



# Metropolitan Transit Commission

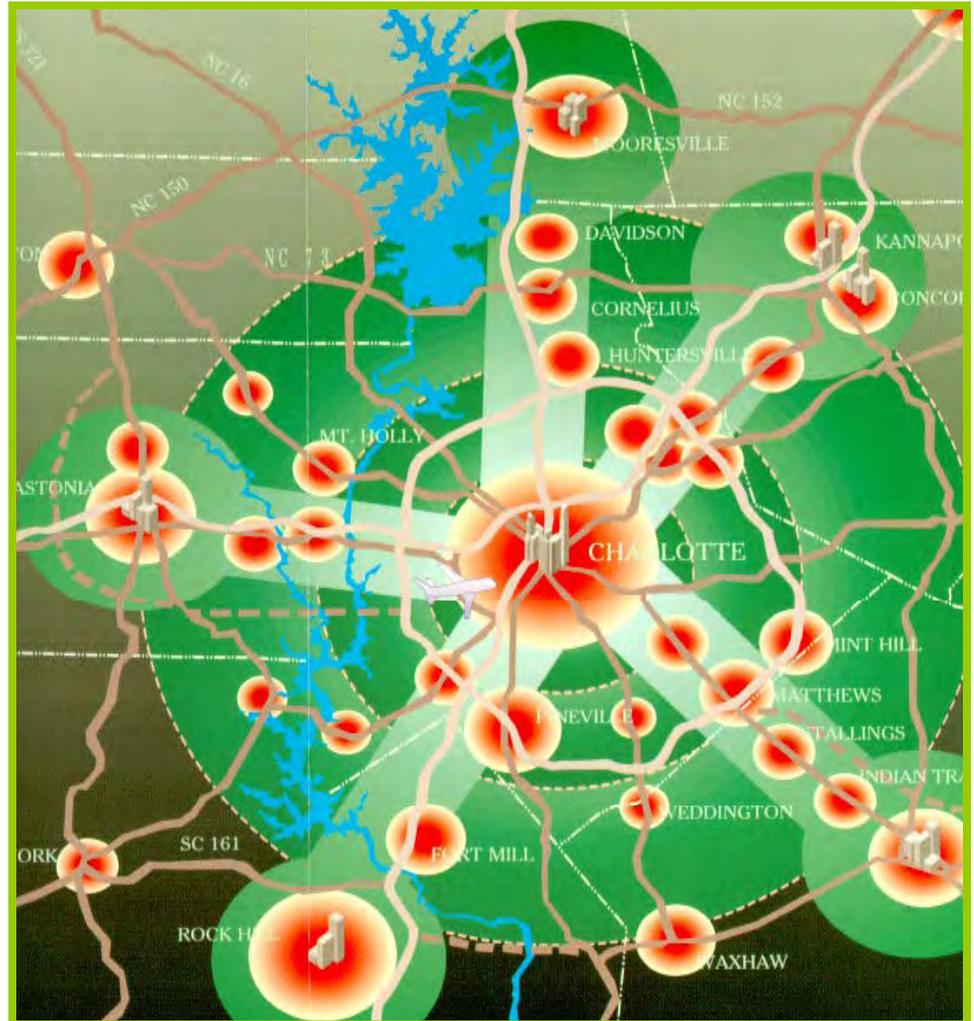
April 22, 2009

- Land Use Framework
- Background
- Purple Line Update
- Blue Line Extension Update
- Next Steps
- MTC Actions



# Development Framework Centers, Corridors and Wedges

- A concept for organizing land uses designed to help our community realize its development vision
- Adopted by Charlotte City Council and BOCC in 1994
- Builds on momentum of historical development pattern
- Guides growth to areas that can support new development and away from areas that cannot
- Integrates land use and transportation needs and served as basis for 2025 Integrated Transit /Land Use Plan

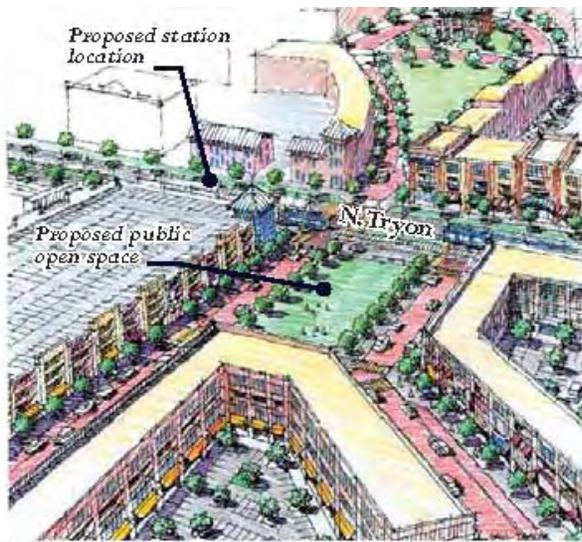


Source: Charlotte-Mecklenburg Planning Department

# What are the Benefits of an Integrated Transit / Land Use Strategy?

Land Use Benefits: Redirects growth where transportation can support it, encourages higher density in appropriate locations, encourages mixed/multi-use, reduces vehicle miles traveled

Transportation Benefits: Integral in supporting a multi-modal strategy (roads, sidewalks, bike lanes and transit), more travel choices, reduce Single Occupancy Vehicle (SOV) trips



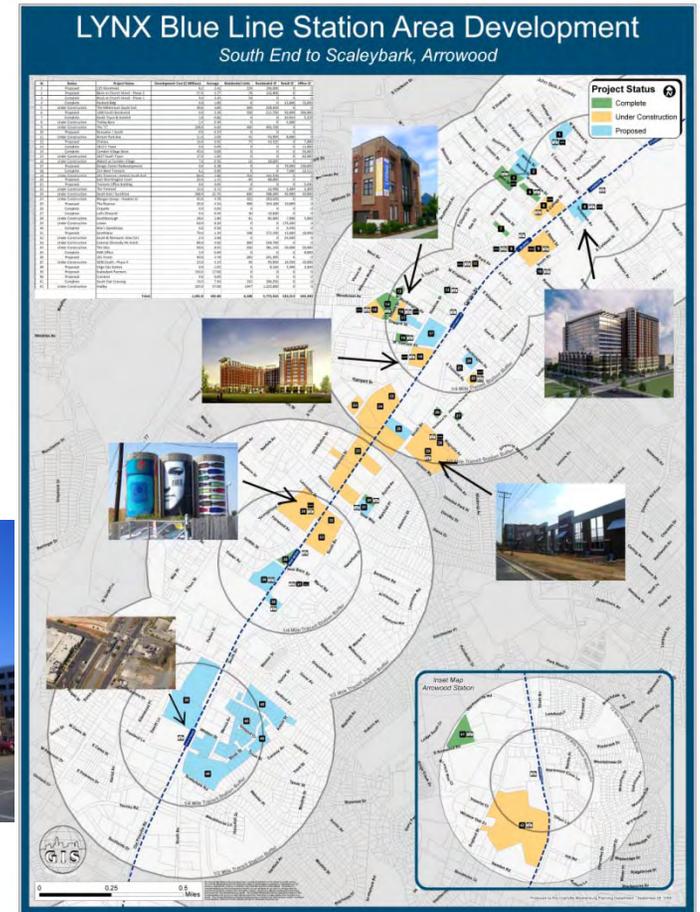
Economic Development Benefits: TOD responds to emerging market of location flexible households, cost savings on autos, gas and insurance, encourages reuse, redevelopment and infill development, and TOD increases property values

Environmental Benefits: Encourages more compact development, TOD uses less acreage, helps preserve open space and tree canopy

Source: Charlotte-Mecklenburg Planning Department

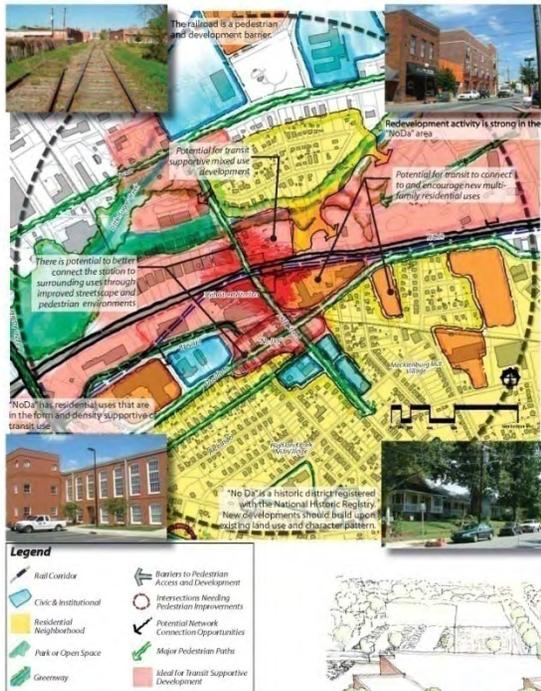
# LYNX Blue Line Station Area Development Tracking Map

- The status of 45 projects within ½ mile of Transit Stations is being tracked. Total investment to date is over \$247 million and includes 100 affordable housing units.
- More than 1,500 residential units are built or under construction including:



Source: Charlotte-Mecklenburg Planning Department

## Issues and Opportunities



36th Street Station Area Concept

Proposed  
36<sup>th</sup> Street  
Station Area



Proposed  
Eastfield  
Station



Proposed  
Griffiths Lake  
TOD



## Potential Development Scenario

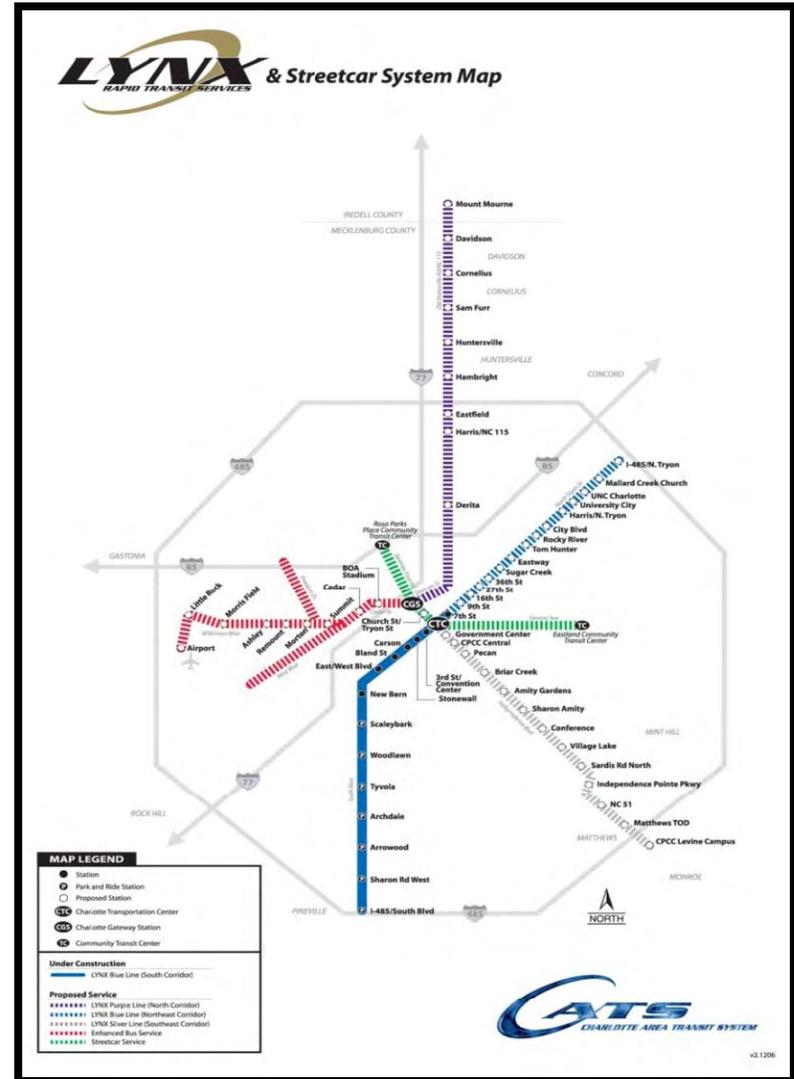


The Core Area Plan illustrates a potential development scenario for the 1/4 mile area around the station based on the recommendations of the Concept Plan. This plan illustrates the intended use, scale and form of potential transit supportive



Source: Charlotte-Mecklenburg Planning Department

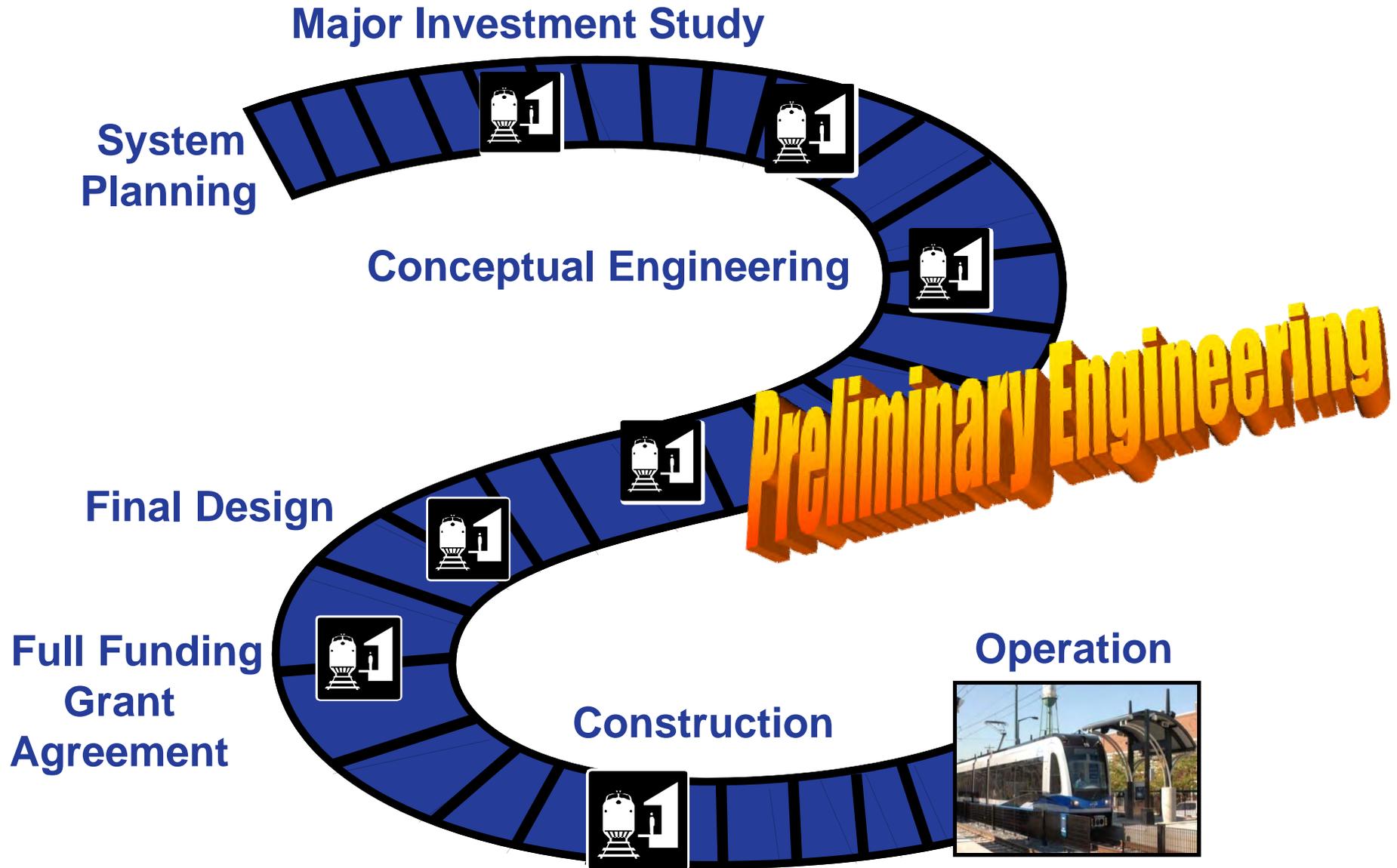
- System Plan approved November 2006
- Advance Engineering
  - North Corridor (Purple)
  - Northeast Corridor (BLE)
- Consultant Teams hired late 2007/early 2008



- Planning & Engineering
  - 2000 - 2002: Major Investment Study
  - 2004 - 2006: Conceptual Engineering
  - 2008 -2009
    - Purple Line Preliminary and Final Design
    - BLE Preliminary Engineering



# FTA Project Development Process



## General

- Cost estimate is a “snapshot” at a given milestone in a project
- Typically prepared at conceptual, 15%, 30%, **65%**, 90% and construction documents
- Project scope and construction cost trends will modify each “snapshot”
- Higher contingencies used during earlier design stages

## Inflation

- Actual project schedule determines amount of inflation cost added to project
- FTA supports use of 3.25% annual inflation
- City of Charlotte’s current practice is to use 5% annual inflation on capital projects



# Lesson Learned Independent Cost Review

- Objective evaluation of the cost estimate documents
- Review included:
  - Review background data and assumptions
  - Evaluate the estimate methodology
  - Identify and document any areas of concern
- Review concluded:
  - All major project cost categories have been examined and are consistent with what is typically seen on similar transit projects
  - Comparison with other commuter rail (Purple Line) and LRT (Blue Line Extension) estimates fall within normal range of costs typically seen and indicates estimate's general reasonableness

- Risk Log identifies potential risks to budget and schedule
- FTA Risk Review of BLE scheduled in May
- Early coordination with other partners
  - Railroads
  - NCDOT
  - Utilities
  - UNC Charlotte
- City-wide design reviews

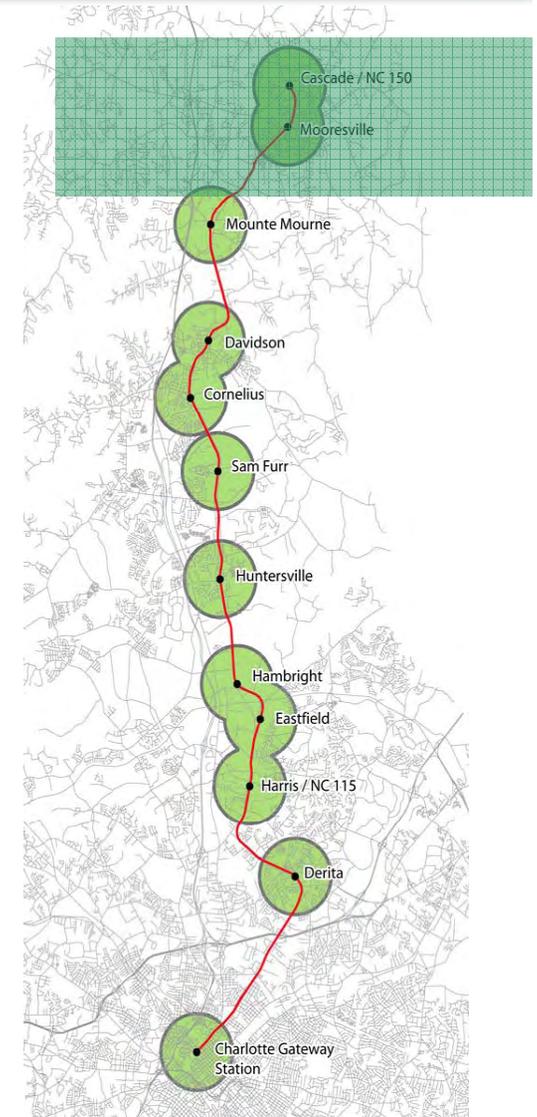
- Current ridership model acceptable to FTA only for sizing of parking lots and operations planning
- Anticipate FTA-approved model this fall to determine user benefits
- Blue Line Experience
  - 1<sup>st</sup> year estimate: 9,100 daily trips
  - 1<sup>st</sup> year actual: 14,000 daily trips
  - 2025 estimate: 18,100 daily trips

Transit Line	2006 Estimate for 2030*	2009 Estimate for 2030**
BLE	10,500	22,500
Blue Line	10,200	27,500
Purple Line	3,600 – 4600	4,900 – 6300

\* Revised model based on FTA guidance

\*\* FTA approved interim model to reflect actual South Corridor experience

- Route
  - 25 miles from Charlotte Gateway Station to Mount Mourne
  - Uses existing Norfolk Southern Railroad right-of-way
  - 10 stations
  - Serves historic downtown of Charlotte, Huntersville, Cornelius & Davidson
  - Mount Mourne terminus



# Purple Line Two-Phase Implementation Plan (2030 Plan)

- Phase 1 (2012)
  - One-way service
  - No signals or sidings
  - At-grade crossing of CSX
  - \$261 million (at completion)
- Phase 2 (2017)
  - Two-way signalized service
  - 2 passing sidings
  - Grade separated with CSX
  - \$117 million (at completion)



# Purple Line Current Proposal: Single-Phase Project

- Most elements of Phase 1 & 2 combined into single project
  - Serves reverse commute
  - Provides capacity for higher ridership
  - Enhances economic development





# Purple Line Project Cost Estimate

- Final project cost depends on implementation date and underlying inflation

Annual Escalation	2009 Base Cost	Completion by December 2011	Completed December 2015
3.25 %	\$ 358 million	\$ 368 million	\$ 412 million
5 %	\$ 358 million	\$ 375 million	\$ 455 million

# Purple Line Basis for Updated Cost Estimate

- Track Upgrades
  - 90% plans
  - NS & utility cost estimates
- Crossing Upgrades
  - 90% plans
  - NS & CDOT cost estimates
- Stations
  - 30% plans
  - Unit costs and allowances
- Property
  - Current comparables (early 2009)
- Train Equipment
  - Option prices for coaches
  - Recent locomotive purchases by other agencies





# Purple Line Project Upgrades Not Included In 2006 Cost

- Positive Train Control
  - Mandated by Congress (2008)
- Site Improvements at Vehicle Inspection Facility
  - Significant site and exterior enhancements
  - Additional storage tracks
  - Additional property: 1 acre (\$3.6 million)
- Lessons Learned From South Corridor Project
  - Increased security & communications costs
  - Increased insurance costs
- Mount Mourne Parking Deck, Second Station Platform
- Additional Infrastructure Improvements
  - Phase 2 sidings and signalization
  - 3rd passing siding for reliability
  - Improvements to reduce humps at Oneida Road & Mayes Road
  - Second platform at Eastfield Station

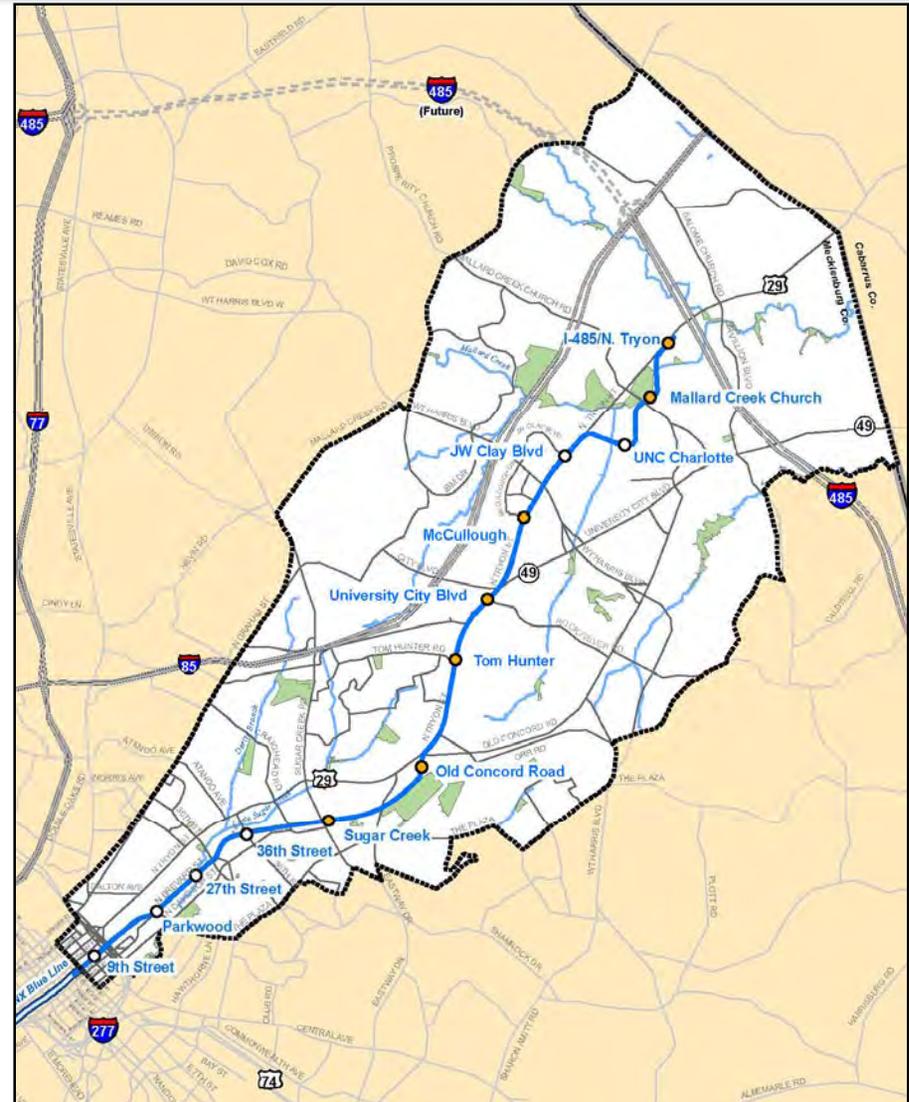


# Purple Line Action Items

- Locally Preferred Alternative
  - Northern terminus: Mount Mourne
  - Stations along route: 10
  - Realignment at Hambright to accommodate TOD
  - Requested: Two-Way Service
  - Maintenance Facility - CGS site is preferred site
- Federal Funding
  - CATS should seek all available federal funding for the project
    - Discretionary Grants (ARRA) – summer 2009
    - Explore FTA New Starts opportunities

# LYNX Blue Line Extension (BLE)

- 11 mile extension of the LYNX Blue Line
- 13 stations
  - 6 Walk-up stations
  - 7 Park & rides
- Runs from Center City Charlotte through North Davidson (NoDa) and the University area to south of I-485
  - Uptown to Old Concord Rd: BLE shares right-of-way with NCRR
  - Old Concord Rd to Charlotte Research Institute (near the University of North Carolina Charlotte): BLE is in the median of N. Tryon St
  - Charlotte Research Institute to I-485: BLE follows a new alignment, primarily on the UNC Charlotte campus, with two stations serving the University



# Factors Influencing Project Scope at 15% Design

- Blue Line success is Lesson Learned
- Daily ridership significantly exceeded opening year expectations
- Desire to provide greater capacity
  - Longer platforms (300')
  - Additional vehicles
  - Increased parking
  - Additional power substations
  - More grade separations
  - Expanded maintenance facility needs



Sugar Creek Road

- Railroads
  - North Carolina Railroad
  - NS Intermodal Yard
  - AMTRAK/High Speed Rail
  - CRISP
- Roads
  - North Tryon Street
  - Grade separations
  - Access needs
- UNC Charlotte
  - Charlotte Research Institute
  - Wetlands



NS Intermodal Yard

Tryon/Harris  
grade separation



UNC Charlotte  
entrance grade  
separation



# BLE Base Project 15% Design Snapshot

- **Base Project Cost estimate (YOE)                      \$928 million**
  - Can build good project with reasonable assumptions
  - Provides 2-car operations like current Blue Line
  - Assumes 3.25% annual escalation consistent with FTA
  - Provides grade separated access into and out of North Tryon Street
  - **Bridge over W.T. Harris Boulevard**
  - Assumes right-of-way impacts minimized



# BLE Enhancements 15% Design Snapshot

## PROPOSED ENHANCEMENTS

- North Tryon roadway/pedestrian amenities \$62 million
  - Provide platforms/systems for 3-car trains \$15 million
  - Purchase additional 6 vehicles \$32 million
  - Use of 5% rather than 3.25% escalation \$81 million
- 
- Enhanced project will be competitive in FTA cost-effectiveness criteria
  - Good opportunity to leverage additional federal and state funds for enhanced project

## SCOPE

- Build BLE to accommodate 3-car trains and pursue 3-car upgrades to Blue Line as part of FFGA
- Consider NS Intermodal Yard for maintenance expansion and additional vehicle storage
- Investigate at-grade crossing of Old Concord and N Tryon St
- Investigate at-grade crossing of the AC&W railroad
- Consolidate parking at several locations
- Consider relocating Tom Hunter Station to Arrowhead Drive

## SCHEDULE

- Push FTA on review times
- Provide unallocated schedule “float”

## Charlotte Railroad Improvement and Safety Project (CRISP)

- NCDOT-Rail proposal for intercity passenger rail upgrade
- Railroad coordination in 2008 led to current west side BLE alternative through NoDa
- NCDOT and Norfolk Southern now propose to route BLE on east side of NCRR through NoDa



## Hospital Access

- Grade separation over Harris Blvd affects intersection of N Tryon and JM Keynes/Hospital entrance
- Keeping intersection open has safety concerns
- JM Keynes is current N Tryon Emergency entrance



## SCHEDULE ADJUSTMENTS at 15%

- Resolution of CRISP and railroad issues adds 7 months

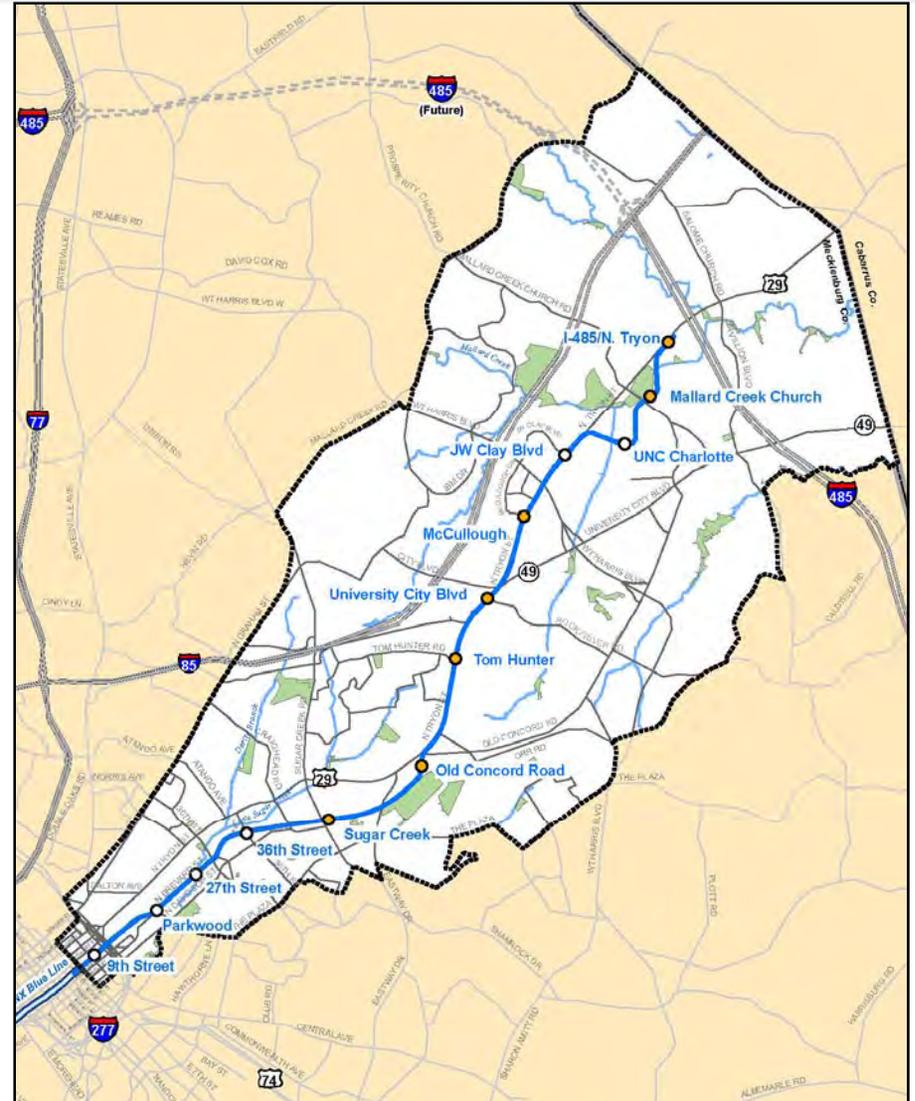
## POSSIBLE SCHEDULE ADJUSTMENTS at 30%

- Review FTA approval durations and push for faster resolution (APTA Peer Panel)
- Review unallocated schedule float (APTA Peer Panel)

Aggressively manage schedule but not at expense of the project

## Alignment and Station Locations

- Parkwood Station moved to the intersection of Parkwood and Brevard
- 36<sup>th</sup> Street Station is grade separated
- McCullough Station replaces City Blvd and Ken Hoffman Stations
- New alignment for UNC Charlotte and location for Mallard Creek Church Road Station
- NCRR alignment retained for LPA



## Purple Line

- Accept as information updated cost estimate
- Adopt LPA for Purple Line
- Direct staff to prepare application for Federal Discretionary Stimulus Funds

## Blue Line Extension

- Accept as information updated 15% cost estimate
- Adopt LPA for Blue Line Extension
- Advance PE to 30% design level



# FY11 Decision Point

- Purple Line
  - Engineering is 90% complete for key elements
  - No Funding in 5-Year CIP
  - Half percent Sales Tax Funded \$9.4 million in work to date
- Blue Line Extension
  - Engineering will be 65% complete in mid/late 2010
  - 75% of cost paid by Federal/State Grant Funds
  - Federal funding authorized to date \$24.75 million
  - Half percent Sales Tax Share \$12.7 million through FY10



# Questions