

# Transit System Plan Update – Part I

## MTC Strategy Session

October 23, 2024



Transit System Plan Update

# Overview/Timeline

## Transit System Plan Update

# Opportunity to bring **Vision to Reality**

## Integrated Approach

We can weave our bus vision with our rapid corridor vision into a **balanced plan** to best serve our customers.

## Transparent Process

We will use an **open and inclusive process** to discuss assumptions, trade-offs and opportunities.

## Realistic Plan

We will develop a plan that is **implementable** and sustainable over the long-term.

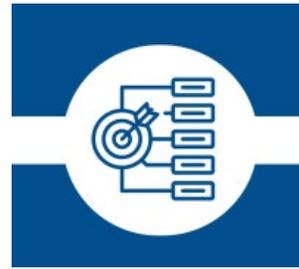
# Process:

How will the Transit System Plan be Updated?

**We will follow a transparent and inclusive process to build consensus around the overall goals and objectives for future transit expansion in the CATS service area.**

**We will work with the Metropolitan Transit Commission (MTC), stakeholders, and the public throughout the process.**

1



Fall 2024

## Goals, Objectives & Baseline Assumptions

Confirm and prioritize program goals and objectives. Define evaluation criteria based on those goals

2



Winter/Spring 2025

## Alternatives & Evaluation

Evaluate potential bus and rail improvements

3

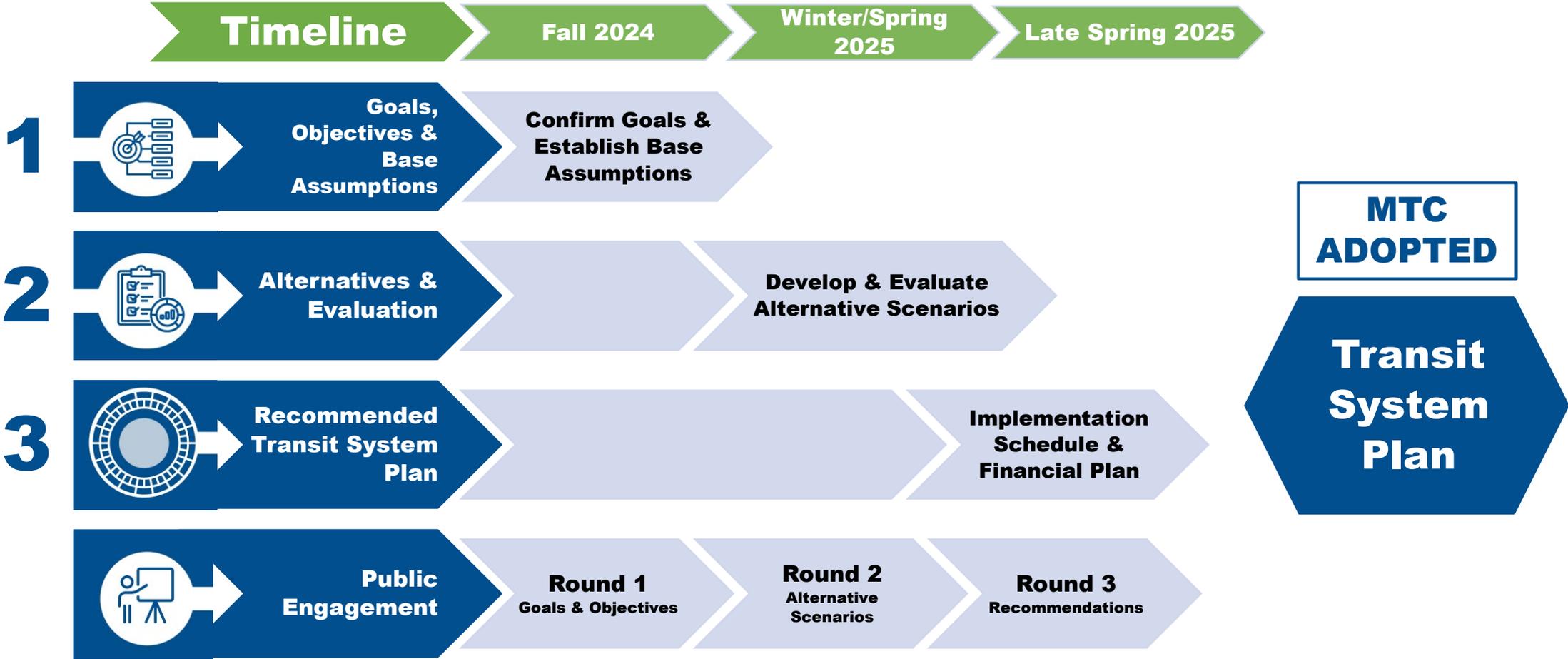


Late Spring 2025

## Recommended Transit System Plan

Develop a fiscally constrained plan and implementation schedule

# Overview of Process & Schedule:



# Transit System Plan & MTP Process

**To advance in the federal process, all major projects need to be included in the region's financially constrained Long Range Transportation Plan (MTP)**

**Implementation schedule and financial plan for the Transit System Plan is needed**

▷ Transit System Plan Update

## **Timelines**

- ▷ MTC Adoption of TSP Spring 2025
- ▷ Draft MTP Summer 2025
- ▷ CRTPO Adoption of MTP Spring 2026



Transit System Plan Update

# Regional Context



**CONNECT  
Beyond**

A Regional Mobility Initiative

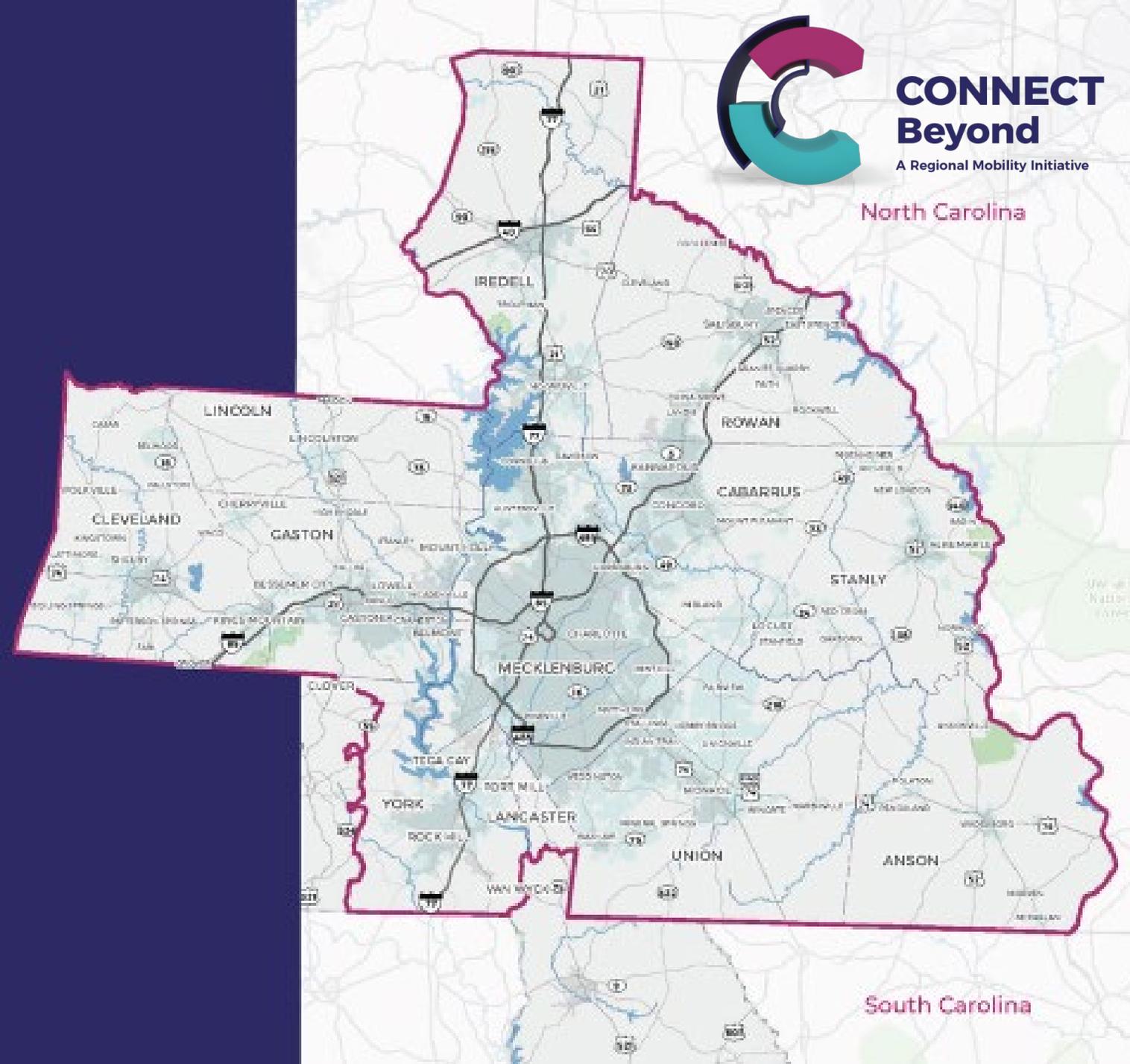
# Our Region

2 States

12 Counties

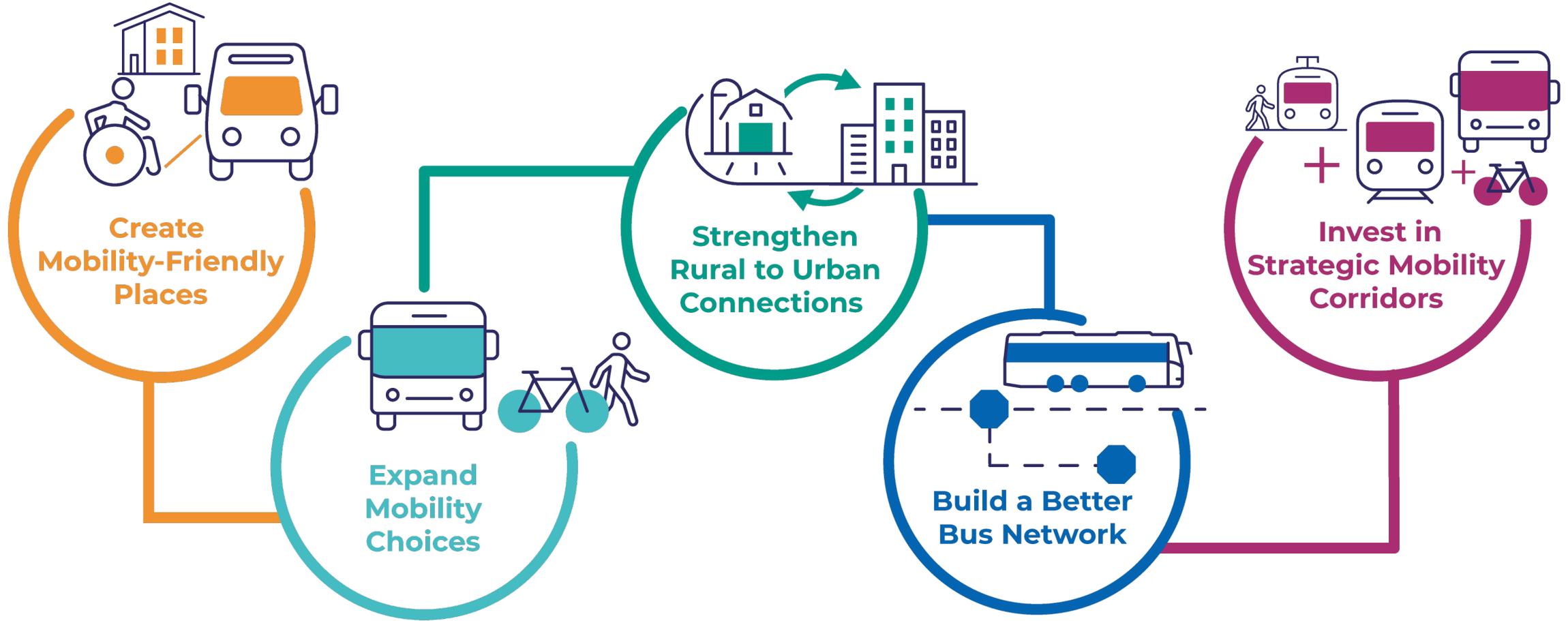
5K Square Miles

2.6 Million People



# Mobility Moves

**Create | Expand | Strengthen | Build | Invest**



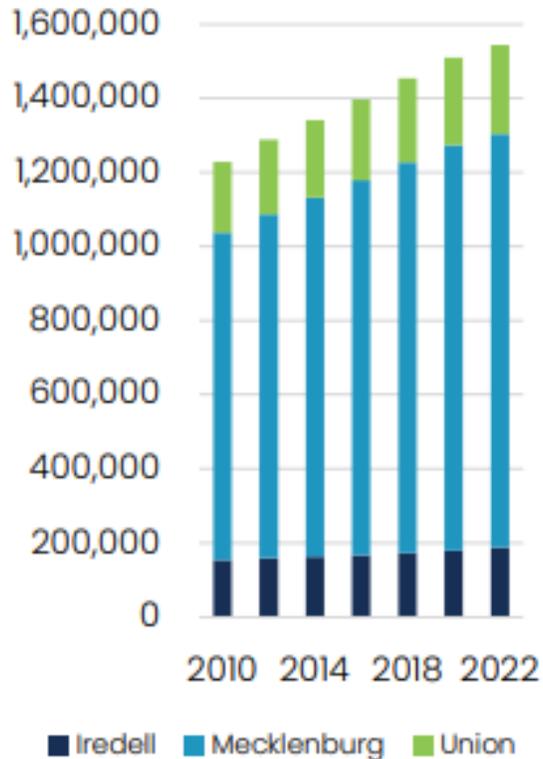


## Did You Know?

It is projected that by 2045, the region's population will increase by about 1.4 million people, an increase of over 50 percent. By that time, approximately 4.1 million people will live in the 12-county CONNECT Beyond region.

# Growth & Diversity

Population Change (2010 - 2022)



## Fast growing region with more diverse and aging population

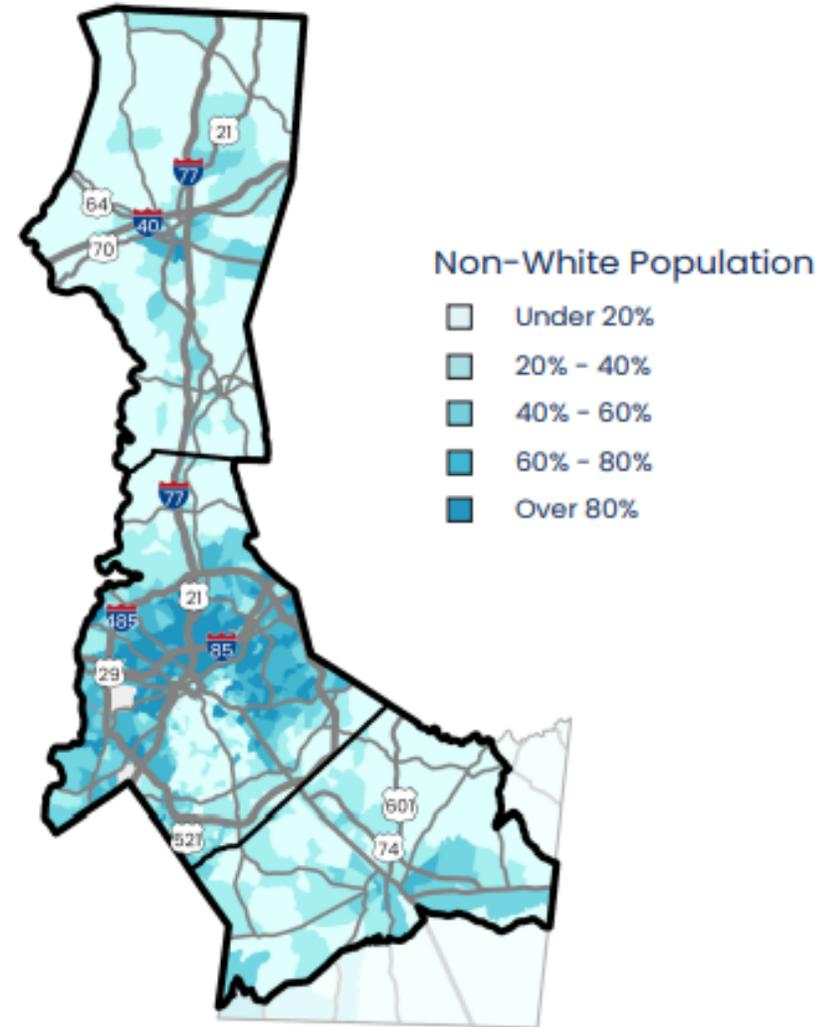
**1,543,351** People living in the CRTPO planning area (2022)

**+25.7%** Population growth in planning area (2010 - 2022)

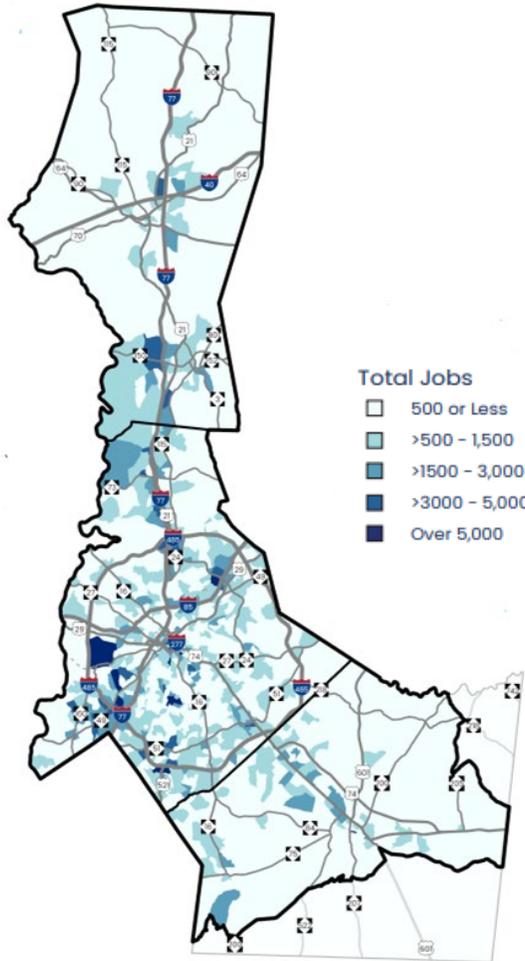
**44.1%** Minority population (2022)

**+26%** Increase in minority population (2010 - 2022)

**+6%** Increase in median age (2010 - 2022)



# Employment & Economics

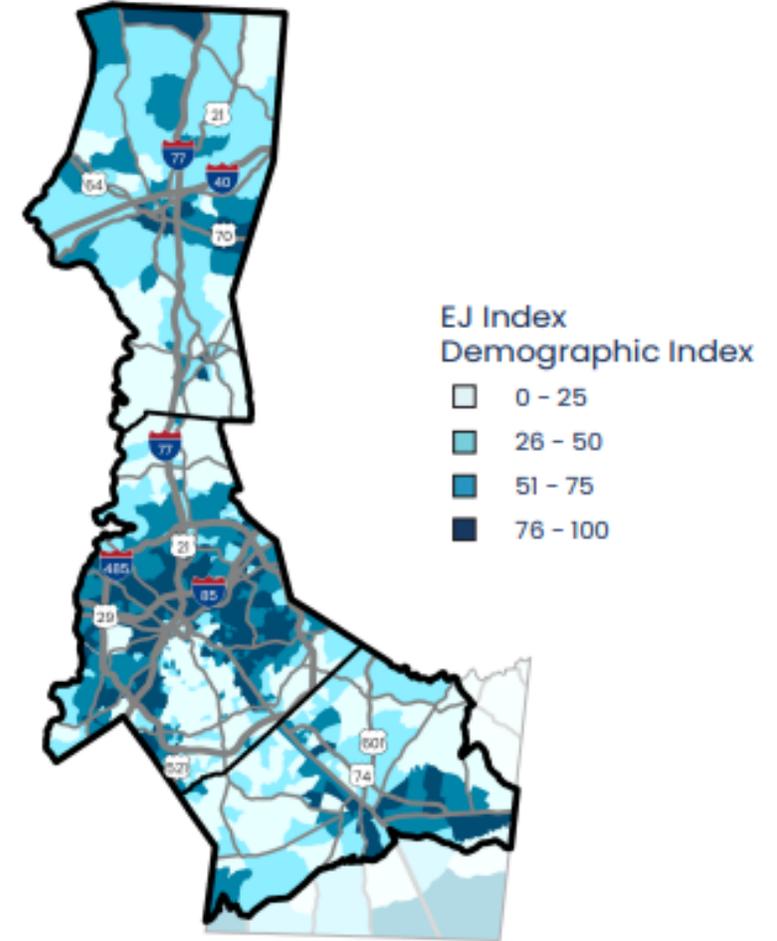


Uptown Charlotte is an employment center, along with several major centers and corridors in the region

~1,175,000 jobs in the planning area (Metrolina Regional Model)

+46% Increase in median household income since 2010 (+31% for the state)

EJ communities (minority and low-income are more likely to be negatively impacted by environmental justice issues caused by transportation, particularly pollution



# Key Destinations

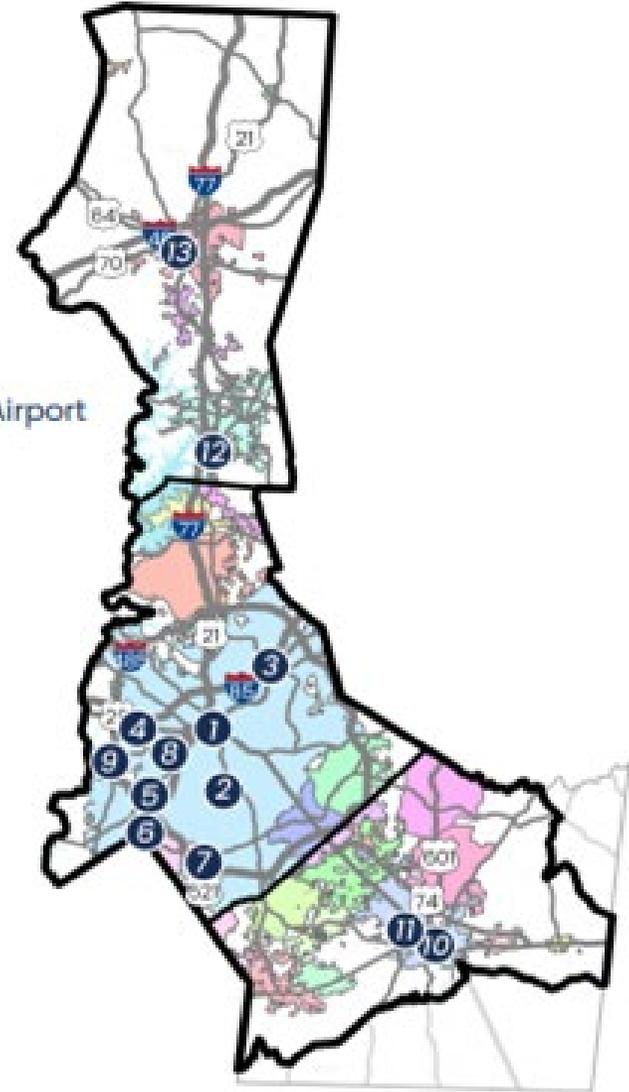
## Regional Activity Centers

Regional Activity Centers are the largest local and regional tourism draws within the CRTPO planning area. The map to the right shows the regional activity centers in the region. The majority of the regional activity centers within the region are in the Charlotte area, with smaller downtown centers in Mooresville, Monroe, and Statesville.

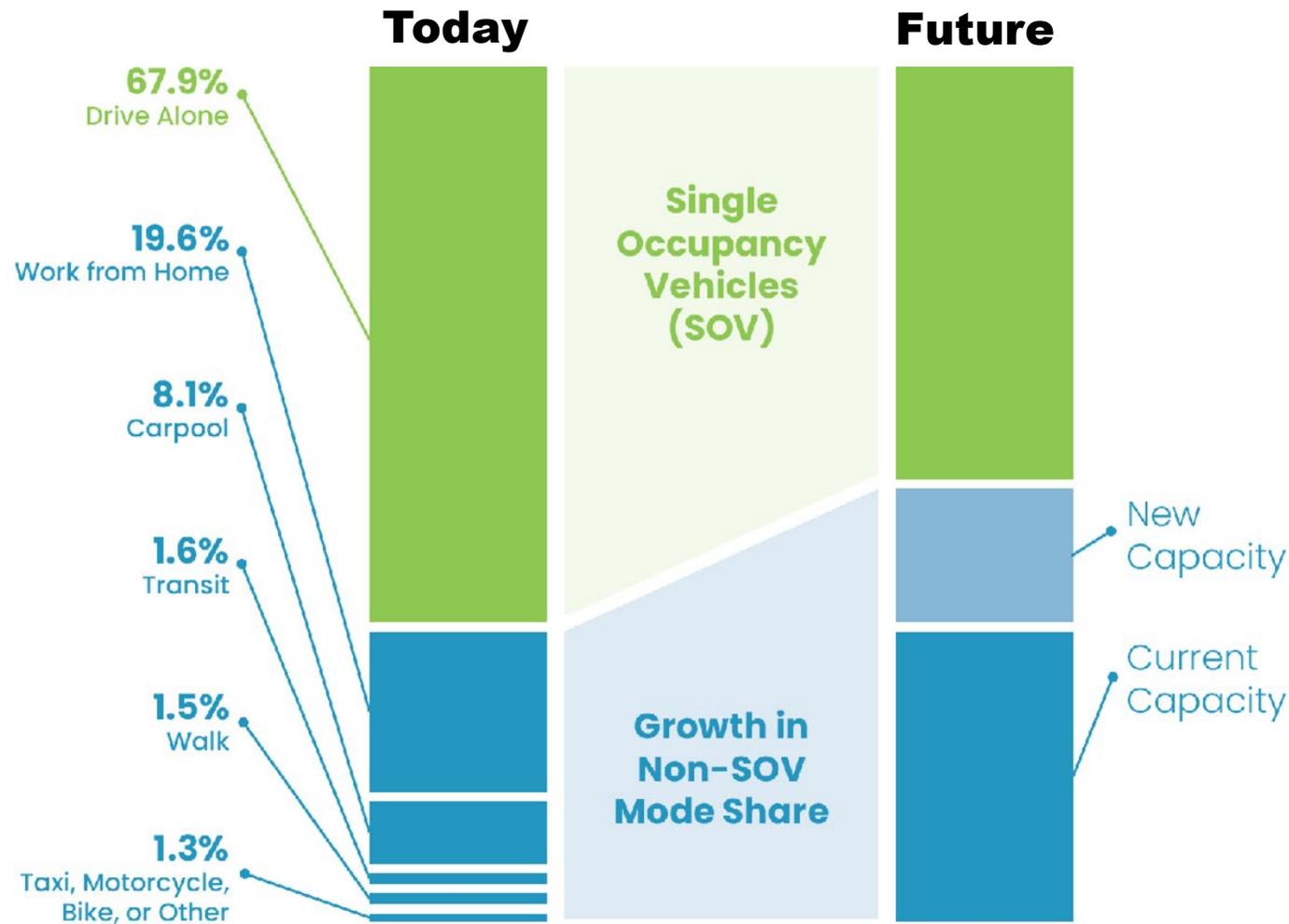
**Connecting regional activity centers via reliable high-capacity transit provides easier access for residents and tourists to desired destinations.**

### Regional Activity Centers

- 1 Uptown Charlotte
- 2 South Park
- 3 University Research Park
- 4 Charlotte Douglas International Airport
- 5 Whitehall
- 6 Westinghouse Boulevard
- 7 Ballantyne
- 8 Old Coliseum
- 9 River District
- 10 Carolinas Medical Center Union
- 11 Downtown Monroe
- 12 Lowes Corporate Center
- 13 Downtown Statesville



# Multimodal Vision



The region can increase non-SOV trips taken by providing more opportunities for carpooling, walking, biking, and taking transit. This will help:

- Manage rapid growth
- Alleviate congestion
- Support safe and efficient travel for all road users
- Improve access to opportunity
- Contribute to environmental sustainability



Existing Conditions Report

# Key Takeaways

## **Rapid Growth means Expanded Travel Demand**

*We must be proactive about building a multimodal transportation network to accommodate it.*

## **Need for Equitable and Affordable Travel Choices**

*We need to continue reinforcing a transportation vision committed to creating equitable and affordable travel mode choice.*

## **Reliance on Autos and Impact on Climate**

*Efforts to decrease our reliance on automobiles, while effectively managing traffic congestion, will play a vital role in mitigating the adverse impacts of climate change.*

## **Limited Resources**

*There won't be available resources to build and maintain everything, which means that prioritization of those resources is critical.*

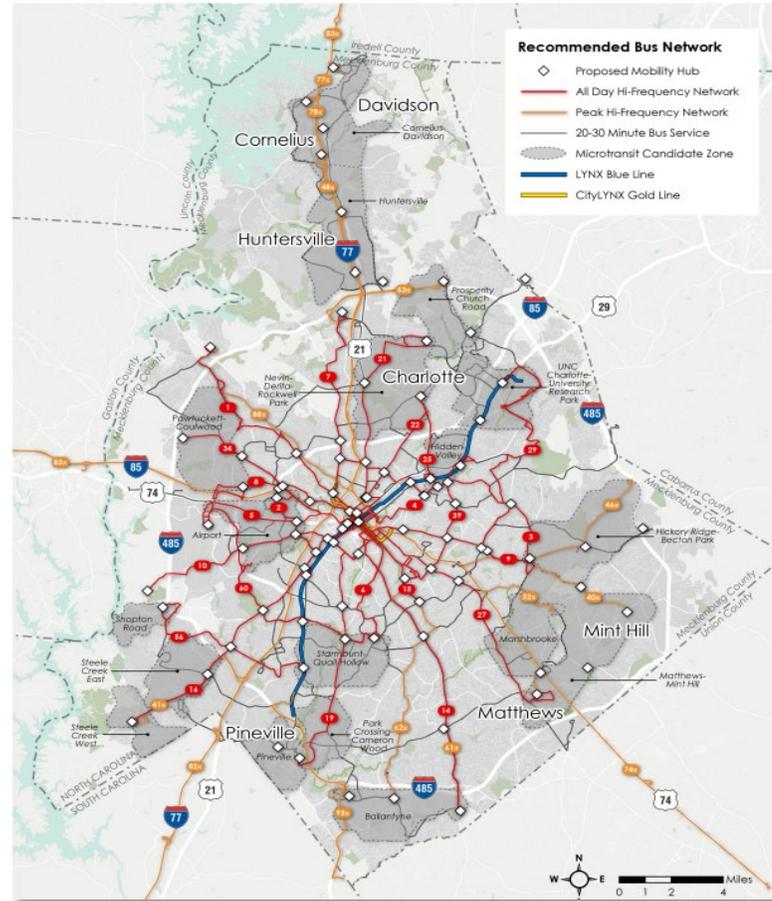
Transit System Plan Update

# Better Bus

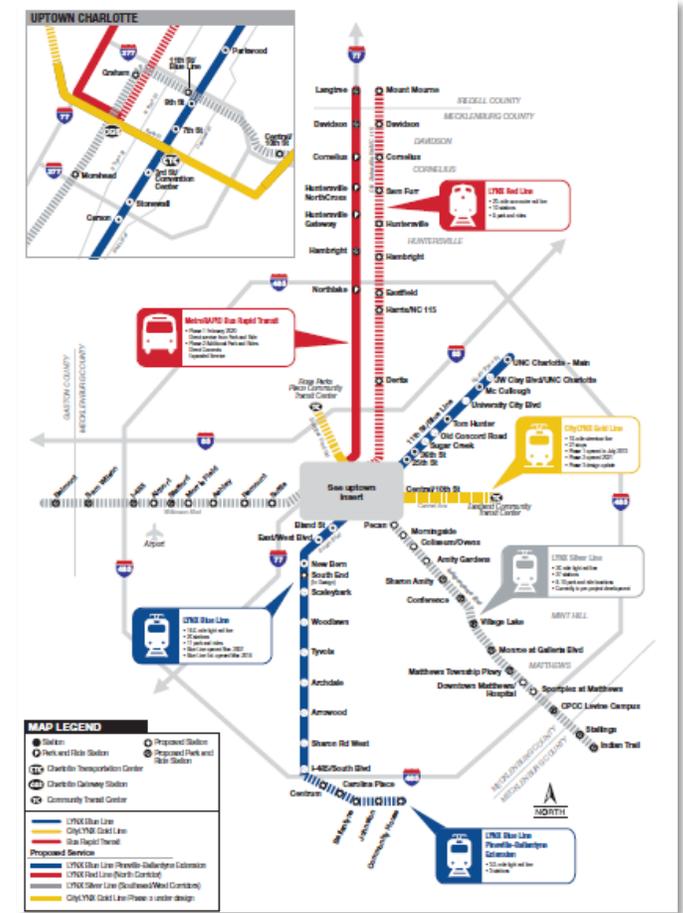
# What will The Transit System Plan do?

Weave together our transit vision for bus and rail into a balanced plan of transit service and investment

## Better Bus Envision My Ride System Plan



## Rapid Transit 2030 Corridor System Plan



# Red Line



## Project Description

- ▷ 25 miles
- ▷ 10 stations

## Design Update

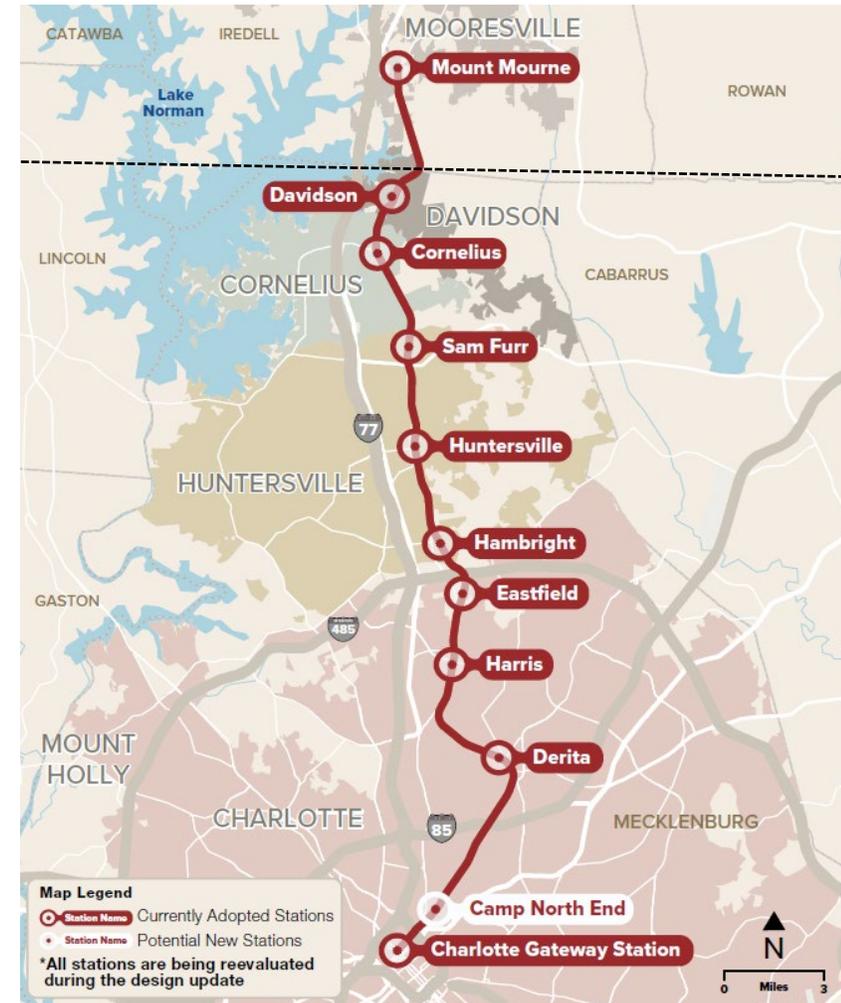
- ▷ Initiated in 2023
- ▷ Public Engagement

## ROW Acquisition

- ▷ Corridor Preservation - Sept 2024
- ▷ Mecklenburg only; future option for Iredell/ Mooresville segment
- ▷ Comprehensive Rail Agreement

## Future Steps

- ▷ Complete 30% Re-design
- ▷ Environmental Document

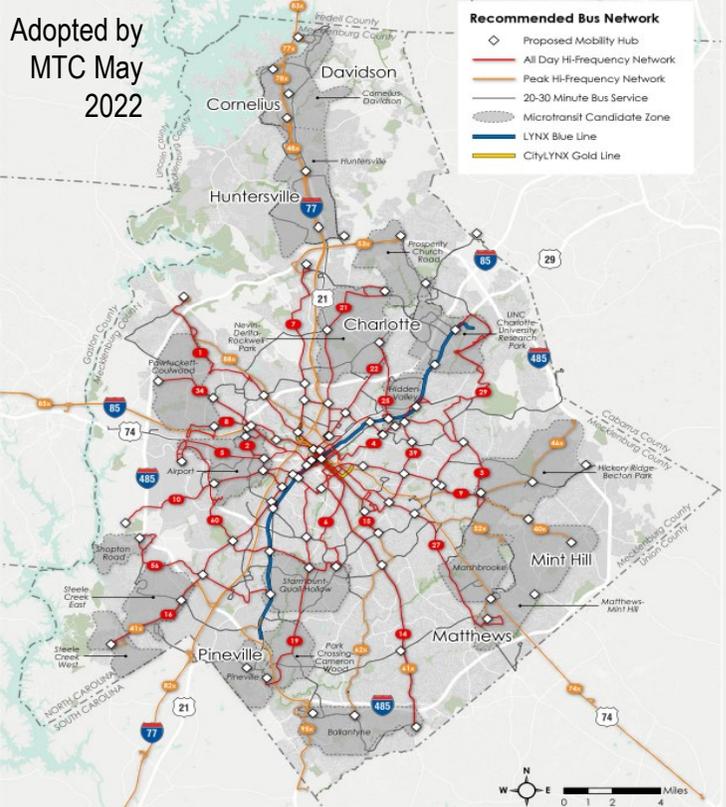


# Bus Vision & Implementation

Developed the Vision

## Envision My Ride

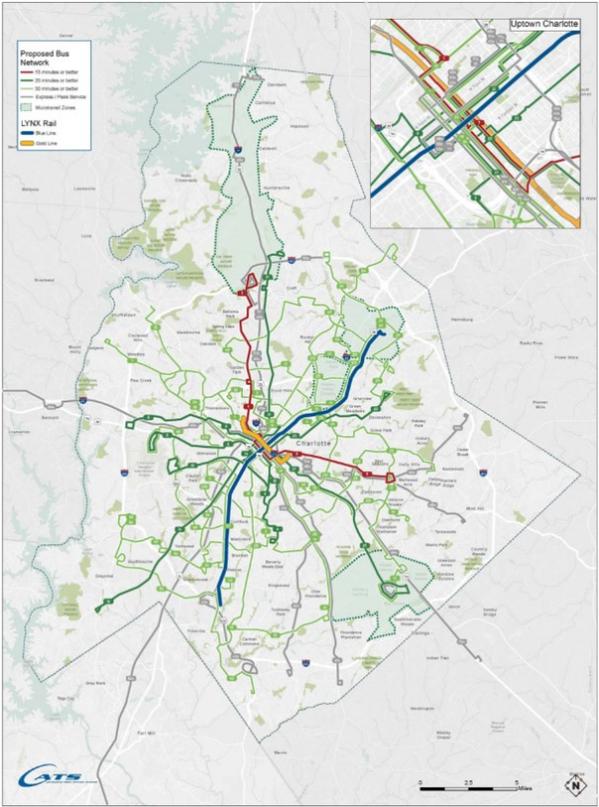
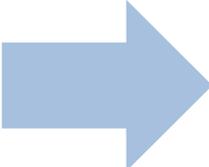
Current adopted bus service plan is a bold aspirational unconstrained vision



Setting Priorities

## Better Bus

Service and amenity priorities will be developed for the Transit System Plan Update



# What is Better Bus?

## Comprehensive bus planning and prioritization effort to:

- ▷ Improve Operational Efficiency
- ▷ Develop Service and Amenity Priorities
- ▷ Enhance the Customer Experience



# Bus Service is the Backbone of our System

Ridership 2024

**14.6M**

## Bus

**8.3M**

**6.3M**

## Rail

### Fixed Route Bus

Total Routes: **67**

Local: **48**

Express: **13** (17 park & rides)

Regional Express: **3**

Village Rider: **3**

Fleet: **235 buses** (20 battery electric)

Bus Stops: **3,021**

### Paratransit

Eligible Clients: **5,244**

Ridership (FY24): **185,196**

Fleet: **85 buses**

### Vanpool

Customers: **118**

Ridership (FY24): **185,196**

Fleet: **47 vans**

% Work or School Trip

**61 | 60**

% With No Drivers License

**58 | 42**

% With No Working Vehicle

**71 | 46**

### Blue Line

Miles: **19**

Stations: **26**

Train Cars: **42**

Ridership (FY24): **5.8M**

### Gold Line

Miles: **4**

Stations: **17**

Train Cars: **6**

Ridership (FY24): **561K**

# Riders Stories



*"I use public transportation to go to **school**, go **shopping**, go to **work**, and see **friends**. More reliable buses would give us a better **quality of life** and **independence**."*

*Ebony*



*" More **service** would mean I would have a little more **time** to come and drink some coffee, eat some breakfast, and be ready to go to **work**."*

*Nathaniel*



*"More service would **help** me a great deal. Maybe I could get to the **doctor** a little bit **early**, and they could get me in and out a little earlier. "*

*Mary-Anne*

# Understanding Mobility Need

# Understanding **Mobility Need**

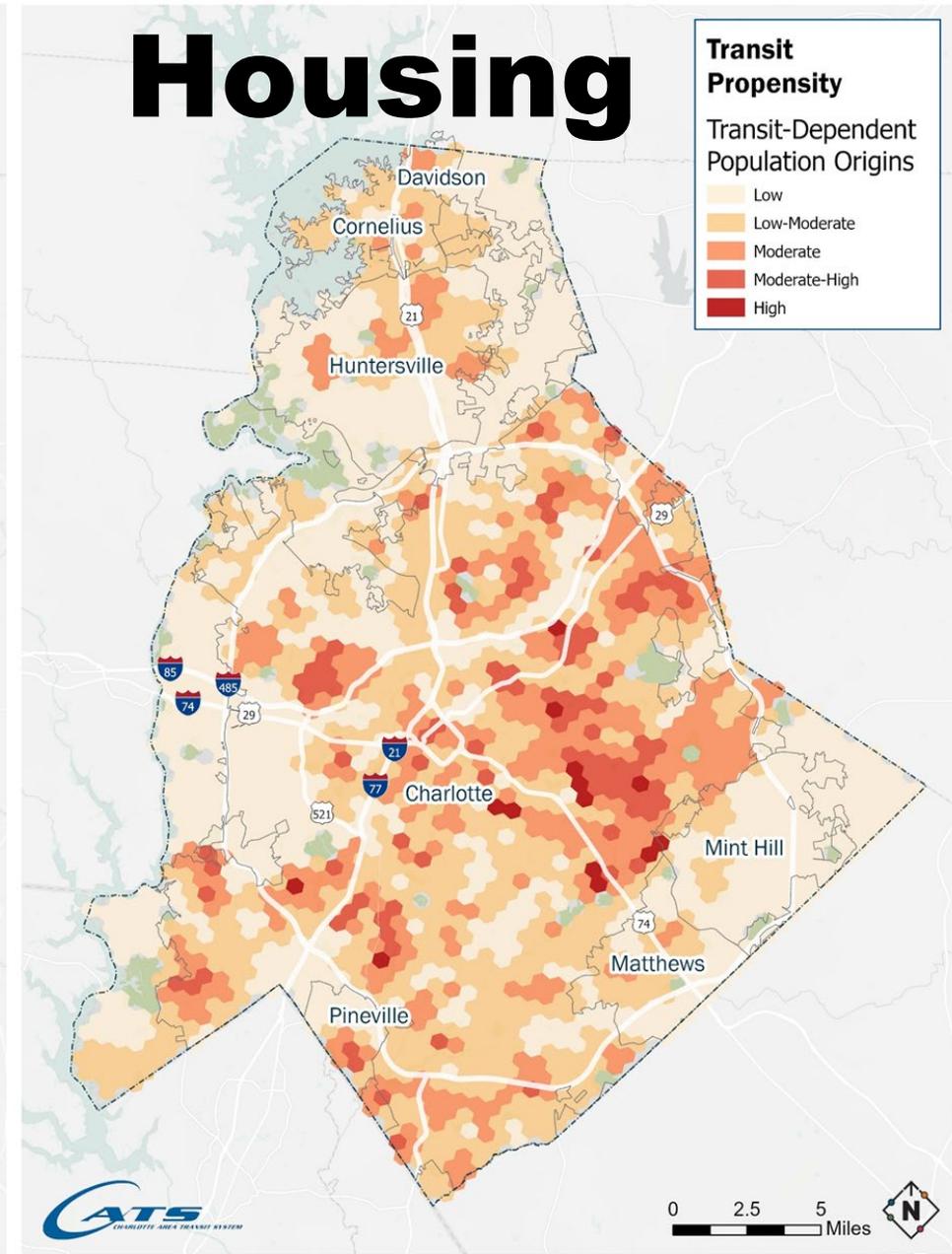
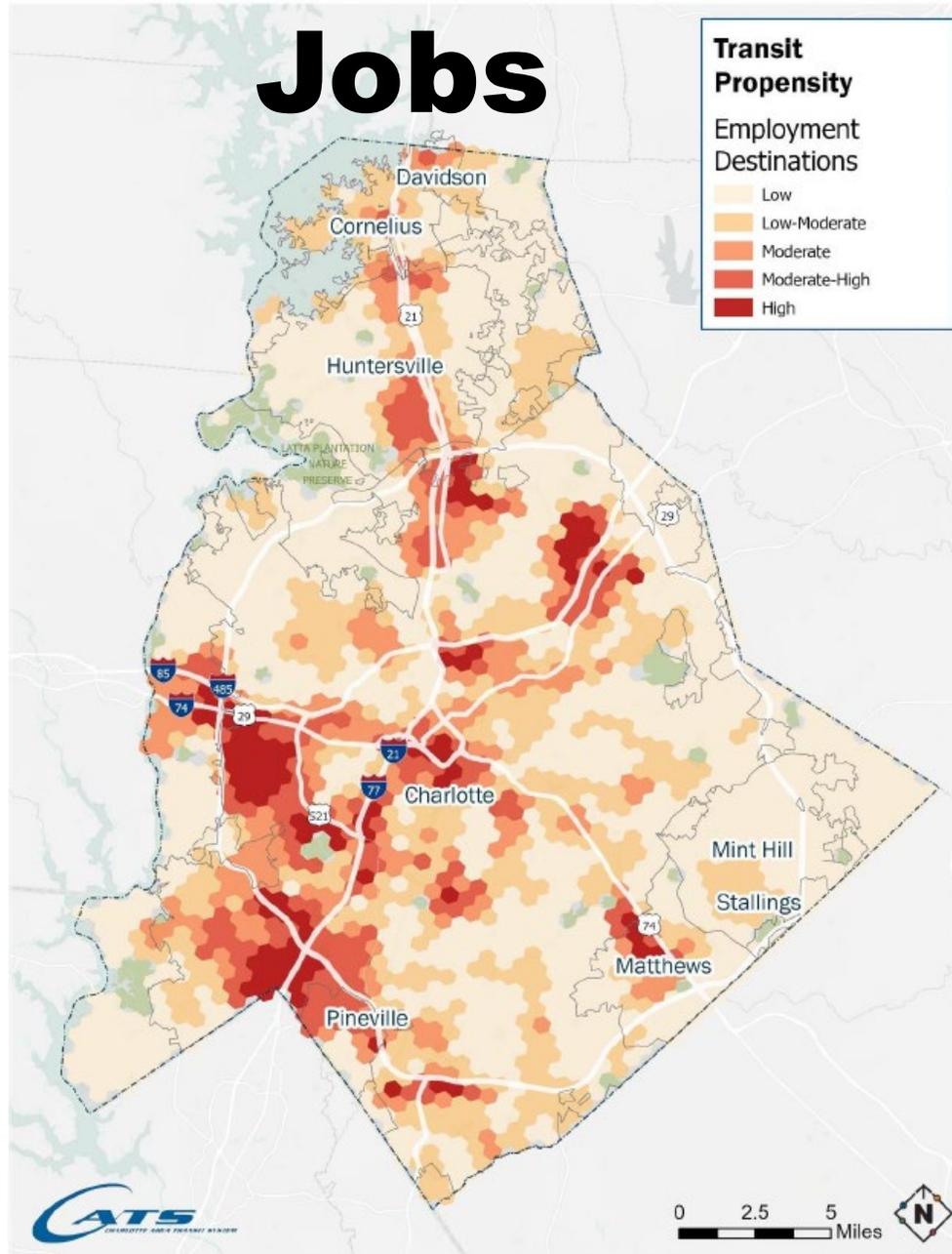


## **Transit Propensity**

- ▶ The transit propensity analysis utilizes a model to classify geographies according to the likelihood of transit services being used.
- ▶ Combines various demographic and employment characteristics into indices to identify where transit might be more needed or more likely used.
- ▶ This analysis used 2018 to 2022 ACS 5-year estimates for demographic information on residents and 2021 LEHD data for employment information.

# Understanding Mobility Need

- ▷ Analysis provides a framework connecting need to opportunity
- ▷ Understanding service priorities provides a strategic approach if new funding is secured.
- ▷ Service focus will be on frequency and quality



# Priorities

# Better Bus Network

## Improve 10 - 15 routes to 20 minutes or better

- ▷ Would serve 60% of existing ridership

## Expand hours for Express routes

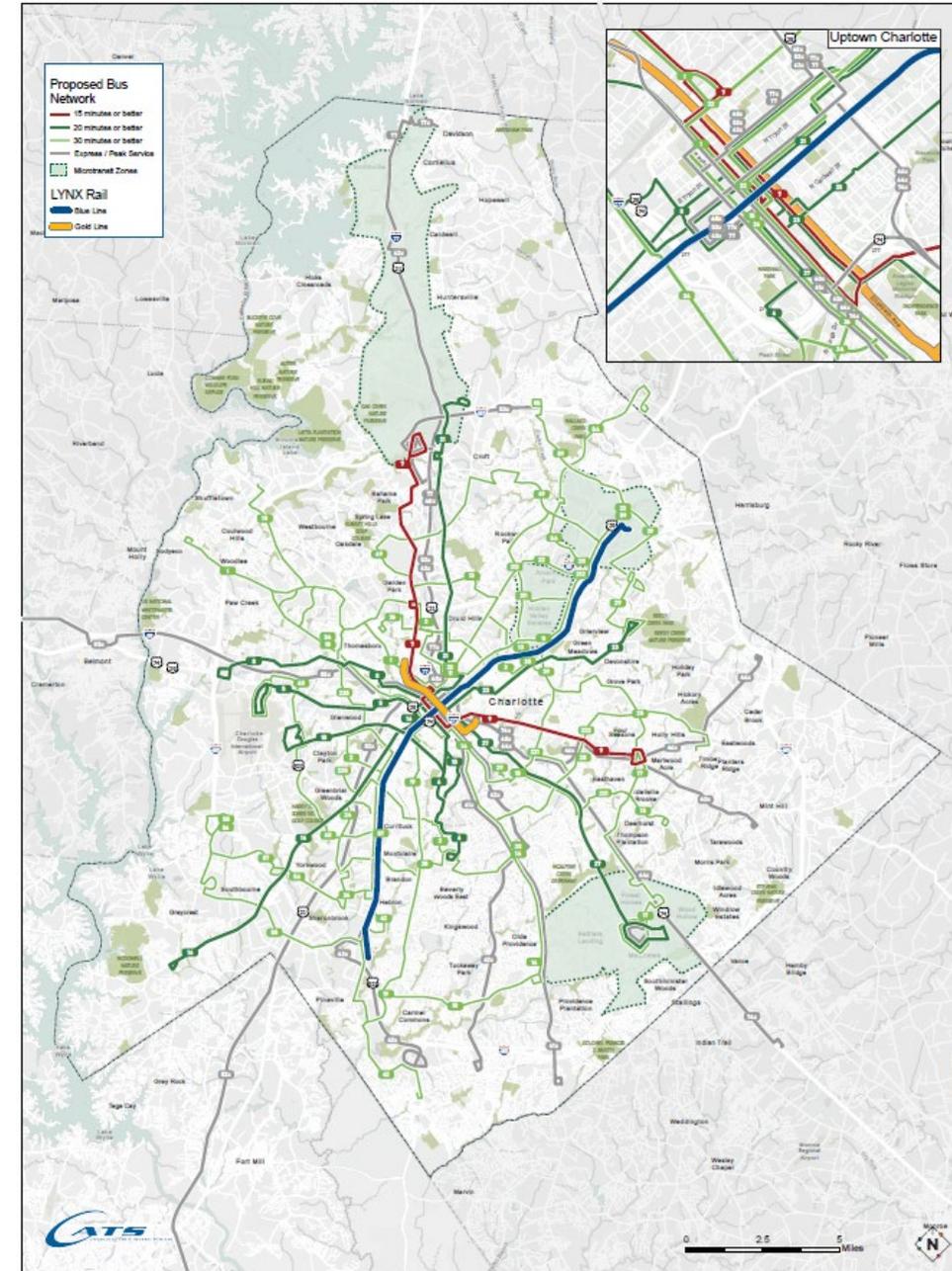
- ▷ Adapts to flexible work hours

## Increase peak service across the system to 30-minutes

- ▷ Provides improvements across the system

## Continue Microtransit program

- ▷ Increase on-demand service



# Mobility Hubs and Stops

**Priorities will also be developed to improve the experience for our customers and operators.**



# Better Bus Better Access



## Jobs

Within 30-minutes, over

**27% more job opportunities**

available during peak periods to general, low-income, and minority populations.



## Services

**16% more grocery stores**

will be accessible with-in 30-minutes throughout the day for low-income and minority populations.

# Next Steps

# Upcoming Outreach Strategy

**Introduce the Better Bus network and get preliminary feedback on the service priorities that will be expanded upon for the Transit System Plan update.**

## Engagement opportunities:

- ▷ Open house at Goodwill Opportunity Campus on November 19th from 6pm-8pm
- ▷ Virtual public meeting and internal/external stakeholder meetings
- ▷ Online survey focused specifically on comments for the proposed Better Bus network
- ▷ Pop ups at CTC and high ridership locations



**Better Bus Project**  
Find a Public Meeting Near You

July 11   Noon CATS YouTube	July 15   6-8 a.m. Davidson Gateway Park and Ride
July 16   6-8 a.m. Huntersville Gateway Park and Ride	July 17   6-8 a.m. Cornellus Park and Ride
July   18 6-8 a.m. Huntersville Northcross Park and Ride	July 18   11:30-1 p.m. & 4:30-6 p.m. Charlotte Transportation Center

Transit System Plan Update

# Rapid Transit Projects

# Advancing the Plan

## Red Line

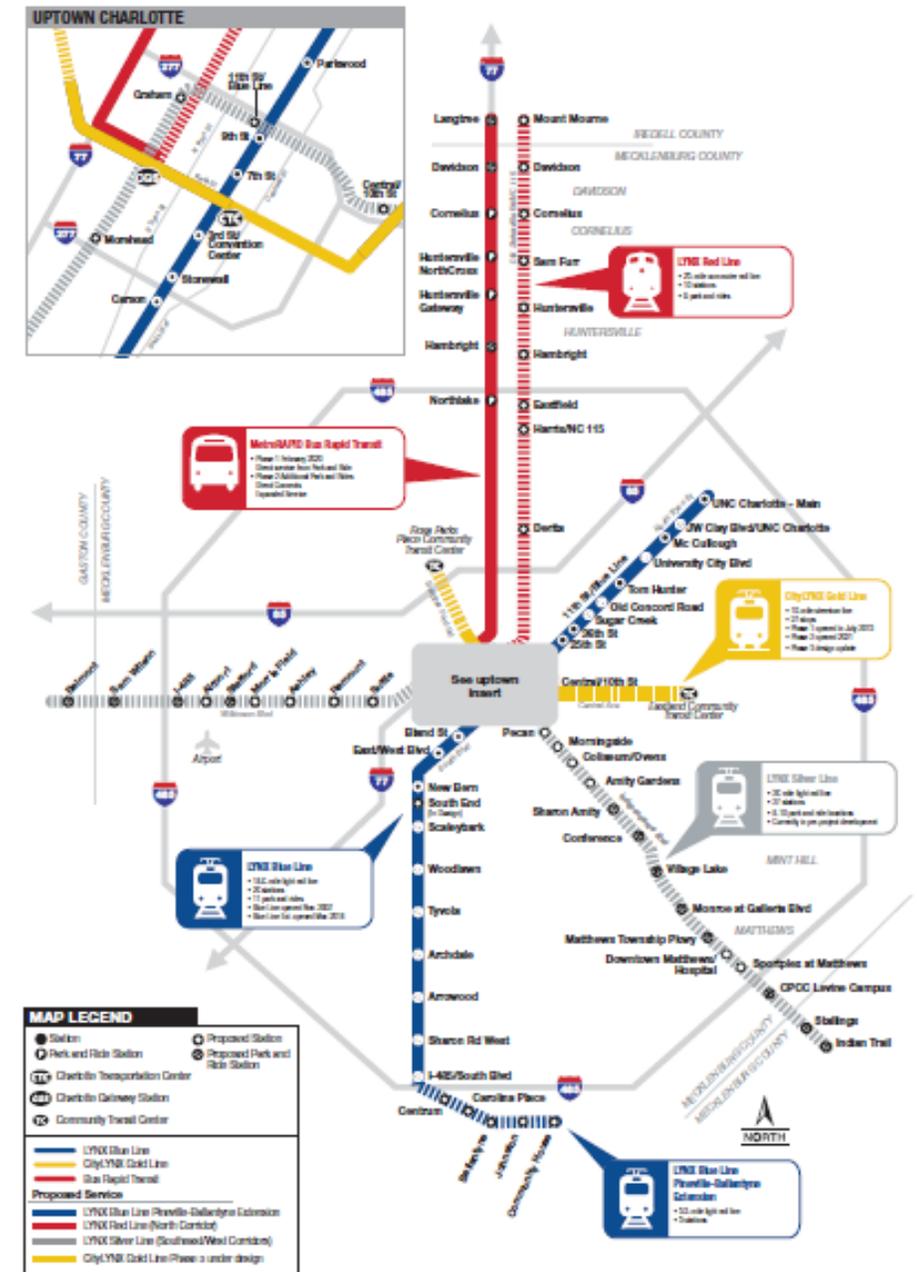
- ▷ Design Update

## Silver Line

- ▷ Design and Environmental

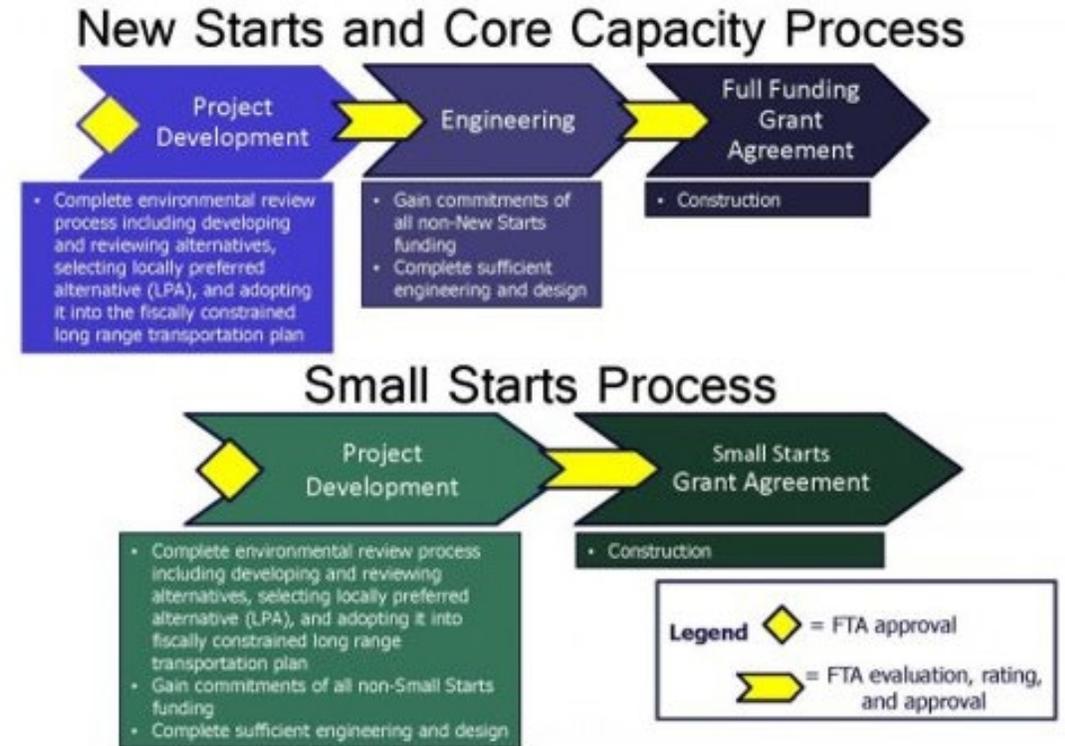
## Gold Line Phase 3

- ▷ Design and Environmental



# Project Readiness Approach

- ▶ FTA Capital Investment Grant Process
- ▶ Pre-Project Development
- ▶ Complete 30% Design and Environmental Document
- ▶ Identify and Mitigate Risks
- ▶ Evaluate potential New Starts rating
- ▶ Enter Project Development once local funding source is secured
  - ▷ Complete 65% Design and Cost Estimate before locking in federal share
- ▶ Project readiness allows project to move more quickly in the federal pipeline



# Red Line



## Project Description

- ▷ 25 miles
- ▷ 10 stations

## Design Update

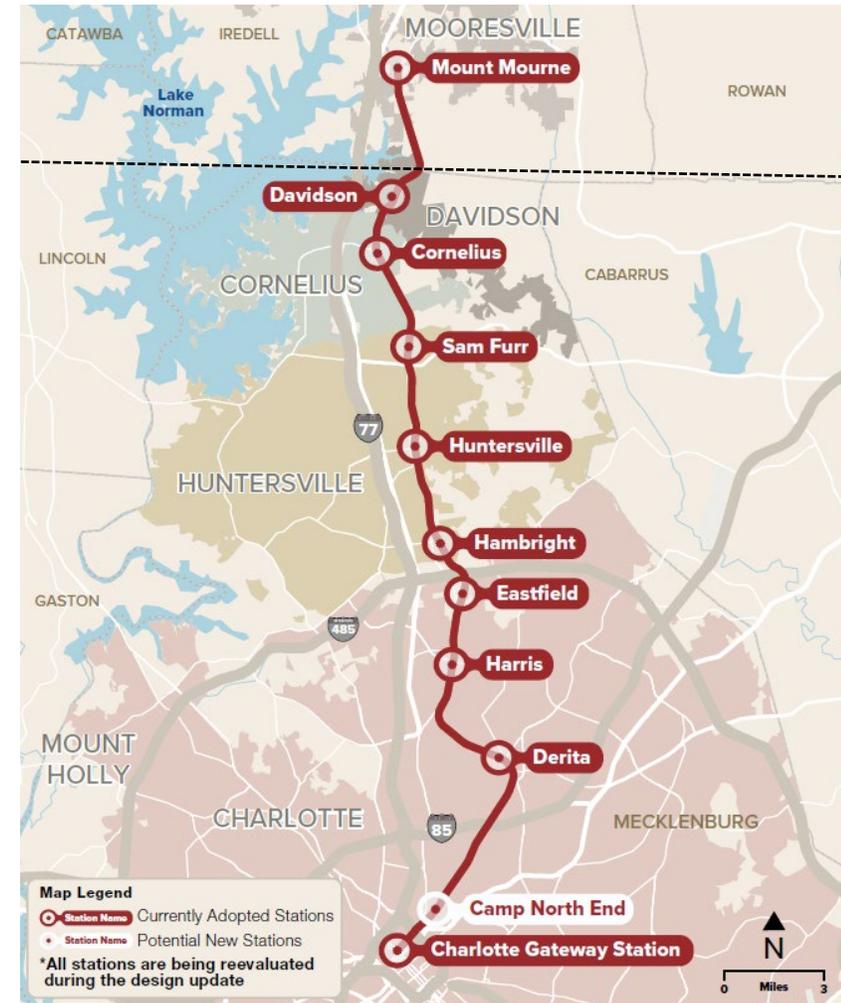
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## ROW Acquisition

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- ▷ Comprehensive Rail Agreement

## Future Steps

- ▷ Complete 30% Re-design
- ▷ Environmental Document



# Public Engagement

## Spring 2024 Public Meetings

- ▷ Project Scope and Study Goals
- ▷ Open House with Interactive Exercises
- ▷ 3 In Person, 1 Virtual Meeting
- ▷ Over 300 attendees

## Fall 2024 Public Meetings

- ▷ Station Locations, Vehicles, Grade Crossings
- ▷ Presentation & Open House with Design maps
- ▷ 3 In Person, 1 Virtual Meeting
- ▷ Over 150 attendees



# Next Steps

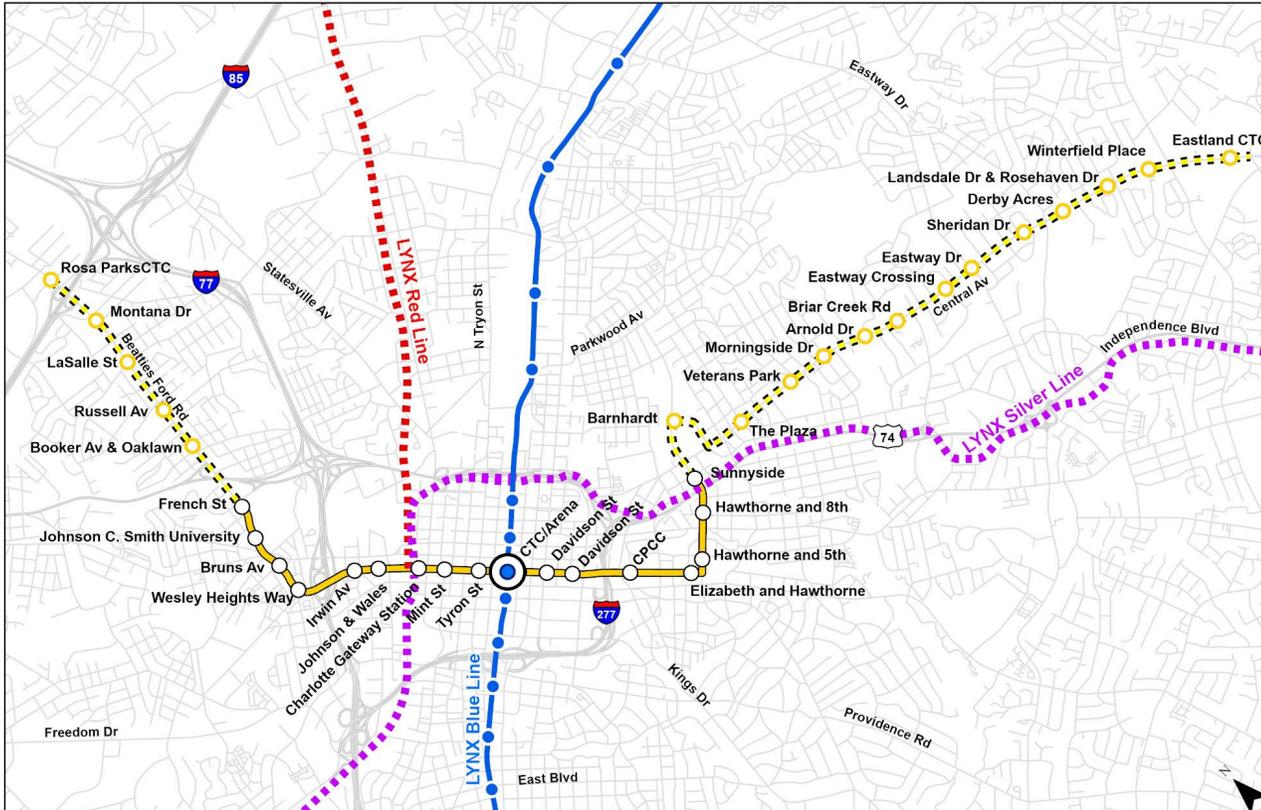
- ▶ Complete Design Update – March 2025
- ▶ MTC to adopt revised Locally Preferred Alternative
- ▶ Complete 30% Design and Environmental Document (2025-2026)
- ▶ Continue Coordination with Towns and other Stakeholders
- ▶ Create policy and procedures to manage ROW, grade crossing and encroachment requests

The screenshot shows a webpage titled "Project Spotlight" dated "September 12, 2024". The main heading is "Bringing rapid and reliable commuter rail to the region." Below this is a "PROJECT BENEFITS" section with six numbered items:

- 1 Provides a direct transit service between Uptown Charlotte and the town centers of Huntersville, Cornelius and Davidson, potentially extending to Mount Mourne in Iredell County.
- 2 Supports traffic reduction along I-77.
- 3 Drives economic development along the route.
- 4 Creates connections to the Charlotte Gateway Station, including additional transit options and the surrounding entertainment district.
- 5 Provides the opportunity for expansion into Iredell County serving key destinations like Lowes Headquarters.
- 6 Allows commuters to comfortably work while travelling.

Below the benefits list, there is a paragraph: "Through development of rapid commuter rail service, this project aims to connect the northern towns of Mecklenburg County and southern Iredell County to Uptown Charlotte." This is followed by a smaller paragraph: "Imagine hopping on a train in Mooresville, Davidson, Cornelius, Huntersville or North Charlotte for a direct connection to Uptown, no traffic, no parking hassles. That's the vision for the Red Line Commuter Rail. This investment in the North Corridor is building upon more than 15 years of planning. The 25-mile commuter rail would bring a complementary rapid-transit corridor to the region, helping move passengers and driving economic development."

# Gold Line Phase 3



## Project Description

- ▷ Extension: 6 miles
- ▷ 18 stops

## Design & Environmental

- ▷ Evaluate Alternatives to improve travel time and reliability
- ▷ Update 30% design and confirm stop locations
- ▷ Update Environmental Assessment
- ▷ Evaluate ways to reduce construction impacts
- ▷ Public engagement

# Public Engagement

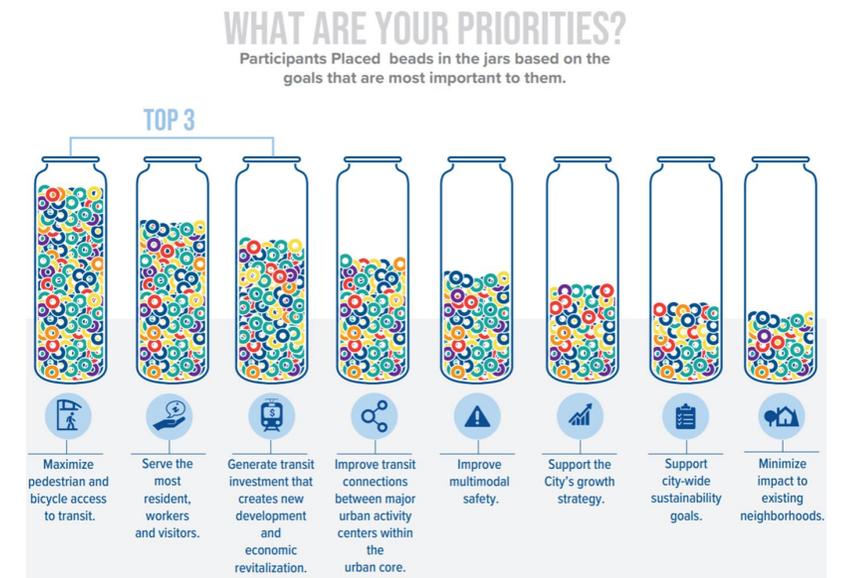
GOLD  LINE

## Spring 2024 Public Meetings

- ▷ Project Overview & Study Scope
- ▷ Public Feedback on Goals, Stop Locations Open House with Interactive Exercises
- ▷ 2 In Person, 1 Virtual Meeting
- ▷ Over 90 attendees & 237 views of virtual meeting

## Fall 2024 Public Meetings

- ▷ Recommendations for Optimized Stop Locations
- ▷ Pop-up Meetings
- ▷ November 12th – 15th @ Four Locations(Tentative)



# Next Steps

- ▷ Cross Section Analysis and Recommendations
- ▷ MTC to adopt revised Locally Preferred Alternative
- ▷ Complete 30% Design and Environmental Document (2025-2026)
- ▷ Continue Public Outreach



# Silver Line

## Project Description

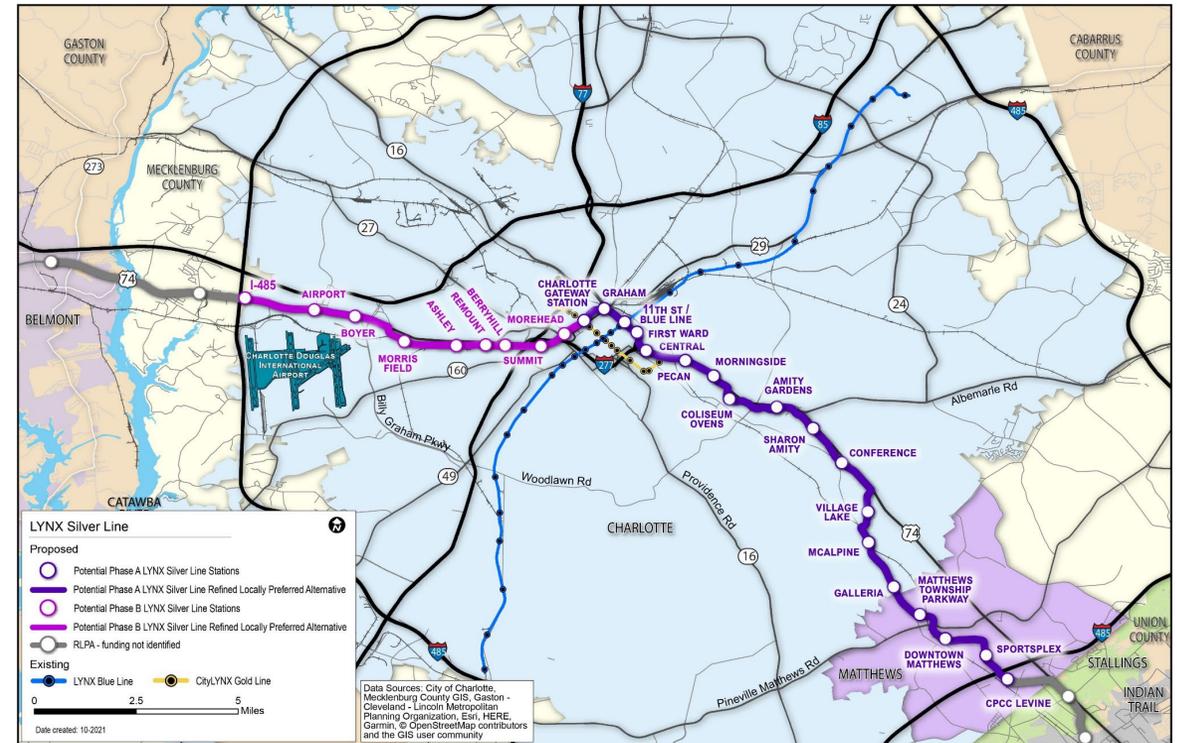
- ▷ 29 miles
- ▷ 31 stations

## Design & Environmental

- ▷ 15% Design Complete in 2022 (Phases A & B)
- ▷ 30% Design Complete in 2024(Phase A)
- ▷ Public Engagement
- ▷ 30% Cost Estimate

## Future Steps

- ▷ Environmental Impact Statement
- ▷ Geotechnical Studies
- ▷ Coordination with NCDOT Projects

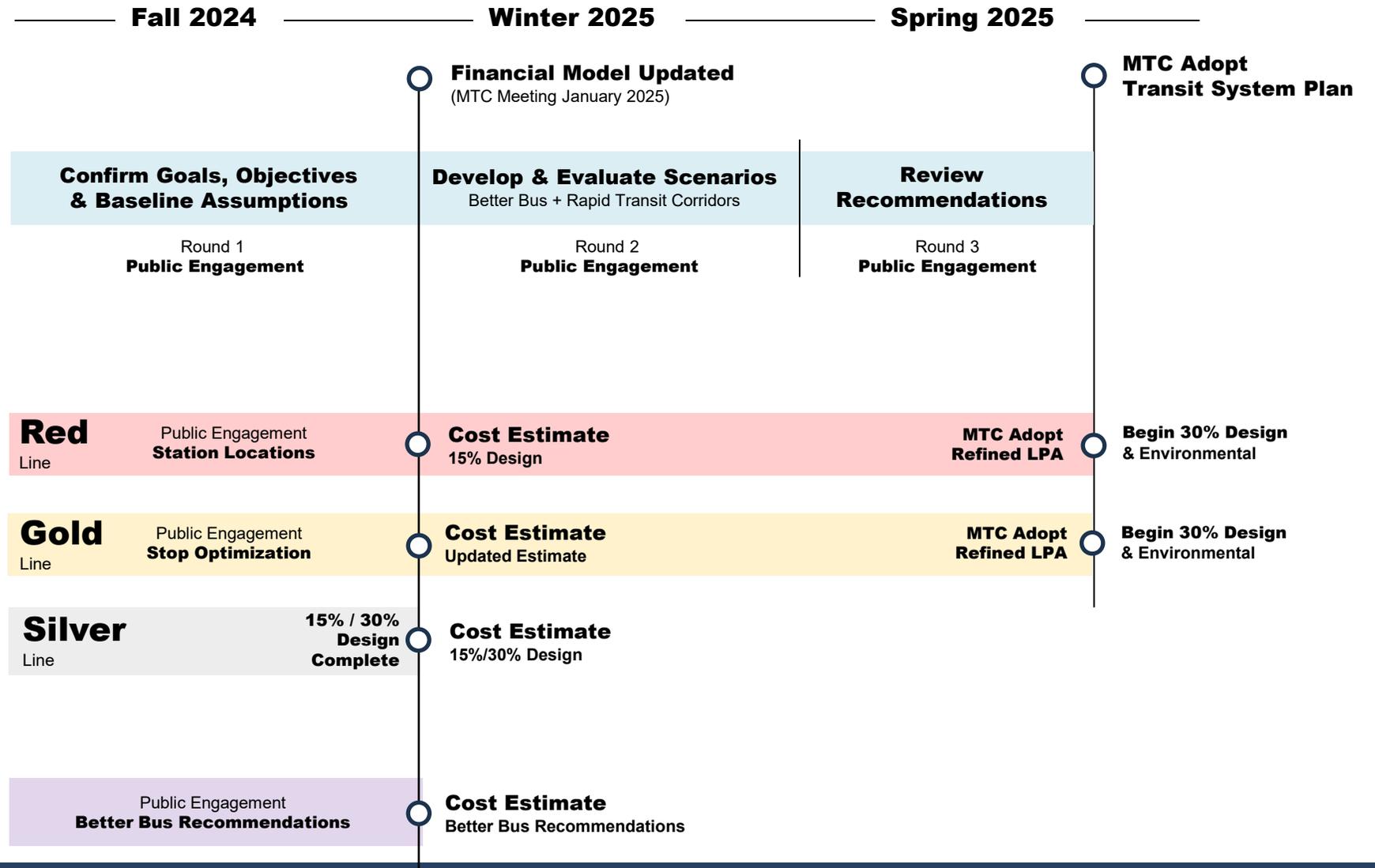


# Project Timelines

## Transit System Plan Update

## Rapid Transit Corridors

## Better Bus



# Break

# Transit System Plan Update – Part II

## MTC Strategy Session

October 23, 2024



Transit System Plan Update

# Goals & Objectives

# Facilitator & Engagement Lead

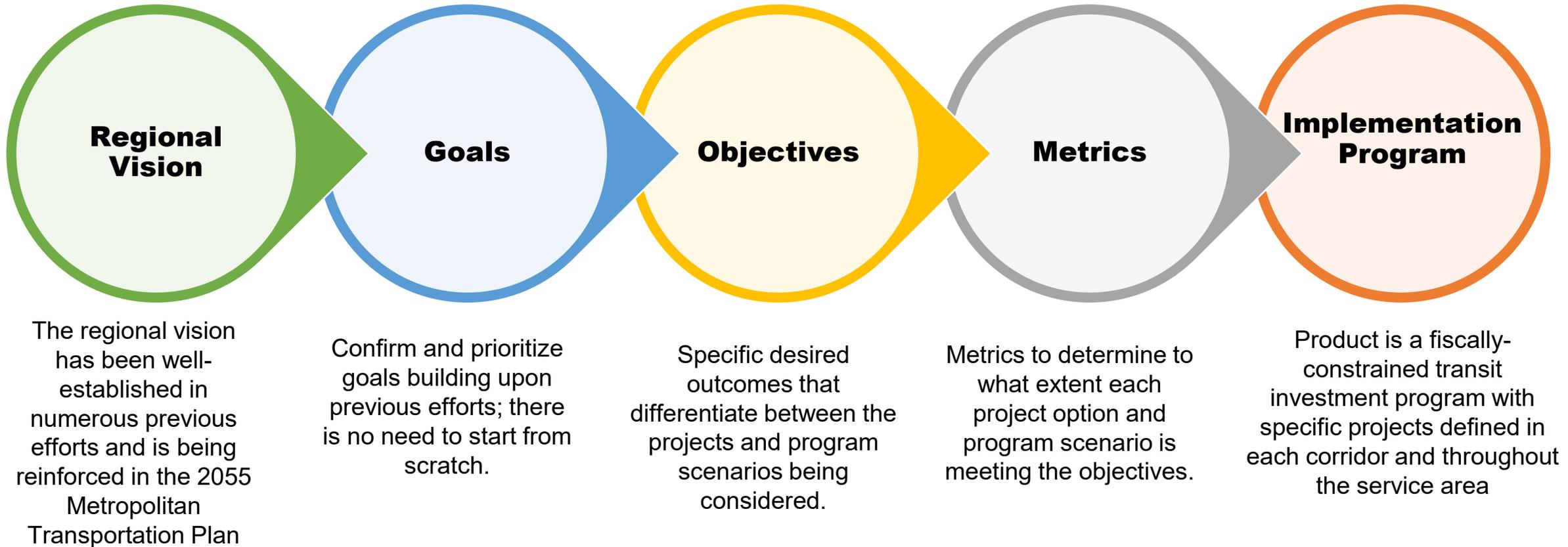


**Christine Edwards**  
[christine@civilitylocalized.com](mailto:christine@civilitylocalized.com)





# From Vision to Implementation:



This Plan is Building On:

# CATS Vision & Mission

## Moving People Forward

Mission

To create a seamless transit experience that **improves the lives of individuals**, **fuels economic growth**, **builds a connected region** and **fosters a sustainable future** for all.



### Values: Strategic Priorities:

- |                    |                                      |
|--------------------|--------------------------------------|
| Safety             | Organizational Resilience            |
| Employee Centric   | Employee Success                     |
| Customer Focused   | Future-Forward Planning & Innovation |
| Equity & Inclusion | Exceptional Customer Experience      |
| Innovation         | Positive Community Impact            |
| Sustainability     |                                      |
| Excellence         |                                      |

This Plan is Building On:

# CATS Vision & Mission

## Moving People Forward

Mission

To create a seamless transit experience that **improves the lives of individuals**, **fuels economic growth**, **builds a connected region** and **fosters a sustainable future** for all.

# Goals

**Proposed  
For Discussion**

# 1

Serve

## Our Customers

Transit is customer focused first, moving people with dignity and comfort to improve the **lives of individuals**.

# 2

Advance

## Economic Mobility

Transit is an **economic** equalizer, connecting people to the diversity of **opportunities** across our **region**.

# 3

Foster

## Sustainability & Innovation

Transit is a leader in mobility innovation and **sustainability**, shaping the **future** of how we move and grow.

## Goals - Discussion

Looking at these goals, what resonates most with your community's needs, and are there any goals or elements of goals missing from this list?



Scan the QR Code or visit [www.Slido.com](http://www.Slido.com) and enter the code 2489556 to respond to the discussion questions.

# Goals

**Proposed  
For Discussion**

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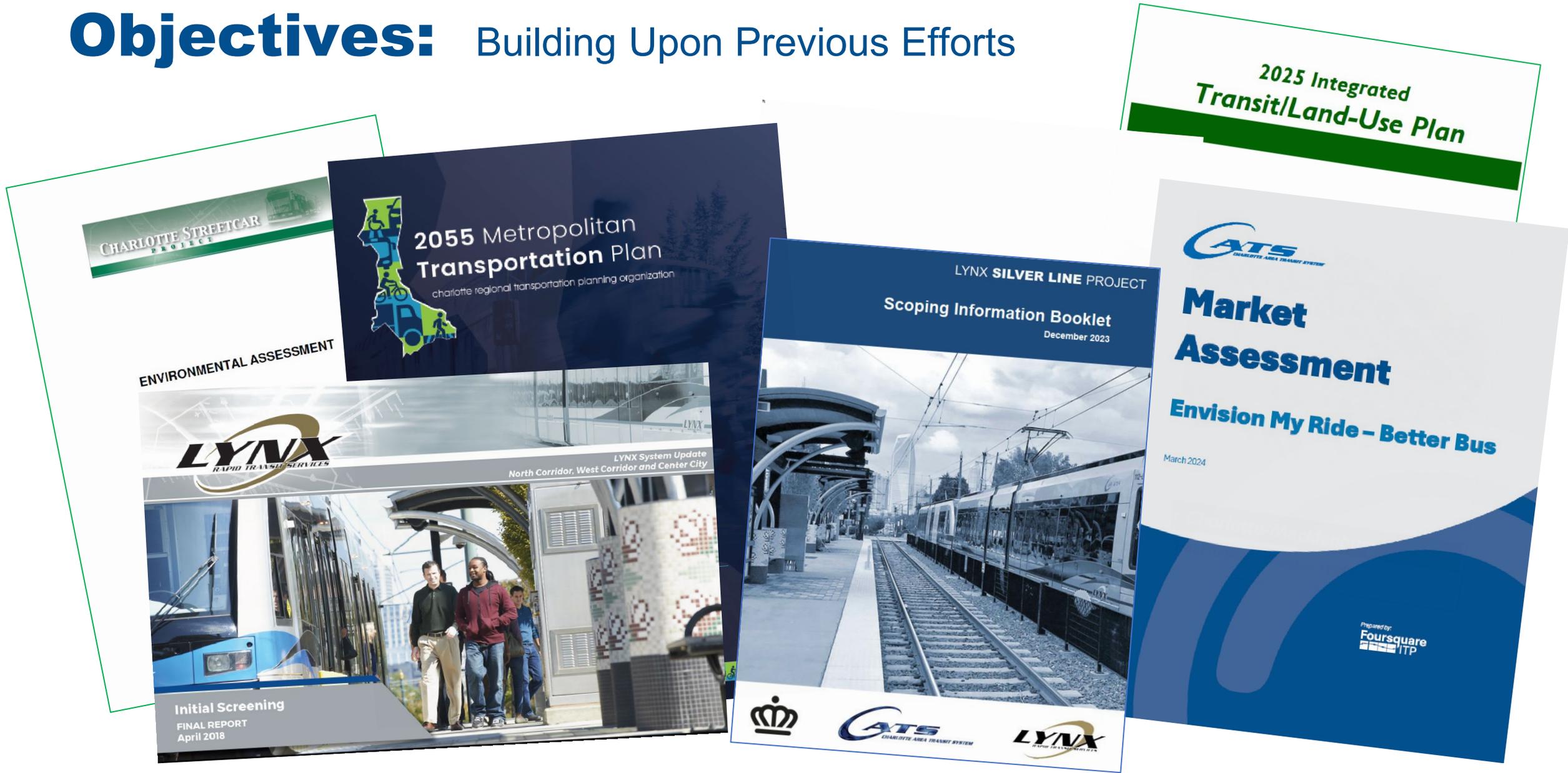
3

Foster

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# Objectives: Building Upon Previous Efforts



# Objectives

Building on Previous Efforts

## Regional

CONNECT Beyond  
CRTPO Metropolitan Transportation  
Plan (MTP)

## Corridor System

2025 Transit-Land Use Plan  
2030 Transit Corridor System Plan  
LYNX System Update

## Rapid Transit Projects

Red Line  
Silver Line  
Gold Line  
Blue Line

## Bus System

Envision My Ride  
Bus Priority Study  
Better Bus Plan

# Common Themes

Deliver  
**convenient, frequent, and  
reliable** service

Improve  
quality of life through increased  
**access to work, education,  
and other opportunities**

Facilitate  
better **regional connectivity**  
including connections to other  
transit services.

Encourage  
linkages between **transportation  
and land use.**

Promote  
opportunities for development  
**consistent with local vision,  
goals, plans, and policies**

Provide  
**equitable transit** for underserved  
and vulnerable populations

Foster  
**sustainability** and **protect** the  
natural and built **environment.**

# Initial Input on Objectives

## Staff Coordination Meeting (10/10/24)

City & Town Managers  
Planning & Transportation Directors  
NCDOT  
CRTPO  
Mecklenburg County

- ▷ An explicit statement of a **“comprehensive system”**
- ▷ Ensure connection to **intercity rail** service in the plan
- ▷ Adequate levels of service and focus on **coordination between modes** of transit to maximize use and benefit to all riders
- ▷ Implementation of transit system **integrated with built environment** through high quality design, supporting community use
- ▷ **Reduce the number of cars** on the road
- ▷ High-quality service to **connect people to housing, employment, education, and healthcare**
- ▷ High-quality service to **major regional hubs** and events centers
- ▷ Transit investments to **growth centers** consistent with local land use plans
- ▷ **More service** in areas that have high levels of **demonstrated need** throughout the service area
- ▷ More **rapid transit service in dedicated corridors**

**Proposed  
For Discussion**

# Goals

Serve

## Our Customers

Transit is customer focused first, moving people with dignity and comfort to improve the **lives of individuals**.

1

Advance

## Economic Mobility

Transit is an **economic** equalizer, connecting people to the diversity of **opportunities** across our **region**.

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Foster

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Transit is a leader in mobility innovation and **sustainability**, shaping the **future** of how we move and grow.

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# Objectives

- ❖ Provide competitive and reliable transit service
- ❖ Provide equity in service
- ❖ Expand area, comfort and convenience

- ❖ Increase access to jobs & housing
- ❖ Increase access to education & services
- ❖ Increase access to the region

- ❖ Expand mobility choices & connectivity
- ❖ Shape growth & equitable development
- ❖ Foster sustainability



# Objectives - Discussion

What specific transportation needs and challenges are your communities currently facing? How can we ensure objectives are in alignment?



Scan the QR Code or visit [www.Slido.com](http://www.Slido.com) and enter the code 2489556 to respond to the discussion questions.

## Proposed Goals & Objectives

Serve

### Our Customers

- ❖ Provide competitive and reliable transit service
- ❖ Provide equity in service
- ❖ Expand area, comfort and convenience

Advance

### Economic Mobility

- ❖ Increase access to jobs & housing
- ❖ Increase access to education & services
- ❖ Increase access to the region

Foster

### Sustainability & Innovation

- ❖ Expand mobility choices & connectivity
- ❖ Shape growth & equitable development
- ❖ Foster sustainability

# Metrics

We measure what we value

*To be developed based on public and stakeholder input on goals and objectives and desired outcomes*

# Proposed Goals & Objectives

Serve

## **Our Customers**

- ❖ Provide competitive and reliable transit service
- ❖ Provide equity in service
- ❖ Expand area, comfort and convenience

Advance

## **Economic Mobility**

- ❖ Increase access to jobs & housing
- ❖ Increase access to education & services
- ❖ Increase access to the region

Foster

## **Sustainability & Innovation**

- ❖ Expand mobility choices & connectivity
- ❖ Shape growth & equitable development
- ❖ Foster sustainability

## Outcomes - Discussion

What outcomes do you see as the most important from future transit improvements in the CATS service area?



Scan the QR Code or visit [www.Slido.com](http://www.Slido.com) and enter the code 2489556 to respond to the discussion questions.

## Proposed Goals & Objectives

Serve

### Our Customers

- ❖ Provide competitive and reliable transit service
- ❖ Provide equity in service
- ❖ Expand area, comfort and convenience

Advance

### Economic Mobility

- ❖ Increase access to jobs & housing
- ❖ Increase access to education & services
- ❖ Increase access to the region

Foster

### Sustainability & Innovation

- ❖ Expand mobility choices & connectivity
- ❖ Shape growth & equitable development
- ❖ Foster sustainability

Transit System Plan Update

# Public Engagement

# Public Engagement Goals:



- ✓ ***Clearly define public role in decision-making process***
  - **Inform** – Provide the public with balanced and objective information
  - **Consult** – Obtain public feedback on analysis, alternatives and/or decision
  - **Involve** – Work with public to ensure public concerns and aspirations are consistently understood and considered
  
- ✓ ***Ensure broad & diverse participation***
  
- ✓ ***Meaningful input opportunities***
  
- ✓ ***Clear messaging***

# Engagement Strategy:



## Engagement Rounds

- Round 1: **Goals & Objectives**
- Round 2: **Alternative Scenarios**
- Round 3: **Recommendations**

## Public Meetings

Virtual & in-person

Locations throughout Mecklenburg County

## Ongoing Engagement Opportunities

- Community Area Planning
- Project Meetings (Better Bus, Red Line, Gold Line)
- Council District Town Halls
- Other County and Town Meetings

## Stakeholder Meetings

- Community and business organizations
- Neighborhood associations
- E-TOD Coalition

## Staff Coordination Team

- Monthly Meetings
- City and Town managers, Planning & Transportation Directors
- Mecklenburg County, NCDOT, CRTPO

## Elected Officials

- Regular Briefings
- County, City & Town Elected Officials
- State Legislature Delegation

## On-Line

- Public Survey
- Website
- Social Media
- Email: [tsp@publicinput.com](mailto:tsp@publicinput.com)

## Multi-Lingual Options

- Handouts/Website
- Translators

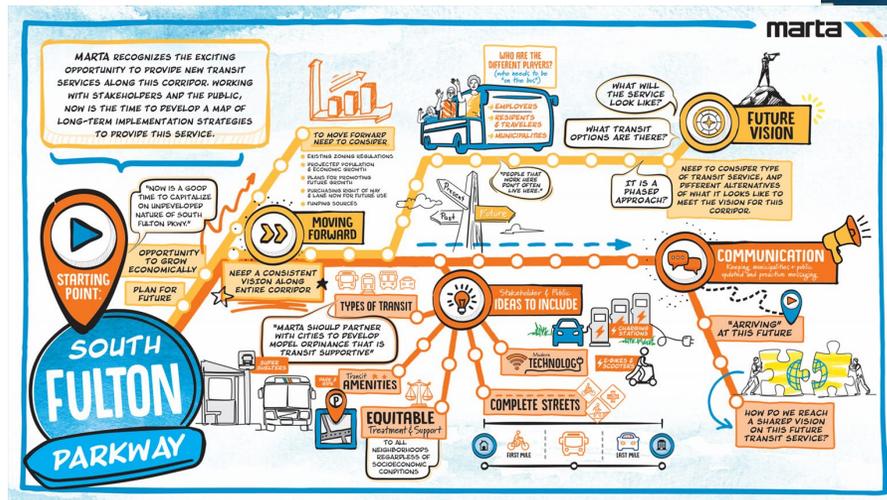
# Graphic Facilitation

## What is Graphic Facilitation?

We create real time graphic summaries of community engagement discussions. Our graphic recording support public consultation by showing participants in real time how their ideas are being incorporated into a project, and offers a visual focus that enhances strategic decision making.



Community Energy Association - A Vision of E-Mobility for Central/Northern BC - virtual sessions - 2021



# Next Steps

- ▷ Final Public Engagement Plan
- ▷ Website Live Fall 2024
- ▷ Community Survey Fall 2024
- ▷ Neighborhood & Community Outreach
- ▷ Stakeholder Engagement

# Break

# Transit System Plan Update

## Baseline Financial Assumptions

**Metropolitan Transit  
Commission**

October 23, 2024



# What we will accomplish today

## ► Goal:

- Review financial model process for TSP development and touch on critical baseline assumptions within the financial model

## ► Topics:

- Overview of TSP Financial Planning Team
- Financial modeling work completed to-date
- How assumptions work together to describe the context of the model
- Review proposed updates to existing Baseline model assumptions
- On-going work & next steps



# Transit System Plan Update

Financial Team





# Financial Team Members



**Carolyn Flowers**  
Partner  
InfraStrategies LLC

*Former Federal Transit Administration (FTA) Acting Administrator and Agency CEO*

*Led development of federal guidance, programs, initiatives, and policy changes at FTA*



**Sharon Greene**  
Partner  
InfraStrategies LLC

*Nationally renowned expert in transit funding and former transit agency executive director*

*Chairs several funding, revenue, finance, and tax policy committees in the transportation industry*



**Sophie Guiny**  
Partner  
InfraStrategies LLC

*Financial modeling team principal actively managing financial planning for several major public transit agencies nationwide*

*Extensive experience with the FTA's Capital Investment Grant program and the USDOT TIFIA loan program*



**Jonathan Ravenelle**  
Senior Consultant  
InfraStrategies LLC

*Financial lead for several major public transit agencies nationwide*

*Focuses on the development of dynamic financial models, funding strategies, and comprehensive financial plans*



**David Boyer**  
Senior Consultant  
InfraStrategies LLC

*Financial consultant with over a decade of public and private sector professional experience*

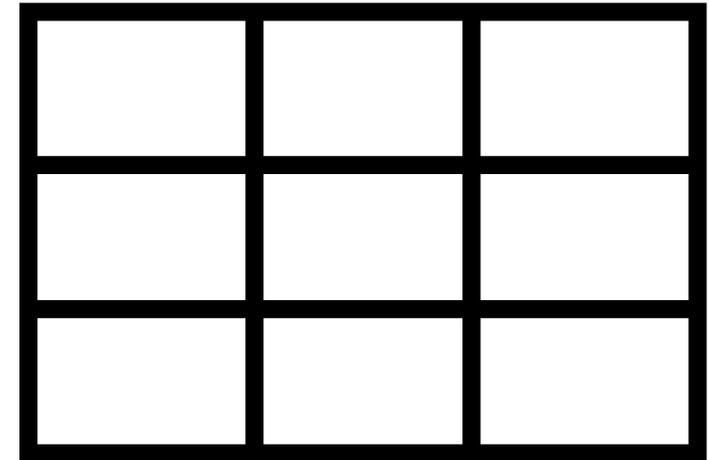
*Focuses on financial planning and analysis, financial modeling, and strategic planning for clients nationally*

# Previous Results from the Preliminary Financial Model



# Financial Model

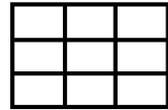
- ▶ Core analytical tool to inform key funding and policy decisions as region advances a program of mobility improvements
- ▶ Allows for dynamic scenario and sensitivity testing
- ▶ Coordinated with City of Charlotte's financial advisor (Davenport) regarding detailed financing assessments



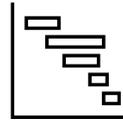
# Prior Financial Analysis



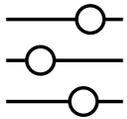
Recommended  
Baseline Financial  
Assumptions



Preliminary  
Financial Model



Baseline Program  
and Phasing



200+ Financial  
Scenarios and  
Sensitivity Tests



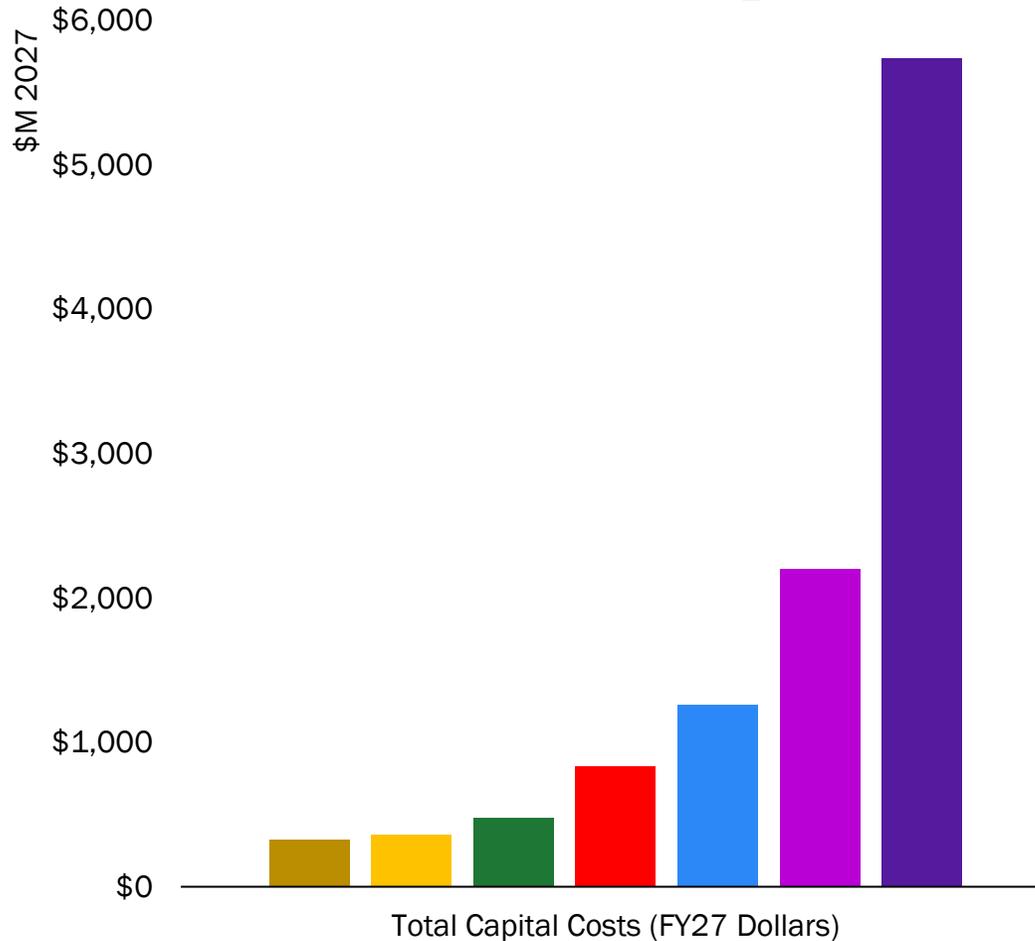
Strategic Advice and  
Industry Research



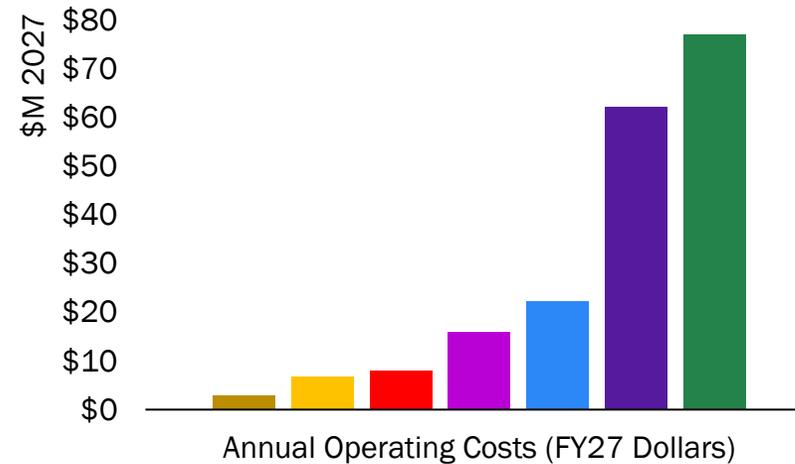
Briefed Stakeholders  
and Staff

- ▶ The last model runs in May used preliminary project data and assumptions
- ▶ Purpose was to help convey a sense of scale and begin to understand the tradeoffs from a variety of funding allocation mixes
- ▶ Iterative model updates are an expected part of the capital planning process

# In 2027 dollars, preliminary costs were estimated to be \$11.5B capital with \$195M/year in operations



Transit Projects	Capital Costs (2027 \$M)	Annual Operating Costs (2027 \$M)
Gold Line Extension West	\$325	\$3
Gold Line Extension East	\$365	\$7
Better Bus*	\$650	\$77
Red Line	\$850	\$8
Blue Line Extension**	\$1,260	\$22
Silver Line West, CGS to I-485	\$2,300	\$16
Silver Line East, CGS to CPCC	\$5,750	\$62
<b>Total</b>	<b>\$11,500</b>	<b>\$195</b>



All costs are shown in rounded Year 1 (FY27) dollars. This means we are showing **what the cost would be if we delivered the projects and operated the services all in the assumed first year of sales tax revenue collections.**

Cost estimates are then spread over an assumed delivery time period with assumed annual cost increases to account for future cost escalation.

**Note:** Capital and operating cost estimates are compiled from project-specific sources and reflect varying levels of conceptual planning and design. Estimates will change as projects advance further into planning and design.

\* Includes MetroRapid enhancements \*\* Includes core capacity improvements to expand Blue Line station platforms to accommodate three-car trains

# Examples of how the model can be used to test scenarios

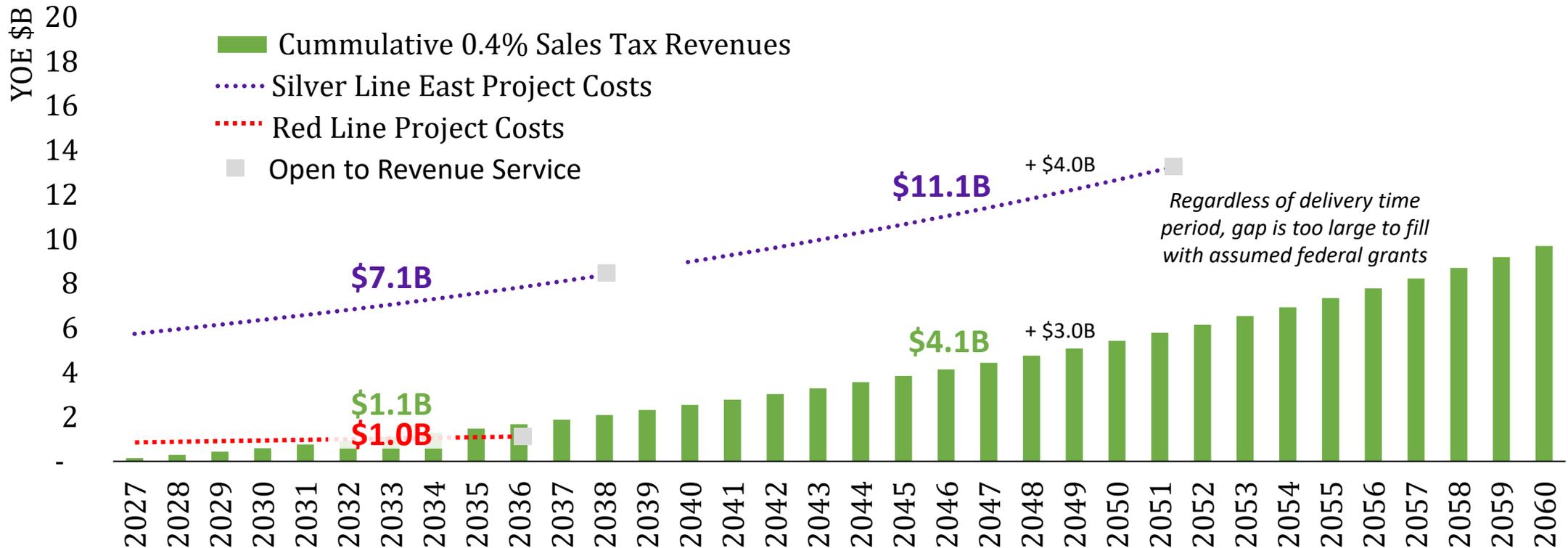
	Scenario 1 All Projects	Scenario 2 RL and SL E	Scenario 3 RL, SL E, SL W	Scenario 4 All Projects, SL E BRT	Scenario 4a All Projects, SL E BRT
<i>Transit Program (in alphabetical order)</i>	Gold Line Ph 3 E Ext Gold Line Ph 3 W Ext Red Line Blue Line Ext** Better Bus* Silver Line E to CPCC Silver Line W to Airport	Red Line  Better Bus* Silver Line E to CPCC	Gold Line Ph 3 W Ext Red Line  Better Bus* Silver Line E to CPCC Silver Line W to Airport	Gold Line Ph 3 E Ext Gold Line Ph 3 W Ext Red Line Blue Line Ext** Better Bus* Silver Line E to CPCC <b>BRT</b> Silver Line W to Airport	Gold Line Ph 3 E Ext Gold Line Ph 3 W Ext Red Line <b>NO CIG</b> Blue Line Ext** Better Bus* Silver Line E to CPCC <b>BRT</b> Silver Line W to Airport
<i>Delivery Period</i>	30 Years	20 Years	20 Years	30 Years	30 Years
<i>Total Transit Costs (30-yr Capital &amp; Operations)</i>	\$22.7B	\$12.2B	\$16.5B	\$15.2B	\$15.2B
<i>Financing and Reserves (30-yr)</i>	\$2.3B	\$2.0B	\$4.2B	\$2.4B	\$2.0B
<i>Total Transit Costs (30-yr)</i>	\$25.0B	\$14.2B	\$20.7B	\$17.6B	\$17.1B
Gold Line Ext West	0.02%		0.03%	0.02%	0.02%
Gold Line Ext East	0.03%			0.03%	0.03%
Red Line	0.06%	0.07%	0.11%	0.05%	<b>NO CIG</b> 0.07%
Blue Line Ext	0.12%			0.11%	0.11%
Better Bus	0.20%	0.06%	0.06%	0.10%	0.10%
Silver Line West	0.13%		0.15%	0.16%	0.15%
Silver Line East	0.34%	0.37%	0.40%	<b>BRT</b> 0.13%	<b>BRT</b> 0.12%
<i>Estimated Sales Tax %</i>	0.90%	0.50%	0.75%	0.60%	0.60%

*Note:* Capital and operating cost estimates are compiled from project-specific sources and reflect varying levels of conceptual planning and design. Estimates will change as projects advance further into planning and design. \* Includes MetroRapid enhancements \*\* Includes core capacity improvements to expand Blue Line station platforms to accommodate three-car trains

# Program considerations from project costs

- ▶ Red Line and Silver Line East to CPOC cannot be implemented under a 0.4% rail cap, regardless of delivery time period
  - Capital costs escalation negates any potential benefit of delaying Silver Line East implementation

### Cost and Revenue Growth Over Time



# Transit System Plan Update

## Financial Modeling Process



# Transit System Plan Update

## Transit System Plan Update

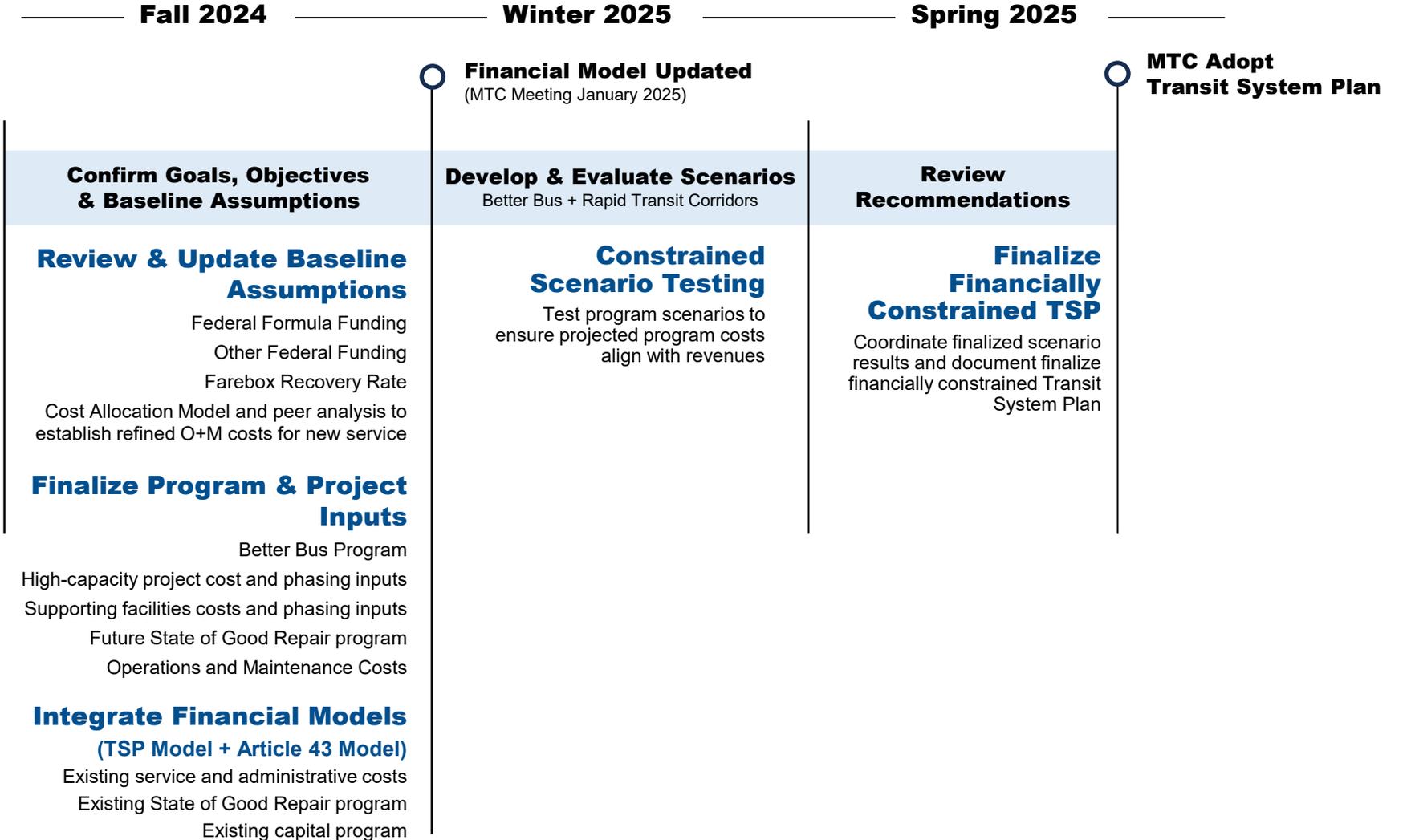
### Financial Modeling Tasks

Update

Fall 2024

Winter 2025

Spring 2025

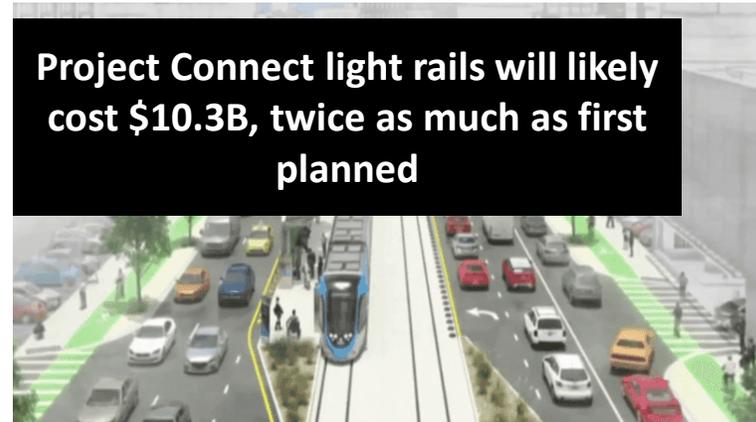


# Our goal is to develop a program that is financially constrained

- ▶ Goal is to craft a program that is **realistic, constrained, and implementable**
- ▶ Many national peers have recently scaled back because voter approved programs were overly optimistic



Notes: Seattle King 5 Article, August 2021, <https://www.king5.com/article/news/local/sound-transit-board-future-regional-light-rail-expansion-plans-st3-tacoma-everett/281-c586bbbb-b89e-4ff8-b821-09f3b2569b04>

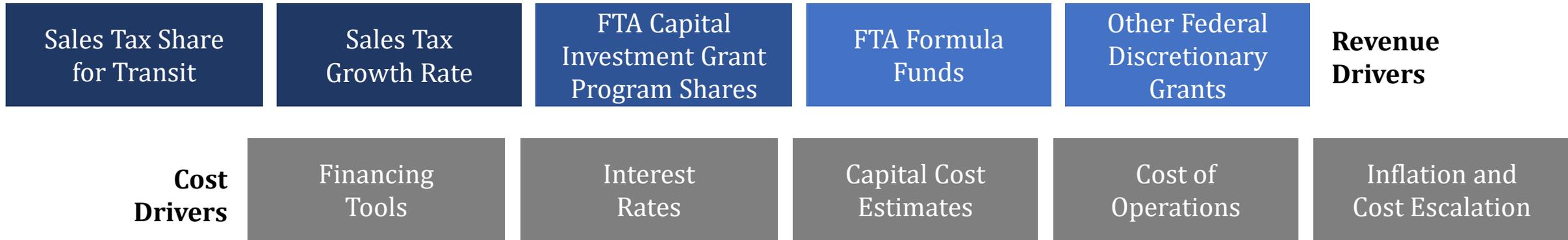


Notes: Austin KXAN Article, April 2022, <https://www.kxan.com/news/local/austin/project-connect-light-rails-will-likely-cost-10-3b-twice-as-much-as-planned/>

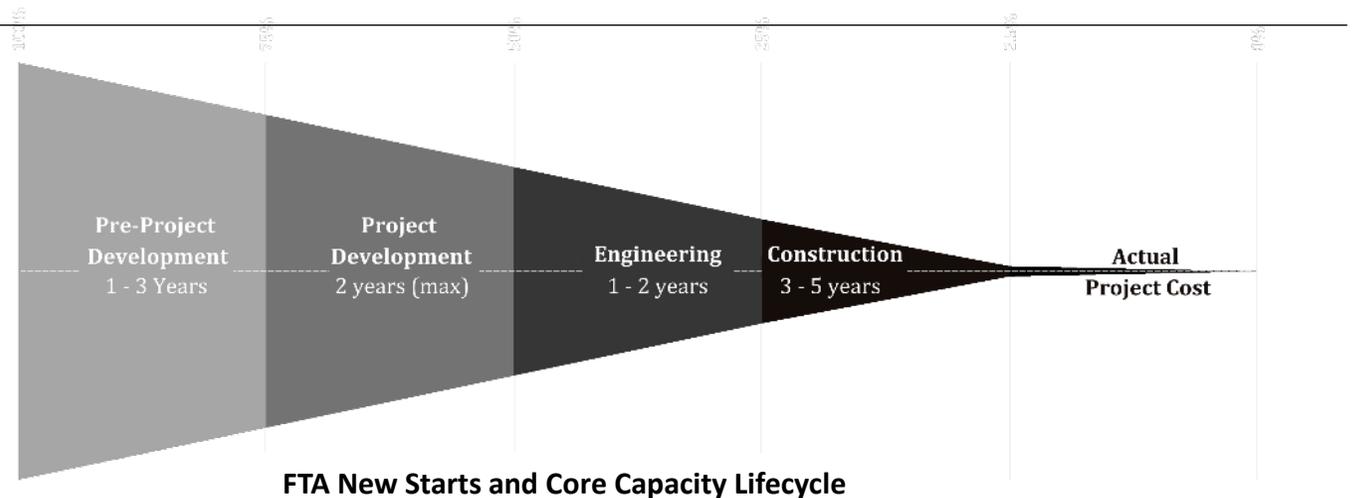


Notes: Governing Article, March 2023, <https://www.governing.com/community/atlas-incredible-shrinking-transit-plan>

# Note that the TSP's financial plan reflects a snapshot in time and WILL change as the program advances



- All transit projects are in early stages of planning and project definition (<30% design)
- Cost and schedule certainty will change as projects advance further into design



# Context of Financial Model Assumptions



# Context of Financial Model Assumptions

The financial model is constructed from economic and project assumptions related to revenue and cost

## Each assumption has an impact

understanding the significance helps develop a program that is conservative and implementable

### Project & Service Drivers

### Economic Drivers

**Revenue**

---

**Revenue**

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- FTA Capital Investment Grant Program Shares
- Other Federal Discretionary Grants
- FTA Formula Funds
- Fare Box Recovery

- Sales Tax Growth Rate
- Sales Tax Splits

**Cost**

---

**Cost**

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- Capital Project Cost Estimates
- Cost of Operations
- Project Phasing
- State of Good Repair

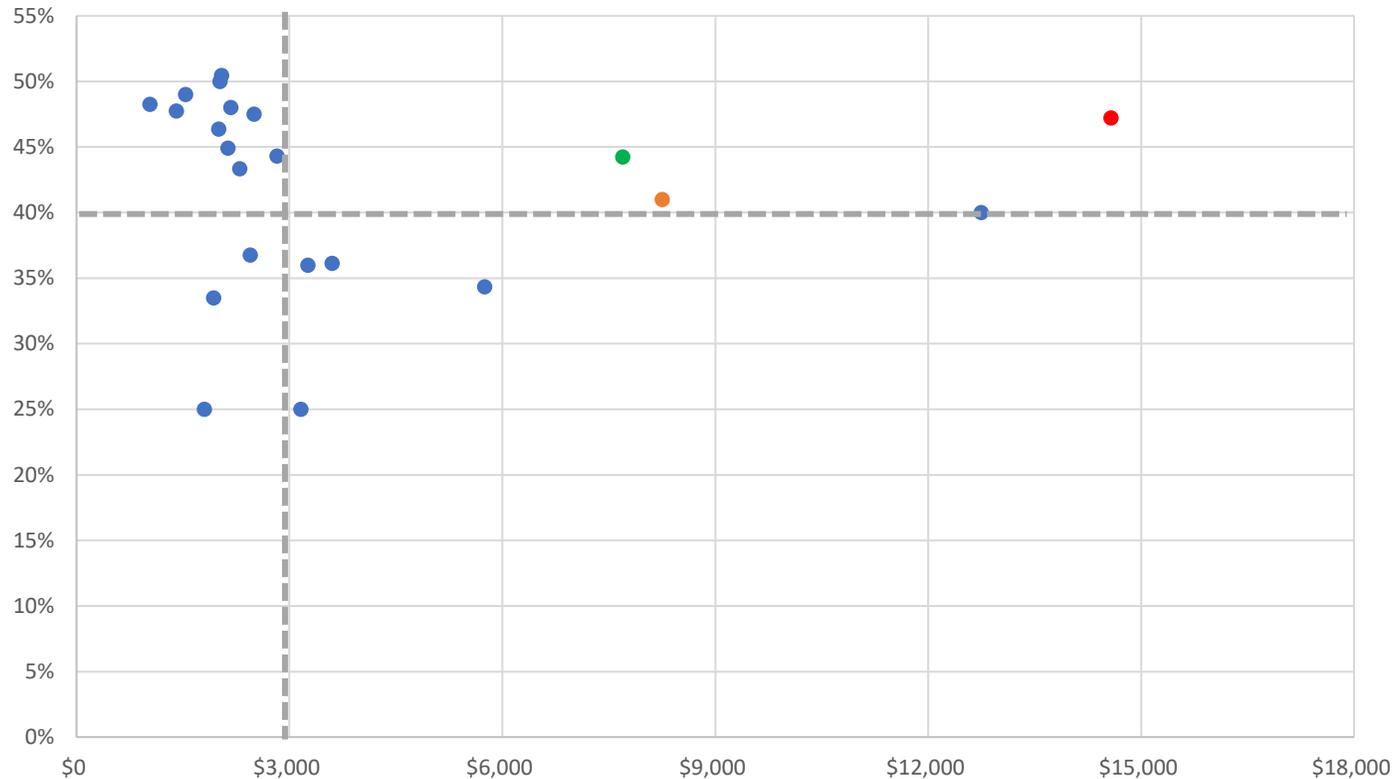
- Financing Tools
- Interest Rates
- Inflation and Cost Escalation
- Debt Service Coverage Ratio

# Federal Funding Assumptions



# FTA Capital Investment Grant (CIG) Program Assumptions

CIG Share for Projects > \$1B

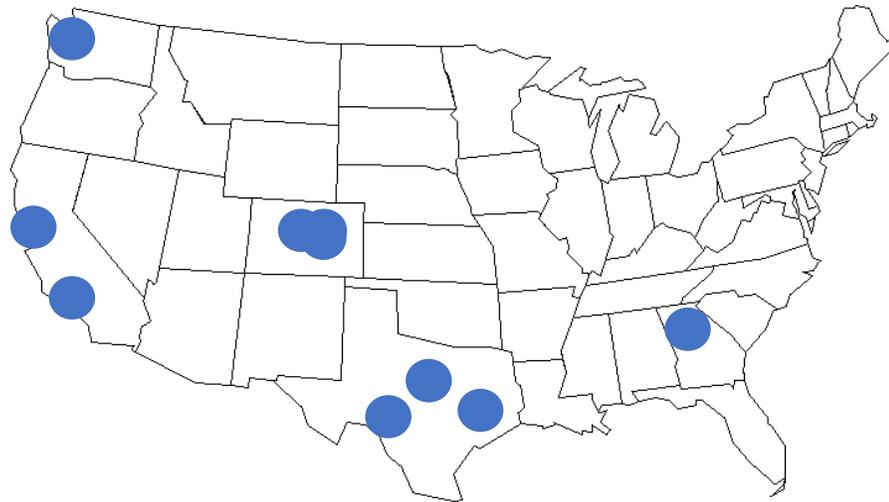


- CIG projects over \$1B since 2014
- **Majority of CIG projects greater than \$1B receive CIG shares between 40%-50%**
- Projects over \$3B less likely to receive greater than 40% share of CIG funding
- Only one CIG Megaproject since 2014 has received CIG shares of greater than 45%
  - ● Hudson Tunnel Project (47%)
  - ● NY Second Ave Subway (44%)
  - ● *Transbay Downtown Rail Extension (41%)*

# Timing and Competition for Funds

- ▶ Timing is critical to align Charlotte's mobility improvements with a "once-in-a-generation" federal investment in transportation

*Additional local funding is required to capture these funds and bring them into our region.  
Los Angeles, Seattle, Atlanta, and Austin are ready and waiting at the front of the line.*



● Recent Successful Transportation Ballot Initiatives, 2016 to-date

## Large Projects and Programs Anticipated in the CIG Program During Charlotte's Transit Construction Period:

- Gateway Program – Portal Bridge North, Hudson Tunnels, and more
- New York City Second Avenue Subway Phase 2
- Inglewood Transit Connector Project – Los Angeles
- Southeast Gateway Line – Los Angeles
- Seattle Transit Program – Federal Way, Lynnwood, and more
- San Jose BART Silicon Valley Phase II
- San Francisco Caltrain Downtown Tunnel Extension
- Chicago Red Line Extension
- Phoenix Transit Program – South Central, Northwest Extension, and more
- Austin Transit Program – Green, Red Lines, Light Rail, and more

# FTA Capital Investment Grant (CIG) Program Assumptions

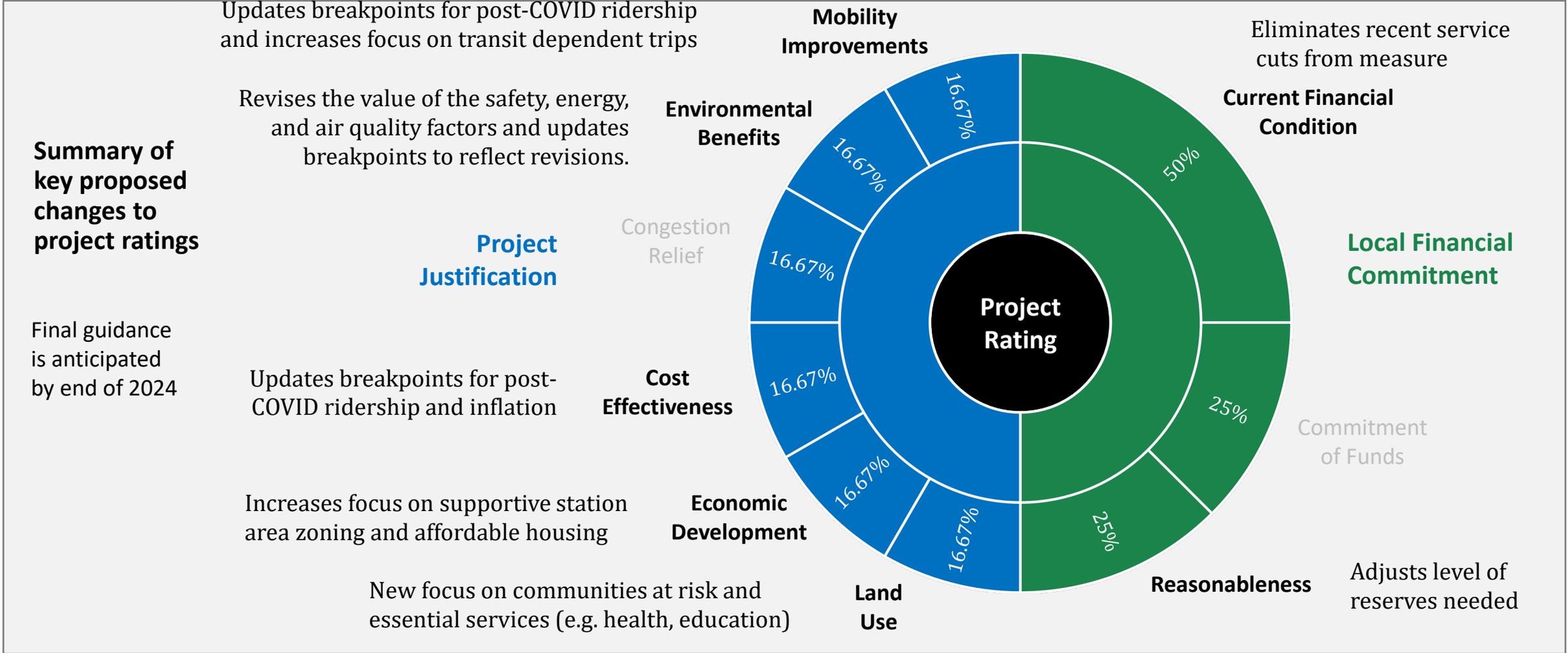
## Industry Average CIG Share Assumptions

Year	CIG Project Share	CIG Megaproject Share (Cost > \$3B)	Annual Funding Amount
2021	40%	35%	\$100-\$125M
2023	49%	45%	\$150-\$300M
Today	49%	40%	\$150-\$300M

- Current FTA Capital Investment Grant (CIG) funding levels are higher than before Bipartisan Infrastructure Law (BIL) implementation
- However recent Megaproject awards have trended towards a 40% CIG share

- *Recommending 40% CIG share for projects greater than \$3B*
- *Recommending 49% CIG share for projects less than \$3B*

# Recent proposed changes to FTA CIG program need to be considered in TSP Program Development

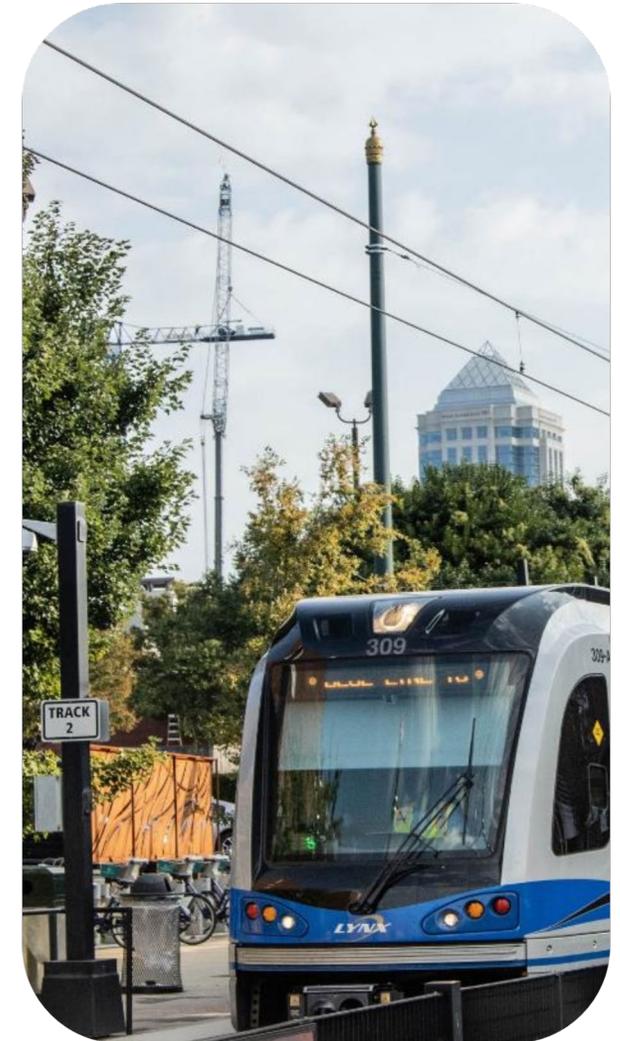


# FTA Formula Funding

## ► Recommending development of FTA Formula Funding assumption aligned to program Data Unit Values

- 5307: Urbanized Area Program
  - Bus & Fixed Guideway Vehicle Revenue Miles (VRM)
  - Bus & Fixed Guideway Passenger Miles (PM)
  - Fixed Guideway Route Miles
- 5337: State of Good Repair Program\*
  - Fixed Guideway Directional Route Miles
  - Fixed Guideway Vehicle Revenue Miles (VRM)
- 5339: Bus and Bus Facilities
  - Bus Vehicle Revenue Miles (VRM)
  - Bus Passenger Miles (PM)

*\*Requires Fixed Guideway to be in operation for seven years prior to receiving formula apportionment for service and miles*

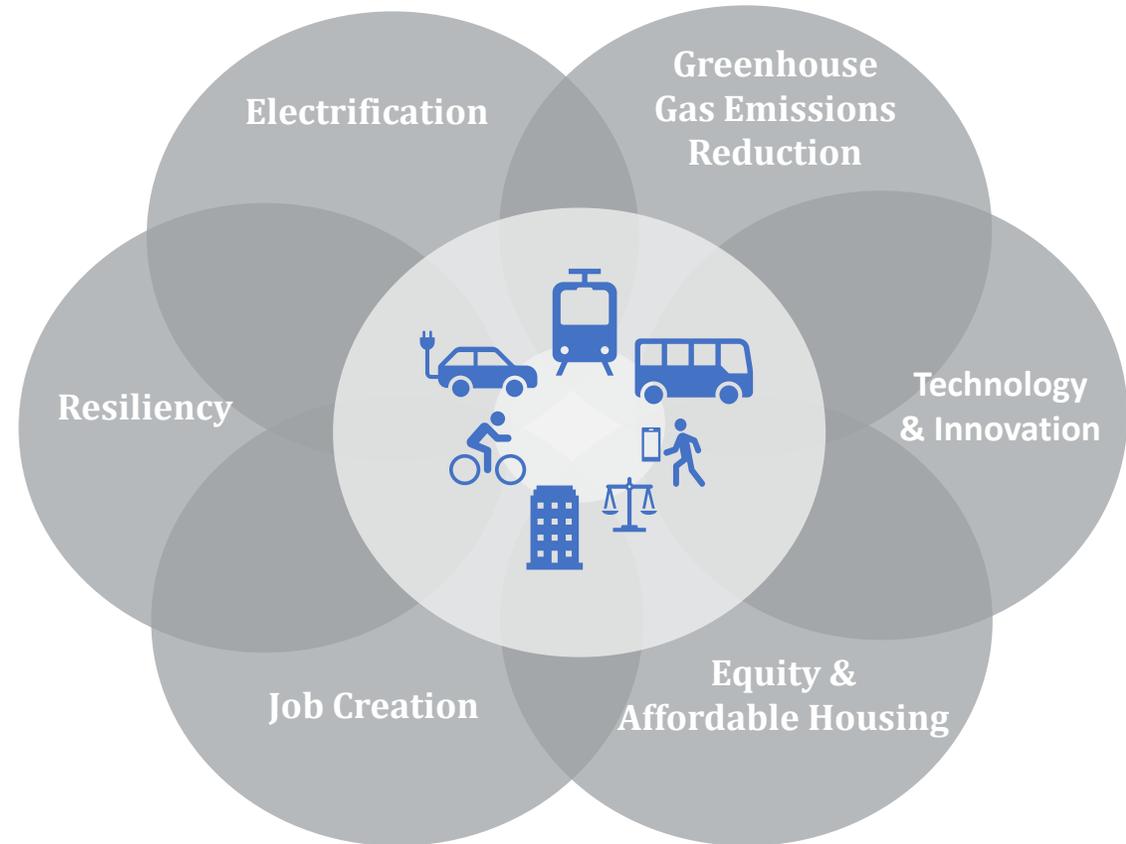


# Leveraging Federal Opportunities

## Key Priorities of Congress and the Current Administration

### Discretionary Funding Opportunities:

- ▶ USDOT RAISE (formerly BUILD/TIGER) Grants
- ▶ FTA Bus and Bus Facilities Grants
- ▶ FTA Low-No Emissions Grants
- ▶ FHWA CMAQ Funds
- ▶ FHWA STBG Funds
- ▶ Congressional Directives
- ▶ Future opportunities from Senate Infrastructure Bill and Surface Transportation Reauthorization



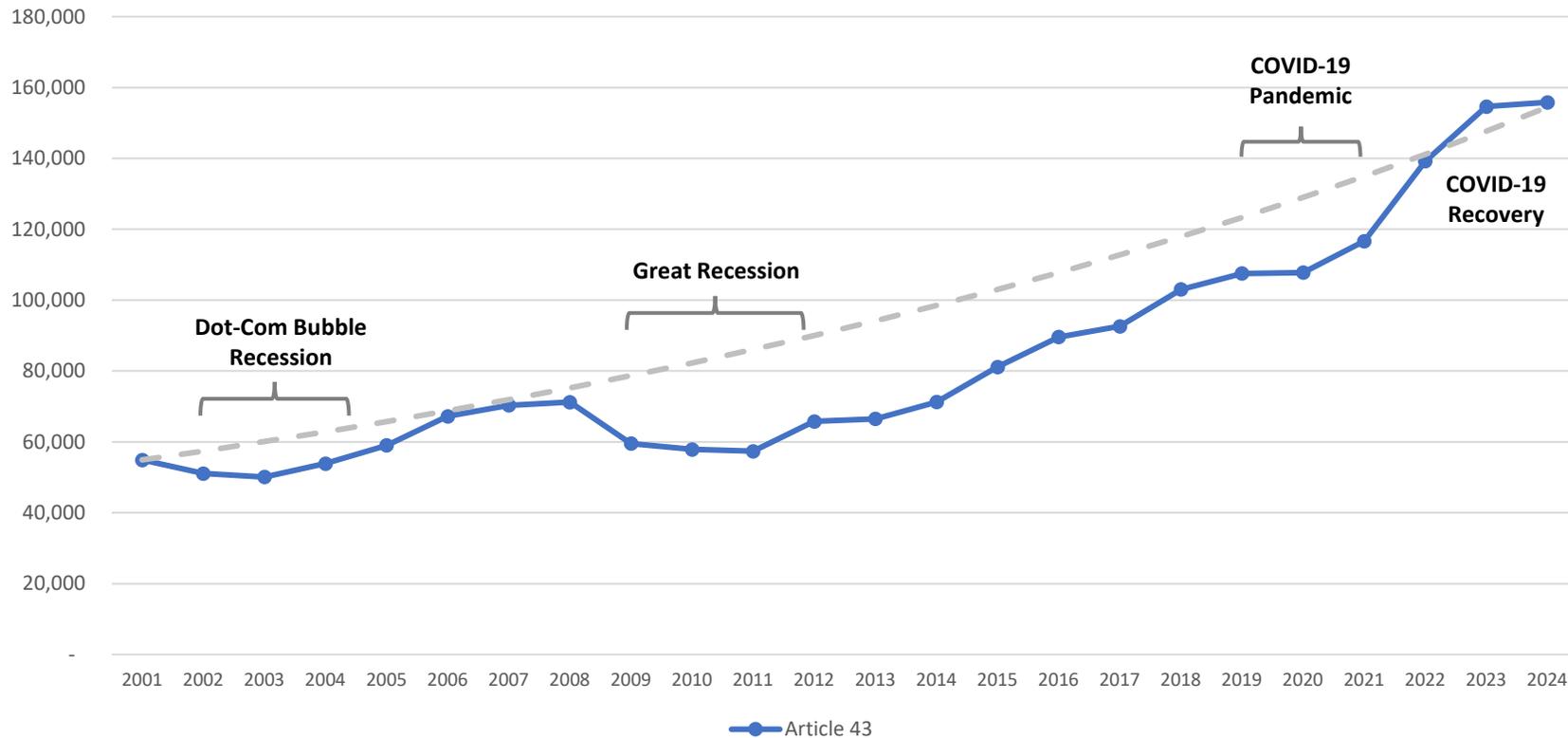
- *In the process of evaluating options for appropriate discretionary funding opportunities assumption*

# Sales Tax Revenue & Parameters Assumptions



# Existing Article 43 Sales Tax – Historic Growth

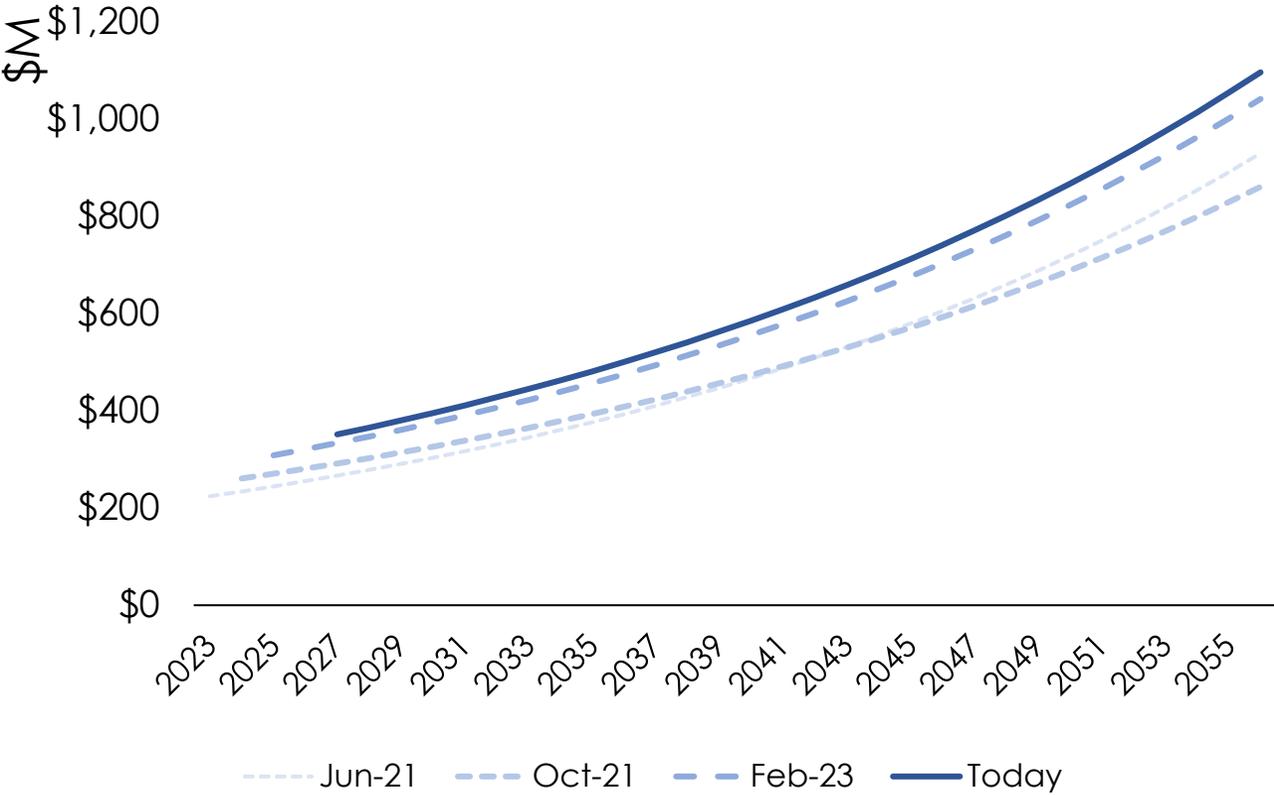
Existing Article 43 Sales Tax – Historic Growth  
(in thousands)



Existing Article 43 Growth Rates	
5-Year	7.7%
10-Year	8.1%
15-Year	6.6%
20-Year	5.1%
History (2001-2024)	4.6%

# Sales tax estimates are being updated with the latest information and a new FY27 start date

1% Sales Tax Estimate Comparisons



Existing Article 43 Growth Rates	
5-Year	7.7%
10-Year	8.1%
15-Year	6.6%
20-Year	5.1%
History (2001-2024)	4.6%

*\*Recommending a conservative 4.0% sales tax growth rate*

# Parameters of Proposed New Sales Tax Legislation

- ▶ 40%/40%/20% splits, specifying no more than 40% of total new sales tax revenue available to support costs of rail transit
  - 30-year lookback period for rail capital costs (2027-2056)
  - Rolling 30-year lookback following initial 30-year period
- ▶ Red Line must be 50% complete prior to completion of any other rail projects
- ▶ Assumed July 1, 2027, start date for proposed new sales tax
- ▶ No current expiration date

# Farebox Revenue Assumptions



# Farebox Revenue Assumptions

- ▶ Recommend using farebox recovery rate assumptions that are mode specific
  - Local and Express Bus
  - Light Rail
  - Streetcar
  - Commuter Rail\*
  - Microtransit\*
- ▶ Use farebox recovery rates for existing services and peer benchmarks as baseline assumption



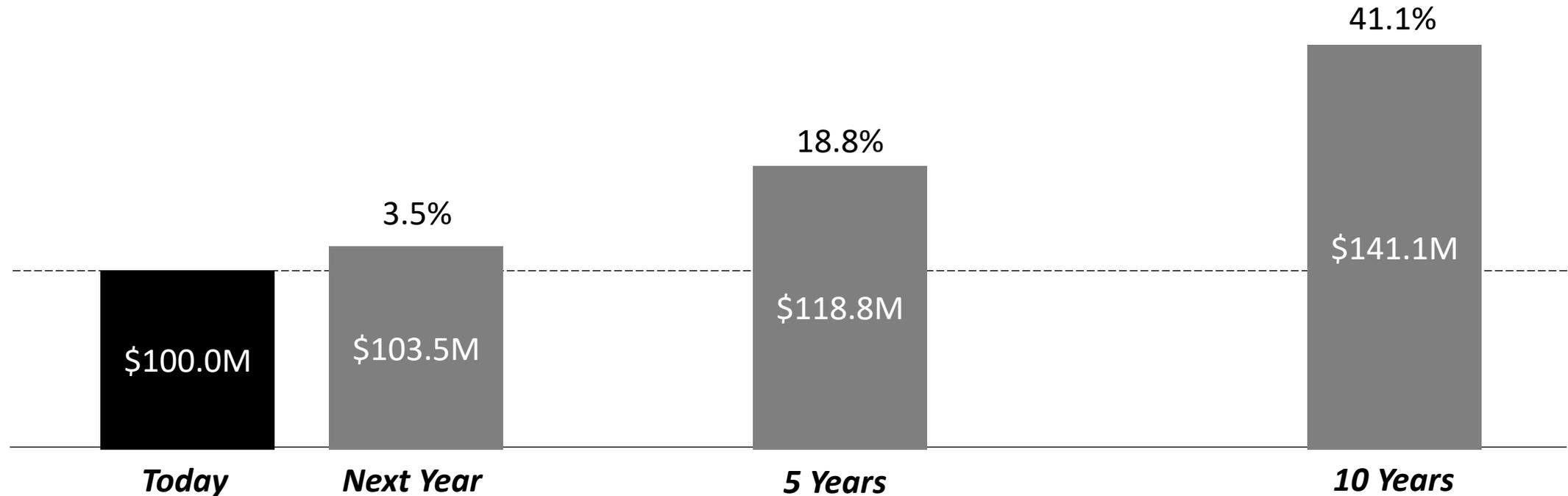
*\*Commuter Rail and Microtransit are new modes of service and will require industry / peer analysis to identify benchmark for future CATS service*

# Inflation and Cost Escalation Assumptions



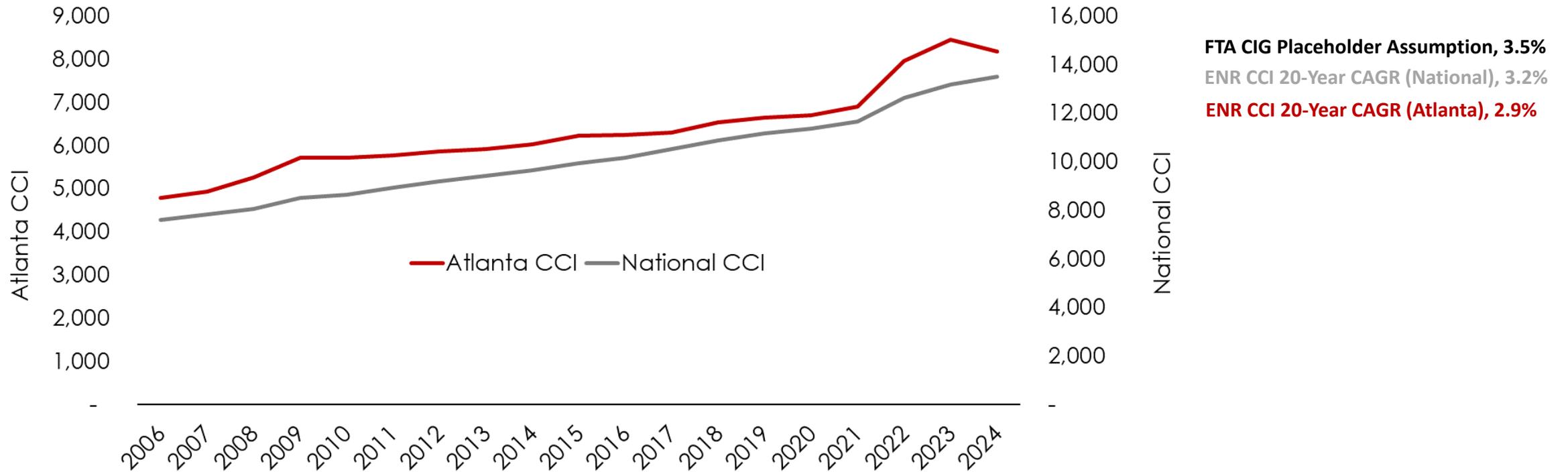
# Costs Increase Every Year with Inflation

- ▶ Cost estimates will increase if a project is not advanced along its assumed delivery schedule
- ▶ Assuming 3.5% cost escalation, a \$100M project in today's dollars would cost 41% more to deliver just 10 years later



# Capital Cost Escalation Assumptions

Comparison of Atlanta and National Construction Cost Indices (CCI)



**\* Recommend maintaining FTA CIG placeholder assumption across all capital costs**

# Cost Allocation Review Process



# Cost Allocation Review Process

**Goal:** Accurately forecast operational costs for service expansion by mode

- ▶ Identify cost categories
  - Direct, indirect, fixed, variable
- ▶ Collect and organize data
  - Operational data, cost data, usage metrics
- ▶ Establish cost drivers for indirect costs
  - Passenger miles traveled, revenue / vehicle miles, revenue / vehicle hours, number of employees
- ▶ Allocate into cost categories
  - Test, validate, and apply to integrated financial model

**Work to-date**

- Preliminary review of the 2023 Cost Allocation Plan
- Comparison to existing CATS financial model
- Comparison to publicly accessible NTD data

**Expense Assumptions**  
Charlotte Area Transit System

Fiscal Year:	2021	2022	2023	2024	2025
Start Fiscal Year:	Actual	Actual	Actual	Y-End Proj.	Budget
1 Operating Expenses					
2 Transportation Services					
3 415010	60,000	63,030	64,320	69,056	78,448
4 415011	2,477	2,933	3,869	2,820	3,041
5 415012	18,875	21,406	22,816	28,125	24,788
6 415013	861	850	915	1,153	1,433
7 415050	8,830	8,898	9,917	12,090	14,021
8 411060	861	1,207	1,381	1,888	1,679
9 412010	1,064	1,005	1,230	1,180	1,891
10 415020	300	300	193	456	310
11 412020	7,881	7,723	8,687	11,886	12,613
12 414020	1,508	1,505	1,821	2,200	1,799
13 416010	11,587	12,352	15,516	15,858	18,592
14 416011	3,865	2,217	4,318	4,702	4,520

**2022 Annual Agency Profile - City of Charlotte North Carolina dba Charlotte Area Transit System (NTD ID 40008)**

Mailing Address: 600 E 4TH ST  
CHARLOTTE, NC 28202-2816  
Website: <http://www.catsnc.org>

**Geographic Coverage**  
Primary Urbanized Area: Charlotte, NC-SC  
Other Areas Served: Gastonia, NC, Concord, NC, Rock Hill, SC, North Carolina Non-UZA

**Service Consumed**  
Annual Passenger Miles Traveled (PMT): 58,409,619  
Annual Unlimited Trips (UPT): 12,640,017  
Average Weekday LPT: 39,871  
Average Saturday LPT: 26,946  
Average Sunday LPT: 20,096

**Operating Expenses per Vehicle Revenue Mile**  
Bus: \$29.00  
Light Rail: \$15.00

# Next Steps



# Transit System Plan Update

## Transit System Plan Update

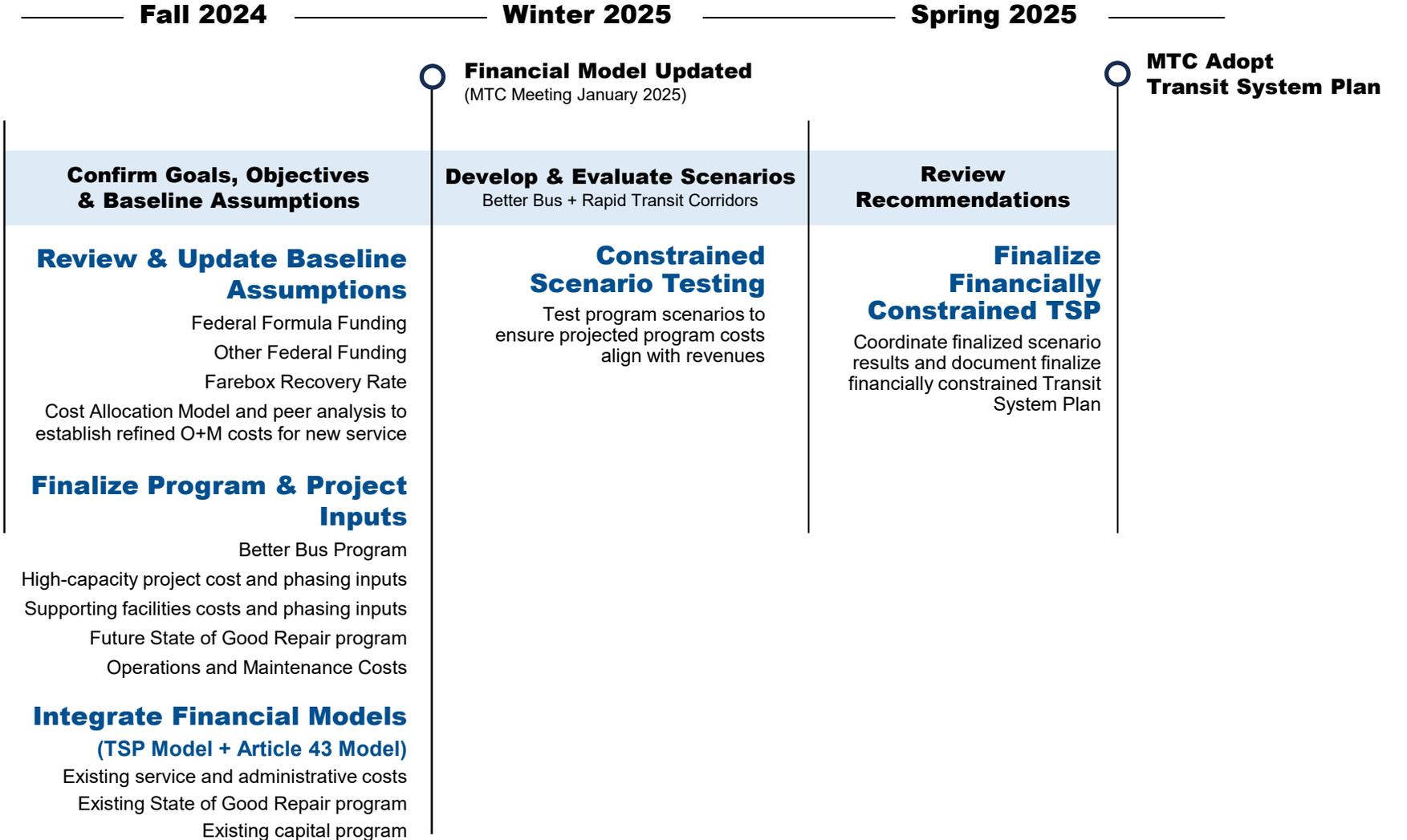
### Financial Modeling Tasks

Update

Fall 2024

Winter 2025

Spring 2025



# InfraStrategies LLC Disclaimer

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This document contains certain projections concerning anticipated future events that reflect various assumptions developed by the City of Charlotte, its partners, other third parties, and publicly available information. We have not independently verified the information provided. This document reflects recently prevailing conditions and information to-date, all which is subject to change. Actual results and events will likely vary from the projections contained within this document and such changes may be material.

**Thank You!**