Presentation Outline

• Regional Context
• Project Overview
• Successes, Challenges and Lessons Learned
  o Design Opportunities
  o Stakeholder Coordination
  o Budget and Contingency Management
Growth Framework

Centers, Corridors and Wedges
Transit Plan Goals

• ½ cent Sales Tax approved in 1998 by Mecklenburg County voters
• Transit Plan adopted by the Metropolitan Transit Commission in 2002 and updated approximately every 4 years
• Integrates rapid transit and mixed-used development along 5 transportation corridors
• Provides more transportation choices to meet mobility needs
• Supports sustainable growth for region
2030 Transit System Plan

- LYNX Blue Line Light Rail (2007)
- LYNX Blue Line Extension Light Rail (Opened March 2018)
- CityLYNX Gold Line Streetcar
  - Phase 1 (Opened 2016)
  - Phase 2 (under Construction)
- LYNX Red Line / North Corridor BRT
- LYNX Silver Line Light Rail
LYNX Blue Line

• Opened November 24, 2007
• Uptown Charlotte to I-485 at South Boulevard - 9.6 miles
• 15 stations (7 park & rides)
• Operates seven days a week from 5:00 a.m. to 1:00 a.m.
• Service frequency
  • Rush hour: 10 minutes
  • Non-rush hour: 15-20 min.
• Ridership exceeded projections
LYNX Blue Line Extension

- 9.3 miles, 11 stations
- 4 park and ride facilities
- Accommodates 3-car trains
- Increase in LRV fleet from 20 to 42
- Addition of second vehicle storage yard and operations facility
- 25,000+ daily riders by 2035
- 7.5 min. service frequency
- Design-Bid-Build project delivery
Project Benefits

• Connects Charlotte’s Northeast Corridor
• Creates 18.6-mile North-South rapid transit spine
• Provide a transportation alternative in overburdened corridor
• Serves transit-dependent communities
• Connects 27,000 students at UNC Charlotte campuses
• LYNX Blue Line success is CATS’ Lesson Learned
# Milestone Schedule

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date</th>
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<tbody>
<tr>
<td>FTA Permission to Enter Preliminary Engineering</td>
<td>Nov 2007</td>
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<tr>
<td>Record of Decision</td>
<td>Dec 2011</td>
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<tr>
<td>FTA PMOC Risk Assessment</td>
<td>Mar 2012</td>
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<tr>
<td>FTA Financial Capacity Assessment</td>
<td>Jun 2012</td>
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<td>FTA Permission to Enter Final Design</td>
<td>July 2012</td>
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<tr>
<td>FTA Full Funding Grant Agreement</td>
<td>Oct 2012</td>
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<tr>
<td>Start of Construction</td>
<td>Jan 2014</td>
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<tr>
<td>Revenue Service Date</td>
<td>Mar 2018</td>
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Project Challenges

- Size and complexity of project
- Aggressive schedule since inception
- Involves many different entities for coordination of work
  - 17 different construction contracts
  - 3 Major Railroads
  - UNC Charlotte
  - Private Developer
  - City of Charlotte
  - NCDOT
  - Utility companies
Success: Partnerships Leveraged

36th Street Grade Separation – NCDOT, NCRR, Norfolk Southern

UNC Charlotte Alignment and Station
Lessons Learned: Schedule

- Ongoing communication critical to address third party requirements & schedules
  - Utilities
  - Railroads
  - University

- Contract amendments with Civil A and Civil B/C to recover schedule affected by coordination issues (primarily private utilities and railroads)

- Public outreach and communication
• Transformed North Tryon Street into a “Complete Street”
• Implemented an urban design framework to reduce community impacts
• Stimulated economic revitalization and transit-oriented development:
  – $790 million in new and proposed development since 2011
Multi-modal Opportunities

+ Light rail
+ Continuous & wider sidewalks
+ Continuous & wider planting strips (trees)
+ Bike lanes
Urban Design Framework

• Design criteria to provide guidance for treatment of BLE infrastructure that have community impacts
• Recommends design treatments for highly visible areas outside the transit station
• Developed cooperatively by CATS and City Planning Dept.
Lesson Learned: Safety is Priority

• Protected corridor
  – Dedicated guideway for light rail
  – Gated crossing protection at all at-grade intersections
  – Major intersections grade separated

• Pedestrian protection
  – Sidewalks throughout
  – Pedestrian gates at non-station crossings along N. Tryon St.
  – Pedestrian bridges from parking garages

• Fencing along both sides of light rail in median
Success: Budget and Contingency Management

- $1.16 Billion budget
  - 50% FTA, 26% NCDOT, 24% CATS
- Opened on-time and under budget
- Used an internal risk management process to identify risks and mitigation plans early
- Advanced design to 65% before finalizing budget
- Used project management software to improve transparency, reporting and accountability
Lessons Learned: Change Control

• Minimize design changes during construction
• Ensure adequate resources for Contract Administration and Project Controls
• Clearly define Change process and requirements and train project team
• “If it wasn’t documented, it didn’t happen”
Keep Building on Success
Questions?

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