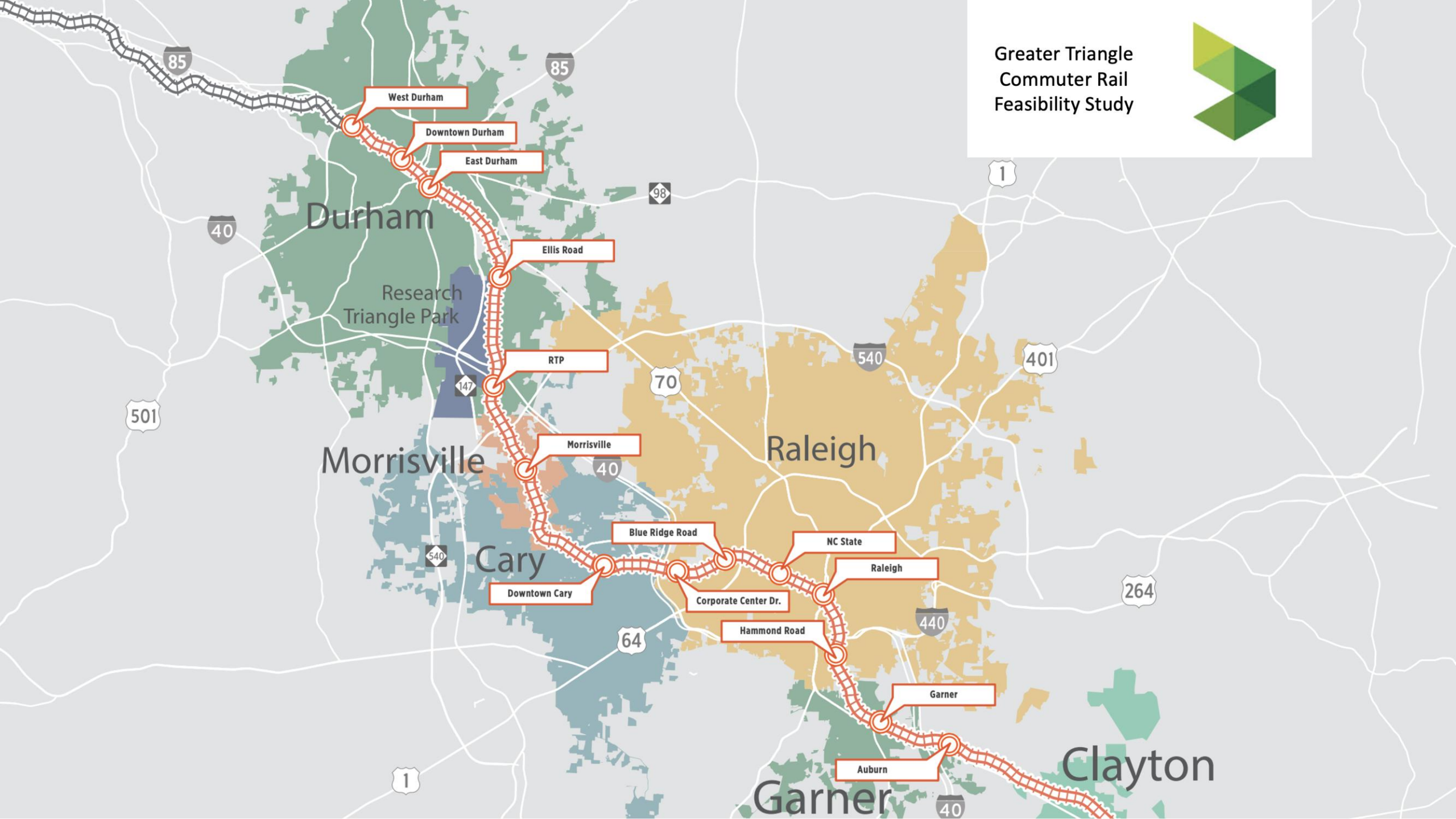


Greater Triangle Commuter Rail Feasibility Study Results

GOTRIANGLE

Greater Triangle
Commuter Rail
Feasibility Study



*Precise values in this table are provided for illustrative purposes, should be taken in context, and are subject to change.	Auburn to West Durham (Base Case Scenario)	Auburn to Raleigh Union	Raleigh Union to Ellis Rd	Auburn to RTP
Easternmost Station:	Auburn (East Garner)	Auburn (East Garner)	Raleigh Union	Auburn (East Garner)
Westernmost Station:	West Durham (Duke Hospital)	Raleigh Union	Ellis Road (Northern RTP)	RTP (Regional Transit Center)
YOE Capital Cost:	\$3.059 billion	\$596 million	\$878 million	\$1.697 billion
O&M Cost:	\$42 million	\$14.9 million	\$16.8 million	\$28.7 million
Service Scenario:	8-2-8-2 (30-minute peak frequency)	Hourly	Hourly	Hourly
2040 Ridership:	~12,000 Weekday Boardings	~4,000 Weekday Boardings	~4,000 Weekday Boardings	~8,000 Weekday Boardings
Revenue Service Year:	2035 (12 years from start of development)	2031 (8 years from start of development)	2033 (10 years from start of development)	2033 (10 years from start of development)
Length:	37.6 miles	9.6 miles	20.2 miles	26.5 miles
Miles in Wake County:	25.0 miles	9.6 miles	15.4 miles	25.0 miles
Miles in Durham County:	12.6 miles	0 miles	4.8 miles	1.5 miles
Mileage by County:	66.5% Wake 33.5% Durham	100% Wake 0% Durham	76.2% Wake 23.8% Durham	94.3% Wake 5.7% Durham

Critical Success Factors

Significant coordination challenges exist to the west of Raleigh Union Station.

Between Raleigh and Cary, the corridor is shared by, Norfolk Southern freight trains, CSX freight trains, long-distance intercity passenger trains operated by Amtrak (Carolinian and Silver Star service), and state-sponsored intercity passenger trains operated by Amtrak (Piedmont service).

Significant design challenges exist in Durham, especially to the west of the Glover Rd rail crossing near Angier Ave.

Coordination challenges create schedule risk.

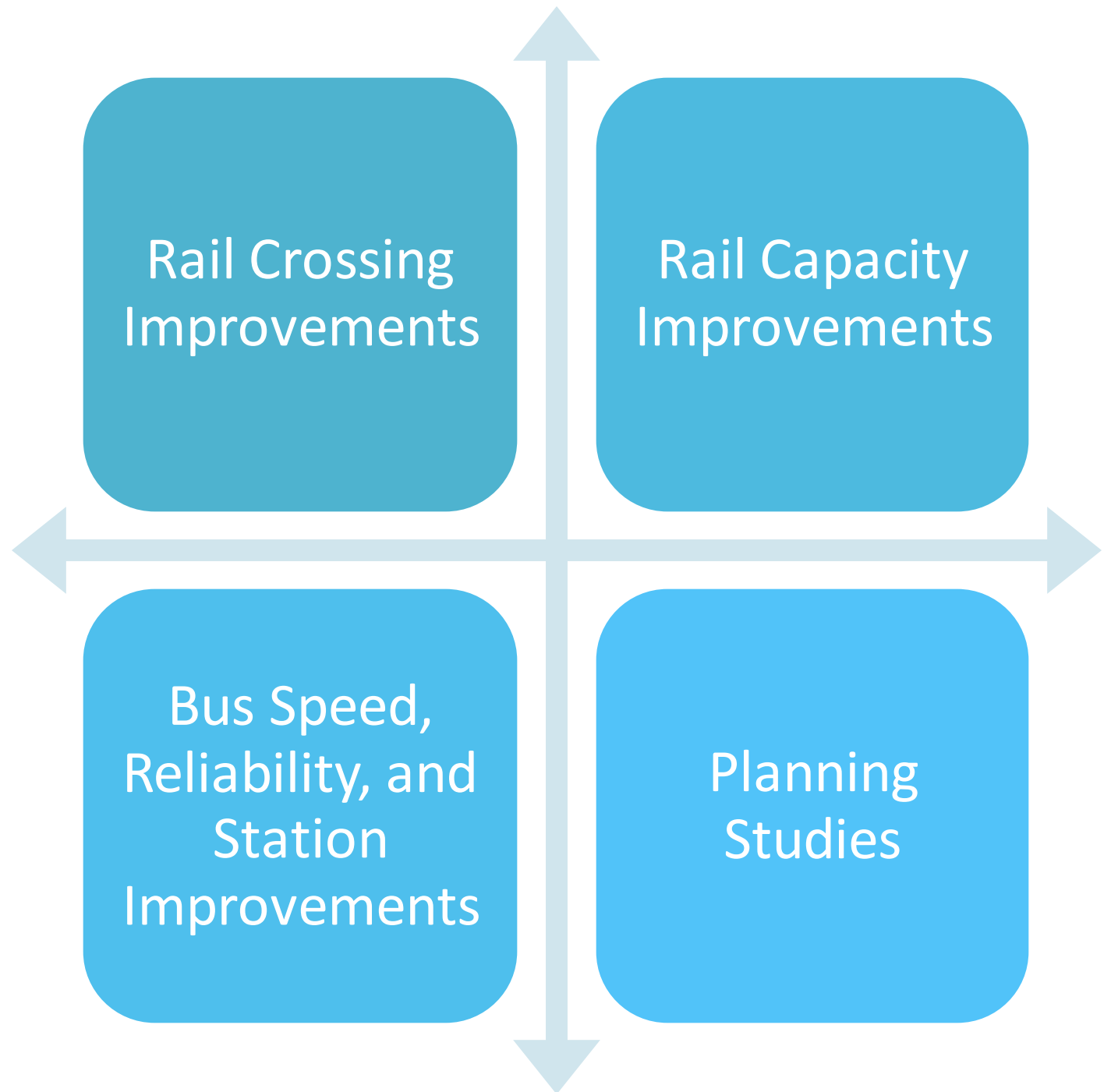
If project implementation takes longer than is anticipated, the cost of the project would increase.

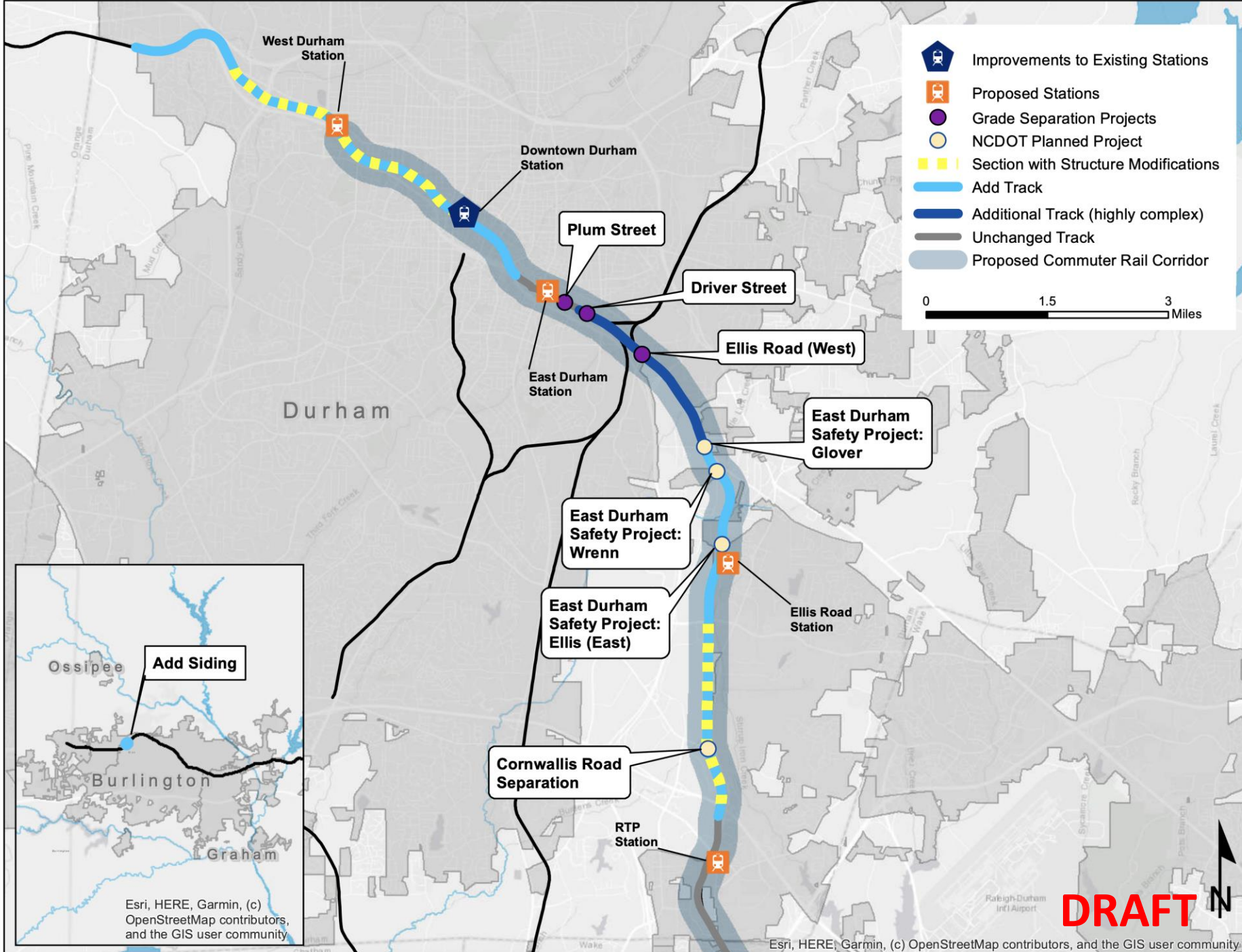
Additional rail network modeling would be needed during development and design.

Legal agreements would be needed to operate commuter rail service in the studied corridor.

Regional Connections Framework:

A Pathway to Passenger Rail, Regional Connectivity, and Better Bus Service

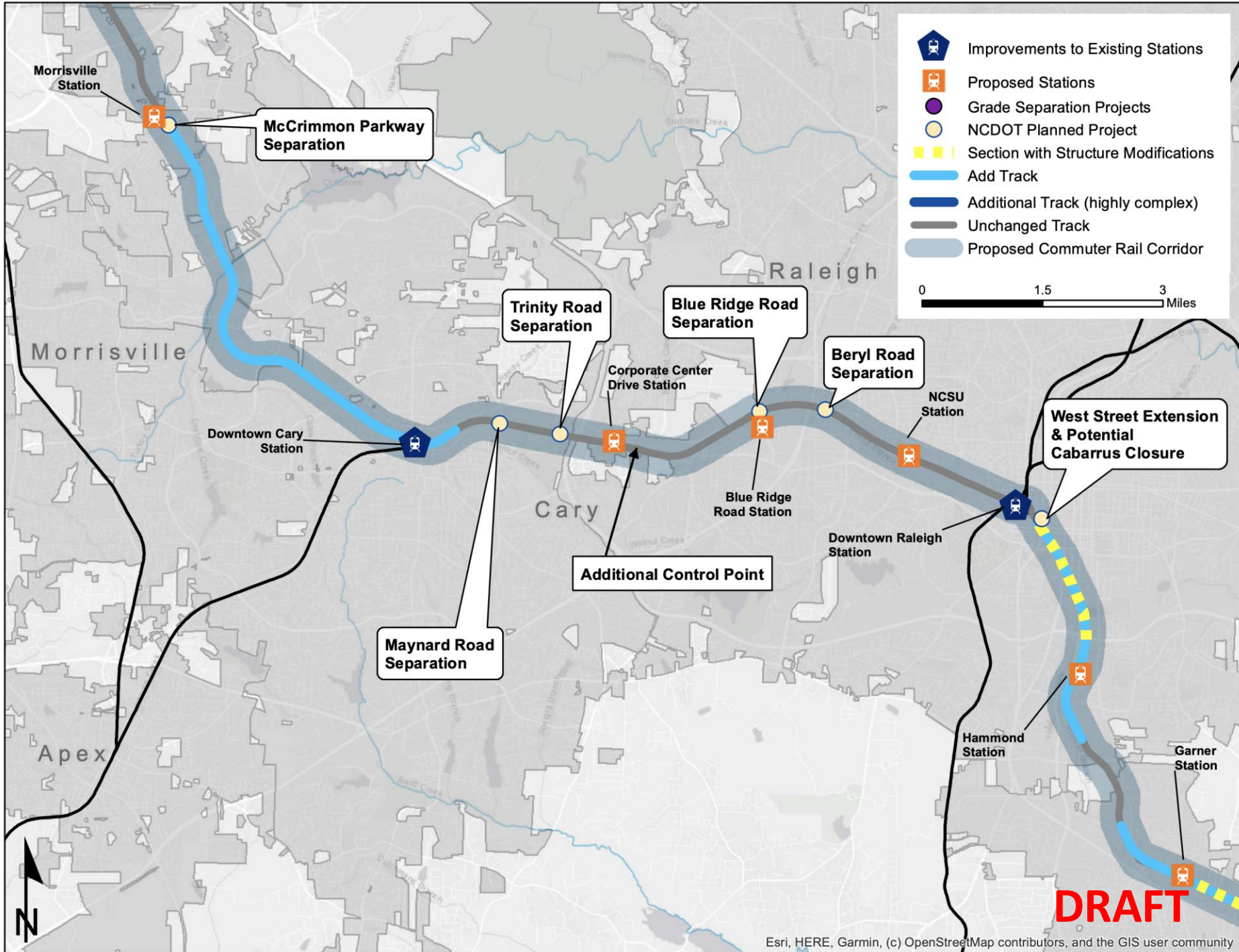




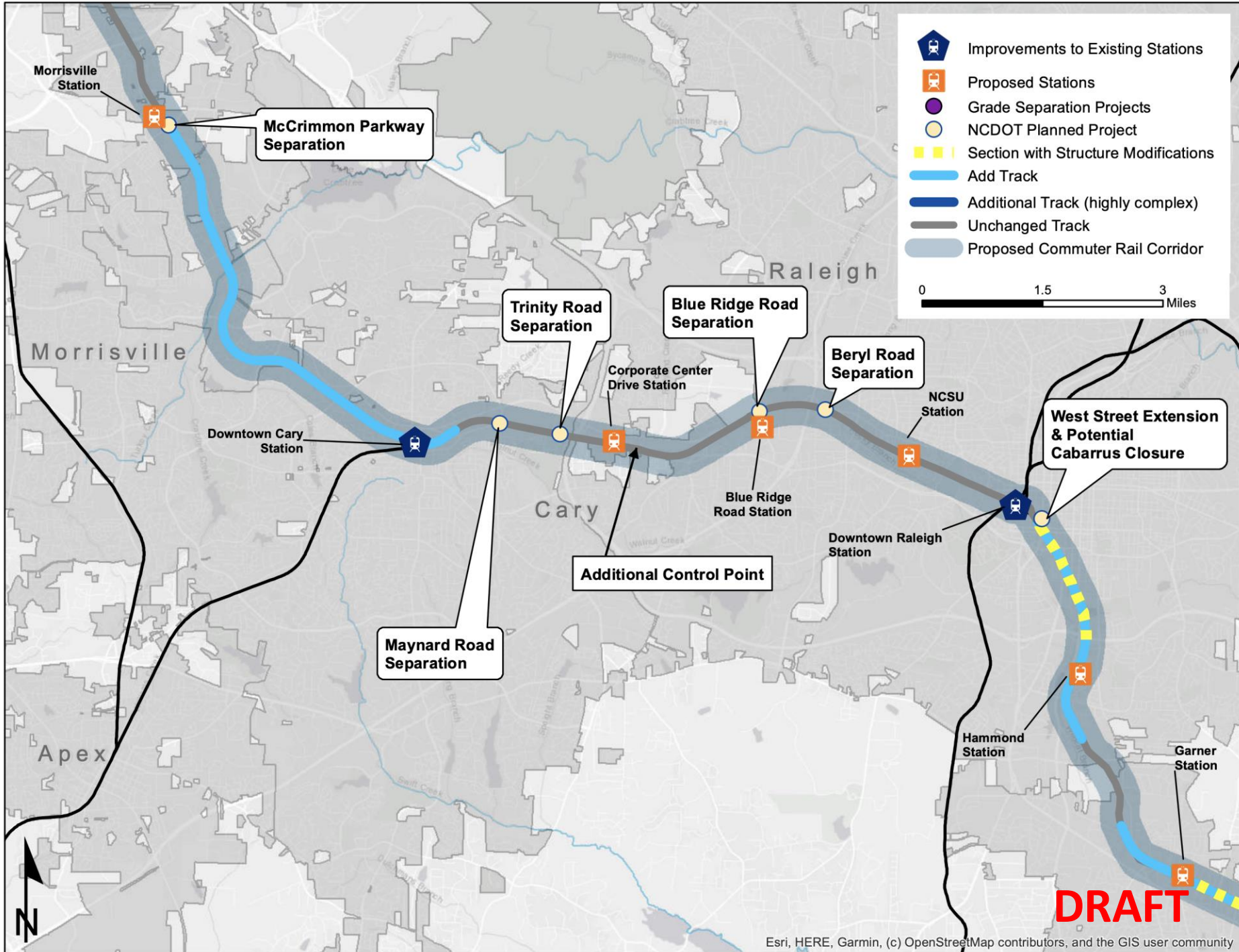
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

DRAFT



DRAFT



DRAFT

Decision & Delivery

An aerial photograph of a construction site in an urban area. In the foreground, there are dirt paths and some construction materials. In the middle ground, there are several buildings under construction, some with concrete frames and others with more complete structures. In the background, a city skyline is visible under a clear blue sky, with a tall crane standing prominently. The overall scene is one of active development in a city.

Should the project move forward?

Which portion of the project will be delivered first?

What funding sources will provide the local financial commitment for the cost of initial implementation?

How will the funding partners share the cost of the project?

What are the immediate next steps to take once these decisions are made?



Joint DCHC MPO CAMPO

Rail Subcommittee Meeting

PFM Financial Advisors, LLP

5/11/2023



PFM Qualifications



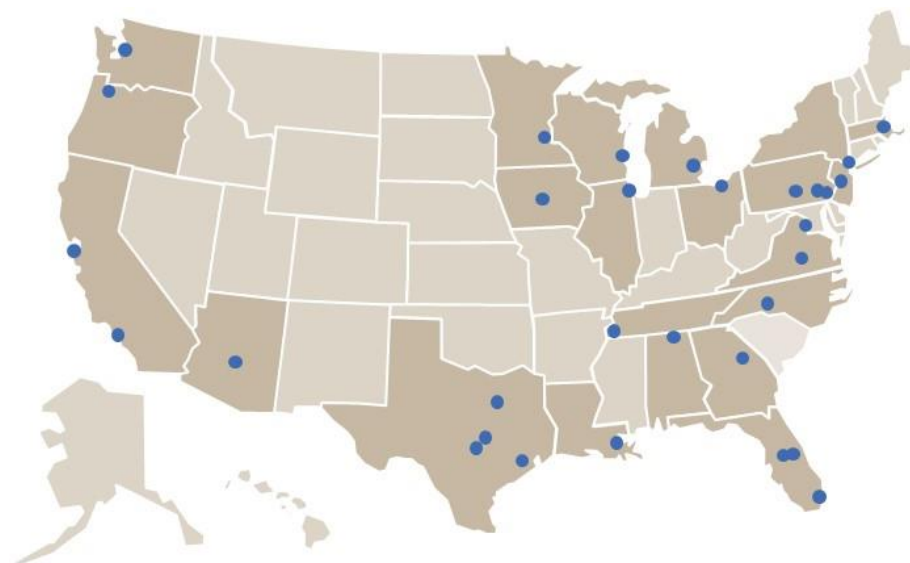
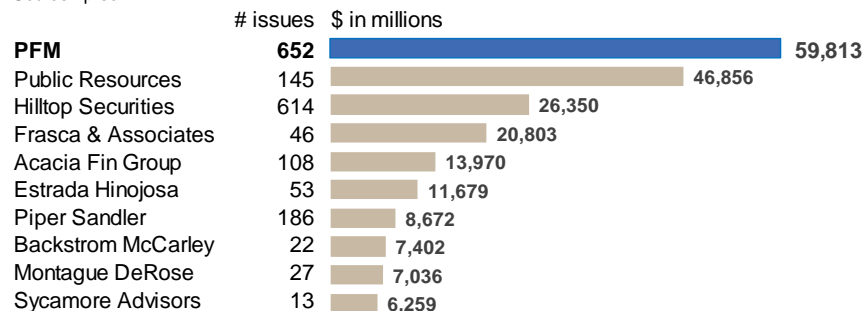
National Presence with Local Expertise

- PFM has one of the largest financial advisory teams in the public finance industry, maintaining an expansive national presence
- PFM currently has more than 350 employees located in 31 offices and locations across the United States ⁽¹⁾
- We leverage our strong market presence, expertise and access to information for the benefit of our clients on every engagement

2022 Full Year Overall Long Term Municipal New Issues

Municipal Financial Advisory Ranking - Full Credit to Each Financial Advisor

Source: Ipreo





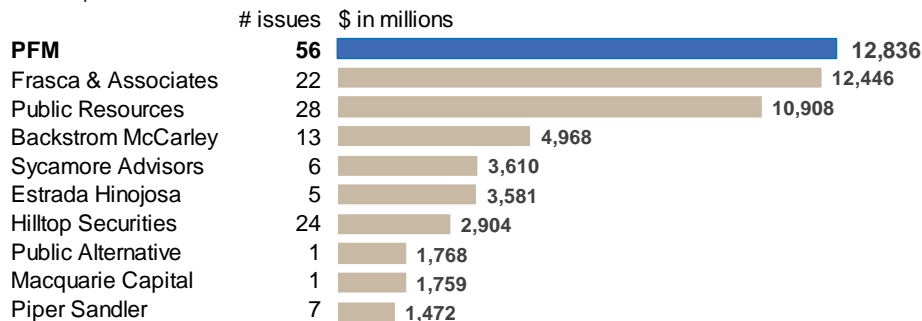
PFM Transportation Practice

- ◆ PFM has been the nation’s leading transportation financial advisor in terms of both number of issues and par amount for the last six years.
- ◆ Our transportation team is comprised of transportation finance leaders with expertise in developing
 - innovative financing strategies for major capital investments;
 - advising on the development of comprehensive financial policies;
 - and preparing near and long-term strategic plans to forecast fiscally balanced and sustainable approaches to operability and growth

2022 Full Year Transportation Long Term Municipal New Issues

Municipal Financial Advisory Ranking - Full Credit to Each Financial Advisor

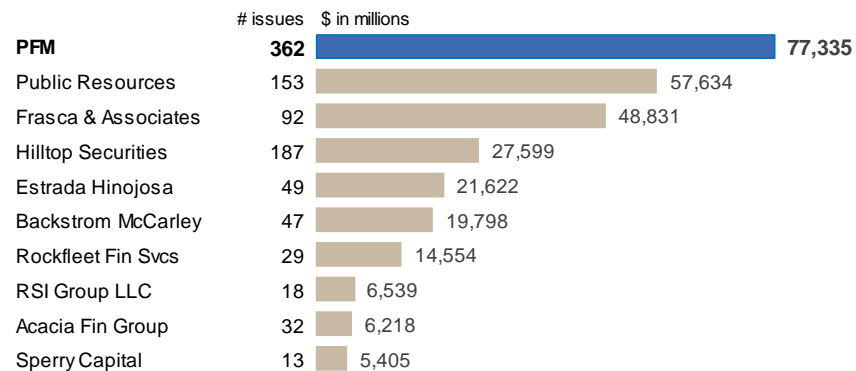
Source: Ipreo



2018 - 2022 Full Year Transportation Long Term Municipal New Issues

Municipal Financial Advisory Ranking - Full Credit to Each Financial Advisor

Source: Ipreo





Key Team Members



Jill Jaworski
Managing Director

Jill joined PFM as a managing director in 2010 and manages the Chicago financial advisory practice. She has over 20 years of experience in public finance. Jill serves a range of clients in the Chicago area, and as a member of PFM's transportation team, she serves transit clients nationally with a focus on the South and Mid-Atlantic regions.

Jill has extensive experience serving as either financial advisor for technically complex long-term assignments. She works with both high-grade and distressed credits. In addition to her deep knowledge of Chicago area governments, she has broad experience in transportation with a specialization in public transit. Her work includes project finance and both tax-backed and revenue based credits. As part of her engagements, she has overseen and managed the creation of FTA and TIFIA compliant financial models, long-term capital planning, the development of new credits, the implementation of springing covenants in existing indentures, creation and implementation of rating agency strategies, obtaining credit enhancement, creation of debt policies, and evaluation and implementation of derivative strategies. Her experience includes public bond sales, private placements, TIFIA and RRIF loans and FFGA Grants.

Significant clients nationally include the Chicago Public Schools, Washington Metropolitan Area Transit Authority, the Metropolitan Pier and Exposition Authority (IL), Dallas Area Rapid Transit, GoTriangle (the Research Triangle Regional Public Transportation Authority), the State of Wisconsin and the Chicago Transit Authority.

Municipal Advisor Representative (Series 50).

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Specialties

Financial Advisory
Transportation
State and Local Governments

Education

B.A. in Political Science
University of Chicago

Professional Designations or Licenses

Municipal Advisor
Representative (Series 50)

Started with PFM: 2010

Started in the Field: 1998



Key Team Members



Scott Carlson
Senior Analyst

Scott Carlson is a senior managing consultant in PFM's Chicago Office. He joined PFM as part of the Transportation Group in 2015 as a senior analyst and specializes in financial modeling, long term capital planning, rating strategies and debt structuring. His experience includes the Transportation Infrastructure Financing and Innovation Act ("TIFIA"), Railroad Rehabilitation and Improvement Financing and Full Funding Grant Agreements ("FFGA"). He has produced long term financial models for successfully closed TIFIA loans and FFGA's. Major clients include Chicago Transit Authority, Washington Metropolitan Area Transit Authority, Dallas Area Rapid Transit, GoTriangle, Illinois Toll Highway Authority, O'Hare International Airport and the State of Illinois.

Prior to joining PFM, Scott spent 11 years at Chapman and Cutler as an arbitrage rebate analyst. During his time there he performed hundreds of arbitrage rebate and yield restriction calculations for issuers throughout the country.

He is a registered Municipal Advisor Representative (Series 50).

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Specialties

Financial Advisory
Transportation

Education

B.S in Finance
DePaul University

Professional Designations or Licenses

Municipal Advisor
Representative (Series 50)

Started with PFM: 2015

Started in the Field: 2004












Representative List of PFM Transit Clients

- Los Angeles Metropolitan Transportation Authority
- Chicago Transit Authority
- Washington Metropolitan Area Transit Authority
- Massachusetts Bay Transportation Authority
- Southeastern Pennsylvania Transportation Authority
- Metropolitan Transit Authority of Harris County
- Austin Transit Partnership
- Dallas Area Rapid Transit
- San Diego Association of Governments
- San Diego Metropolitan Transit System
- Regional Transportation Authority (IL)
- Maryland Department of Transportation (MARC)
- Virginia Railway Express
- San Joaquin Regional Rail Commission (ACE)





Capital Planning: National Experience

PFM'S TRANSPORTATION PLANNING EXPERIENCE			
	<u>Client</u>	<u>Plan Type</u>	<u>Size of Plan</u>
	Austin Transit Partnership/Capital Metro Transportation Authority	Project Connect Long Range Financial Plan	Multi-billion
	San Diego Association of Governments	TransNet II Long Range Capital Plan – 2048	Multi-billion
	GoTriangle	Long Range Capital Plan – 2062	Multi-billion
	Chicago Transit Authority	Multi-Year Financial Plan	Multi-billion
	Los Angeles County Metropolitan Transportation Authority	Measure R Long-Range Capital Plan – 2039	Multi-billion
	Miami-Dade Transit	Original Sales Tax Program	Multi-billion
	City of Phoenix Public Transit Department	Transit Excise Tax Program	Multi-billion
	Southeastern Pennsylvania Transportation Authority	Long Range Financial Plan King of Prussia Rail Project	Multi-billion
	Washington Metropolitan Area Transit Authority	Long Range Capital Plan	Multi-billion



TIFIA/RRIF Loan Experience – PFM As Financial Advisor

<p>\$243,000,000</p> <p>San Diego Association of Governments</p> <p>SR-11 Otay Mesa East Port of Entry</p> <p><i>In Progress</i></p>	<p>\$427,800,000</p> <p>Chicago Transit Authority</p> <p>Red Purple Modernization Project</p> <p><i>In Progress</i></p>	<p>\$48,207,963</p> <p>Minnesota DOT / Minnesota Management & Budget</p> <p>Highway 14 Safety Upgrades in Nicollet, Minnesota (Rural)</p> <p><i>Dec 2022</i></p>	<p>\$15,569,493</p> <p>Virginia Department of Transportation</p> <p>Interstate 81 Corridor Improvement Program (Rural)</p> <p><i>Dec 2022</i></p>	<p>\$82,554,209</p> <p>Virginia Department of Transportation</p> <p>Interstate 81 Corridor Improvement Program</p> <p><i>Dec 2022</i></p>	<p>\$200,000,000</p> <p>Maryland Transportation Authority</p> <p>Nice Memorial/ Middleton Bridge Replacement Project</p> <p><i>Apr 2022</i></p>
<p>\$338,528,672</p> <p>Chesapeake Bay Bridge and Tunnel District</p> <p>Thimble Shoal Tunnel Project</p> <p><i>Refinanced: Nov 2021 Original Closing: Nov 2016</i></p>	<p>\$500,789,463</p> <p>Hampton Roads Transportation Accountability Commission</p> <p>Hampton Roads Regional Priority Projects (HRTF)</p> <p><i>Refinanced: Sep 2021 Original Closing: Dec 2019</i></p>	<p>\$817,990,000</p> <p>Hampton Roads Transportation Accountability Commission</p> <p>Hampton Roads Bridge Tunnel (HRTF)</p> <p><i>Sep 2021</i></p>	<p>\$345,000,000</p> <p>Hampton Roads Transportation Accountability Commission</p> <p>Hampton Roads Bridge Tunnel (Toll Revenue)</p> <p><i>Sep 2021</i></p>	<p>\$499,461,980</p> <p>North Carolina Turnpike Authority</p> <p>Complete 540 Phase 1 Project</p> <p><i>Refinanced: Aug 2021 Original Closing: Dec 2019</i></p>	<p>\$908,000,000</p> <p>Dallas Area Rapid Transit</p> <p>Cotton Belt / Silver Line Project</p> <p><i>Refinanced: Jan 2021 Original Closing Dec 2018</i></p>
<p>\$346,000,000</p> <p>San Diego Association of Governments</p> <p>San Diego RTC Mid-Coast Transit Project</p> <p><i>Refinanced: Jan 2021 Original Closing: Jun 2017</i></p>	<p>\$166,500,000</p> <p>North Carolina Turnpike Authority</p> <p>Monroe Expressway Project</p> <p><i>Jan 2017</i></p>	<p>\$254,900,000</p> <p>Chicago Transit Authority</p> <p>Rail Car Modernization Project</p> <p><i>Mar 2016</i></p>	<p>\$211,235,000</p> <p>Delaware Department of Transportation</p> <p>U.S. 301 Mainline Project</p> <p><i>Dec 2015</i></p>	<p>\$193,695,000</p> <p>Central Florida Expressway Authority</p> <p>Wekiva Parkway Project</p> <p><i>Mar 2015</i></p>	<p>\$120,000,000</p> <p>Chicago Transit Authority</p> <p>Your New Blue Line Improvement Project</p> <p><i>Feb 2015</i></p>

PFM Financial Advisors LLC commenced operation on June 1, 2016. All transactions prior to this date were effected through Public Financial Management Inc.



Wake and Durham Transit Plan and Rail Project



Wake Transit Plan

- ◆ The current version of the Wake transit plan financial model has nearly \$3 billion of capital projects programmed between fiscal years 2023 and fiscal year 2040 including multiple Bus Rapid Transit lines and Regional Rail
- ◆ Projects are primarily anticipated to be funded with a mixture of pay as you go, federal grants and debt issuance
- ◆ The projected debt issuances fall under two types, both of which will be issued by GoTriangle:
 - Limited Obligation Bonds
 - Publicly sold
 - Projected to be used for Bus Infrastructure and Bus Rapid Transit projects
 - Railroad Rehabilitation & Improvement Financing (RRIF)/ Transportation Infrastructure Finance and Innovation Act (TIFIA)
 - Federal Loan program
 - Modeled to be used for the Rail project



Durham Transit Plan

- ◆ The current version of the Durham transit plan that is anticipated to be adopted in the near future has approximately \$600 million of capital projects programmed between fiscal years 2023 and fiscal year 2040 including multiple Transit Infrastructure projects and funding for a Regional Rail
- ◆ Projects are primarily anticipated to be funded with a mixture of pay as you go and federal grants
- ◆ Transit plan includes debt issuance exclusively for the rail project to be issued by GoTriangle
- ◆ Debt issuance is anticipated to include Railroad Rehabilitation & Improvement Financing (RRIF)/ Transportation Infrastructure Finance and Innovation Act (TIFIA)
- ◆ Transit plan has the ability to issue future debt via Limited Obligation Bonds that is currently not included in the plan



Limited Obligation Bonds Overview

- ◆ Municipal bonds that are sold publicly or purchased directly by a bank and will be paid back with the ½ cent sales tax
- ◆ Typically include a maximum term of 20 or 30 years
 - Current Wake Transit Financial Model utilizes 20-year term
- ◆ Process typically takes about 3-4 months to complete
 - Will take additional time for the first issuance
- ◆ Interest rates are set by market rates at the time of issuance with a credit spread partially determined by GoTriangle's credit rating
- ◆ Interest starts accruing at the issuance of the bonds
- ◆ Costs of issuance are generally equal to .75%-2.0% of the par amount issued depending on amount and complexity of the bonds issued
- ◆ Are projected to be used for Bus Infrastructure and Bus Rapid Transit projects



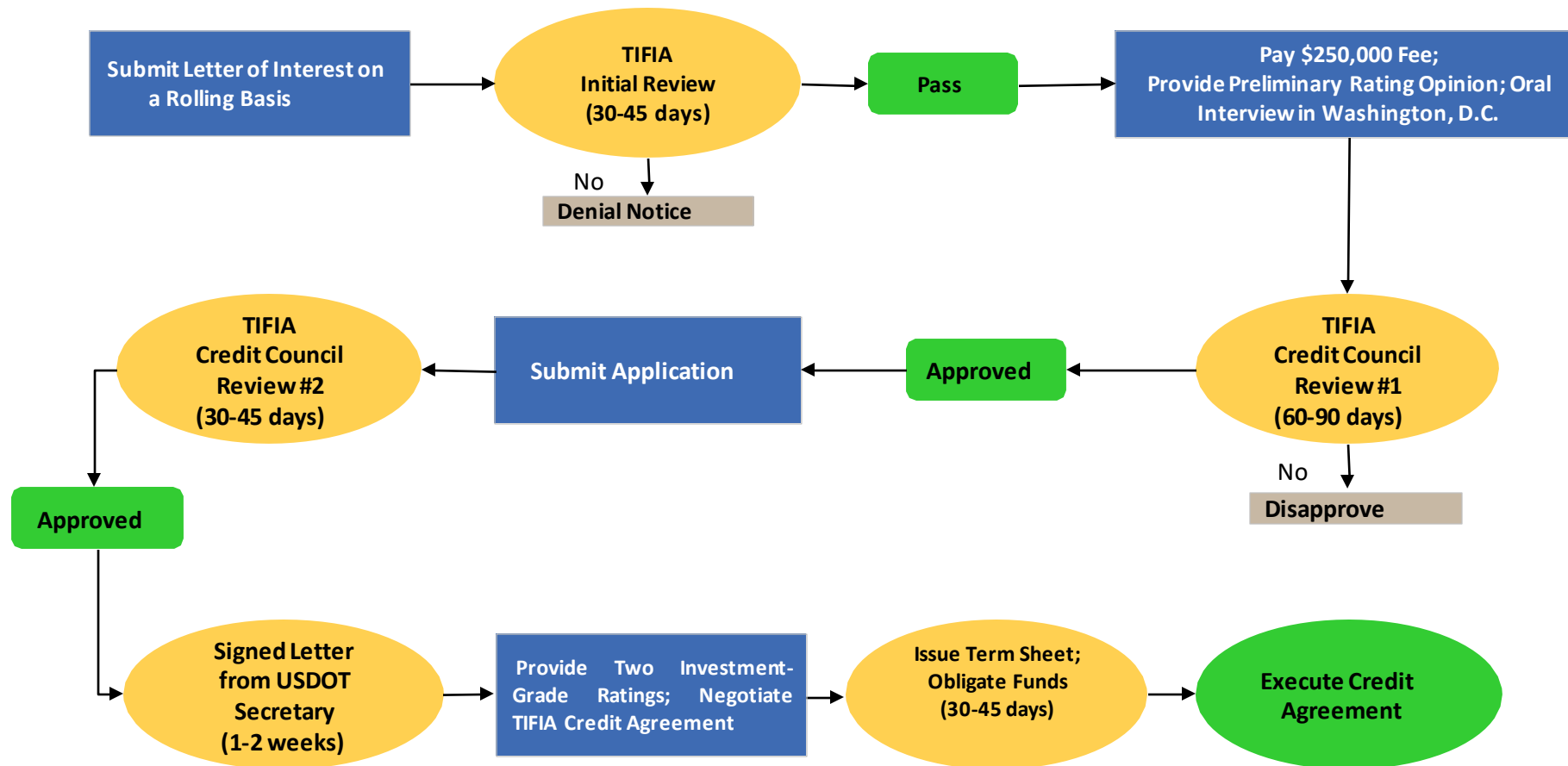
RRIF or TIFIA Loan Overview

- Both are federal loan programs run by the Build America Bureau
- Maximum percentage of the project that can be funded:
 - 80% for RRIF loan
 - 49% for TIFIA loan
- Are drawdown loans, and *zero interest* is charged until project draws are made
- Maximum term of 35-years¹ post project completion
- The interest rate is fixed on the date the TIFIA credit agreement is executed and is based on the U.S. Treasury rate that corresponds with the maturity date of the loan
- Principal and interest can be deferred 10 and 5 years after project completion, respectively
- Loan process usually takes 9-12 months to close
- Requires a bond rating of BBB- or higher
 - Bond rating has no effect on the interest rate charged
 - RRIF may charge a credit risk premium depending on GoTriangle's bond rating
- Costs are limited to the Build America Bureau's financial advisors and lawyers, the first \$250,000 is due at the time of application; total is estimated to be in the \$500,000-\$750,000 range

1. Recent legislation has extended the maximum TIFIA loan length to 75 years past project completion



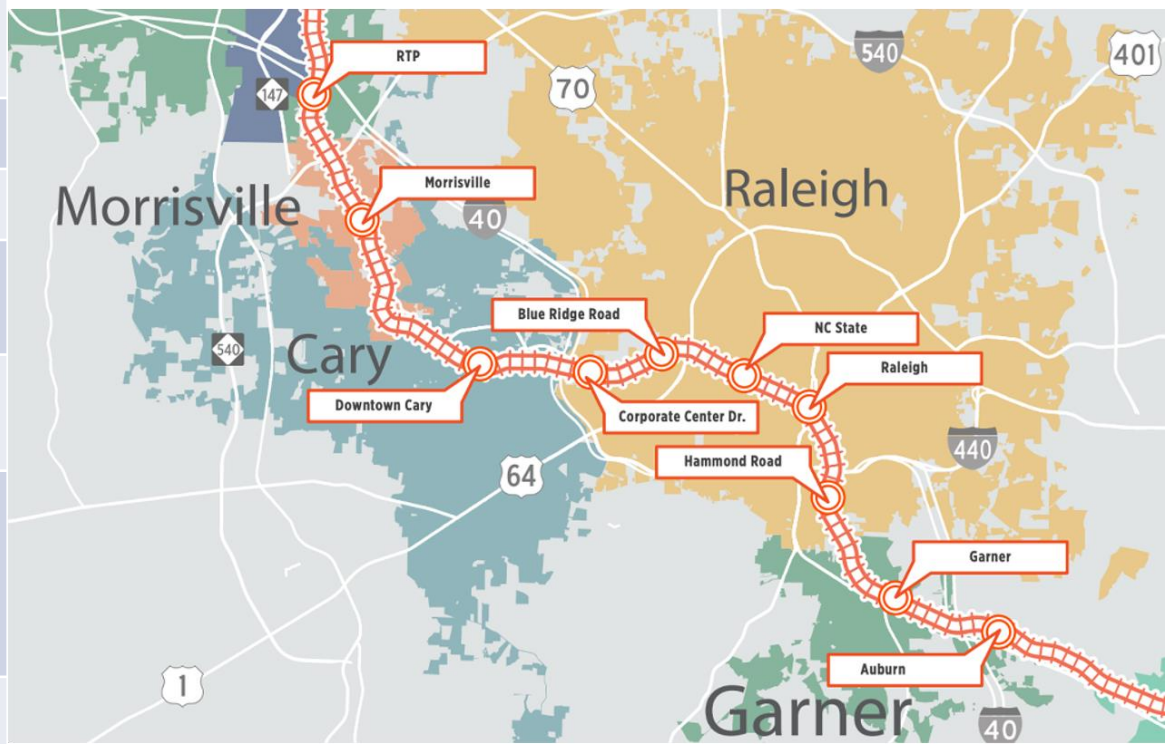
RRIF/TIFIA Application Process



- ◆ As long as the Rail Project meets the requirements for a RRIF loan GoTriangle will be approved for the loan



	*Precise values in this table are provided for illustrative purposes, should be taken in context, and are subject to change.	Auburn to RTP
Easternmost Station:	Auburn (East Garner)	
Westernmost Station:	RTP (Regional Transit Center)	
YOE Capital Cost:	\$1.697 billion	
O&M Cost:	\$28.7 million (\$2022)	
Service Scenario:	Hourly	
2040 Ridership:	~8,000 Weekday Boardings	
Revenue Service Year:	2033 (10 years from start of development)	
Length:	26.5 miles	
Miles in Wake County:	25.0 miles	
Miles in Durham County:	1.5 miles	
Mileage by County:	94.3% Wake 5.7% Durham	

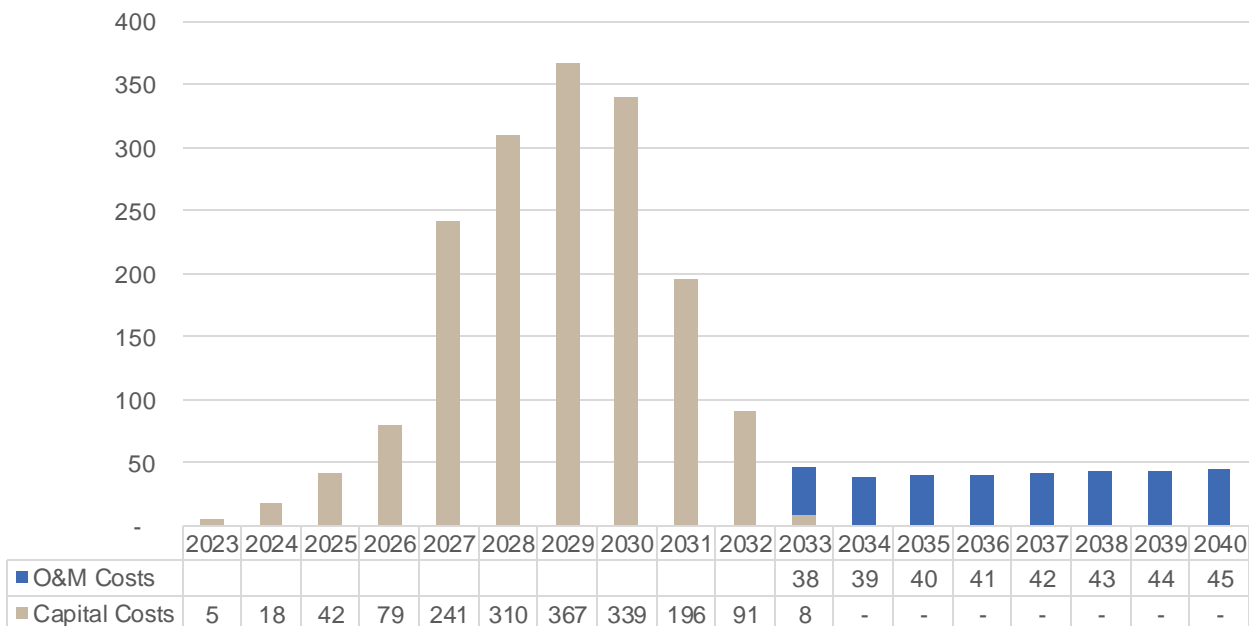




Projected Project Cash Flow

- Project costs projected to be paid with a mixture of pay-as-you-go cash funding and RRIF loan proceeds
- RRIF loan will begin draws in 2027 when the project enters the construction phase
 - Currently modeled with interest only payments until project completion in 2033

Annual Auburn to RTP Costs (\$Millions)





Auburn to RTP Scenarios – current debt policy

- Conservative scenarios consist of sales tax revenues from 2023 financial plan (\$111m in 2024)
 - Optimistic scenarios consist of higher sales tax revenues starting in 2024 based on higher actual receipts through FY 2023 (\$125m in 2024)
- Scenarios below meet current Wake Transit Plan debt policy

Wake Transit Share	Optimistic Scenario Results	Conservative Scenario Results	Wake Share \$	Durham Share \$
94.3%	\$119M savings target 1.35x / 3.00x	\$295M savings target 1.35x / 3.00x	1,600,743,000	96,757,000
98.0%	\$176M savings target 1.33x / 3.00x	\$361M savings target 1.33x / 3.00x	1,663,550,000	33,950,000
100.00%	\$209M savings target 1.32x / 3.00x	\$396M savings target 1.32x / 3.00x	1,697,500,000	-
Breakeven Point of Wake's Share - 86% optimistic / 76% conservative				



Auburn to RTP Scenarios – recommended debt policy

- Conservative scenarios consist of sales tax revenues from 2023 financial plan (\$111m in 2024)
- Optimistic scenarios consist of higher sales tax revenues starting in 2024 based on higher actual receipts through FY 2023 (\$125m in 2024)
- The amended scenarios produce an average of \$60m reduction in the projected shortfall

– Scenarios below meet amended Wake Transit Plan debt policy

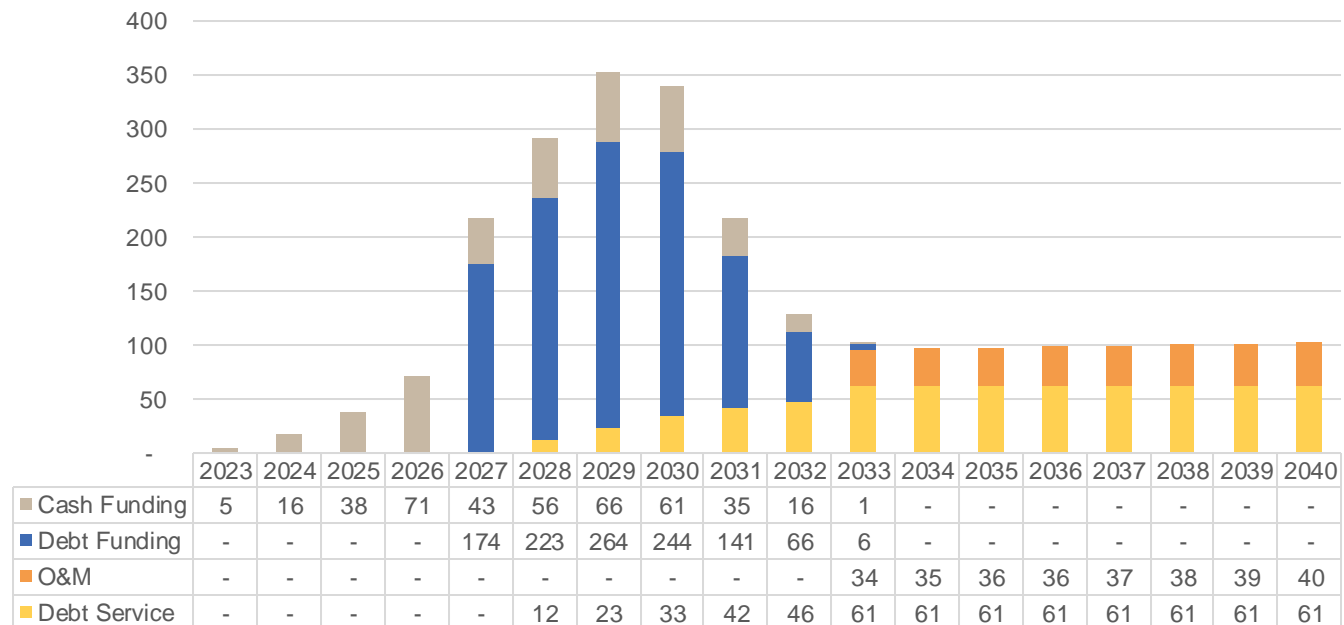
Wake Transit Share	Optimistic Scenario Results	Conservative Scenario Results	Wake Share \$	Durham Share \$
94.3%	\$48m savings target 1.25x / 2.79x	\$225M savings target 1.25x / 2.78x	1,600,743,000	96,757,000
98.0%	\$120M savings target 1.25x / 2.83x	\$303M savings target 1.25x / 2.81x	1,663,550,000	33,950,000
100.00%	\$158M savings target 1.25x / 2.85x	\$347M savings target 1.25x / 2.84x	1,697,500,000	-
Breakeven Point of Wake County's Share - 91% optimistic / 82% conservative				



Potential Wake Cash Flow - Optimistic Scenario – 90% Wake Funding

- The chart below shows the projected cash flows of the rail project for Wake
 - Assumes 90% funding by Wake with the optimistic revenue assumptions.

Annual Auburn to RTP Costs (\$Millions)





Wake/Durham Transit Plan Debt Policy

- ◆ Wake Transit currently has a debt policy that was put in place in 2017
- ◆ As capital plans are refined, the below policy changes would offer additional flexibility while taking advantage of available funding options following comparable practices.

Current Financial Policy	Potential Amended Financial Policy
<ul style="list-style-type: none">- Debt Ratios only include tax revenues and fare revenues- Gross debt ratio¹ must be 3.0x or greater in all years- Net debt ratio² of 1.25x or greater in all years- Maximum term of bonds allowed of 30 years	<ul style="list-style-type: none">- Debt Ratios include tax revenues, fare revenues and federal grant revenues- Gross debt ratio¹ desired be 2.0x or greater in all years- Net debt ratio² of 1.25x or greater in all years- Maximum term of bonds allowed of 35 years past project completion

¹Revenues divided by Debt Service

²Revenues minus Operating Expenditures divided by Debt Service



GoTriangle Transit Sales Tax Comparables

Issuer	Moody's/S&P/ Fitch/Kroll	Additional Bonds Test
GoTriangle	TBD	2.0x
Bay Area Rapid Transit	Aa3/AA+/AA/	1.5x MADS
Chicago Transit Authority	Sr :A2/AA//AA+ Jr: /A+//AA-	Sr: 2.0x MADS Jr: 1.5x MADS
Colorado Regional Transportation District	Aa2/AA+/AA/	2.0x MADS
Dallas Area Rapid Transit	Aa2/AA+/AA-/	2.0x MADS
Massachusetts Bay Transportation Authority	Aa2/AA+//	1.0x MADS
Metropolitan Atlanta Rapid Transit Authority	Aa2/AA+/AA/	2.0x MADS
Metropolitan Transit Authority of Harris County	Aa2/AAA/ /AAA	2.0x MADS
Miami-Dade Transit	/AA/AA/	1.5x MADS
Sound Transit	A1/AA-/AA/	1.10x MADS