

Wake Bus Rapid Transit (BRT): Southern Corridor

Alternatives Selection Memorandum

To: City of Raleigh
 From: WSP
 Date: June 12, 2020
 Subject: Alternatives Selection Memorandum

I. Purpose

The purpose of this memorandum is to summarize the analysis performed to date to provide sufficient information for the selection of a Locally Preferred Alternative (LPA) along the Wake Bus Rapid Transit (BRT): Southern Corridor between Downtown Raleigh and Purser Drive in Garner. This includes endorsement of the LPA by both Raleigh’s City Council and Garner’s Town Council, the recommendation of an LPA from the Wake Transit Concurrence Process and the adoption of the LPA by the Capital Area Metropolitan Planning Organization (CAMPO). The cost estimates presented in this memorandum are draft and subject to change as the project design is further refined.

The six alternatives, shown in Figure 1, evaluated for the Wake BRT: Southern Corridor include:

- Alternative 1 – South Street to South Saunders Street to Wilmington Extension
- Alternative 2 – South Street to South Saunders Street to Fayetteville Road
- Alternative 3 – Martin Luther King Jr Boulevard to South Saunders Street to Wilmington Extension

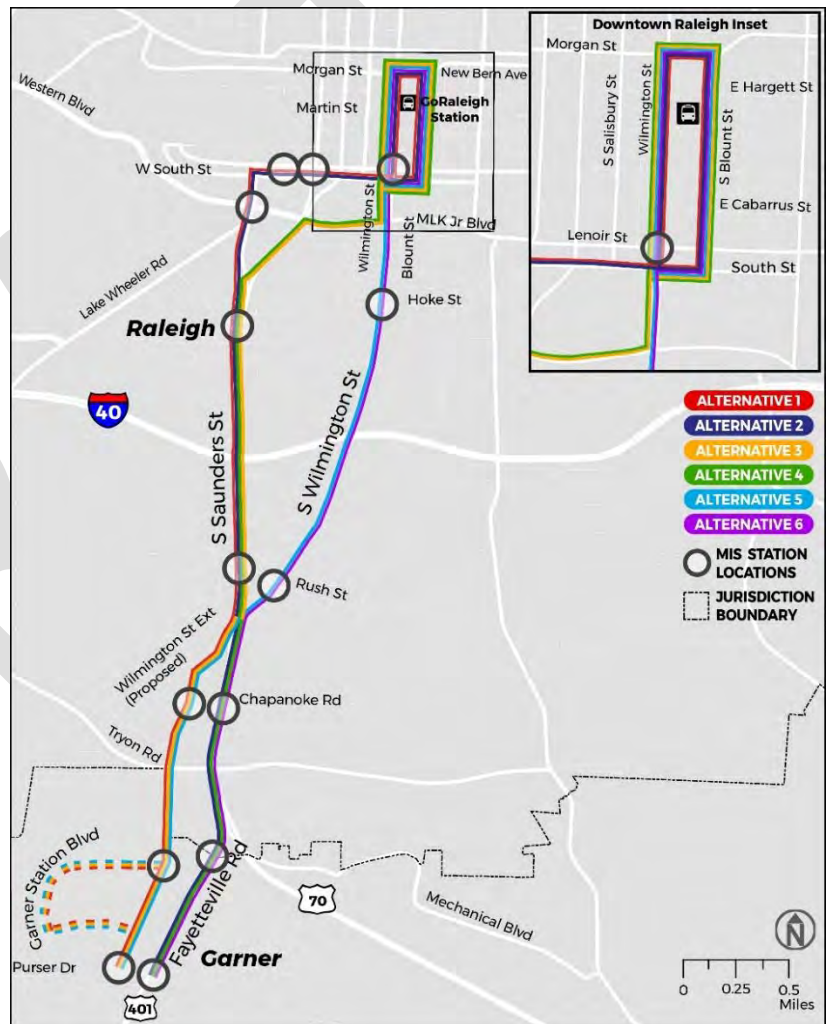


Figure 1: Wake BRT: Southern Corridor Alternatives

- Alternative 4 – Martin Luther King Jr Boulevard to South Saunders Street to Fayetteville Road
- Alternative 5 – South Wilmington Street to Wilmington Extension
- Alternative 6 – South Wilmington Street to Fayetteville Road

The six alternatives were previously identified in the Major Investment Study (MIS) and the dashed lines along Garner Station Boulevard represents routing options between North South Station and Purser Drive in the Town of Garner.

II. Findings

For the northern portion of the corridor, from Downtown Raleigh to the flyover where South Saunders Street and South Wilmington Street merge, the Southern Gateway Corridor Study (SGCS) highlighted the potential conflicts with BRT running along South Saunders Street. The SGCS, the City of Raleigh’s 2030 Comprehensive Plan, and public input support BRT running along South Wilmington Street.

For the southern portion of the corridor, various memorandums noted that there were minimal differences between Alternative 5A and Alternative 5B, but Alternative 5 (both 5A and 5B) and Alternative 6 are different in terms of potential benefits and cost. Alternative 5 is likely to provide the greatest TOD opportunities and more comfortable bicycle and pedestrian environment, but at a higher cost than Alternative 6.

Based on previous planning efforts and the potential benefits, the recommended Wake BRT: Southern Corridor LPA is the South Wilmington Street to Wilmington Extension, identified as Alternative 5 in Figure 1 and Table 1. Alternative 5 would allow for the construction of dedicated BRT lanes and pedestrian and bicycle facilities on a low traffic volume street in the northern portion of the corridor. In the southern portion of the corridor, the Wilmington Extension would allow for the construction of dedicated BRT facilities and general-purpose lanes, as called for in previous planning efforts, greater economic development opportunities and provide a parallel facility to Wilmington Street with lower vehicle speeds and lower traffic volumes.

III. Existing Conditions

The existing conditions along the corridor were evaluated and previous plans for the corridor were reviewed.

The *Wake BRT: Southern Corridor Existing Conditions Analysis* includes a full review of existing conditions along the corridor. The analysis did not identify any fatal flaws that would preclude any of the six (6) alternatives from being selected as the preferred alternative.

The *Wake BRT: Southern Corridor Summary of Existing Plans and Proposed Projects* includes a full review of previous plans and highlighted major plans, including but not limited to, the Wake Transit Plan BRT Major Investment Study (MIS), the City of Raleigh Southern Gateway Corridor Study (SGCS), and the Town of Garner Comprehensive Plan and Transportation Plan.

IV. Engagement Executive Summary

In February and March of 2020, the first round of public meetings for the Wake Bus Rapid Transit (Wake BRT): Southern Corridor were held, with one meeting in Raleigh and one meeting in Garner. The purpose of the meetings was to educate the community on the benefits of BRT, highlight previous planning studies in the area, and present the corridor alternatives. Attendees had the opportunity to discuss the project directly with City of Raleigh and Town of Garner staff and project consultants, participate in activities to provide feedback on priorities, and provide additional feedback on comment forms. The feedback requested from attendees focused on rating priorities for evaluation considerations and categories related to selecting a preferred alternative alignment.

At the public meetings and through the online survey and comment form, participants were asked to respond to two questions regarding evaluation considerations and station locations.

Table 1 shows the combined results of the evaluation considerations collected from the results from the display board activity at the public meetings, and the online survey and paper comment form results.

Table 1 – Results of Evaluation Considerations, Combined Results

How important to you are the following categories for selecting a BRT alignment (choose one for each category)?			
Category	This category is a low priority for me.	This category is a medium priority for me.	This category is a high priority for me.
Availability of Bike and Pedestrian Connections	20	41	113
Potential Number of BRT Riders	11	60	95
Public Support from the Major Investment Study	24	72	64
Economic Development Opportunities	14	47	110
Average Daily Vehicular Traffic Along the Corridor	36	68	72
Total Cost to Construct the BRT	47	81	44
Amount of Right of Way (ROW) Required for BRT	57	83	28
Length of Implementation Timeline	24	70	78

The station location question was a question on both the online survey and paper comment form and the results are shown in Table 2.

Table 2 – Results of Station Locations, Combined Results

Which of the following station locations would best serve your travel needs? (Select up to three locations)	
Station Locations	Number of Selections
(1) GoRaleigh Station	105
(2 & 3) Lenoir Street	26
(4) South Street	39

(5) Western Boulevard	39
(6) Summit Avenue	10
(7) Hoke Street	14
(8 & 9) Rush Street/ Ileagnes Road	24
(10 & 11) Chapanoke Road	22
(12 & 13) Garner Station Boulevard	52
(14 & 15) Purser Drive	35

V. Alternatives Analysis

Northern Section

The Southern Gateway Corridor Study (SGCS) is the most recent planning effort by the City of Raleigh along the Wake BRT: Southern Corridor and identified South Wilmington Street, from Downtown Raleigh to the flyover where South Saunders Street and South Wilmington Street merge, as the preferred alignment for the northern portion of the Wake BRT: Southern Corridor. South Saunders Street did not meet the planning intention of the Wake BRT: Southern Corridor, due to high traffic volumes and concerns over bicycle and pedestrian safety. The City of Raleigh’s 2030 Comprehensive Plan also identifies South Wilmington Street as a BRT Corridor. In addition to the technical analysis from the SGCS that ruled out South Saunders Street, the feedback from public engagement show a preference of South Wilmington Street over South Saunders Street for the northern portion of the corridor. During the MIS public engagement, 49 percent of respondents preferred South Wilmington Street alignment, compared to 25 percent for the South Saunders Street/Lenoir Street/West Street routing and 29 percent for the South Saunders Street/McDowell Street routing. South Wilmington Street is also supported by information gathered at public engagement efforts that took place in February and March 2020. The online and in-person survey for this round of engagement asked participants to identify how important each of the below evaluation consideration category was to them for selecting a BRT alignment: high, medium, or low priority. Table 2 below shows that the availability of bike and pedestrian connections, along with economic development opportunities were the categories that ranked as a high priority for the greatest number of participants, which are key characteristics of South Wilmington Street.

Southern Section

The extent of the southern portion of the Wake BRT: Southern Corridor is between the flyover where South Saunders Street and South Wilmington Street merge in the City of Raleigh, to the north, and Purser Drive in the Town of Garner, to the south. Two alternatives for the southern portion were considered initially:

- Existing Fayetteville Road
 - Alternative 6
 - Proposed dedicated transit lanes
 - Proposed bicycle and pedestrian infrastructure
 - Existing general purpose lanes

- Proposed Wilmington Extension
 - Alternative 5A
 - Proposed dedicated transit lanes
 - Proposed bicycle and pedestrian infrastructure
 - Proposed general purpose lanes

These two alternatives were the only alternatives evaluated for the southern portion during the MIS and during the SGCS, with the SGCS recommending the Wilmington Extension as the preferred alignment. Constructability considerations, not directly addressed in the MIS, were reviewed in the *Wake BRT: Southern Corridor Wilmington Extension Memorandum* and found:

- Previous local plans did not identify funding sources for the proposed Wilmington Extension.
- Additional studies for the proposed Wilmington Extension and flyover recommended by the SGCS have not been started.
- Funding for the proposed Wilmington Extension will likely require a combination of funding sources, not just FTA and Wake Transit Plan funds.
- The current flyover is not scheduled to be replaced within the next 10 years, meaning the cost to modify or replace the bridge require a combination of local funding and BRT transit funding (FTA and Wake Transit Plan funds).
- Without the dedication of land through private redevelopment, the City of Raleigh and Town of Garner would have to acquire all the right-of-way needed for the proposed Wilmington Extension.
- The need to construct the proposed Wilmington Extension on new alignment, as opposed to implementing BRT on existing roadways, could add additional time to the schedule.

The *Wake BRT: Southern Corridor Wilmington Extension Memorandum* highlighted that the findings should not be considered fatal flaws for the project but should be considered prior to selecting a BRT route that includes Wilmington Extension. Additional studies, as recommended by the SGCS, would likely provide more clarity on funding and allow for additional coordination between Town of Garner, City of Raleigh, CAMPO, and NCDOT.

Due to the cost of constructing a new roadway along the Wilmington Extension, the southern portion was evaluated in more detail and a third alternative was identified. The third alternative is like the Wilmington Extension (Alternative 5A), but without general purpose lanes:

- Proposed Wilmington Extension
 - Alternative 5B
 - Proposed dedicated transit lanes
 - Proposed bicycle and pedestrian infrastructure

Further analysis of the three alternatives for the southern portion included evaluating the following criteria:

- Estimated Total Project Cost
- Potential to Require Additional Local Funding Above Wake Transit Plan Monies
- Estimated Potential Right of Way (ROW)
- Potential Development Opportunities

- Estimated Time to Design /Construct
- Known Environmental Red Flags/ Fatal Flaws
- Known Conformity with Prior Planning Efforts
- Potential Bicycle and Pedestrian Comfort
- Potential Transit Rider Comfort and Safety
- Known Public Support (MIS)

Table 3 presents estimated quantitative and qualitative differences between the alternatives to inform agencies, elected officials, and stakeholders during the LPA selection process.

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Table 3: Evaluation Criteria for Southern Portion

Alternative	Alternative 5 (Wilmington Extension Alternative)		Alternative 6 (Fayetteville Road Alternative)
	Alternative 5A	Alternative 5B	Alternative 6
	Wilmington Extension - With General Purpose Lanes	Wilmington Extension - Without General Purpose Lanes	Fayetteville Road
Estimated Total Project Cost**	\$69M - \$90M	\$65M - \$86M	\$36M - \$38M
Potential to Require Additional Local Funding Above Wake Transit Plan Monies	Likely	Possible	No
Estimated Potential Right of Way (ROW)	Mostly partial parcels, some full parcels/buildings	Mostly partial parcels, some full parcels/buildings	Partial parcels
Potential Development Opportunities	Great; Can Create New Transit Oriented District	Great; Can Create New Transit Oriented District	Limited; Existing Auto Oriented Land Use
Estimated Time to Design /Construct	5-8 years	5-8 years	4-6 years
Known Environmental Red Flags/ Fatal Flaws	None	None	None
Known Conformity with Prior Planning Efforts	Southern Gateway Corridor Study; Raleigh Comprehensive Plan	Southern Gateway Corridor Study; Raleigh Comprehensive Plan	None
Potential Bicycle and Pedestrian Comfort	Lower vehicle speed, lower traffic volumes; fewer travel lanes to cross	No vehicular traffic; fewest number travel lanes to cross	Higher vehicle speeds, higher traffic volumes; largest number of travel lanes to cross
Potential Transit Rider Comfort and Safety	Lower vehicle speed, lower traffic volumes; opportunity for TOD development	No vehicular traffic; opportunity for TOD development	Higher vehicle speeds, higher traffic volumes; limited pedestrian access to transit
Known Public Support (MIS)	52%	N/A*	48%

*The MIS did not consider the Wilmington Extension without general purpose lanes.

** Cost estimates presented in this memorandum are draft and subject to change as the project design is further refined.

The analysis included in the *Wake BRT: Southern Corridor Scenarios for Southern Portion Memorandum*, highlighted the differences between Alternative 5 and Alternative 6, after recognizing minimal differences between Alternative 5A and Alternative 5B.

The Wilmington Extension alternatives (Alternative 5A and Alternative 5B), both with and without general purpose lanes, would likely have the highest costs and require the most time to acquire ROW and construct. They are also likely to offer the greatest TOD opportunities, based on Future Land Use Maps (FLUM), and the potential for larger scale economic development projects. The Wilmington Extension would also provide a new parallel connection to Wilmington Street, that could provide more direct access to businesses and a more comfortable bicycle and pedestrian environment. In addition to the analysis above, a separate memorandum (*Wake BRT: Southern Corridor Potential ROW Estimates along Wilmington Extension and Fayetteville Road*) was developed to determine the potential number, location, and areas of properties within the City of Raleigh (COR) and Town of Garner (TOG) planning jurisdictions that are located within the potential right-of-way (ROW) of the proposed Wake BRT: Southern Corridor. The memorandum found that the ROW estimates were very similar between Alternative 5A and Alternative 5B. The cost estimates presented in this memorandum are draft and subject to change as the project design is further refined.

The Fayetteville Road alternative (Alternative 6) would likely have the lowest cost and require less time to acquire ROW and construct the project. Due to the nature of existing auto oriented development along Fayetteville Road, and based on FLUM, there is likely to be the least opportunity for TOD development. Fayetteville Road also has higher vehicle speeds, that are undesirable for pedestrians and cyclists, and the widest cross section for transit riders to cross when accessing BRT stations, making it a less comfortable environment than the Wilmington Extension.

VI. Conclusion

For the northern portion of the corridor, from Downtown Raleigh to the flyover where South Saunders Street and South Wilmington Street merge, the Southern Gateway Corridor Study (SGCS) highlighted the potential conflicts with BRT running along South Saunders Street. The SGCS, the City of Raleigh's 2030 Comprehensive Plan, and public input support BRT running along South Wilmington Street.

For the southern portion of the corridor, Figure 2 shows the alignments of each three alternatives, with both Wilmington Extension alternatives sharing the same alignment. Various memorandums noted that there were minimal differences between Alternative 5A and Alternative 5B, but Alternative 5 (both 5A and 5B) and Alternative 6 are different in terms of potential benefits and cost. Alternative 5 is likely to provide the greatest TOD opportunities and more comfortable bicycle and pedestrian environment, but at a higher cost than Alternative 6.

Based on previous planning efforts and the potential benefits, the recommended Wake BRT: Southern Corridor LPA is the South Wilmington Street to Wilmington Extension, identified as Alternative 5 in Figure 1 and Table 1. Alternative 5 would allow for the construction of dedicated BRT lanes and pedestrian and bicycle facilities on a low traffic volume street in the northern portion of the corridor. In the southern portion of the corridor, the Wilmington Extension would allow for the construction of dedicated BRT facilities and general-purpose lanes, as called for in previous planning efforts, greater economic development opportunities and provide a parallel facility to Wilmington Street with lower vehicle speeds and lower traffic volumes.

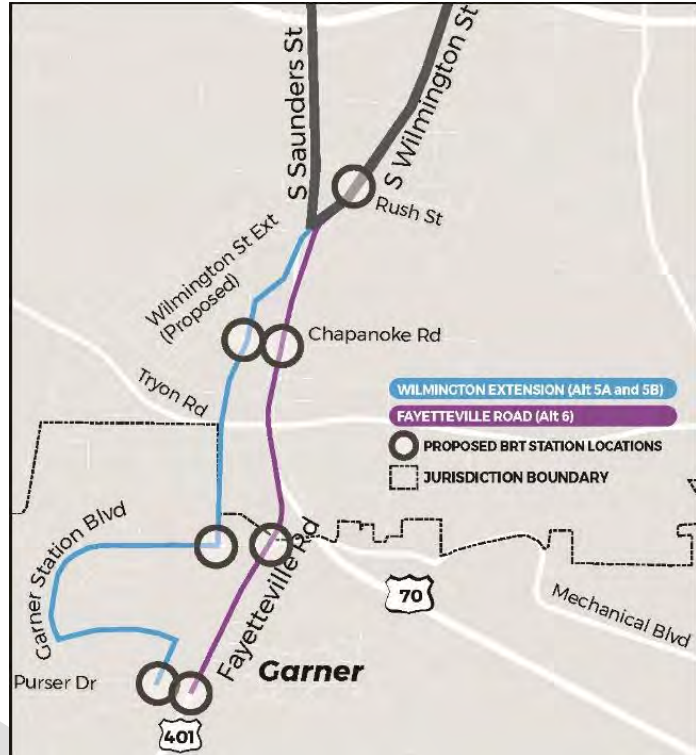


Figure 2: Wake BRT: Southern Corridor Southern Portion

While an LPA selection allows the project to enter the Federal Transit Administration (FTA) project process, the LPA only needs to identify the alignment, mode, and termini of the project and therefore the decision to include general purpose lanes or not along the Wilmington Extension (Alternative 5A vs. 5B) can be decided later. Variations, such as general purpose lanes, could impact project cost but does not materially change the benefits for riders. Further study and refined design work are recommended to provide more detail on the cross section of the alternative, refined routing options, and possibility of grade separations. While Alternative 5 is recommended due to the benefits for BRT operations, there were no fatal flaws identified with Alternative 6.

VII. Appendix

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Wake Bus Rapid Transit (BRT):

Southern Corridor

Existing Conditions Analysis

Memorandum

To: City of Raleigh
From: WSP
Date: 3/20/2020
Subject: Review of existing conditions along the Wake BRT: Southern Corridor

Purpose

The existing conditions memorandum is intended to provide a preliminary review of existing resources and conditions in the vicinity of the Wake Bus Rapid Transit (Wake BRT): Southern Corridor.

Existing conditions and resources reviewed in this analysis include:

- Transit Analysis
 - Transit ridership
 - Socioeconomic Conditions (Population and Employment)
 - Demographics
- Environmental Features
 - Natural
 - Physical
 - Cultural
 - Historic
- Other Considerations
 - Right-of-Way
 - Travel Time

The project study area for this review has been defined as a 500-foot buffer around all six (6) potential alternatives. Besides the Wilmington Extension, which would be on new alignment, the alternatives propose staying within existing right-of-way (ROW) and in areas like Downtown Raleigh, propose staying within the current curb lines. Online databases were used to identify known resources within the project study area; no additional field data was collected to support this analysis. In this analysis, alternative or alignment will be used to describe the individual six (6) potential BRT routes, while corridor will be used to describe the entirety of the project area, encompassing all six (6) potential BRT routes.

Summary

The existing conditions analysis did not identify any fatal flaws that would preclude any of the six (6) alternatives from being selected as the LPA.

Background

The regional vision of the Wake County Transit Plan is to connect Wake County communities via BRT. The plan identified potential alignments for future BRT connecting Downtown Raleigh with the Walmart at Purser Drive in the Town of Garner. The Wake County Transit Plan Major Investment Study (MIS) identified several routing options throughout the Southern Corridor that utilized both existing and proposed roadway facilities. For the northern portion of the corridor from Downtown Raleigh to the convergence of South Saunders Street and South Wilmington Street at US 70, three routing options were proposed including



Figure 1: MIS Alignments

Wilmington Street, South Saunders Street 1, and South Saunders Street 2. Two routing options were provided including Fayetteville Road (US 401) and Wilmington Extension (construction of a new roadway) for the southern portion of the corridor from the convergence of South Saunders Street and South Wilmington Street at US 70 to the Walmart at Purser Drive. When pairing the northern and southern routing options, there are a total of six (6) alternatives for the corridor. Preliminary analysis of the Wake BRT: Southern Corridor is currently underway to identify a preferred alternative corridor for BRT connecting Downtown Raleigh to the Walmart at Purser Drive.

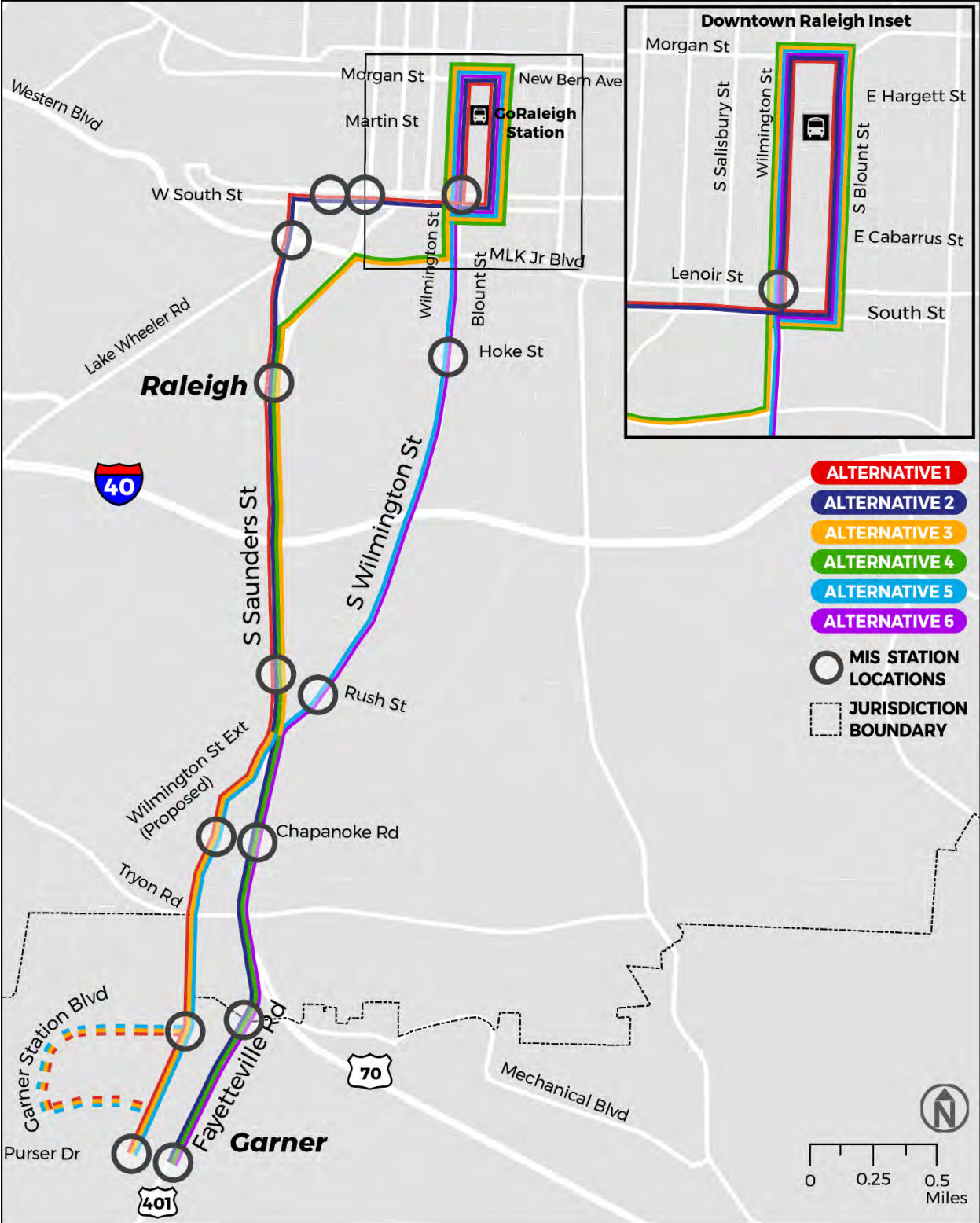


Figure 2: Southern Corridor Alternatives

Optional Southern Terminus Route

The Walmart at Purser Drive is the southern terminus for all Major Investment Study (MIS) routing options. The Town of Garner has experienced recent changes in local development conditions around Garner Station Boulevard that were not accounted for in the MIS, Southern Gateway Study, Town of Garner Transportation Plan, or Town of Garner Comprehensive Plan. The Town of Garner recognized these changes could impact the selection of the Locally Preferred Alternative (LPA) and worked with City of Raleigh to develop an optional southern terminus route, identified with dashed lines in the below map.

The MIS originally identified a route that would go through a portion of existing structures south of Garner Station Boulevard. The proposed optional route would utilize the existing Garner Station Boulevard to circumvent a large portion of these existing structures. Both routes would connect to the southern terminus identified in the MIS.

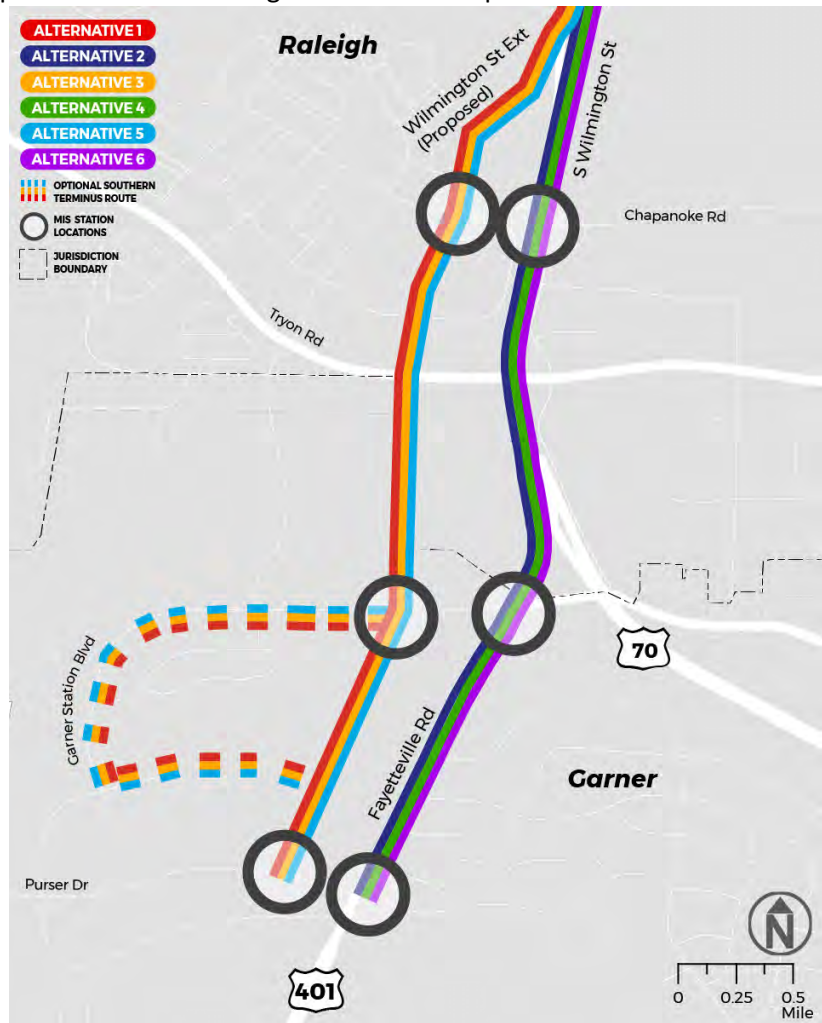


Figure 3: Optional Southern Terminus Route

Initial investigation of the optional route indicates that it would not impact the preliminary review and comparative analysis of potential resources within or adjacent to the full-length MIS alternatives, from Raleigh to Garner. As such, this report, and the accompanying mapping, only present the analysis of the MIS alternatives.

Once the MIS alternative evaluation is complete and an LPA is selected for the entire alignment between Raleigh and Garner, the southern terminus routing will be evaluated in more detail to identify the best routing option that will support the Town of Garner existing and future development conditions and the Wake BRT: Southern Corridor service.

Alternative 1

Alternative 1 is approximately 5.06 miles in length, with a northern terminus at GoRaleigh Station in Downtown Raleigh, and a southern terminus at the Walmart at Purser Drive. Alternative 1 utilizes South Street to exit and enter Downtown Raleigh, then continues along South Saunders Street towards Garner. At the convergence of South Saunders Street and South Wilmington Street at US 70, this alternative would then utilize the Wilmington Extension, which is new roadway, until reaching the southern terminus. Along the Alternative 1 routing, there are 10 proposed BRT stations, shown on Figure 4.

Wake BRT: Southern Corridor

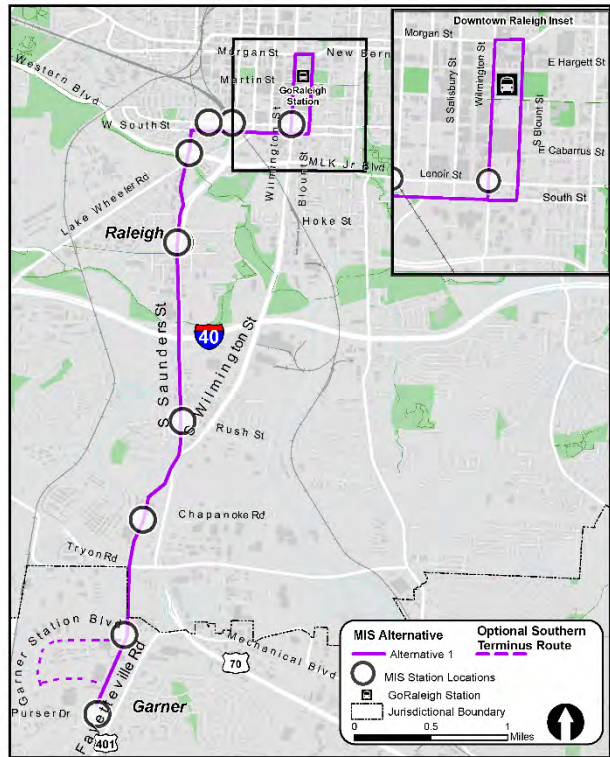


Figure 4: Alternative 1

Alternative 2

Alternative 2 is approximately 5.07 miles in length, with a northern terminus at GoRaleigh Station in Downtown Raleigh, and a southern terminus at the Walmart at Purser Drive. Alternative 2 utilizes South Street to exit and enter Downtown Raleigh, then continues along South Saunders Street towards Garner. At the convergence of South Saunders Street and South Wilmington Street at US 70, this alternative would then utilize Fayetteville Road until reaching the southern terminus. Along the Alternative 2 routing, there are 10 proposed BRT stations, shown on Figure 5.

Wake BRT: Southern Corridor

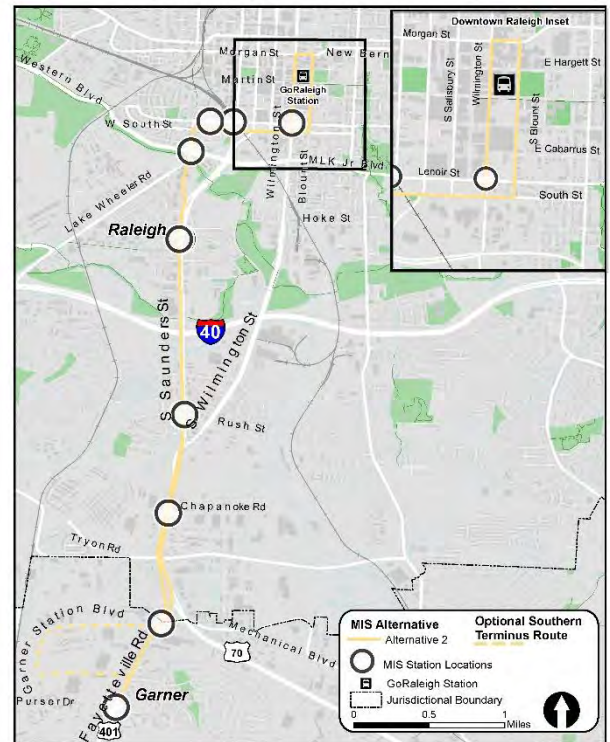


Figure 5: Alternative 2

Alternative 3

Alternative 3 is approximately 5.28 miles in length, with a northern terminus at GoRaleigh Station in Downtown Raleigh, and a southern terminus at the Walmart at Purser Drive. Alternative 3 utilizes Martin Luther King Jr Boulevard to exit and enter Downtown Raleigh, then continues along South Saunders Street towards Garner. At the convergence of South Saunders Street and South Wilmington Street at US 70, this alternative would then utilize the Wilmington Extension, which is new roadway, until reaching the southern terminus. Along the Alternative 3 routing, there are seven (7) proposed BRT stations, shown on Figure 6.

Wake BRT: Southern Corridor

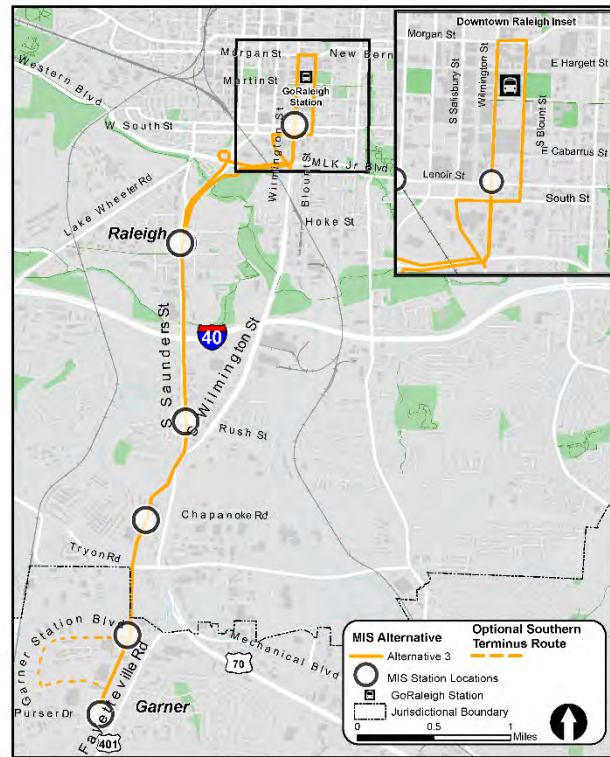


Figure 6: Alternative 3

Alternative 4

Alternative 4 is approximately 5.29 miles in length, with a northern terminus in Downtown Raleigh, at the GoRaleigh Station, and a southern terminus at the Walmart at Purser Drive. Alternative 4 utilizes Martin Luther King Jr Boulevard to exit and enter Downtown Raleigh, then continues along South Saunders Street towards Garner. At the convergence of South Saunders Street and South Wilmington Street at US 70, this alternative would then utilize Fayetteville Road until reaching the southern terminus. Along the Alternative 4 routing, there are seven (7) proposed BRT stations, shown on Figure 7.

Wake BRT: Southern Corridor

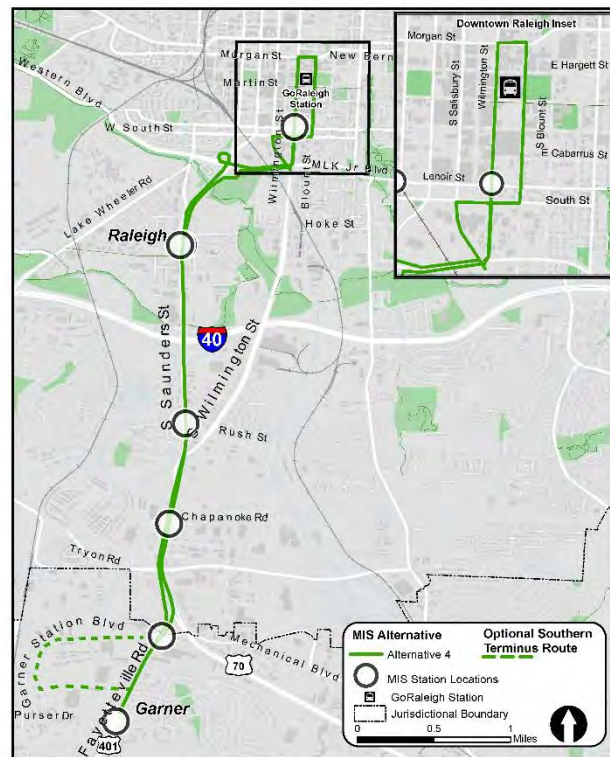


Figure 7: Alternative 4

Alternative 5

Alternative 5 is approximately 4.78 miles in length, with a northern terminus at GoRaleigh Station in Downtown Raleigh, and a southern terminus at the Walmart at Purser Drive. Alternative 5 utilizes South Wilmington Street to exit and enter Downtown Raleigh, then continues along South Wilmington Street towards Garner. At the convergence of South Saunders Street and South Wilmington Street at US 70, this alternative would then utilize the Wilmington Extension, which is new roadway, until reaching the southern terminus. Along the Alternative 5 routing, there are seven (7) proposed BRT stations, shown on Figure 8.

This alternative alignment, called Alternative 5 in this analysis, was the recommended BRT alignment in the Southern Gateway Corridor Study. The Wilmington Extension is also identified on the Raleigh Street Plan map as a proposed 4-lane avenue and shown in the Garner Forward Comprehensive Plan. The Garner Forward Transportation Plan acknowledges BRT along Wilmington Street and development along the Wilmington Street Extension.

Wake BRT: Southern Corridor

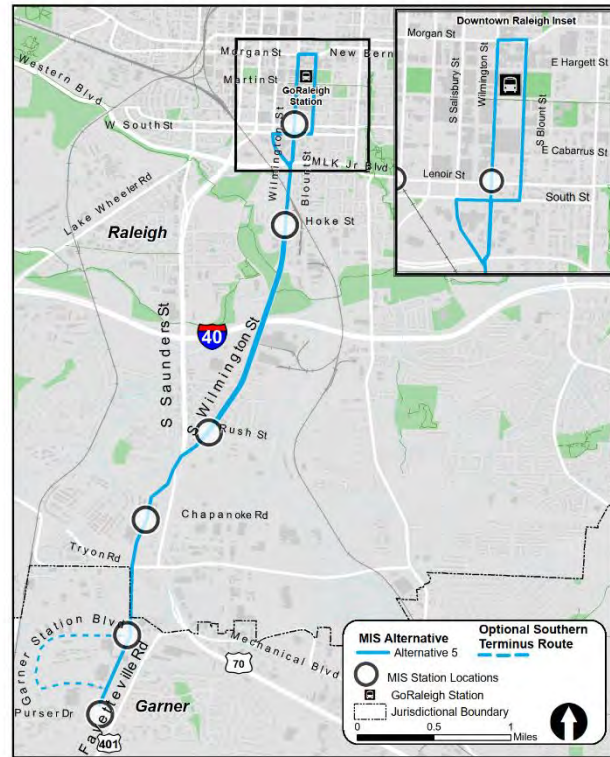


Figure 8: Alternative 5

Alternative 6

Alternative 6 is approximately 4.78 miles in length, with a northern terminus at GoRaleigh Station in Downtown Raleigh, and a southern terminus at the Walmart at Purser Drive. Alternative 6 utilizes South Wilmington Street to exit and enter Downtown Raleigh, then continues along South Wilmington Street towards Garner. At the convergence of South Saunders Street and South Wilmington Street at US 70, this alternative would then utilize Fayetteville Road until reaching the southern terminus. Along the Alternative 6 routing, there are seven (7) proposed BRT stations, shown on Figure 9.

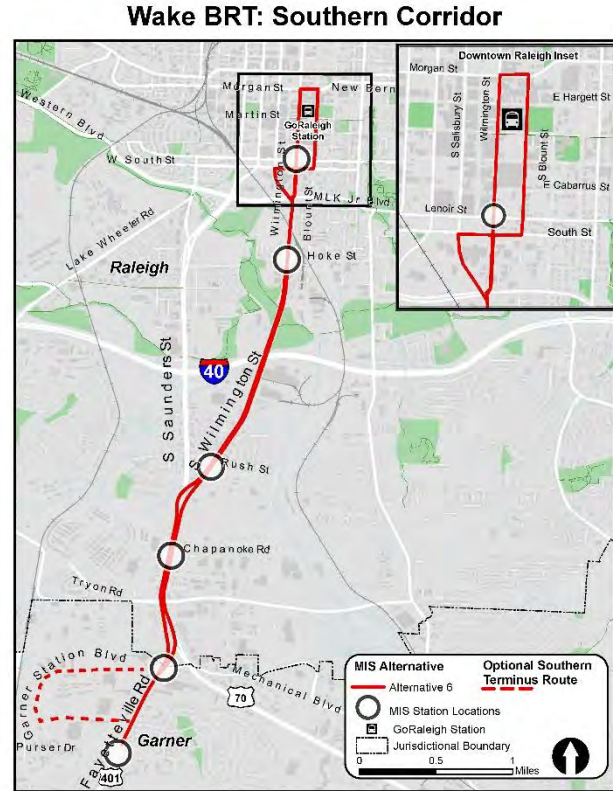


Figure 9: Alternative 6

Transit Analysis

Ridership

A Transit analysis was completed to understand the existing transit conditions along the Wake BRT: Southern Corridor. Currently, GoTriangle and GoRaleigh provide transportation and paratransit services along the corridor. Only routes that serve the corridor south of Downtown Raleigh were identified for this analysis. While many routes cross the corridor in Downtown Raleigh, only the routes that serve larger portions of the corridor were chosen to better understand the transit conditions that currently exist. These routes match the ridership data available from October 2018 and do not correspond to current routes and configurations. It should also be noted that the GoTriangle 102 was replaced in 2019 with the local GoRaleigh Route 20.

GoTriangle has two (2) routes that serve this corridor:

- FRX – (Fuquay-Varina Express) – connects Downtown Raleigh to Fuquay-Varina.
- 102 – connects Downtown Raleigh to Garner at the White Oak Shopping Center.

GoRaleigh has seven (7) routes that serve this corridor:

- 40x – (Wake Tech Express) – connects Downtown Raleigh to Wake Technical Community College.
- 13 – (Chavis Heights) – connects Downtown Raleigh to Shaw University and Chavis Heights.
- 21 – (Caraleigh) – connects Downtown Raleigh to the Farmer’s Market on Lake Wheeler Road.
- 7L – (Carolina Pines Connector) – travels from Tryon Road at Lake Wheeler to Southgate Plaza on Rock Quarry Road.
- 19 – (Apollo Heights) – connects Downtown Raleigh to the WakeMed Campus on Sunnybrook Road.
- 22 – (State Street) – connects Downtown Raleigh to south Raleigh near the Garner Road Community Center.
- 7 – (South Saunders) – connects Downtown Raleigh to Garner at the Shoppes at Garner.

A map showing the existing GoRaleigh and GoTriangle routes is shown in Figure 10.

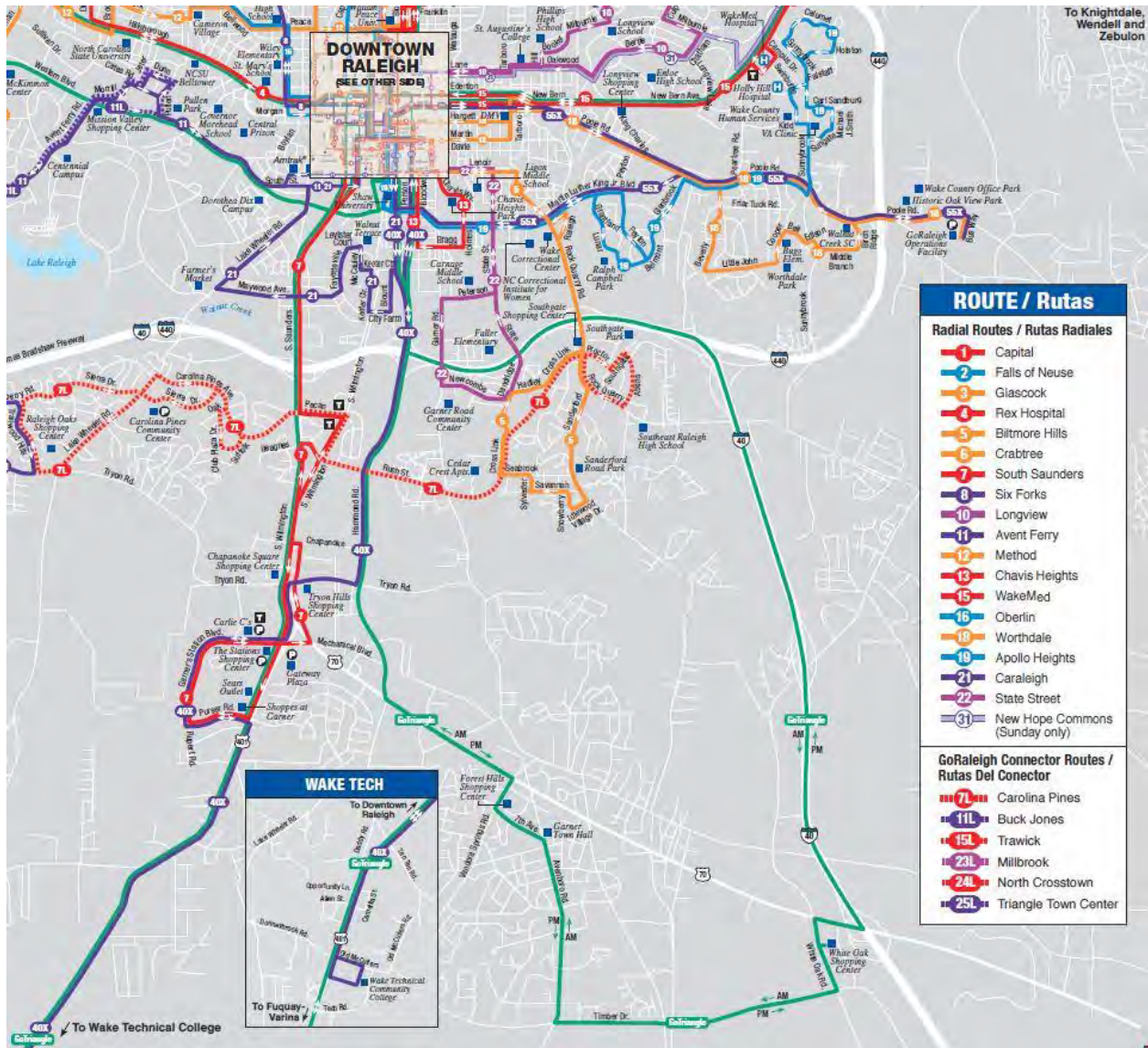


Figure 10: Existing Transit Routes and Stops

To understand potential ridership of the BRT route in the corridor, ridership data from GoRaleigh and GoTriangle from October 2018 were used to generate daily boardings for transit stops used. In total, there are 308 existing transit stops located along the nine (9) routes that serve the six (6) alignment options. At these 308 stations, an average of 3,524 weekday daily boardings were observed in October 2018. Figure 10 displays all the transit stops in the study area segments and the general vicinity. Seventy-seven (77) of these stops are located within a quarter-mile radius of the proposed BRT station locations. The ridership data, along with the proposed BRT station locations and the quarter-mile buffers of the proposed station locations can be seen on Figure 11. Downtown Raleigh was excluded from this analysis. Pockets of high ridership are seen along Wilmington Street, north of Rush Street where GoRaleigh Routes 7 and 22 come together, and in Garner at the Walmart at Purser Drive. Both locations are located along Alternative 5.

Wake BRT: Southern Corridor

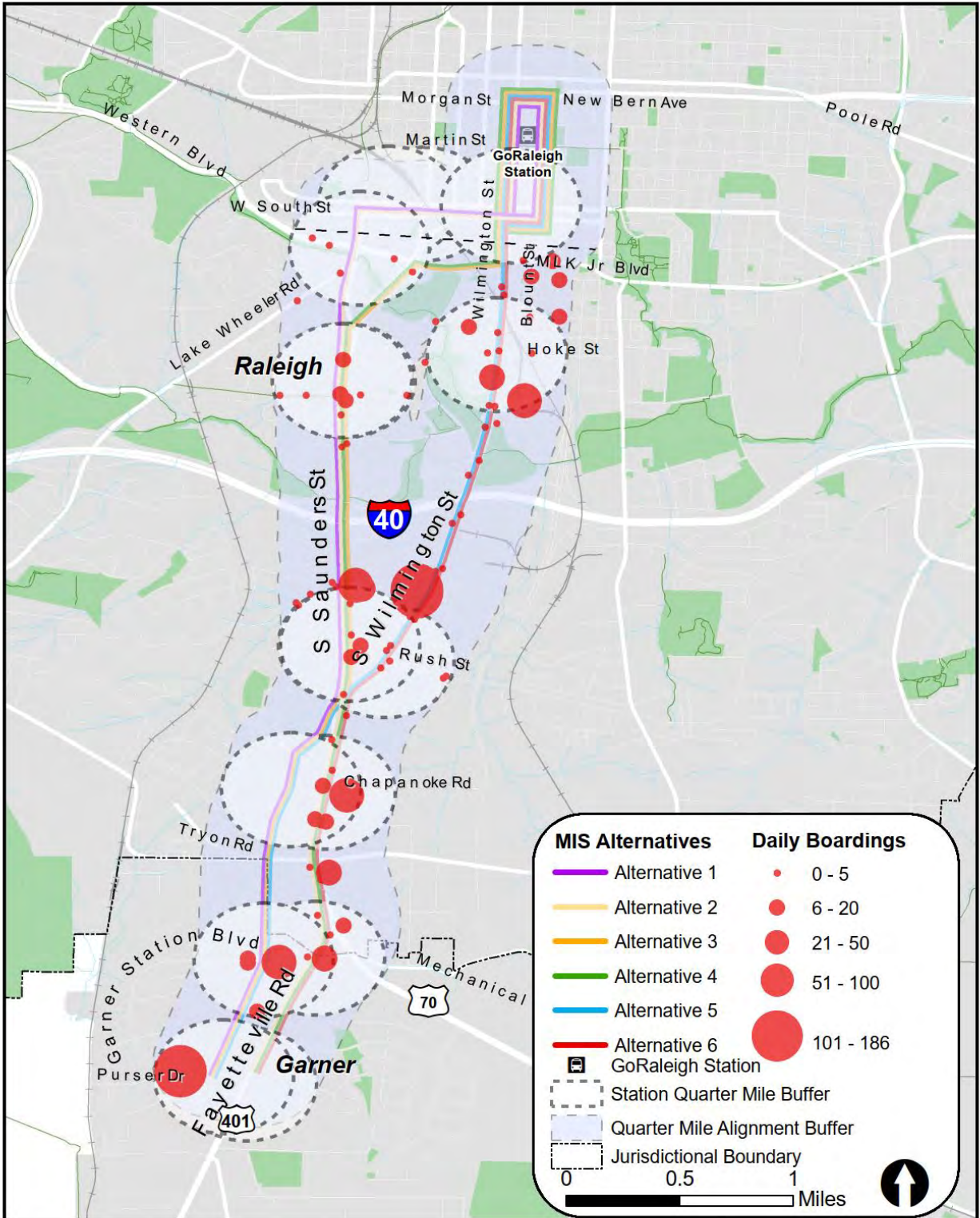


Figure 11: Daily Boardings south of Martin Luther King Jr Boulevard

The below tables highlight existing route total ridership (inside and outside the Southern BRT area), the ridership within a quarter-mile buffer of the proposed BRT alignment, and within a quarter-mile buffer of the proposed BRT stations.

Alternatives 1 and 2 are similar with approximately 12 percent of existing ridership being within a quarter-mile of the buffer of the alignment and 9 percent of existing ridership being within a quarter-mile of proposed BRT stations.

Table 1: Existing Ridership along Alternative 1

Alternative 1						
Agency	Existing Route	Total Route Ridership	Ridership within Quarter-Mile Alignment Buffer	Quarter-Mile Alignment Buffer Ridership Percent of Total Ridership	Ridership within Quarter-Mile Station Buffer	Quarter-Mile Station Buffer Ridership Percent of Total Ridership
GoTriangle	FRX	68	0	0%	0	0%
	102	71	0	0%	0	0%
	Total	139	0	0%	0	0%
GoRaleigh	40X	242	24	10%	24	10%
	13	222	0	0%	0	0%
	21	458	30	6%	28	6%
	7L	99	3	4%	3	3%
	19	585	0	0%	0	0%
	22	407	0	0%	0	0%
	7	1,371	368	27%	268	20%
Total	3,385	425	13%	323	10%	
Grand Total		3,524	425	12%	323	9%

Table 2: Existing Ridership along Alternative 2

Alternative 2						
Agency	Existing Route	Total Route Ridership	Ridership within Quarter-Mile Alignment Buffer	Quarter-Mile Alignment Buffer Ridership Percent of Total Ridership	Ridership within Quarter-Mile Station Buffer	Quarter-Mile Station Buffer Ridership Percent of Total Ridership
GoTriangle	FRX	68	0	0%	0	0%
	102	71	0	0%	0	0%
	Total	139	0	0%	0	0%
GoRaleigh	40X	242	24	10%	24	10%
	13	222	0	0%	0	0%
	21	458	30	6%	28	6%
	7L	99	3	4%	3	3%
	19	585	0	0%	0	0%
	22	407	0	0%	0	0%
	7	1,371	379	28%	267	19%
Total	3,385	436	13%	321	9%	
Grand Total		3,524	436	12%	321	9%

Alternatives 3 and 4 are similar with approximately 20 percent of existing ridership being within a quarter-mile of the buffer of the alignment and 9 percent of existing ridership being within a quarter-mile of proposed BRT stations.

Table 3: Existing Ridership along Alternative 3

Alternative 3						
Agency	Existing Route	Total Route Ridership	Ridership within Quarter-Mile Alignment Buffer	Quarter-Mile Alignment Buffer Ridership Percent of Total Ridership	Ridership within Quarter-Mile Station Buffer	Quarter-Mile Station Buffer Ridership Percent of Total Ridership
GoTriangle	FRX	68	0	0%	0	0%
	102	71	0	0%	0	0%
	Total	139	0	0%	0	0%
GoRaleigh	40X	242	24	10%	24	10%
	13	222	16	7%	0	0%
	21	458	29	6%	7	2%
	7L	99	37	38%	3	3%
	19	585	0	0%	0	0%
	22	407	0	0%	0	0%
	7	1,371	614	45%	268	20%
	Total	3,385	720	21%	302	9%
Grand Total		3,524	720	20%	302	9%

Table 4: Existing Ridership along Alternative 4

Alternative 4						
Agency	Existing Route	Total Route Ridership	Ridership within Quarter-Mile Alignment Buffer	Quarter-Mile Alignment Buffer Ridership Percent of Total Ridership	Ridership within Quarter-Mile Station Buffer	Quarter-Mile Station Buffer Ridership Percent of Total Ridership
GoTriangle	FRX	68	0	0%	0	0%
	102	71	0	0%	0	0%
	Total	139	0	0%	0	0%
GoRaleigh	40X	242	24	10%	24	10%
	13	222	16	7%	0	0%
	21	458	29	6%	7	2%
	7L	99	37	38%	3	3%
	19	585	0	0%	0	0%
	22	407	0	0%	0	0%
	7	1,371	625	46%	267	19%
	Total	3,385	731	22%	301	9%
Grand Total		3,524	731	21%	301	9%

Alternatives 5 and 6 are similar with approximately 23-24 percent of existing ridership being within a quarter-mile of the buffer of the alignment and 11 percent of existing ridership being within a quarter-mile of proposed BRT stations. While there is not a huge difference between all the alternatives, Alternative 5 and 6 have the highest existing ridership numbers.

Table 5: Existing Ridership along Alternative 5

Alternative 5						
Agency	Existing Route	Total Route Ridership	Ridership within Quarter-Mile Alignment Buffer	Quarter-Mile Alignment Buffer Ridership Percent of Total Ridership	Ridership within Quarter-Mile Station Buffer	Quarter-Mile Station Buffer Ridership Percent of Total Ridership
GoTriangle	FRX	68	0	0%	0	0%
	102	71	0	0%	0	0%
	Total	139	0	0%	0	0%
GoRaleigh	40X	242	24	10%	24	10%
	13	222	29	13%	0	0%
	21	458	169	37%	148	32%
	7L	99	38	38%	2	2%
	19	585	0	0%	0	0%
	22	407	0	0%	0	0%
	7	1,371	568	41%	212	15%
	Total	3,385	827	24%	385	11%
Grand Total		3,524	827	24%	385	11%

Table 6: Existing Ridership along Alternative 6

Alternative 6						
Agency	Existing Route	Total Route Ridership	Ridership within Quarter-Mile Alignment Buffer	Quarter-Mile Alignment Buffer Ridership Percent of Total Ridership	Ridership within Quarter-Mile Station Buffer	Quarter-Mile Station Buffer Ridership Percent of Total Ridership
GoTriangle	FRX	68	0	0%	0	0%
	102	71	0	0%	0	0%
	Total	139	0	0%	0	0%
GoRaleigh	40X	242	24	10%	24	10%
	13	222	29	13%	0	0%
	21	458	169	37%	148	32%
	7L	99	38	38%	2	2%
	19	585	0	0%	0	0%
	22	407	0	0%	0	0%
	7	1,371	579	42%	210	15%
	Total	3,385	838	25%	384	11%
Grand Total		3,524	838	24%	384	11%

Existing and Future Population

Existing and future employment trends were analyzed based on the Triangle Regional Model (TRM) Traffic Analysis Zones (TAZ) Data. The existing conditions are represented by 2013 data and future data is projected into 2045. Since some zones fall outside a quarter-mile buffer, the zones were clipped in GIS. The percentage of the zone remaining was then used to find the employment figure in that clipped zone. Future population rates are expected to almost double in every alternative. In 2013, population is scattered throughout the study area. However, in 2045 higher population densities are expected in the Downtown Raleigh. Current population conditions per alternative range from 6,131 (Alternative 6) to 7,184 (Alternative 3). Table 7 shows the current and projected employment figures for all six (6) alternatives. Future population conditions per alternative range from 11,720 (Alternative 6) to 13,068 (Alternative 1). All six (6) alternatives are similar to each other in terms of future population and no alternative appears to support a substantially higher population than the other alternatives.

Table 7: Existing and Future Population Data

	Existing Population	Future Population (2045)	Population Increase Percentage
Alternative 1	6,991	13,068	87%
Alternative 2	6,784	12,786	88%
Alternative 3	7,184	13,054	82%
Alternative 4	6,974	12,767	83%
Alternative 5	6,324	11,983	89%
Alternative 6	6,131	11,720	91%

Wake BRT: Southern Corridor

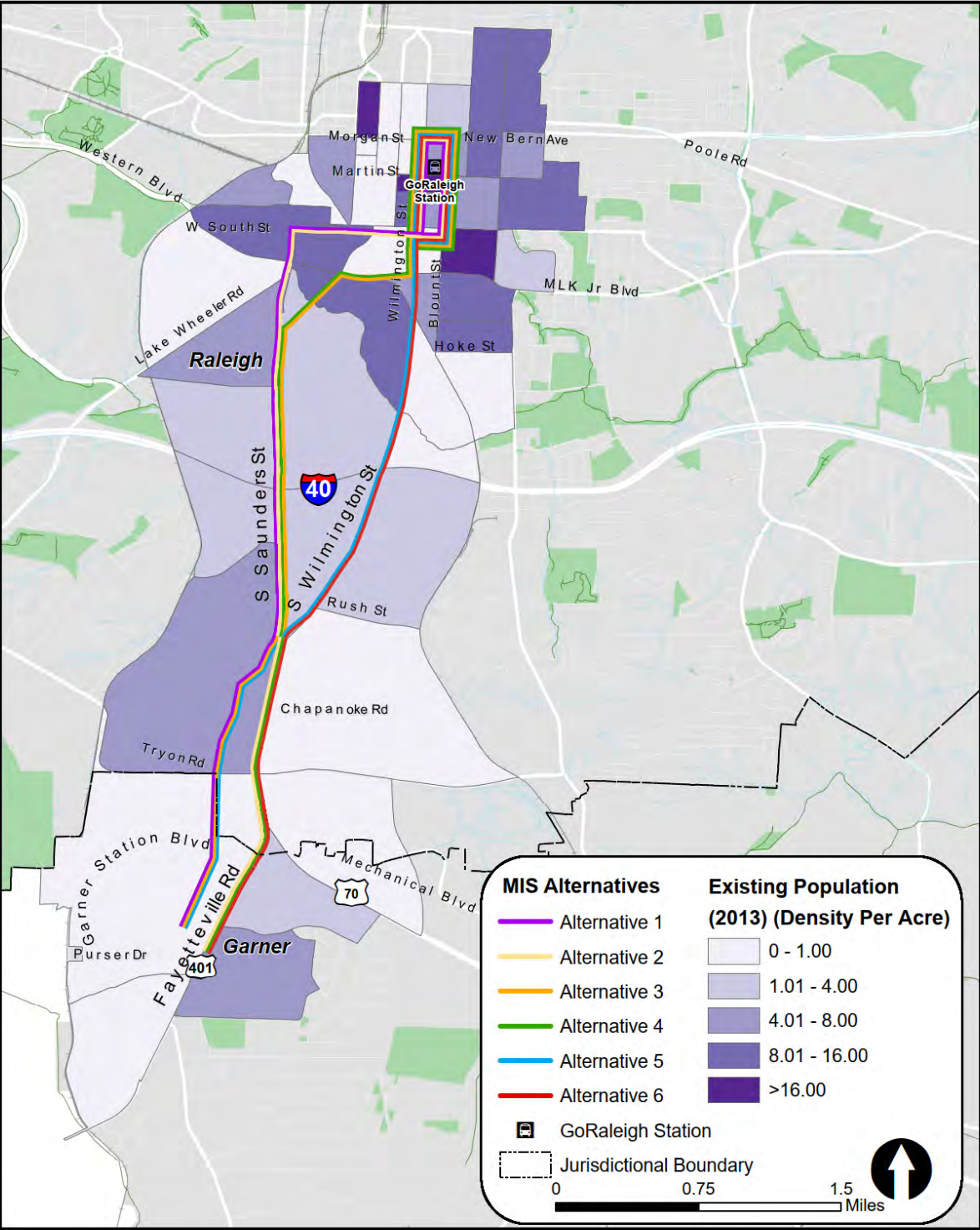


Figure 12: Existing Population (2013)

Wake BRT: Southern Corridor

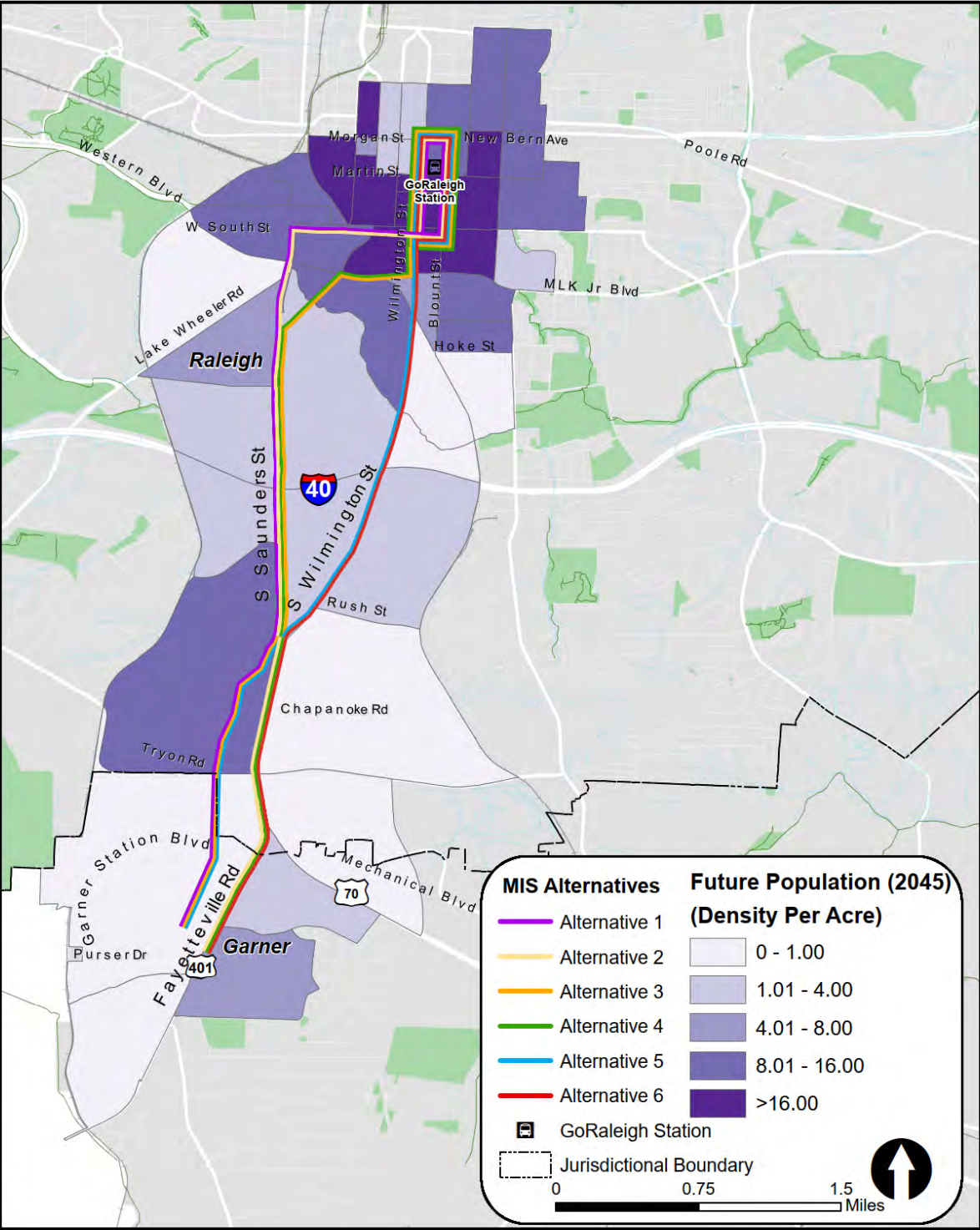


Figure 13: Future Population (2045)

Existing and Future Employment

Existing and future employment trends were analyzed based on the Triangle Regional Model (TRM) Traffic Analysis Zones (TAZ) Data. The existing conditions are represented by 2013 data and future data is projected into 2045. Since some zones fall outside a quarter-mile buffer, the zones were clipped in GIS. The percentage of the zone remaining was then used to find the employment figure in that clipped zone. Future employment rates are expected to at least double in every alternative. Downtown Raleigh currently has the highest employment densities and is expected to continue growing in 2045. Current employment conditions per alternative range from 26,266 (Alternative 5) to 27,154 (Alternative 2). Table 8 shows the current and projected employment figures for all six (6) alternatives. All six (6) alternatives are similar to each other in terms of future employment and no alternative appears to provide substantially higher employment than the other alternatives.

Table 8: Existing and Future Employment Data

	Existing Employment	Future Employment (2045)	Employment Increase Percentage
Alternative 1	27,039	57,238	112%
Alternative 2	27,154	57,368	111%
Alternative 3	26,678	54,461	104%
Alternative 4	26,789	54,583	104%
Alternative 5	26,266	52,730	101%
Alternative 6	26,382	52,869	100%

Wake BRT: Southern Corridor

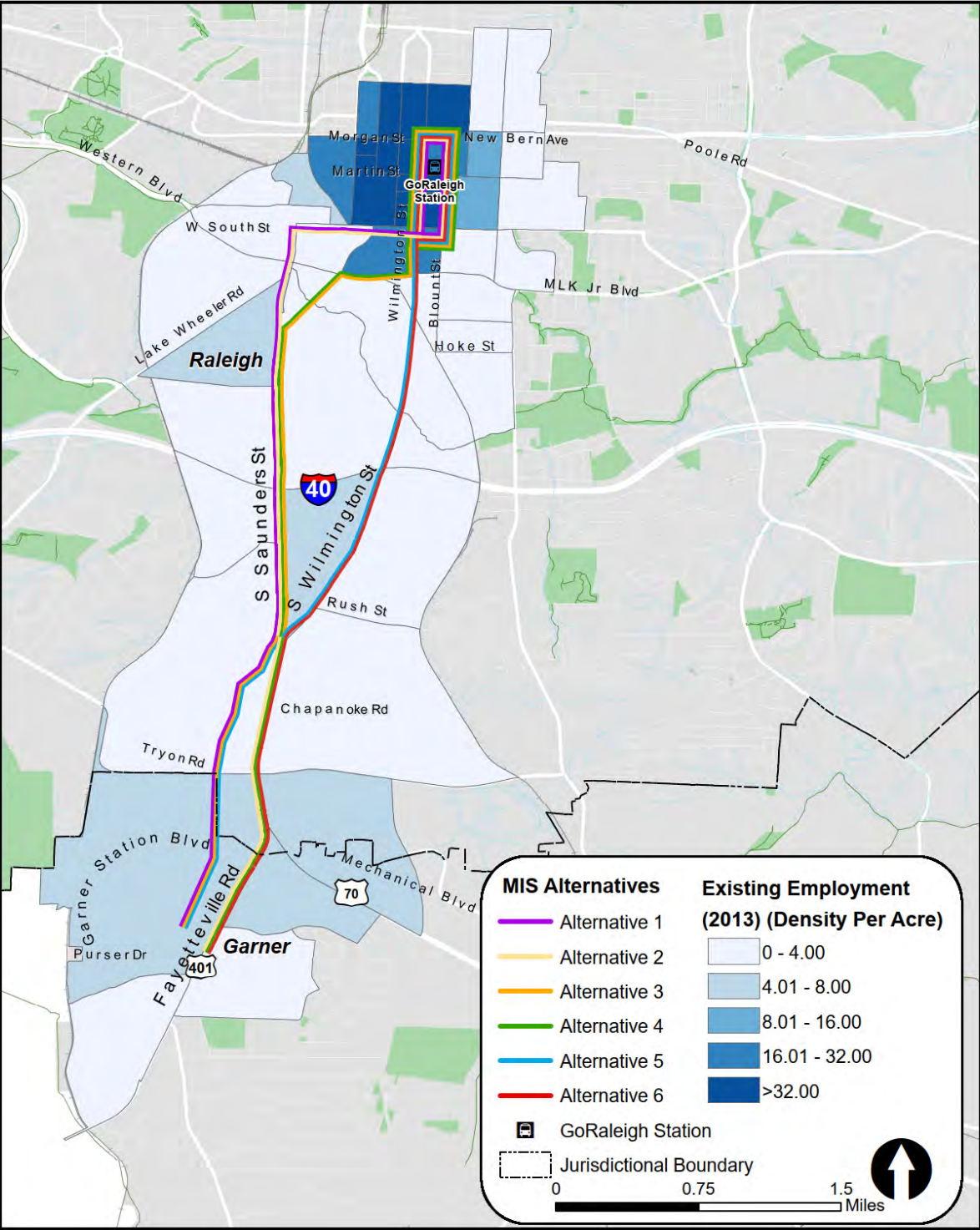


Figure 14: Existing Employment (2013)

Wake BRT: Southern Corridor

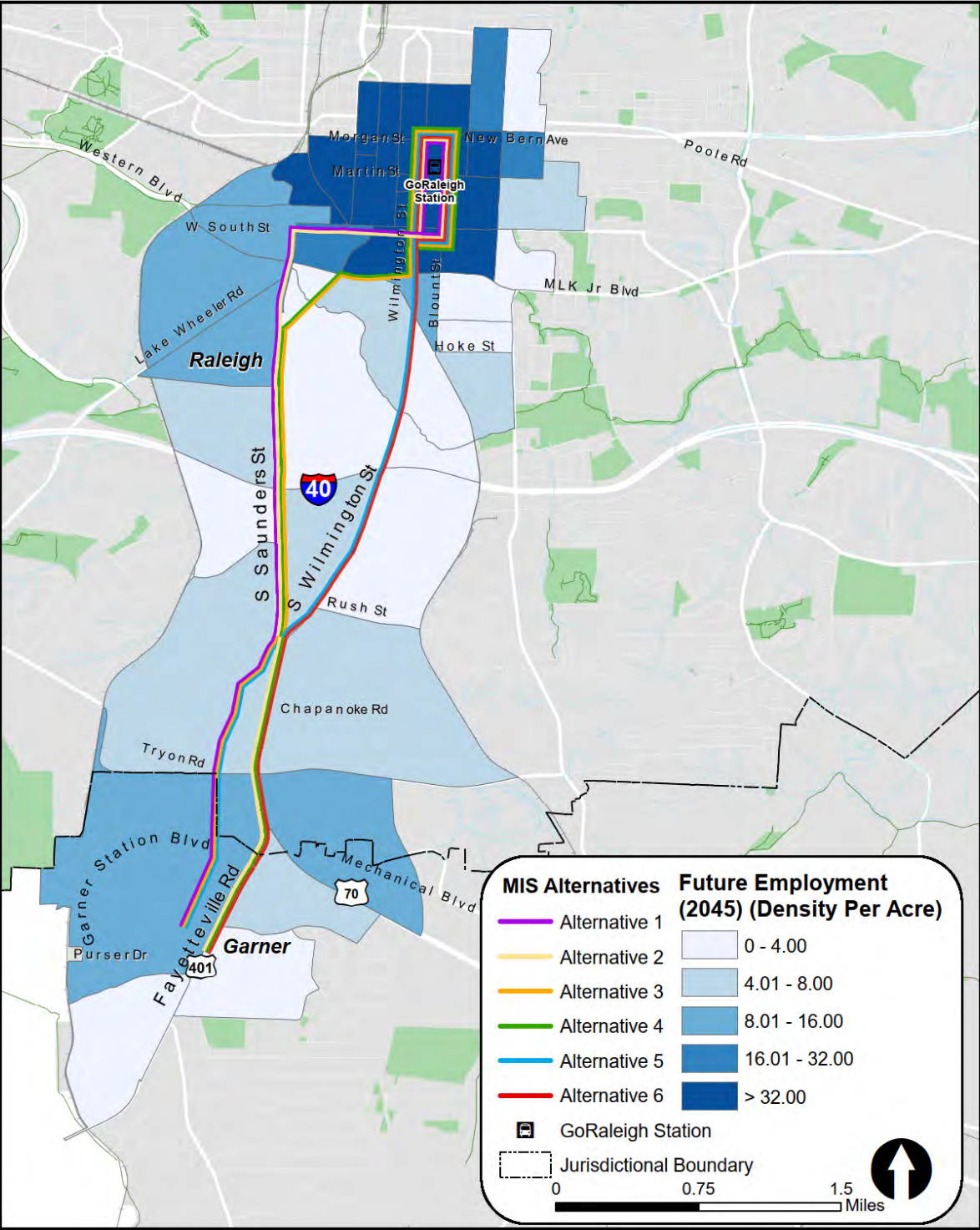


Figure 15: Future Employment (2045)

Demographics

The North Carolina Department of Transportation (NCDOT) Demographic Snapshot Tool was used to help identify potential Environmental Justice populations in the study area. The Demographic Snapshot Tool utilizes data from the 2017 American Community Survey (ACS) and the decennial census and provides data at the block group level. The study area for this analysis is composed of 11 block groups that intersect the six (6) alternatives and comprise the Demographic Study Area (DSA). The following data shown in the tables and figures are all from the ACS 2017 Estimates.

Minority Population

The DSA contains a high percentage of minority populations (53.8%), when compared to the City of Raleigh's average minority percentage (46.5%) and Wake County's average (39.4%). Of the 11 block groups, five (5) have minority populations over 50 percent. Block groups with the highest concentration of minority populations are primarily between Downtown Raleigh, along Martin Luther King Jr Boulevard and along Wilmington Street, and Interstate 40. While Alternatives 5 and 6 have the highest percentage of minority populations along the corridor, the difference between all alternatives is small. Alternatives 5 and 6 do transect the block groups with the highest percentage of minority populations (over 80 percent).

Table 9: Minority Population

	Total Population	Minority Population	Percent of Total Population
Alternative 1	7,958	4,144	52.1%
Alternative 2	7,876	4,120	52.3%
Alternative 3	7,786	4,302	55.3%
Alternative 4	7,696	4,274	55.5%
Alternative 5	6,919	3,943	57.0%
Alternative 6	6,844	3,922	57.3%
Demographic Study Area	21,625	11,639	53.8%
City of Raleigh	449,477	209,077	46.5%
Town of Garner	28,048	13,094	46.7%
Wake County	1,023,811	403,447	39.4%

Wake BRT: Southern Corridor

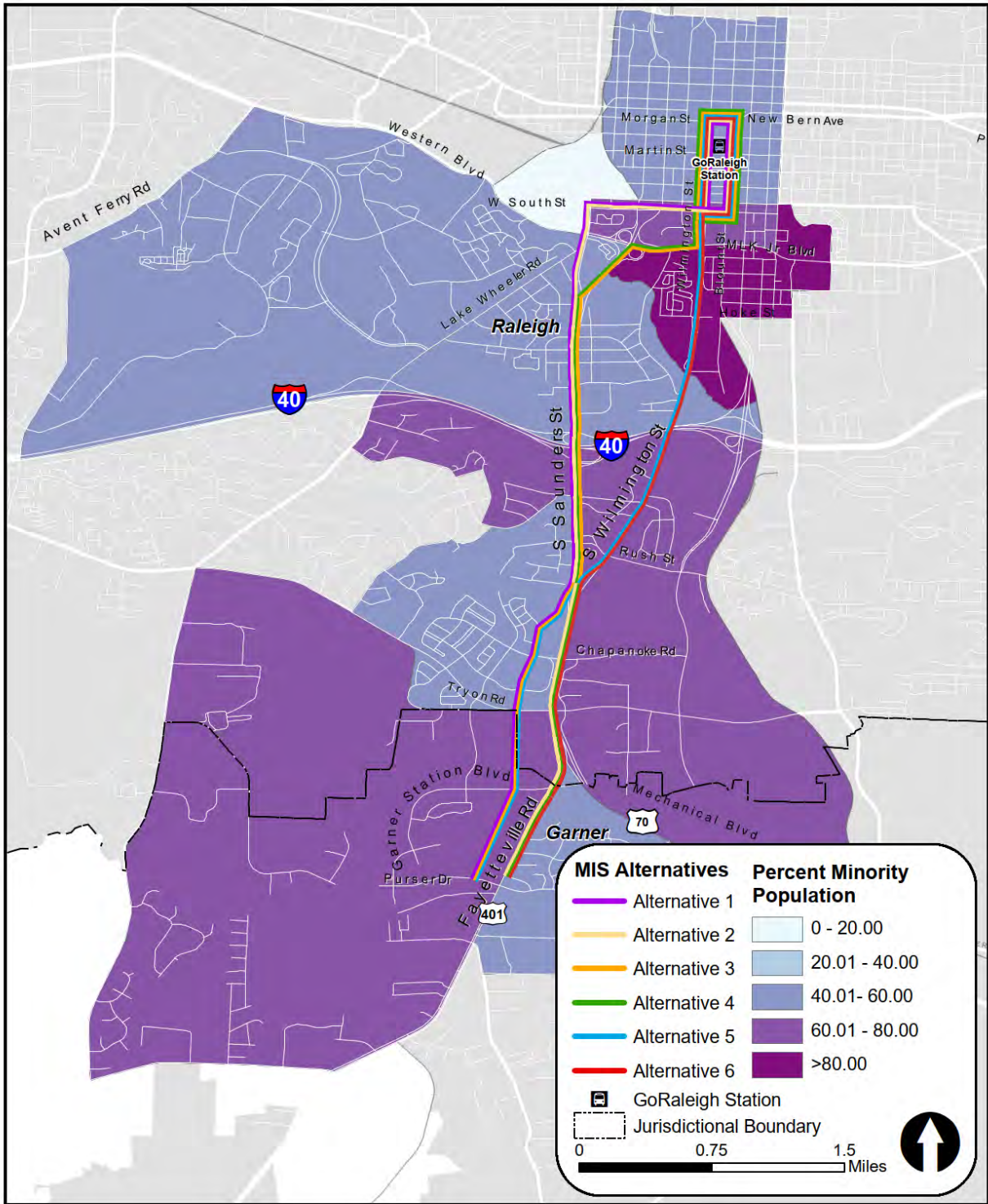


Figure 16: Percent Minority Population

Population Below Poverty Level

The overall percentage of populations living below the poverty level within the DSA is 22.7 percent, which is substantially higher compared to the City of Raleigh average of 14.0 percent, and Wake County's average of 10.1 percent. There are eight (8) block groups in the DSA that have more than 25.0 percent of its population below the poverty level. The highest concentration of populations below poverty level is just south of Downtown Raleigh along Martin Luther King Jr Boulevard and along Wilmington Street. This concentration is comprised of three block groups, with the percentage of its population below poverty level ranging between 31.1 percent and 54.2 percent. There is also one block group west of South Saunders Street that contains the three alternatives that include new roadway construction that has 38.7 percent of the population living below poverty level.

Table 10: Population Below Poverty Level

	Population for whom Poverty Status is Determined*	Population Below Poverty Level	Percent of Total Population
Alternative 1	6,564	1,597	24.3%
Alternative 2	6,426	1,484	23.1%
Alternative 3	6,407	1,617	25.2%
Alternative 4	6,263	1,502	24%
Alternative 5	5,648	1,639	29%
Alternative 6	5,518	1,530	27.7%
Demographic Study Area			
Demographic Study Area	18,894	4,290	22.7%
City of Raleigh	429,912	60,295	14.0%
Town of Garner	27,750	3,358	12.1%
Wake County	1,001,332	101,256	10.1%

*Total population for whom poverty status is determined varies from total population due to a smaller sample of people whose income is known to determine this number.

Wake BRT: Southern Corridor

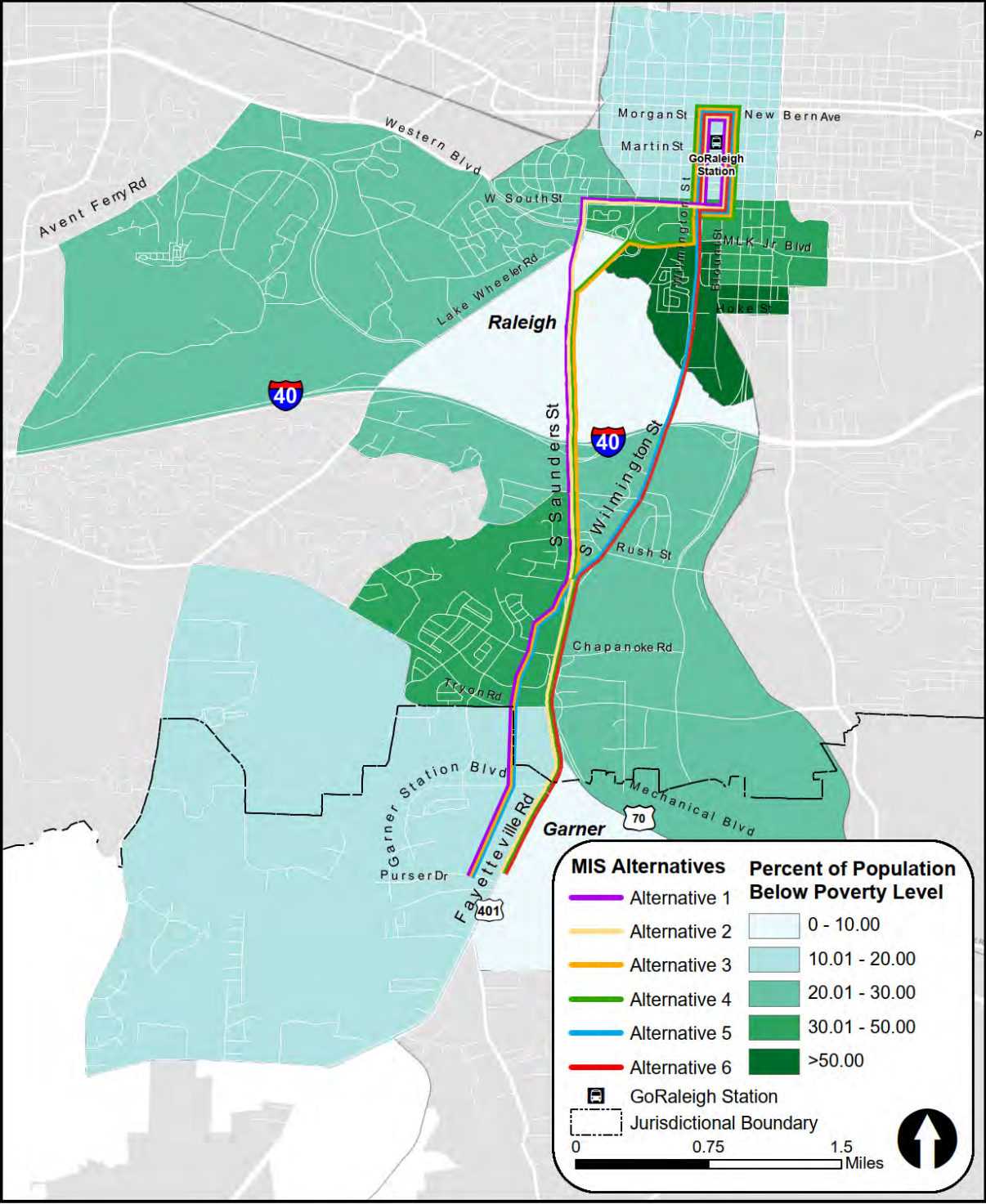


Figure 17: Percent of Population Below Poverty Level

Zero Vehicle Households

The average percentage of zero vehicle households within the DSA is 10.2 percent, which is almost double that of the average for Raleigh (5.8%) and Wake County (4.1%). In total, there are 794 households in the DSA that do not have access to a vehicle. Block groups with the highest percentage of zero vehicle households are in the Downtown Raleigh area and extend south just below Martin Luther King Jr Boulevard. The northernmost block group in Downtown comprises over one-third of the zero vehicle households alone with 285 households.

Table 11: Zero Vehicle Households

	Total Households	Zero Vehicle Households	Percent of Total Households
Alternative 1	2,756	326	11.8%
Alternative 2	2,702	316	11.7%
Alternative 3	2,621	334	12.7%
Alternative 4	2,565	324	12.6%
Alternative 5	2,340	308	13.2%
Alternative 6	2,289	298	13.0%
Demographic Study Area			
Demographic Study Area	7,797	794	10.2%
City of Raleigh	176,870	10,181	5.8%
Town of Garner	10,760	361	3.4%
Wake County	381,971	15,618	4.1%

Wake BRT: Southern Corridor

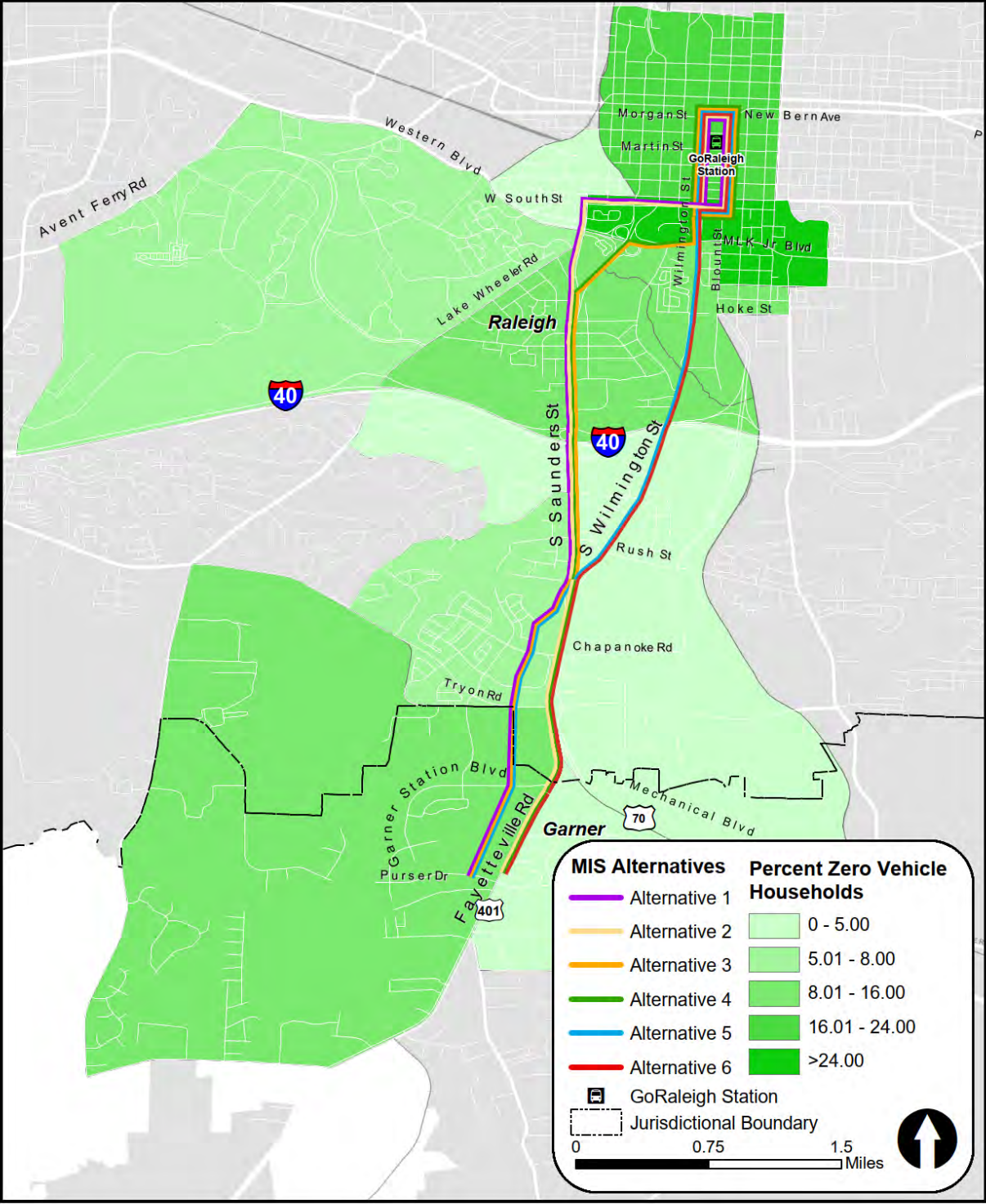


Figure 18: Percent Zero Vehicle Households

Language Assistance and Limited English Proficiency

There are five block groups in the DSA that meet language assistance thresholds. The language assistance (LA) threshold is 50 or more adults that speak English less than well in a block group. Spanish had the highest percentage (4.2%) of persons who speak English less than well in the DSA. Limited English Proficiency (LEP) is looked at on a study area level and requires that at least 1,000 adults speak English less than well in the study area or make up at least 5.0 percent of the total population within the study area. The DSA meets the LEP threshold in addition to the five block groups that meet LA thresholds. There are small populations (77 persons) throughout the DSA that primarily speak other Indo-Euro and Asian/Pacific languages. For analysis purposes, since the DSA met the threshold for LEP with Spanish, only the persons whose primary language is Spanish was mapped.

Table 12: Population Whose Primary Language Is Spanish

	Total Population For Whom Language Status is Determined*	Population Whose Primary Language is Spanish	Percent of Total Population
Alternative 1	6,492	322	5.0%
Alternative 2	6,473	317	4.9%
Alternative 3	6,302	333	5.3%
Alternative 4	6,278	327	5.2%
Alternative 5	5,645	260	4.6%
Alternative 6	5,632	255	4.5%
Demographic Study Area			
Demographic Study Area	17,388	910	5.2%
City of Raleigh	352,004	13,462	3.8%
Town of Garner	21,670	687	3.2%
Wake County	771,121	28,258	3.7%

*Total population for whom language status is determined varies from total population due to a smaller sample size used from the ACS Estimate.

Wake BRT: Southern Corridor

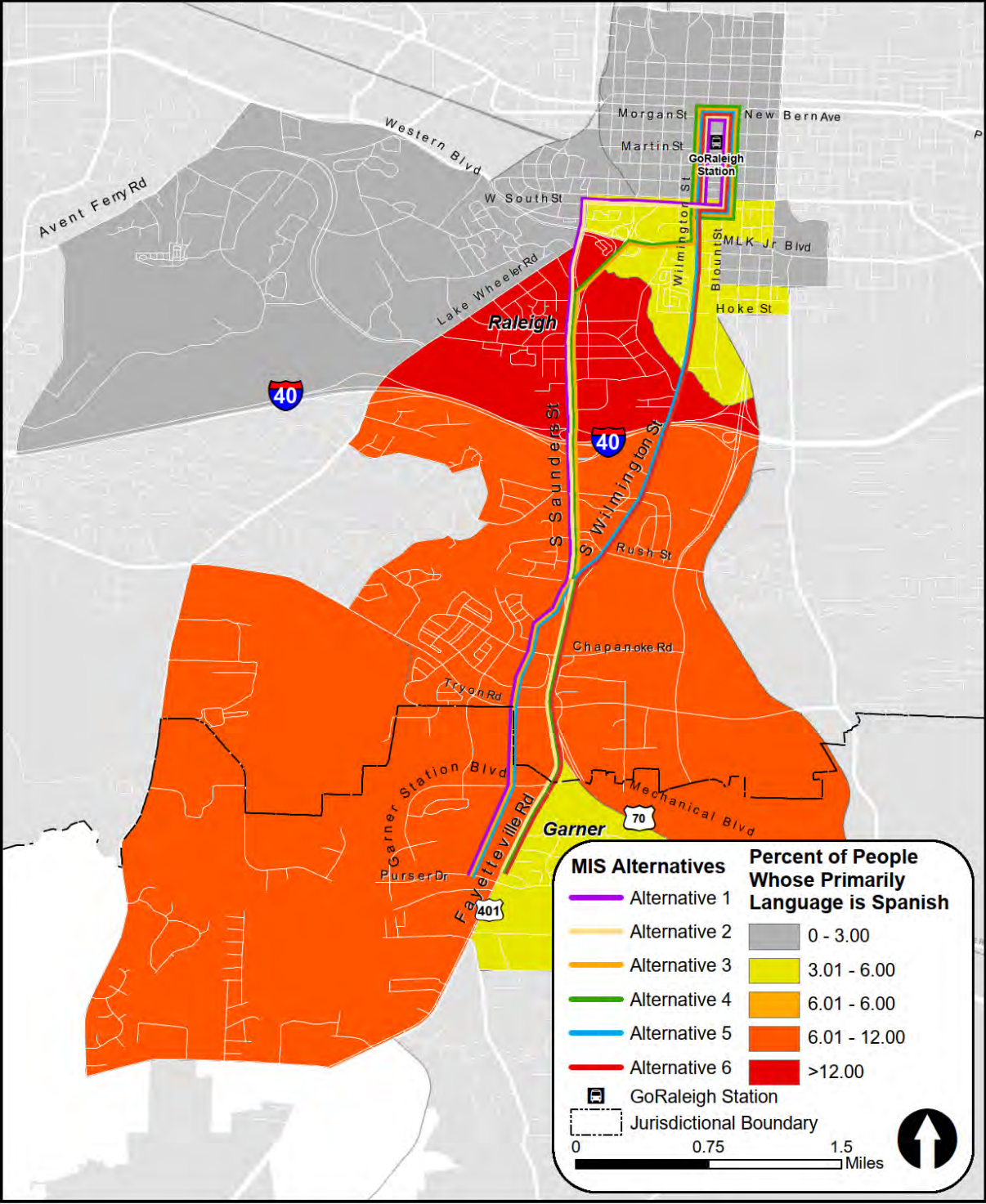


Figure 19: Percent of People Who Speak Only Spanish

Population Under 18

It is also important to consider transit dependent populations within the DSA. People under the age of 18 is a group that may not have access to their own vehicles or a driver's license, but still have transportation needs. For some individuals under the age of 18, public transit is the only option to reach their desired destinations. The average percentage for persons under 18 years old was 19.6 percent. The number is slightly lower than the City of Raleigh average of 21.6 percent, the Town of Garner average of 22.7 percent and Wake County average of 24.7 percent. One block group had 921 people under 18 years old or 40.4 percent of the entire block group population. This block group is located just south of Tryon Road and is within both the City of Raleigh and Town of Garner jurisdictions.

Table 13: Population Under 18

	Total Population	Population Under 18	Percent of Total Population
Alternative 1	7,958	1,466	18.4%
Alternative 2	7,876	1,403	17.8%
Alternative 3	7,786	1,484	19.1%
Alternative 4	7,696	1,418	18.4%
Alternative 5	6,919	1,274	18.4%
Alternative 6	6,844	1,212	17.7%
Demographic Study Area	21,625	4,237	19.6%
City of Raleigh	449,477	97,273	21.6%
Town of Garner	28,048	6,378	22.7%
Wake County	1,023,811	252,690	24.7%

Wake BRT: Southern Corridor

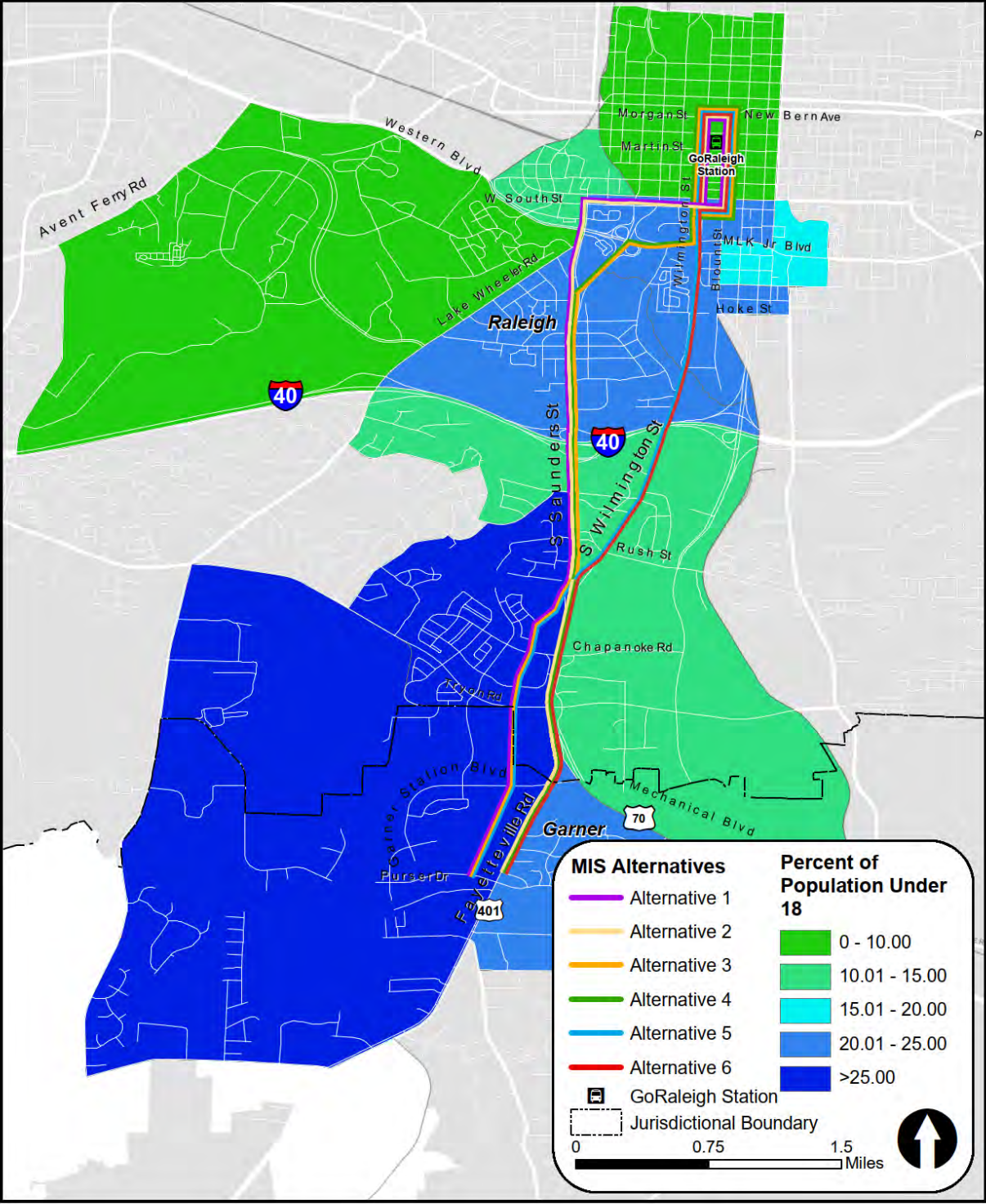


Figure 20: Percent of Population Under 18

Population Over 65

Another transit dependent population is people over the age of 65. As people grow older, a higher percentage of people are no longer able to operate a vehicle. Transportation is a barrier many elderly people face because they still need to access things such as groceries, shopping, and medical facilities. In the DSA, there are 1,422 people or 6.7 percent of the total population that are over the age of 65. This is lower compared to the City of Raleigh (9.7%), Town of Garner (13.9%) and Wake County (10.5%). Even though the DSA has a lower percentage, it is still important to take this population into account when studying a major transit investment in the area.

Table 14: Population Over 65

	Total Population	Population Over 65	Percent of Total Population
Alternative 1	7,958	453	5.7%
Alternative 2	7,876	477	6.1%
Alternative 3	7,786	436	5.6%
Alternative 4	7,696	459	6.0%
Alternative 5	6,919	399	5.8%
Alternative 6	6,844	422	6.2%
Demographic Study Area			
Demographic Study Area	21,625	1,442	6.7%
City of Raleigh	449,477	43,725	9.7%
Town of Garner	28,048	3,896	13.9%
Wake County	1,023,811	107,751	10.5%

Wake BRT: Southern Corridor

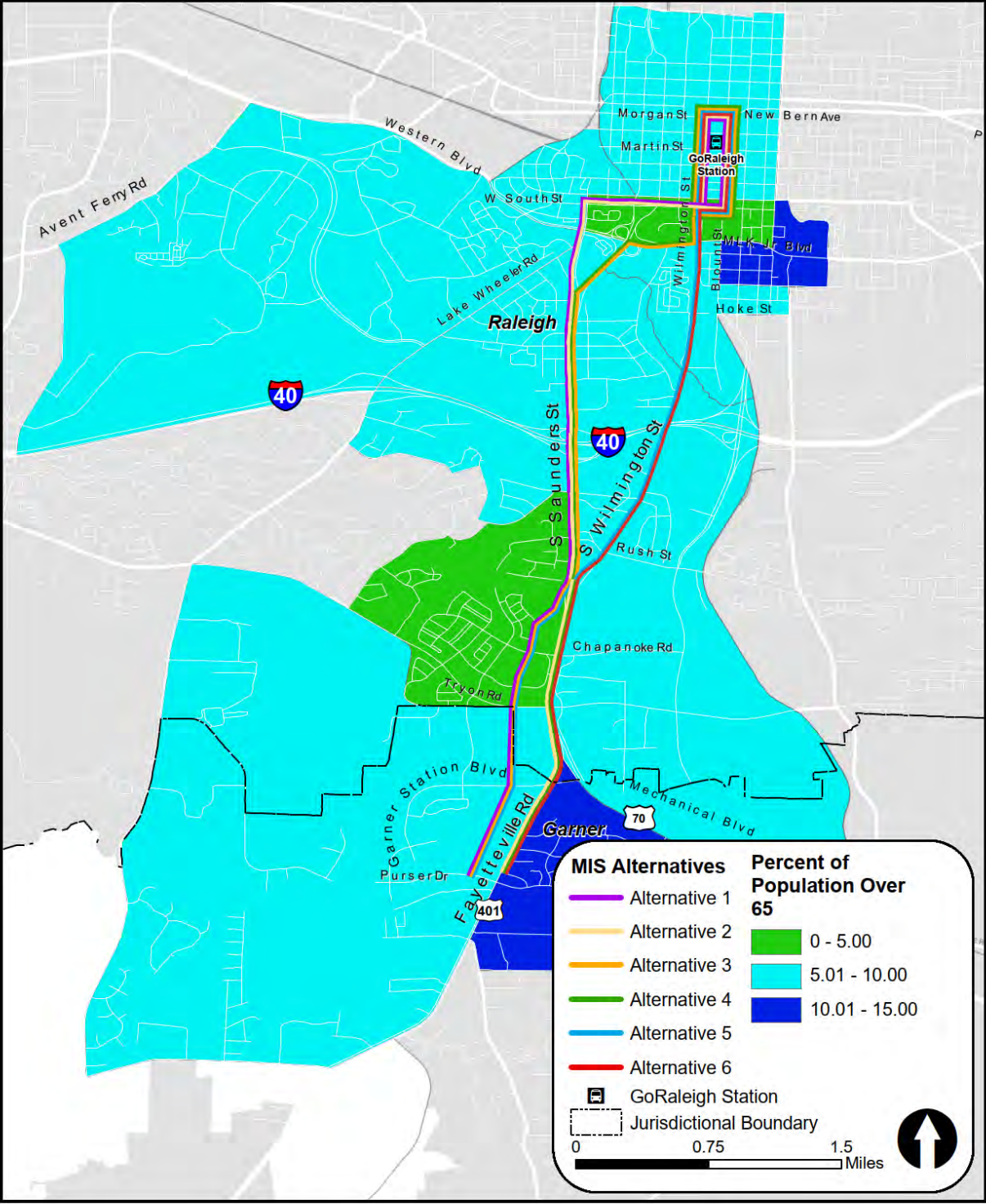


Figure 21: Percent of Population Over 65

Environmental Features

Natural Features

This section presents a summary of the environmental conditions and features found within a 500-foot buffer of the given alternative; based on available and known data sources. The natural features data comes from the North Carolina Department of Environmental Quality GIS database. The study area includes numerous natural features that are important to document in early planning efforts. The BRT preferred alternative will primarily use existing roadways, right-of-way, and disturbed areas. Most of the natural features do not lie within these areas. Because the 500-foot buffers for the six alternatives overlap in some areas, some features are counted in multiple alternatives as impacts. Hydraulic features such as floodplains, wetlands, critical water supply watersheds, streams, and impaired 303(d) streams were all found in the study area. 303(d) streams are impaired water bodies that do not meet water quality standards. There are numerous indicators that are considered for a stream or water body to be listed as 303(d). Table 1 shows the impacts by alternative.

Table 15: Natural Features within 500 feet of corridor

	Floodplains (Acres)	Wetlands (Acres)	Streams (Linear Feet)	303(d) Streams (Linear Feet)	Critical Water Supply Watersheds (Acres)
Alternative 1	7.51	11.23	20,032	2,931	138.16
Alternative 2	7.51	7.64	25,508	2,931	104.74
Alternative 3	12.20	8.74	22,062	2,594	138.16
Alternative 4	6.36	7.44	27,524	2,594	104.74
Alternative 5	45.92	12.53	11,471	2,522	138.16
Alternative 6	45.92	11.23	17,066	2,522	104.74

Wake BRT: Southern Corridor

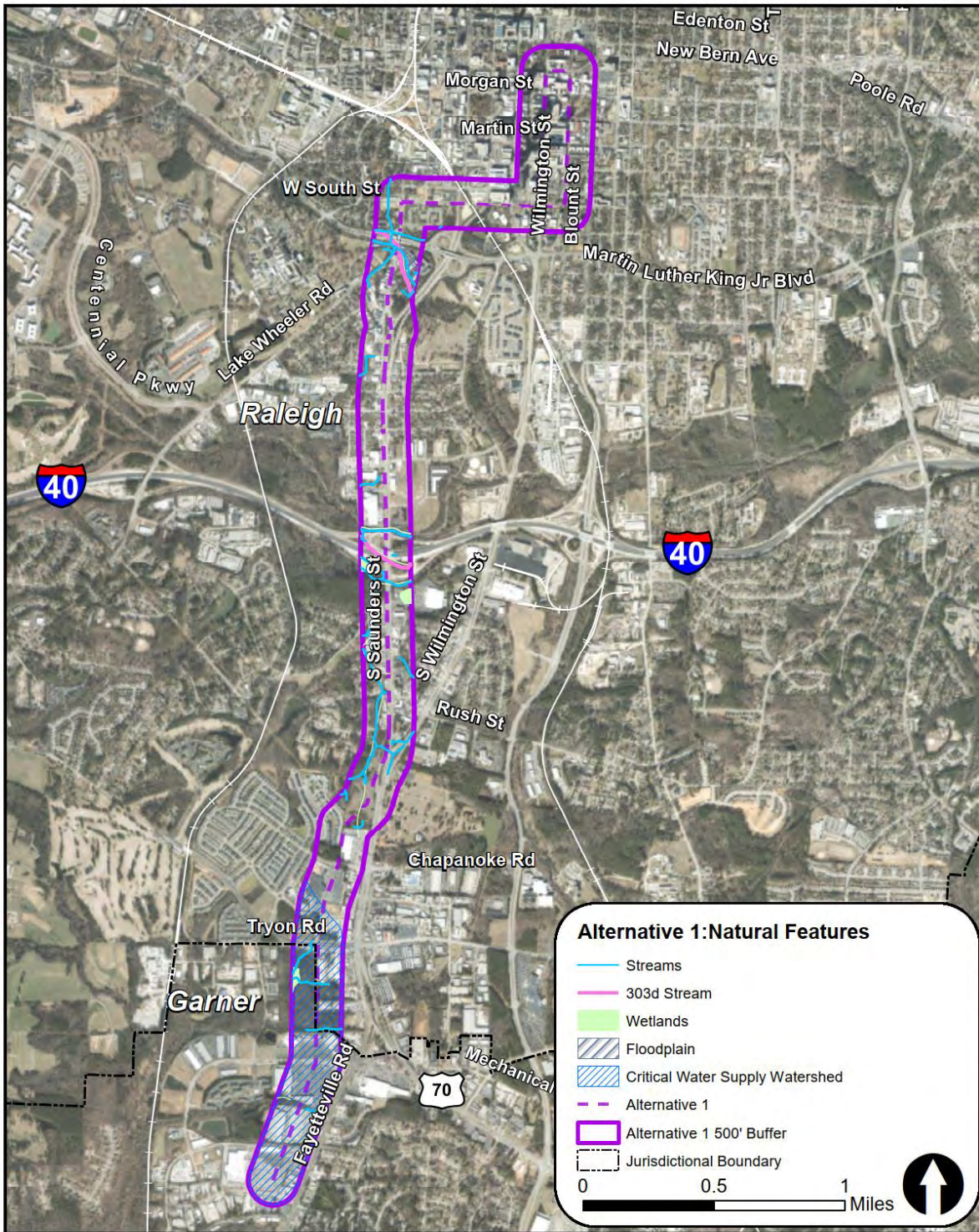


Figure 22: Natural Features within 500 feet of Alternative 1

Wake BRT: Southern Corridor

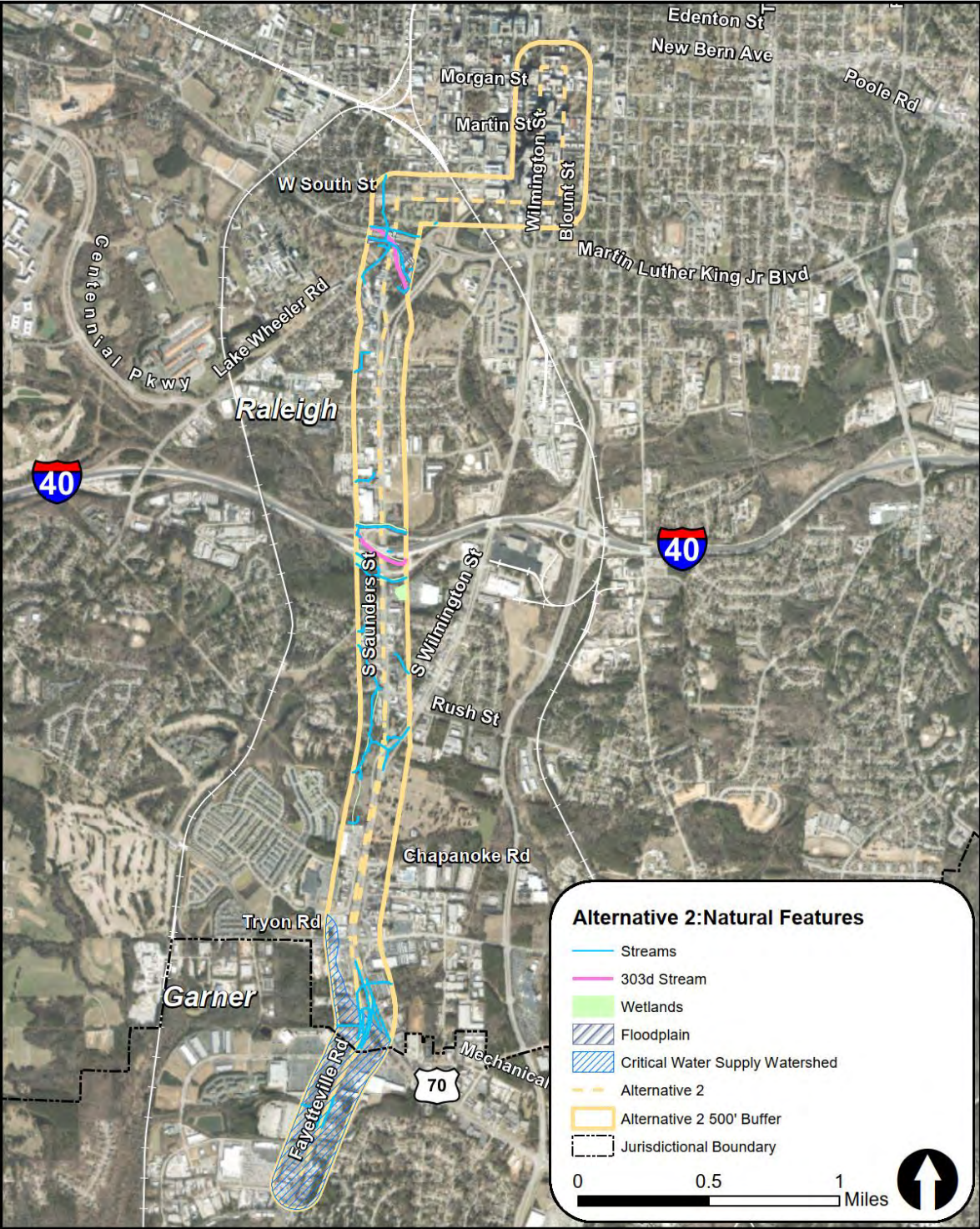


Figure 23: Natural Features within 500 feet of Alternative 2

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Figure 24: Natural Features within 500 feet of Alternative 3

Wake BRT: Southern Corridor

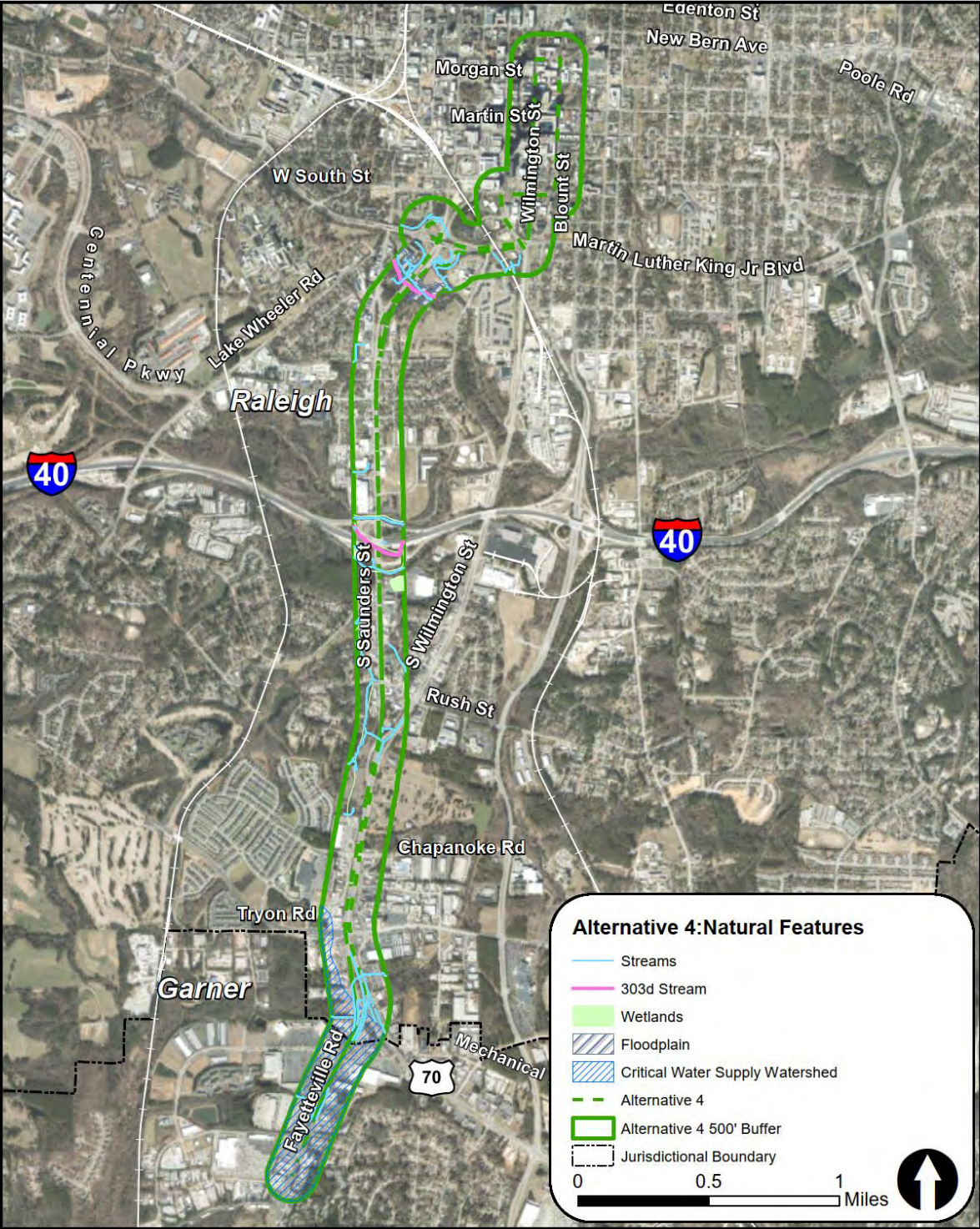


Figure 25: Natural Features within 500 feet of Alternative 4

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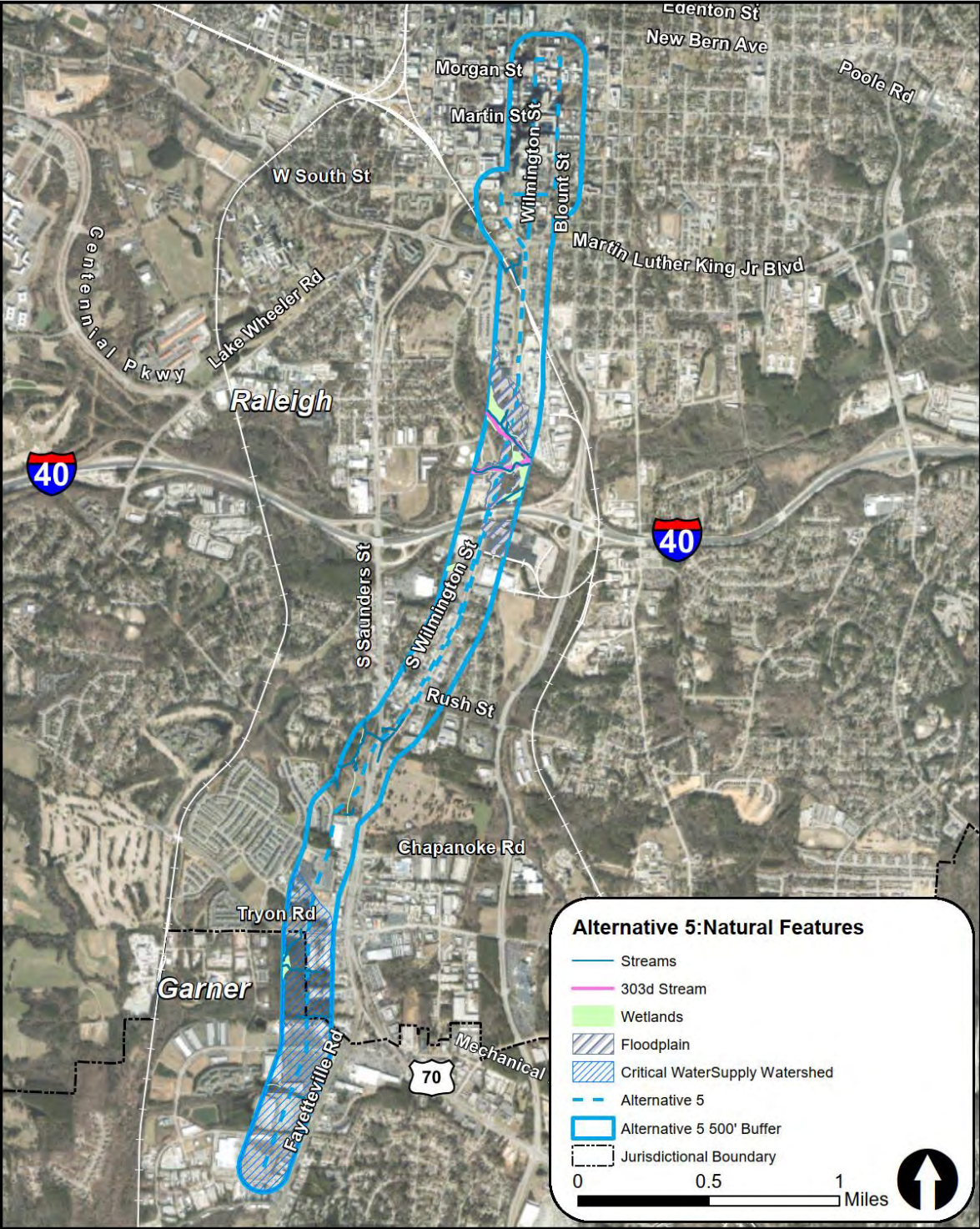


Figure 26: Natural Features within 500 feet of Alternative 5

Wake BRT: Southern Corridor



Figure 27: Natural Features within 500 feet of Alternative 1

Threatened and Endangered Species

An initial list of federal and state threatened and endangered species for Wake County is provided in Table 16 below, obtained via online research of the US Fish and Wildlife Service (USFWS) and North Carolina Natural Heritage Program (NCNHP) databases and resources. During the NEPA phase, a scoping letter will be sent to the USFWS, NCNHP, and North Carolina Wildlife Resources (NCWRC), including project description and maps, to request additional information. All coordination and documentation will be summarized in text for inclusion in the NEPA document and appendices. Due to the project scope and location within an urban area, impacts to threatened and endangered species are not anticipated.

There is one species currently listed by U.S. Fish and Wildlife Service as Threatened, five species listed as Endangered, and six species listed as At Risk Species for Wake County as of June 27, 2018. Surveys will need to be completed and coordination held with USFWS during project development to determine the impact to these species and any other species of concern in the study area. Table 16 shows which alternatives have potential habitat for the species listed.

The bald eagle is protected under the Bald and Golden Eagle Protection Act and enforced by the USFWS. Surveys will be completed during the next phase of design and coordination held with USFWS to determine the impact to these species.

Table 16: Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species, Wake County, NC

Common Name	Scientific name	Federal Status*	Potential for Habitat Present					
			Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Cape Fear shiner	<i>Notropis mekistocholas</i>	E	No	No	No	No	No	No
Carolina madtom	<i>Noturus furiosus</i>	ARS	Yes	Yes	Yes	Yes	Yes	Yes
Neuse River waterdog	<i>Necturus lewisi</i>	ARS	Yes	Yes	Yes	Yes	Yes	Yes
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	Yes	Yes	Yes	Yes	Yes	Yes
Southern hognose snake	<i>Heterodon simus</i>	ARS	Yes	Yes	Yes	Yes	Yes	Yes
Atlantic pigtoe	<i>Fusconaia masoni</i>	ARS	Yes	Yes	Yes	Yes	Yes	Yes
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	E	Yes	Yes	Yes	Yes	Yes	Yes
Green floater	<i>Lasmigona subviridis</i>	ARS	Yes	Yes	Yes	Yes	Yes	Yes
Tar River spiny mussel	<i>Parvaspina steinstansana</i>	E	No	No	No	No	No	No
Yellow lance	<i>Elliptio lanceolata</i>	T	Yes	Yes	Yes	Yes	Yes	Yes
Bog spicebush	<i>Lindera subcoriacea</i>	ARS	Yes	Yes	Yes	Yes	Yes	Yes
Michaux's sumac	<i>Rhus michauxii</i>	E	Yes	Yes	Yes	Yes	Yes	Yes
Bald and Golden Eagle Protection Act								
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGPA	Yes	Yes	Yes	Yes	Yes	Yes

Definitions of Federal Status Codes:

E = Endangered

T = Threatened

BGPA = Bald and Golden Eagle Protection Act

ARS = At Risk Species. Species that are Petitioned, Candidates or Proposed for listing under the Endangered Species Act

Physical Features

There are numerous physical features within the study area that can play an important role in determining a preferred alternative. With some of the study area being near previous and current industrial sites, there are various hazardous sites, brownfields, and underground storage tanks that need to be taken into consideration. The physical features data comes from the North Carolina Department of Environmental Quality GIS database. The quantity of physical features is similar between the alternatives.

Table 17: Physical Features within 500 feet of corridor

	Underground Storage Tanks Incident Sites	Inactive Hazardous Sites	Hazardous Waste Sites	Brownfields	Underground Storage Tanks	Dry Cleaning Solvent Act Sites	Managed Areas
Alternative 1	38	1	5	11	34	1	10
Alternative 2	42	1	8	10	37	2	10
Alternative 3	29	0	3	9	26	1	10
Alternative 4	33	0	6	8	29	2	10
Alternative 5	31	1	3	8	27	1	8
Alternative 6	35	1	6	7	30	2	8

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Figure 28: Physical Features within 500 feet of Alternative 1

Wake BRT: Southern Corridor



Figure 29: Physical Features within 500 feet of Alternative 2

Wake BRT: Southern Corridor



Figure 30: Physical Features within 500 feet of Alternative 3

Wake BRT: Southern Corridor

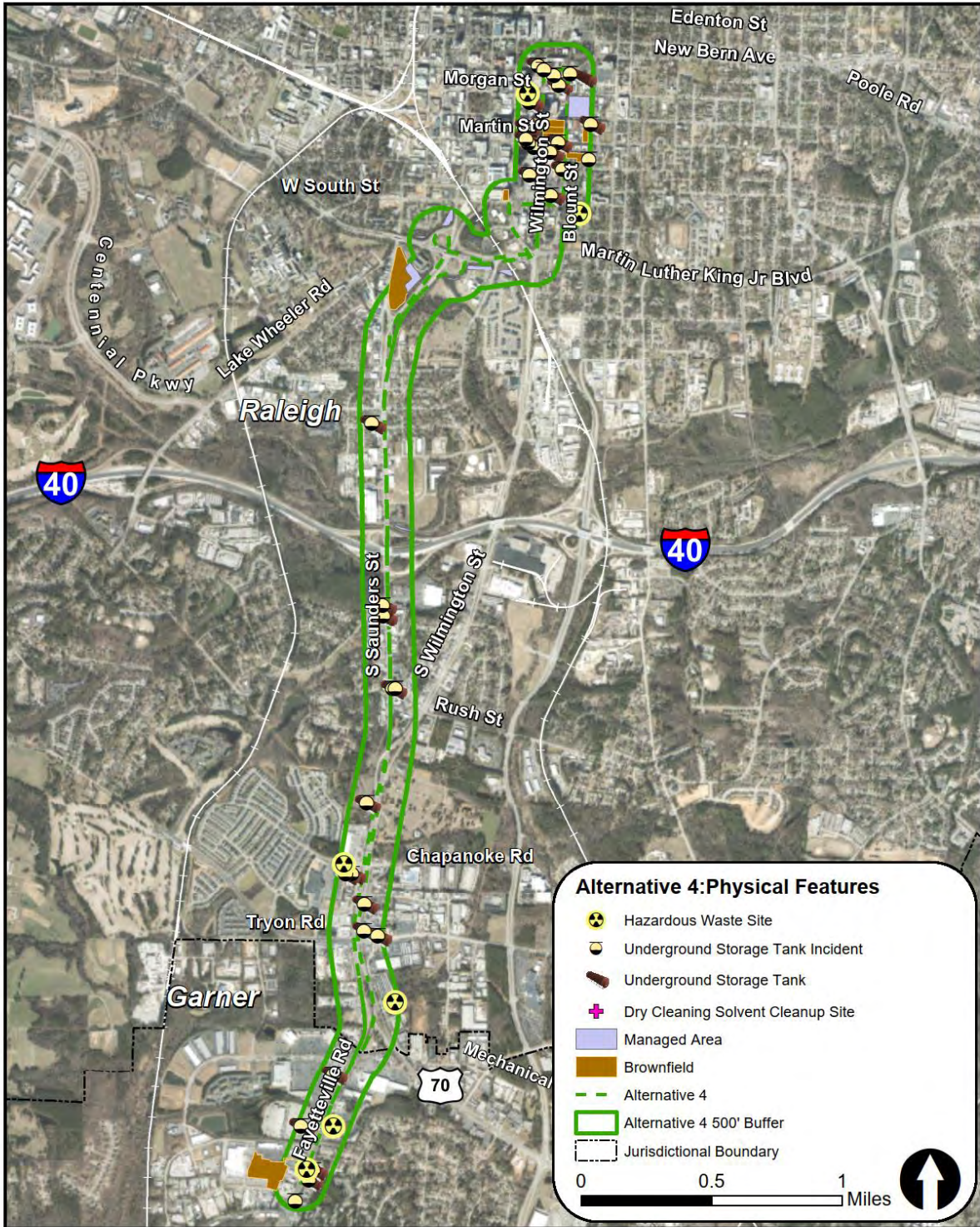


Figure 31: Physical Features within 500 feet of Alternative 4

Wake BRT: Southern Corridor



Figure 32: Physical Features within 500 feet of Alternative 5

Wake BRT: Southern Corridor



Figure 33: Physical Features within 500 feet of Alternative 6

Cultural Resources

Table 18 below shows the cultural resources present along each alternative. Cultural Resource data was compiled from various sources including the North Carolina State Historic Preservation Organization, Google Earth, and the City of Raleigh Open Data Portal. Although libraries, police stations, and Emergency Medical Services (EMS) stations were considered in the analysis for cultural resources, none were found within the study area. With cultural resources, BRT projects can improve accessibility to these resources and be an asset to the community. With BRT, more people will have reliable transit options to places such as schools, places of worship, parks, and greenways. Greenways are a big part of cross-city connections and would be utilized and further enhanced to provide increased connectivity for all users. All the alternatives have a similar quantity of resources present.

Table 18: Cultural Resources within 500 feet of corridor

	Fire Stations	Cemeteries	Parks	Greenways (Linear Feet)	Places of Worship	Schools
Alternative 1	1	0	6	4,176	6	0
Alternative 2	1	1	6	4,176	6	0
Alternative 3	1	0	4	3,922	7	1
Alternative 4	1	1	4	3,922	7	1
Alternative 5	0	0	6	3,155	6	1
Alternative 6	0	1	6	3,155	6	1

Historic Resources

The State Historic Preservation Office (SHPO), Office of Archives and History, NC Department of Cultural Resources maintains an online database that was used to identify properties listed in the National Register of Historic Places (NRHP). This is a register of nationally significant buildings and districts that is maintained by the National Park Service. An area search of the database identified 18 NRHP-listed properties and 3 listed districts within the study area. In addition to the 18 National Registered properties, 6 properties are on the SHPO Study List. There are also various Historic Districts on the Study List that lie within study areas for the alternatives. Most of the historic resources are located within Downtown Raleigh and therefore make all alternatives comparable.

Table 19: Historic Resources within 500 feet of corridor

	National Register Historic Districts	National Register	Study List Historic Districts	Study List
Alternative 1	3	16	3	6
Alternative 2	3	16	3	6
Alternative 3	3	17	2	6
Alternative 4	3	17	2	6
Alternative 5	3	17	1	6
Alternative 6	3	17	1	6

Wake BRT: Southern Corridor

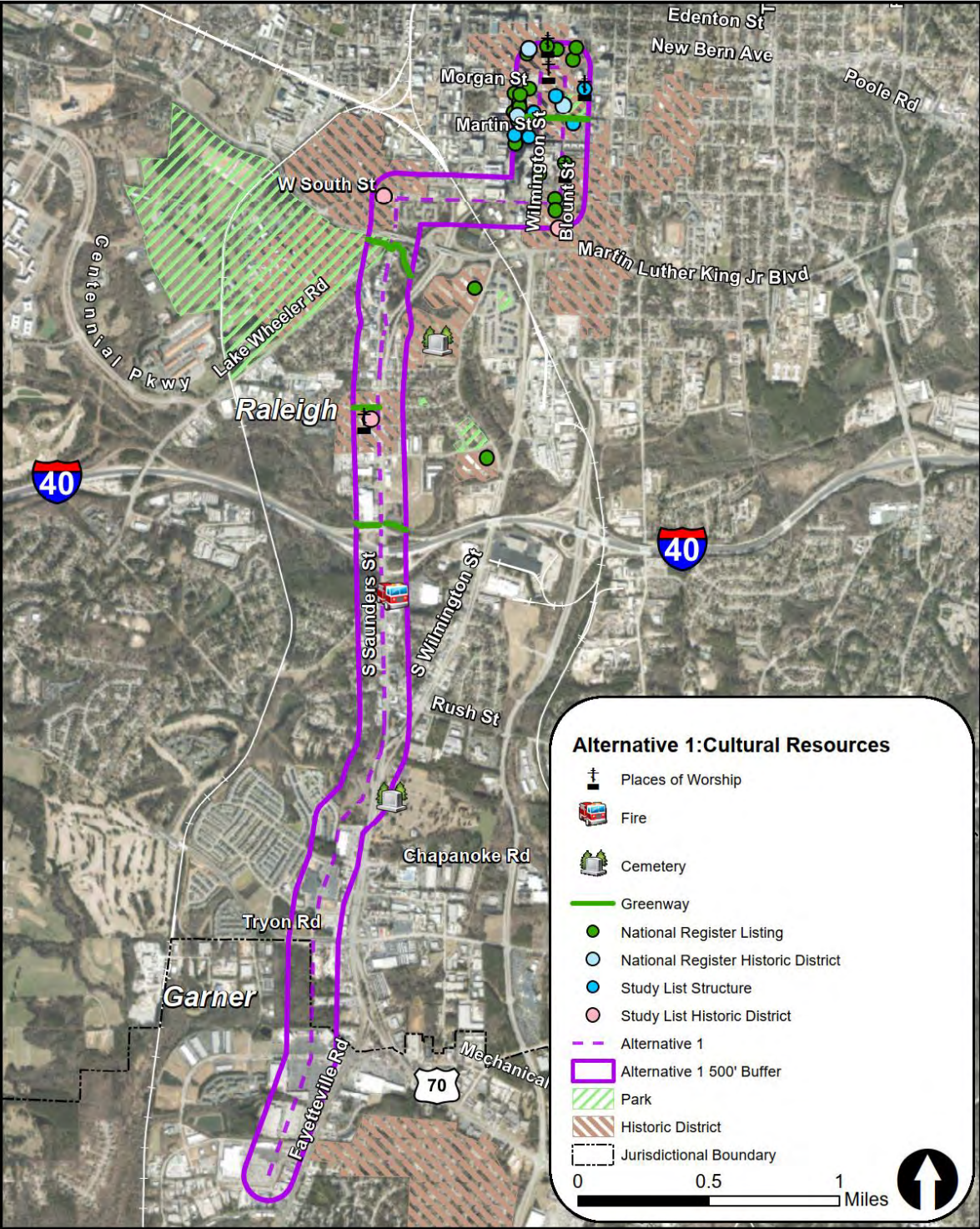


Figure 34: Cultural and Historic Resources within 500 feet of Alternative 1

Wake BRT: Southern Corridor



Figure 35: Cultural and Historic Resources within 500 feet of Alternative 2

Wake BRT: Southern Corridor

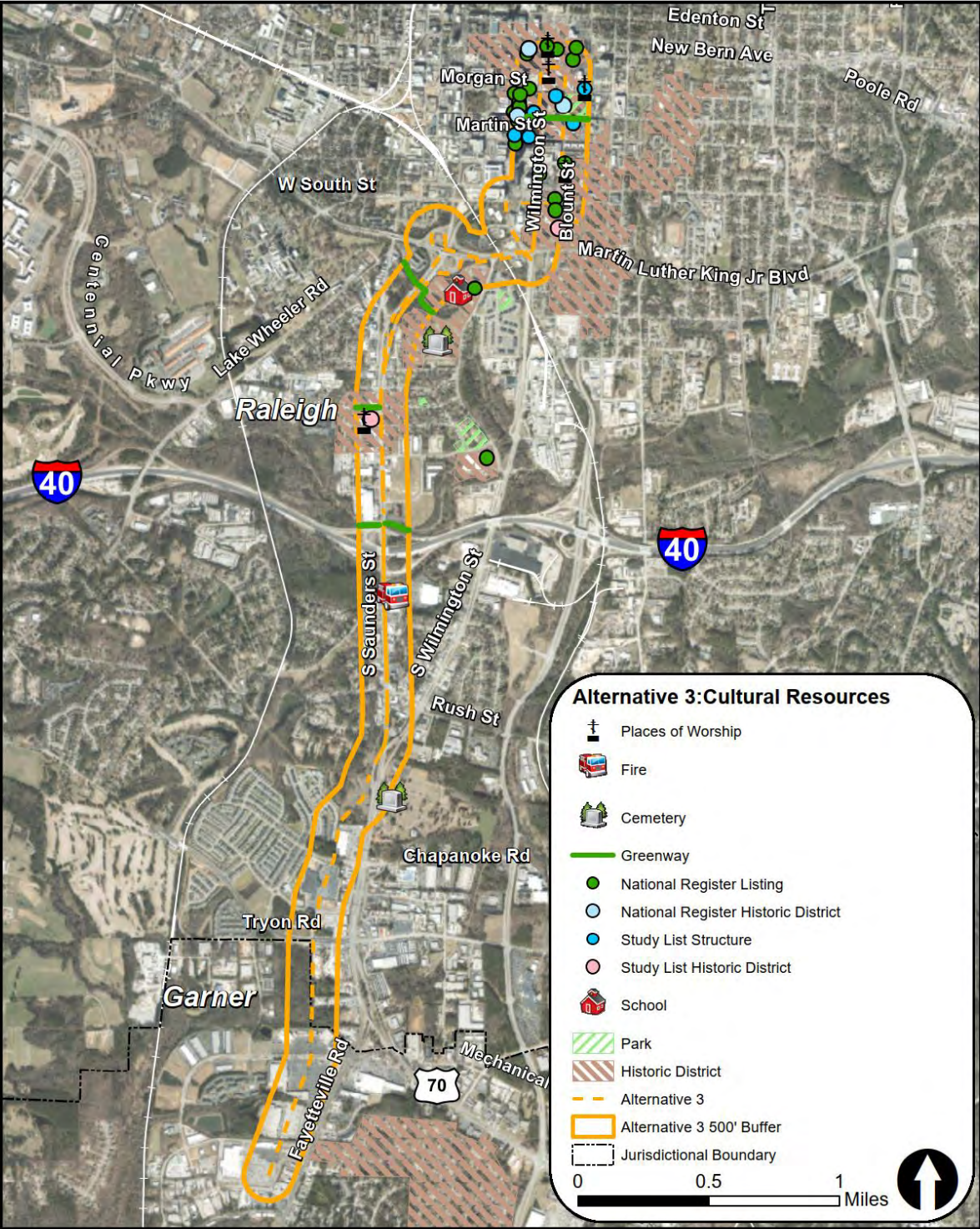


Figure 36: Cultural and Historic Resources within 500 feet of Alternative 3

Wake BRT: Southern Corridor

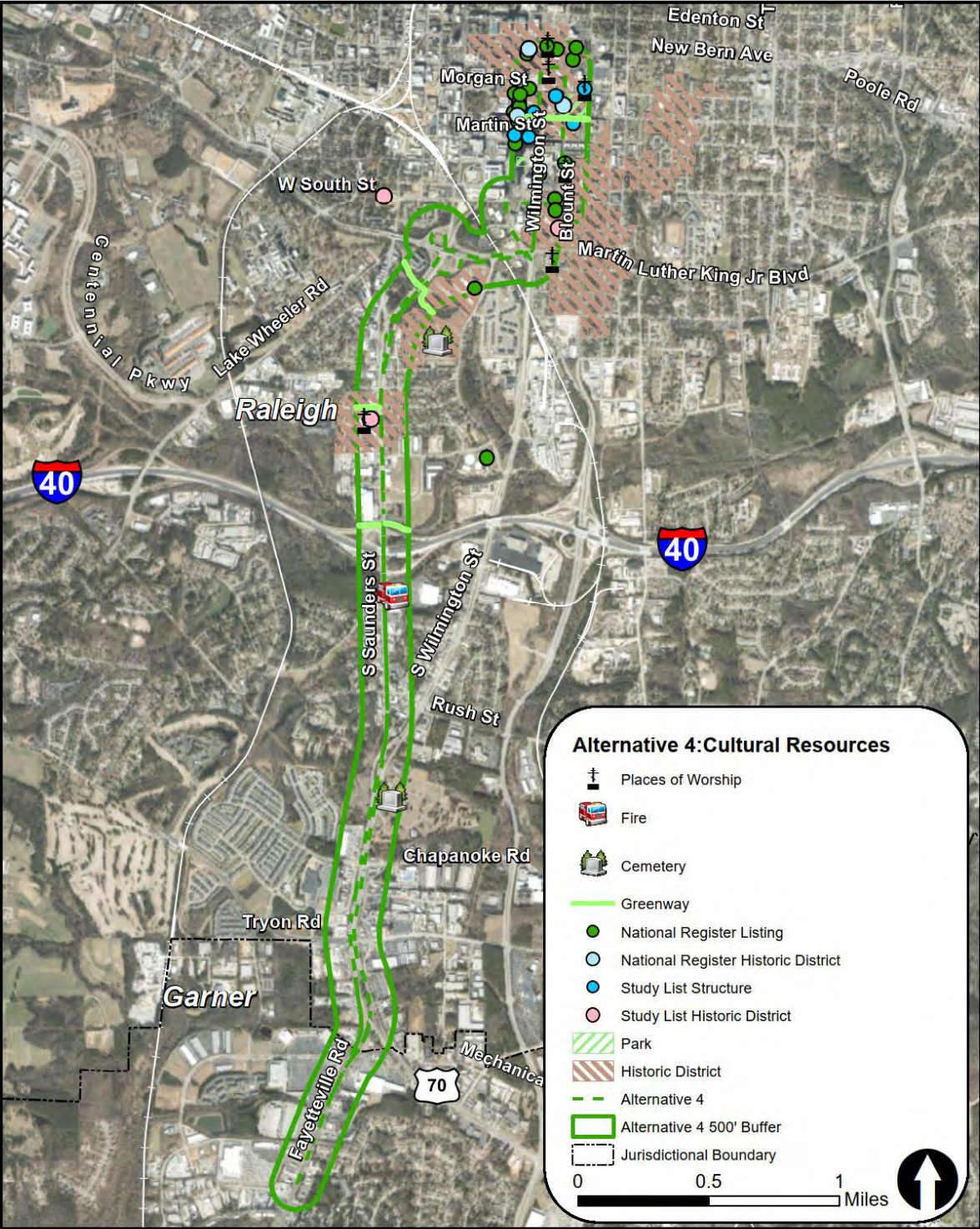


Figure 37: Cultural and Historic Resources within 500 feet of Alternative 4

Wake BRT: Southern Corridor



Figure 38: Cultural and Historic Resources within 500 feet of Alternative 5

Wake BRT: Southern Corridor

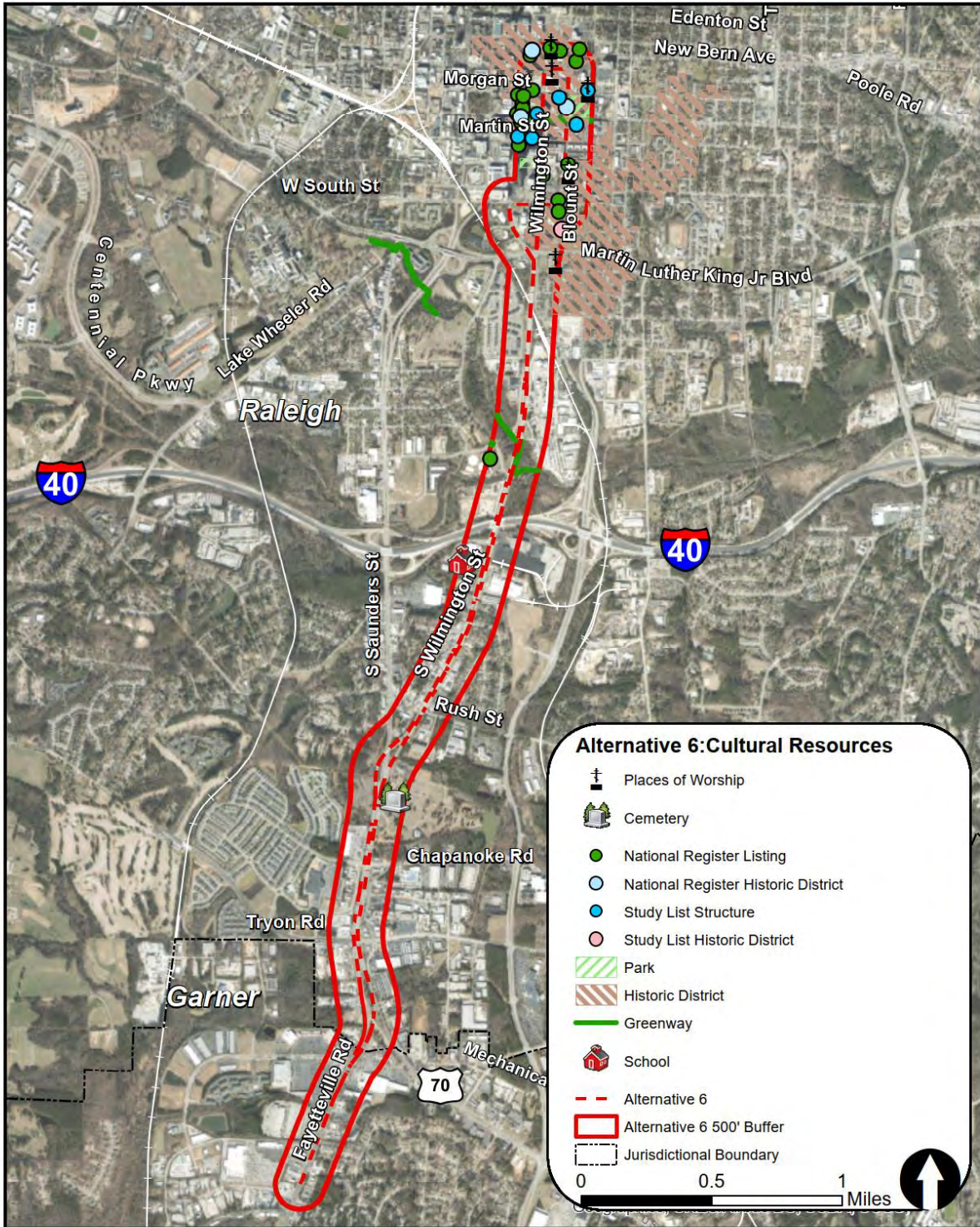


Figure 39: Cultural and Historic Resources within 500 feet of Alternative 6

Other Considerations

Right-of-Way

Right-of-way (ROW) widths were analyzed using NCDOT data. Depending on the amount of ROW needed for a project, costs can vary greatly. Selecting alternatives with large existing ROW can help reduce project costs. As expected, ROW is limited in Downtown Raleigh and abundant in the southern portion of the corridor, as shown in Figure 41. Aside from Downtown Raleigh, ROW varies from 110 feet to 250 feet. The proposed Wilmington Street Extension, which is considered in Alternatives 1, 3, and 5, is shown with a dashed purple line since there is not a current road facility there and ROW would need to be acquired for the entire new roadway. The Wilmington Extension may also include a modification to the existing flyover.

Traffic volumes are also an important factor when considering ROW. Figure 40, from the Southern Gateway Corridor Study, shows that the Annual Average Daily Traffic (AADT) along South Saunders Street (Alternative 1-4) is much higher than South Wilmington Street (Alternatives 5-6). The study highlights that South Saunders has higher speeds and volumes and is focused on mobility for vehicles, while South Wilmington Street, has lower speeds and volumes and is focused on access for people.

With more ROW on South Wilmington Street versus South Saunders Street and the lower speeds and traffic volumes, there is a greater potential to implement wider cross sections that could include multimodal features, such as bike lanes and multi-use paths.

Table 20: Right-of-Way Considerations

	City of Raleigh ROW	Potential City of Raleigh Structure Constraint	Town of Garner ROW	Potential Town of Garner Structure Constraint
Alternative 1	Downtown*: 60'-80' Other: 60'-250'	4	N/A	0
Alternative 2	Downtown*: 60'-80' Other: 60'-250'	5	120'-150'	0
Alternative 3	Downtown*: 60'-90' Other: 140'-150'	6	N/A	0
Alternative 4	Downtown*: 60'-90' Other: 140'-250'	7	120'-150'	0
Alternative 5	Downtown*: 60'-90' Other: 160'-200'	4	N/A	0
Alternative 6	Downtown*: 60'-90' Other: 150'-250'	5	120'-150'	0

* For this analysis Downtown Raleigh includes streets north of Martin Luther King Jr Boulevard.

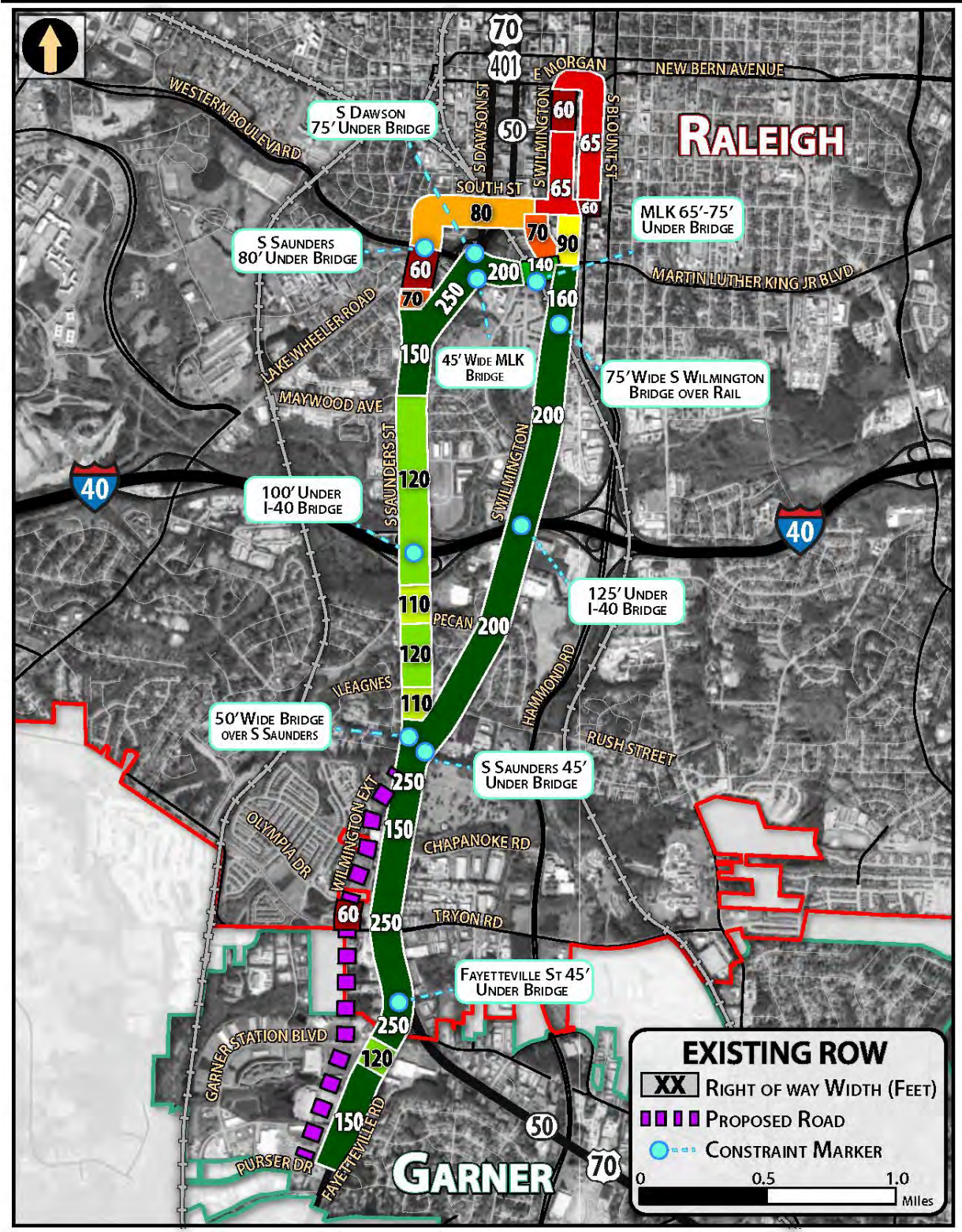


Figure 41: Existing ROW

Travel Time Information

An important aspect of the feasibility of alternatives is the route characteristics. Each alternative poses its own set of challenges to implement BRT and therefore, initial calculations can help see how each alternative stack up compared to one another. For this analysis, it is assumed that the BRT vehicles will travel at an average speed of 16 miles per hour, as identified in the MIS. Alternatives 5 and 6 had the shortest route length of 4.78 miles while Alternatives 3 and 4 had the longest route lengths of 5.28 and 5.29 miles respectively. Route length is a linear measurement and it measures the distance from the northern terminus to the southern terminus. Route length does not consider any loops or variations in the route from inbound versus outbound. As shown in the table below, the alternatives do not vary greatly in terms of travel times, distances, or other constraints.

Table 21: Travel Time Information

	MIS BRT Speed (MPH)	Raleigh Length (Miles)	Raleigh Travel Time (Minutes)	Garner Length (Miles)	Garner Travel Time (Minutes)	Total Route Length (Miles)	Total Travel Time (Minutes)
Alternative 1	16.0	4.46	16.7	0.60	2.3	5.06	19.0
Alternative 2	16.0	4.50	16.9	0.57	2.1	5.07	19.0
Alternative 3	16.0	4.68	17.6	0.60	2.3	5.28	19.8
Alternative 4	16.0	4.72	17.7	0.57	2.1	5.29	19.8
Alternative 5	16.0	4.18	15.7	0.60	2.3	4.78	17.9
Alternative 6	16.0	4.21	15.8	0.57	2.1	4.78	17.9

Wake Bus Rapid Transit (BRT): Southern Corridor

Summary of Existing Plans and Proposed Projects

Memorandum

To: City of Raleigh
From: WSP
Date: March 23, 2020
Subject: Summary of Existing Plans and Proposed Projects

Introduction

The purpose of this memorandum is to summarize existing plans and proposed projects that could impact or influence the Wake BRT: Southern Corridor project study area and chosen Locally Preferred Alternative (LPA) alignment. These plans include, but are not limited to, the Wake Transit Plan BRT Major Investment Study (MIS), the City of Raleigh Southern Gateway Corridor Study, and the Town of Garner Comprehensive Plan and Transportation Plan.

Southern Gateway Corridor Study

Summary

The Southern Gateway Corridor Study was adopted in February 2017 and calls for the reimaging of Raleigh's Southern Gateway that connects Raleigh to Garner. The car-centric, strip development nature of the corridor along with other external factors has limited interest from the development community in this area. Bus Rapid Transit could introduce multiple forms of transportation and help connect the corridor that has for so long been divided by the arterial roadway network. The plan highlights South Wilmington Street as more suitable for a dedicated transit corridor compared to South Saunders Street.

Bus Rapid Transit/Dedicated Transit Corridor

- This study reaffirms earlier findings that S. Wilmington Street provides certain advantages over S. Saunders Street as a potential transit corridor. Existing development, heavy traffic volumes, numerous access conflicts, and right-of-way constraints limit the potential effectiveness of S. Saunders Street as a dedicated transit corridor, and greatly increase costs. S. Wilmington Street presents better opportunities for transit-supportive redevelopment, fewer access conflicts, wider existing right-of-way, and lower existing and future traffic volumes. Wilmington Street has the same roadway capacity, but has half the daily traffic volumes as South Saunders making it a great candidate for a cross section reconfiguration that accommodates transit, bike and pedestrians. This road also doesn't have access to I-40, which reduces conflicts and serves more local traffic versus through traffic.
 - The figure to the right shows how S. Saunders and S. Wilmington have the same road capacity, but S. Wilmington AADT Volumes are significantly lower compared to S. Saunders.
- A dedicated transitway along S. Wilmington Street could better integrate with and enhance the overall transit system, and should be able to do so more cost-effectively.
- A center lane bus-way system is assumed, with stops in the Tryon, S. Wilmington/Rush, and Cargill Focus Areas. The



District Portrait
The Southern Gateway district includes a large land area south of downtown, primarily focused on corridor improvements along a 3-mile stretch of the S. Saunders and S. Wilmington Street corridors, highlighted in red on the graphic above.

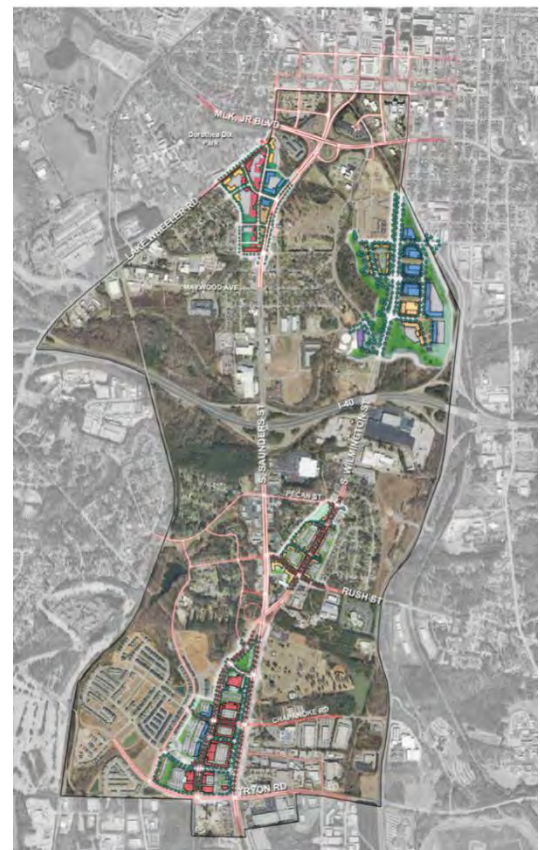


distance between the proposed stops is approximately 1 mile, as is the distance from a potential Cargill stop and Moore Square Station.

- Proposed stops would be located near key intersections to facilitate pedestrian access. To minimize overall facility width, platforms could be directionally staggered, located on the far side of each intersection, between the bus lane and the adjacent general traffic lane of the same direction, as shown in the accompanying photo and rendering. Alternatively, stations could be paired at the same location, increasing the corridor width.
- Available right-of-way (typically 200'-250' throughout the corridor) could help minimize bus conflicts with turning traffic, add flexibility to incrementally add such features without disrupting BRT infrastructure is a significant advantage to initially locating bus lanes and platforms in the center of S. Wilmington Street.
- BRT Service could be implemented in phases if needed. If on Wilmington, buses could initially run in mixed traffic with queue jumping or signal prioritization.
- At the same time, local bus service could also benefit from BRT infrastructure by sharing the dedicated bus-way or interlining routes. Implementing this transit corridor concept would lead to substantial changes to bus service in the study area, especially if other recommendations from this study are implemented. Improved connectivity in the street network would allow for more efficient bus routing outside of the transit way.
- To further enhance the transit corridor down Wilmington, an extension to Wilmington was proposed after it crosses S. Saunders Street. The extension would help with the redevelopment of Renaissance Park, and further connect future development around transit. This extension would better connect a potential park and ride lot.

Development

- Concentrating transit-oriented development at three appropriately-spaced nodes along this



corridor (the Tryon, S. Wilmington/Rush, and Cargill Focus Areas) creates an efficient and attractive alternative for commuting to downtown Raleigh and other employment areas. This concept takes advantage of S. Wilmington Street's existing, underutilized infrastructure and right-of-way, which also allows for the addition of the pedestrian and bicycle facilities needed to support transit and compatible development. The lack of an I-40 interchange becomes an advantage, eliminating associated congestion and delay.

- **S. Wilmington Street** will become a transit-intensive corridor by extending a new connection south to Tryon Road and beyond via the existing fly-over. Once the S. Wilmington Street Extension has been redesigned to better accommodate automobiles, bicycles, pedestrians, and transit riders, the framework will be in place to develop a mixed use, walkable district. Auto-oriented commercial uses could be replaced with urban scale development, adding ground-level store fronts that can provide much needed services for the adjacent neighborhoods. Upper stories of these buildings can be used for multi-family residential to provide high-quality rental housing that can attract tenants interested in a short commute to downtown.



- **Tryon Transit-Oriented Town Center**

- The most critical element of this approach is the extension of S. Wilmington Street on new alignment south to Tryon Road. This facility would cross S. Saunders Street at the existing flyover location, continuing southward on the western side. Not only does this new facility divert local traffic from US 70/401, it also provides an alternate route for northwest Garner traffic. The conversion of S. Wilmington Street to a dedicated transit corridor with enhanced bicycle and pedestrian facilities provides yet another option for reducing traffic on US 70/401.
- Develop a major transit hub and supporting access infrastructure with the conversion of the flyover to facilitate the S. Wilmington Street Extension to Tryon Road, and potentially to Garner Station Boulevard.
- Create a more robust street network providing alternate routes and reducing the need for short or east-west trips to use US 401. Bicycle and pedestrian options would also be improved, and more efficient transit routing and access provided. Specific recommendations with direct impacts on the Tryon Road Focus Area include:
 - Extending Wyncote Drive to S. Wilmington Street Extension
 - Conduct a detailed study of the Wilmington Street extension to determine how the interchange with S. Saunders should be configured and if grade separations

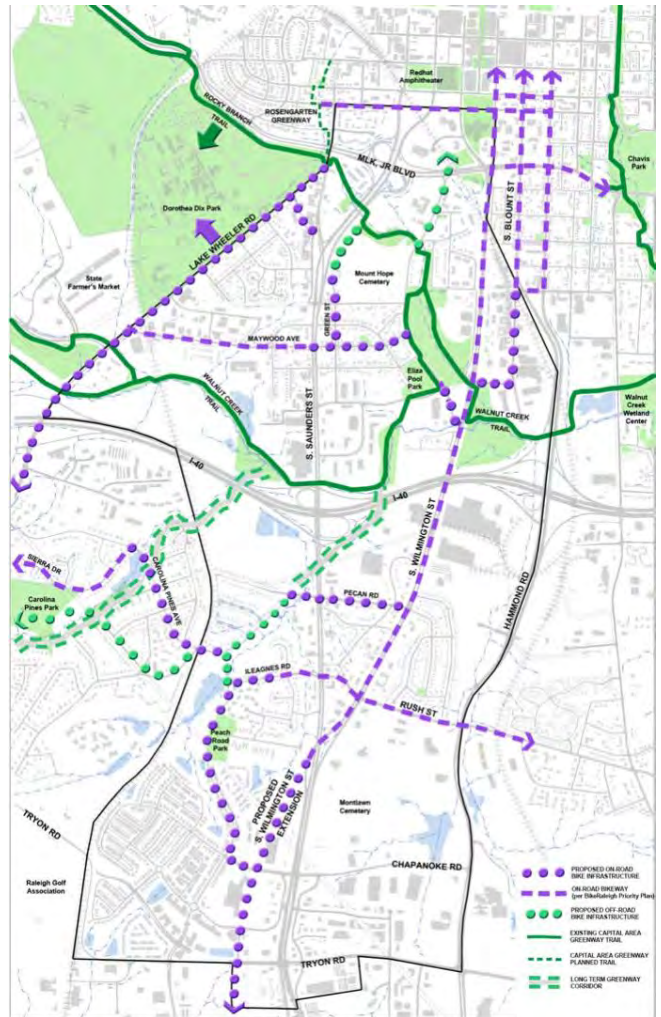
- The vision for this area suggests capitalizing on the energy and market potential here by extending S. Wilmington Street as a central spine for new, commercial, and transit-oriented development. A fresh mix of retail, office, and apartments could complete the Renaissance Park development with a bustling town center, replete with services, shops, and a viable transit hub including a park-and-ride facility.
- S. Wilmington Street extension as a central spine.
- Park and Ride Lot
- Redevelopment of Renaissance Park and making it the southern hub for S. Wilmington Street. This location could also provide convenient park-and-ride service. Bus Rapid Transit or a Park and Ride can help reshape this area and make it a destination hub
- **Cargill** - The last of the four nodes planned for redevelopment in this corridor is the Cargill area. With its close proximity to downtown, it is an attractive site that can offer more affordable rent prices compared to downtown. Rocky Branch Trail is located nearby and redevelopment can also help increase safety. The plan to redevelop consists of converting much of the warehouse and industrial areas into mixed use with a high residential component. With the old warehouses, there is opportunity to flex office spaces between office and light warehouse. A dedicated transit corridor and bike and pedestrian accommodations are essential to make this area a success and truly connect it to downtown. There is also the opportunity to make civic spaces in this area as well.

Connectivity

- Improvements to linkages between downtown and east-west streets.



- S. Saunders and S. Wilmington Streets have densities of 50-100 driveways per mile, resulting in driveways comprising 20%-30% of the curb. Although medians restrict left turns along most of the length of these corridors, the confusion and “friction” introduced by these closely-spaced driveways has negative effects on all modes of travel. Additionally, the abrupt transitions between highly-controlled access to uncontrolled access violate driver expectations, increase frustration, and contribute to the high crash rate.
- Adding a Pedestrian bridge across MLK Jr. Boulevard for increased connections.
- Adding a new bike/pedestrian facility connecting Walnut Creek Trail to Tryon Road.



Bike and Pedestrian

- Evaluate the district's connection to the southern edge of downtown by urbanizing the interchanges along MLK Boulevard and by providing a better bike/pedestrian connection to downtown (at Fayetteville Street).
- Establish Lake Wheeler Road as a bike and pedestrian corridor.
- Limited pedestrian access currently impedes easy access to transit.
- Bicycle and pedestrian enhancements are essential to the success of the proposed S. Wilmington Street transit corridor. Not only are safe and convenient bike and pedestrian access critical to transit ridership, they are key to the vitality of the denser mixed-use development intended for the focus areas. Therefore, bicycle and pedestrian connectivity must be integrated into planning and design of both the transit system and its adjacent development.

Recommendations and Implementation

- South of I-40 along Wilmington Street, the street cross-section can be reconfigured to accommodate sidewalks, bikes, and dedicated transit lanes.
 - Transform S. Wilmington Street into a complete street that maintains two lanes for vehicle traffic, and establishes separated bicycle facility, and dedicated transit lanes (for Bus Rapid Transit [BRT]). This will create a spine that will define the district.
- Improve key intersections along S. Saunders Street to address bike and pedestrian safety and access to transit.

- Improve east-west connections to link neighborhoods to each other surrounding the redesigned S. Wilmington Street.
- Transform the S. Wilmington Street flyover to accommodate transit connections south to Tryon Road.
- Extend S. Wilmington Street southward after it crosses S. Saunders Street at the existing flyover, which would be reconfigured to maintain existing connectivity.

ACTION PLAN				
	NEAR	MID	LONG	AGENCY RESPONSIBILITY
DEVELOPMENT STRATEGY				
Examine Long-Term Goals and Options for Affordable Housing/Homeless Services within Industrial Corridor South of Downtown		Study	X	Raleigh (Hsg & N'hoods, Planning, Econ Dvlpmt)
Establish Strategic Partnerships to Develop Workforce Housing Opportunities	X			Raleigh (Hsg & N'hoods, Planning)
Establish Grants for Facade and Property Improvement or Redevelopment in Targeted Investment Areas	X	X		Raleigh (Econ Dvlpmt, Planning)
Create Business Districts to Manage Redevelopment, Reinvestment, and Targeted Leasing	X	X		Raleigh (Econ Dvlpmt, Planning)
Identify Zoning Changes and Adjust where Needed	X			Raleigh (Planning)
Form Public Private Partnership in Tryon Area	X	X		Raleigh (Econ Dvlpmt, Planning)
Promote Existing Applicable city Programs; Historic Credits, Facade Grants, etc.	X			Raleigh (Econ Dvlpmt, Planning, Hsg & N'hoods, Historic Preservation)
Small Area Plan for Caraleigh/Maywood to Identify Growth and Conservation Opportunities	Study			Raleigh (Planning, Historic Preservation)
Small Area Plan for Fuller Heights/Wheeler Crossing/Old Saunders Businesses	Study			Raleigh (Planning)
Enforce Code Violations Regarding Exterior Maintenance	X			Raleigh (Hsg & N'hoods, Inspections)
Implement Green Infrastructure and/or Other LID Solutions in New Development	X	X	X	Raleigh (Planning, Stormwater, Public Works)
TRANSPORTATION / TRANSIT				
S. Wilmington Street Engineering Study	Study			Raleigh (Transp. Planning), NCDOT
S. Wilmington Street Transit, Ped., and Bike Improvements	X	X		Raleigh (Transp./Transit Planning), NCDOT
S. Wilmington Street Access Management	X	X		Raleigh (Transp. Planning), NCDOT
New S. Wilmington Extension (S of flyover)	Study		X	Raleigh (Planning), NCDOT
New S. Wilmington Flyover	Study		X	Raleigh (Planning), NCDOT
Grenelle Street Extension/Junction Blvd Improvement		Study	X	Raleigh (Transp. Planning)
Pecan Road Transit Stop Enhancement	X			Raleigh (Transp./Transit Planning)
Lake Wheeler/S. Saunders Intersection Improvements	Study	X		Raleigh (Transp. Planning)
S. Saunders Alignment/X-Section Maywood to MLK	Study		X	Raleigh (Transp. Planning)
S. Saunders Ped. Safety Improvements	X	X		Raleigh (Transp. Planning)
S. Saunders Access Management	X	X		Raleigh (Transp. Planning)
MLK Modifications at S. Saunders and Wilmington	Study	X	X	Raleigh (Transp. Planning), NCDOT
Ped./Bike Connection over MLK Blvd. (Fayetteville St Ext.)	Study		X	Raleigh (Transp. Planning)
BIKE / PEDESTRIAN CONNECTIVITY				
Ped./Bike Connection from Tryon to Walnut Creek Trail	X	X	X	Raleigh (PR&CR, Transp. Planning)
Ped./Bike Connection from Maywood to Walnut Creek Trail	X	X	X	Raleigh (PR&CR, Transp. Planning)
Improve Wayfinding at Trail/Street Intersections	X	X		Raleigh (PR&CR)
Align Ped/Bike Improvements at S. Saunders/Lake Wheeler with Rosengarten Multi-Use Path	X	X		Raleigh (PR&CR, Transp. Planning)

Garner Forward Transportation Plan

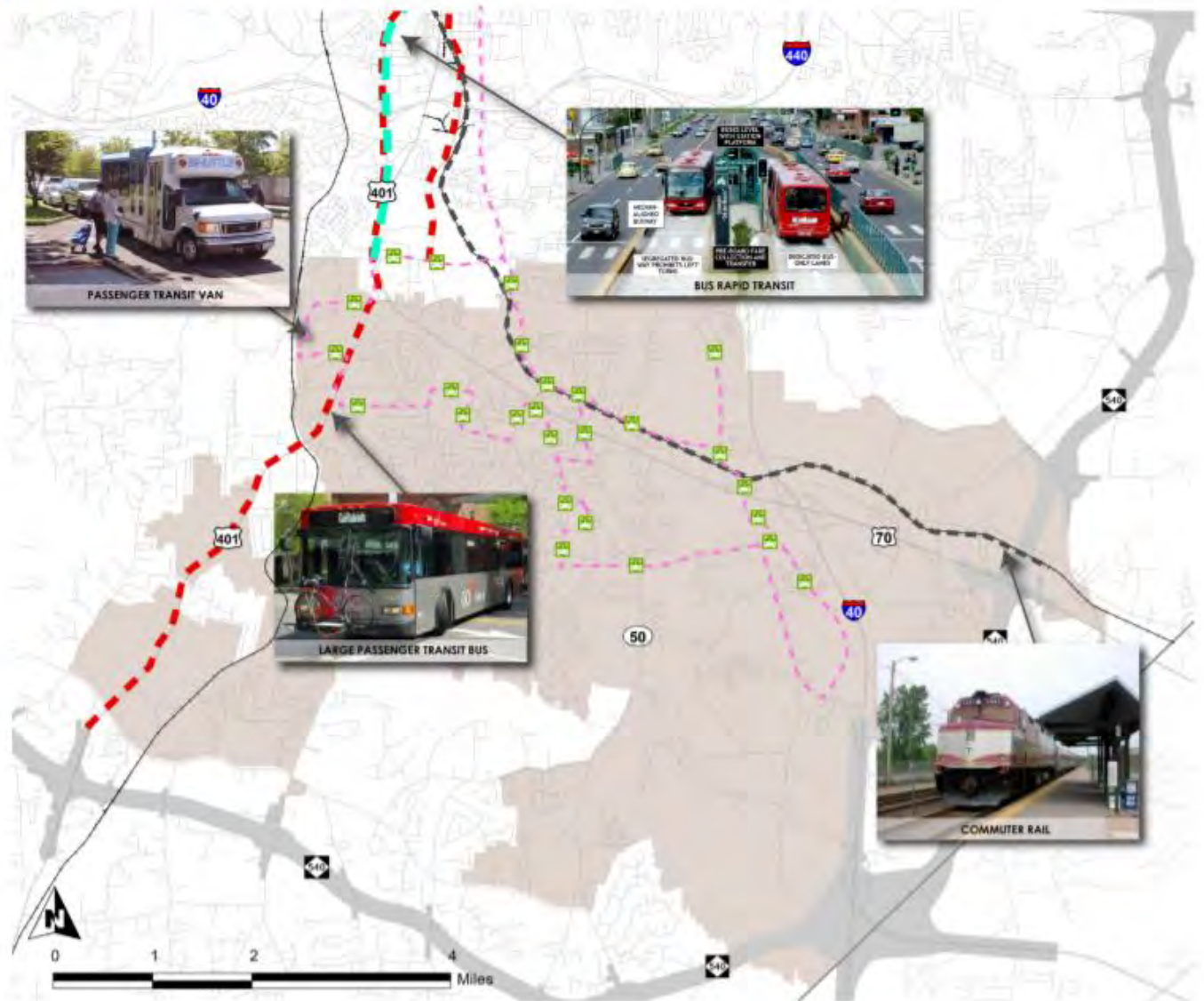
Summary

The Garner Transportation Plan recognizes BRT from Downtown Raleigh into Garner, as identified in the Wake Transit Plan. The town has a long-term plan to add a bus circulator that would connect to the BRT corridor as well as the proposed commuter rail. The town is creating a complete streets policy to help inform other planning decisions to make sure that roadways are conducive to multi-model travel and help ease commute times for those residing within the town. The plan programs BRT to begin in 2025. The map shown below places the BRT alignment on S. Saunders Street.

Recommendations

- Expand transit service throughout the town.
- Enhance accessibility with a bus stop within three quarters of a mile of 80 percent of jobs and 80 percent of homes.
- New Bus Circulator loop that would connect to the proposed Transit-Oriented Development near Walmart off US 401 and would connect to BRT and Commuter Rail.
- Improve street design standards for more cycling and walking.

Action Plan: Transit Projects				
Description	Time Frame	Capital Cost Estimate	Potential Funding	Responsible Party
Circulator Route (East)	2023	\$1.5 million	Sales Tax (with matching bond funds)	Wake County, Garner, Private
Circulator Route (West)	2025	\$1.5 million	Sales Tax (with matching bond funds)	Wake County, Garner, Private
Bus Rapid Transit (BRT)	2025	\$1.3 million	Sales Tax	Wake County
Commuter Rail Service (CRT)	2030	\$4 million	Sales Tax	Wake County






Transit Recommendations

2016 Transit Location Recommendations

-  Bus Stops
-  Park & Ride
-  Rail Station
-  Transit Loop Route Recommendation 30 or 60 Minute (Contraflow)

Wake County Transit Plan Recommendations

-  Bus Rapid Transit (BRT)
-  Commuter Rail
-  Fixed Route - 30 Minute

Garner Forward Comprehensive Plan

The Garner Forward Comprehensive Plan was finalized in 2018. The plan identifies Garner Station as the concept for the convergence of US 70 and US 401 emphasizes a massively improved experience for drivers, pedestrians and transit patrons. This last group is planned to be served by the southernmost (for now) terminus of a bus rapid transit (BRT) line that will connect Garner quickly to downtown Raleigh. The center-loading of the vehicles encourages development on both sides of the landscaped and walkable spine roadway.

Bike Raleigh Plan

Summary

The Bike Raleigh Plan was adopted in 2016 and looks to expand Raleigh’s bike network and help foster a safer and more convenient bike network. The plan identifies numerous projects to enhance and connect current bike facilities. An implementation process was created to score and build the projects. Projects scoring higher on the matrix were programmed for implementation in a 10-year span. Lower scoring projects were put on the long-term list. In sum, three (3) short-term bike projects and two (2) long-term bike projects were identified within the Wake BRT Southern Corridor that should be taken into consideration in future planning and design efforts.

10-Year Projects

1. Separated Bikeway on South Wilmington from MLK Jr Boulevard to Chapanoke Road (S4)

TABLE 4.1: TEN YEAR PRIORITY LIST (SEPARATED + NEIGHBORHOOD BIKEWAYS)

	Project Name	From	To	Mileage	
Separated Bikeways	S1	S. State St	Martin Luther King Jr. Blvd	I-40 Bridge	1
	S2	West St	Peace St	Martin St	0.8
	S3	Martin St	West St	Chavis Way	0.8
	S4	S. Wilmington St	Martin Luther King Jr. Blvd	Chapanoke Rd	2.5
	S5	Peace St/Johnson St/ Boundary St*	Clark Ave	Watauga St	1.5
	S6	Atlantic Ave	Brookside Dr	New Hope Church Rd	2.8
	S7	Six Forks Rd	Ramblewood Dr	Lynn Rd	2.4
	S8	St. Marys St/Boylan Ave*	Wade Ave	Western Blvd	2
			Total	14	

Projects are listed in rough order of priority, as determined by prioritization matrix results and implementation difficulty.

*Project features sections of neighborhood bikeways

2. Bike Lanes on Illeagnes Road/Rush Street/Cross Link Road from Wyncote Drive to Rock Quarry Road crossing South Wilmington. (B5)

	Project Name	From	To	Mileage	
Bicycle Lanes	B1	Green Rd	New Hope Church Rd	Spring Forest Rd	1.4
	B2	Lineberry Dr/ Trailwood Dr/ Thistledown Dr	Tryon Rd/Gorman Ave	Lake Wheeler Rd	2.3
	B3	Donald Ross Dr/ Peartree Ln	Milburnie Rd	Poole Rd	1
	B4	Cameron St/ Woodburn Rd	Oberlin Rd/Clark Ave	Smallwood Dr	0.5
	B5	Illeagnes Rd/Rush St/ Cross Link Rd	Wyncote Dr	Rock Quarry Rd	1.6
	B6	Whitaker Mill Rd	Atlantic Ave	Reaves Dr	1

3. Bike Lane on Blount Street from Franklin Street to 160 feet South of Bragg Street

TEN YEAR PRIORITY PLAN

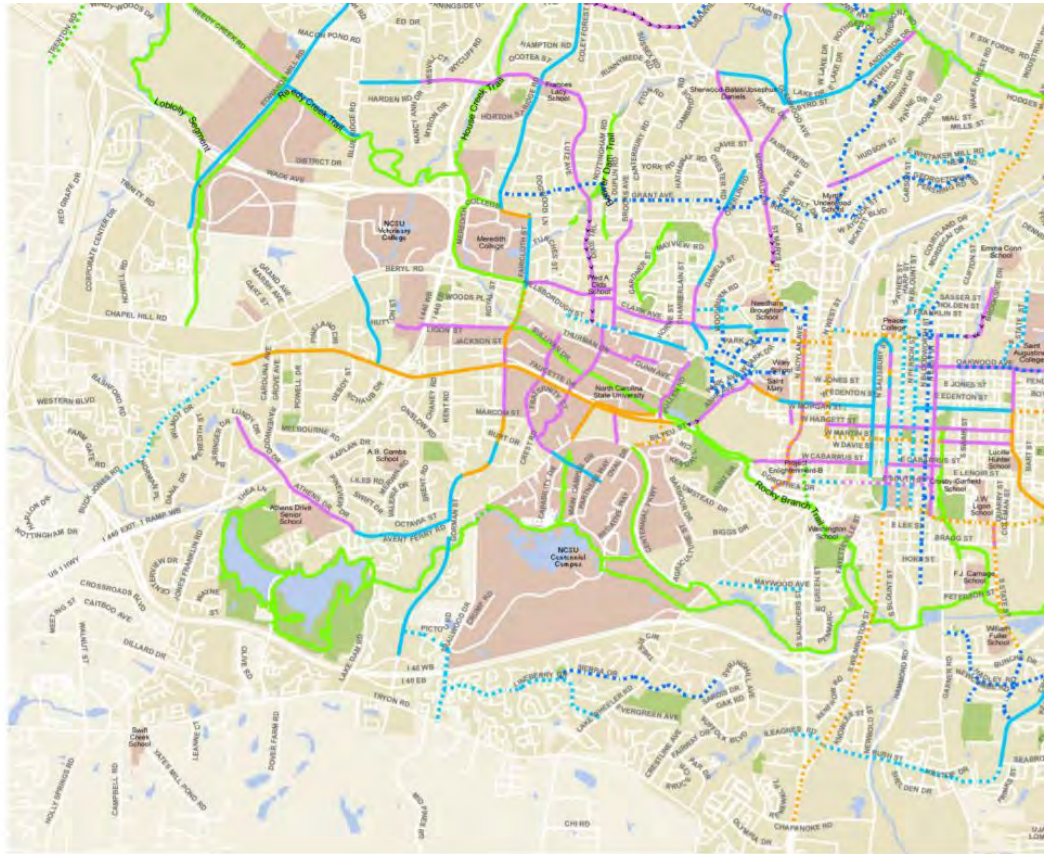
SOUTHWEST SECTOR

- EXISTING BIKEWAYS**
- Paved Greenway Trail
 - Separated Bikeway
 - Bicycle Lane
 - Climbing Lane
 - Main Street Bikeway/Sharrows

- RECOMMENDED + PROGRAMMED BIKEWAYS**
- - - Greenway Trail
 - - - Separated Bikeway
 - - - Neighborhood Bikeway
 - - - Bicycle Lane
 - - - Climbing Lane
 - - - Main Street Bikeway/Sharrows

- DESTINATIONS + BOUNDARIES**
- Unpaved Trail
 - School
 - Park or Open Space
 - Water Body
 - City or Neighbour Limits

Map Note:
 Precise Neighborhood Bikeway routes are subject to change through detailed analysis, design, and public input.
 The lines shown are intended to communicate destinations and corridors served by planned facilities, not specific design or treatments.



Long-Term Projects

1. Separated Bikeway on S Saunders from Downtown to Tryon.
2. Bike Lane on Pecan Road.

LONG TERM BIKEWAY PLAN

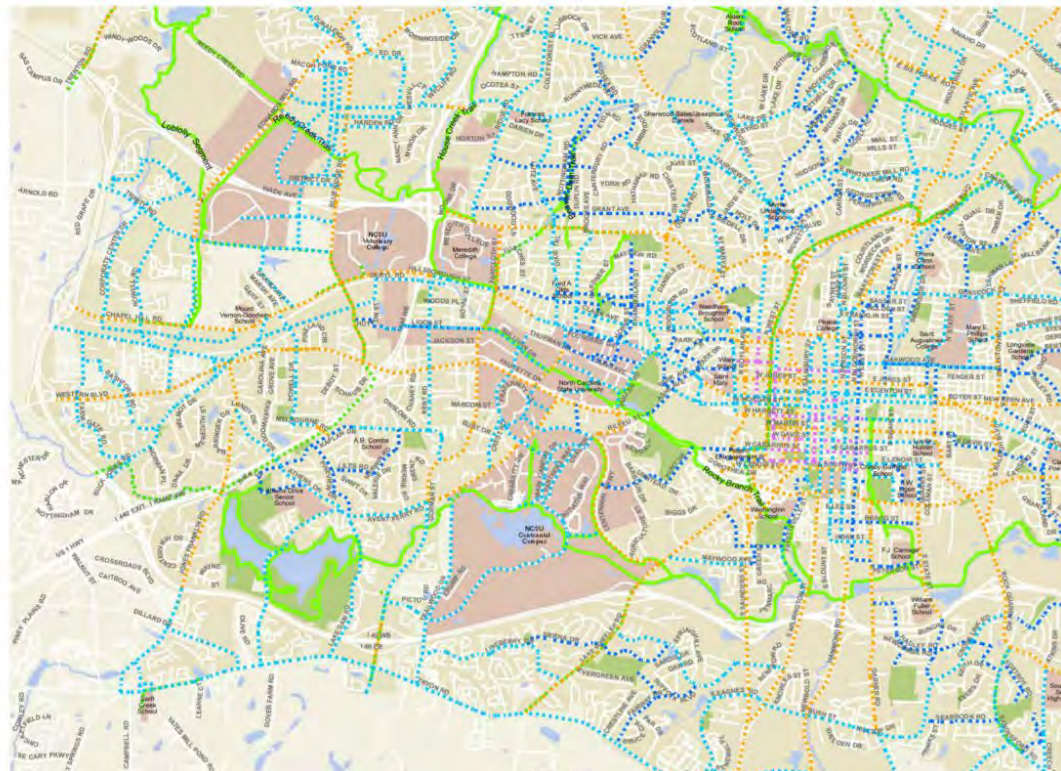
SOUTHWEST SECTOR

EXISTING BIKEWAYS

- Paved Greenway Trail

- RECOMMENDED BIKEWAYS**
- - - Greenway Trail
 - - - Separated Bikeway
 - - - Neighborhood Bikeway
 - - - Main Street Bikeway
 - - - Bicycle Lane

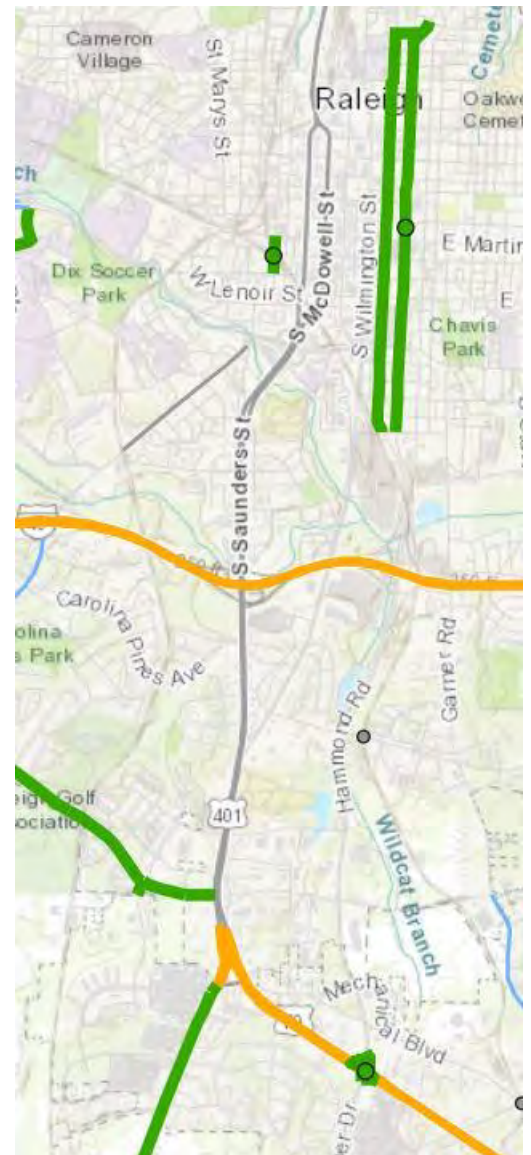
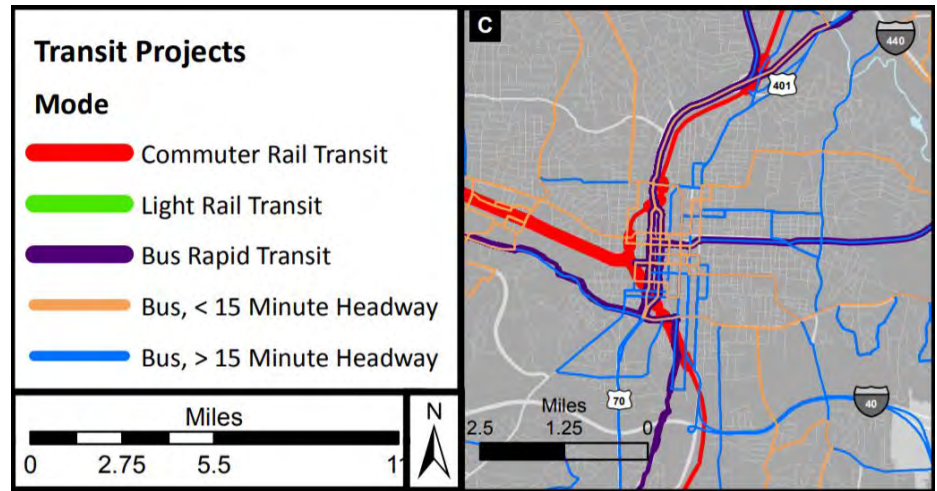
- DESTINATIONS + BOUNDARIES**
- Unpaved Greenway Trail
 - School
 - Park or Open Space
 - Water Body
 - City or Neighbour Limits



CAMPO MTP 2045

The CAMPO MTP was amended most recently in 2018 and calls for BRT along four corridors that begin in Downtown Raleigh and continue into surrounding areas and municipalities. The Transit Project Map below shows the Southern Corridor BRT running along S. Wilmington Street and then utilizing Martin Luther King Jr. Boulevard. Long-term, bus rapid transit would continue south into Garner and then head east into Clayton.

For roadway projects, the MTP calls for the conversion of US 401 to a superstreet from Garner Station Road to Old Stage Road. It also calls for the widening of Tryon Road to four lanes and the widening of US 70 to six lanes. In addition it calls for the widening of the US 401/US 70 Business to six lanes from the US 401/US 70 Business Flyover to Garner Station Road/Mechanical Boulevard.



Raleigh Parks, Recreation and Cultural Resources System Plan

Summary

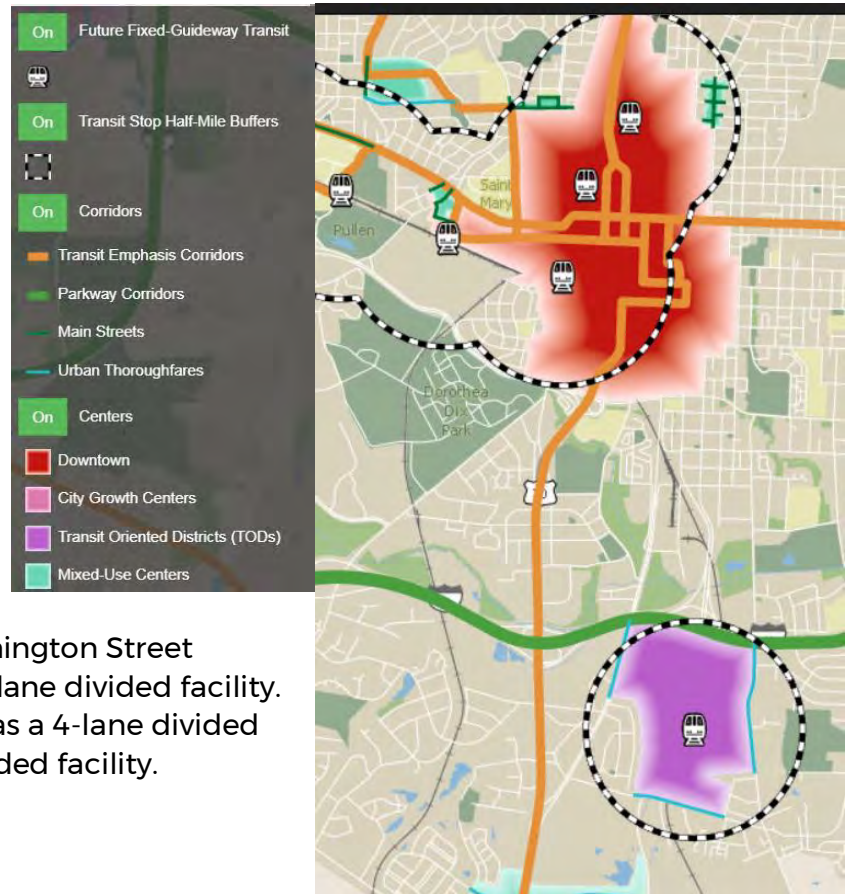
The Raleigh Parks, Recreation, and Cultural Resources System Plan was approved in 2014 and was informed through numerous workshops, advisory boards, and online comments. Many participants noted that access to parks via public transit was sometimes lacking. A matrix evaluating parks on an individual basis rated a park as “Exceeding expectations” if the park was accessible by mass transit, “meeting expectation” if there was a transit stop nearby and has reasonable sidewalk connectivity, and “not meeting expectations” if the park is difficult to access by public transportation or on foot. Cumulatively, transit access throughout the entire Raleigh Park system scored a 73 out of 100 and was classified as “meeting expectations”. However, needs and priorities were highlighted in the plan to increase transit access at parks.

Recommendations/Action Items

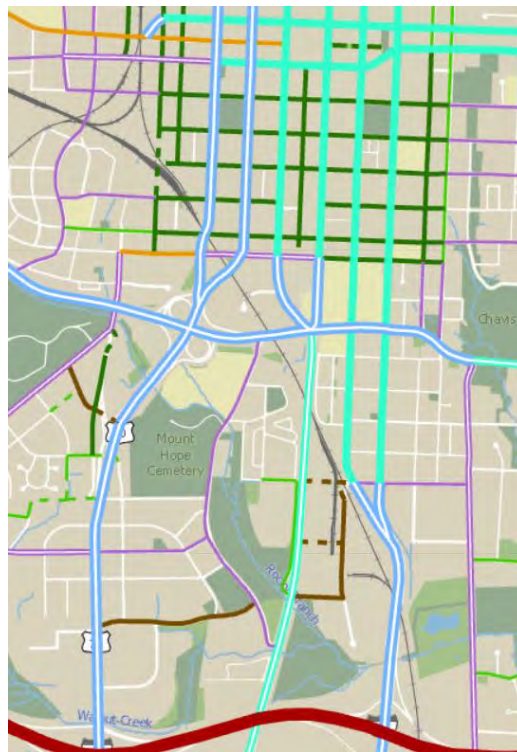
- Every resident should be able to access park facilities within similar walking, biking, public transit and/or driving distances.
- Improved and promote public access options to natural areas through greenways and public transit to increase educational and recreation opportunities.
- Provide access to regional adventure recreation hubs through public transit, bike facilities, and greenways.
- Provide access to lake-based recreation areas through public transit, bike facilities, and greenways.
- Provide access to athletic facilities through affordable public transit, bike facilities, and greenways.
- Enhance existing and develop new indoor and outdoor spaces throughout the city that can be used for a variety of programs and activities and is close to public transit.
- Work with transit agencies to include major parks on public transportation maps and plans.
- Partner with City of Raleigh Planning and Development to conduct a transit access study.

City of Raleigh Street Plan (iMaps)

The City of Raleigh's Street Plan map shows that the Southern Transit Corridor of emphasis runs from downtown along South Saunders into Garner. However, a Transit Oriented District has been identified off South Wilmington Street with a future fixed-guideway component. This shows that off the alternatives South, running a fixed guideway transit corridor along S. Wilmington would pair with the hopes to create this TOD.



The Street Plan Map shows the future Wilmington Street extension and identifies it as a proposed 4-lane divided facility. The plan also identifies South Wilmington as a 4-lane divided facility and South Saunders as a 6-lane divided facility.



The 2030 Comprehensive Plan for the City of Raleigh

Land Use and Transportation Coordination

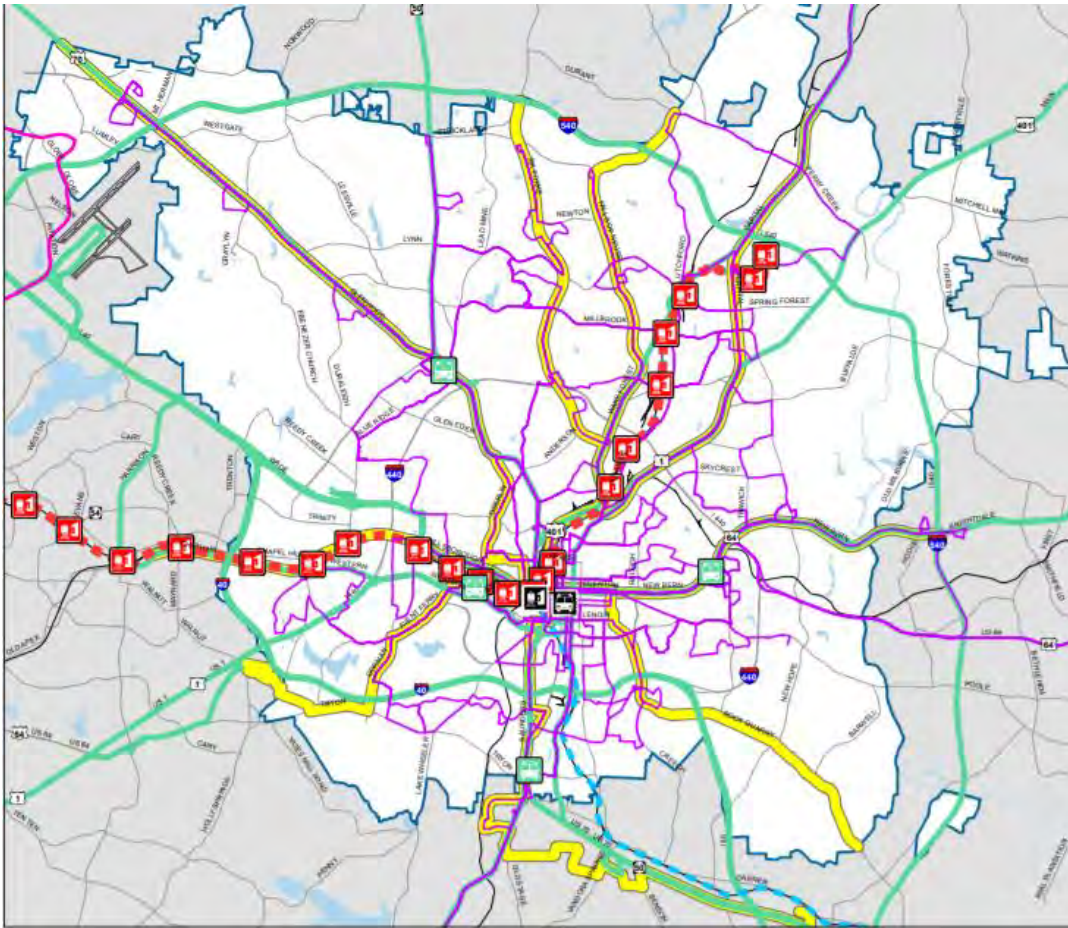
There are several policies outlined in the 2030 Comprehensive plan that pertain to transit and land use and development. Overall, the plan calls for increased mixed-use development that provides services to people to reduce vehicle miles traveled (VMT). All new development and redevelopment should provide pedestrian connectivity as well. Policy LU 4.6 specifies that Transit-Oriented Development (TOD) should be promoted around planned transit stations through proper planning, development regulations, and public-private partnerships. Additionally, sites within a half-mile of fixed transit guideways should be developed with intense residential and mixed-uses as well as complementary uses to support the City and region's investment in transit. Transit corridors should promote pedestrian-friendly and transit-supportive development patterns along the corridors. Additional policies elaborate more on discouraging auto-oriented development and instead encouraging "nodes" that are walkable.

The Future land use map to the right shows that the southern portion of the corridor is planned for Community Mixed Use (red), Business and Commercial Services (Pink), and Office and Residential Mixed Use (teal).

Transportation

Transportation focuses in the 2030 Plan include, coordination with future land use, increasing mobility choices, connectivity, multi-modal grids, increasing roadway tree canopies, and complete streets. The complete streets policy focuses on making streets accommodating for all users and adding medians, redefining Level of Service (LOS) to consider other non-auto modes. Public transportation should be promoted as well to meet the City's transportation needs. Transit accommodations should be suitable for all users, offer good connections throughout town, prioritize fixed-guideways to increase ridership and spur development/redevelopment, and consider pedestrian accommodations. A transit hub is recommended in South Raleigh near Garner. A South Saunders Park and Ride Facility is an example given. The Southern Corridor is highlighted as a priority transit corridor.





MAP T-2



Wake County Transit Plan Major Investment Study

The Wake County Transit Plan Major Investment Study was approved in 2018 and was conducted in response to the Wake County Transit Plan that was approved in 2016. A big focus of the Study was BRT. The MIS identifies the Southern BRT corridor along either South Saunders Street or South Wilmington Street. The corridor would travel approximately 4 miles along South Wilmington Street/South Saunders Street from Downtown Raleigh to Purser Drive in Garner.

The Study used fifteen evaluation metrics to compare the alignment options. The table below shows the fifteen evaluation metrics used and how the alignment options for the Southern Corridor compared. S Saunders 1, S Saunders 2 and Wilmington were three alignment options from Downtown Raleigh to where South Saunders Street and Wilmington Street merge. Wilmington Ext and Fayetteville were the two alignment options from the merge of South Saunders Street and Wilmington Street to Purser Drive.

Overall, the alignment options were similar when compared to one another, but differed in the following five categories:

- Potential Corridor Connections
- Potential Corridor Utilization
- Affordable Housing Access
- Environmental Impact
- Constructability

Constructability showed the greatest difference, which “...reflects extensive major structural work required and potential water features, as well as high traffic volumes” along the S Saunders 1, S. Saunders 2, and Fayetteville segments.

Evaluation Metric	S. Saunders 1	S. Saunders 2	Wilmington	Wilmington Ext	Fayetteville
Speed Improvement	3	3	3	2	2
Potential Corridor Connections	2	2	3	3	3
Potential Corridor Utilization	2	2	3	3	3
Connections to Frequent Transit	2	2	2	3	3
Ease of Access	2	2	2	3	3
Affordable Housing Access	1	1	2	3	3
Minority Access	2	2	2	2	2
Transit Dependent Access	2	2	2	3	3
Total People + Jobs served	2	2	2	3	3
Concentration of People + Jobs	2	2	2	3	3
Economic Development Potential	1	1	1	1	1
Environmental Impact	2	2	3	3	2
Constructability	3	3	1	1	3
Operating Cost per Passenger	2				
Capital Cost per Passenger	3				

The projected population growth will increase travel demand through the corridor and commuter trips between the residential areas in the service area and commercial and office areas within the infrastructure areas. The current transportation choices available to the public are limited.

Of all the trips attracted to S Wilmington Street infrastructure area that are produced in any of the infrastructure area districts, the majority (26,000 or 15%) of the trips are produced in the S Wilmington Street infrastructure area districts. Most of these trips are produced towards the southern end of the corridor in Tryon and South Saunders districts. A total of 14,600 or 8% of the trips attracted to the S Wilmington Street infrastructure area are produced in the Raleigh CBD. A total of 61,200 (41%) of the trips attracted to S Wilmington infrastructure area are from all four infrastructure areas, with the highest percentage of trips (12% or 22,300) coming from the Western Boulevard infrastructure area. A total of 103,000 or 58% of the trips attracted to S Wilmington infrastructure area are produced in all four service areas. A total of 71,600 or 40% of these are produced in the S Wilmington Street service area itself. Most of these trips are attracted to the South Saunders and Tryon districts as expected due to the large employment centers. This trip pattern shows that most of the demand in this corridor is from the infrastructure and service area within the study corridors. The S Wilmington Street service area produces 422,500 trips and attracts 239,100. A total of 71,600 or 17% of these trips stay within the S Wilmington Street infrastructure area, 56,700 (13%) are attracted to the Western Boulevard infrastructure area, and 45,100 (11%) to the Raleigh CBD. Approximately 152,100 (64%) of the total trips attracted to the S Wilmington Street service area are produced in this area.

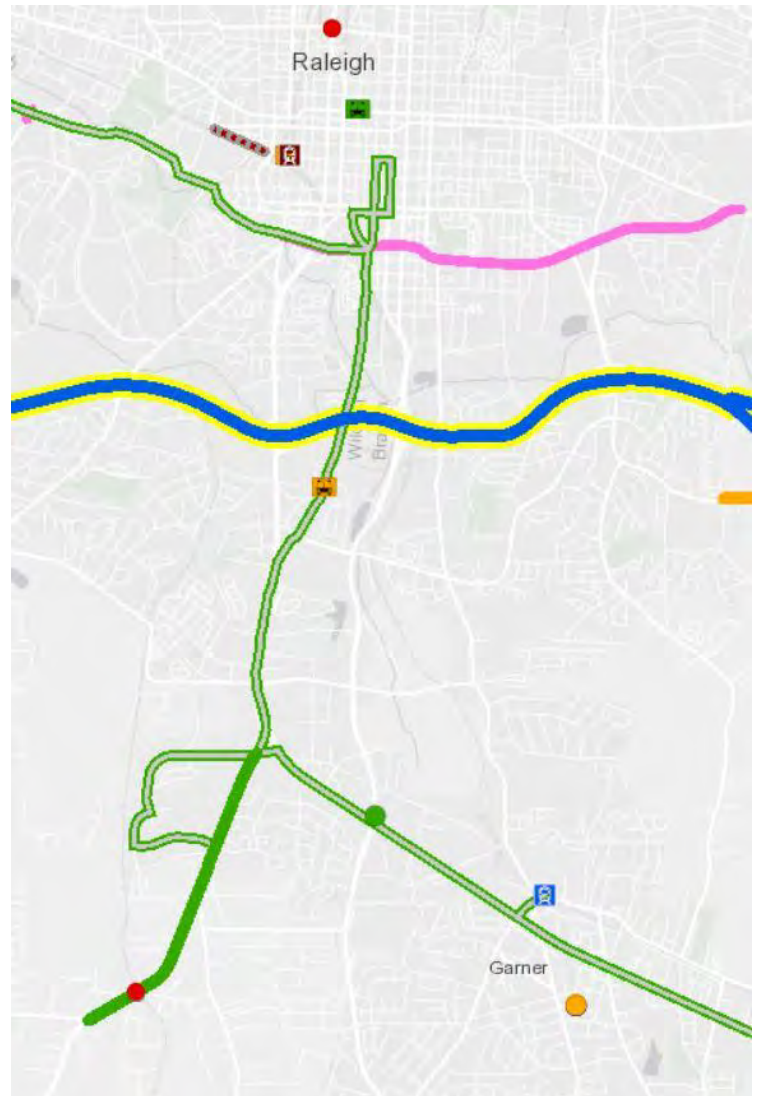
An area with greater than 50% of households having zero cars is found near the intersection of Western Boulevard and Wilmington Street. The Wilmington Street corridor is comprised mainly with 51-80% minority neighborhoods. At the intersection of Western Street and Wilmington Street, the poverty percentage is greater than 51%. On the western side of the corridor, between I-40 and Tryon Road, there is an area of 21- 50% poverty. Evaluation of potential impacts on EJ populations within the corridor will be required during the design phase. Census data indicates a Spanish language population that meets or exceeds the US Department of Justice LEP Safe Harbor threshold has the highest concentration to the northeast of Wilmington Street –close to downtown. The rest of the Wilmington corridor has 6-15% LEP-Spanish population located on either side.

NCDOT STIP

2020-2029 State Transportation Improvement Program

Several NCDOT projects included within the 2020-2029 STIP are within close proximity to the proposed Wake BRT: Southern Corridor alignments. Those projects include:

- **TO-6166** – Bus Rapid Transit service from Morrisville to Clayton
- **EB-5709** – Dedicated bicycle facilities along Martin Luther King Jr Boulevard from South Saunders Street to Poole Road.
- **I-5388** – Pavement rehabilitation along I-40 from Jones Franklin Road to I-440/US 64
- **U-6101** – Converting facilities to management freeways from Wade Avenue to NC 42



Wake Bus Rapid Transit (BRT):

Southern Corridor – LPA Selection

Round One of Public Meetings

Summary Memorandum

To: City of Raleigh
From: WSP
Date: May 6th, 2020
Subject: Wake BRT: Southern Corridor Public Meeting 1

In February and March of 2020, the first round of public meetings for the Wake Bus Rapid Transit (Wake BRT): Southern Corridor were held, with one meeting in Raleigh and one meeting in Garner. The first meeting was held on February 24th at Victory Church, 2825 S. Wilmington St., Raleigh. The second meeting was held on March 3rd at the Garner Senior Center, 205 E Garner Rd, Garner. Both meetings were held from 4 P.M. to 7 P.M., in an open-house, drop-in style meeting format with a brief presentation at 5:30 P.M. The purpose of the meetings was to educate the community on the benefits of BRT, highlight previous planning studies in the area, and present the corridor alternatives. Attendees had the opportunity to discuss the project directly with City of Raleigh and Town of Garner staff and project consultants, participate in activities to provide feedback on priorities, and provide additional feedback on comment forms. The feedback requested from attendees focused on rating priorities for evaluation considerations and categories related to selecting a preferred alternative alignment. 40+ attendees signed in at the first meeting and 25+ attendees sign in at the second meeting. An online survey was made publicly available until March 20th, with the questions mirroring feedback activity and comment forms provided at the public meeting. The online survey had 217 participants, 36 of whom entered an email to receive future project updates.

1. Advertisement and Attendance

The City of Raleigh employed several methods to promote and inform residents and transit riders of the Wake BRT: Southern Corridor public meeting. A breakdown of how attendees reported hearing about the public meeting is shown in Figure 7 in Section 2.c: Exit Survey. Outreach efforts included:

- Posts on the City's and the Town of Garner's social media pages (Twitter and Facebook),
- An e-blast to the City of Raleigh GoRaleigh News and Event subscribers (GovDelivery) and the Town's News and Event subscribers,
- An e-blast to the Wake Transit Plan GoForward subscriber's through GoTriangle,
- Website announcement on City of Raleigh website, Town of Garner, and GoForward website,
- Postcard distribution to 5,000 residents.
- Yard signs posted at bus stops along GoRaleigh Route's on the corridor and in Garner

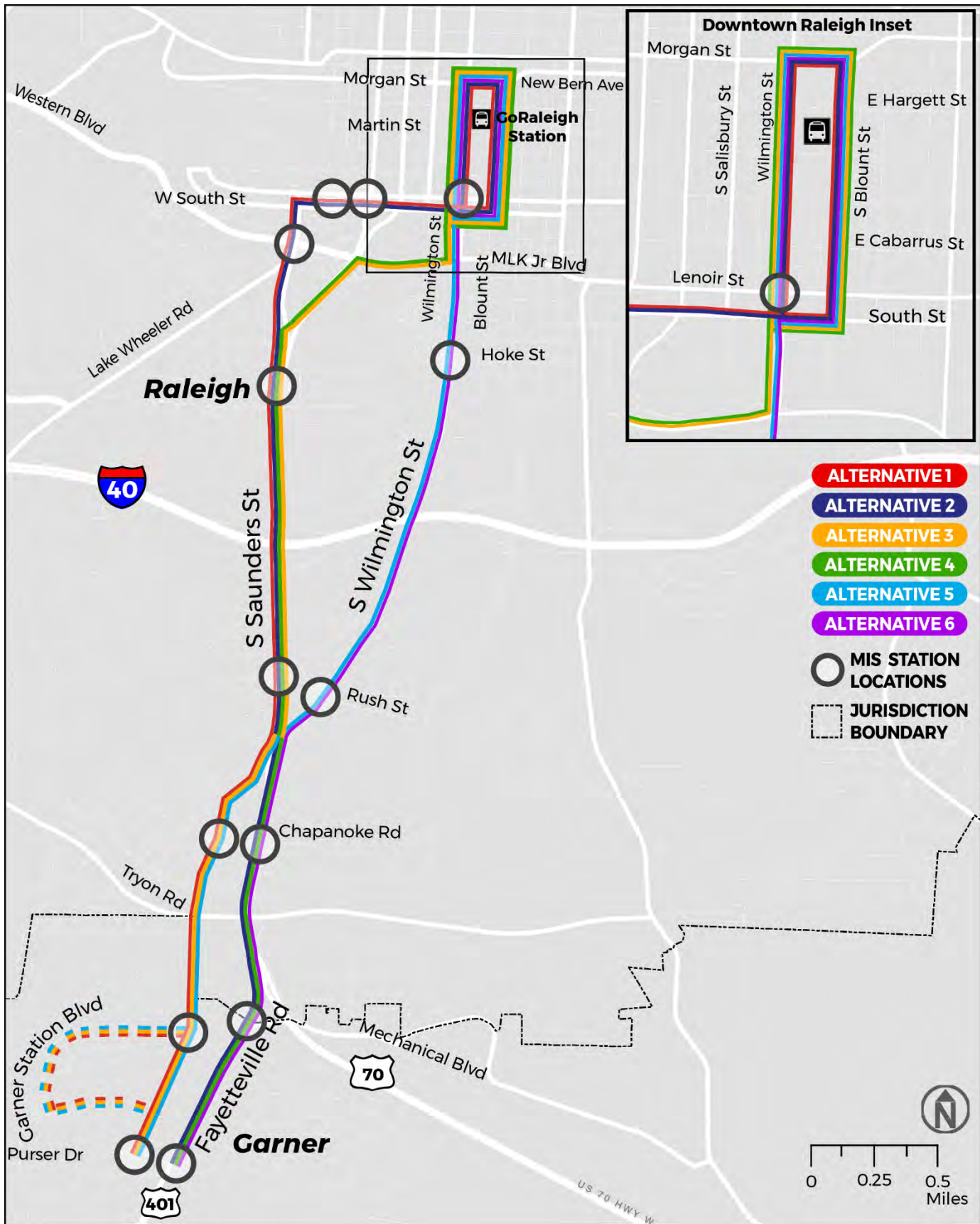


Figure 1 – Wake BRT: Southern Corridor Alternatives

2. Public Feedback Summary

a. Combined Summary Results

At the public meetings and through the online survey and comment form, participants were asked to respond to two questions regarding evaluation considerations and station locations.

Table 1 shows the combined results of the evaluation considerations collected from the results from the display board activity at the public meetings, and the online survey and paper comment form results. Additional details on these results can be found in sections 2.b and 2.c

Table 1 – Results of Evaluation Considerations, Combined Results

How important to you are the following categories for selecting a BRT alignment (choose one for each category)?			
Category	This category is a low priority for me.	This category is a medium priority for me.	This category is a high priority for me.
Availability of Bike and Pedestrian Connections	20	41	113
Potential Number of BRT Riders	11	60	95
Public Support from the Major Investment Study	24	72	64
Economic Development Opportunities	14	47	110
Average Daily Vehicular Traffic Along the Corridor	36	68	72
Total Cost to Construct the BRT	47	81	44
Amount of Right of Way (ROW) Required for BRT	57	83	28
Length of Implementation Timeline	24	70	78

The station location question was a question on both the online survey and paper comment form. Table 2 shows the results and additional details can be found in section 2.c.

Table 2 – Results of Station Locations, Combined Results

Which of the following station locations would best serve your travel needs? (Select up to three locations)	
Station Locations	Number of Selections
(1) GoRaleigh Station	105
(2 & 3) Lenoir Street	26
(4) South Street	39
(5) Western Boulevard	39
(6) Summit Avenue	10
(7) Hoke Street	14
(8 & 9) Rush Street/ Ilegnes Road	24
(10 & 11) Chapanoke Road	22
(12 & 13) Garner Station Boulevard	52
(14 & 15) Purser Drive	35

b. Display Board Activity at Public Meetings

As identified above, public feedback was collected through display board activity, comment forms, exit surveys and on-line survey replicating same information as public meetings.

The display board activity asked attendees to use stickers to identify how important each evaluation consideration category was to them for selecting a preferred route/alignment.

Boards with “sliding scales” provided context to the sticker activity by showing where each alignment option fell on a “low to high” scale for each of the evaluation considerations. Those boards are shown in Figure 3 and Figure 4. Table 1 below shows the combined results, from both meetings, for this activity.



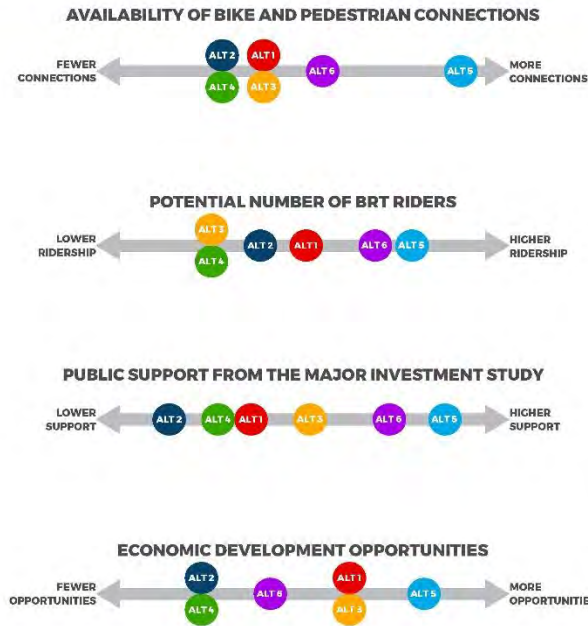
Figure 2 - A meeting attendee learns about the evaluation considerations before completing the activity.

Table 3 - Results of Display Board Activity

Category	This category is a low priority for me.	This category is a medium priority for me.	This category is a high priority for me.
Availability of Bike and Pedestrian Connections	2	10	28
Potential Number of BRT Riders	3	11	26
Public Support from the Major Investment Study	4	16	14
Economic Development Opportunities	1	10	31
Average Daily Vehicular Traffic Along the Corridor	8	20	16
Total Cost to Construct the BRT	11	21	9
Amount of Right of Way (ROW) Required for BRT	18	17	4
Length of Implementation Timeline	5	14	24

The categories that were rated as the highest priorities were Economic Development Opportunities, Availability of Bike and Pedestrian Connections, and Potential Number of BRT Riders. The categories rated as the lowest priorities were Amount of ROW Required for BRT, Total Cost to Construct the BRT, and Average Daily Vehicular Traffic Along the Corridor.

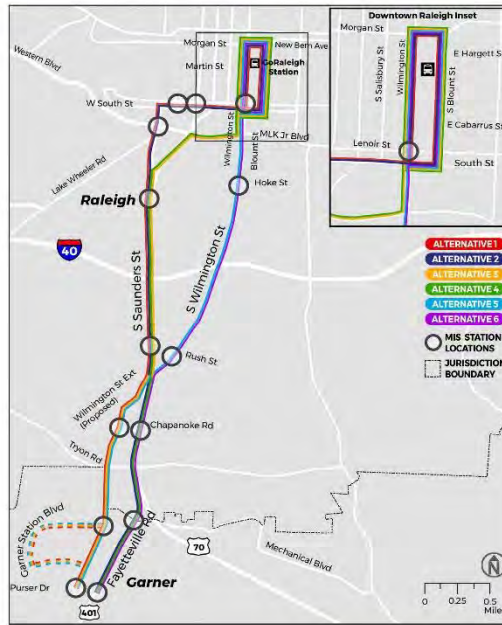
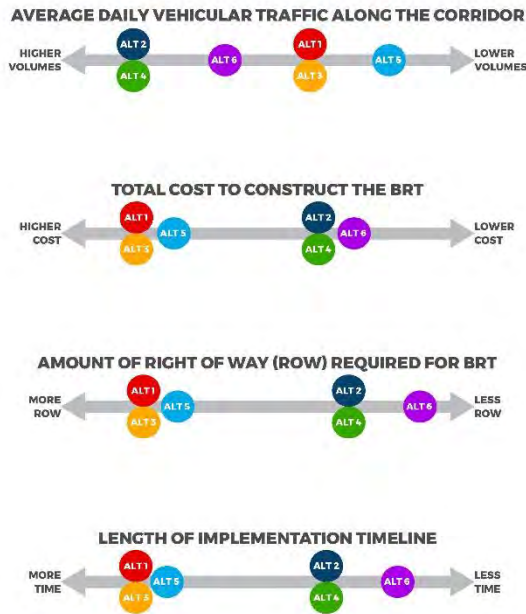
Bus Rapid Transit (BRT) EVALUATION CONSIDERATIONS



raleighnc.gov/BRT

Figure 3 - Wake BRT: Southern Corridor Evaluation Considerations

Bus Rapid Transit (BRT) EVALUATION CONSIDERATIONS



raleighnc.gov/BRT

Figure 4 - Wake BRT: Southern Corridor Evaluation Considerations

c. Comment Form and Online Survey

A five-question paper comment form was created to gather feedback about information presented at the public meeting. 14 paper comment forms were received at the Raleigh public meeting. Nine (9) paper comment forms were received at the Garner public meeting.

An online survey mirroring this comment form was also developed to give those who were not able to attend the meeting an opportunity to provide input. The online survey had 217 participants, 36 of whom entered an email to receive project updates. The public comment period closed on March 20th, 2020.

The results from both the paper comment forms and the online survey are summarized in the following pages. When possible, public input received online and via paper comment form is shown together. All additional written comments and responses to open-ended questions are contained in Appendices A – D.

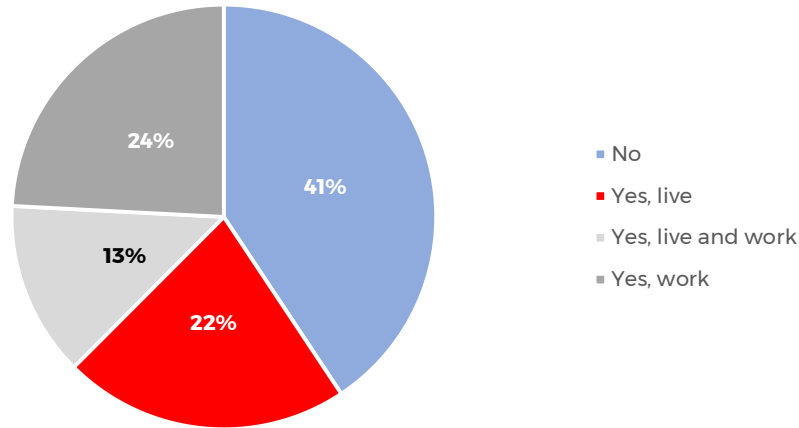
Table 4 - ZIP Code Responses

The paper comment form and online survey asked meeting attendees to indicate both their home and work ZIP code.

Home ZIP Code	Count	Work ZIP Code	Count
27511	2	27244	1
27513	2	27511	3
27518	1	27513	1
27519	1	27519	1
27520	2	27526	1
27526	2	27529	8
27529	38	27540	1
27539	2	27560	5
27540	4	27601	33
27560	1	27602	5
27601	9	27603	12
27603	25	27604	4
27604	8	27605	3
27605	4	27606	5
27606	10	27607	6
27607	5	27608	2
27608	4	27609	7
27609	2	27610	5
27610	7	27612	2
27612	5	27615	1
27613	2	27616	1
27615	5	27617	2
27616	2	27695	2
27703	1	27699	1
		27701	1
		27703	5
		27704	1
		27709	1
		27713	1
		27815	1

In the online survey only, respondents were asked to indicate whether they live and/or work within a half-mile of the Wake BRT: Southern Corridor.

Figure 5 - Do you live or work along the corridor (within half-mile)?



Q1. Station Locations

A station location question (**Question 1**) was asked on each survey, asking participants to select up to three locations that would best serve their travel needs. A total of 58 selections were made on the online survey. A total of 58 selections were made from paper comments forms at the public meetings, 35 from the Raleigh meeting and 23 from the Garner meeting.



Figure 6 - Map of alternative routes and station locations

Table 5 - Results of Station Location Online Survey and Comment Form Question

Station Locations	Number of Selections
(1) GoRaleigh Station	110
(2 & 3) Lenoir Street	27
(4) South Street	41
(5) Western Boulevard	44
(6) Summit Avenue	12
(7) Hoke Street	14
(8 & 9) Rush Street/ Ileagnes Road	25
(10 & 11) Chapanoke Road	24
(12 & 13) Garner Station Boulevard	53
(14 & 15) Purser Drive	35

In **Question 2**, respondents were asked if there were any additional stations along the proposed routes that would serve them better. Through the online survey 48 comments were received. On the paper comment form, 6 comments were received. These comments can be found in Appendix A.

The highest selected location was the GoRaleigh Station, by a margin of 53 votes. The second highest selected location was Garner Station Boulevard. Other popular choices include South Street, Western Boulevard, and Purser Drive.

Frequented mentioned additional stations in the comments were Pecan Rd/Carolina Pines, White Oaks Shopping Center, Jones Sausage Road, and Lake Wheeler Road.

Q3. Evaluation Consideration Results

Participants were asked to identify how important each evaluation consideration category was to them for selecting a BRT alignment as a high, medium, or low priority. Participants were able to rate all categories as a high priority if they chose. A total of 121 selections were made on the online survey. A total of 21 ranking responses were received from the paper comment forms at the public meetings, 12 from the Raleigh meeting and 9 from the Garner meeting. The table below shows the votes for each category.

Table 6 - Results of Evaluation Consideration Online Survey and Comment Form Question

Category	This category is a low priority for me.	This category is a medium priority for me.	This category is a high priority for me.
Availability of Bike and Pedestrian Connections	18	31	85
Potential Number of BRT Riders	8	49	69
Public Support from the Major Investment Study	20	56	50
Economic Development Opportunities	13	37	79
Average Daily Vehicular Traffic Along the Corridor	28	48	56
Total Cost to Construct the BRT	36	60	35
Amount of Right of Way (ROW) Required for BRT	39	66	24
Length of Implementation Timeline	19	56	54

The categories that were rated as the highest priorities were Availability of Bike and Pedestrian Connections, Economic Development Opportunities, and Potential Number of BRT Riders. The categories rated as the lowest priorities were Amount of ROW Required for BRT, Total Cost to Construct the BRT, and Average Daily Vehicular Traffic Along the Corridor. These results match the results from the public meeting activity board results, with the only difference being that Economic Development Opportunities was ranked higher than Bike/Pedestrian Connections.

In **Question 4**, respondents were asked if there were any additional categories for consideration that were missed. Through the online survey 27 comments were received. On the paper comment form, 6 comments were received. These comments can be found in Appendix B.

Additional considerations that were mentioned in the comments included:

- Travel times
- Intersections with other non-BRT bus routes
- Parking availability or park and ride options
- Environmental effects.

In **Question 5**, respondents were asked if they had any additional comments. Through the online survey 25 comments were received. On the paper comment form, 9 comments were received. These comments can be found in Appendix C.

The most common themes among the comments submitted include:

- Designing bus only lanes
- BRT should focus on serving future developments
- Provide access to adjacent neighborhoods
- Serve locations where people live and work
- Minimize displacement of current businesses/residents
- Alternative Five seeming like the best option

i. Exit Survey

A seven-question exit survey was offered to all public meeting attendees. At the Raleigh meeting, 11 completed exit surveys were received. At the Garner meeting, 4 completed exit surveys were received. The goal of the exit survey was to learn more about how attendees felt about outreach efforts leading up to the meeting as well as the meeting itself. Responses received are shown in the figures below and represent the combined responses from the two meetings. Responses to the seventh question, requesting additional comments, can be found in Appendix D.

Figure 7 - What was the primary way you found out about this event?

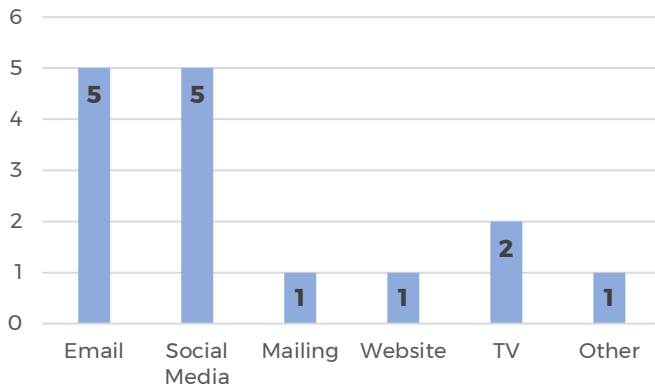


Figure 8 - The presentation, display boards, and staff were helpful and informative.

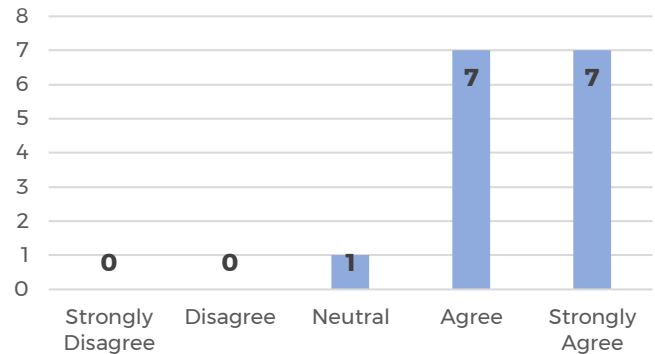


Figure 9 - The meeting time and location were easy to access.

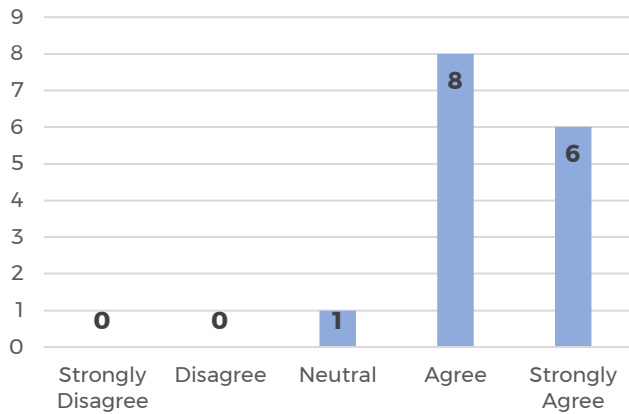


Figure 10 - The format of the meeting was efficient.

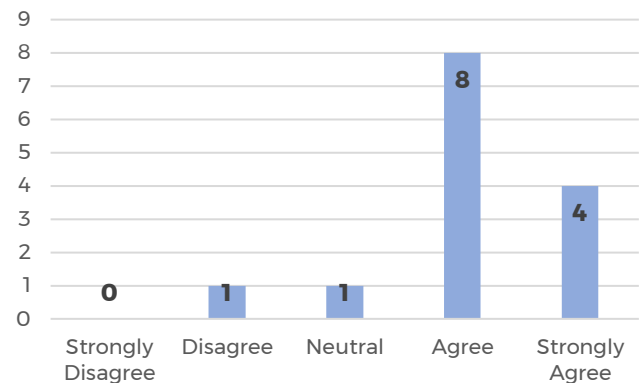


Figure 11 - Would you attend another Wake BRT:Southern Corridor Event?

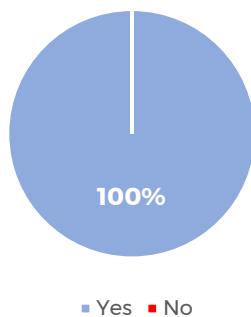
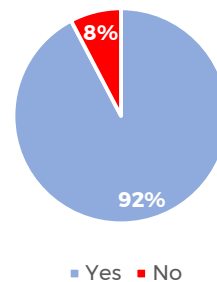


Figure 12 - Did the meeting provide a good opportunity for you to provide input and shape Wake BRT: Southern Corridor?



ii. Title VI Form

The Title VI form was offered to all public meeting attendees and via the online survey. Answers to each question were not required to complete the online survey, therefore not all questions were answered by online survey respondents. responses through the online survey. At the Raleigh meeting, 11 anonymous Title VI surveys were received. At the Garner meeting, 4 anonymous Title VI surveys were received. Results are shown in the graphics below.

Figure 13 - How many people are in your household?

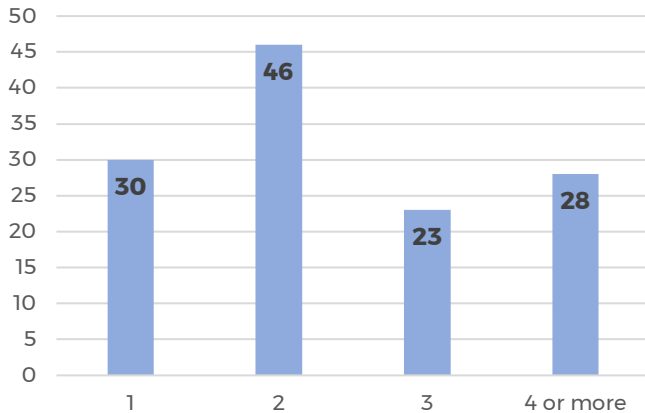


Figure 14 - Gender

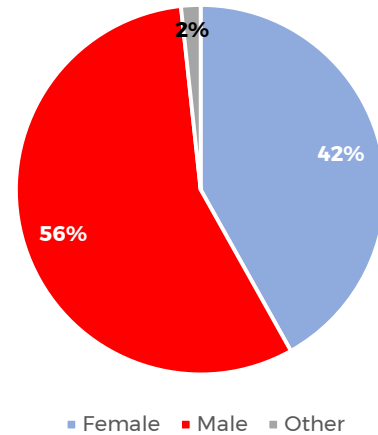


Figure 15 - Age

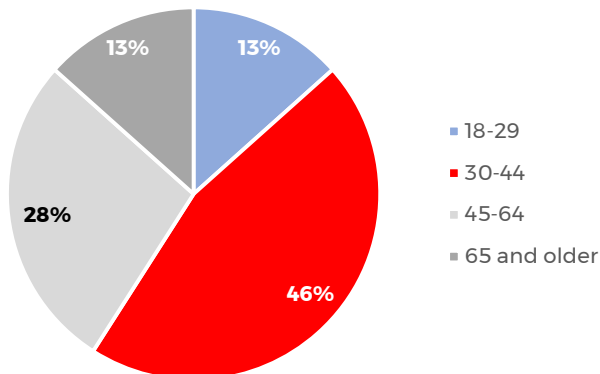


Figure 16 - Do you have a disability?

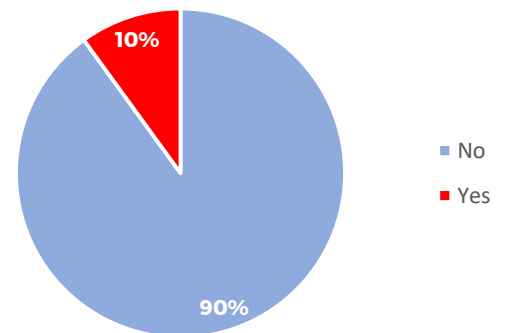
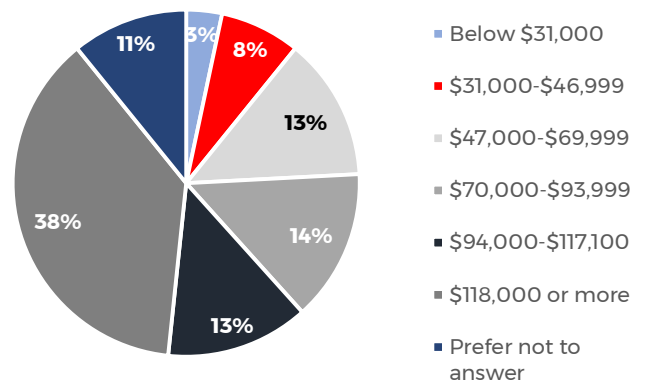
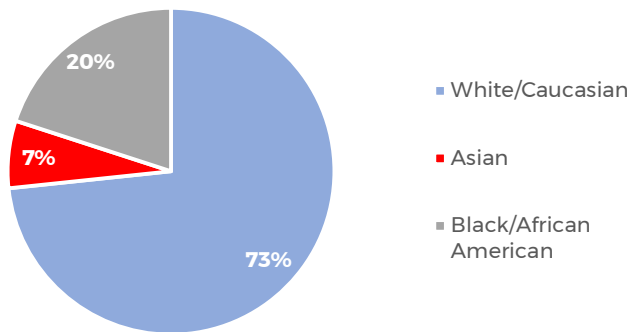


Figure 17 - What is your yearly household income?



- In response to **Question 5** and **Question 6**, all respondents indicated that their native language is English.

Figure 18 - Which of the following best describes your race? (Note - This question was not asked on the online survey)



- In response to **Question 9, 3** respondents indicated a nation of origin outside the U.S. as “Other.” One respondent wrote in “South Africa” and another wrote in “Thailand.”

3. Appendix Notes

Written comments received through both the paper comment form and online survey are found in the appendices on the following pages. **Public comments are recorded and shown as received.**

Appendix A: Comments from Online Survey and Comment Form - Are there any additional stations along the proposed routes that would serve you better?

Online Survey	Auburn KNIGHTDALE road
	Montlawn Memorial Park (2911 S Wilmington St, Raleigh, NC 27603). Please include a stop here so I can visit my mother's grave. There are no sidewalks from the closest two stops which makes it a dangerous walk. If this isn't possible for the BRT, can you add the stop to the Number 7 bus? Or add sidewalks along Wilmington Street?
	Carolina Pines & S. Saunders
	Need a station at Pecan and Wilmington St.
	Downtown South Project?
	A station at Pecan St and Wilmington St
	No.; No
	No
	Hillsborough stree
	Lake Wheeler and S. Saunders
	Going thru the proposed downtown south project; Where the proposed downtown south project is going in
	In front of Denny's
	None
	This route is terrible. We need an express route from the corner of Sunset Lake Road and Holly Springs Road to the Go Triangle Hub in RTP.
	I live along the current #20 route line in Garner on Aversboro Drive at Lakeside Drive. The proposed Southern stops are all too far from my home by walking distance to be of any use. A stop at Forest Hills Shopping Center would best serve Garner commuters going inbound to downtown rather than riding the 20 southbound to White Oak, then backtracking back to downtown for an hour trip that takes less than fifteen minutes by car.
	The zip code I have in Garner covers a wide area. My house is by the new Amazon plant on Jones Sausage Rd. A closer bus stop would be ideal as some of the workers could use it and reduce traffic on this road. As someone who commutes to Durham every day, I fully support a light rail system in the Triangle to reduce traffic on 40.
	Dorothea Dix campus; Jones Sausage near Amazon plant
	Walmart shopping center in Garner, Tryon Road
	Southern end of Timber Drive
	When will you look at the true need for buses. The suburbs to get downtown?
	No, this corridor would provide me zero service. I live in northwest Raleigh and utilize the bus daily. There needs to be a BRT system that travels the extent of Glenwood Ave, encompassing the #6 and #70X bus routes.
	I really don't use public transport, because I work at NC State. Now, if you put a route that way....
	None
	None of these work for me.; No
	No
	no
	Corner of Lake Wheeler Rd and S. Saunders
	Tryon
BRT should prioritize less turns to increase bus speed and decrease stops due to stop lights and turns.	
the Park City South Project next to Dorothea Dix will be an upcoming destination for the park. There needs to be a station at the southern end of that project.	

Online Survey	The BRT should connect major centers of office / retail / MF or where those large developments are going to be. Maybe Wilmington down to Cargill is served via BRT. I do think there should be a stop at the intersection of Wilmington and MLK / Shaw.
	Stations on Streets that are accessible to Hammond Road would be great!
	Would be ideal if BRT is coordinated with proposed commuter rail
	Immediate proximity to Downtown Raleigh and/or NC State University main campus (main employers).
	Tryon Rd / Renaissance Park
	Somehow connect with 40X and Route 20
	South & Blount
	Let me out!
	South side of Wilmington & MLK intersection
	No.
	the new soccer stadium
	Comment Form
	Carolina Pines / Pecan
	Tryon Rd between 10+12
	New Soccer Stadium or Baseball, also stop along Dorothea Dix. Train ? With ride downtown
	Possible White Oak Shopping Center
	White Oak Shopping Center

Appendix B: Comments from Online Survey and Comment Form - Are there any categories for consideration that we are missing?

Online Survey	availability of parking at the stations
	Connecting all areas of the city, not just the south/southwest.
	Consider populations who have no transportation and major service sites for vulnerable population.
	Densification, mix of uses, and walkability along the corridor
	Ease of connecting to other BRT routes
	easy park solutions for work commuters
	Environment damage along the route.
	Environmental issues such as cutting down trees.
	Extended transportation hour's
	Future Real Estate Development opportunities along BRT route.
	How can you shorten my bus route to work ?
	I would not use it if: 1) the pickup/dropoff is more than 1/2 mile from either endpoint, and that is assuming a secure bike rack is available. 2) The total time to commute including making connections was over 1 hr. It is currently 40 minutes for me.
	Minimizing travel time should be a high priority category, as should reliability of service and schedule. Also, potential to get fully protected BRT lanes (rather than mixed traffic) should be high priority category.
	Neighborhood access.
	Number of lower income communities along the route - these riders would benefit greater from increased transportation options to open up employment options
	Opportunities for new affordable housing.
	opportunities to add affordable housing
	Opportunity to share use of the corridor with other transit routes (especially peak hour commuter express routes)
	Park and ride options such as parking deck for users at major stations
	Political Will
Service to existing riders	

Online Survey	Services for vulnerable populations along the corridor and opportunities to use City owned land for affordable/equitable projects.
	The categories are a bit unclear. For instance, "amount of right of way required for BRT" could be a high priority for me, even though I selected low priority based on what I think you're asking. I would like to see the BRT in a corridor that is completely dedicated to buses. The more right of way that can be purchased, the better.
	The routes where large existing and future developments are planned should all be connected by BRT.
	What are the primary attractors, employment, recreation...?
	Where the most people live and where the most people work.
	Why are costs never discussed?
Comment Form	Opportunity for Housing and Density
	Intersections with non-BRT bus routes very important
	Opportunities for loop/east-west cross connections
	The potential impact of proposed soccer stadium/retail/residential
	Travel times and reliability (avoiding "BRT creep") expected along the route
	Land use along the corridor

Appendix C: Comments from Online Survey and Comment Form - Do you have any additional comments?

Online Survey	A single corridor in each directions (N,S,E,W) means we are prioritizing ridership over coverage (see Jarret Walker's blog). To achieve high ridership you have to move a lot of people to places where a lot of people need/want to go. A S. Wilmington st. route between I-40 and DTR does not achieve this. I encourage people to compare the S. Wilmington vs. S. Saunders corridors on iMaps and compare density between the too. Turn on the flood plain layer and notice how much of S. Wilmington runs through floodplain compared to S. Saunders. There's a reason that S. Saunders is already more developed and S. Wilmington isn't. Choosing a S. Wilmington route is taking the easy way out and hoping for a future state of transit-oriented development that will be difficult to achieve. And remember what Jeff Speck says in "Walkable City" about transit trips: almost all of them begin and end with a walk. So walkability is key to making BRT a success.
	Accessibility from Streets to adjacent areas is important as this region continues to grow!
	Businesses should not have as much of a stake in this process as working people. Exceptions should not be made because of political or financial connections.
	Current and future developments that will have the potential to shape our city's future should be considered as part of this plan as well as Dix park
	Dedicated bus-only lanes for BRT along the corridor
	Extended transportation hour's
	For people to adopt mass transit, there will be a need to establish express routes with minimal drop/pickup points for locations with high potential, and a way to address 'last' mile, especially when weather a factor.
	I commute daily from Fuquay so while this would not benefit me, it could greatly impact my commute.
	I live in northwest Raleigh and utilize the bus daily. There needs to be a BRT system that travels the extent of Glenwood Ave, encompassing the #6 and #70X bus routes.
	I probably will not use this route
	I would like there to be a route that connects downtown to the State Farmers Market and Centennial Campus/NC State (potentially via Maywood).
	I'm very interested.
	In order for BRT to be effective it has to serve trips in both directions throughout the day. Route alignment and station locations should include that concept, including accessible/user friendly paths to get to the service. If distances between stops are long

Online Survey	and demand is low, then you initially do not need all the infrastructure. Recognizing that south of downtown may become more of an activity center in the future suggests more flexibility in design options initially.
	It appears that the North is never considered. Is it because your dislike of David Cox?
	It is critical that future development opportunities exist along the desired corridor. This will reinforce the public investment and increase ride numbers.
	Making bus and BRT free would dramatically increase ridership. Do a one year experiment to confirm.
	Maybe the S. Wilmington is served via the R-Line or the R-Line dips down into S. Park.
	Park and Ride transport to work hubs would be great!!
	Please continue to develop plans like this. The Triangle is a growing area and is woefully under prepared for the amount of commuters it has and will gain. We need more public transportation options. Across the whole of the Triangle, not just each isolated city.
	Please ensure the BRT lane is for BRT buses only (and obviously emergency vehicles). Please consider installing ticketing camera on buses in order to ticket drivers who use the BRT lanes. This has been used successfully in multiple cities.
	This corridor is the gateway into Downtown Raleigh from Southern Wake County, and ALL Southern Wake stakeholder groups need to be included.
	This is all north/south into downtown Raleigh, where I avoid going at all costs. To make me ever want to use it, it would need to go to NC State.
	Use the old bus facility off Rush Street for redevelopment with affordable component. Whichever route is selected, ensure access from other proposed routes.
	Very important that this project result in real BRT - fast, dependable, and useful infrastructure and service that doesn't compromise simply to avoid difficult decisions. Early projects will set the stage for BRT in the Triangle.
	We need an express route from the corner of Sunset Lake Road and Holly Springs Road to the Go Triangle Hub in RTP.
	Comment Form
I think the Wilmington route (Alt 5) is the obvious choice!	
I believe we should do the Wilmington Ext because placing on the existing roads south of 40 would not be safe or comfortable but concerned about the added time and complexity. BRT should be along urban and walkable streets not side of a freeway	
I appreciate the category exercise and visuals. It was a good way to think/choose priorities	
Concern as business owned on 401 that will be impacted by a second road construction project in just a few years - Jon Lussier, Denny's Restaurant	
Current residents and business owners should not be displaced	
Please ensure this project is coordination closely with the Garner transit study to include this BRT corridor with the planned extension corridors (ex 70 to Clayton)	
Need to get project right, implementation timeline shouldn't rush good planning. Chapel Hill has free ride, can Raleigh office rides for free?	
More Park and Ride location for traffic coming off 40 wanting to get downtown	
At this moment it looks like most of the routes are feeding the ends, turning the BRT into an Express Bus. I don't see a destination that will gather riders to and from during off peak hours (non-work commuters)	

Appendix D: Comments from Comment Form – Do you have any additional comments about this public meeting?

Comment Form	<p>I prefer a round table style were attendees hash out alternatives instead of just listening to staff</p> <p>Remains to be seen to " if meeting provided a good opportunity" question</p> <p>Not enough sense that we are actually needed - other than to check off a box on process</p>
	<p>No current business owner displacement</p>
	<p>Option 5 checks almost all the boxes. Consider making the Wilmington Ext Transit/Bike/Pedestrian ONLY. There are already 8+ lanes for cards parallel. Consider implementation temporarily on S. Fayetteville until the Wilm. Ext is done - faster implementation in existing ROW!</p>
	<p>More design thought on connecting West to East across the Southern corridor are needed. Large haps in connection to Dix, Tayon, Centennial exist and aren't address in current transit plan.</p> <p>Downtown circulation and connections between routes are needed. South and West need to connect near Rus/Bus and include thoughtful connection to Dix.</p> <p>The alternative that goes down Wilmington St. Extension is better. This TOD redevelopment is important and will support the BRT, I'm fine with that taking longer.</p>
	<p>Truly affordable housing - less than 50% AMI</p>