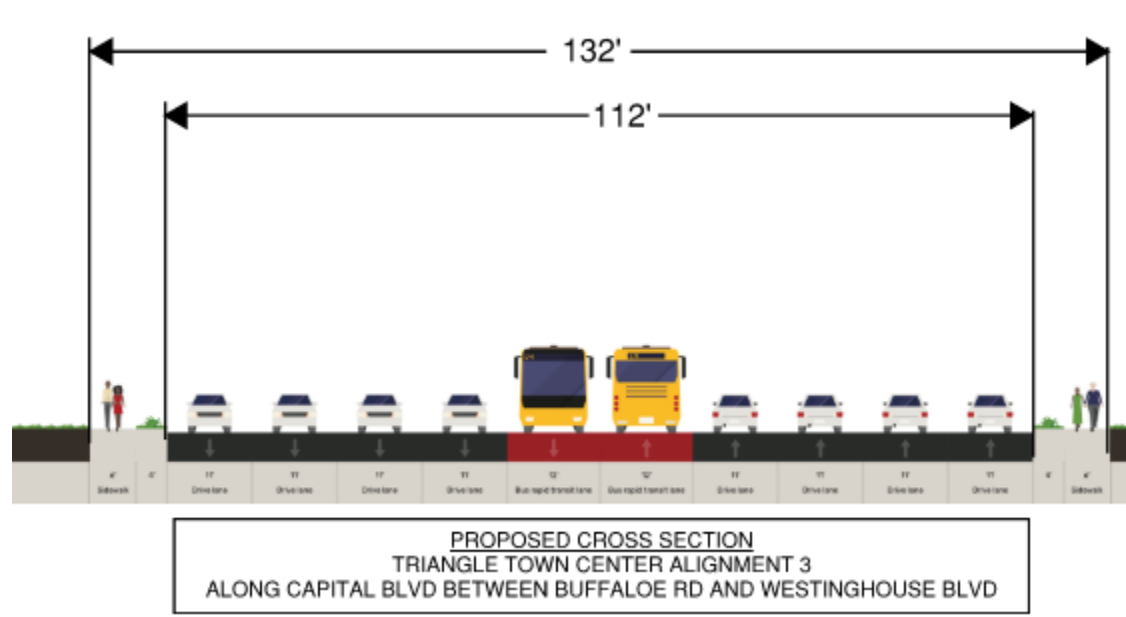


Figure 22 Proposed Conceptual Cross Section between Hodges St and Crabtree Blvd, Along Capital Blvd (TTC 3)

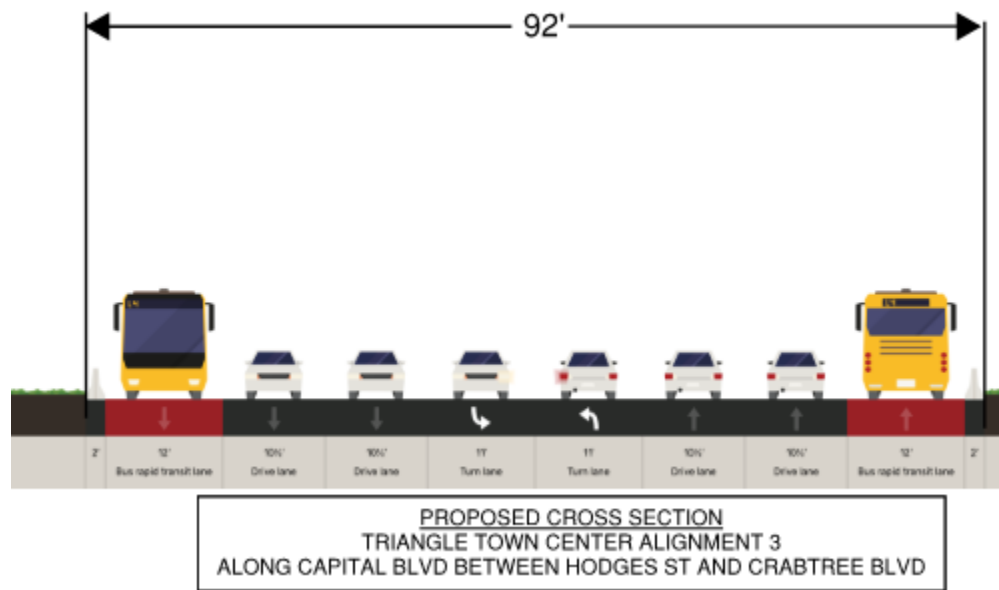
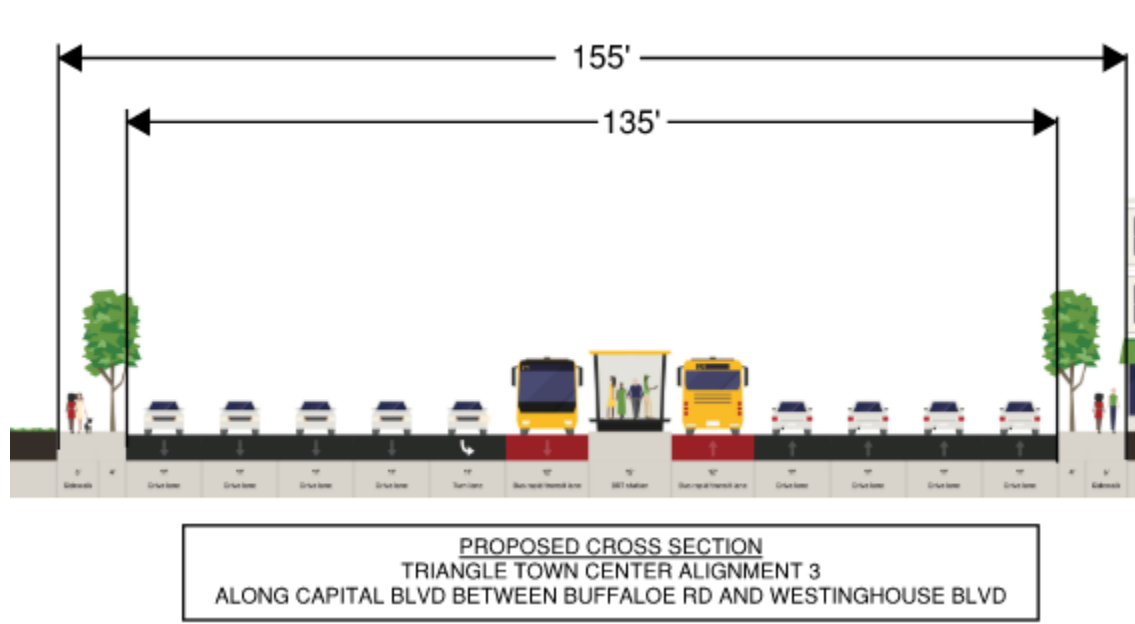


Figure 23 Proposed Conceptual Cross Section With Station Platform (TTC 3)



See the appendices for the conceptual BRT plans for each alignment alternative.

City vs NCDOT Roadway Ownership

In comparing the alternatives, roadway ownership is one of the strategic factors in determining where the placement of dedicated BRT lanes will be most feasible, as well as what kind of lanes (i.e., center-running or side-running, exclusive for buses or “business-and-transit” lanes) may be possible.

The assessed alignment alternatives (outside of any shared road segments) vary significantly in their ownership balances, as seen below in Table 19.

Table 19 Percent of Roadway Miles of Each Alignment Owned by City of Raleigh and NCDOT

Alignment	% City Ownership	% NCDOT Ownership
Midtown 1	34%	66%
Midtown 5	1%	99%
Midtown 6	65%	35%
TTC 2	68%	32%
TTC 3	3%	97%

While Midtown 5 and Midtown 6 perform similarly well across several evaluation criteria, the City’s significant ownership of the Midtown 6 alignment offers the city more design and project delivery control than either of the other two alignments.

In the Triangle Town Center corridor, while TTC 2 has significantly more City-controlled streets in the sections of the alignment that are different, the very high levels of existing transit ridership along TTC 3 make accepting less control of the alignment worth it to serve thousands more residents, which is also likely to lead the project to score better on metrics related to obtaining federal funds.

Federal Transit Administration (FTA) Capital Investment Grants (CIG) Criteria

The Federal Transit Administration (FTA) Capital Investment Program (CIG) is a discretionary grant program available to transit agencies and municipalities looking to develop or expand bus rapid transit, streetcar, light rail, or heavy rail systems. Two categories of projects exist within the CIG program: New Starts and Small Starts. Whether a project is evaluated under the New Starts or Small Starts rules depends on the total cost of design, engineering, right-of-way acquisition, and construction – which is also known as the “capital cost” of the project.

New Starts projects are those that have a total estimated capital cost equal to or greater than \$400 million or that are seeking \$150 million or more in CIG program funds. Small Starts projects are those that have a total estimated capital cost of less than \$400 million and are seeking less than \$150 million in CIG program funds. The statutory maximum Federal share of funding for Small Starts projects is 80%. Each of the alternatives explored in this study fall into the Small Starts category.

FTA evaluates projects in the CIG program using two overarching criteria: project justification and local financial commitment. Included in the project justification criteria are a subset of more detailed criteria, including mobility improvements, environmental benefits, congestion relief, economic development effects, land use, and cost-effectiveness. When evaluating and rating the local financial commitment, FTA looks at the availability of non-federal (e.g., municipal, county, state) funds to account for reasonable contingency amounts, stable and dependable capital and operating funding sources, and funds to recapitalize, maintain, and operate both the existing and proposed public transportation system without requiring a reduction in existing services.

While there are many elements of the CIG program, the Project Rating Template is the first and quickest resource to complete, helping determine the potential competitiveness of a BRT project. The Project Rating Template uses the key results from the project justification and the local financial commitment criteria to generate an overall project rating. By law, projects must receive at least an overall rating of 'Medium' for both Project Justification and Financial Commitment to compete for funding. Table 20 details the key inputs and data sources for each of the criteria included in the Project Rating Template.

Table 20 Inputs and Data Sources for FTA Criteria

Criteria	Sub-Criteria	Key Inputs / Data Sources
Project Justification	Mobility Improvements	Ridership forecasts generated from FTA STOPS model
Project Justification	Environmental Benefits	EPA Greenbook air quality attainment status for CO, NO ₂ , O ₃ , and PM _{2.5}
Project Justification	Congestion Relief	Ridership forecasts generated from FTA STOPS model
Project Justification	Economic Development	Qualitative assessment of local zoning policies, community plans, parking requirements, etc.
Project Justification	Land Use	U.S. Census ACS 5-year estimates used to calculate population density, employment density, total housing units, affordable housing units and community risk estimates for populations within 1/2-mile radius of stations. Additionally, essential services within a 1-mile radius of stations, calculated using Department of Homeland Security's (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD).
Project Justification	Cost Effectiveness	Annualized federal share from Standard Cost Category Workbook (another FTA template)
Financial Commitment	Reasonableness of Financial Plan	The rating for the reasonableness of the financial plan is based upon whether capital and operating planning assumptions are comparable to historical experience, the reasonableness of the capital cost estimate of the project, adequacy of meeting state of good repair needs, and the project sponsor's financial capacity to handle unexpected cost increases or funding shortfalls.
Financial Commitment	Current Financial Condition	Based upon the average fleet age, bond ratings if given within the last two years, the current ratio as shown in the project sponsor's most recent audited financial statement
Financial Commitment	CIG Share	The share of CIG funding requested
Financial Commitment	Commitment of Capital and Operating Funds	The rating for commitment of funds is based on the percentage of funds (both capital and operating) that are committed or budgeted versus those considered only planned or unspecified

Source: Capital Investment Grants Final Policy Guidance Federal Transit Administration 2025

To determine the readiness of the Midtown and TTC Alignments to compete for federal funds, a Project Rating Template was completed for each alignment. While all alternatives rate high for financial commitment, all Midtown alternatives rate medium-low for project justification and so receive an overall medium-low rating. TTC 2 and TTC 3 rated medium for Project Justification with an overall medium-high rating. Results of the analysis can be viewed in Table 21.

Based on this analysis, TTC 2 and TTC 3 rate well enough to compete for federal dollars in the CIG program.

Table 21 Results from the CIG Testing

	Midtown 1	Midtown 5	Midtown 6	TTC 2	TTC 3
Project Justification	Medium-Low	Medium-Low	Medium-Low	Medium	Medium
Financial Commitment	High	High	High	High	High
Overall	Medium-Low*	Medium-Low*	Medium-Low*	Medium-High	Medium-High

**Projects must score medium or higher to receive federal funding. The Midtown corridor may not be competitive for federal funding. Future phases of study will determine if changes to the project could improve the competitiveness of the Midtown corridor.*

Land Use and Market Interest Assessment

Development patterns emerging over the past decade along the Capital Boulevard and Midtown BRT corridors provide useful insights into the likely pace, intensity, and focus of future land use patterns that may occur with the implementation of BRT service. These kinds of dense, mixed-use developments designed with transit and walkability in mind are often referred to as Transit Oriented Development (TOD).

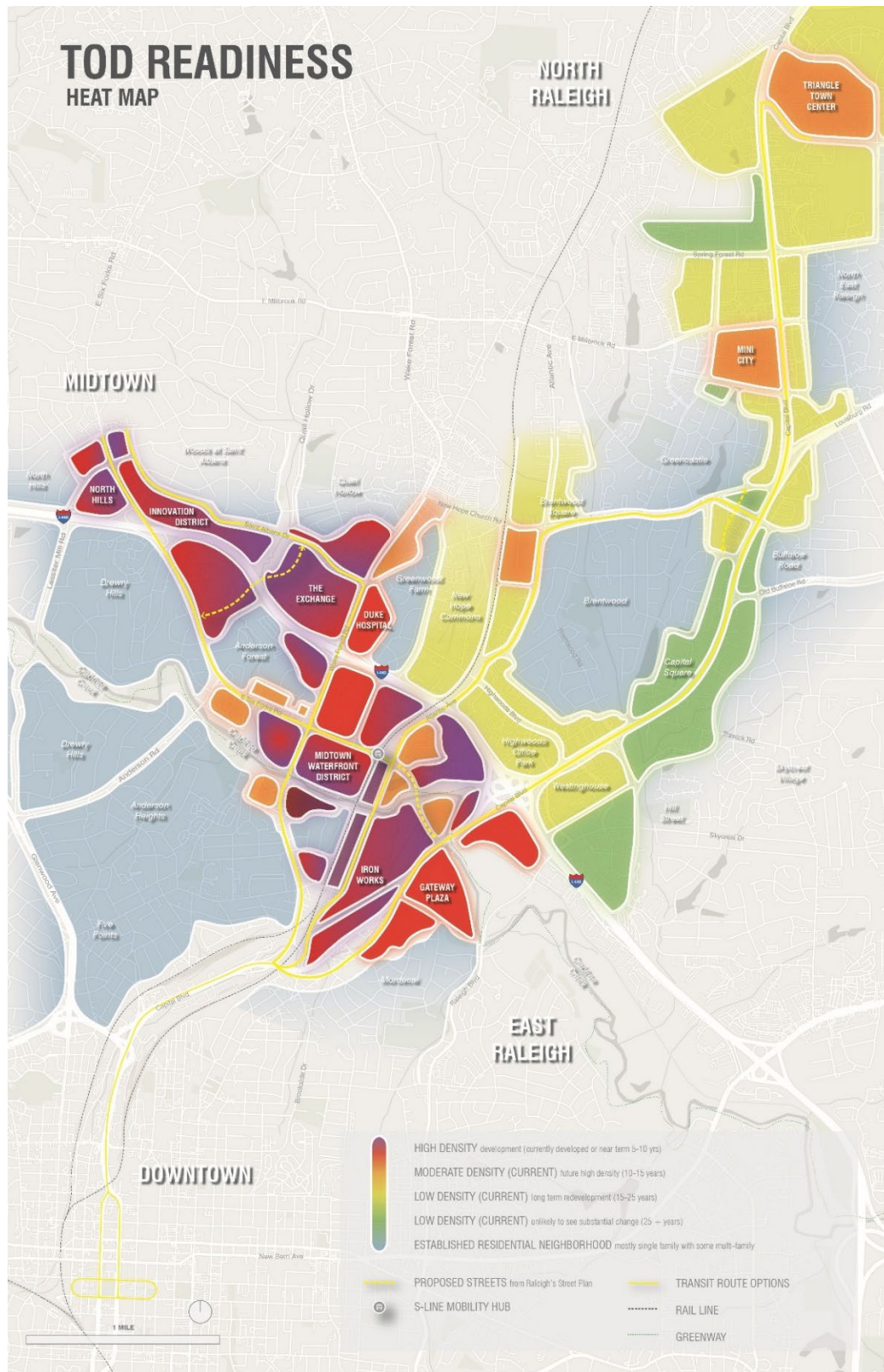
The City's comprehensive plan and future growth strategies for both corridors are generally consistent with land use trends that have emerged over the past decade. However, the timing, pace, mix, and intensity of development in each corridor will likely respond differently to BRT implementation, particularly in the near term.

Capital Boulevard and Midtown each have distinct socio-economic profiles, growth expectations, geography, and land use mixes. Capital Boulevard offers more opportunities for affordable housing, while employment centers are more concentrated near the Midtown Corridor. Capital Boulevard also has higher traffic volumes and greater existing bus ridership.

The project team conducted a qualitative assessment of market interest in both corridors. This included reviewing building permits, the current development pipeline, recent and ongoing rezonings, and developer interest along each of the proposed BRT alignments. In locations where higher-density development has recently been completed or is in process are shown in purple or red, whereas areas with low interest are shown in green.

Redevelopment is most likely to occur when multiple parcels adjacent to each other come under control of the same landholder or developer. Since predominantly single-family home neighborhoods have many homeowners with smaller parcels, those neighborhoods are much less likely to be assembled into a single parcel for redevelopment. In the TOD Readiness map, these single-family neighborhoods, that are highly unlikely to redevelop, are shown in blue.

Figure 24 Qualitative TOD Readiness Assessment for Potential BRT Alignments



Midtown Corridor

Midtown's current zoning and land use patterns are more favorable for higher-intensity mixed-use development along the length of the corridor, including Six Forks Road, Wake Forest Road, Atlantic Avenue, and St. Albans Drive. Redevelopment – fueled by investment that began at North Hills – has continued steadily for years and is expected to intensify in the near and mid-term, even without BRT.

BRT will, however, further accelerate density, land use diversity, and redevelopment timing. Likely TOD locations are frequent throughout the Midtown Corridor, especially the following areas:

- Industrial areas between Capital Blvd, Atlantic Ave, and Wake Forest Rd between Whitaker Mill Rd and Six Forks Rd
- Wake Forest Rd north of Six Forks Rd
- St. Albans Drive west of Wake Forest Rd
- North Hills

Within the Midtown 1 alignment, Six Forks Rd between Wake Forest Rd and North Hills has limited right-of-way to accommodate BRT infrastructure. There is also a significant amount of single-family residential property along the frontage of Six Forks Rd, specifically in the Anderson Forest and Drewry Hills neighborhoods, limiting TOD opportunity.

Midtown alignment 5 has more TOD-ready land along the alignment frontage, except for the north side of St. Albans Drive and the Hi-mount neighborhood on the west side of Wake Forest Rd between McNeil St and East Whitaker Mill Rd.

Midtown 6 is like Midtown 5 but replaces the lower development potential stretch of Wake Forest Rd between McNeil St and East Whitaker Mill Rd with the higher-development-activity stretch of Atlantic Avenue from Six Forks Rd to Whitaker Mill Rd, where the Iron Works development has opened in recent years.

Capital Boulevard Corridor

The Capital Boulevard corridor has not experienced the large-scale mixed-use redevelopment seen in Midtown and is not as close to recent redevelopment as the Wake Forest Rd corridor is. Much of the Capital Boulevard corridor's commercial activity occurs in comparatively narrower parcels adjacent to the roadway, with single-family residential directly behind these sites.

The greater number of narrow parcels limits the long-term redevelopment potential in many portions of the Capital Boulevard corridor that would otherwise support transit accessibility and bolster potential ridership.

However, three nodes have sufficient land to support significant TOD:

- The industrial parcels adjacent to the I-440 interchange with Capital Boulevard
- The Millbrook/New Hope Church Road area that also encompasses Capital Crossing (often called "Mini City")
- The area south of the I-540 interchange at Sumner Boulevard

These areas are unlikely to transition to full mixed-use TOD in the near term, in part due to the strength of the Midtown/North Hills market and its reputation as a "sure bet" for development investment which will continue to attract more private sector development than the Capital Boulevard market.

The Capital Boulevard corridor's socio-economic profile and land values suggest a slower pace and lower intensity of redevelopment with mixed use nodes of apartments (with surface parking) and retail. Office uses – particularly Class A office – may be generally less suitable in the Capital Boulevard corridor than in North Hills. Within the two alignments, while there is some development propensity near the corner of New Hope Church Rd and Atlantic Avenue on alignment TTC 2, most of the remaining frontage along New Hope Church Rd between Atlantic Avenue and Capital Boulevard consists of single-family homes in the Brentwood and Greencastle neighborhoods, which limits TOD opportunity.

Capital Boulevard's redevelopment will be more dependent on the timing of BRT implementation and other catalytic activities driven by the public sector, with most of the potentially significant changes in land use configurations occurring in the mid- to long-term. If, for instance, a large parcel immediately adjacent to one of the proposed BRT stations in the TTC 3 corridor were transformed – potentially through a public private partnership – into a mixed-use development, the market could respond by replicating such redevelopment at other sites along Capital Boulevard.

Potential Traffic Impacts of Dedicated BRT Lanes

Traffic volumes were reviewed along the Midtown and TTC Alignments to identify corridors that are currently at or nearing capacity, and to determine how BRT infrastructure would fit within the roadways. The most recent Average Annual Daily Traffic (AADT) volumes from the NCDOT AADT Web Map tool available for use were from 2023, except along St Albans Drive, in which the most recent available data was from 2021. These volumes were compared – as is NCDOT-approved standard practice – against the Florida Department of Transportation (FDOT) Level-of-Service (LOS) Volume Thresholds (FDOT 2023 Multimodal Quality / Level of Service Handbook) to determine how each of these corridors currently operate.

No growth was applied to existing volumes, nor was a road network analysis performed that would model how drivers could choose other, parallel routes. Additionally, weekday peak hour traffic volumes are particularly higher than average volumes for these segments, since many of these corridors experience significant peak hour traffic volumes due to commuter trips between major urban hubs (e.g., downtown Raleigh, North Hills, and Triangle Town Center) paired with relatively heavy residential development in-between. Poor intersection performance along these corridors may also lead to lower traffic volumes, as these factors may limit corridor progression and push drivers to use alternative routes. It is recommended that after the alignments are selected, peak hour traffic volumes be further evaluated as a part of the preliminary BRT design.

Along the segments included in the Midtown Alignments, there are a few corridors that are currently near capacity (including Capital Boulevard from Wake Forest Road to Lane Street, Six Forks Road from Dartmouth Road to I-440, and Wake Forest Road from Saint Albans Drive to I-440), but most segments were determined to be under capacity without the BRT in place. The Wake Forest Road ramps at Capital Boulevard were noted to be currently over capacity based on the AADT.

If the BRT is established in accordance with the proposed alignment plans and existing daily traffic volumes, half of the segments would be anticipated to be over capacity (including existing over capacity segments as well as Atlantic Avenue from Six Forks Road to Capital Boulevard, Six Forks Road from I-440 to Atlantic Avenue, and Wake Forest Road from Mills Street to Capital Boulevard), with one additional segment nearing capacity as compared to existing conditions (Wake Forest Road from I-440 to Wake Towne Drive).

In the TTC alignments, a few segments along Capital Boulevard were identified to be over capacity under both existing conditions and conditions with the BRT alignment (Capital Boulevard from I-440 to Ashton Square). There were also a few segments identified to be nearing capacity under existing conditions, including New Hope Church Road and the segment of Capital Boulevard from North New Hope Road to Sumner Blvd. According to the proposed alignment plans, and existing daily traffic volumes, most segments would be anticipated to be over capacity once BRT is established. This includes Capital Boulevard from Crabtree Boulevard to Ashton Square and Atlantic Avenue from Capital Boulevard to New Hope Church Road.

BRT is made better and more competitive (relative to automobiles) when it can bypass traffic congestion through dedicated lanes and other infrastructure. Without widening roadways in congested areas, this infrastructure must take away space currently utilized by automobiles. Since this study used existing traffic volumes instead of performing a detailed traffic analysis that would divert some traffic to alternative routes in the traffic model, many road segments along the alignments would experience greater congestion after BRT implementation, though in some corridors (i.e., TTC 3) these roadways are already over capacity.

Within this initial assessment of potential traffic impacts, given that the TTC 3 corridor is already highly congested and over capacity in several segments, adding BRT to the TTC 3 alignment introduces the least risk that additional miles of roadway will become congested to a level exceeding capacity.

Table 22 Miles of Roadway That May Exceed Capacity with BRT Implementation and Total Miles of Dedicated Lanes by Alignment

Alignment	Miles of roadway that might move from Under Capacity to Over Capacity with BRT Implementation	Miles of Dedicated BRT Lanes Assumed in Alignment
Midtown 1	3.66	6.29
Midtown 5	1.28	5.90
Midtown 6	2.22	6.45
TTC 2	2.74	9.28
TTC 3	0.79	8.01

The traffic analysis work in this study is preliminary, and more detailed work will be conducted in future study phases.

For more information, refer to the Average Annual Daily Traffic Evaluation: Midtown & Triangle Town Center Alignments Memo included in **Appendix C**.

Public Engagement Phase 3

In Fall 2025, the City of Raleigh hosted multiple Wake BRT program events, including three in-person open houses to gather public input on the Northern corridor route alignments. Simultaneously, the project launched a 10-question survey, via PublicInput.com, focused on the Northern corridors. These opportunities aimed to provide the public with updated information on the Northern Corridor Major Investment Study (MIS) Bus Rapid Transit (BRT) project.

Broader Wake BRT Events + Northern Corridor BRT Open Houses

At every event, attendees were provided an opportunity to speak with the Project team, ask questions, identify issues of concern, and submit comments about the identified alternatives for two BRT routes connecting Downtown Raleigh with Midtown and Triangle Town Center. Attendees were able to view an overview of the Wake Bus Rapid Transit (BRT) Northern Corridor project and provide feedback on their preferred Northern corridor route alignments. Events were located at community centers within the study area that have access to existing transit service.

Table 23 Public Engagement Phase 3 Fall 2025 Meeting Dates and Locations

Meeting	Date & Time	Location	GoRaleigh Transit Service
Broader Wake BRT Events			
BRT Program Open House	Monday, September 22, 2025, 4:00 – 6:00 p.m.	John Chavis Memorial Park, 505 Martin Luther King Jr. Boulevard, Raleigh, NC 27601	Routes: 19, 20, 5, 4, 100, 5, 9, 20A, 11
“New Service is Coming” Tabling Event	Friday, September 26, 2025 10:00 – 11:00 a.m.	GoRaleigh Station, 214 S Blount St, Raleigh, NC 27601	Routes: 15, 18, 19, 12, 4, 100, 9, 16, 21, 300, 17, 5
Northern Corridor BRT Open Houses			
Downtown Raleigh to Triangle Town Center	Thursday, October 2, 2025 5:00 pm – 7:00 pm	Green Rd Community Center, 4201 Green Road, Raleigh, NC 27604	Routes: 24L, 23L, 1, 2
Downtown Raleigh to Midtown Raleigh	Monday, October 6, 2025 5:00 – 7:00 p.m.	Five Points Center for Active Adults, 2000 Noble Road, Raleigh, NC 27608	Routes: 2, 6

Like Public Engagement Phase 2 (in October 2025) project staff gathered data using comment forms, an online survey, and an interactive map activity that allowed members of the public to provide direct input on where they “live, work, and play” along each of the route alignments. Data from discussions with project staff, comment forms, and map activity identified clear trends in how participants chose alignments within the two routes. These engagement boards can also be found in **Appendix A**.

Figure 25 Public Engagement Phase 3 Meeting Photos



Results indicated that attendees preferred alignment 6 for BRT service to Midtown, and alignment 3 for BRT service to Triangle Town Center

Table 24 Public Alignment Preferences from Engagement Phase 3 Meetings

Northern Corridor Routes	Public Alignment Preference	% In favor
Downtown Raleigh to Midtown Raleigh	Midtown 6	50% supported Midtown 6 <i>Results from 24 participants</i>
Downtown Raleigh to Triangle Town Center	TTC 3	67% supported TTC 3 <i>Results from 21 participants</i>

Online Survey

The survey, “**Help Choose a Route for Northern Bus Rapid Transit (BRT)**”, was launched on October 2, 2025 and open through October, 31, 2025. Questions were focused on ridership frequency and purposes, bus service priorities, evaluation criteria priorities, preferences for amenities, frequented destinations in the study area, preferred alternatives, and voluntary demographic identifiers.

While results were similar to data gathered from the open house events for the public’s preference of alignment 3 for BRT service to Triangle Town Center, they differed for the preferred route connecting Downtown Raleigh with Midtown.

Table 25 Public Alignment Preferences from Fall 2025 Online Survey

Northern Corridor Routes	Public Alignment Preference	% in favor
Downtown Raleigh to Midtown Raleigh	Midtown 1	40% supported Midtown 1
Downtown Raleigh to Triangle Town Center	TTC 3	46% supported TTC 3

Results from 106 Responses

Online Comment Themes

Feedback from participants in the online survey resulted in the following themes:

- High travel patterns along the Downtown to Midtown corridor compared to the Downtown to Triangle Town Center corridor
- Most rely on driving to reach destinations within both corridors
- Most who rely on GoRaleigh bus service use public transit for commuting to work or for recreational/event purposes
- Lighting, sidewalks, and marked crossings were amenities that travelers found most important
- Wake Forest Road is among the top preferences for travelers connecting to Midtown
- Capital Boulevard is among the top preferences for travelers connecting to Triangle Town Center
- Ease of access to public transit systems is one of the top things influencing use

Some participants noted the following concerns:

- Using public transit is inconvenient because it requires using another mode of transportation, often driving, to access stations
- Bus services do not connect them to the main places they frequent

In-Person Comment Themes

Many of the themes from the online survey were reflected in comments received by those who were able to attend the in-person open house events and participate in interactive activities. Feedback that differed from online results reflects the following themes:

- Participants recommended adding other recreational opportunities, such as an indoor skate park, near route connections
- Atlantic Avenue Road is a top preference for travelers connecting to Midtown
- Top destinations within both study area corridors were Iron Works, North Hills, and Capital Square Shopping Center
- Participants recommended routes specifically focused on night service to accommodate night-life and late-night events

Some participants noted the following concerns:

- Six Forks Road is narrow so there is concern for the dedicated spacing for buses and stations
- Readily accessible information regarding funding

Public Engagement Phase 3 Meeting Boards and Materials

Figure 26 Phase 3 Public Meeting Board - What is Bus Rapid Transit?

WAKE BRT: NORTHERN CORRIDOR

What is Bus Rapid Transit?

BRT is a fast, reliable bus service. If you miss a bus, your next ride is never far behind!



Key features of BRT are:



What is the Northern Corridor Major Investment Study (MIS)?

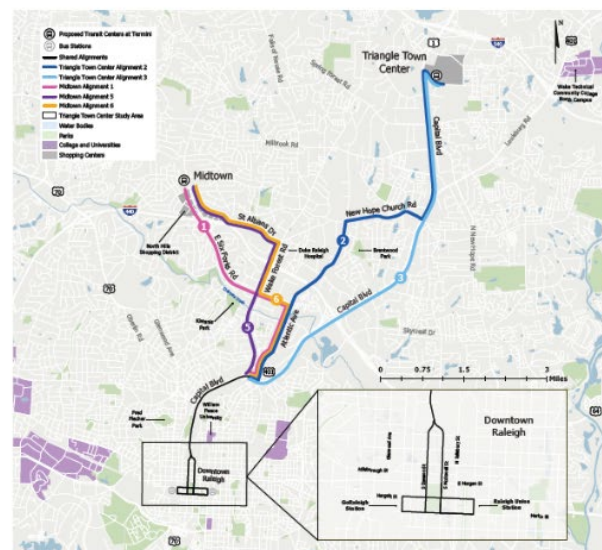
The Major Investment Study is analyzing the preferred route options and investments to connect our growing region.

The City is planning two Bus Rapid Transit Routes in North Raleigh. These routes will connect Downtown Raleigh to Midtown and Triangle Town Center.

MIS Evaluation Process

- Start - Review prior plans and candidate alignments
 - Fatal flaw roadway analysis
 - Tier 1 evaluation of route options
 - Community/stakeholder input (Fall 2023)
 - Tier 2 detailed evaluation of preferred route options
 - Community/stakeholder update (Fall 2025)
 - Result - Final routes (Locally Preferred Alternatives) for Midtown and Triangle Town Center (Winter 2026)
- We are here

Major Investment Study Area



WAKE BRT: NORTHERN CORRIDOR ENGAGEMENT ACTIVITY

Please choose two of the color-coded sticky notes, write down the number of the route, and why you picked the option for Midtown and the option for Triang/Town Center (TTC).

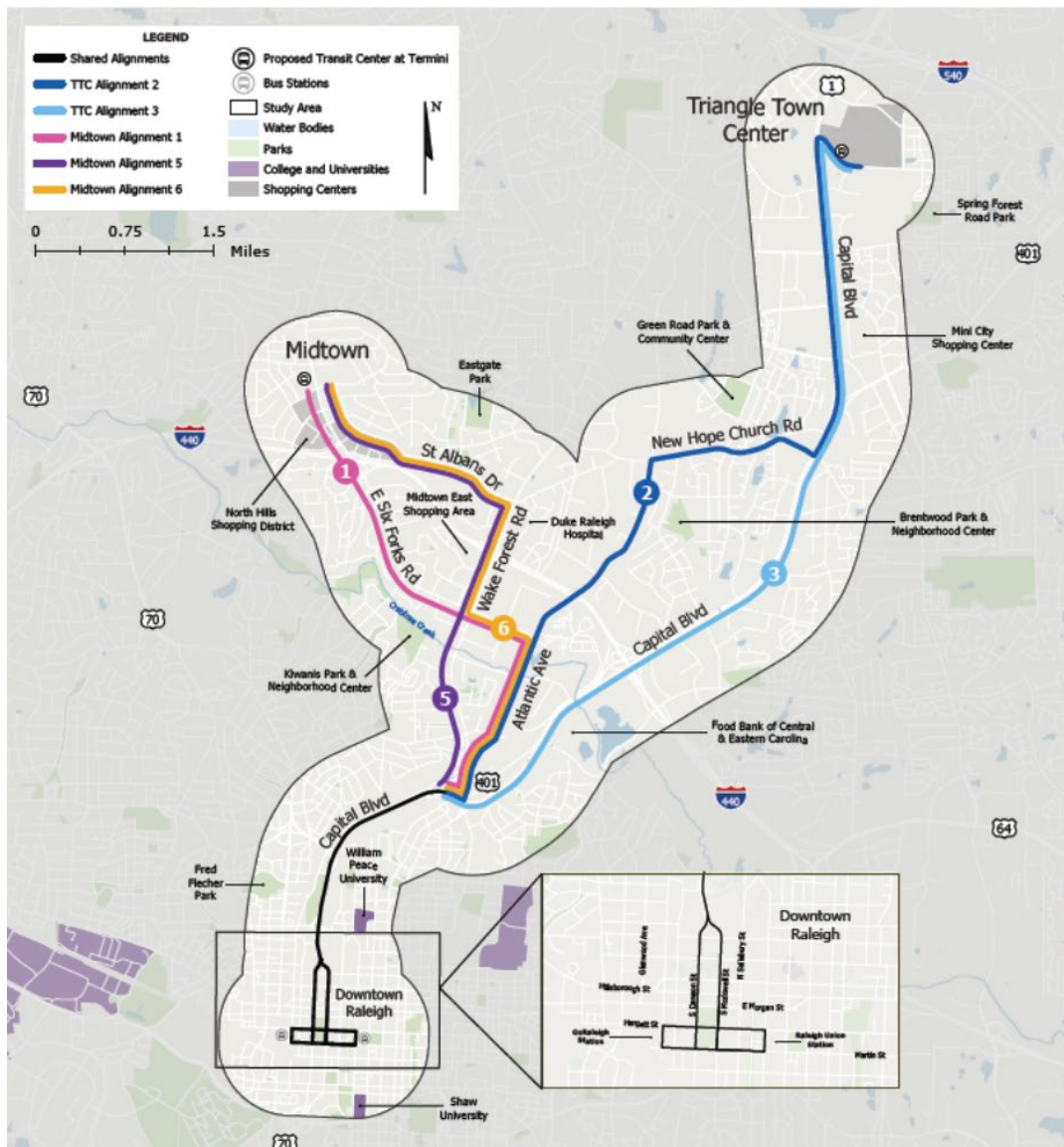


Figure 28 Phase 3 Public Meeting Fact Sheet Handout - Detailed Evaluation Categories

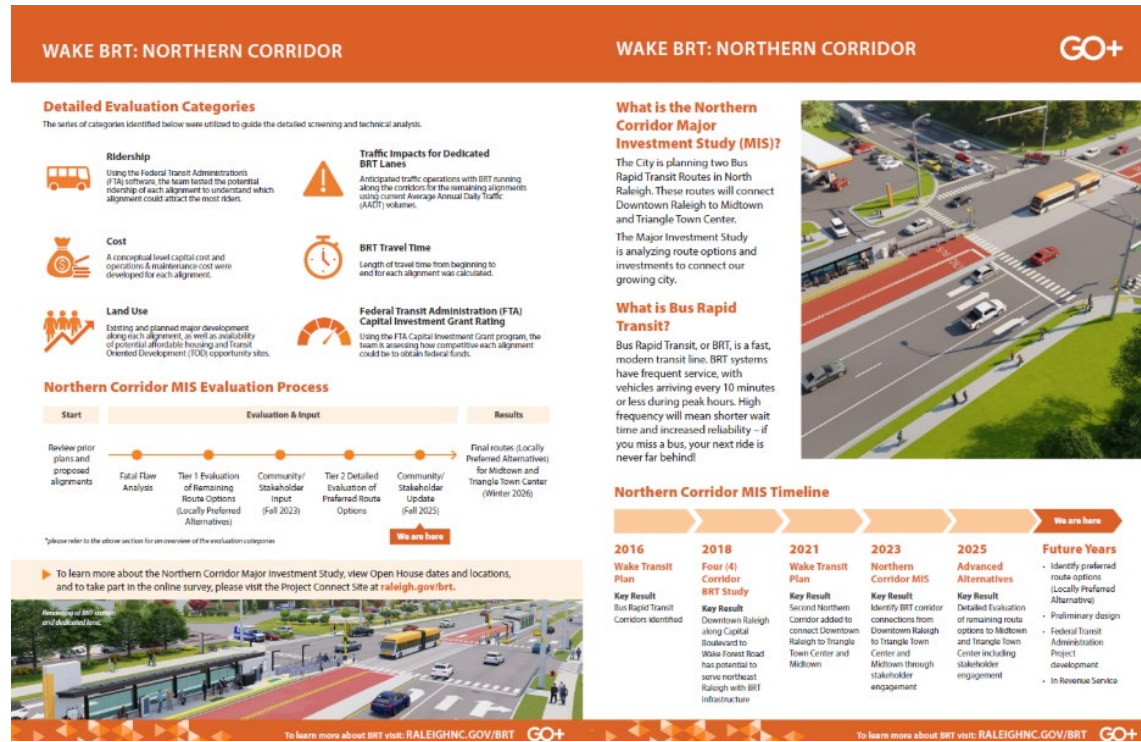
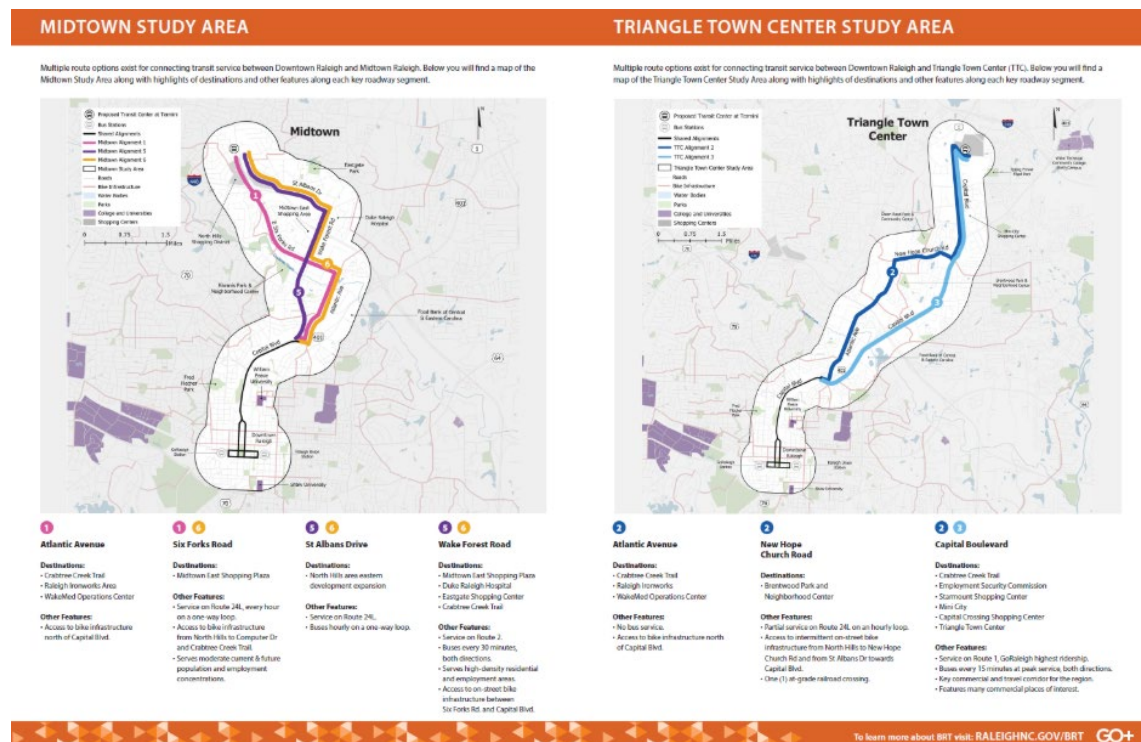


Figure 29 Phase 3 Public Meeting Board - Midtown and Triangle Town Center Study Areas



Results and Recommendations

Midtown Corridor Discussion

Within the Midtown corridor, the Midtown 5 and 6 alignments show significant advantages over the Midtown 1 corridor.

Ridership: Midtown 5 attracts the most riders in the model with 1,822 daily projected riders. Midtown 6 attracts 1,624 riders (89% of Midtown 5) whereas Midtown 1 attracts 1,370 riders (75% of Midtown 5).

Traffic Impacts: Midtown 5 has 1.28 miles of roadway that may move from under capacity to over capacity with BRT construction, while Midtown 6 has 2.22 miles. Midtown 1 has more roadway miles with traffic impact risk than the other two alignments combined, at 3.66 miles.

Travel Time: Midtown 5 has the shortest projected travel time of the three alignments, and Midtown 6 has the longest projected travel time. However, the total difference in travel time (between Downtown and Midtown) across all three alternatives is less than 4 minutes.

Cost: Capital Cost and Operating Cost estimates across all three alignments are so similar that cost is not a distinguishing factor when choosing between the Midtown alignments.

CIG Scoring: In testing each of the three Midtown alignments against the FTA's CIG criteria, all three alignments scored Medium-Low, which means they are far less competitive for federal funding than the Triangle Town Center corridor alignments, especially TTC 3.

While Midtown 5 equals or slightly outperforms Midtown 6 across the above metrics, Midtown 6 has two key strengths that differentiate it:

- Midtown 6 has the highest development opportunity potential of any of the Midtown or TTC corridors. Midtown 6 also has the highest percentage of roadway miles under direct City of Raleigh control among the Midtown alternatives, which may be crucial to implementing dedicated lanes and other BRT infrastructure.
- Midtown 6 also passes by the future S-Line Mobility Hub proposed for the land north of East Six Forks Rd and east of Industrial Drive. This is the only opportunity in the near future to create a connection between BRT and intercity passenger rail in the City of Raleigh outside of downtown.

During in-person meetings where the detailed alternative results were shared, the public expressed a preference for the Midtown 6 alignment. This preference was rooted in the wider variety of destinations that Midtown 6 offers along the route compared to Midtown 5. These additional destinations were decided to provide a bigger benefit to the route even after considering the longer travel time for buses on Midtown 6 compared to Midtown 5.

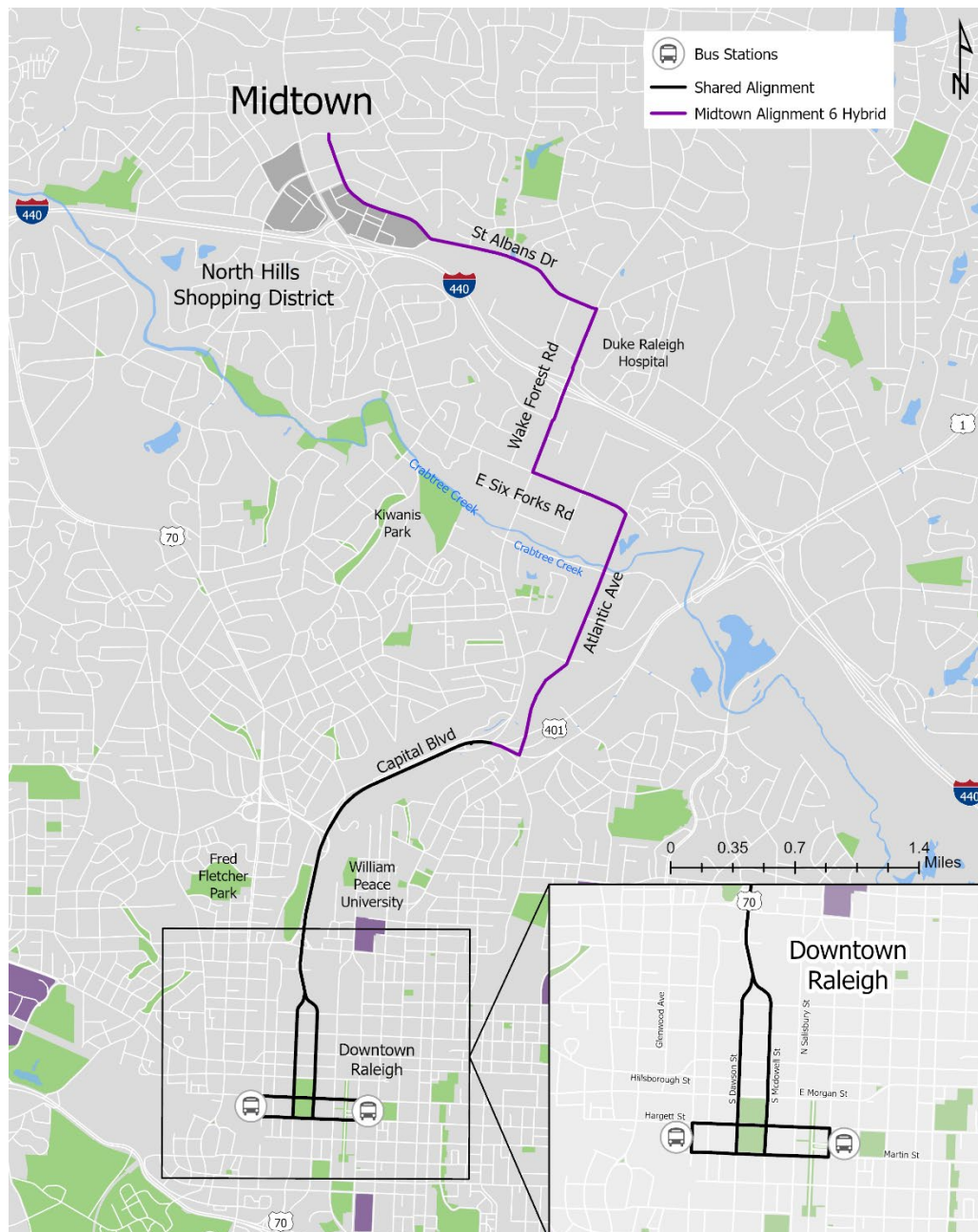
In the online surveys, Midtown 1 received the most support at 40% of respondents, and each of the two other Midtown alternatives were preferred by at least 25% of respondents.

Locally Preferred Alternative (LPA) recommendation for Midtown 6

This study recommends the Midtown 6 alignment be selected as the Locally Preferred Alternative for the Midtown corridor due to the factors listed below:

- Ridership is a close second to the top alignment
- Excellent development opportunities
- Significant City right-of-way control
- Moderate traffic impact risk
- Potential intercity rail connectivity

Figure 30 Midtown 6 - Locally Preferred Alternative for Midtown Corridor



Triangle Town Center Corridor Discussion

Within the Triangle Town Center corridor, the TTC 3 alignment shows several distinct advantages over the TTC 2 alignment.

Ridership: The TTC 3 alignment has the highest horizon year ridership by a significant margin, with a projected 6,825 daily riders, as opposed to 4,060 for TTC 2.

Travel Time: A bus on the TTC 3 alignment makes the trip between downtown and Triangle Town Center approximately 3 minutes faster than a bus on the TTC 2 alignment.

Traffic Impacts: The TTC 3 alignment has the potential to move 0.79 miles of roadway from under capacity today to over capacity when BRT is implemented, while TTC 2 has the potential to move 2.74 miles of roadway from under to over capacity. This is because the TTC 3 alignment is already significantly more congested than TTC 2. When we consider the overall change in future experience, the driving experience along the TTC 3 alignment simply has less ability to worsen before the roadway reaches gridlock during peak periods.

Land Use: The one metric where TTC 2 outperforms TTC 3 is on land use and development trends. While the TTC 3 corridor has the highest ridership forecast – based on the significant existing bus ridership already in the Capital Boulevard / US 1 corridor – it also had the lowest potential for redevelopment in the qualitative assessment of development attractiveness across all five alignments in the detailed alternatives analysis phase.

Costs: Capital cost and operating costs across TTC 2 and TTC 3 are quite similar, and given the conceptual level of engineering that is appropriate for a study this early in the process, the margin of contingency in the estimate is much larger than the difference in the capital costs. This means that neither capital cost nor operating cost should be considered distinguishing factors when selecting between these alternatives.

Both TTC 2 and TTC 3 received a test rating of Medium-High using the FTA's Capital Investment Grant program evaluation metrics. However, sensitivity testing showed that if the TTC 2 alignment scored slightly weaker than anticipated on economic development, the project could lose the Medium-High rating, whereas even if TTC 3 got the lowest possible score on economic development, the high ridership forecast sustained the Medium-High Rating for TTC 3.

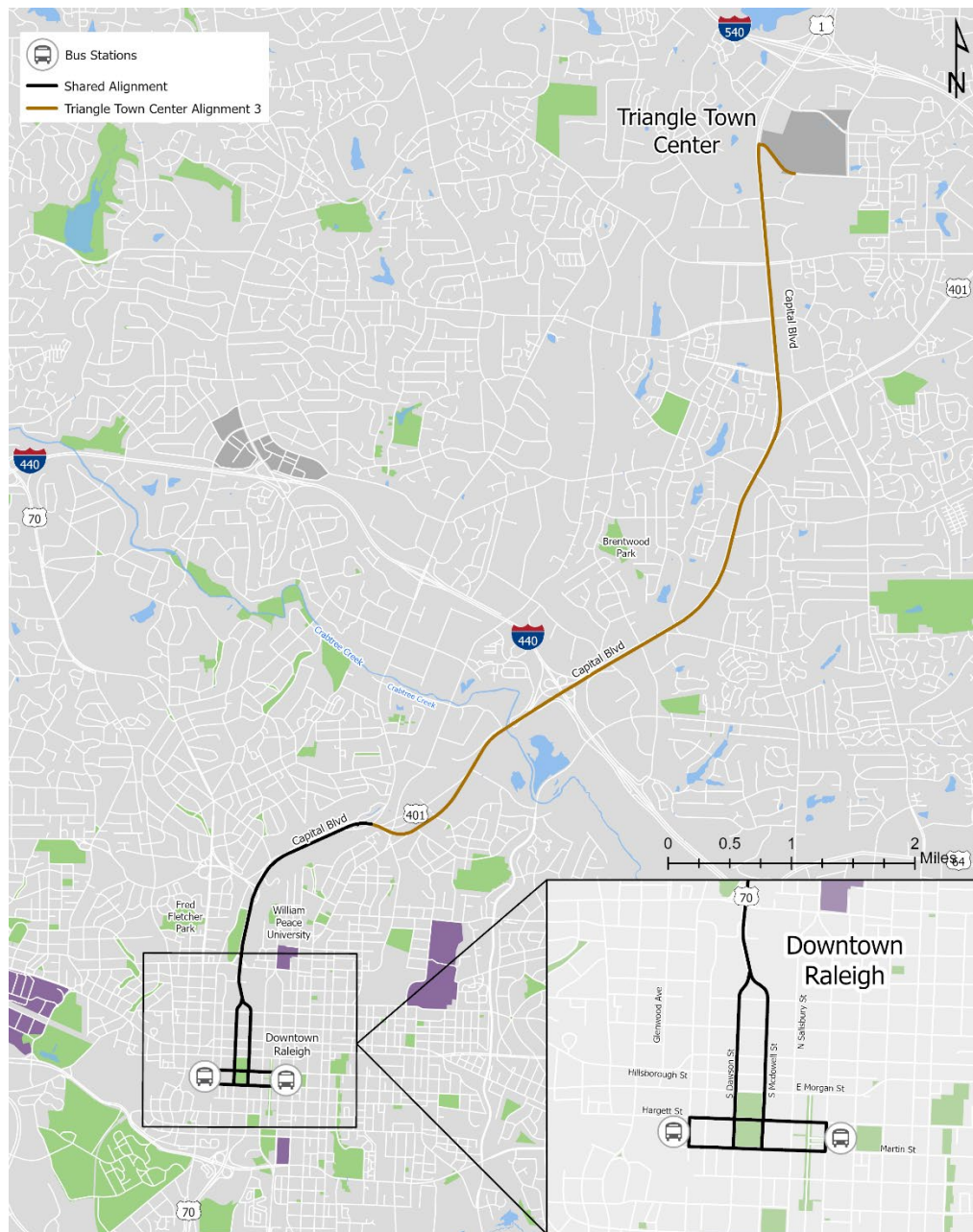
In both the in-person public meetings and online survey that shared the detailed results, members of the public supported TTC 3 as their preferred choice for connecting downtown to Triangle Town Center.

Locally Preferred Alternative (LPA) recommendation for TTC 3

Due to the factors listed below this study recommends **the TTC 3 alignment be selected as the Locally Preferred Alternative** for the Triangle Town Center corridor.

- High ridership
- Faster travel time
- Strong current and projected future population
- Employment densities
- Fewer miles of roadway at risk of moving from under capacity to over capacity

Figure 31 Triangle Town Center (TTC) 3 - Locally Preferred Alternative for Triangle Town Center Corridor



Next Steps, Including Recommendations for Project Development Engineering

Key issues for study in Project Development

For the next phase of study, making effective decisions about whether and how dedicated lanes are incorporated into each cross-section of the alignments will have the most impact to shape the future of the project. The presence or absence of dedicated lanes affects capital cost, bus travel times, traffic interactions, and how the BRT system interacts with other elements of the built environment. Within the downtown section of both the Midtown 6 and TTC 3 alignments, there are compelling reasons to consider the Salisbury/Wilmington pair of north-south streets instead of Dawson/McDowell, and this should be explored in the next phase.

Description of Concurrence Process

A key part of advancing major capital projects like BRT under the Wake Transit Plan is the Concurrence Process managed by the Capital Area Metropolitan Planning Organization (CAMPO).

According to CAMPO:

“The Wake Transit Concurrence Process was designed to streamline verification of compliance among the broad variety of agencies that have oversight of or bear some other responsibility in regulated resources or other interests that may be impacted by a proposed project. Examples of potentially impacted regulated resources may include land use, existing transportation facilities, historic and cultural resources, wetlands and endangered species, etc.”

As the project sponsor, GoRaleigh will propose a Concurrence Plan to CAMPO and invite participating agencies that have regulated resources or interests that could be impacted by the BRT projects to engage in the Concurrence Process and technical team meetings.

General timeline for Northern Corridor within framework of overall BRT program delivery

The 2035 Wake Transit Plan was adopted by both the CAMPO and GoTriangle governing boards in November 2025. Within the plan, funding is present to advance planning and design work on both the Triangle Town Center and Midtown corridors. The New Bern Avenue BRT is currently under construction and is expected to open in 2030, with the Southern and Western corridors expected to begin operation in 2031 and 2032, respectively. The Triangle Town Center and Midtown corridors are expected to enter construction after the first three BRT lines are built.

Appendices

- Appendix A. Engagement Boards and Fact Sheets
- Appendix B. Conceptual BRT Lane Designs with Disclaimer
- Appendix C. Traffic Analysis
- Appendix D. Downtown Alignments Discussion