Northeast Corridor

Refined Locally Preferred Alternative

(R-LPA) Report

August 10, 2007

Charlotte Area Transit System

600 East Fourth Street

Charlotte, NC 28202

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REFINED LOCALLY PREFERRED ALTERNATIVE REPORT

1.0 OVERVIEW

In 2002, the Charlotte Area Transit System (CATS) completed a Major Investment Study (MIS) for the Northeast Corridor. After carefully considering a variety of alignment and modal options, the Metropolitan Transit Commission, the policy board for CATS, adopted the MIS Locally Preferred Alternative (MIS LPA) and directed CATS to move forward with the implementation of a combined light rail and bus rapid transit solution for the corridor. In 2004, CATS moved forward with the continued planning, design, and environmental analysis on the light rail element of this Locally Preferred Alternative. Between 2004 and 2006, CATS, along with the Charlotte Department of Transportation (CDOT), Engineering & Property Management (E&PM), Economic Development (ED), and the Charlotte-Mecklenburg Planning Commission (CMPC), worked to refine the alignment and identify station locations for the Northeast Corridor Light Rail Project. A refined alignment, called the Refined-Locally Preferred Alternative (R-LPA), was presented to the Metropolitan Transit Commission (MTC) in June 2006, reviewed by the public on October 25, 2006, adopted by the MTC on November 15, 2006, and then subsequently incorporated into CATS' *2030 Transit Corridor System Plan*. This report uses the MIS LPA as a point of departure for the R-LPA refinement process. The report details the framework for which decisions were made, documents the changes from the MIS LPA alignment or recommended station locations, and documents the R-LPA that will be carried forward into the next phase of project development, called preliminary engineering.

2.0 MIS LOCALLY PREFERRED ALTERNATIVE

The MIS Locally Preferred Alternative (MIS LPA) was adopted by the MTC on November 22, 2002 at the conclusion of the MIS and is shown is Figure 1 on the following page. The LPA set forth a general light rail and Bus Rapid Transit (BRT) alignment and station locations based on early conceptual engineering, environmental screening level data, and public involvement throughout the MIS process. The MTC resolution adopting this LPA is contained in Appendix A.

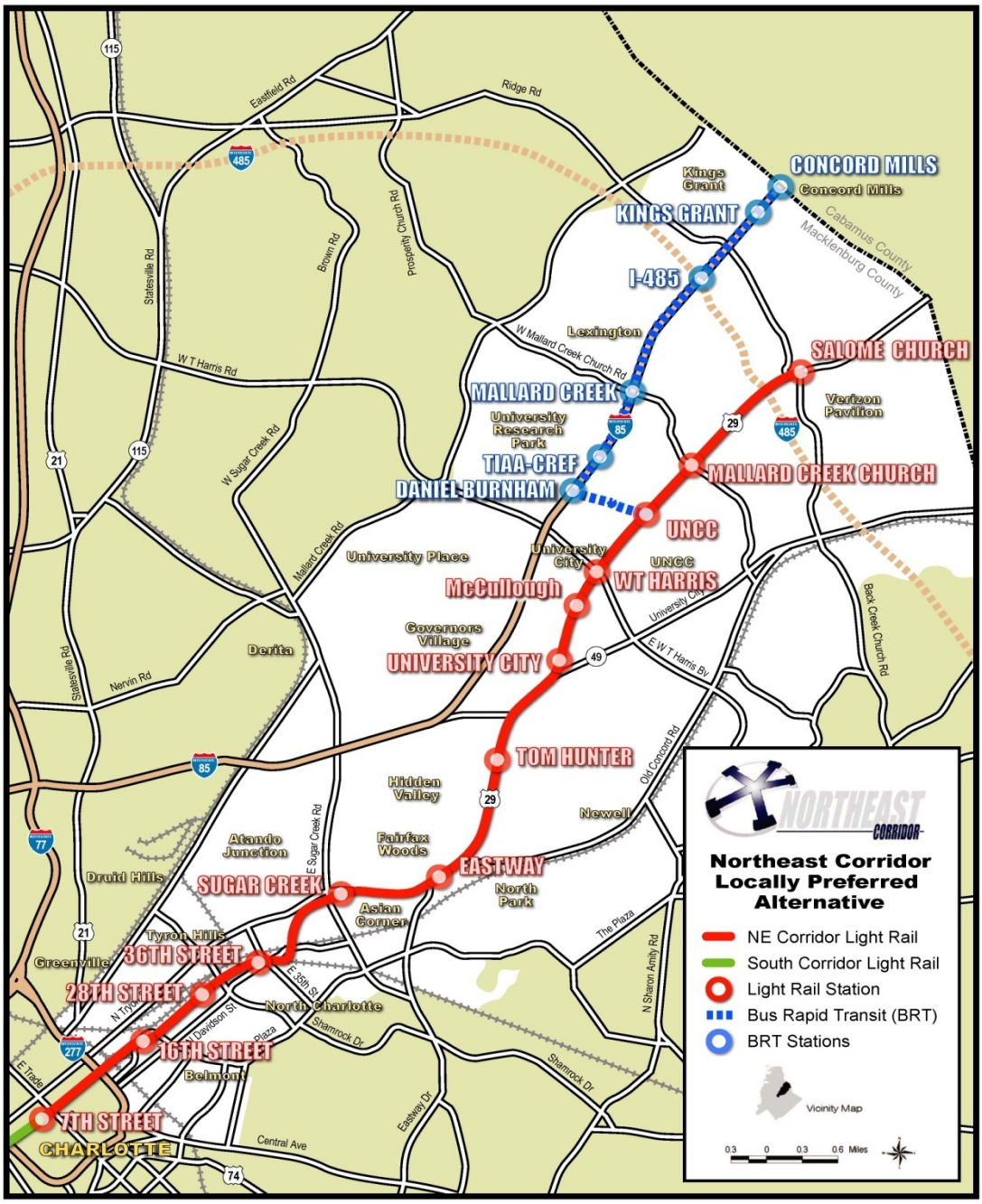
The MIS LPA included a light rail line as an extension of the South Corridor Light Rail Project, now called the Lynx Blue Line, between Center City Charlotte and I-485 with a BRT connection linking the University Research Park area with the light rail. The general alignment was to travel along the North Carolina Railroad Alignment with a transition to North Tryon Street/US 29. Phased implementation of the LPA was identified in the *2025 System Plan* and consisted of the initial extension of the Blue Line to the North Davidson area (NoDa) within 10 years, extension to I-485 within 15 years, and the BRT connection within 25 years. The MIS LPA was approximately 14 miles in length and included 13 light rail and six BRT stations. Due to this phased implementation schedule CATS advanced the light rail portions of the MIS LPA into conceptual engineering and deferred the BRT element for a separate environmental document and New Starts Project.

3.0 FRAMEWORK FOR DECISION-MAKING

In the summer of 2004, CATS and the Federal Transit Administration (FTA) signed a Memorandum of Understanding that gave CATS approval to advance the light rail component of the LPA to the Draft EIS phase of evaluation and to continue conceptual engineering of the MIS LPA. This advancement of the project allowed CATS to:

- obtain more detail-oriented level engineering mapping;

Figure 1, MIS LPA



- apply value engineering methods learned during the South Corridor Light Rail Project design efforts to minimize project costs;
- identify specific station locations and provide for greater transit-oriented station area development;
- update the proposed alignment and station locations to reflect current conditions in the corridor;
- continue public involvement efforts and refine the alignment based on further public and agency comment; and,
- minimize or avoid environmental impacts along the corridor.

This section of the report identifies the project goals, objectives and evaluation measures used throughout the conceptual engineering efforts; identifies how CATS and the City of Charlotte worked together to make the best local decisions in the interest of the City; how the public was involved in this decision-making process; and the role of the MTC in the adoption of the Refined LPA and 2030 Transit Corridor System Plan.

3.1 Project Goals, Objectives and Evaluation Measures

The goals and evaluation measures set forth in the Charlotte Mecklenburg Planning Commission (CMPC) and CATS' Draft *Regional Goals and Objectives and Corridor Evaluation Framework* were used to evaluate the alignment changes and station locations throughout the conceptual engineering efforts. These goals and evaluation measures are identified below in Table 1-1.

Table 1, Goals, Objectives and Evaluation Measures

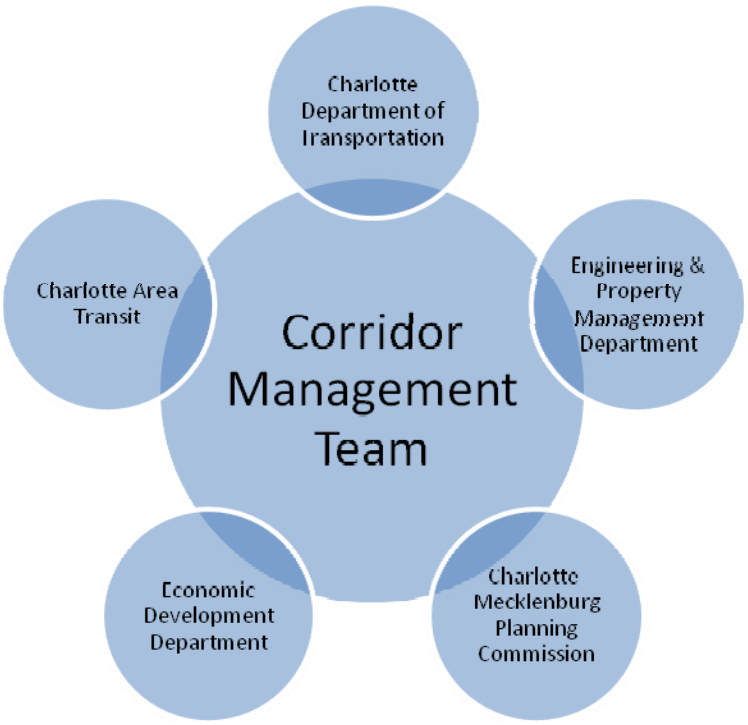
GOALS	EVALUATION MEASURES
Land Use • Support the region's Centers and Corridors vision	• Support for existing and planned land uses • TOD potential • Market readiness • Connections to transit supportive areas
Mobility • Improve access and mobility in the corridor and throughout the region; increase transit ridership	• Ridership • Access to stations • Service for transit dependent populations • Connections to activity centers, special event sites • Convenience and reliability
Environment • Preserve and protect the environment	• Effects on area communities • Effects on natural resources • Effects on cultural resources
Financial • Develop affordable, cost-effective transportation solutions	• Relative effects on costs
System Integration • Develop transportation improvements that function as part of the larger transportation system	• Consistency with existing/planned infrastructure • Quality of connections to other transit corridors

Source: CMPC/CATS *Draft Regional Goals and Objectives and Corridor Evaluation Framework*

3.2 PROJECT MANAGEMENT AND OVERSIGHT

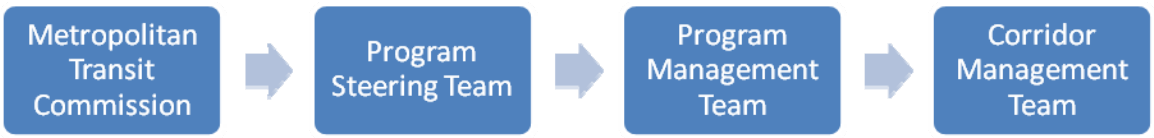
CATS developed a work plan for undertaking the conceptual engineering and Draft EIS activities and established a multi-departmental team to oversee the effort. The team, called the Corridor Management Team (CMT) was comprised of representatives from the following City of Charlotte departments: Charlotte-Mecklenburg Planning Commission (CMPC), the Engineering and Property Management Department (E&PM), Economic Development (ED), and the Charlotte Department of Transportation (CDOT), as shown in Figure 2. Design consultants for CATS and land use consultants (the station area planning team) for the Charlotte Mecklenburg Planning Commission provided technical engineering, planning and environmental data and guidance throughout the process. The CMT met biweekly throughout the course of the project study to review engineering and/or environmental constraints; identify station locations and potential alignment refinements; gather public input; and, to further define the Light Rail Alternative so that the social, economic, and environmental impacts could be assessed for the Draft EIS.

Figure 2, Corridor Management Team Composition



The CMT reported the progress of the conceptual engineering team to the Program Management Team (PMT) that was headed by the Deputy Directors for CATS, the CMPC, E&PM, ED, and CDOT. The Program Management Team met monthly throughout the course of the study and provided direction to the CMT for any issues that could not be resolved at the CMT level. The Program Steering Team (PST), composed of the Key Business Executives (KBE) of CATS, the CMPC, E&PM, and CDOT, provided the final decision-making authority to the PMT and the CMT (See Figure 3). Policy direction, including system plan adoption and the selection of the LPA and R-LPA, was provided by the MTC.

Figure 3, Decision-making Structure



The first task of the CMT was to: review the LPA alignment; refine the alignment with greater engineering detail; apply the lessons learned from the CATS Lynx Blue Line (South Corridor Light Rail) project design efforts; and to identify what refinements might be needed to avoid or minimize environmental impacts.

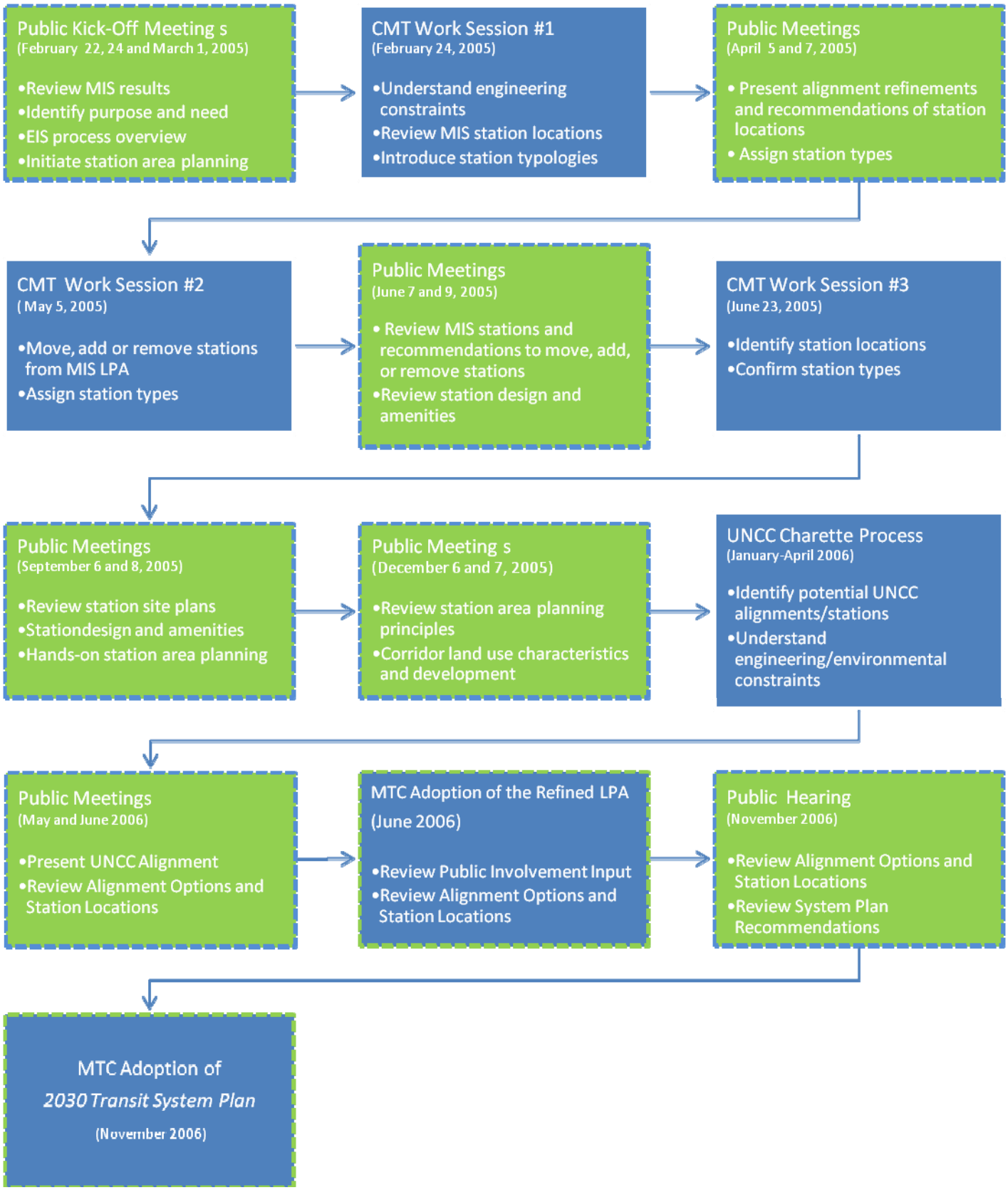
The evaluation of station location and alignment refinements was made by assessing how well these changes continued to meet the goals and objectives for the Project identified in Table 1. Development opportunities, access issues, potential environmental effects, and relative cost impacts were the primary differentiators used to evaluate the station location and alignment refinements. Meeting participants developed consensus on the findings and recommendations for alignment and station options and the conclusions were documented in the CMT meeting minutes. The CMT work program focused around three team working sessions. Following each working session, the team held public meetings to obtain public input on the design changes as the work efforts progressed. The CMT also provided briefings to the PMT and PST to keep them apprised of the planning process and sought direction on issues that need a higher level of decision-making authority. These efforts are documented in Figure 4.

3.3 Public Involvement in the Decision-Making

Public input was critical to the decisions made during the alignment refinement process. The CATS planning process included public review of all alignment and/or station refinements at each step of evaluation. Figure 4, documents the public involvement meetings that were held throughout the study efforts. A Kick-off meeting was held at the initiation of the Conceptual Engineering/Draft Environmental Impact Statement study phase. The *Northeast Corridor Light Rail Project Scoping Summary Report Update* (October 2005) documents the public involvement received during these kick-off efforts. The two main concerns raised during the kick-off meetings were that CATS should consider an alignment that directly serves the University of North Carolina Charlotte (UNC Charlotte) campus and that the design should help to reduce pedestrian-vehicular conflicts at busy intersections in the University City area. In response to these comments, CATS re-initiated talks with UNC Charlotte representatives and together CATS and UNC Charlotte developed a mechanism to integrate both parties' planning efforts to develop a mutually beneficial approach for transit service and campus expansion. The UNC Charlotte was under new administration and in the process of revising it Campus Master Plan. Elements of this plan included on-campus mixed use development plans and a new entrance to the university on North Tryon Street/US-29.

CATS and the University collaborated and developed a process that would bring together area stakeholders to identify critical issues; consider a deviation of the MIS LPA alignment to the campus; and to help develop and evaluate potential alignment options. A series of charettes were held with area stakeholders, including: CATS, UNC Charlotte, the University City Partners, area property owners, CMPC, CDOT, E&PM, ED, and the engineering and station area planning consultants. Student and faculty input were sought through an open house and an online survey. All University

Figure 4, Alignment and Station Location Planning and Public Involvement Process



alignment options were evaluated relative to the same criteria used for other alignment and station options, as well as relative to specific goals identified for University City and UNC Charlotte. As a result of the charettes and coordination efforts, one UNC Charlotte alignment and associated station was recommended for further evaluation and was presented to the public at the May 2006 public meetings. The chosen alignment was received favorably by those who attended the public meetings.

Other alignment refinements and station location changes were discussed at each of the public meetings identified in Figure 4 and described in more detail in Section 5.0. Public meeting presentations and meeting summaries are provided in Appendix B.

3.3.1 The Role of the Citizens Transit Advisory Group

A Citizens Transit Advisory Group (CTAG) was created to ensure public involvement in transit planning. This advisory body is made up of members of the community appointed by the Mecklenburg County Board of Commissioners, the Charlotte City Council, each of the six Towns within Mecklenburg County, and the Charlotte-Mecklenburg Board of Education. The CTAG reviews long-range transit system planning and proposed operating and capital programs from the community's perspective, and makes recommendations to the MTC. The CTAG reviewed the R-LPA and design options, and recommended to the MTC that the R-LPA be adopted and included in the *2030 Transit System Plan*.

3.4 The Role of the Metropolitan Transit Commission

The MTC is the policy board of local governments mandated to implement the City's 2025 *Integrated Transit/Land Use Plan*. The MTC is composed of the mayors and managers of the City of Charlotte, Mecklenburg County, and the Towns of Cornelius, Davidson, Pineville, Huntersville, Mint Hill, and Matthews, as well as one representative from the North Carolina Department of Transportation (NCDOT) and the Chair of the County Commissioners; and includes five non-voting members representing local governments outside of Mecklenburg County; and one non-voting member from the South Carolina Department of Transportation.

The MTC has responsibility for reviewing and recommending all long-range public transportation plans. It is staffed by the City of Charlotte Public Transit Department (operating as CATS), and sets policy for transit planning and decision-making. The MTC reviews the transit system's operating and capital programs, and makes recommendations to the affected governments for their approval and funding of those programs. The MTC is a public body, and in addition to holding monthly public meetings, it conducts public involvement programs designed to gain community input on transit planning. As such, the MTC makes the final decision on all corridor study Locally Preferred Alternatives, as well as approves and adopts CATS' system plans. MTC resolutions selecting the MIS LPA and the Refined LPA are provided in Appendices A and E, respectively.

4.0 ALIGNMENT AND STATION CONSIDERATIONS

During the two years between the MTC selection of the MIS LPA and the initiation of the NECLRP conceptual engineering effort, several major changes occurred that required a re-examination of the proposed MIS alignment. These included:

- The University City Partners, a Municipal Service District Serving the University City area, had undertaken a vision study for the North Tryon Street/US 29 and the NC 49 intersection (called "the weave") and a design competition for a redesign of the Harris Boulevard/North Tryon Street/US 29 intersection.

- The proposed grade separated interchange of US29/NC49 proposed by NCDOT was placed on hold due to state budgetary constraints. The City of Charlotte was in the process of developing a low-cost solution to find an at-grade solution to the intersection.

- The MIS LPA alignment assumed the relocation of the intermodal freight yard to the airport . The relocation had not moved forward. Therefore, the design team assumed this yard would remain in its current location.

In order to re-evaluate the MIS LPA alignment, three workshops were held to systematically address alignment and station location decisions. These workshops were attended by all members of the CMT, engineering consultants, the station area planning consultant team, and attendees from the City Departments not normally represented on the CMT but with special expertise in the project corridor. As described in Section 3.3 Public Involvement and as shown in Figure 4, recommendations with regards to alignment and station locations were presented to the public for input following each workshop. Input obtained during these public meetings was incorporated into the considerations which resulted in the revision to the MIS LPA alignment and station locations.

The first workshop consisted of a review of the engineering constraints, planning developments, and the station area planning consultant's station location analysis (contained in Appendix C). This report examined the operational ½-mile station spacing, 5-minute drive service area, transit dependent populations, underutilized and vacant land, transit-oriented development potential, and existing transit supportive land uses. The results of this report indicated that:

- the 27th Street and the Harris Blvd. Stations have the least unique service area;

- the 27th Street Station has one of the smallest acreages of potential TOD areas but densities of the surrounding development are fairly high and a large transit dependent population nearby;

- the Tom Hunter Station was identified to have the largest area of existing transit supportive land use;

- the spacing of stations within the University area had overlapping service areas; and

- that the service areas of some of the stations from the mid corridor out to I-485 have limited roadway network connections which would need to be improved in order to maximize transit ridership and transit-supportive development opportunities.

Using this data, the CMT worked through each alignment station issue during subsequent workshops. The key design considerations are summarized below in the following sections.

4.1 9th Street Station

The MIS LPA included a station at 7th Street. However, this station was added to the design for the South Corridor Light Rail Project (SCLRP) during preliminary engineering due to the construction of the Charlotte Bobcats Arena. Therefore, the CMT had to consider whether or not to include an additional station within the Center City. Key factors that led to the decision to include a NECLRP station within the Center City included the recent addition of the Charlotte Bobcats Arena, the ImaginOn Children's Theater, and UNC Charlotte's addition of a downtown campus at 9th Street. Other considerations included the proposed extension of 10th Street from Brevard Street west toward College Street by CDOT's Center City Transportation Study and the Center City Partners (a Municipal Service District focused on improving development in the Center City) plans to create a mixed use urban village in this vicinity.

Design considerations for the 9th Street Station included the need to provide a third track to allow for the storage of one 2-car train for special events and the continuation of the Uptown Sidewalks program. The plan for these storage tracks at the conclusion of the SLCRP design was that they would be located at 9th Street and the alignment would widen so that a third track for storage could be placed in this vicinity.

The station area planning team identified that this widening would conflict with development plans for UNC Charlotte's downtown campus. Therefore, in order to be able to provide the needed storage tracks and have the least impact to developable land, the storage tracks were moved further to the east. The design in this area was very limited as the light rail tracks have to begin elevating to get over the CSX tracks near 12th Street. The issue was resolved by a design that shifted the station closest to 9th Street behind Dixie's Tavern, allowed for a proposed 10th Street connection, and provided the crossover to the west of 11th Street with storage tracks between 11th and 12th Streets (see Figure 5).

Figure 5, 9th Street Station and Proposed Storage Track Locations.

Existing **Proposed**

Another consideration of the design between 9th and 16th Streets was whether or not to continue to provide the Uptown sidewalks (an 8-foot wide walkway on each side of the rail alignment) as required by the Uptown Street Design Guidelines. These sidewalks would provide a link to the Little Sugar Creek Greenway at 16th Street. Impairments to providing this walkway included the close proximity of Dixie's Tavern, which is listed on the National Register of Historic Places, and the elevation of the rail alignment that must occur between 12th and 16th Streets to cross over the CSX rail spur. Due to the need for the trail to be elevated if adjacent to the rail line, the team considered a possible connection to Brevard Street in front of the Alpha Mills Development project that was permitted for construction at the time. The issue was not resolved but deferred until more advanced phases of project engineering.

4.2 16th Street Station

The station location is at the corner of W. 16th Street, the railroad tracks and Parkwood Avenue as shown in Figure 6. It is the same proposed location as the MIS LPA. Prior to 16th Street, the alignment is elevated to cross over existing railroad tracks and returns to grade just before 16th Street, which is crossed at-grade.

The proposed station site would require the acquisition of property from the Norfolk Southern Intermodal Yard. During the MIS, the City was negotiating with CSX and Norfolk Southern to relocate this yard to the airport; however, this plan is still under development.

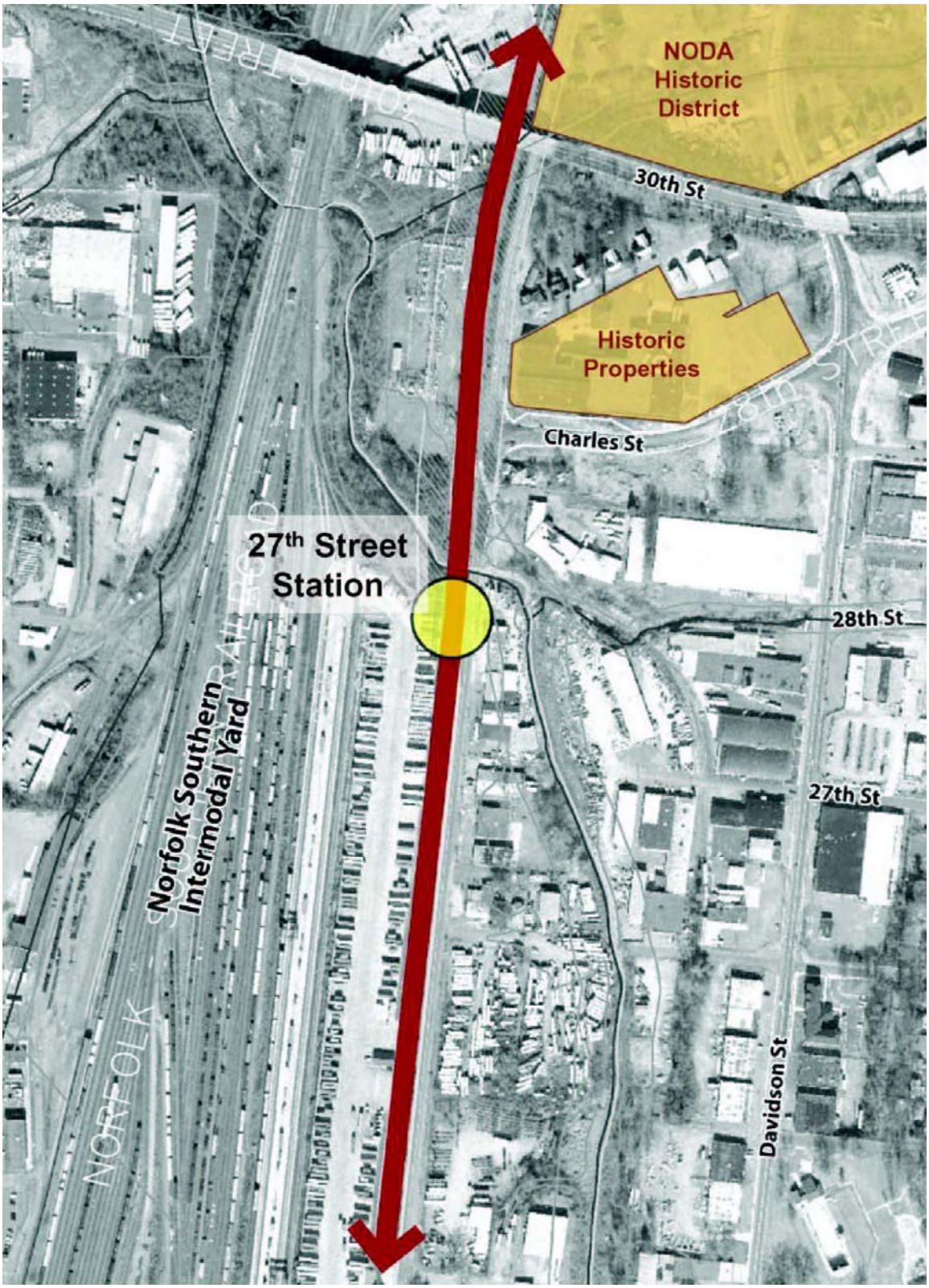
Figure 6, 16th Street Station

4.3 27th Street Station

During the MIS, this station was located closer to 28th Street and was previously called the 28th Street Station. However, due to the proximity of Little Sugar Creek, this station was shifted out of the floodplain, moved closer to 27th Street, and renamed the 27th Street Station.

The station area planning team identified that this station did not have a unique service area as the nearby 16th Street Station and the 36th Street Station were within a ½-mile radii. The rail yard serves as a physical barrier that limits access to the station from the Tryon Hills neighborhood northwest of the line as illustrated in Figures 7 and 8. The poor access combined with the duplicative service area from neighboring stations at 16th and 36th Streets resulted in the CMT considering this station to be removed from the design plans. The possibility of deleting the 27th Street Station was included in the June 2005 public meetings; however, residents identified that access from the Villa Hills and NoDa neighborhoods would benefit from the station. Based on this public input, it was decided to keep the station in as originally planned. Some discussions were held regarding shifting this station closer to 30th Street however, due to the changes in grade at 30th Street, a more desirable location was not found. The station site plan for the 27th Street Station is shown in Figure 9.

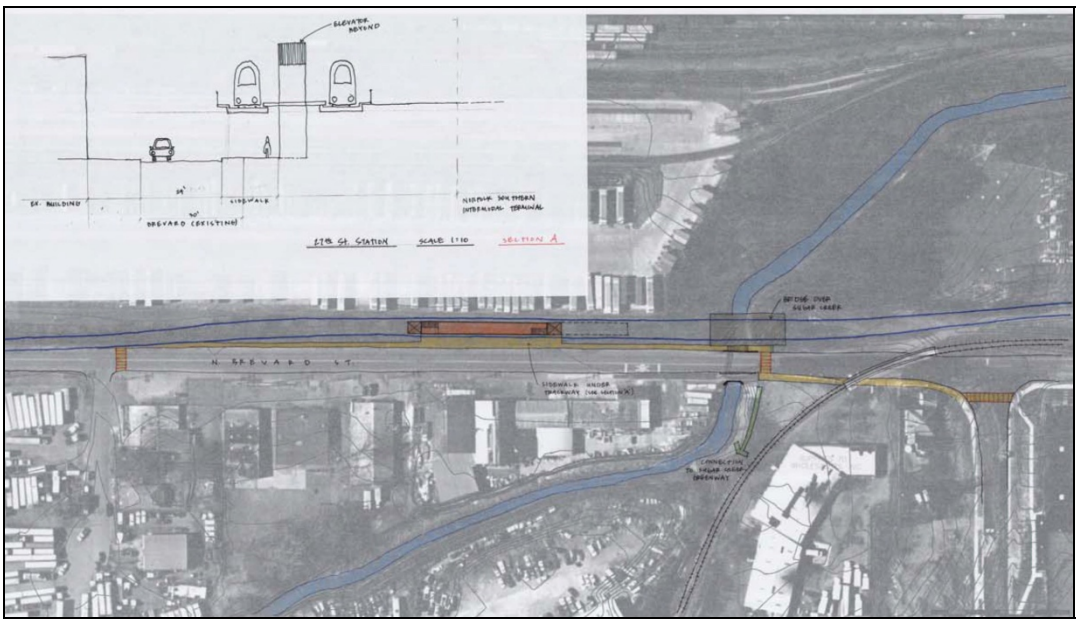
Figure 7, 27th Station Issues



Source: June 2005 Public Meeting Presentation

Figure 8, Aerial view of Little Sugar Creek, Norfolk Southern Intermodal Facility and the 27th Street Station Location

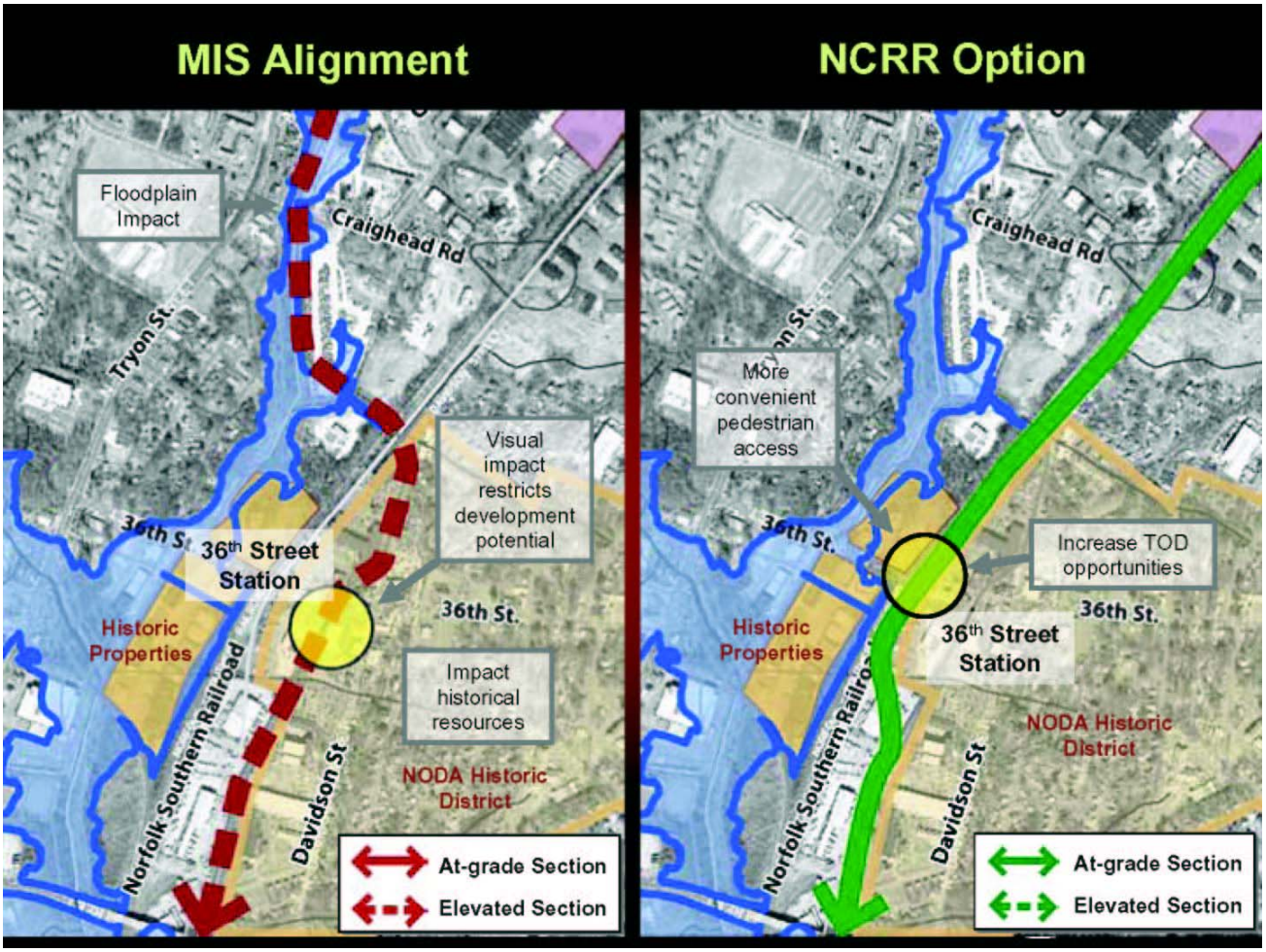
Figure 9, 27th Street Station Plan



4.4 NoDa Alignment Shifts/36th Street Station

The MIS LPA alignment in NoDa was planned to follow North Brevard Street, provide a station at N. Brevard and 36th Street, and continue onto North Davidson Street to just east of Craighead Road where it would turn north and run south of but parallel to North Tryon Street as shown in Figure 10. A large portion of this alignment was proposed to be elevated. The CMT and the Station Area Planning Team agreed that an elevated alignment through this area was not desirable from a land use/transit oriented development standpoint and that the elevated alignment unnecessarily added costs to the project. In addition, the MIS LPA alignment would have resulted in adverse impacts to the North Davidson Historic District, listed on the National Register of Historic Places, as well as to the National Register Listed Mecklenburg Mills Complex. The alignment would have resulted in a permanent use of these Section 4(f) Resources. The alignment would have traveled within the Little Sugar Creek floodplain and would also pass within close proximity to a concrete manufacturing plant that would have had negative effects on the light rail overhead contact system, resulting in increased maintenance costs.

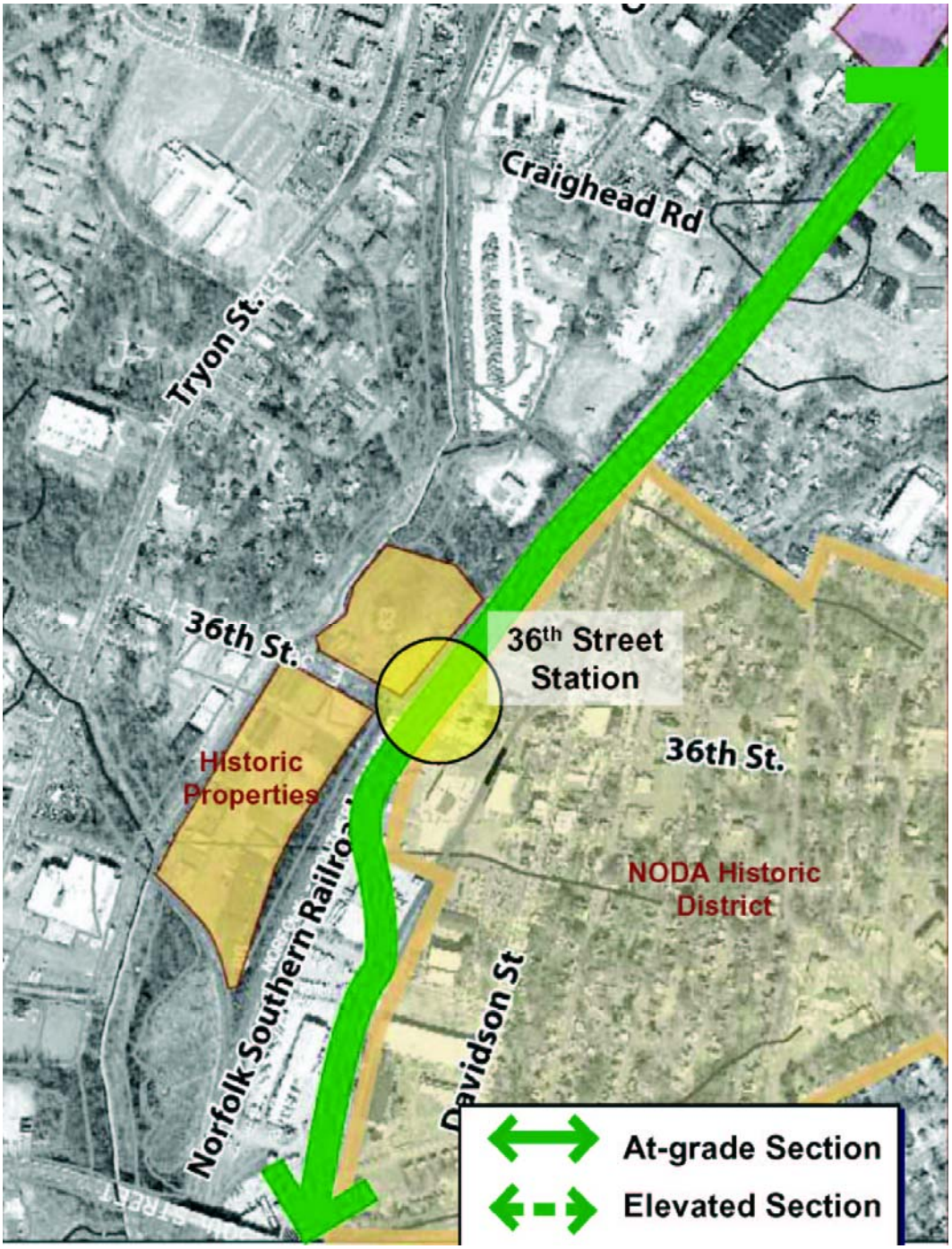
Figure 10, MIS LPA Alignment through NoDa



Source: September 2005 Public Meeting Presentation

Several alignment options were considered between North Davidson and North Tryon Streets but most were not feasible from an engineering or environmental standpoint or would not provide the best opportunity for transit oriented development. The alignment was revised to cross back into the NCRR ROW and to run adjacent to the right of way to reduce project costs and impacts to the community.

Figure 11, Alignment Shifts in NoDa and Relocated 36th Street Station



Source: June 2005 Public Meeting Presentation

4.5 NCRR and Sugar Creek Design Options, Sugar Creek and Eastway Stations

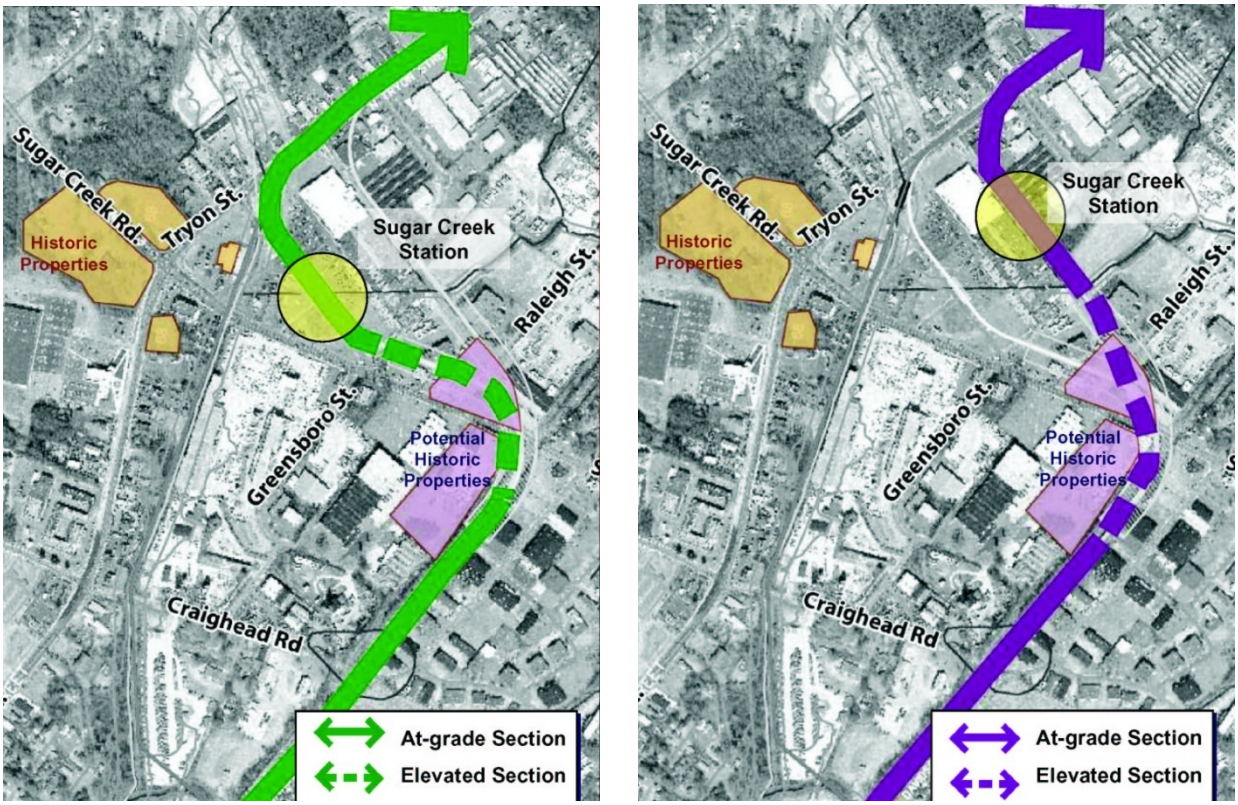
Due to the new alignment through the NoDa area as shown in Figures 10 and 11, the approach to the Sugar Creek Station location and North Tryon Street/US 29 was modified from the MIS LPA in order to avoid running on elevated track through the floodplain of Little Sugar Creek. Additionally, the MIS LPA Sugar Creek Station location would have required the demolition of the Park-n-Shop (Compare Foods) property, which is on the Study List for the National Register of Historic Places.

The revised alignment approaches the vicinity of the MIS LPA Sugar Creek Station location by way of the NCRR right-of-way. As such, the CMT identified three possible options for transitioning into North Tryon Street/US 29 and presented these options in the June 2005 public meetings:

- Option A: Through the front side of Asian Corners, as shown in Figure 12. This alignment would require the alignment to begin elevating through the shopping center parking lot in order to cross into the median of North Tryon on an elevated structure. The Station Area Planning team identified that the alignment coming in front of the shopping center at Asian Corners (located at the corner of Sugar Creek Road and North Tryon) would not be desirable for fostering development as the grade and the needed elevation prior to entering North Tryon would create a physical barrier on the site that would not allow for the maximum desirable build-out. The alignment would require the demolition of one property recommended as part of a National Register eligible historic district.

Figure 12, Sugar Creek Alignment and Station Options: A and B

Option A **Option B**



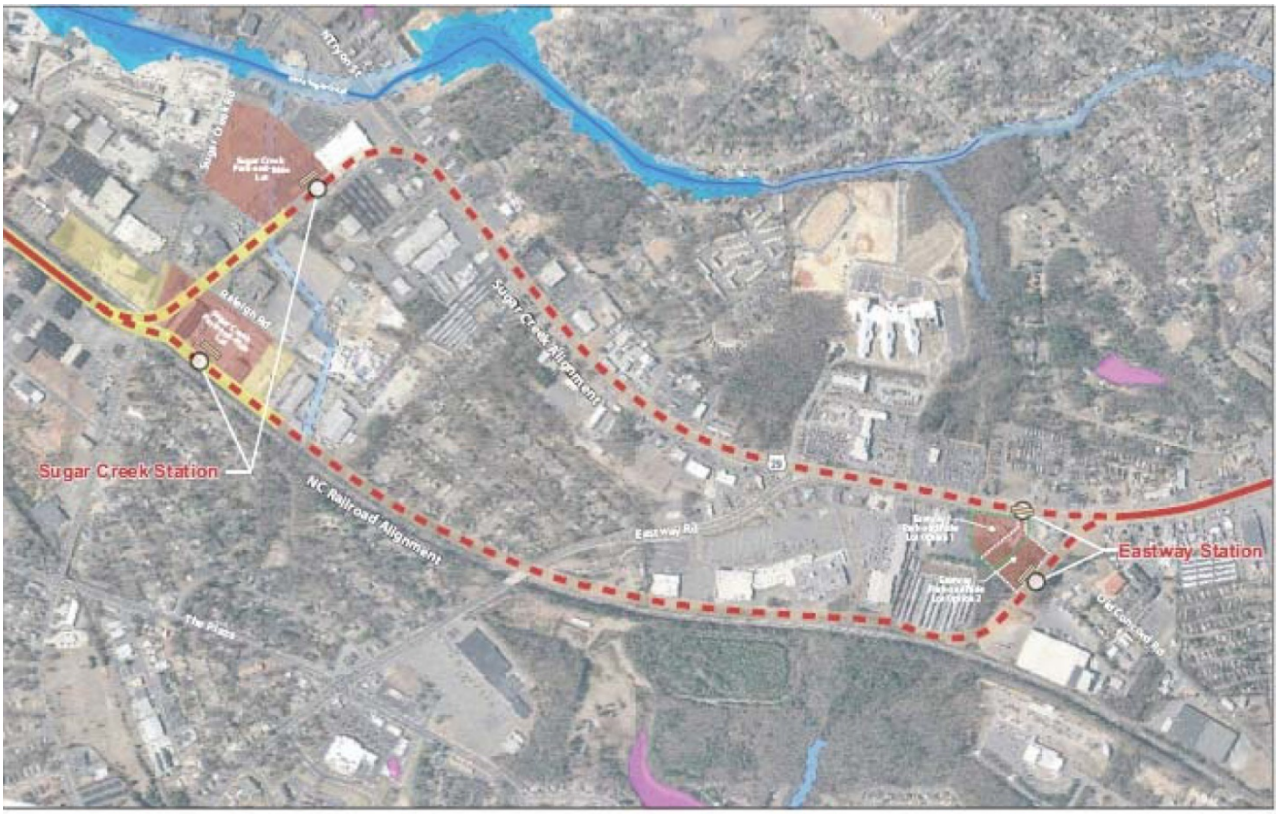
Source: June 2005 Public Meeting Presentation

- Option B: Through the back side of Asian Corners. This alignment (see Figure 12) provides development opportunities in the Asian Corners property, allowing for a larger contiguous Asian Corner property which would provide for more access and development flexibility. It would require the demolition of the Asian Corners buildings. The station would be located close to North Tryon St. Like Option A, this alignment would require the demolition of one property recommended as part of a National Register eligible historic district.

- Option C: Remain in the NCRR alignment to Old Concord Road. The Sugar Creek Station would be elevated and located on the west side of the NCRR alignment and north of Sugar Creek Road. The park-and-ride facility would be accessed from Raleigh Street. The alignment would require the demolition of one property recommended as part of a National Register eligible historic district.

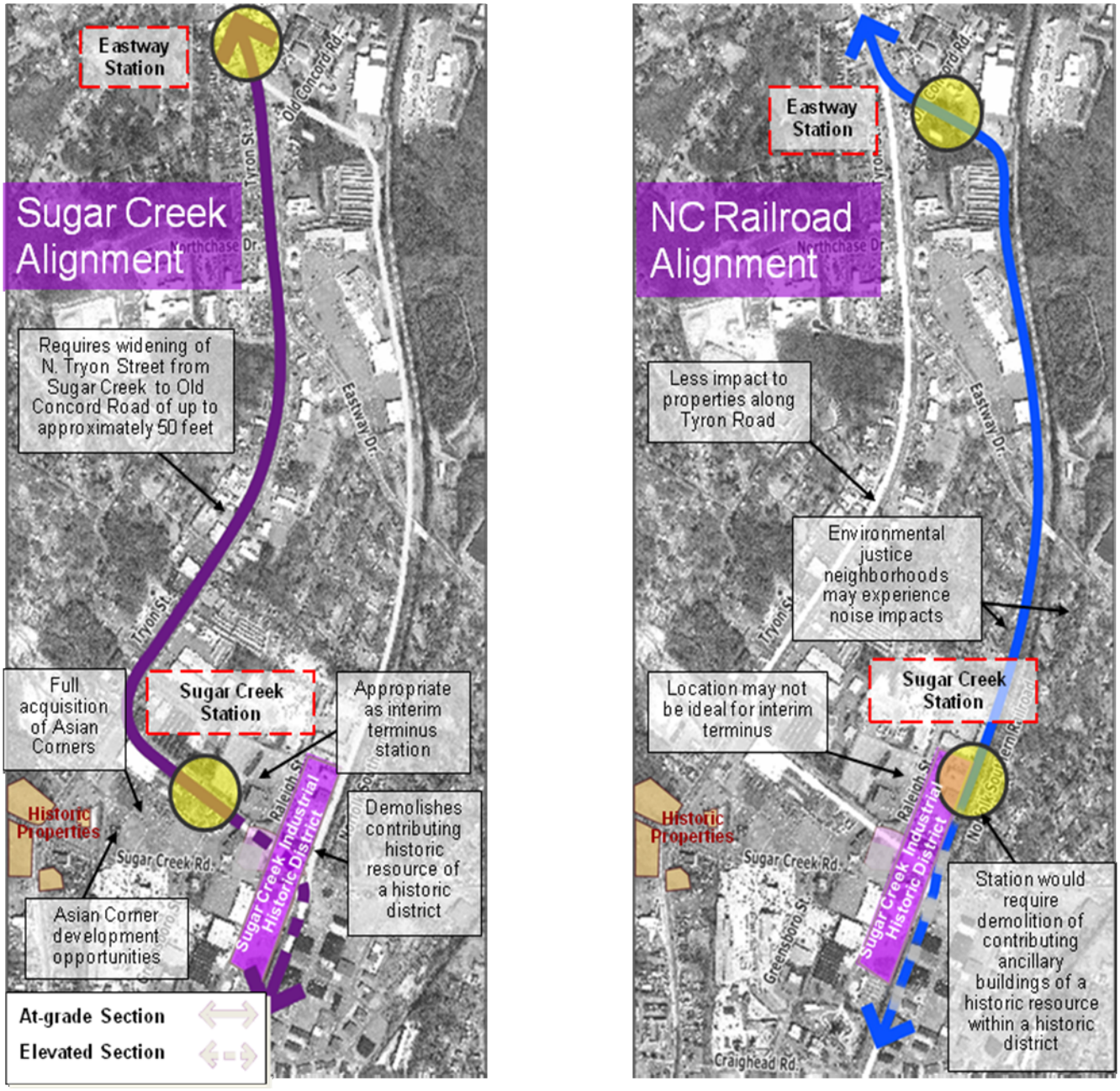
Staff recommendations presented at the June 2005 public meetings were to keep Option B and Option C for further evaluation and to eliminate further consideration of Option A. Option B, the Sugar Creek Design Option, and Option C, the NCRR Design Option, were carried forward for further evaluation. Public input obtained in the June 2005 meetings indicated that some attendees preferred the Sugar Creek Option because it would serve the Hidden Valley neighborhood and would support redevelopment along North Tryon Street. Others preferred the NCRR Option as it would offer faster run times for the LRT. Based on the public input, CATS and the CMT decided to retain both options for further study. The trade-offs associated with each of these alignment options are identified on the following page in Figure 13a and were presented during the September 2005 public meetings.

Figure 13, NCRR and Sugar Creek Design Options with Station Locations



Source: May 2006 Public Meeting Presentation

Figure 13a, NCRR and Sugar Creek Design Options and Station Locations



Source: September 2005 Public Meeting Presentation

4.5.1 NCRR Alignment, Sugar Creek and Eastway Stations

The NCRR alignment, presented as Option C in the June 2005 public meetings, was developed as an alternative to entering North Tryon Street/US 29 at Sugar Creek Road and incurring the costs of widening the roadway to accommodate light rail in this narrower portion of North Tryon Street/US 29. The alignment also improves the operational efficiency of the light rail as higher speeds can be obtained in this right-of-way over those that could be achieved in North Tryon. For these reasons, CATS

recommended this alignment for the Refined Locally Preferred Alternative (R-LPA) as described in Section 5.0. This alignment would require that the NCRR tracks be crossed, an elevated station to be located at Sugar Creek Road and the NCRR tracks, and then running adjacent to the NCRR tracks on the west side up to Old Concord Road where the Eastway Station would be located. The Eastway park-and-ride would be located between the NCRR tracks and North Tryon Street. The Sugar Creek Station, Figure 14, and the Eastway Station, Figure 15, are in the same general vicinity as the MIS LPA but do represent a slight change over the earlier planned locations.

Figure 14, Sugar Creek Station Site Plan, NCRR Alignment

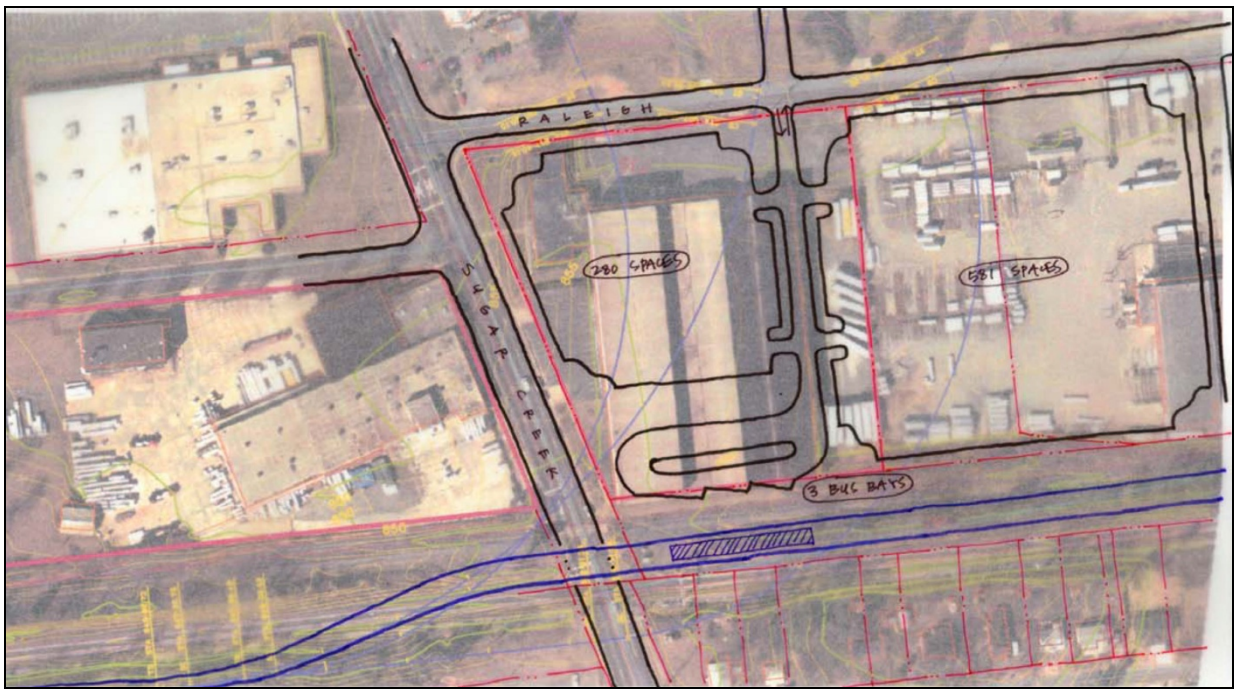


Figure 15, Eastway Station Site Plan, NCRR Alignment

4.5.2 Sugar Creek Design Option, Sugar Creek and Eastway Stations

As described in the preceding text, the CMT recommended that the Sugar Creek Design Option be carried forward into the Draft EIS for additional study. This alignment more closely follows the MIS LPA alignment as it would enter North Tryon in the same general location. The Sugar Creek Design Option stations (Sugar Creek and Eastway) are in the same general location as the MIS LPA stations. The revised location for the Sugar Creek Station avoids the impact to the Park-n-Shop National Register Eligible property but would require the acquisition and demolition of a building within a National Register Eligible Historic District. The Eastway Station is shifted south on North Tryon, just south of the intersection with Old Concord Road. Station Site Plans for the Sugar Creek and Eastway Stations for the Sugar Creek Alignment Option are shown in Figures 16 and 17. The Eastway Station platforms would be located in the median of North Tryon with a park-and-ride lot located on the eastside of North Tryon.

Figure 16, Sugar Creek Station Site Plan, Sugar Creek Design Option

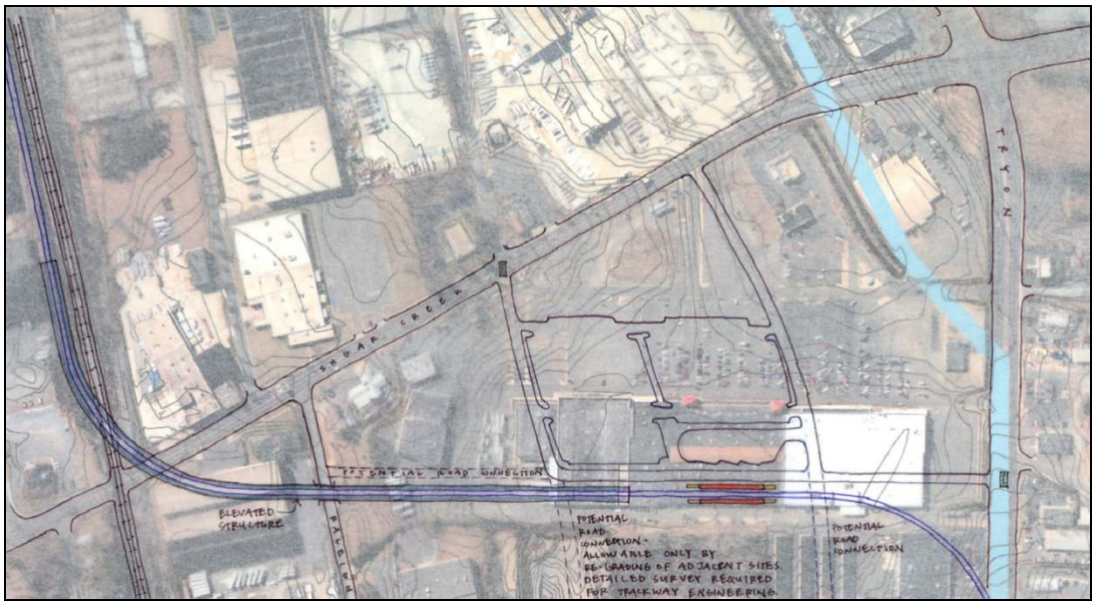


Figure 17, Eastway Station Site Plan, Sugar Creek Design Option

4.6 Tom Hunter Station

The Tom Hunter Station remains in the same location as the MIS LPA. However, the MIS design included split platforms and the design developed during conceptual engineering includes a center platform, as shown in Figure 18.

Figure 18, Tom Hunter Station Site Plan

4.7 Rocky River Station

During the course of the MIS, the light rail alignment through “the weave” configuration of US 49 and US 29 was elevated as NCDOT had planned a grade separation of this intersection. The project by NCDOT was left unfunded and the City of Charlotte advanced an at-grade intersection improvement in attempts to improve the geometry of the roadways, as shown in Figure 19. The CMT coordinated the light rail design with the CDOT and developed a design that accommodated both light rail and the signalized at-grade intersection. The Rocky River Station, see Figure 20, was added in order to capture trips coming from I-85 heading either to the Center City or to the University area. This station was not included in the MIS LPA.

Figure 19, Conceptual Design of the 29/49 At-Grade Configuration

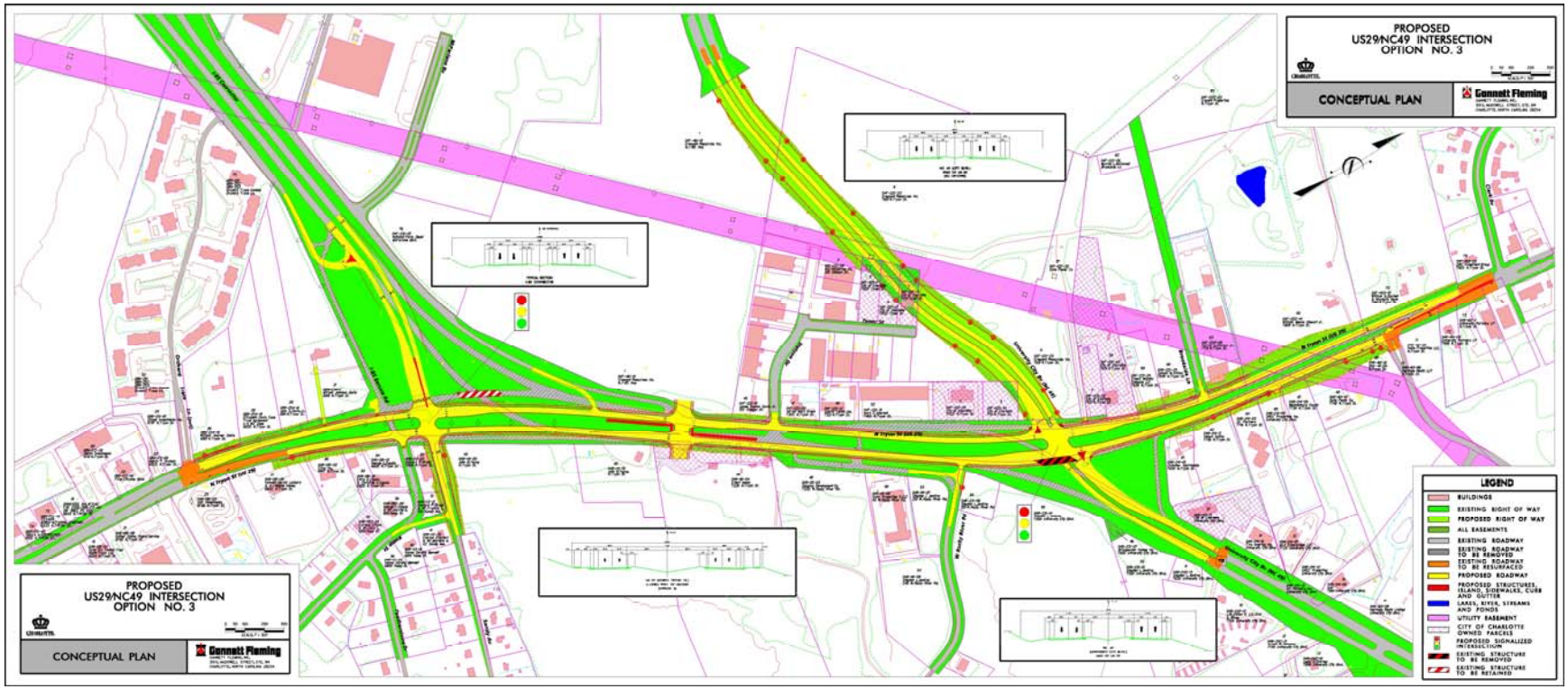
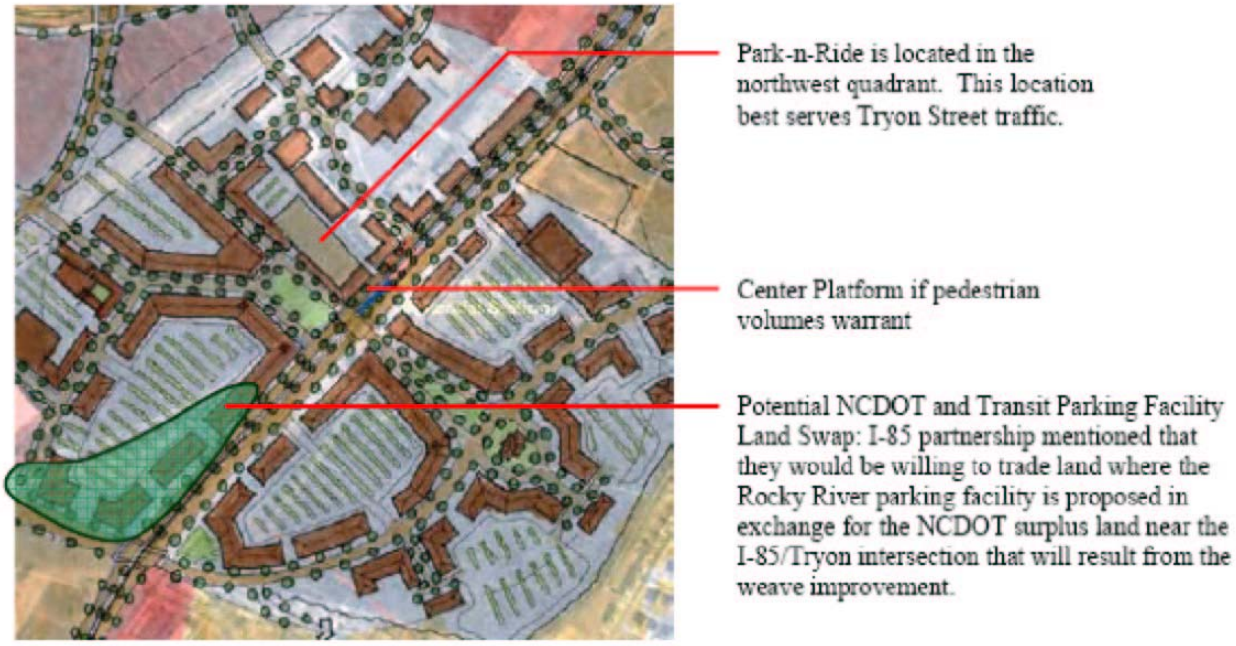


Figure 20, Rocky River Station



Source: US29/49 Land Use Charette Summary, October 20-21, 2005

4.8 City Boulevard Station

The University City Boulevard Station location remains the same as in the MIS LPA; however, an additional park-and-ride location across the street from the MIS LPA location was identified during the conceptual engineering efforts. Station Site Plans for these options are provided in Figures 21 and 22. Option 1 is the original MIS LPA location. Option 2 is the added park-and-ride location option.

4.9 McCullough Station

The McCullough Station was included in the MIS LPA and was planned to be located between the City Boulevard Station and the W.T. Harris Station. The Station Area Planning Team recommended that consideration be given to reducing the number of stations in the University City area from four to three because the stations in this area had overlapping service areas, see Figure 23, which would only result in additional project costs and longer light rail run times. The team also recommended shifting the W.T Harris Station slightly south to Ken Hoffman Drive in order to enhance transit oriented design opportunities and to take advantage of development activities that had occurred since the MIS. Therefore, the concept of reducing the University area stations from four down to three was presented in the June and September 2005 public meetings. No attendees objected to the recommendation and therefore, the MIS LPA planned McCullough Station was eliminated.

Figure 21, City Boulevard Station, Option 1

Figure 22, City Boulevard Station, Option 2

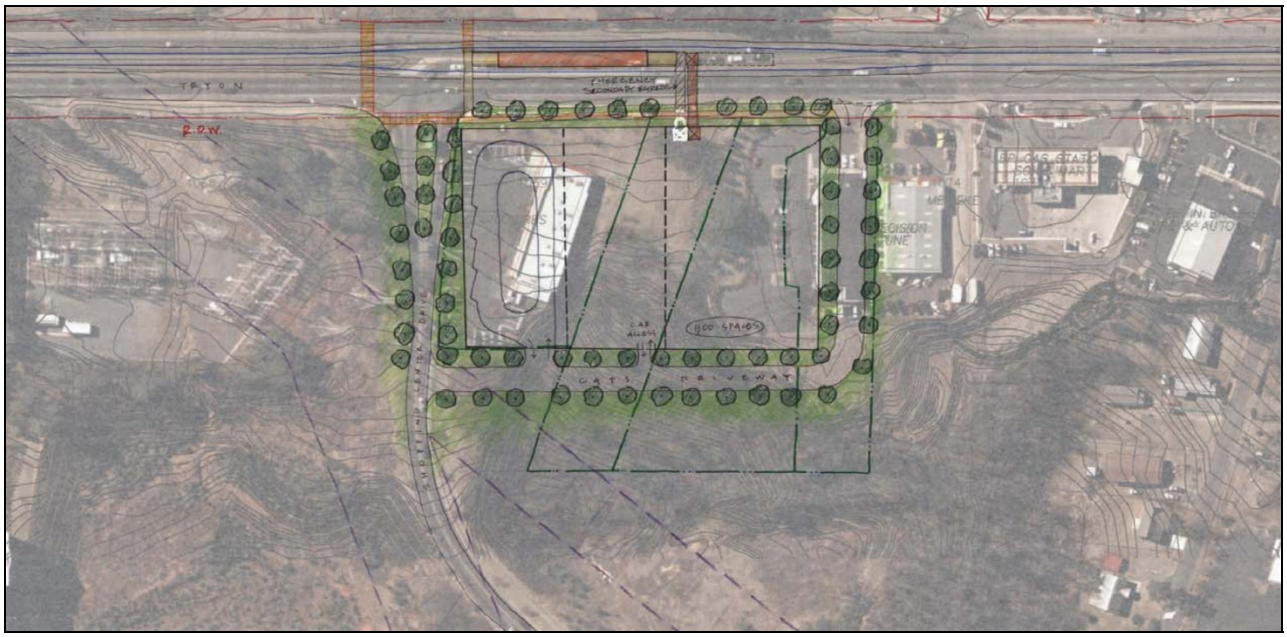
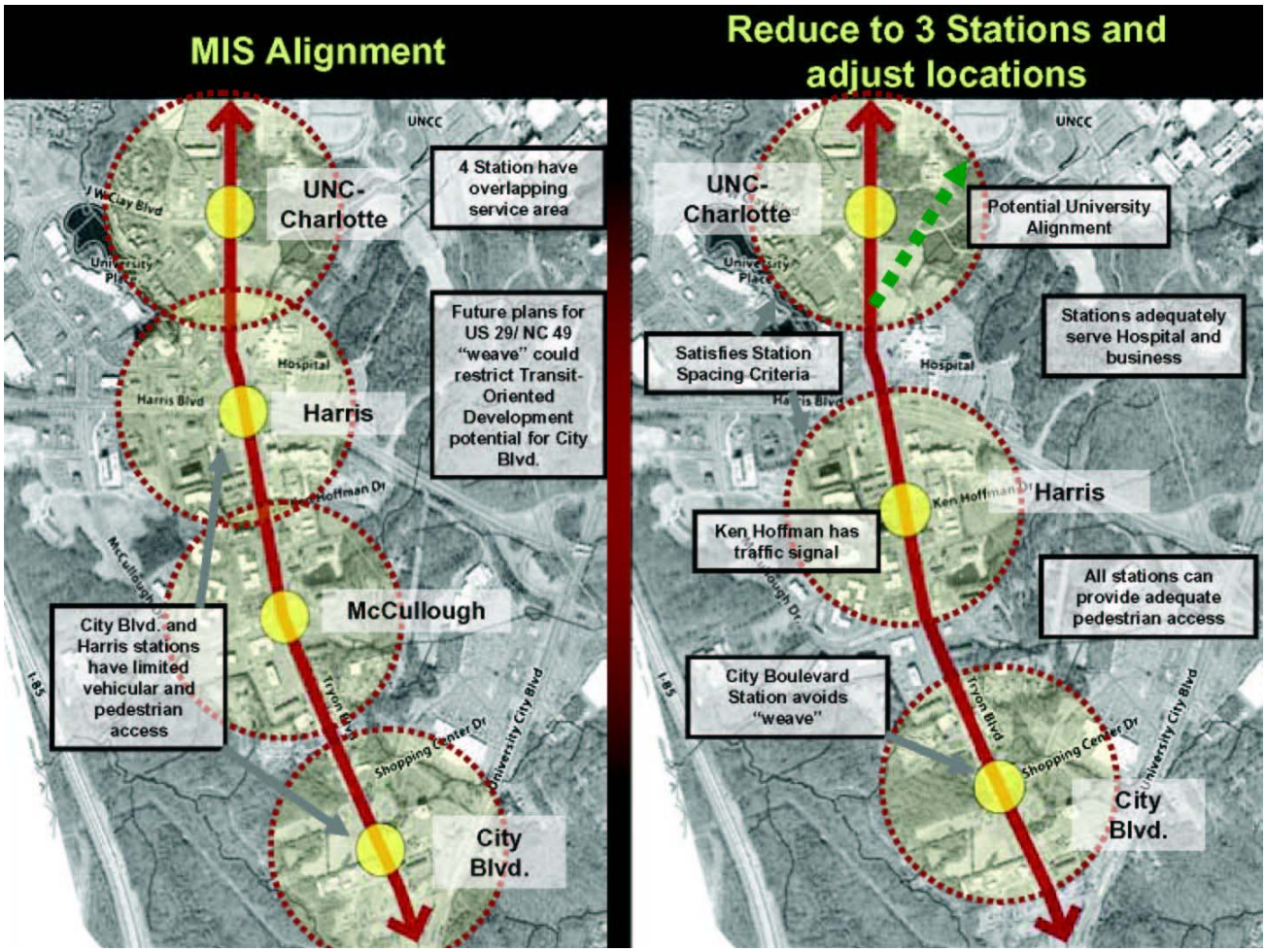


Figure 23, University Station Spacing Options



Source: September 2005 Public Meeting Presentation

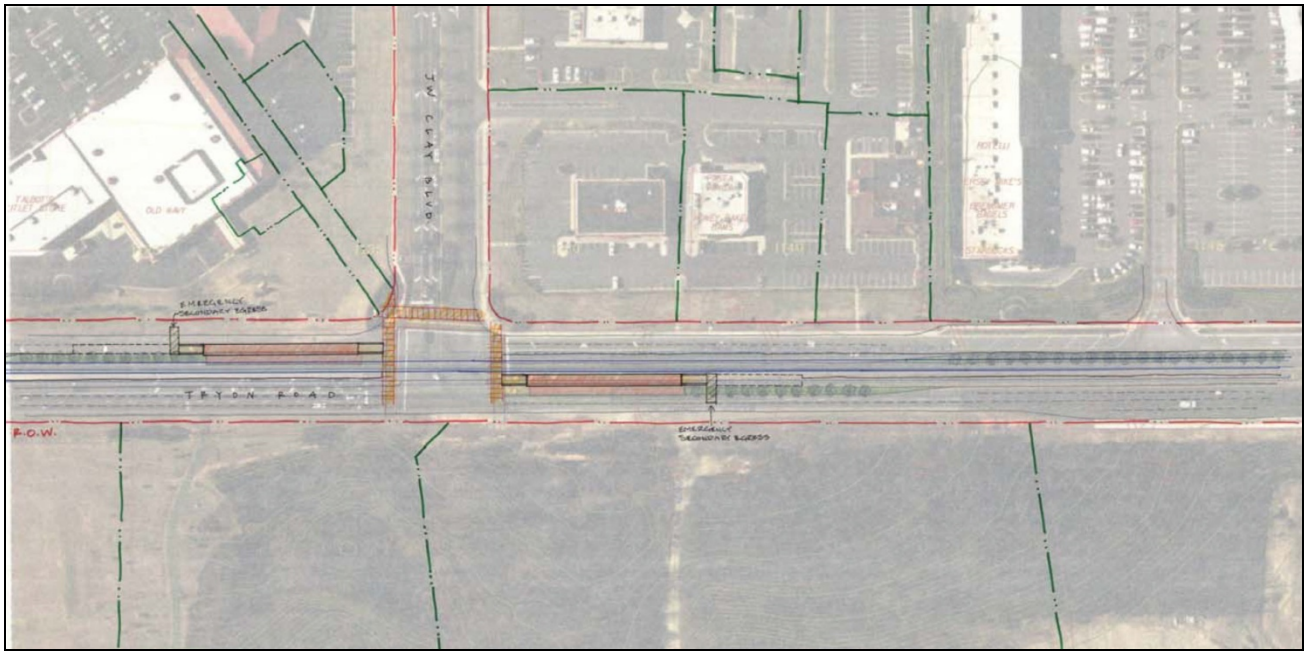
4.10 Harris Boulevard Station

The Harris Boulevard Station was planned to have split platforms on each side of W.T. Harris in the MIS LPA. The Station Area Planning Team recommended that the station be shifted closer to Ken Hoffman Drive to take advantage of a traffic signal and greater opportunities for transit oriented development, as shown in Figure 23. The planned park-and-ride lot at W.T. Harris was eliminated as local plans by the University City Partners indicate that a pedestrian-oriented, village concept is envisioned for this area. The Station Site Plan for the Harris Boulevard Station is provided in Figure 24.

4.11 University North Carolina Charlotte Alignment and Station

Public comments made during the February/March 2005 kick-off meetings, and subsequent comments in following public meetings, led to the re-examination of an on-campus alignment to serve the University of North Carolina-Charlotte (see Section 3.3). Meanwhile, at the same time, UNC Charlotte was undergoing a new campus master planning effort. The new campus master plan called for less parking, more buildings, more pedestrian connections, on-campus mixed use developments, and a new entrance to the university from North Tryon Street/US 29. These elements opened the door for new planning opportunities to be coordinated. CATS and the

Figure 24, Harris Boulevard Station



UNC Charlotte leadership developed a charette process by which faculty, alumni, students, the CMT, and facility planners worked together to identify and examine potential on-campus alignments and stations. The charette process included the development of goals and objectives and evaluation criteria consistent with both those of the NECLRP and the campus master plan. Several alignments were examined. A public meeting was held in May 2006 to gather input on an on-campus alignment. Meeting attendees strongly preferred the on-campus alignment and in July 2006, the University Chancellor addressed the Metropolitan Transit Commission offering the University's support for such an alignment. Figure 25, illustrates the preferred on-campus alignment. The full report can be viewed in Appendix D. A North Tryon Median Design Option will be carried forward in the Draft EIS to examine the differences between the University alignment and the North Tryon Median Design Option. The MTC selected the University alignment as the preferred option.

4.12 Mallard Creek Church Road

The Mallard Creek Church Road Station remains in the same general location as the MIS LPA. However, an additional option located just to the south of the MIS LPA location was added for consideration during conceptual engineering. Figure 26 shows the two station location options under study. Under the North Tryon Median alignment, the station would be located in the median of North Tryon St. Under the UNCC alignment, the station would be located on the east site of North Tryon Street. The park and ride lot, with bus bays, may be located on the west or east side of North Tryon Street.

4.13 I-485 South Station or Northern Extension to I-485 North Station

The MIS LPA crossed over I-485 to Salome Church Road. In order to save costs associated with building a structure and tracks to cross over I-485, the CMT developed an option that would stop just short of I-485. This option would utilize NCDOT remnant land as shown in Figure 27. On the north side, the station was shifted from Salome Church Road to the north to Pavilion Boulevard to take advantage of undeveloped land with greater TOD opportunities and special events. The MTC selected the option on the south side of I-485 due to the associated cost savings with this option.

Figure 25, UNC Charlotte Alignment and Stations

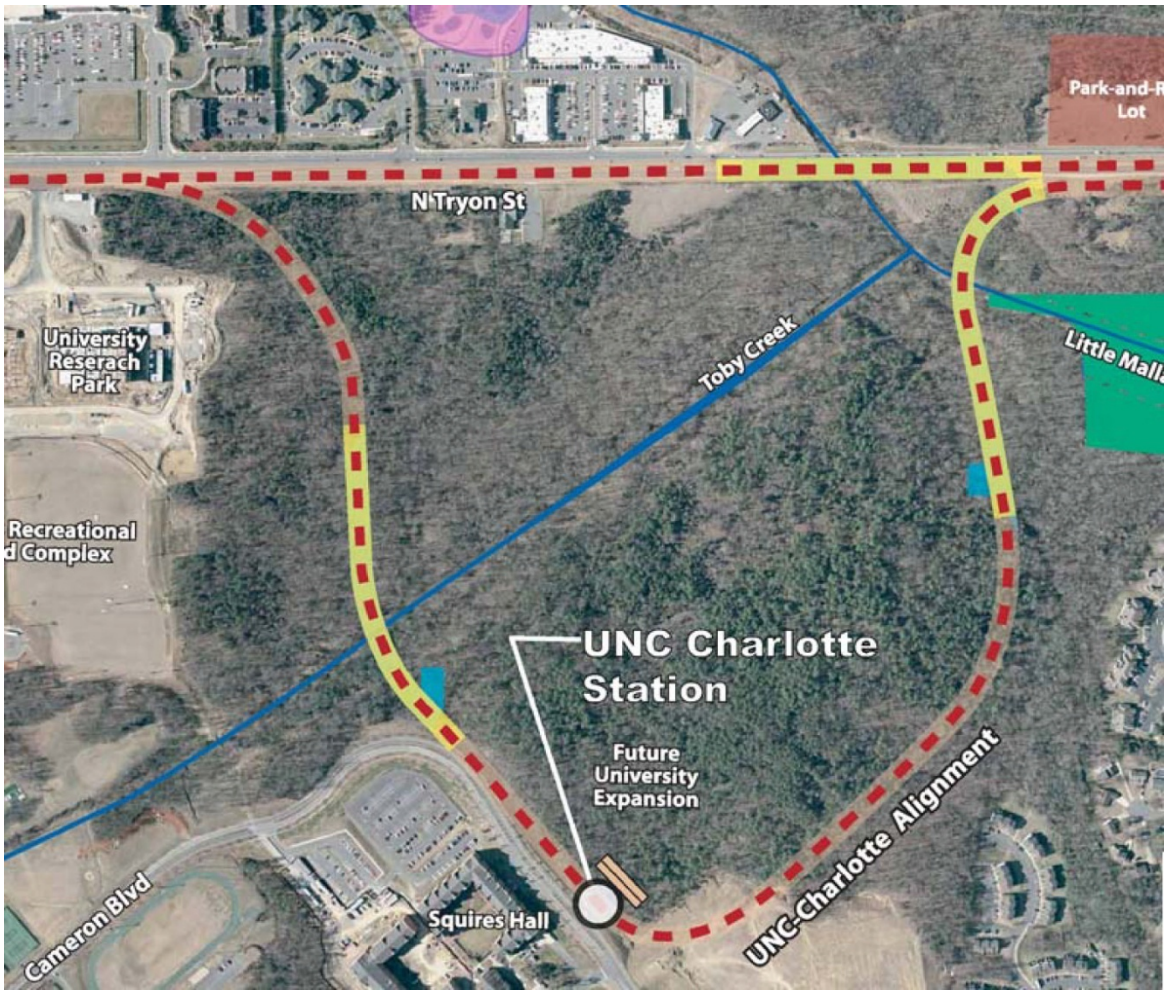


Figure 26, Mallard Creek Church Station Options 1 and 2

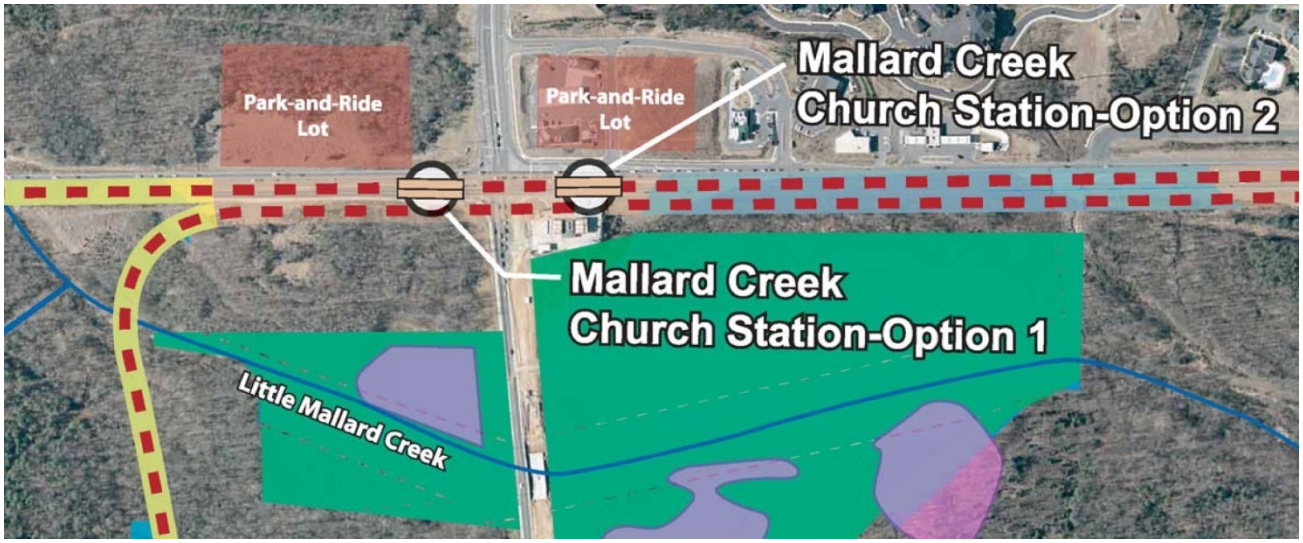


Figure 27, I-485 Terminus Location Options

5.0 REFINED LOCALLY PREFFERED ALTERNATIVE

The Refined Locally Preferred Alternative (R-LPA), as shown in Figure 28, would provide approximately 11 miles of light rail service and 14 light rail stations. This R-LPA represents the changes that have occurred since the adoption of the MIS LPA in 2002. The refinements that resulted from the conceptual engineering efforts and the continued public and agency coordination are summarized as follows:

- Shifting the MIS LPA alignment in the NoDa area away from Davidson Street, the Norfolk Southern intermodal yard, and the Little Sugar Creek floodplain to the NCRR right-of-way between 30th Street and Sugar Creek Road. These changes also included eliminating the elevated alignment and designing the new alignment to be at-grade adjacent to the Norfolk Southern alignment in order to reduce project costs and avoid impacts to the Little Sugar Creek Greenway and floodplain;
- Transitioning from the NCRR to North Tryon Street either near Sugar Creek Road, called the Sugar Creek Alignment Option, to potentially create an opportunity for redevelopment at Sugar Creek and along North Tryon Street; or to transition from the NCRR to North Tryon Street at Old Concord Road (initially called the Eastway Alignment Option then later called the NCRR Alignment Option) in order to avoid impacts to historic resources located at Sugar Creek Road and to reduce the need to widen North Tryon Street, and the costs associated with this activity, between Sugar Creek and Old Concord Road;
- Reducing the number of stations in the University City area from four to three to avoid station service overlaps, decrease light rail run times, and reduce project costs; and shifting the City Boulevard Station north to Shopping Center Drive and the Harris/University City Station south to Ken Hoffman Drive in order to enhance transit-oriented design opportunities and take advantage of development activities that were initiated after the completion of the MIS;
- Adding a station near Rocky River Road to take advantage of the City's planned reconfigured at-grade, signalized intersection that was designed and funded following the completion of the MIS;
- Modifying the alignment at the UNC Charlotte to compliment and coordinate with the University's revised Master Plan that plans for a new entrance on North Tryon Street/US-29 as well as plans for on-campus mixed use development.
- Identifying a preferred terminal station option that is south of I-485 to avoid the cost of constructing a bridge over I-485. The alternate station location shifts the MIS terminal station north of the MIS location at Salome Church Road to Pavilion Boulevard to take advantage undeveloped land with greater TOD opportunities.

The changes of the station locations from the original MIS LPA are presented in Table 2.

Figure 28, Refined Locally Preferred Alternative

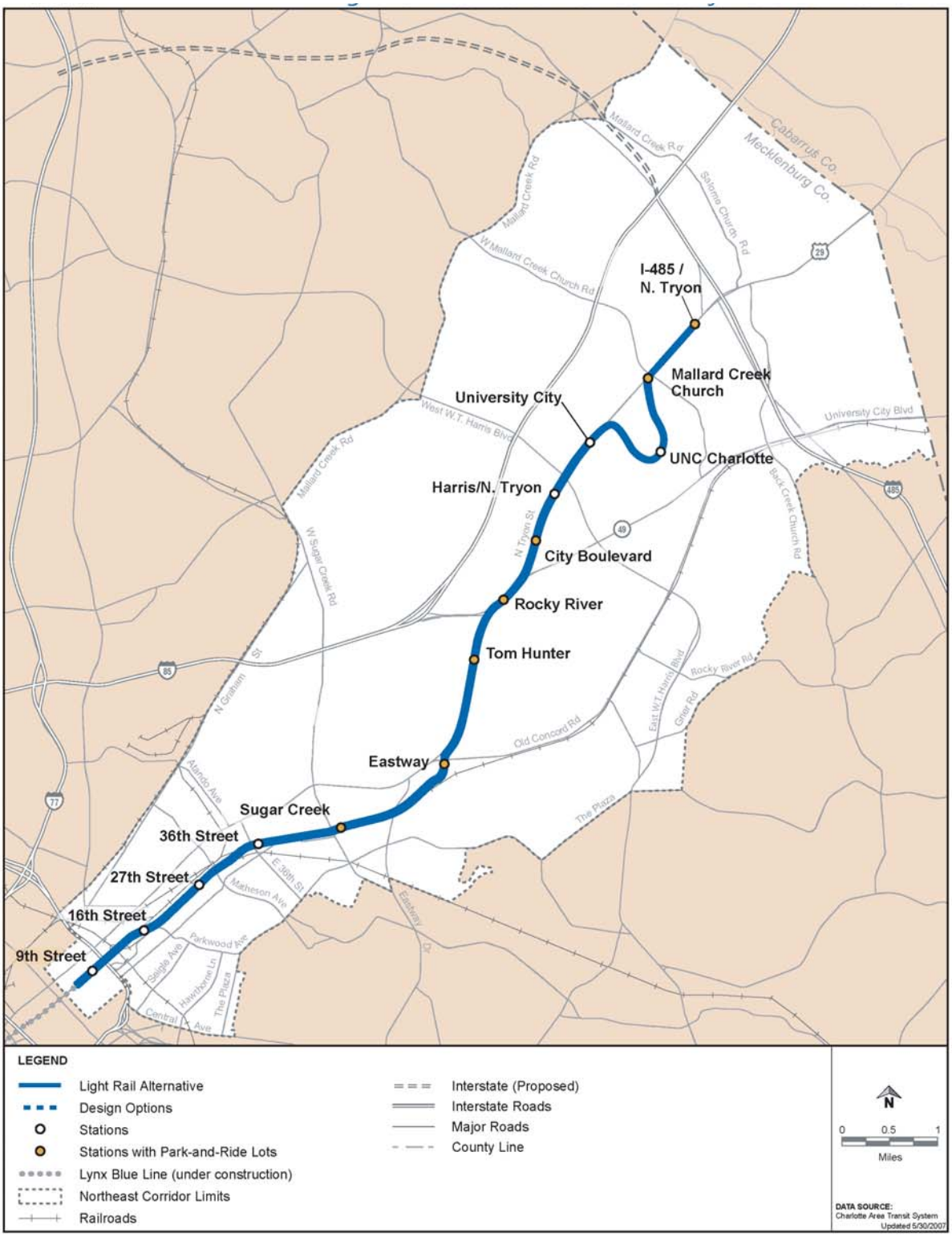


Table 2, Summary of Station Location Changes from MIS LPA

Station	Description of Change from MIS LPA Station Location
9th Street Station	Originally planned at 7th Street, the station was shifted 2 blocks to the east.
16th Street Station	No change
27th Street Station	MIS LPA location was at 28th Street close to the Little Sugar Creek Greenway and floodplain. The station was shifted to the west to 27th Street.
36th Street Station	MIS LPA location was closer to Brevard and 36th Street; the revisions to the alignment to remain adjacent to the NCRR require the station to be at 36th Street and NCRR.
Sugar Creek Station – Sugar Creek Option	The MIS LPA location is in the front parking lot of the Asian Corners. It would have required the demolition of a National Register Listed Historic building. The revised alignment from the NCRR alignment to North Tryon St. would would require the demolition of a recommended National Register Eligible structure within a recommended district.
Sugar Creek Station – NCRR Option	The station location is shifted to the south adjacent to the NCRR tracks.
Eastway Station – Sugar Creek Option	Located slightly south of the MIS LPA.
Eastway Station – NCRR	Located off of Old Concord Rd, south of the MIS LPA location.
Tom Hunter Station	No change.
Rocky River Road Station	Added during Conceptual Engineering.
University City Station	No change. Added an option east of North Tryon Street/US 29.
McCullough Station	Eliminated.
Harris Blvd Station	No change.
UNCC Station – North Tryon Option	No change.
UNCC Station – UNCC Option	Added during Conceptual Engineering.
Mallard Creek Church Road	No change. Added an option to the south of the MIS LPA location.
I-485 South Station	Station option added during conceptual Engineering to avoid bridge costs over I-485. Located approximately 500 feet south of MIS LPA station
I-485 North Station	No change.

6.0 ADOPTION OF THE REFINED LOCALLY PREFERRED ALTERNATIVE AND ADOPTION OF THE *2030 TRANSIT CORRIDOR SYSTEM PLAN*

On June 28, 2006, the MTC adopted the Refined LPA for the Northeast Corridor as identified in Figure 28. This Refined LPA, and Refined LPA's for each of the other corridors being studied by CATS, were incorporated into the agency's *2030 Transit Corridor System Plan* that was reviewed during a public hearing on October 25, 2006 and adopted by the MTC on November 15, 2006. The *2030 Transit Corridor System Plan,* as shown in Figure 29, includes the prioritization of the region's transit projects for each corridor, a plan for implementation based on updated capital cost estimates, and the source of funding for each transit corridor. The plan identifies the Northeast Corridor as the Lynx Blue Line Extension and states that construction is planned for completion in 2013 from the Center City to I-485. A copy of the MTC resolutions adopting the refined LPA and the 2030 Corridor System Plan is contained in Appendix E.

The refined LPA will be represented in the Draft EIS as the base alignment for the Light Rail Alternative. Three design options are also under consideration and are recommended for inclusion into the Draft EIS as more detail on the social, economic, and environmental impacts of these design options should be considered with public input. Figure 30, shows the three design options to be carried forward into the Draft EIS: 1) Sugar Creek; 2: North Tryon Median; and 3: I 485 North.

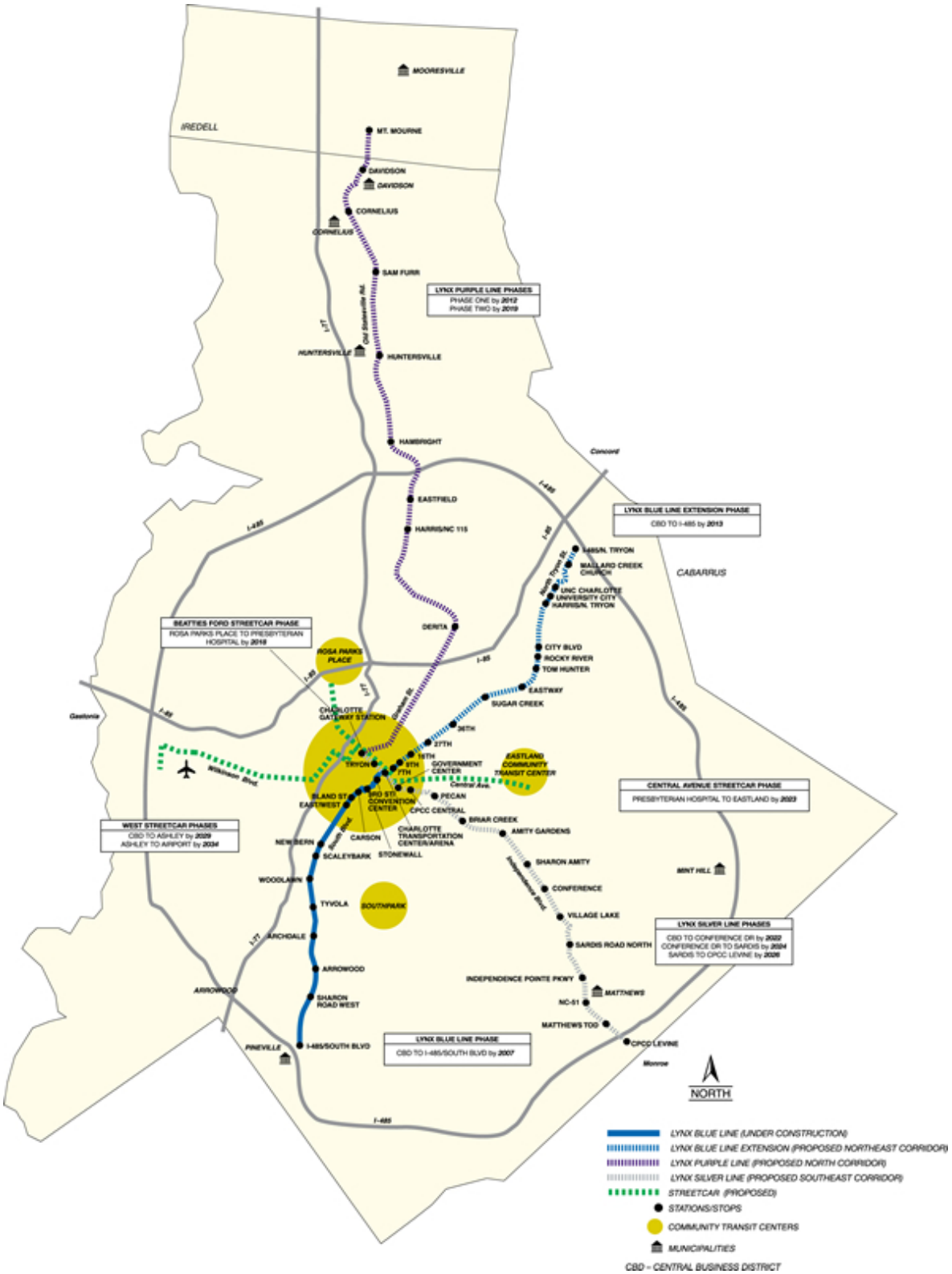
7.0 NEXT STEPS

CATS is requesting permission from FTA to enter the Preliminary Engineering phase of the project to gather more detailed engineering data to complete the Draft Environmental Impact Statement. During preliminary engineering, the following information will be completed for each of the Draft EIS Alternatives:

- Updated capital cost estimates;
- Updated ridership and transportation system user benefits;
- Identify right-of-way acquisitions; and,
- Detailed results of the potential social, economic, and environmental impacts.

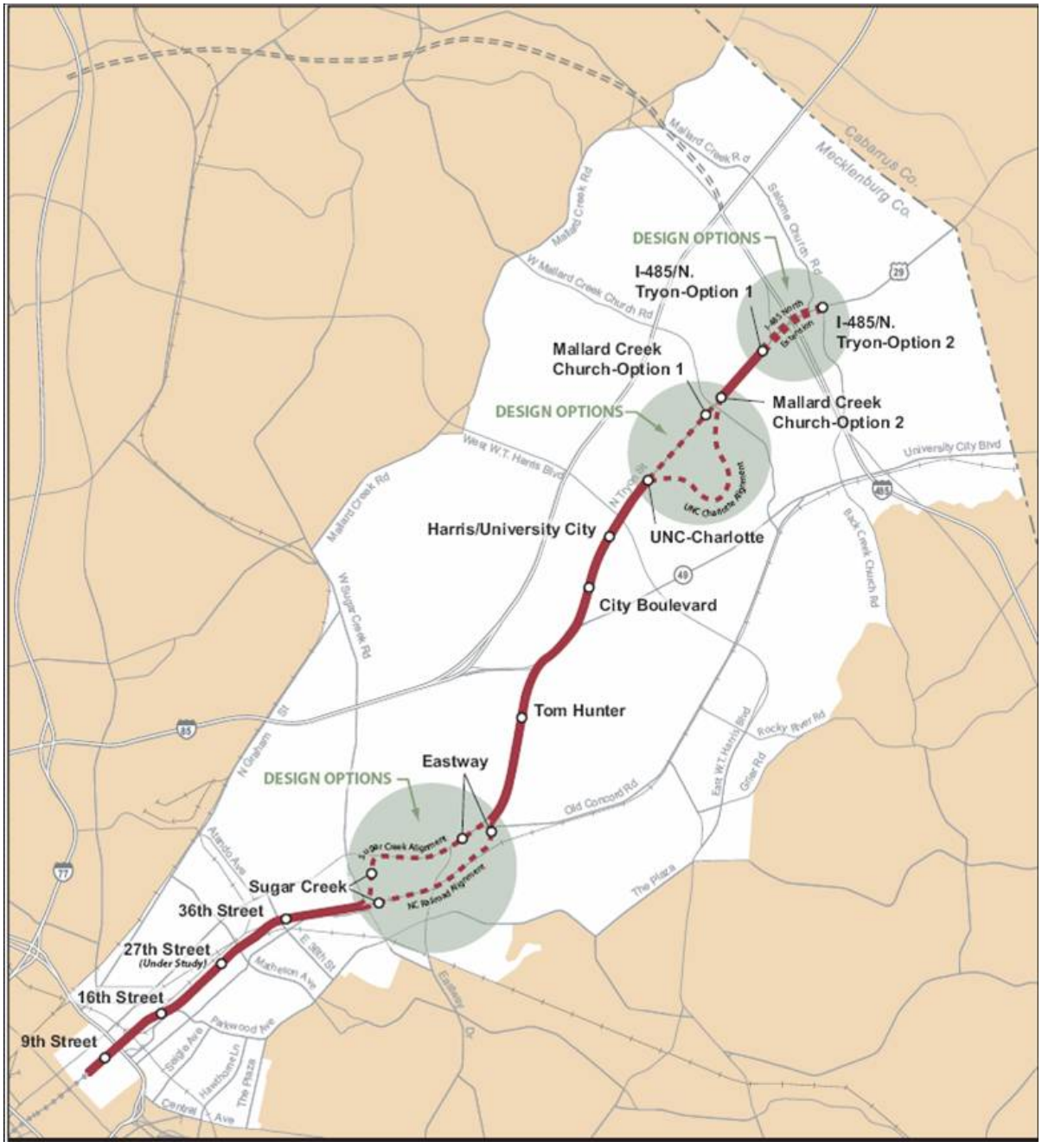
The Draft EIS will be circulated to all federal, state, and local governments having jurisdiction of the project corridor, as well as all interested and affected parties. A 45-day public circulation period will allow for the receipt of written comments and a public hearing will be held to receive comments from the public and interested agencies regarding the alternatives presented in the Draft EIS. Following the 45-day circulation period, comments on the Draft EIS will be presented to the Metropolitan Transit Commission for the selection of the Preferred Alternative. A Final EIS will be prepared on this final selection of a Preferred Alternative.

Figure 29, *2030 Transit Corridor System Plan*



Source: www.ridetransit.org

Figure 30, Refined Locally Preferred Alternative with Design Options



Final Adopted Version

RESOLUTION
No. 2002-11

ADOPTING A 2025 CORRIDOR SYSTEM PLAN INCLUDING LOCALLY PREFERRED ALTERNATIVES FOR THE NORTH, NORTHEAST, SOUTHEAST, AND WEST CORRIDORS AND AN IMPLEMENTATION PLAN

A motion was made by Mayor Myers and seconded by Mayor Biggers for the adoption of the following resolution, and upon being put to a vote was duly adopted.

WHEREAS, the Center and Corridors Land Use strategy, adopted in 1994, established five primary corridors for future transit investment; and

WHEREAS, in 1998, the 2025 Integrated Transit/Land Use Plan was prepared and formed the basis for local elected officials approving a ballot referendum for public transportation financing; and

WHEREAS, the residents of Mecklenburg County approved in November 1998 the half cent sales tax to be used for improvements to the public transportation system, including rapid transit; and

WHEREAS, in February 2000, the Metropolitan Transit Commission adopted Light Rail as the Locally Preferred Alternative for the South Corridor; and

WHEREAS, Major Investment Studies of various alternative alignments and technologies have been conducted for the remaining four corridors including the North, Northeast, Southeast, and West Corridors in accordance with Federal Transit Administration requirements; and

WHEREAS, the Metropolitan Transit Commission adopted in October 2001 the Evaluation Criteria to be used in selecting the appropriate transit alignment and technology in each corridor and developing the overall Corridor System Plan and Implementation Plan; and

WHEREAS, based upon the results of the Major Investment Studies and public involvement process, the Chief Executive Officer has recommended a 2025 Corridor System Plan that designates individual Locally Preferred Alternatives for the remaining four corridors and identifies additional transit system improvements designed to form the foundation for a regional transit system including a plan for integrating the corridor improvements together in the downtown Charlotte area and operational improvements along the two highest existing ridership bus routes; and

WHEREAS, the Chief Executive Officer has recommended a plan for implementing the corridor and transit system improvements in phases between now and the year 2025; and

WHEREAS, the recommended System Plan is consistent with the goals of the 2025 Integrated Transit/Land Use Plan; and

WHEREAS, the recommended 2025 Corridor System Plan is financially feasible within the capacity of the half cent transit sales tax assuming significant assistance from the Federal Transit Administration and the State of North Carolina on capital improvements; and

WHEREAS, adoption of a Corridor System Plan, including selection of the Locally Preferred Alternative for the North, Northeast, Southeast, and West Corridors, is essential to achieve future financial assistance from the Federal Transit Administration and the State of North Carolina; and

WHEREAS, implementation of specific elements of the 2025 Corridor System Plan will be subject to the review and approval of the Federal Transit Administration;

NOW, THEREFORE, be it resolved by the Metropolitan Transit Commission that:

A. The 2025 Corridor System Plan shown in Attachment A is hereby adopted.

B. The Locally Preferred Alternatives for each corridor described in Attachment A are hereby approved and adopted.

C. Pursuant to the Special Provisions in Attachment A, Preliminary Engineering for the Southeast and West Corridors will evaluate both light rail and bus rapid transit service on rapid transitways in these corridors.

D. The Implementation Plan for the 2025 Corridor System Plan shown in Attachment B is hereby adopted subject to the Federal Transit Administration's approval of specific elements of the 2025 Corridor System Plan for implementation with Federal funding.

E. This Resolution shall take effect immediately upon its adoption.

Attachment A - 2025 Corridor System Plan
Attachment B - Implementation Plan

I, H. Parks Helms, MTC Chairman do hereby certify that the above is a true and correct copy of an excerpt from the minutes of a meeting of the Metropolitan Transit Commission, duly held on November 20, 2002.

Signature of MTC Chairman

METROPOLITAN TRANSIT COMMISSION
ACTION ITEM

STAFF SUMMARY

SUBJECT: **Adopting a 2025 Corridor System Plan including Locally Preferred Alternatives for the North, Northeast, Southeast, and West Corridors and an Implementation Plan**

DATE: November 20, 2002

1.0 **PURPOSE/SCOPE:** This Action Item adopts a 2025 Corridor System Plan that includes the Locally Preferred Alternative (LPA) in the North, Northeast, Southeast, and West corridors, and additional transit system improvements that will create the foundation for a regional public transportation system.

2.0 **BACKGROUND/JUSTIFICATION:** The recommendations presented to the MTC on September 18, 2002 are the product of over two years of land use and transit planning work and an extensive public involvement process. They were designed to achieve the promises made to the citizens in the 2025 Integrated Transit/Land Use Plan prepared in 1998 when the half cent sales tax was passed including:

Put in place by 2025 an expanded public transit system including rapid transit in the five major travel corridors;
Build and operate the expanded system within the revenues from the half cent sales tax; and

- Tie development of the transit system to land use planning in support of the Centers and Corridors Land Use Plan.

CATS staff and consultants completed Major Investment Studies in each of the four remaining corridors from the 2025 Integrated Transit/Land Use Plan. These studies were conducted in accordance with FTA standards. Recommendations on specific transit improvements were developed using the results of these studies and the evaluation criteria approved by the MTC in fall 2001. The proposed 2025 Corridor System Plan is summarized in Attachment A hereto. The recommended Implementation Plan for the proposed 2025 Corridor System Plan is shown in Attachment B.

A public hearing on the proposed 2025 Corridor System Plan was held on October 2, 2002 and a public comment period was conducted until October 25, 2002. Forty-four people testified at the public hearing and a total of 165 comment submissions were received following the hearing. The vast majority of these comments from the public supported the implementation of rail services, particularly light rail in the Southeast Corridor, rather than Bus Rapid Transit services. A number of specific questions and issues were raised which have been responded to by CATS staff.

PROCUREMENT BACKGROUND: Not Applicable

POLICY IMPACT: The rapid transit corridors are a key element of the 2025 Integrated Transit/Land Use Plan. The MTC will be approving the Locally Preferred Alternative for each corridor as well as an overall system plan and implementation plan. The Locally Preferred Alternative decisions being made will shape the growth of the region over the next 50 plus years.

With these decisions, the MTC will be establishing policy regarding:

- the alignment and transit technologies to be implemented in each corridor
- the general timing on when transit improvements will be implemented
- the parameters of the 20+ year financial plan (capital and operating).

In addition, there are policy issues concerning the development of public transportation facilities into the surrounding counties (i.e. cost sharing) that are imbedded in the recommended 2025 Corridor System Plan and that were raised during the public review period. These issues are addressed to the extent possible at this time in Attachment A and will require additional work as indicated.

ECONOMIC IMPACT: The estimated costs of the proposed 2025 Corridor System Plan and the projected sources of funding to cover these costs is shown in Attachment C. The investment of the amounts of money shown will have a significant positive impact upon the local economy thru direct multiplier effects and by helping to sustain the region's economic growth in the years ahead by improving mobility and supporting more intensive land development patterns.

6.0 ALTERNATIVES: The primary alternatives, as presented at the October 30, 2002 meeting are:

1. Adopt the recommended 2025 Corridor System Plan as presented
2. Modify specific elements of the recommended 2025 Corridor System Plan

Any modifications to the recommended 2025 System Plan must be financially feasible within the resources available to CATS. Specific modifications may require adjustments to the Implementation Plan, which could in turn also have financial ramifications.

RECOMMENDATION: Attachments A and B contain the recommendations originally made by CATS staff on September 18th. In addition, Attachment A contains a section on "Special Provisions" designed to address some of the issues raised during the public review period.

ATTACHMENTS:
A – 2025 Corridor System Plan
B – Implementation Plan
C – Financial Plan

SUBMITTED AND RECOMMENDED BY:

Ronald J. Tober
Chief Executive Officer, Charlotte Area Transit System
Director of Public Transit, City of Charlotte

ATTACHMENT A

2025 CORRIDOR SYSTEM PLAN

SYSTEM PLAN

The System Plan includes Corridor rapid transit projects, Center City projects, and additional transit system improvements designed to weave together the five corridors into an integrated system in downtown Charlotte. The elements of the 2025 Corridor System Plan are:

- South Corridor Light Rail Project (Approved by the MTC in February 2000)
- North Corridor - Commuter Rail along the Norfolk-Southern O-Line and Enhanced Bus utilizing the 1-77 HOV lane being constructed by NCDOT
- Northeast Corridor - Light Rail designed as an extension of the South Corridor and extending to a terminal station near 1-485 and BRT service linking the University Research area development to the Light Rail corridor
- Southeast Corridor - Rapid transitway along Independence Boulevard and Independence Pointe Parkway to a terminal station near CPCC South Campus, capable of accommodating bus rapid transit and/or light rail transit operations.
- West Corridor - Rapid transitway along Wilkinson Boulevard capable of accommodating bus rapid transit and/or light rail transit operations and enhanced bus service along Freedom Drive and West Boulevard/Tyvola Road.
- Two major transit passenger terminals, the Charlotte Transportation Center and the West Trade Street Multi-Modal Station, designed to complement each other.
- A north-south transit spine along the South Corridor LRT/trolley/railroad corridor
- An east-west transit spine along Trade Street from Presbyterian Hospital to Johnson C. Smith University
- Circulation services including streetcars along Trade Street and the Center City Streetcar Loop
- Central Avenue streetcar from Presbyterian Hospital to Eastland Mall
- Beatties Ford Road streetcar from Johnson C. Smith University to I-85

LOCALLY PREFERRED ALTERNATIVES

The Locally Preferred Alternative (LPA) for each corridor is described below:

North Corridor

Commuter Rail on the Norfolk-Southern O-Line and Enhanced Bus utilizing the I-77 HOV lane being constructed by NCDOT

Northeast Corridor

Light Rail along the North Carolina Railroad corridor and US 29 and Bus Rapid Transit service linking the University Research area development to the Light Rail corridor

ATTACHMENT A

2025 CORRIDOR SYSTEM PLAN

Southeast Corridor
Bus Rapid Transit along Independence Boulevard and the Independence Pointe Parkway mid-line alignment to a terminal station near CPCC South Campus, subject to Special Provision 1.

West Corridor
Bus Rapid Transit along the Wilkinson Boulevard alignment and Enhanced Bus service along Freedom Drive and West Boulevard/Tyvola Road, subject to Special Provision 1.

SPECIAL PROVISIONS

1 The rapid transitway in the Southeast and West Corridors should be designed for use by bus rapid transit and/or light rail transit. During Preliminary Engineering, the specific design features, extent and criteria for the initiation of BRT and/or LRT service should be established. CATS will engage in discussions with the NCDOT on design concepts along U.S. Route 74/Independence Boulevard/Wilkinson Boulevard for integrating the rapid transitway and roadway improvements to accommodate close proximity transit-oriented development. The MTC will decide on specific elements, extent and timing, including a final decision on bus rapid transit and/or light rail transit in the Southeast and West Corridor rapid transitways at the conclusion of Preliminary Engineering and the completion of required environmental studies.

2. The possible development of Bus Rapid Transit guideways along Freedom Dr. and West Blvd. should be explored during Preliminary Engineering.

3. Development of inter-county public transportation services and facilities will be pursued as follows:

   a. Iredell County/Mooresville — Iredell County and Mooresville participated in the funding of the North Corridor Major Investment Study. The next step will be for Iredell County and/or Mooresville to provide a proportionate share of the local share of the costs to conduct Preliminary Engineering on the North Corridor Locally Preferred Alternative. They will also need to develop a funding strategy showing how they will fund their proportionate share of final design, construction, and operating costs.

   b. York County/Rock Hill - York County and Rock Hill have already committed the local share required and have agreed to manage the preparation of a Major Investment Study to determine the Locally Preferred Alternative for transit service to Rock Hill, South Carolina.

CATS will play a key support role in the preparation of the MIS. Upon identification of a Locally Preferred Alternative, County/Rock Hill will need to develop a funding plan showing how they will fund the local share of preliminary engineering, final design, construction, and operating costs.

c. Cabarrus County/Concord - Cabarrus County and the City of Concord have expressed interest in conducting a Major Investment Study for extending transit service into Cabarrus County. The next steps will be to identify funding to conduct the MIS and to determine how the MIS will be managed and coordinated with CATS.

d. Gaston County/Union County - If these counties are interested in extending transit service into their communities, they will need to take a lead role in identifying and securing the necessary funds to conduct, in cooperation with CATS, a Major Investment Study of the options to extending public transportation service.

4. Bus Rapid Transit guideways (busways) shall be designed to facilitate conversion to Light Rail Transit service as funding becomes available in the future, and when ridership volumes and/or other circumstances warrant such action. The exact extent of convertibility features to be included in the guideways shall be determined during Preliminary Engineering.

5. Special focus shall be given during the Preliminary Engineering phase of system development to ensure that BRT lines in the Southeast and West Corridors are effectively connected to the Center City and Center City transit stations in a manner to avoid undue delays and unreliable transit service.

6. The implementation of the recommended transit system plan shall ensure that all stations, whether serving LRT, Commuter Rail/DMU, or BRT lines, are built using comparable design and construction specifications.

7. Strong consideration shall be given, where financially feasible and prudent in light of overall system development goals and funding constraints, to acceleration of the installation of Streetcar services on Beatties Ford Road and on Central Avenue to the Eastland Mall area, as a means of promoting positive economic development and re-development in the Southeast and West Corridors.

8. Strong consideration shall be given to the pursuit by local governmental bodies, with the assistance of CATS, of effective transit-oriented economic development and re-development initiatives to serve areas within the Southeast and West Corridors in need of revitalization.

9. CATS, with the cooperation and financial assistance of Union County, shall explore the feasibility and viability of extending rapid transit service in the Southeast Corridor into Union County by implementing DMU service using the existing CSX Railroad tracks and right-of-way.

10. Special focus shall be given during the Preliminary Engineering phase of system development to ensure that adequate connectivity between corridors is provided for, and that effective transit-oriented economic development and re-development initiatives are pursued along inter-corridor connections.

ATTACHMENT B

IMPLEMENTATION PLAN

Corridor	First Ten Years	First Fifteen Years	By 2025
South	•LRT to 1-485		
North	•Commuter Rail to Mooresville •Enhanced Bus services on 1-77 HOV lanes		
Northeast	•LRT to 36th Street (NoDa)	• LRT to 1-485	• BRT/Enhanced Bus to University Research Park area
Southeast *	•BRT to Sardis station •Central Avenue Streetcar to Plaza/Midwood	• BRT to 1-485 • Central Avenue Streetcar to Eastland Mall	
West *	•BRT to Charlotte/Douglas International Airport •Beginning of Enhanced Bus along Freedom Drive and Tyvola Road	• Enhanced Bus on Tyvola Road • Enhanced Bus on Freedom Drive	• Enhanced Bus on Wilkinson Blvd. west of Airport
Center City	•Trade Street Facilities and Streetscape •Trade Street Streetcar •West Trade Multi-Modal Station •Transportation Center improvements •Beatties Ford Road Streetcar		• Center City Streetcar Loop

*Subject to the outcome of the Preliminary Engineering decision on Bus Rapid Transit and/or Light Rail Transit.

Attachment C

FINANCING PLAN

Millions of Inflated Dollars

Corridor	Capital Cost	Operating Expense Less Fare Revenue
South Corridor LRT	$371	($340)
North Corridor Commuter Rail	$207	($178)
Southeast - BRT	$212	($190)
Southeast - Central Avenue Streetcar	$174	($102)
Northeast Corridor - BRT	$51	($14)
Northeast Corridor- LRT	$527	($107)
West Corridor-BRT	$141	($123)
Center City - Facilities and Streetscape	$83	($44)
Center City - Trade Streetcar	$99	($122)
Center City - Streetcar Loop	$125	($24)
Subtotal, Corridors	**$1,989**	**($1,244)**
Core Bus Fleet (Paratransit/Van pools)	$332	($1,886)
General Capital	$620	
TOTAL PROGRAM	**$2,941**	**($3,130)**

FUNDING SOURCES	Capital Cost	Operating Subsidy
Federal - Formula	$643	
TOTAL SOURCES	**$2,941**	**$3,130**

NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

Northeast Corridor EIS and Station Area Planning Kick-Off

February/March 2005

Kick-off Meetings

- Project Purpose and History
- Locally Preferred Alternative
- Conceptual Engineering
- Station Area Planning
- Environmental Impact Statement
- Project Schedule
- Public Participation

Purpose & Need

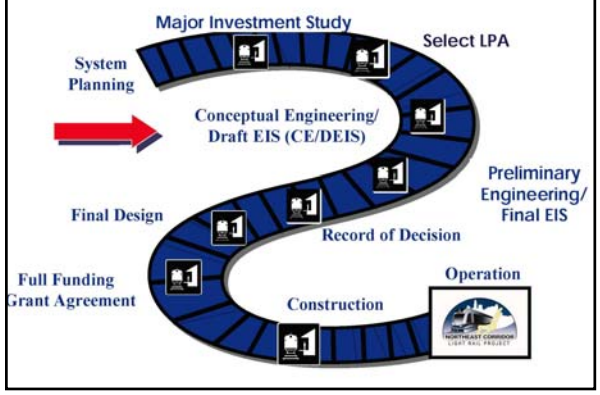
- Regional Population estimated to increase by 43% by 2025
- Regional Employment estimated to increase by 60% by 2025
- Automobile use has increased resulting in congested traffic conditions
- Few major arterials with minimal cross-town connections

Purpose & Need

- Existing land use patterns delay bus service
- Few alternatives to the automobile
- Worsening air quality
- Reduced safety on area roadways

CATS 2025 System Plan

FTA Project Development Process



Project History

- Major Investment Study (MIS) and Environmental Impact Statement (EIS) initiated on September 29, 2000
- MIS completed in 2002
- MIS Examined numerous mode and alignment alternatives

Project History

- Notice of Intent to prepare an Environmental Impact Statement published September 29, 2000
- Public Scoping Meetings held during September 2000
- Comments incorporated into MIS study

MIS Alternatives

- No-build
- Baseline (formerly Transportation Systems Management or TSM)
- Light Rail via Brevard and US 29
- Light Rail on Tryon with dedicated right-of-way
- Light Rail on Brevard to UNCC plus US 29 BRT
- Commuter Rail
- North Tryon Streetcar & Bus Rapid Transit on Graham/Research Park/US-29

Bus Rapid Transit

- Can use existing streets combined with new bus-only facilities
- Service is flexible
- Distance between stations can vary

Light Rail

- Powered by overhead electric line
- Can operate in exclusive right-of-way or with mixed traffic
- Stations every mile or less

Commuter Rail

- Powered by diesel locomotive
- Operates in exclusive right-of-way
- Stations every 2 to 5 miles

Locally Preferred Alternative

Locally Preferred Alternative

Locally Preferred Alternative

Locally Preferred Alternative

Funding Source

- 25% CATS local sales tax
- 25% North Carolina Department of Transportation
- 50% Federal Section 5309 New Starts Transit Funding

EIS Alternatives

- No Build Alternative – do nothing more than currently planned/funded
- Transportation Systems Management Alternative - low cost improvements to existing infrastructure and bus service
- Light Rail via Brevard and US 29 – operational service from Uptown to I-485

Conceptual Engineering/ Environmental Impact Statement

Three major components of the CE/EIS:
1) Station Area Planning
2) Alignment and Station Definition
3) Environmental Impact Assessment

Station Area Planning

Many Communities Have Tried the Transit Pill – Without Good Planning

Station Area Planning Principles

"America . . . devised many odd inventions for getting somewhere, but could think of nothing to do when they got there."

- Will Rogers, 1936

Coordinated STATION LOCATIONS, STATION AREA PLANNING, and STATION DESIGN can make transit more efficient and more competitive with automobile travel

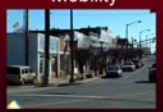
Station Area Planning Principles

Guides for planning station area improvements and creating a more pedestrian environment


Land Use


Mobility


Public Spaces

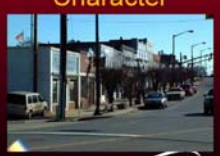

Character

Land Use

Mobility

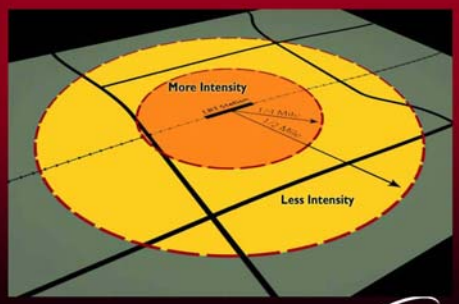
Public Spaces

Character



Land Use and Development

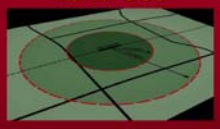
Allow for an increase in land use intensity around stations



Land Use and Development

Provide a mix of land uses complimentary to transit

Land Use



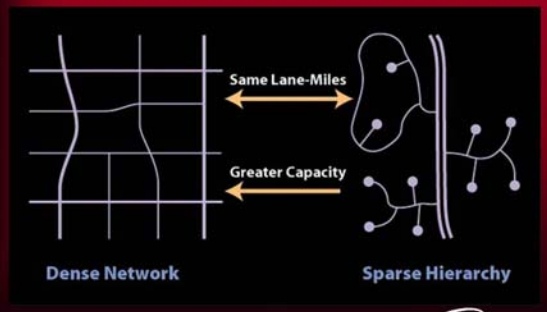
Mobility

Public Spaces

Character

Mobility

Create a network of streets



Mobility

Create a network of streets

Mobility

Create a network of streets

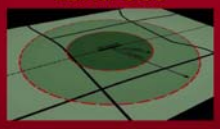
Mobility

Provide links to important community facilities

Mobility

Create a comprehensive network of bicycle facilities

Land Use



Mobility

Public Spaces

Character

Public Spaces

Integrate plazas and small parks into station site designs

Public Spaces

Treat the street as a public space

Public Spaces

Treat the street as a public space

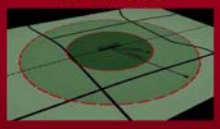
Public Spaces

Treat the street as a public space

Public Spaces

Treat the street as a public space

Land Use



Mobility

Public Spaces

Character

Character

Protect the character of existing neighborhoods

Character

Build in a pattern that is adaptable through time

Character

Build in a pattern that is adaptable through time

Character

Build in a pattern that is adaptable through time

Character

Build in a pattern that is adaptable through time

Character

Promote development that fits within the character of existing development

Character

Promote development that fits within the character of existing development

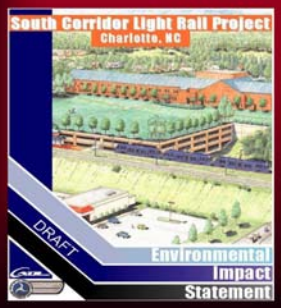
Character

Promote development that fits within the character of existing development

Conceptual Engineering

- Provides early engineering activities on the Locally Preferred Alternative
- Defines where the alignment and stations will be located
- Provides cost detail and limits of construction for basis of the EIS

Environmental Impact Statement



- Required for federally-funded projects
- Thorough examination of the proposed use of local and federal funds

Environmental Impact Statement

- Examines the positive and negative impacts of a proposed action and details the:
  - Social
  - Economic, and
  - Environmental impacts

- A decision-making document that helps the community to decide on the best action to take, if any

EIS Process

EIS Scoping

Station Area Planning/Station Site Selection/Engineering

Social, Economic, Environmental Impact Assessment

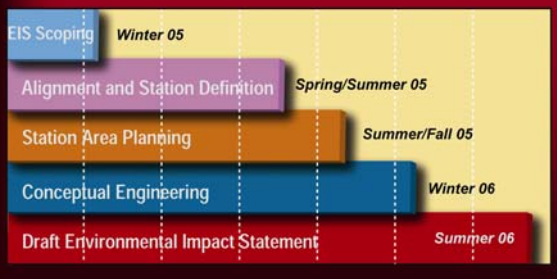
Draft EIS

Draft EIS Public Review Period

Environmental Impacts to be Studied

- Threatened & endangered species
- Parks & recreation facilities
- Cultural resources
- Environmental justice
- Hazardous & regulated materials
- Visual impacts
- Energy
- Construction impacts
- Relationship of short term uses vs. long term productivity
- Irreversible and irretrievable commitment of resources
- Cumulative impacts
- Permits
- Air Quality
- Land use and zoning
- Social
- Relocations
- Economics
- Joint development
- Pedestrians & bicyclists
- Safety & security
- Air quality
- Noise & vibration
- Water quality
- Wetlands
- Vegetation & wildlife
- Floodplains
- Farmlands

Project Schedule



Upcoming Public Involvement Activities

Spring 2005:
Station Site Selection Workshops

Summer/Fall 2005:
Station Area Planning

Summer 2006:
Draft EIS Public Hearing

Your Participation is Needed

- Sign-up for the project mailing list
- Visit our web page - www.ridetransit.org
- Contact our staff:

Jennifer Green: 704-336-2267
CATS Senior Community Relations Specialist
jagreen@ci.charlotte.nc.us

Adrienne Boone: 704-336-3547
CATS Community Relations Specialist
aboone@ci.charlotte.nc.us

Your Participation is Needed

- Please let us know if you have any questions, concerns or comments regarding:
  - Project purpose and need
  - Schedule
  - Public participation process
  - Environmental issues
- Are there other specific issues that you would like to see addressed that we did not cover tonight?

Questions?

Comments?

NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

Northeast Corridor Station Location Workshop

April 2005

Meeting Purpose

- Introduce station location considerations
- Introduce station types
- Share evaluation of MIS-proposed station locations
- Get public feedback and suggestions

Project Background

Purpose & Need

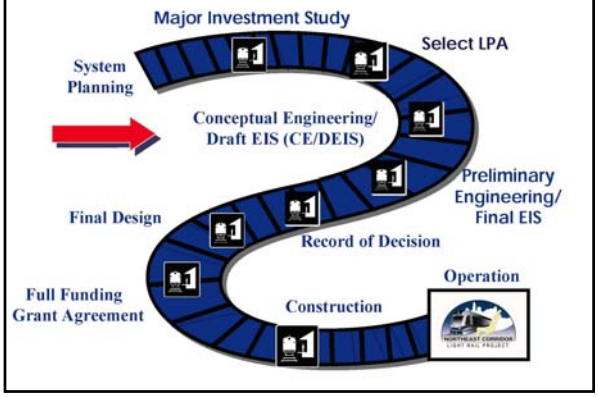
- Population increase: 43% by 2025
- Employment increase: 60% by 2025
- Automobile use increase (congestion)
- Few major arterials with minimal cross-town connections
- Few alternatives to the automobile
- Worsening air quality
- Existing land use patterns delay bus service (change in land use won't change delays)
- Reduced safety on area roadways

Project Goals

- Improve access and mobility
- Locate stations to sustain local neighborhoods and maximize development opportunities
- Preserve and protect the environment
- Provide effective and efficient transportation options

MIS-proposed Alignment and Stations

FTA Project Development Process



3 Components of CE/EIS:

1) Station Area Planning
2) Further Alignment and Station Definition
3) Environmental Impact Assessment

What do we need to consider when locating stations?

1. Accessible to all modes of travel


Pedestrians


Bicyclists


Motorists

2. Serve existing developments & travel markets

- Serve residential units and employees within ½-mile walking distance
- Serve automobile commuters beyond the ½ mile walking distance
- Serve special destinations
- Are compatible with existing developments/neighborhoods

3. Promote redevelopment opportunities


Potential redevelopment site


Underutilized industrial properties

- Create new travel markets
- Support development of vacant and underutilized land within ½ mile

4. Meet technical alignment & site criteria

- Land Availability
- Environmental compatibility
- Station spacing
- Other technical engineering requirements

5. Be supported by the community

Is every station the same?

Station Types

Multi-Modal

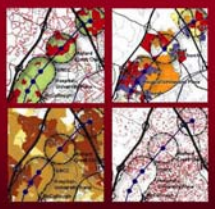
Urban

Neighborhood

Community

Regional

	Service Area	Mobility Role	Place-making Role
Multi-Modal 	> 5 miles (metro center)	frequent service; connections to other modes	landmark/ focal point
Urban 	< 1/2 mile	many stations; walk-up traffic	Integrated into existing development
Neighborhood 	1/2 mile to 1 mile	walk-up traffic; some kiss &ride	center of neighborhood
Community 	1 mile to 3 miles	fewer stations; stronger orientation to auto-users	may support future development
Regional 	> 5 miles (end of line)	serves commuter traffic; park & ride locations	may support future development

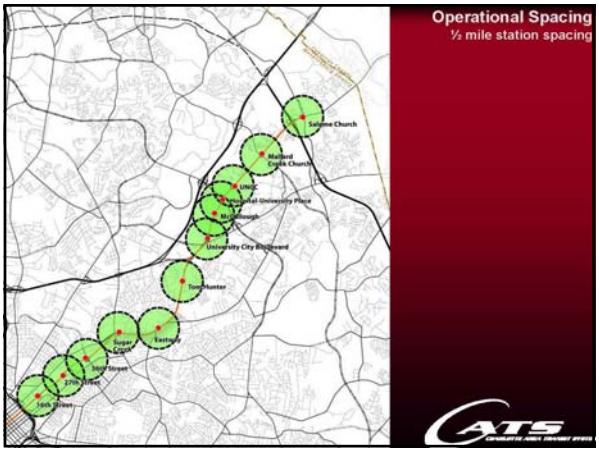


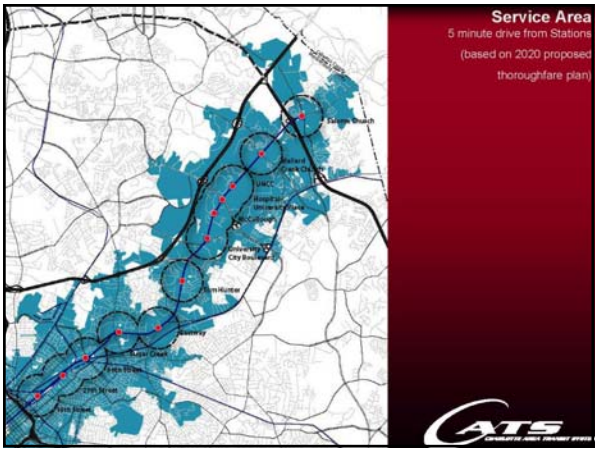
MIS Station Location Evaluation

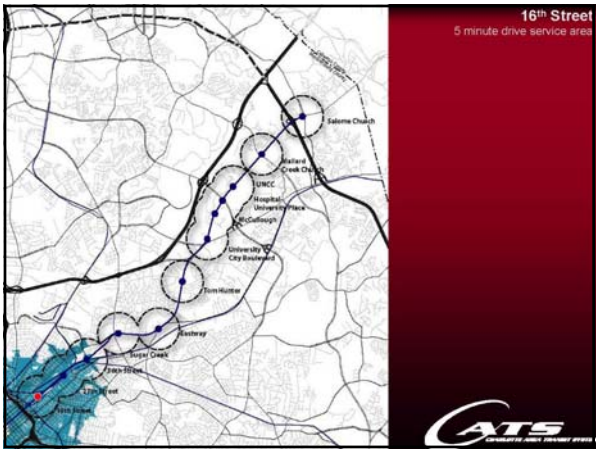
Evaluation Methodology

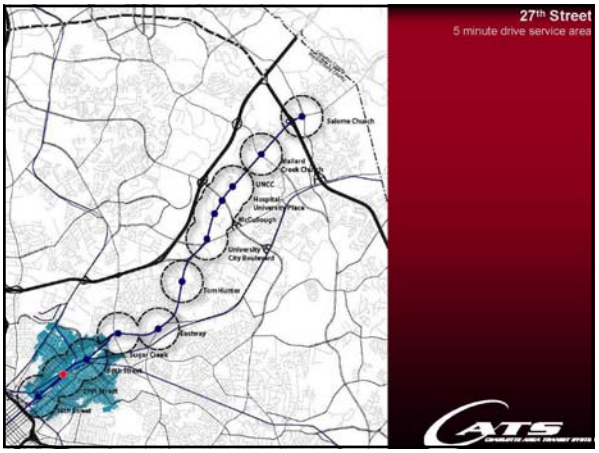
- Operational Spacing & Service Area
- Future Development Potential
- Existing Transit-Supportive Uses

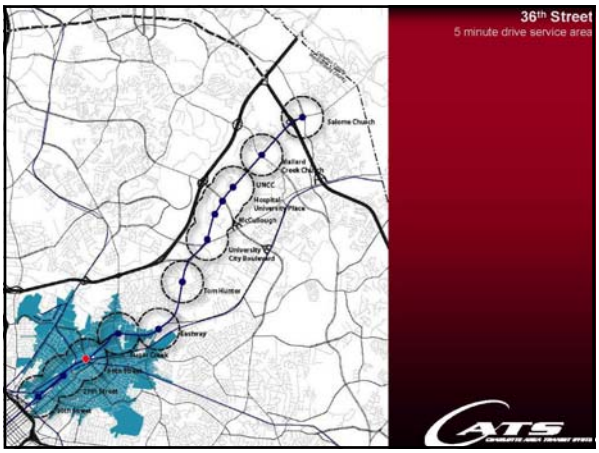
Operational Spacing & Service Area

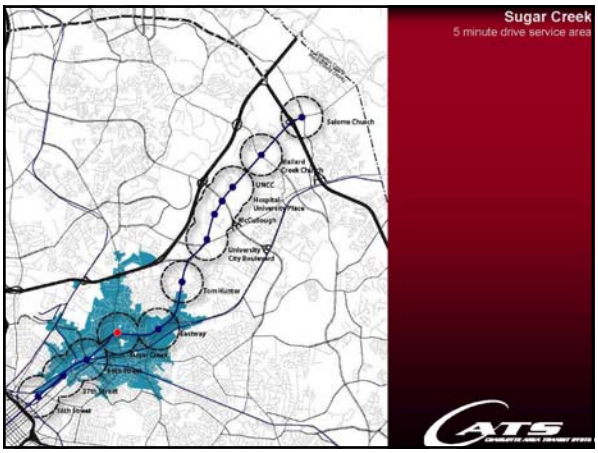


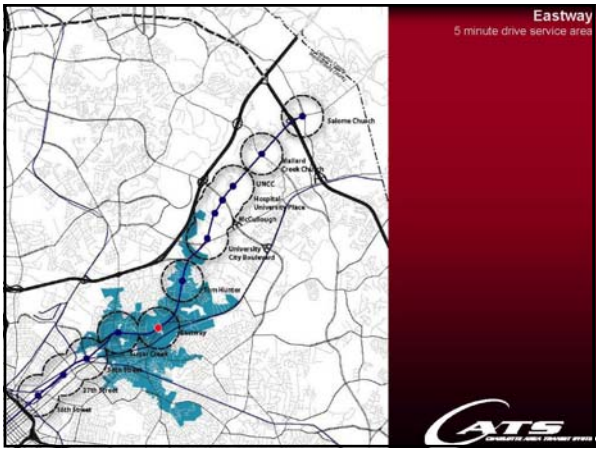


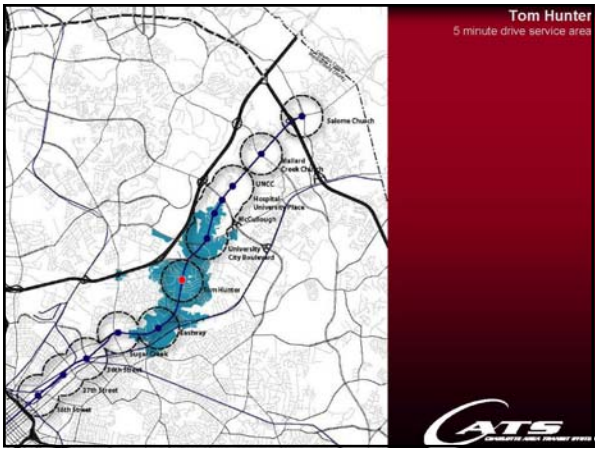


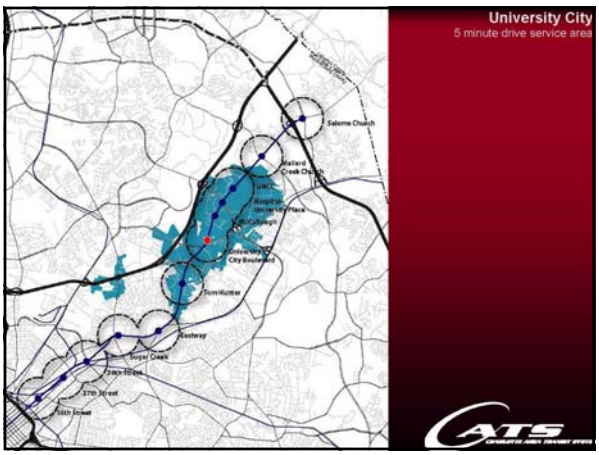


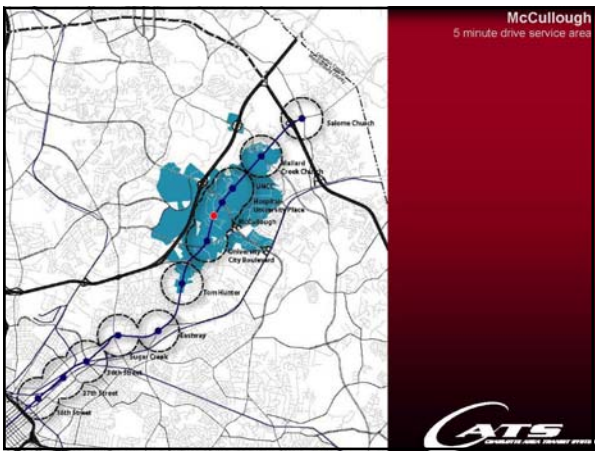

36th Street
5 minute drive service area

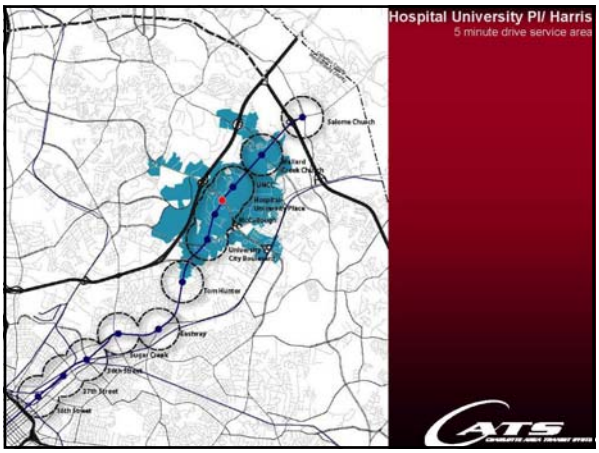

Sugar Creek
5 minute drive service area

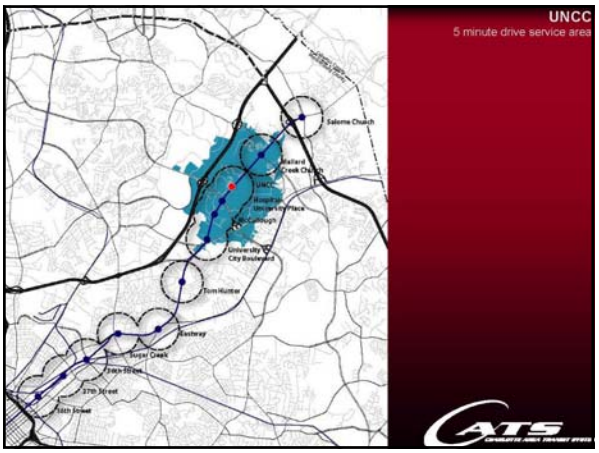

Eastway
5 minute drive service area

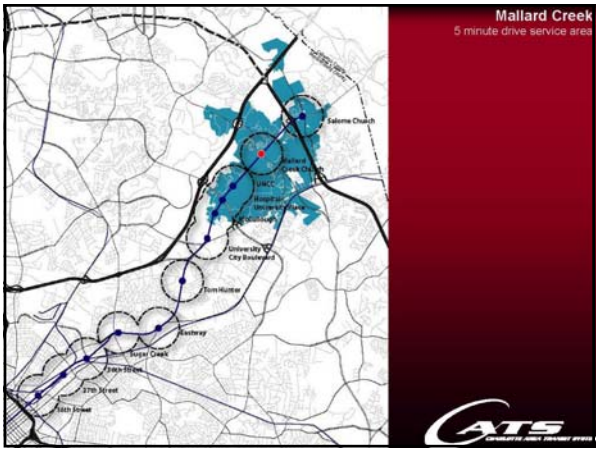

Tom Hunter
5 minute drive service area

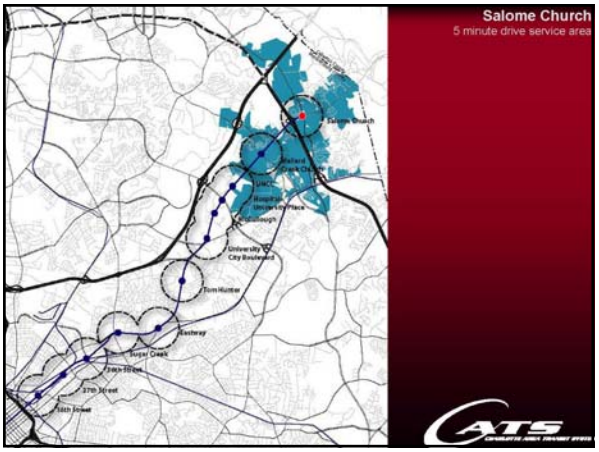

University City
5 minute drive service area


McCullough
5 minute drive service area


Hospital University Pl/ Harris
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
Rama Road
36th Street
27th Street
16th Street


UNCC
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
Rama Road
36th Street
27th Street
16th Street


Mallard Creek
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
Rama Road
36th Street
27th Street
16th Street


Salome Church
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
Rama Road
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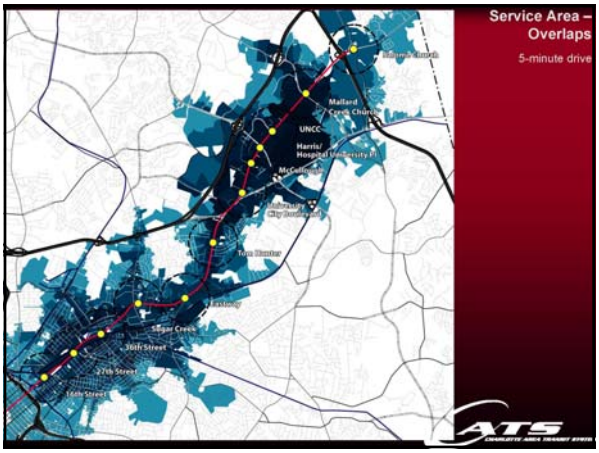
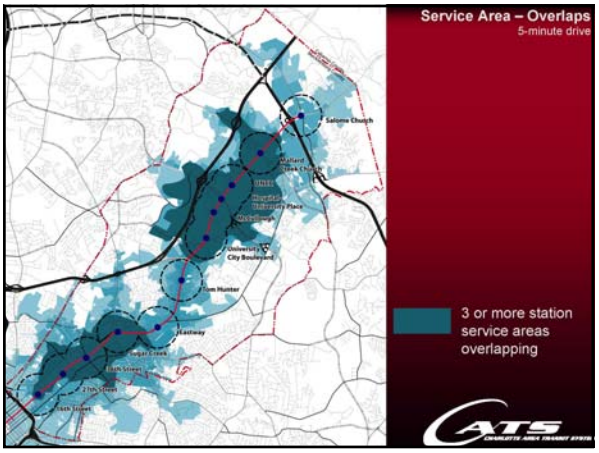
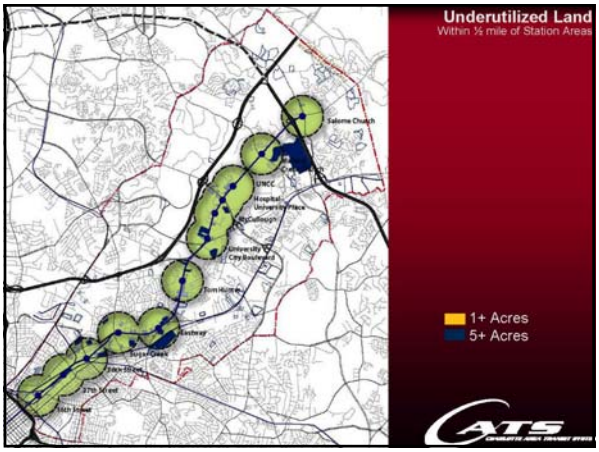
27th Street
16th Street

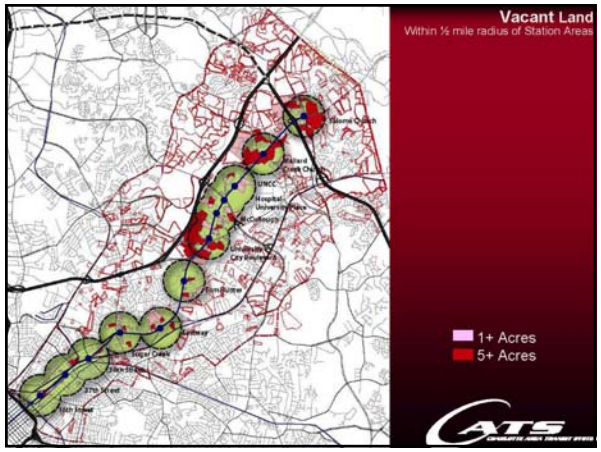

Service Area – Overlaps
5-minute drive
Salome Church
Mallard Creek Church
UNCC
Harris/ Hospital University Pl
McCoullough
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
27th Street
16th Street

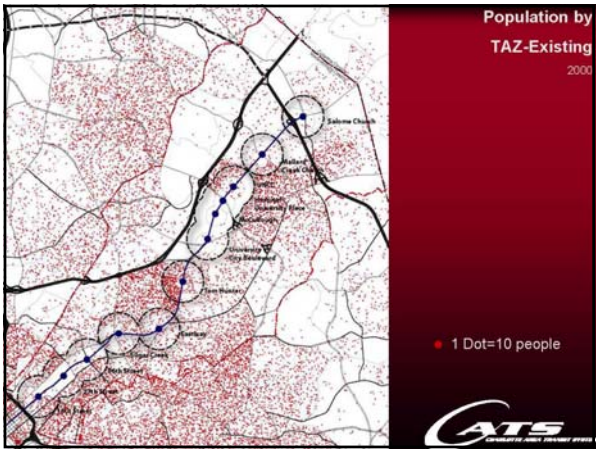

Service Area – Overlaps
5-minute drive
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
Rama Road
36th Street
27th Street
16th Street
3 or more station service areas overlapping

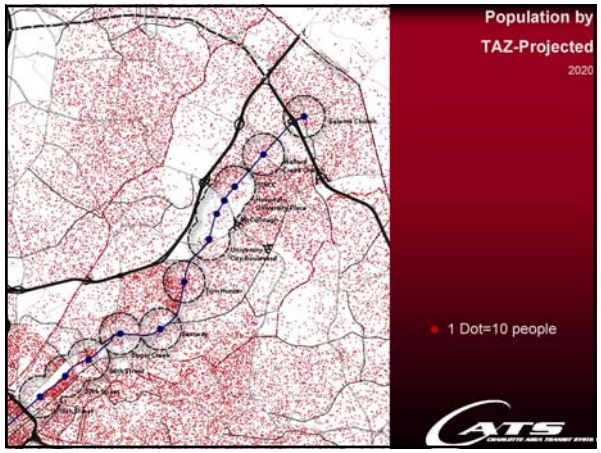
Future Development
(Transit-Oriented Development) Potential

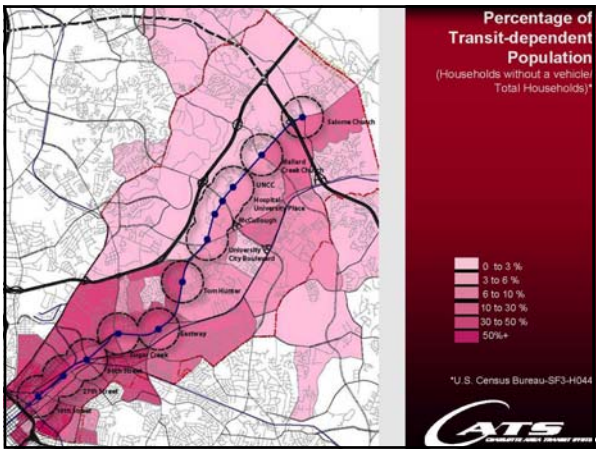
- Available land for future development (underutilized & vacant land)
- Existing & projected population densities
- Existing & projected employment densities
- Access from freeways (I-85 and I-485)
- Transit-dependent Population

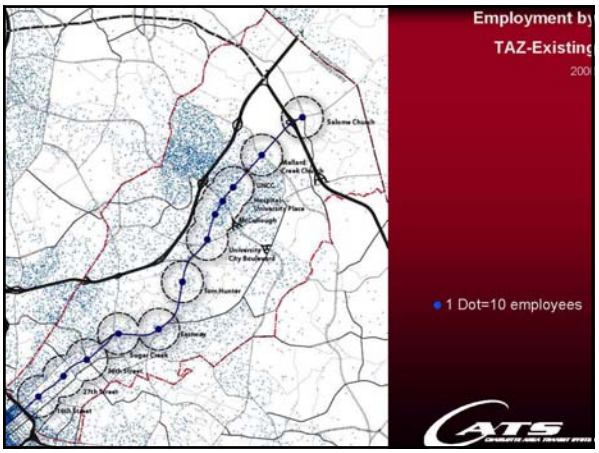









Percentage of
Transit-dependent
Population
(Households without a vehicle/
Total Households)*
0 to 3 %
3 to 6 %
6 to 10 %
10 to 30 %
30 to 50 %
50%+
*U.S. Census Bureau-SF3-H044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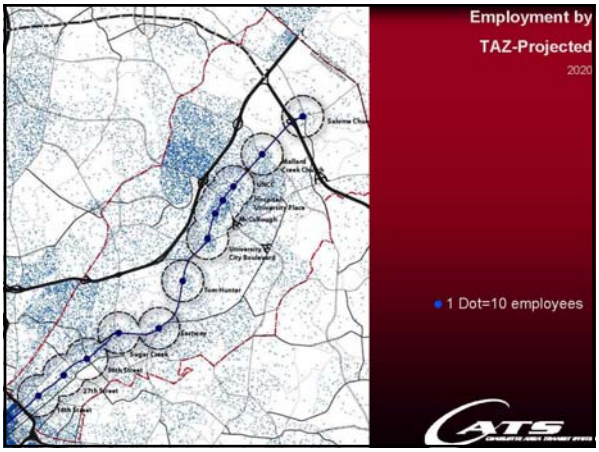
TAZ-Existing
1 Dot=10 employees


Employment by
TAZ-Projected
2020
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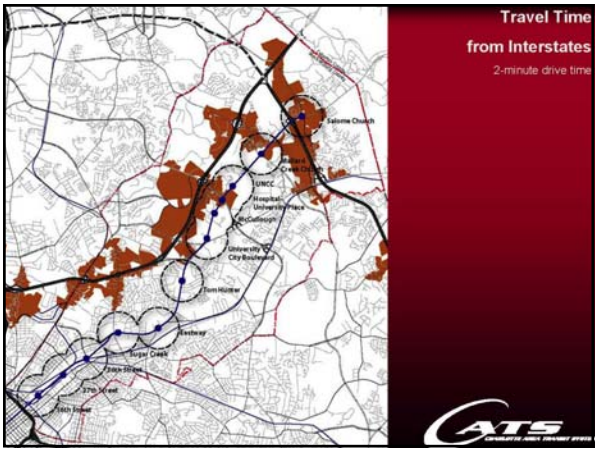
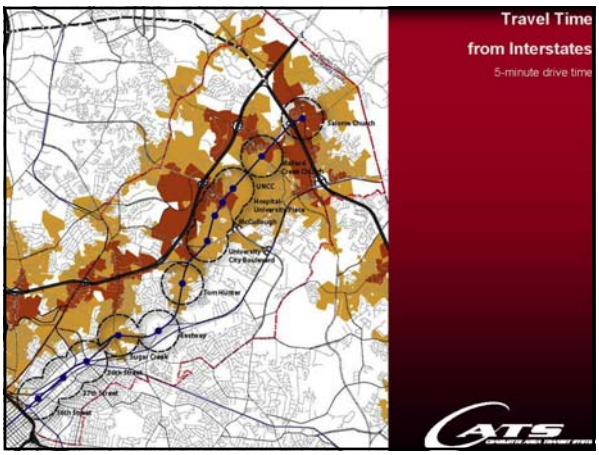
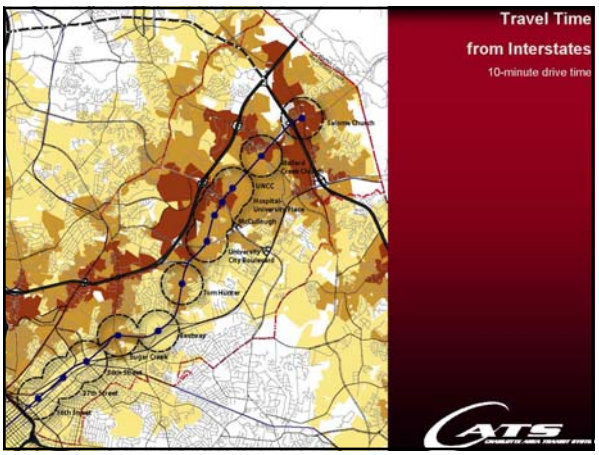
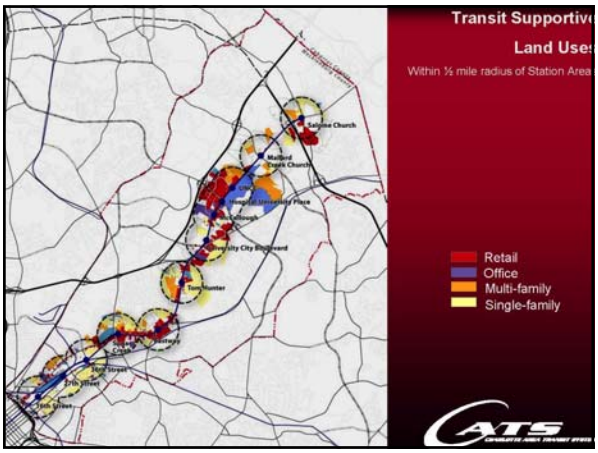
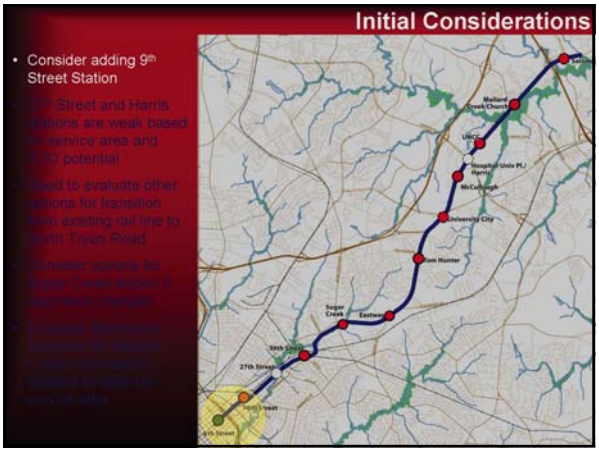

Travel Time
from Interstates
2-minute drive time


Travel Time
from Interstates
5-minute drive time


Travel Time
from Interstates
10-minute drive time


Existing
Transit-supportive Uses


Transit Supportive
Land Uses
Within ½ mile radius of Station Area
Retail
Office
Multi-family
Single-family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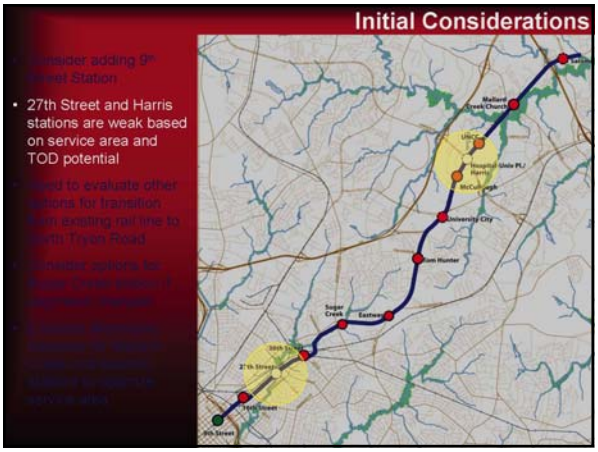
Evaluate alternative locations for Mallard Creek and Salome stations to optimize service area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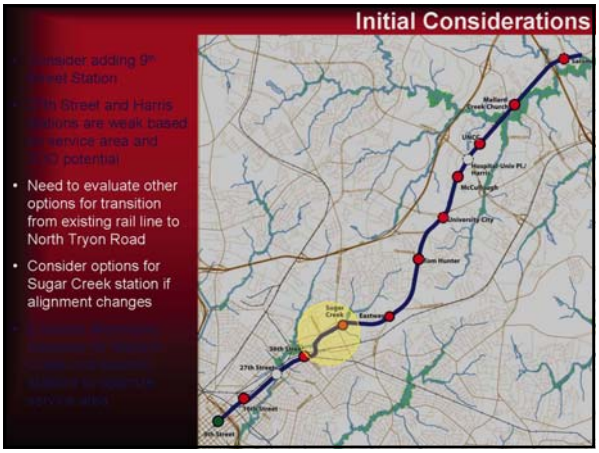
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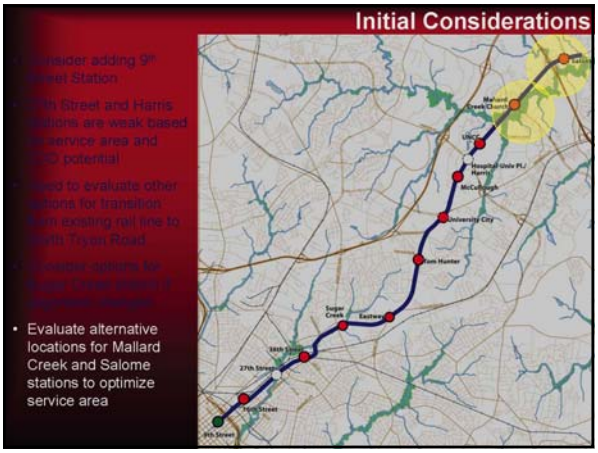
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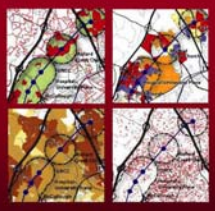
- What do you think about the Harris Boulevard station?
- Do you have any other thoughts on the other station locations?

Questions?



MIS Station Location Evaluation

Station Evaluation Summary

(within ½ mile radius of Station Areas)

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	Total (Acres)	Unique (% of Total)	1+Acre-Parcels	5+ Acre-Parcels	
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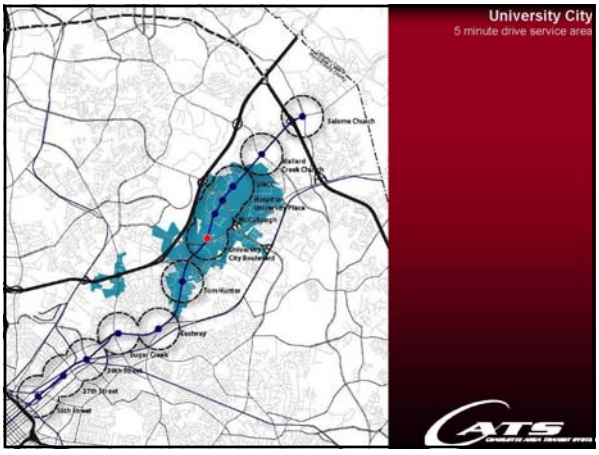
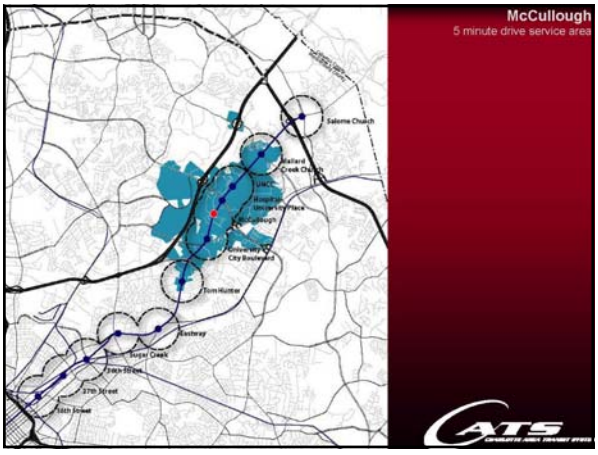
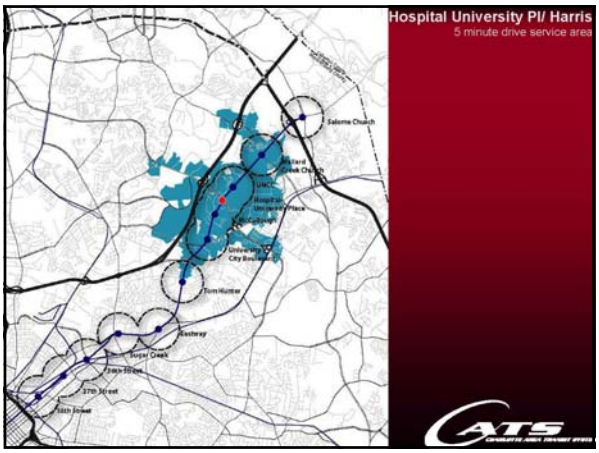
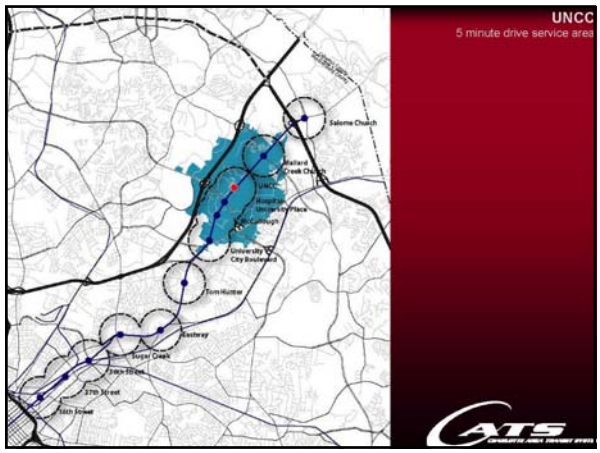
Sugar Creek	3,189	10%	99	33	283
36th Street	3,806	21%	114	69	218
27th Street	1,834	0%	68	28	154
16th Street	3,138	61%	77	22	157
Total	35,899	17%	2,789	2,224	3,452






Hospital University Pl/ Harris
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
27th Street
16th Street


UNCC
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
27th Street
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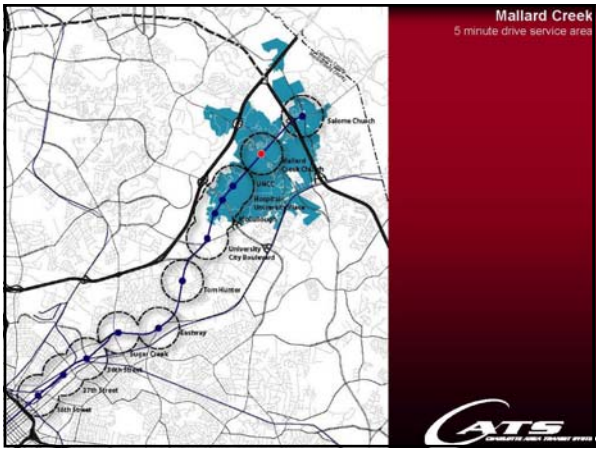
Mallard Creek
5 minute drive service area
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
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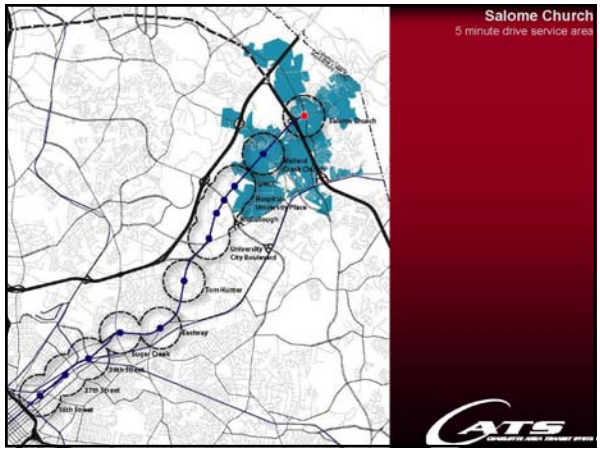
Salome Church
5 minute drive service area
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Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
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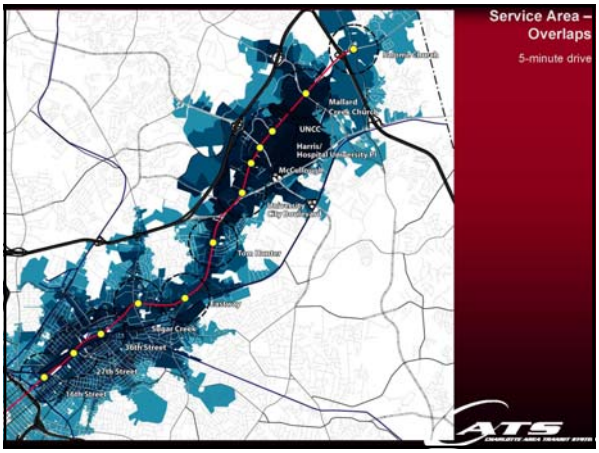
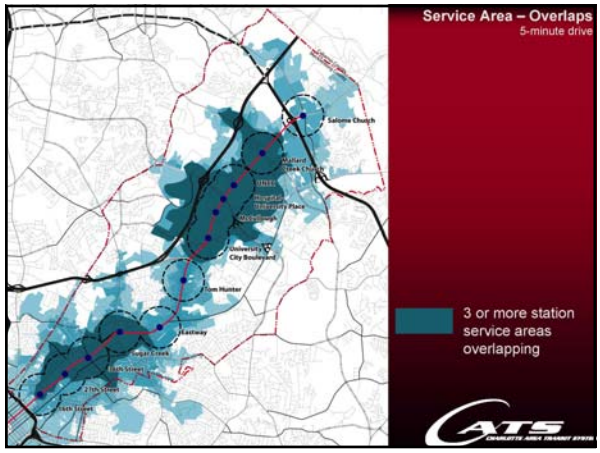
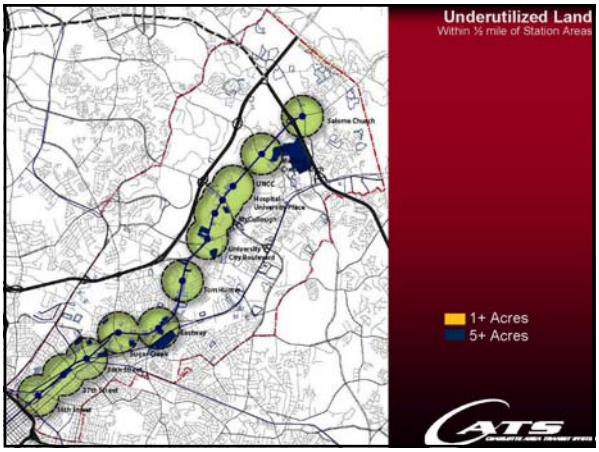
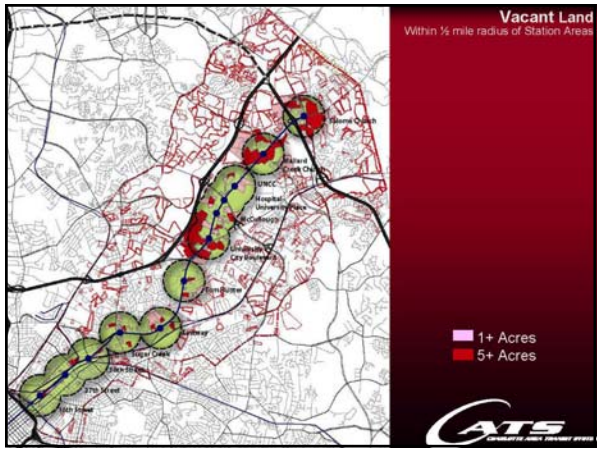

Service Area – Overlaps
5-minute drive
Salome Church
Mallard Creek Church
UNCC
Harris/ Hospital University Pl
McGuinness
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
27th Street
16th Street

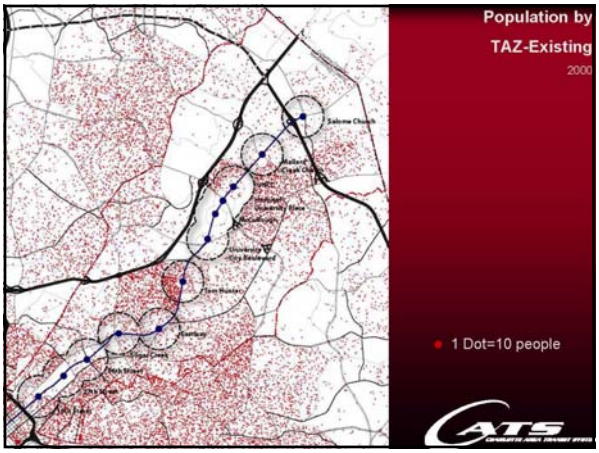

Service Area – Overlaps
5-minute drive
Salome Church
Mallard Creek Church
UNCC
Hospital/ University Place
University City Boulevard
Tom Hunter
Eastway
Sugar Creek
36th Street
27th Street
16th Street
3 or more station service areas overlapping

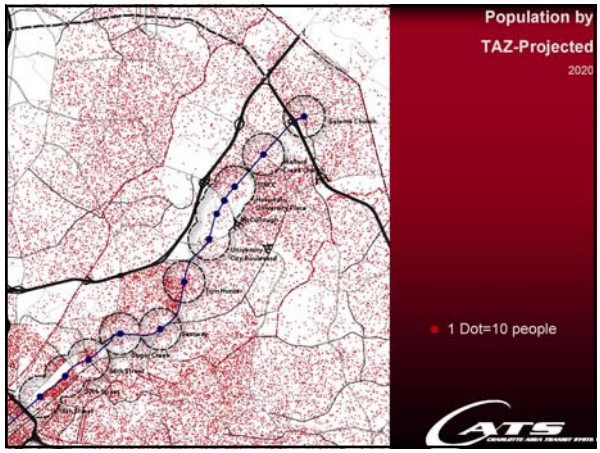
Future Development
(Transit-Oriented Development) Potential

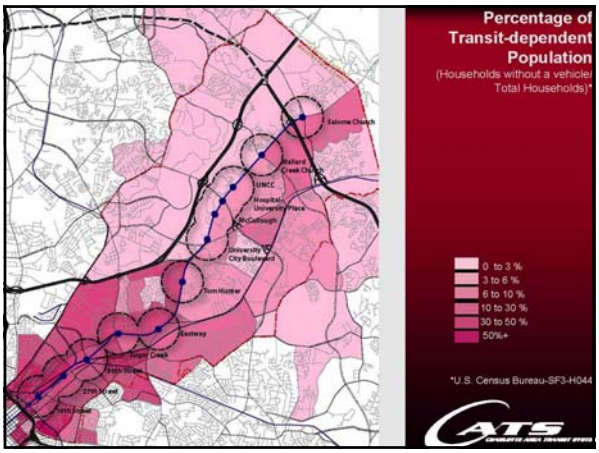
- Available land for future development (underutilized & vacant land)
- Existing & projected population densities
- Existing & projected employment densities
- Access from freeways (I-85 and I-485)
- Transit-dependent Population







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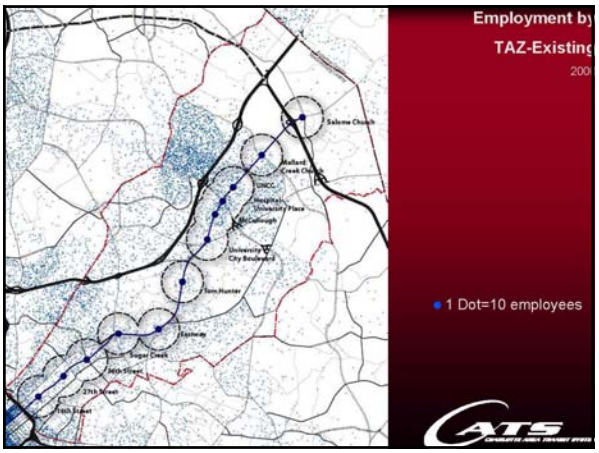
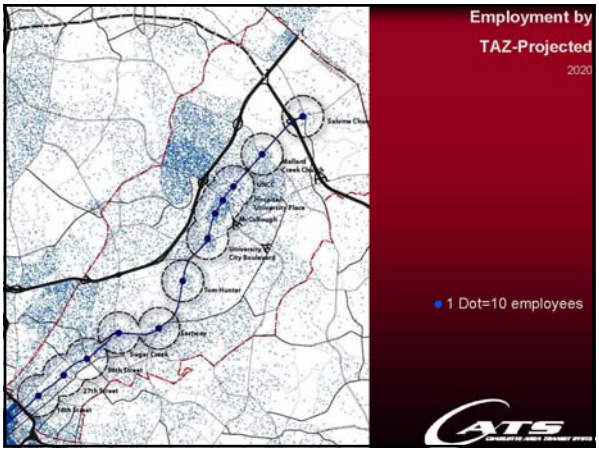

Employment by
TAZ-Existing
1 Dot=10 employees


Employment by
TAZ-Projected
2020
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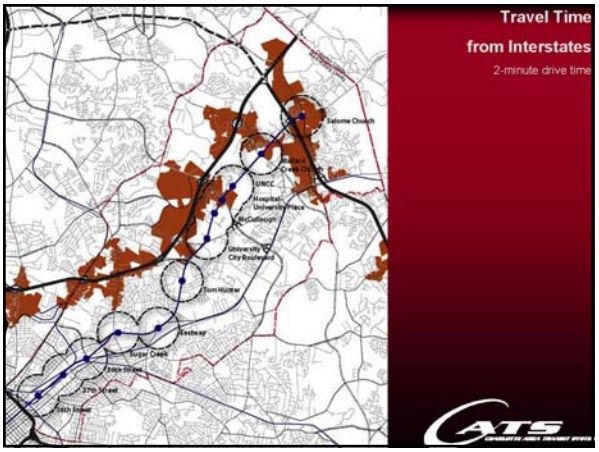
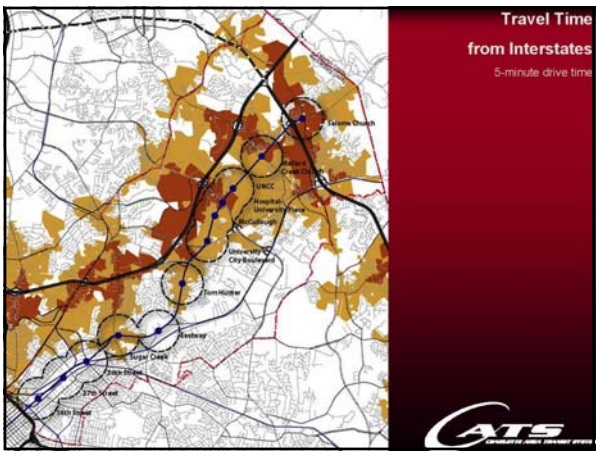
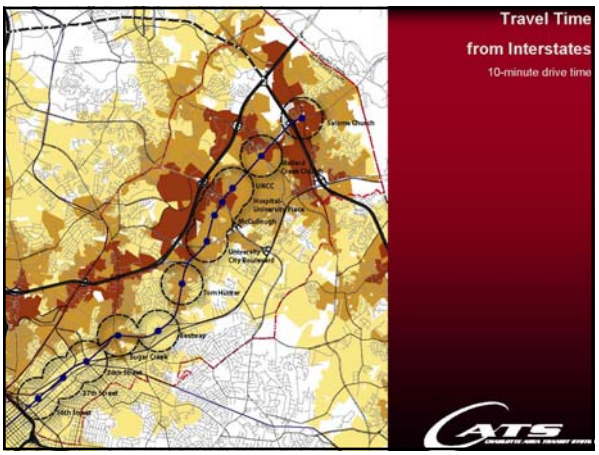

Travel Time
from Interstates
2-minute drive time


Travel Time
from Interstates
5-minute drive time


Travel Time
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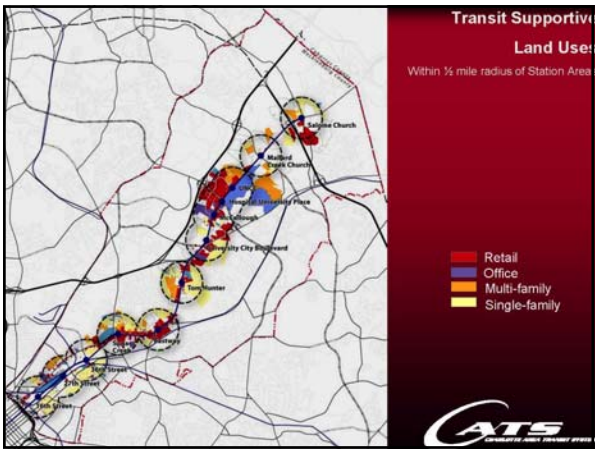
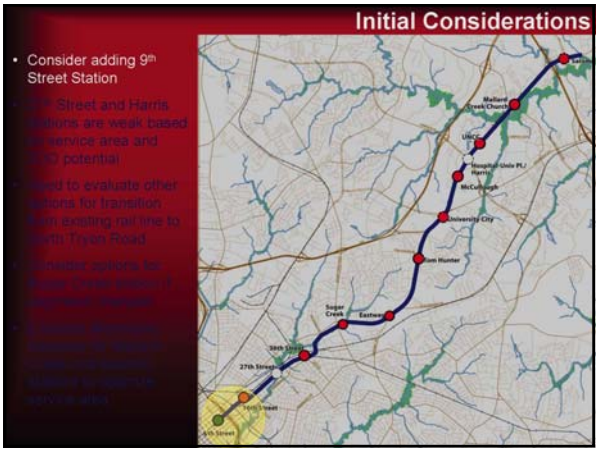
10-minute drive time


Existing
Transit-supportive Uses


Transit Supportive
Land Uses
Within ½ mile radius of Station Area
Retail
Office
Multi-family
Single-family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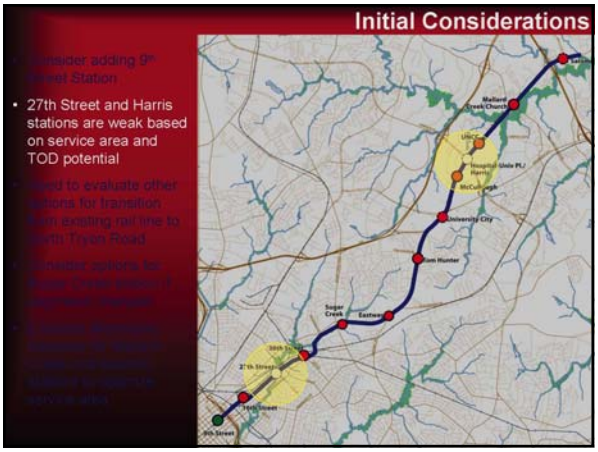
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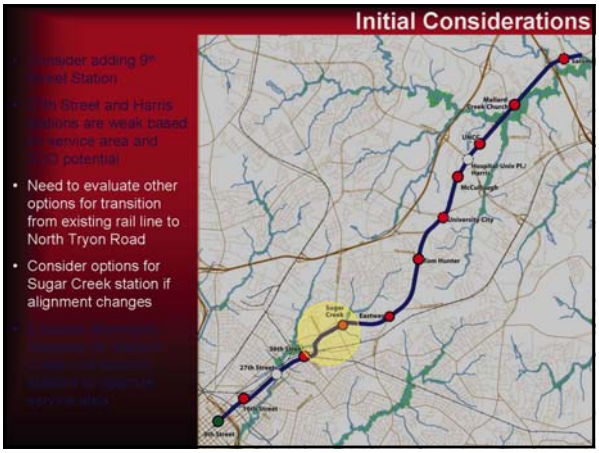
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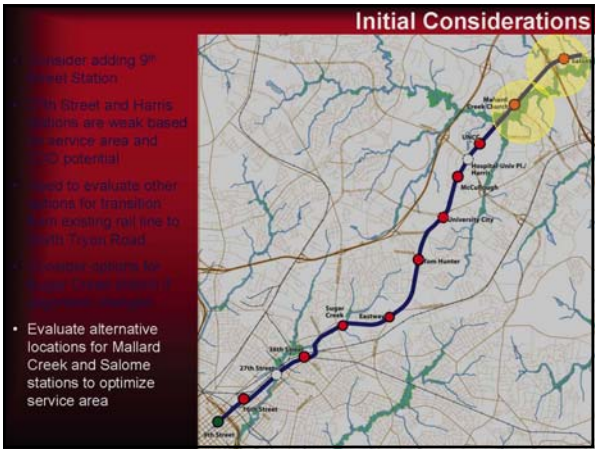
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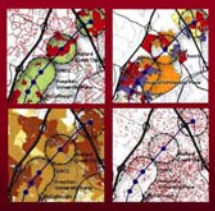

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NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

Station Area Planning

Public Meeting #3

June 7, 2005

Meeting Purpose

- Present alignment refinements and recommendations on station locations
- Assign preliminary station types
- Get public feedback and suggestions

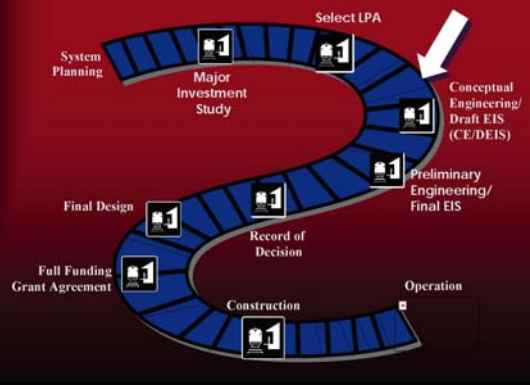
Tonight's Agenda

- Project Background
- Alignment & Station Location Issues and Recommendations
- Preliminary Station Types
- Questions & Answers
- Break-out Groups
- Presentations by each Break-out Group

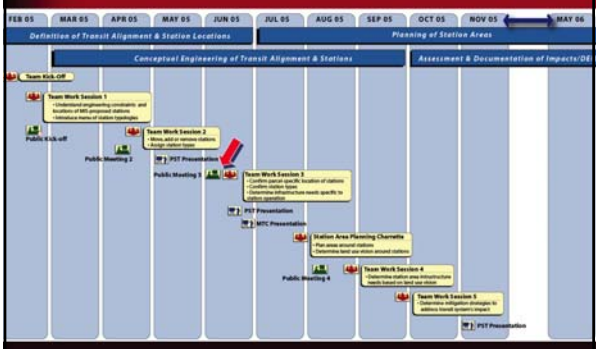
Project Background

MIS-proposed Alignment and Stations

FTA Project Development Process



CE/DEIS Process



Previous Meetings

- **February/March 2005**
  - Project history
  - Project status
  - Overview of project development process
- **April 2005**
  - Station location considerations
  - Station Types
  - Evaluation of MIS-defined Stations

What we heard from you

Referring to the Northeast Corridor Project....

"This is pertinent to the revival of Center City."

"I hope we will be sensitive to how this rail helps build connectivity and serve the community."

"We would like to see walkways/ bikeways along the entire rail corridor."

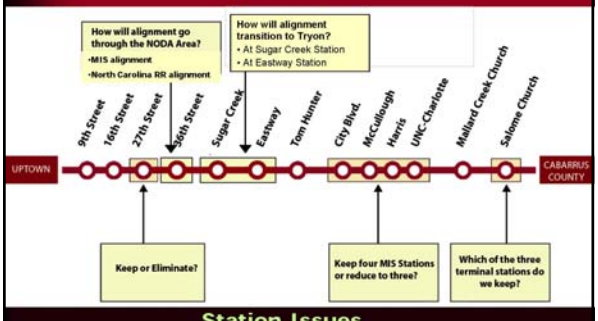
"This is pertinent to minimize traffic, which by 2020 if unaddressed will be impossible."

What we heard from you

- **Should we add a 9th Street Station?**
  - 20 said yes, 4 said no
- **Should we keep 27th Street Station?**
  - 16 said yes, if future development materializes
  - 5 said no
- **Should we keep Harris Station?**
  - 16 said yes, only if land uses support pedestrian environment
  - 3 said no, stations adjacent to Harris can serve Hospital and businesses equally well; very congested intersection

Station Location & Alignment Refinements

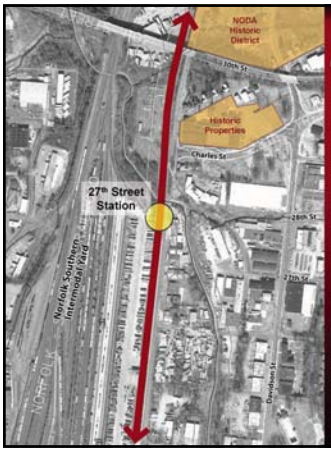
Alignment Issues



Station Issues

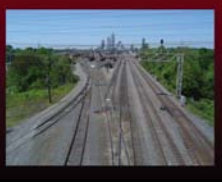
Do we keep or eliminate 27th Street Station?

27th Street Station

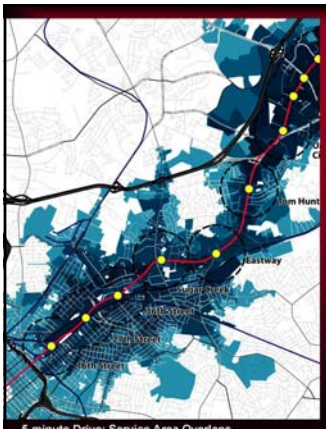


Considerations:

- Limited development potential due to rail yard and industrial uses – MIS assumed relocation of rail yard
- Restricted access to the station



27th Street Station

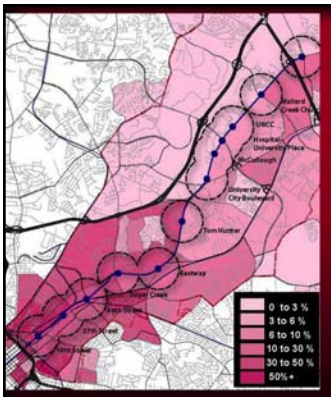


5-minute Drive: Service Area Overlaps

Considerations:

- Limited development potential due to rail yard and industrial uses – MIS assumed relocation of rail yard
- Restricted access to the station
- Adjacent stations provide overlapping service

27th Street Station



Percentage of
Transit-dependent Population
(Households without a vehicle/ Total Households)*

Considerations:

- Limited development potential due to rail yard and industrial uses – MIS assumed relocation of rail yard
- Restricted access to the station
- Adjacent stations provide overlapping service
- Transit-dependent populations around station
- Need to understand existing and future rail and bus operations/service

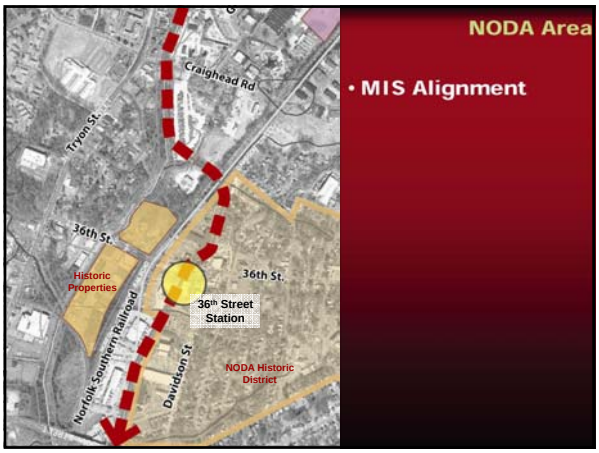
27th Street Station

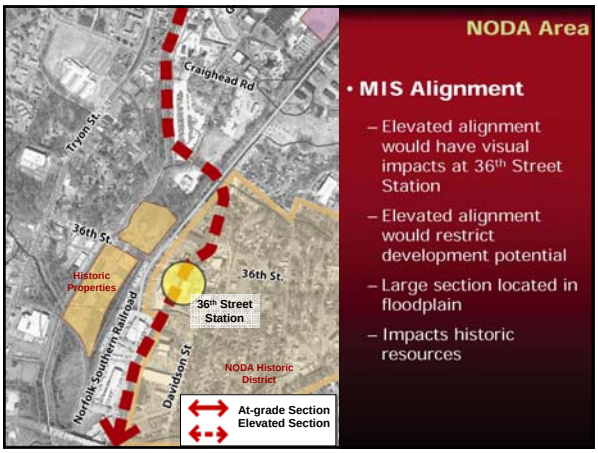
Recommendation:

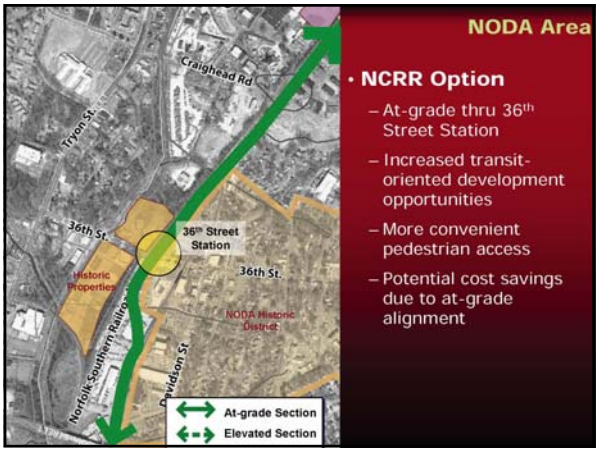
- Evaluate 27th Street Station in the Draft EIS as a "future station".
- Advance the completion of ridership analysis and transit operations plan.

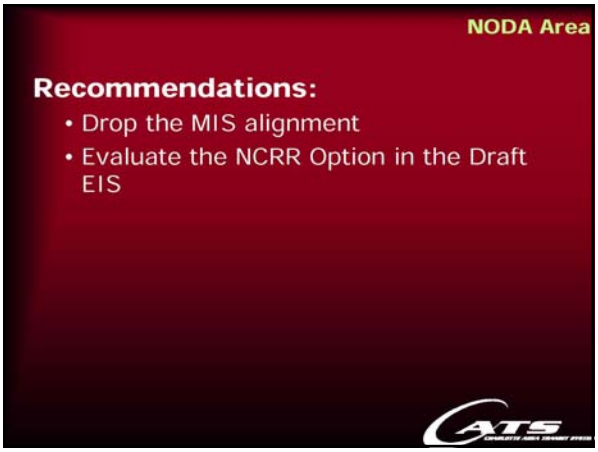
How will alignment go through the NODA Area?

- MIS Alignment
- NCRR Alignment

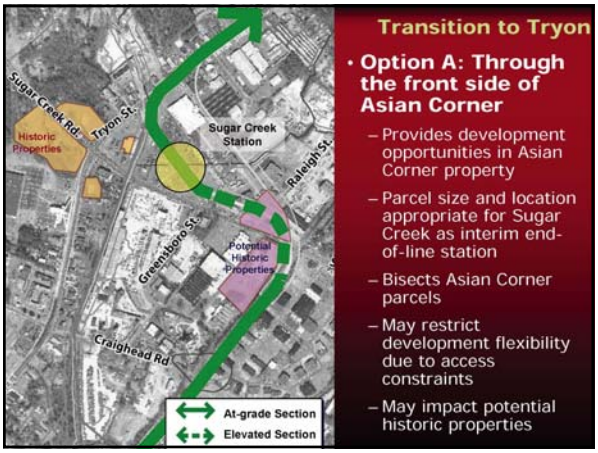

NODA Area
• MIS Alignment
Craighead Rd
Tryon St.
36th St.
Historic Properties
36th St.
36th Street Station
Norfolk Southern Railroad
Davidson St
NODA Historic District

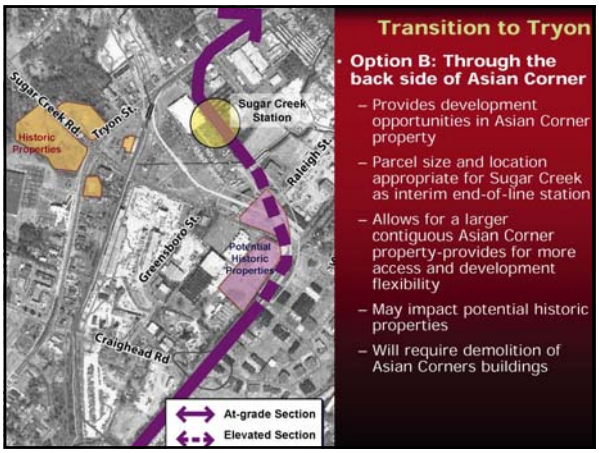

NODA Area
• MIS Alignment
– Elevated alignment would have visual impacts at 36th Street Station
– Elevated alignment would restrict development potential
– Large section located in floodplain
– Impacts historic resources
Craighead Rd
Tryon St.
36th St.
Historic Properties
36th St.
36th Street Station
Norfolk Southern Railroad
Davidson St
NODA Historic District
At-grade Section
Elevated Section


NODA Area
• NCRR Option
– At-grade thru 36th Street Station
– Increased transit-oriented development opportunities
– More convenient pedestrian access
– Potential cost savings due to at-grade alignment
Craighead Rd
Tryon St.
36th St.
36th Street Station
Historic Properties
36th St.
NODA Historic District
Norfolk Southern Railroad
Davidson St
At-grade Section
Elevated Section


NODA Area
Recommendations:
• Drop the MIS alignment
• Evaluate the NCRR Option in the Draft EIS


How will alignment transition from alignment along NCRR rail line to Tryon?
• Option A: At Sugar Creek Station -through the front side of Asian Corners
• Option B: At Sugar Creek Station-through the back side of Asian Corners
• Option C: At Eastway Station-near Old Concord Rd
Asian Corner Plaza at Sugar Creek Rd/Tryon
North Park Mall at Eastway/Tryon


Transition to Tryon
• Option A: Through the front side of Asian Corner
– Provides development opportunities in Asian Corner property
– Parcel size and location appropriate for Sugar Creek as interim end-of-line station
– Bisects Asian Corner parcels
– May restrict development flexibility due to access constraints
– May impact potential historic properties
Sugar Creek Rd
Tryon St.
Historic Properties
Sugar Creek Station
Raleigh St.
Greensboro St.
Potential Historic Properties
Craighead Rd
At-grade Section
Elevated Section

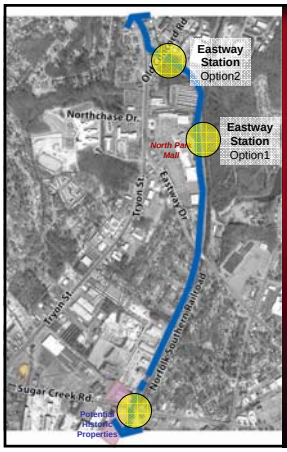


Transition to Tryon

- **Option B: Through the back side of Asian Corner**
  - Provides development opportunities in Asian Corner property
  - Parcel size and location appropriate for Sugar Creek as interim end-of-line station
  - Allows for a larger contiguous Asian Corner property-provides for more access and development flexibility
  - May impact potential historic properties
  - Will require demolition of Asian Corners buildings

Transition to Tryon

- **Option C: Near Concord Road**
  - Alignment along Norfolk-Southern rail line
  - Less impact on properties along Tryon Road
  - Avoids impact on potential historic properties
  - A section of alignment is along the back side of neighborhoods



Transition to Tryon

- **Option C: Near Concord Road**
  - May have limited parcel availability for Sugar Creek as interim end-of-line station
  - Sugar Creek Station does not provide direct impetus for Asian Corner redevelopment
  - Eastway Station Option 1 may provide development opportunities for North Park Mall
  - Eastway Station Option 2 may require land assembly for substantial redevelopment

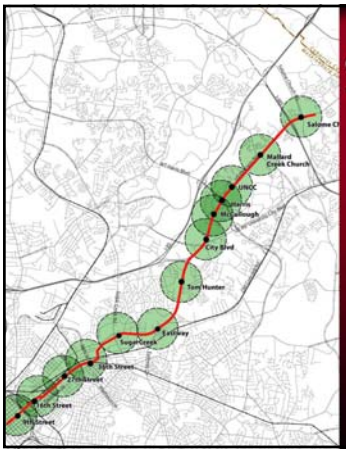
Transition to Tryon

Recommendations:

- Evaluate Option B: Transition through back side of Asian Corner in Draft EIS
- Evaluate Option C: Transition near Concord Road in Draft EIS

University City Area

- **Four** MIS Stations



University City Area

Considerations:

- 4 Stations have overlapping service area

University City Area

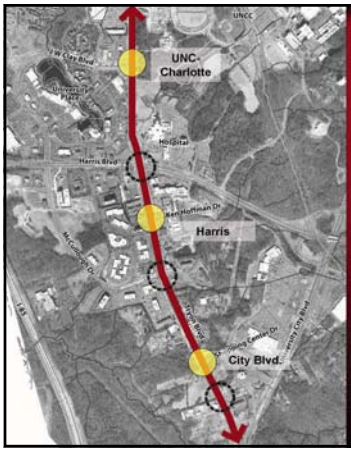
Considerations:

- 4 Stations have overlapping service area
- City Blvd. and Harris stations have limited vehicular and pedestrian access

University City Area

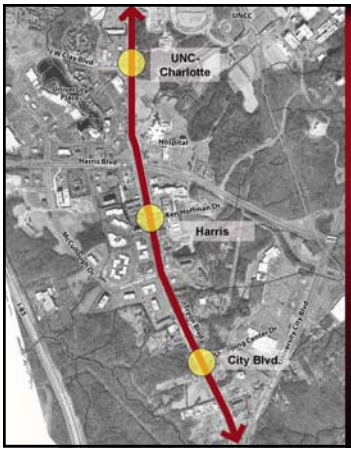
Considerations:

- 4 Stations have overlapping service area
- City Blvd. and Harris stations have limited vehicular and pedestrian access
- Future plans for US 29/NC 49 could restrict Transit-Oriented Development potential for City Blvd. Station



University City Area

- **Option: Reduce to 3 Stations and adjust locations**
  - Keep UNCC Station at MIS location
  - Move Harris Station south to Ken Hoffman Drive
  - Eliminate McCullough Station
  - Move City Blvd Station north to Shopping Center Drive



University City Area

- **Option: Reduce to 3 Stations and adjust locations**
  - Satisfies Station Spacing Criteria
  - Stations adequately serve Hospital and businesses
  - Ken Hoffman has traffic signal
  - City Boulevard Station avoids "weave"
  - All stations can provide adequate pedestrian access

University City Area

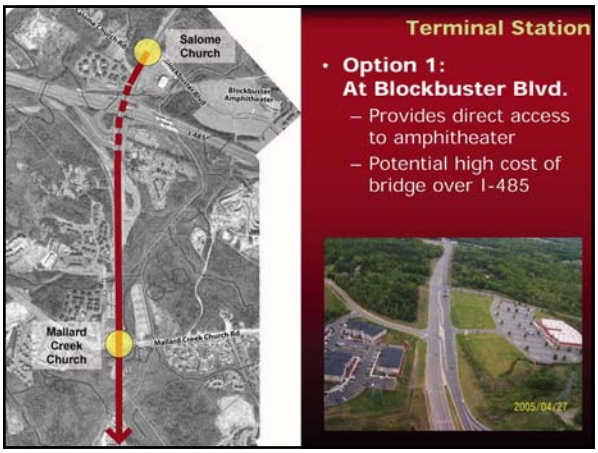
- **Option: Reduce to 3 Stations and adjust locations**
  - 3-station option may need to be re-evaluated depending on "weave" improvements

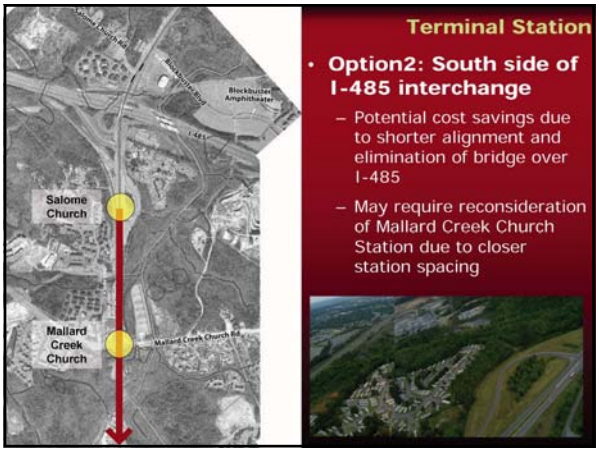
University City Area

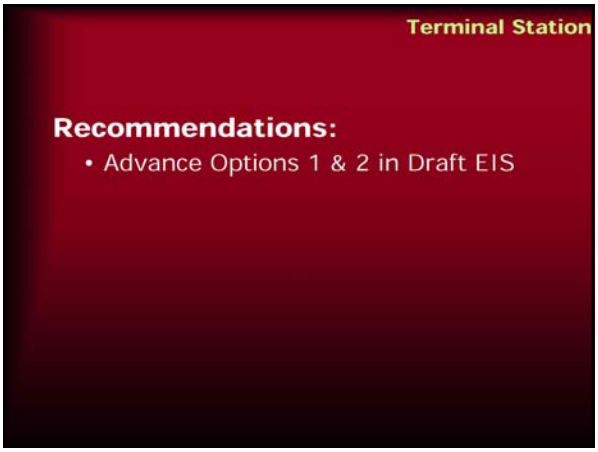
Recommendation:

- Advance the **Three-Station Option**

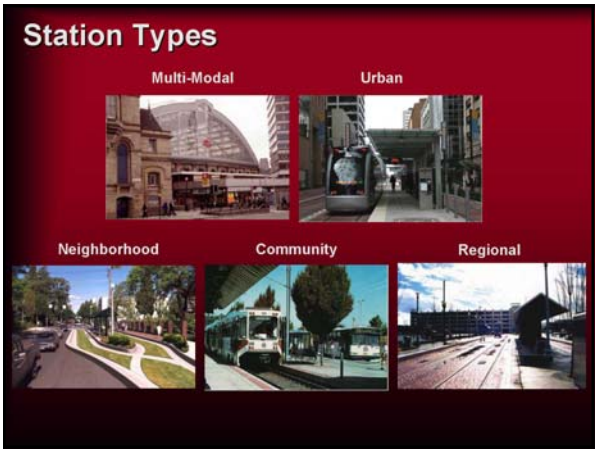

Terminal Station
Salome Church
Blockbuster Amphitheater
I-485
Mallard Creek Church
Mallard Creek Church Rd
• Salome Church Road (MIS location)
– Provides direct connection to Salome Church Road
– Potential high cost of bridge over I-485
2005/04/27


Terminal Station
Salome Church
Blockbuster Amphitheater
I-485
Mallard Creek Church
Mallard Creek Church Rd
• Option 1: At Blockbuster Blvd.
– Provides direct access to amphitheater
– Potential high cost of bridge over I-485
2005/04/27

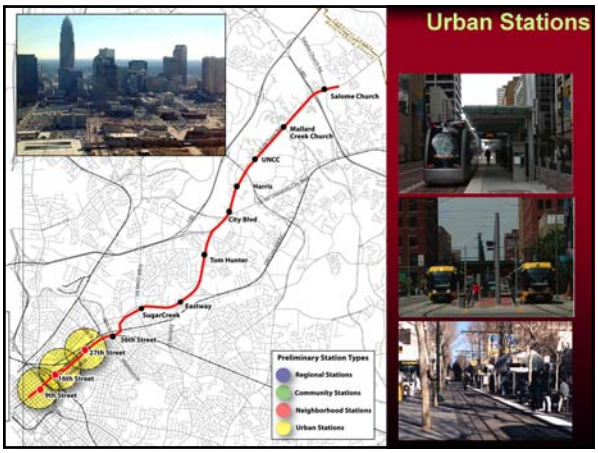

Terminal Station
Blockbuster Amphitheater
I-485
Salome Church
Mallard Creek Church
Mallard Creek Church Rd
• Option2: South side of I-485 interchange
– Potential cost savings due to shorter alignment and elimination of bridge over I-485
– May require reconsideration of Mallard Creek Church Station due to closer station spacing

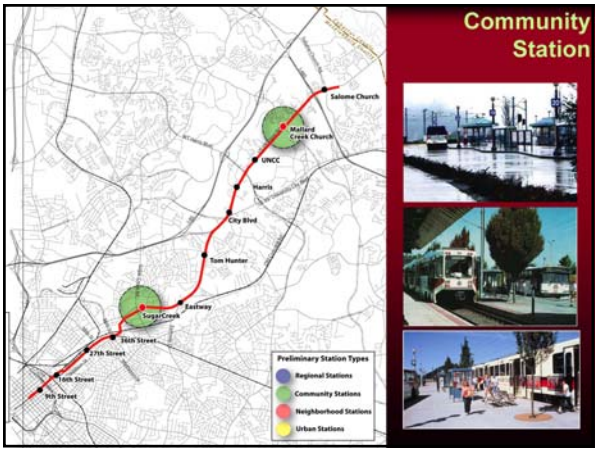

Terminal Station
Recommendations:
• Advance Options 1 & 2 in Draft EIS

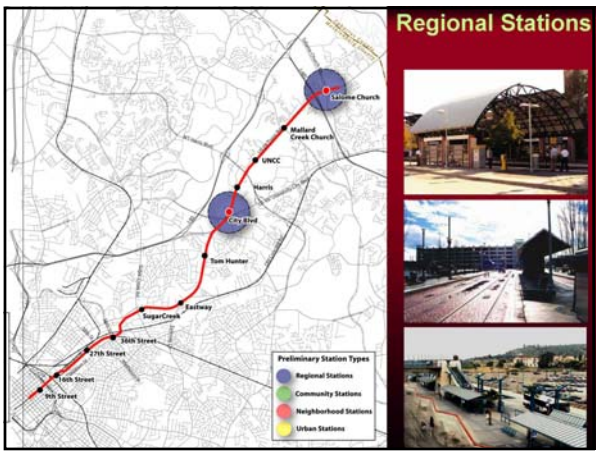

Is every station the same?

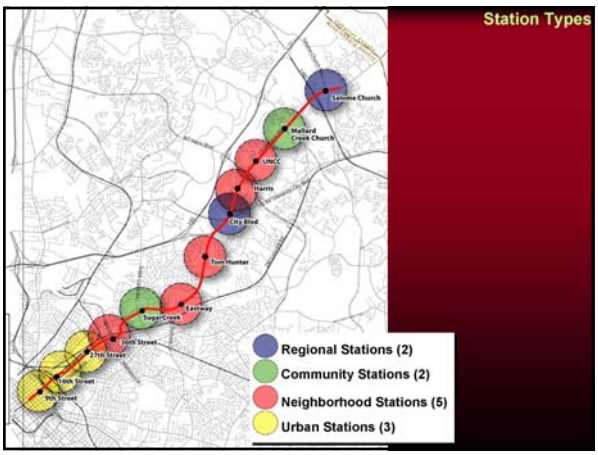

Station Types
Multi-Modal
Urban
Neighborhood
Community
Regional

	Service Area	Mobility Role	Place-making Role
Multi-Modal 	> 5 miles (typically in city center)	• Connections to other transit modes • Walk-up, bicycle and taxi traffic • Major bus transfers	Civic landmark/ focal point; significant public space
Urban 	< 1/2 mile (frequent stations)	• Walk-up and bicycle traffic	Integrated into existing development
Neighborhood 	1/2 mile to 1 mile (frequent stations)	• Walk-up and bicycle traffic • Some kiss & ride • Some bus transfers • Limited parking	Strengthens existing neighborhood centers
Community 	1 mile to 3 miles (less frequent stations)	• Walk-up and bicycle traffic • Major bus transfers • Some park & ride facilities	Focal point for existing or future development
Regional 	> 5 miles (typically end of line)	• Serves commuter traffic • Walk-up and bicycle traffic • Major bus transfers • Large park & ride facilities	Focal point for new development









Questions?

Break-out Groups

1. What station(s) would serve your neighborhood?
2. Are there other important activity centers that will not be adequately served by the proposed stations?
3. Do you agree with the station types assigned based on their:
   - Service area
   - Mobility characteristics
   - Place-making role

NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

EIS and Station Area Planning Workshops

September 6-8, 2005

Meeting Purpose

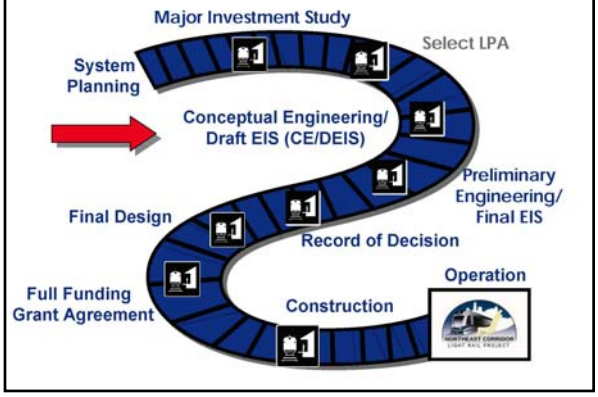
- Share recommended station locations
- Introduce overview of station design and amenities
- Plan station areas with public
- Get public feedback and suggestions

Tonight's Agenda

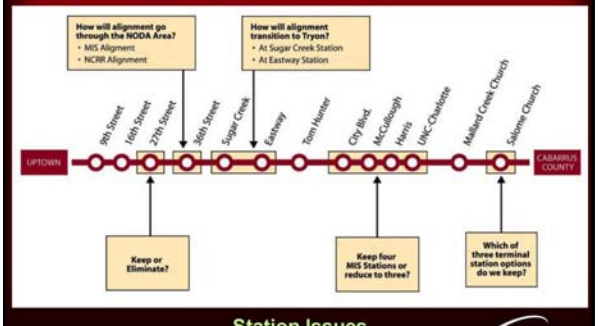
• DEIS recommendations	15 minutes
• Questions & answers	5 minutes
• Overview of station design and amenities	15 minutes
• Station area planning principles	15 minutes
• Questions & answers	10 minutes
• Breakout groups (Station Area Planning)	20 minutes

Station Location & Alignment Alternatives

FTA Project Development Process



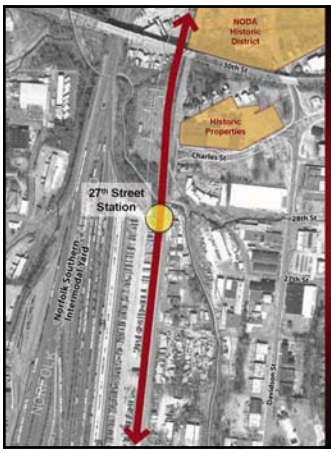
Alignment Issues



Station Issues

27th Street Station: Keep or Eliminate?

27th Street Station



Considerations:

- Limited development potential due to rail yard and industrial uses – MIS assumed relocation of rail yard
- Restricted access to the station
- Adjacent stations provide overlapping service
- Transit-dependent populations around station

27th Street Station

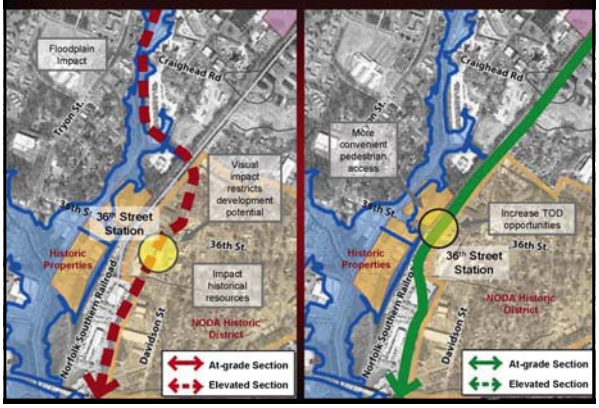
Recommendation:

- Evaluate 27th Street Station in the Draft EIS as a "future station"
- Advance the completion of ridership analysis and transit operations plan

How will the alignment go through the NODA area?

- MIS Alignment
- NCRR Alignment

MIS Alignment / NCRR Option



NODA Area

Public Input:

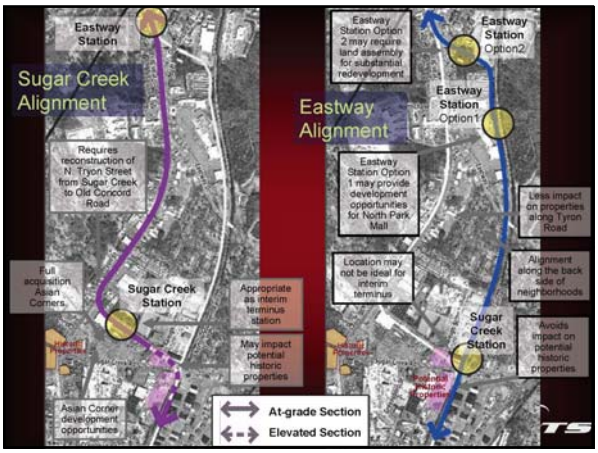
– Public supported NCRR Option

Recommendations:

- Drop the MIS alignment
- Evaluate the NCRR Option in the Draft EIS

How will alignment transition from NCRR rail line to North Tryon Street?

- **Sugar Creek Option:** Sugar Creek Station
  - Through the back side of Asian Corners, Eastway Station in center of N. Tryon Street
- **Eastway Option:** Eastway Station
  - Near Old Concord Rd., Sugar Creek Station adjacent to railroad



Transition to Tryon

Public Input:

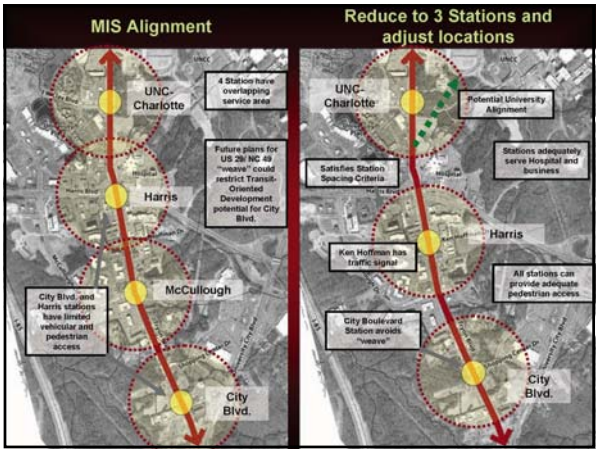
- Sugar Creek Option better serves Hidden Valley and supports redevelopment in the area
- Eastway Option would offer faster run times but may be more difficult to access

Recommendations:

- Evaluate both options

University City Area

Keep 4 MIS Stations or Reduce to 3?



University City Area

Public Input:

- Add 4th station between Tom Hunter and City Blvd stations, if weave condition is corrected and 29/49 intersection is at-grade
- Pedestrian crossings for median station a major safety concern
- Support for developing new alignment that directly serves UNCC

Recommendation:

- Advance the three-station option

Other Considerations:

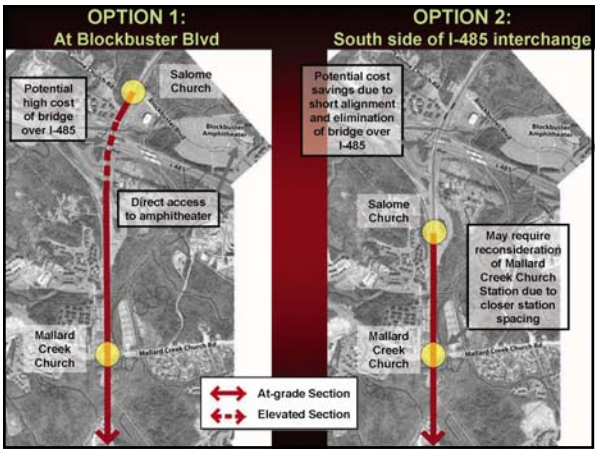
- If 29/49 "weave" situation is improved a fourth station may be recommended
- Work with UNCC to evaluate feasibility of providing more direct service onto campus

Terminal Station

Where should terminus station be located?

OPTION 1:
At Blockbuster Blvd

OPTION 2:
South side of I-485 interchange



Terminal Station

Public Input:

- Station south of I-485 would save costs
- Extending north of I-485 can be done in the future when there is demand for it
- North of I-485 would better serve Blockbuster Pavilion

Recommendation:

- Advance Options 1 & 2 in Draft EIS

Questions?

Station Design Elements

What's in a Light Rail Station?

Transit Station:

CATS-owned and operated facility that typically includes:

- Platform with shelter, seating, lighting and ticket vending
- Pedestrian access to platform
- Bicycle racks / lockers

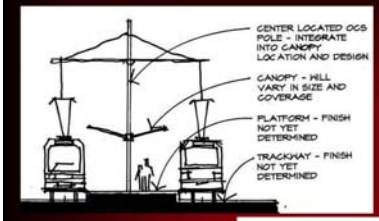
Some stations will include:

- Bus access
- Park and ride lot
- "Kiss and ride" drop off area

Stations can be modified to:

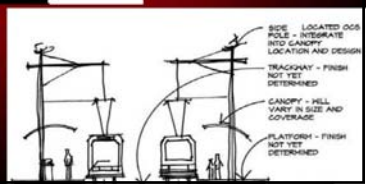
- Include additional services and functions
- Reflect character of surrounding development
- Incorporate community input

Platform Types

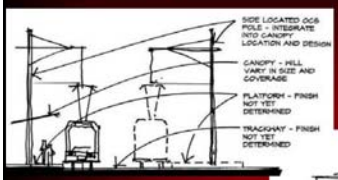


Centered Platform

Paired Platform

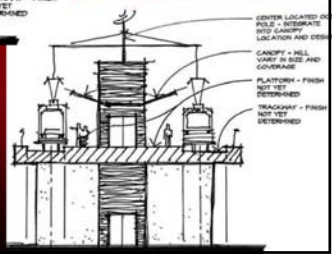


Platform Types



Staggered Platform

Elevated Platform



Platform Layout

The Basics:

- Provide canopy coverage
- Covered Fare Vending
- Degree of Consistency
- Incorporate trees into design
- 2 car scenario
- Be able to expand with system

CATS SOUTH CORRIDOR Preliminary Criteria

Platform Layout

CATS SOUTH CORRIDOR Scaleybark Station Area

Platform Layout

CATS SOUTH CORRIDOR Scaleybark Station Area

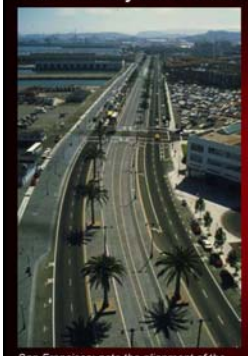
Platform Layout & Circulation

Portland: station platform in the median of an urban roadway.

Platform Layout & Circulation

Dallas: center platform in the median of suburban arterial roadway

Platform Layout & Circulation



San Francisco: note the alignment of the left-turn traffic lane with landscape strip, also used for station platforms and utilities.

Portland: split platforms staggered in the median of a roadway. Note the alignment of the left-turn traffic lane beyond.

Platform Layout & Circulation

Portland: Pedestrian access to a median platform via a intersection crosswalk.

Station Elements: OCS Poles, Lighting, Ticket Vending

Salt Lake

Dallas

Station Elements: Signage

CATS SOUTH CORRIDOR System Signage

Station Elements: ADA Access

Dallas: elevator access to an elevated platform

Rome: level boarding

Seattle: level boarding and detectable warning pavers along the platform edge

Station Elements: Shelter Design

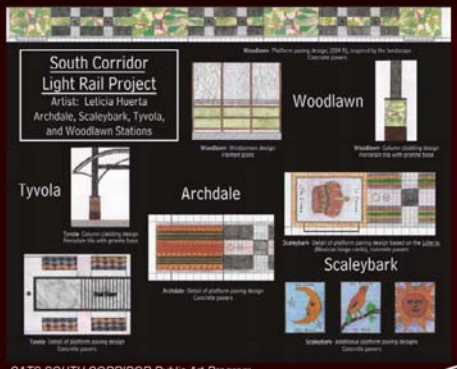
The "Tree"

CATS SOUTH CORRIDOR Shelter Design Theme

Station Elements: Site Furnishings

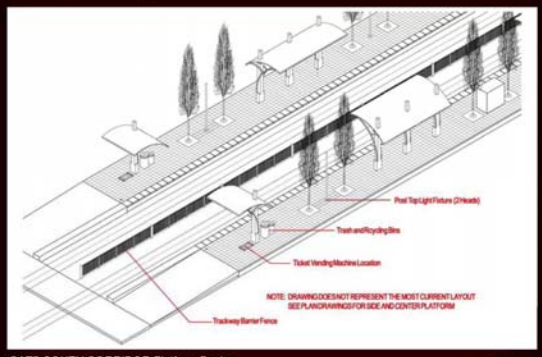
CATS SOUTH CORRIDOR Site Furnishing Standards

Station Elements: Public Art



CATS SOUTH CORRIDOR Public Art Program

Station Site Design



CATS SOUTH CORRIDOR Platform Design

Station Site Design

CATS SOUTH CORRIDOR Platform Design – 7th Street Station

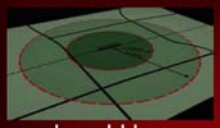
Why Are We Planning Station Areas?

Station Area Planning

- Provides development vision and policies for station area
- Identifies potential land use changes
- Recommends implementation actions, including any zoning changes and capital improvements

New Bern Station Area Plan – South Corridor

Station Area Plans Promote



Land Use

Mobility

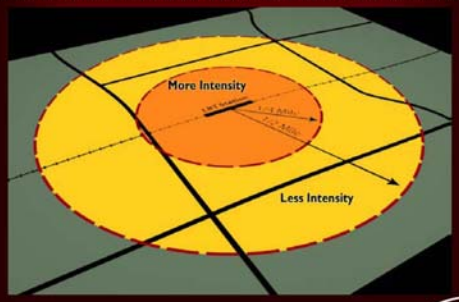
Community Character

Land Use and Development

Concentrate a mix of complementary, well integrated land uses within walking distance of the transit station

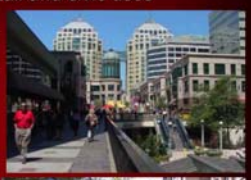
Land Use and Development

Allow for increased land use intensities in station areas



Land Use and Development

Provide a range of higher intensity uses, including residential, office, retail and civic uses



Land Use and Development

Locate special traffic generators, such as stadiums and colleges, in or near station areas

Land Use and Development

Protect the character of existing neighborhoods

Mobility

Enhance the existing transportation network to promote good walking, bicycling and driving connections to transit

Mobility

Develop an interconnected street network designed around a block system

Not adaptable without "surgery"

Mobility

Develop an interconnected street network designed around a block system

Easily adaptable

Mobility – Design streets to be multi-modal, with an emphasis on pedestrians and bicyclists

Mobility – Design streets to be multi-modal, with an emphasis on pedestrians and bicyclists

Mobility – Design streets to be multi-modal, with an emphasis on pedestrians and bicyclists

Mobility – Design the streetscape to encourage pedestrian activity

Mobility – Design the streetscape to encourage pedestrian activity

Community Character

Use urban design to enhance the community identity of station areas and to make them attractive, safe and walkable places

Character

Design buildings to front on public streets, with windows and doors at street level

Character

Design buildings to front on public streets, with windows and doors at street level

Character

Design buildings to front on public streets, with windows and doors at street level

Character

Establish public open spaces around transit stations

Questions?

Northeast Corridor Light Rail Project

NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

Community Workshop: Station Site Planning

December 6-7, 2005

Meeting Purpose

- Corridor characteristics and development process
- Review station area planning principles
- Detailed overview of station design and amenities
- Gather public feedback and suggestions on station site plans

Tonight's Agenda

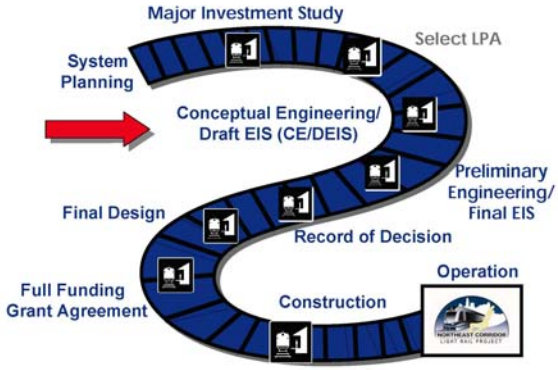
• Corridor characteristics	5 minutes
• Station area planning review	5 minutes
• Station design and amenities	25 minutes
• Questions & answers	15 minutes
• Public review of station site plans	20 minutes

Corridor Characteristics

Northeast Corridor

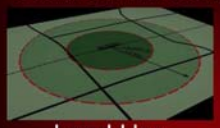
- Dual-track light rail system
- Uptown Charlotte to I-485
- Corridor length: 14 miles
- Extension of the South line
- 13 proposed stations
- Trains will operate seven days a week, 5:00 am until 1:00 am
- Service frequency:
  - Every 7.5 minutes: rush hour
  - Every 15 minutes: non-rush hour
- Light rail vehicles:
  - Top speeds of 55 mph
  - 68 seats with a total capacity of 236
  - Level boarding (low floor vehicles)
  - 4 wheelchair-designated areas and 4 bike racks per car

FTA Project Development Process



Why Are We Planning Station Areas?

Station Area Plans Promote



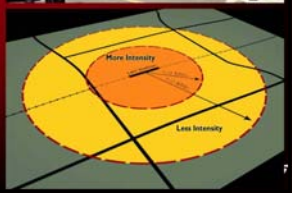
Land Use

Mobility

Community Character

Land Use and Development

- Concentrate a mix of complementary, well integrated land uses within walking distance of the transit station
- Allow for increased land use intensities in station areas



Mobility

- Develop an interconnected street network designed around a block system
- Enhance the existing transportation network to promote good walking, bicycling and driving connections to transit

Community Character

Use urban design to enhance the community identity of station areas and to make them attractive, safe and walkable places

Design buildings to front on public streets, with windows and doors at street level

Station Area Plans

- Provide development vision and policies for station area.
- Recommend implementation actions, including any zoning changes and capital improvements.

New Bern Station Area Plan – South Corridor

Station Planning and Design

Station Design Criteria

- **What Do LRT Stations Look Like? Prototypical Platform Types**
- **Station/Site Design Elements**
  - Shelters
  - Paving
  - Site Furnishings
  - Lighting
  - Trees & Landscaping
  - Public Signage
  - Public Art
  - OCS Poles
  - Fare vending
  - System Signage
  - ADA
- **Concept Station Site Plans**

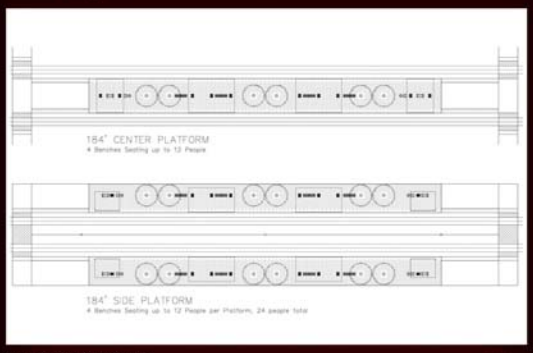
Platform Layout

The Basics:

- **Provide canopy coverage**
- **Covered Fare Vending**
- **Degree of Consistency**
- **Incorporate trees into design**
- **2 car scenario**
- **Be able to expand with system**

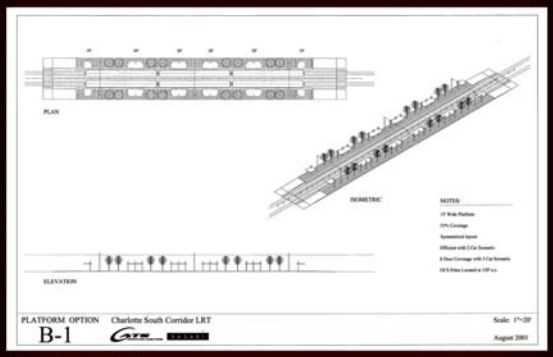
CATS SOUTH CORRIDOR Preliminary Criteria

Platform Layout



CATS SOUTH CORRIDOR
Prototypical Side and Center Platform Layout

Platform Layout

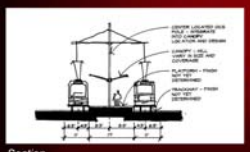


CATS SOUTH CORRIDOR
Platform Coverage Diagram

Preliminary Parking & Bus Requirements

Station	Prelim. Station Type	Parking at Station	Station Orientation	Bus Service Provided
9th Street	Urban	No	Side	Along street
16th Street	Urban	No	Side	Along street
27th Street	Urban	No	Side	Along street
36th Street	Neighborhood	No	Side	3 or 4 bus bays
Sugar Creek Option 1 (Sugar Creek Align.)	Community	Yes	Side	2 or 3 bus bays
Sugar Creek Option 2 (NCRR Align.)	Community	Yes	Center (Elevated)	3 bus bays
Eastway Option 1 (Sugar Creek Align.)	Neighborhood	Yes	Center	4 bus bays
Eastway Option 2 (NCRR Align.)	Neighborhood	Yes	Side	4 bus bays
Tom Hunter	Neighborhood	Yes	Center	3 bus bays
City Blvd Option 1	Regional	Yes	Center	4 bus bays
City Blvd Option 2	Regional	Yes	Center	4 bus bays
Harris / University City	Neighborhood	No	Side (staggered)	3 or 4 bus bays
UNCC	Neighborhood	No	Side (staggered)	2 or 3 bus bays
Mallard Creek Church Option 1	Community	Yes	Center	2 or 3 bus bays
Mallard Creek Church Option 2	Community	Yes	Center	2 or 3 bus bays
I-485/N. Tryon Option 1	Regional	Yes	Center	4 bus bays
I-485/N. Tryon Option 2	Regional	Yes	Center	4 bus bays

Prototypical Platforms

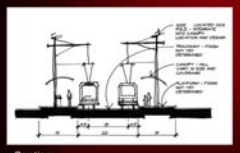


Section

Dallas: center platform in the median of a suburban arterial roadway

Center Platform

Prototypical Platforms

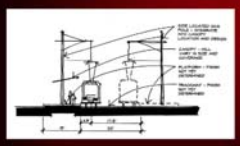


Section

Dallas: side platform layout.

Side Platform

Prototypical Platforms



Section

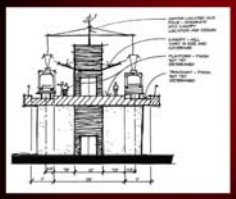
Portland: split platforms staggered in the median of a roadway. Note the alignment of the left-turn traffic lane beyond.

Staggered Platform

Platform Layout & Circulation

San Francisco: note the alignment of the left-turn traffic lane with landscape strip, also used for station platforms and utilities.

Prototypical Platforms



Section

Dallas: elevator access to an elevated platform

Elevated Platform

Platform Layout & Circulation

Portland: Pedestrian access to a median platform via an intersection crosswalk.

Platform Layout & Circulation

San Jose: pedestrian bridge to an elevated, center platform in the median of a high-traffic volume roadway

What Do LRT Stations Look like?

Cleveland

Dallas

Seattle

Boston

Station Design Elements

Station/Site Elements

- Shelters
- Paving
- Site Furnishings
- Lighting
- Trees & Landscaping
- Public Signage
- Public Art

Station Elements: Shelter Design Themes

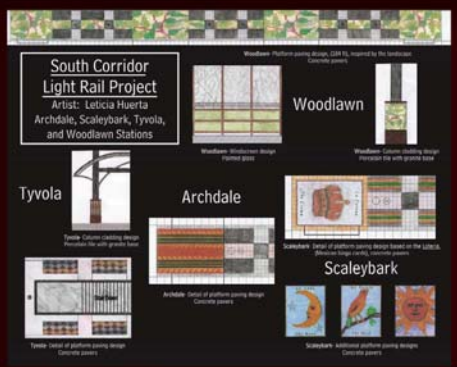
The "Tree"

CATS SOUTH CORRIDOR
Shelter Design Theme

Station Elements: Site Furnishings

CATS SOUTH CORRIDOR
Site Furnishing Standards

Station Elements: Public Art



CATS SOUTH CORRIDOR
Public Art Program

Station Design Elements

Functional/Operational Elements

- OCS Poles
- Fare vending
- System Signage
- ADA

Station Elements: OCS Poles and Lighting

San Francisco

Salt Lake

Seattle

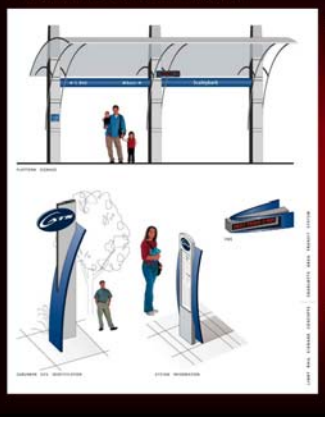
Station Elements: Fare vending and emergency phones

Dallas

Portland

Cleveland

Station Elements: Signage



CATS SOUTH CORRIDOR System Signage

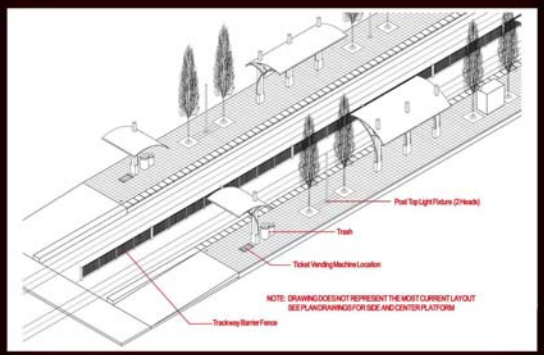
Station Elements: ADA Access

Dallas: elevator access to an elevated platform

Rome: level boarding

Seattle: level boarding and detectable warning pavers along the platform edge

Station Site Design



CATS SOUTH CORRIDOR
Platform Design

Station Site Design

CATS SOUTH CORRIDOR

Platform Design – 7th Street Station

Concept Station Site Plans

Components

- Platform Layout and Type
- Circulation: Transit, Vehicles, and Pedestrians, Accessibility
- Station Design Elements
  - Shelters
  - Paving
  - Site Furnishings
  - Lighting
  - Trees & Landscaping
  - Public Signage
  - Public Art
  - OCS Poles
  - Fare vending
  - System Signage

Concept Station Site Plans

CATS NORTHEAST CORRIDOR

Tom Hunter Station Concept Site Plan

NEXT STEPS

NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

Community Update
LYNX Blue Line Extension

May 1-2, 2006

Tonight's Purpose

- Discuss decision-making process
- Present analysis for NE Corridor alternative and design options.
- Receive public input

Decision Making Process

MTC System Planning Decision-Making Process

1. Recommend a "refined locally preferred alternative" for each corridor to the MTC for adoption.

MTC System Planning Decision-Making Process

2. Compare the adopted "refined locally preferred alternative" for all corridors
3. Develop staff recommendation for a revised Transit Corridor System Plan, including implementation and financial plans, for MTC consideration.
4. Conduct public hearing

MTC System Planning Decision-Making Process

5. The MTC will adopt a revised Transit Corridor System Plan that will outline the prioritization of the corridor implementation.
6. Submit DEIS for selected priority corridors to FTA

Northeast Corridor System Planning Schedule

- MTC-Information: May 24th
- Public meeting: June 6th & 7th
- MTC-Action: June 28th
- MTC-System Plan Recommendation: August 2006
- MTC-Public Hearing: September 2006
- MTC-System Plan Action: September/October 2006

Northeast Corridor Characteristics

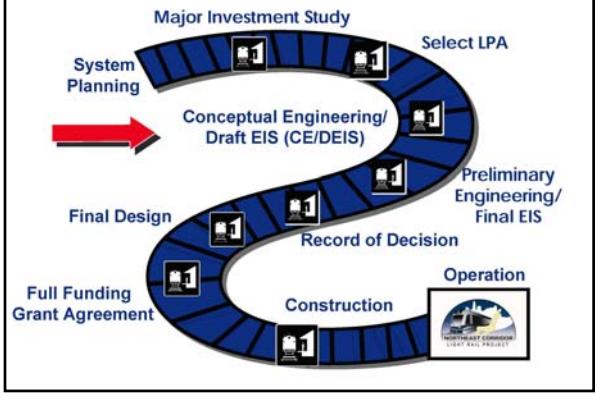
Northeast Corridor Purpose

The purpose of the Northeast Corridor Light Rail Project is to ensure future mobility in the Northeast Corridor and promote the desired shape of development in the region.

Northeast Corridor

- Dual-track light rail system
- Uptown Charlotte to I-485
  - 14 miles
- Extension of the South line
- 13 proposed stations
- Trains will operate seven days a week, 5:00 am until 1:00 am
- Service frequency:
  - Every 7.5 minutes: rush hour
  - Every 15 minutes: non-rush hour
- Fare= local bus

FTA Project Development Process



Public Meeting History

- February/March 2005- Corridor Kickoff
- April 2005- Station Location Workshop 1
- June 2005- Station Location Workshop 2
- September 2005- Station Area Planning
- December 2005- Station Design Criteria

Draft Environmental Impact Statement Alternatives

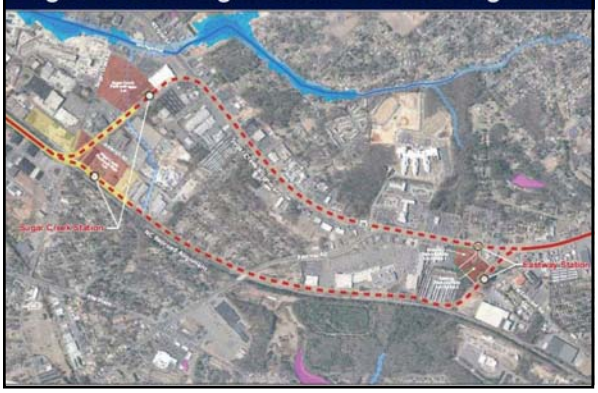
- No Build- Existing highway and transit infrastructure and other improvements, which are committed by 2025.
- Transportation System Management (TSM)- low cost improvements to facilities and operations.
- Build- Light Rail

Northeast Corridor Design Options

Design Options

- Sugar Creek or NCRR Alignment
- UNC-Charlotte or N. Tryon Alignment
- Terminus Location

Sugar Creek Alignment or NCRR Alignment



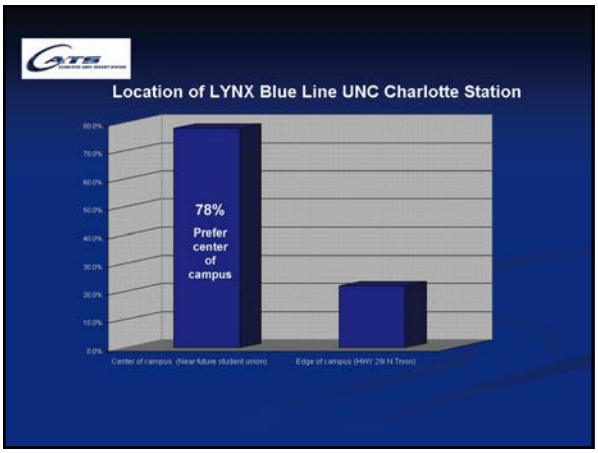
Sugar Creek Alignment or NCRR Alignment

	Sugar Creek	NC Railroad
Real Estate	Would require acquisition of Asian Corners and impact several businesses along North Tryon due to road widening.	Would require additional acquisition of NC Railroad Right-of-way
Land Use	Development potential at Asian Corners	TOD opportunity with remnant parcel from park-and-ride acquisition
Environmental	Demolition of potential historic building.	Building demolition of potential historic building; Potential noise impact to nearby residences
Traffic	Travels in median of North Tryon further; requires removal of center turning lane. Restrict left turns.	Avoids entering North Tryon until existing right-of-way is wider
Length	10,500 feet 1000 feet on structure	10,000 feet 2,300 feet on structure

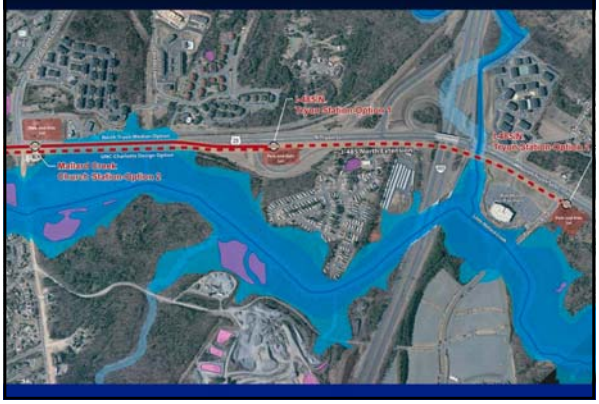
UNC-Charlotte or N. Tryon Alternative

UNC-Charlotte or N. Tryon Alignments

	UNC-Charlotte	N. Tryon/ US 29 Median
Real Estate	Could be negotiated with UNC-Charlotte	Land acquisition for widening of N. Tryon
Land use	Provides access to future UNC-Charlotte expansion areas at stations	Provides access to future development along N. Tryon at stations
Environmental	2 new stream crossings, 2 potential noise/vibration impacts	1 existing stream crossing to be widened
Traffic	One at-grade crossing of northbound N. Tryon St. to access UNC-Charlotte.	Typical median running section
Length	10,500 feet 1,000 feet on structure	7,000 feet 500 feet on structure



Terminus Location



Terminus Location

	I-485 South	I-485 North
Real Estate	State property purchase for park-and-ride	Private property acquisitions north of I-485 for station
Land use	Similar	Similar
Environmental	No additional stream crossings	1 additional stream crossing
Traffic	Travelers heading south off of I-485 would not have to turn to go north to get to a station on the north side	Travelers heading south off of I-485 would have to turn north to use station on the north side.
Length	Basis of comparison	5,000 feet longer/ 2,200 feet on structure

Other issues-

- 27th St. Station- Recommended to remain in project.
- Rocky River Station- Dependent on 29/49 Project resolution.
- UNCC Alternate Alignment- Dependent on completion of University's master plan and CATS Feasibility Study.

Questions

Refining the Locally Preferred Alternative

NORTHEAST CORRIDOR
LIGHT RAIL PROJECT

Public Meeting

June 5-6, 2006

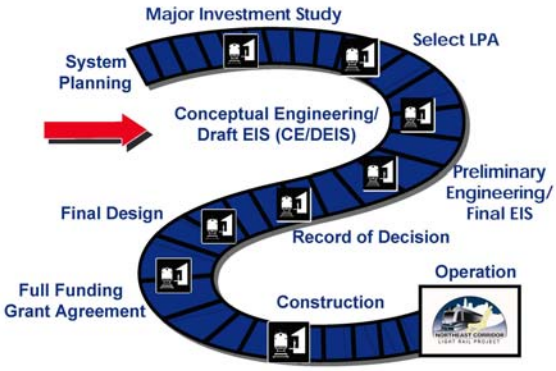
Tonight's Purpose

- Present proposed alignments and station locations being considered by Metropolitan Transit Commission
- Discuss next steps

Northeast Corridor

- Dual-track light rail system
- Uptown Charlotte to I-485
  - 11 miles
- Extension of the South line
- 12 proposed stations
- Operate seven days a week, 5:00 am until 1:00 am
- Service frequency:
  - Every 7.5 minutes: rush hour
  - Every 15 minutes: non-rush hour
- Fare= local bus

FTA Project Development Process



Public Decision Making

- February/March 2005- Corridor Kickoff
- April 2005- Station Location Workshop 1
- June 2005- Station Location Workshop 2
- September 2005- Station Area Planning
- December 2005- Station Design Criteria
- May 2006- MTC Process/Design Options

Northeast Corridor Design Options

Northeast Corridor Station Overview

- 9th Street
- 16th Street
- 27th Street
- 36th Street
- Sugar Creek *
- Eastway *
- Tom Hunter
- *Rocky River* **
- City Boulevard
- Harris/University City
- UNC Charlotte *
- Mallard Creek Church *
- I-485 / N. Tryon *

*Alternative station layouts being studied

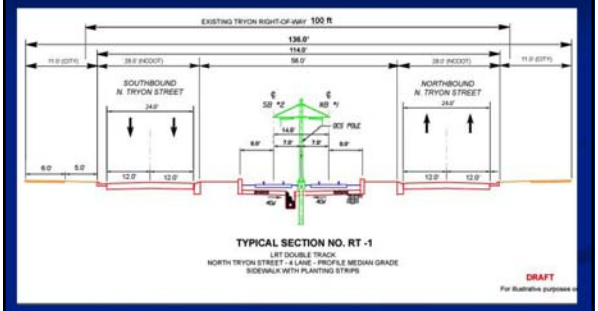
** Rocky River Station is dependent on resolution of 29/49 Project

Design Options

- Sugar Creek or NCRR Alignment
- UNC Charlotte or N. Tryon Alignment
- Terminus Location

Sugar Creek or NCRR Alignment

Proposed Typical North Tryon St. Cross-Section- No Platform



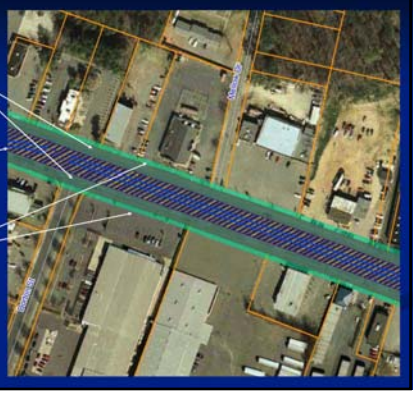
Proposed N. Tryon Section

*N. Tryon ROW would need to be expanded from 100 ft to 136 ft

2-12 ft travel lanes

58 ft median (includes track, ballast, & left turn lane/platform space)

11 ft sidewalk & planting strip



Land Use - Sugar Creek Station Option 1

(along the Sugar Creek Alignment)

Land Use and Economic Development Opportunities

- Can support redevelopment of Asian Corner
- Large underutilized parcels can be redeveloped as TOD in the mid- to long- term
- Good access to/from Tryon and Sugar Creek
- Alignment can provide opportunity for Tryon Corridor redevelopment
- Large parcels can provide interim terminal station parking

Land Use and Economic Development Constraints

- Would require partial/full acquisition of Asian Corner Property
- Alignment would require additional ROW along Tryon and impact some existing Tryon businesses (between Sugar Creek and Eastway)

Sugar Creek Station Option 2
(along the NCRR Alignment)

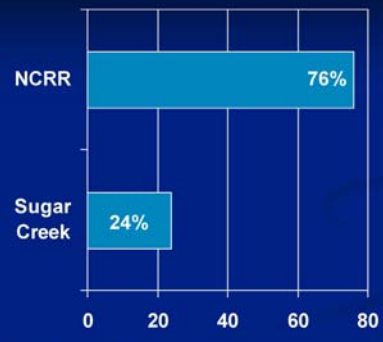
Land Use and Economic Development Opportunities

- Large parcels can provide interim terminal station parking

Land Use and Economic Development Constraints

- Station and alignment are in close proximity to neighborhoods and may have potential visual and noise impacts
- Elevated station may limit TOD potential
- NCRR is a barrier to pedestrian access and development
- Would require partial/full acquisition of Industrial properties for parking

Public Survey Results



Total # of respondents: 41

Summary Table

	Sugar Creek	NCRR
Daily Boardings	Equivalent	Equivalent
Real Estate	Impact to 77 businesses along North Tryon; several full acquisitions may be required	Railroad Right-of-Way Acquisition
Land Use	Development potential at Asian Corners and along N. Tryon St.	TOD opportunity with remnant parcel
Environmental	Demolition of potential historic building. Potential traffic impacts	Demolition of potential historic building; Potential noise impact
Traffic	Removes continuous lanes and consolidates turning movements to intersections	Avoids entering North Tryon until Old Concord
Length	10,500 feet 1000 feet on structure	10,000 feet 2,300 feet on structure
Cost *See cost breakdown next slide*	Capital- $51M* RE- $31M Total- $82M	Capital- $47M* RE- $9M Total- $56M **Difference= $26M Less**

Sugar Creek vs. NCRR Cost Matrix Breakdown

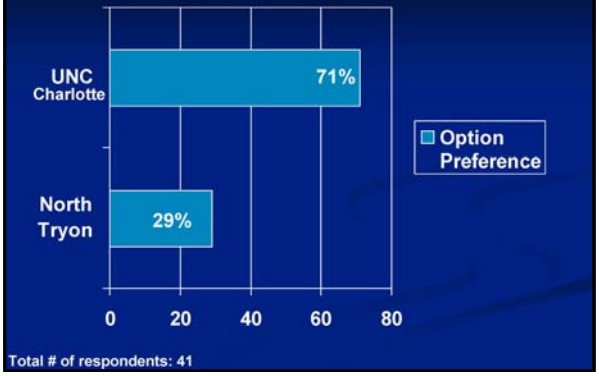
Item	Sugar Creek	NCRR	$ Difference	Why?
Track/Bridge	$12M	$19M	NCRR is $7M more.	NCRR has a longer bridge to accommodate an aerial station and requires the extension of the Eastway bridge
Stations	$3M	$5M	NCRR is $2M more.	NCRR-Sugar Creek station is above grade.
Roadway/ Systems	$36M	$23M	Sugar Creek is $13M more.	Sugar Creek requires the reconstruction of N Tryon St from Asian corners to Old Concord Rd.
Real Estate	$31M	$9M	Sugar Creek is $22M more.	Requires property acquisition for widening on N. Tryon St

Design Options

- Sugar Creek or NCRR Alignment
- UNC Charlotte or N. Tryon Alignment
- Terminus Location

UNC Charlotte or N. Tryon Alternative

Public Survey Results



Total # of respondents: 41

Summary Table

	UNC Charlotte	N. Tryon/ US 29 Median
Daily Boardings	2,200 more daily riders	Basis of Comparison
Real Estate	**Cost estimate assumes no ROW cost for University property.	Land acquisition for widening of N. Tryon
Land use	Additional station provides access to future UNC Charlotte expansion.	Typical landuse benefits at JW Clay and Mallard Creek Ch Stations
Environmental	2 stream crossings. 2 potential noise/vibration impacts	1 stream crossing
Traffic	One at-grade crossing of northbound N. Tryon St.	Typical median running section
Length	10,500 feet 1,000 feet on structure	7,000 feet 500 feet on structure
Cost Comparison **See cost breakdown next slide*	Capital- $27M* RE- $3M** Total- $30M **Delta = $10M less**	Capital- $29M* RE- $11M Total- $40M

UNCC vs. N. Tryon Cost Matrix Breakdown

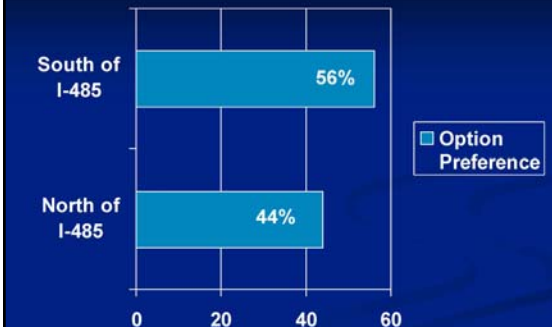
Item	UNCC	N. Tryon	$ Difference	Why?
Track/Bridge	$11M	$8M	UNCC is $3M more.	UNCC requires more bridges and 3500 ft of extra track
Stations	$3M	$2M	UNCC is $1M more	UNCC alignment adds a station on campus.
Roadway/ Systems	$13M	$19M	N. Tryon is $6M more	N. Tryon option requires longer reconstruction of road.
**Real Estate	$3M	$11M	N Tryon is $8M more	Cost estimate assumes no ROW cost for University property.

Design Options

- Sugar Creek or NCRR Alignment
- UNC Charlotte or N. Tryon Alignment
- Terminus Location

Terminus Location

Public Survey Results



Total # of respondents: 41

Summary Table

	I-485 South	I-485 North
Daily Boardings	Basis of comparison	200 additional riders
Real Estate	State property purchase for park-and-ride	Private property acquisitions north of I-485 for station
Land use	Similar	Similar
Environmental	No stream crossings	1 stream crossing
Traffic	Similar	Similar
Length	Basis of comparison	5,000 feet longer/ 2,200 feet on structure
Cost **See cost breakdown next slide*	Capital- $39M* RE- $2M Total- $41M **Delta = $30M Less**	Capital- $66M* RE- $5M Total- $71M

I-485 North vs. I-485 South Capital Cost Matrix Breakdown

Item	I-485 South	I-485 North	$ Difference	Why?
Track/Bridge	$2M	$24M	I-485 South is $22M less.	The bridge over I-485 and its ramps is almost a ½ mile long and complicated
Stations	$31M	$31M	None	Station layouts are substantially the same for both options
Roadway/ Systems	$6M	$11M	I-485 South is $5M less.	System/ communication elements of the bridge and increased power requirement for the extra distance
Real Estate	$2M	$5M	I-485 South is $3M less	I-485 North requires an additional 5000ft of real estate.

Overall Northeast Corridor Cost & Ridership Estimates

- **Eight different design option combinations**
- **Cost estimates range from $580 M to $650 M**
- **Ridership estimate ranges from 15,500 to 17,500 riders per day**

Next Steps

Northeast Corridor System Planning Schedule

- *MTC-Northeast Corridor Info: May 24th*
- Public Meeting: June 6th & 7th
- MTC-Northeast Corridor Action: June 28th
- MTC-System Plan Recommendation: August 2006
- MTC-Public Hearing: September 2006
- MTC-System Plan Action: September/October 2006

Questions

Public Meeting Summary
Northeast Corridor Light Rail Project
Charlotte Mecklenburg Government Center
600 East 4th Street - Charlotte, NC
February 22, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to introducing Project staff, the meeting also served to update the public on the following:

- Project Purpose and History
- Locally Preferred Alternative
- Conceptual Engineering
- Station Area Planning
- Environmental Impact Statement
- Project Schedule, and
- Public Participation.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on February 22, 2005 from 6:00 pm to 7:30 pm, at the Charlotte Mecklenburg Government Center located at 600 East 4th Street in Charlotte.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the first week of February to residents and property owners within one-half mile of the stations, and to citizens and groups who previously have expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during previous workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publications on the following dates:

- La Noticia (Spanish) February 9, 2005
- Charlotte Observer (and Website) February 8, 2005
- Charlotte Post February 10, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from February 2nd to March 1st.

On February 14th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database. The meeting notice was also included in Corporate Communications' CMail, FYI and City Notes.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, David Leard of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project purpose and history. He also discussed the Locally Preferred Alternative (LPA) resulting from the Major Investment Study (MIS) and the major components of Conceptual Engineering and the Environmental Impact Statement (CE/EIS). Mary Raulerson, a consultant will Glatting Jackson, explained the station area planning principles. Mr. Leard concluded the presentation with an overview of the project schedule and public involvement opportunities.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods and the input received during the breakout groups are documented in Section 5 of this report.

4.2. Attendance

A total of 9 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from the CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. Will the station area plans developed a couple of years ago still be used?

    - *CATS will still use the station locations from the Major Investment Study (MIS). The next stage of this process is defining how many stations will be needed in the corridor and their locations. After the number and location of stations is determined, consultants will begin developing the station area plans. Yes, we will still use the recommendations from the Transit Oriented Development (TOD) committee to which you are referring. (David Leard, CATS)*

2. When the station area plans are put in place, will the current uses be precluded?

    - *City Planning has always allowed existing developments to remain. TOD applies to future development. (David Leard)*

3. Please address the situation of present uses. Will any businesses along the corridor be considered a public safety issue after light rail is built?

    - *I cannot think of any business along the corridor that present a public safety concern. (David Leard)*

4. Do you plan any street closures along the corridor? In particular, 33rd Street?

    - *When there are two types of rail operating in the same area, some crossings could be considered unsafe and need to be closed. There was only one road closure in the South Corridor and it was a minor road. I cannot think of any closures in the Northeast Corridor. Please understand that it is our goal to maintain accessibility, so we try to minimize road closures. No, we do not plan to close 33rd Street. (David Leard)*

5. Are the overhead electric lines obsolete? Have you considered a light rail system with a third rail?

    - *No, we cannot power it with a third rail like a subway, because the third rail is electrified and we would have to secure the entire alignment to keep people from walking across the tracks. Building an entire light rail system in a secured, separate right-of-way is extremely expensive. Light rail with overhead wires is the current industry standard. It is definitely not obsolete. (David Leard)*

Public Meeting Summary
Northeast Corridor Light Rail Project
Mallard Creek Presbyterian Church
1600 Mallard Creek Church Road - Charlotte, NC
February 24, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to introducing Project staff, the meeting also served to update the public on the following:

- Project Purpose and History
- Locally Preferred Alternative
- Conceptual Engineering
- Station Area Planning
- Environmental Impact Statement
- Project Schedule, and
- Public Participation.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on February 24, 2005 from 6:00 pm to 7:30 pm, at the Mallard Creek Presbyterian Church at 1600 Mallard Creek Church Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the first week of February to residents and property owners within one-half mile of the stations, and to citizens and groups who previously have expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during previous workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publications on the following dates:

- La Noticia (Spanish) February 9, 2005
- Charlotte Observer (and Website) February 8, 2005
- Charlotte Post February 10, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from February 2nd to March 1st.

On February 14th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database. The meeting notice was also included in Corporate Communications' CMail, FYI and City Notes.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project purpose and history. He also discussed the Locally Preferred Alternative (LPA) resulting from the Major Investment Study (MIS) and the major components of Conceptual Engineering and the Environmental Impact Statement (CE/EIS). Mary Raulerson, a consultant will Glatting Jackson, explained the station area planning principles. Mr. Mock concluded the presentation with an overview of the project schedule and public involvement opportunities.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods and the input received during the breakout groups are documented in Section 5 of this report.

4.2. Attendance

A total of 10 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from the CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. When is the earliest that anything will be done on this project?

    - *The Northeast Corridor Light Rail Project may be completed in phases to speed up the process. The actual date is not certain at this time because we are competing with other corridors for funding. The first phase to 36th Street may be completed by 2010. (Andy Mock, CATS)*

General Comment

Below is the one general comment was received during the question and answer period.

My comments are limited to University City. Please eliminate the station at the 29/49 split because there is no pedestrian scale there with the current grade separation. Combine the McCullough and City Blvd stations to be more functional. Please provide a centrally-located station that serves the University because it will be a major trip generator. Combine the University and Harris stations and move it away from vehicular traffic access to the hospital. It will be one of the most important stations in this area. Thank you.

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugar Creek Services Center/Library
4045 North Tryon Street
March 1, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to introducing Project staff, the meeting also served to update the public on the following:

- Project Purpose and History
- Locally Preferred Alternative
- Conceptual Engineering
- Station Area Planning
- Environmental Impact Statement
- Project Schedule, and
- Public Participation.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on March 1, 2005 from 6:00 pm to 7:30 pm, at the Sugar Creek Services Center/Library at 4045 North Tryon Street in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the first week of February to residents and property owners within one-half mile of the stations, and to citizens and groups who previously have expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during previous workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publications on the following dates:

- La Noticia (Spanish) February 9, 2005
- Charlotte Observer (and Website) February 8, 2005
- Charlotte Post February 10, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from February 2nd to March 1st.

On February 14th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database. The meeting notice was also included in Corporate Communications' CMail, FYI and City Notes.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project purpose and history. He also discussed the Locally Preferred Alternative (LPA) resulting from the Major Investment Study (MIS) and the major components of Conceptual Engineering and the Environmental Impact Statement (CE/EIS). Mary Raulerson, a consultant will Glatting Jackson, explained the station area planning principles. Mr. Mock concluded the presentation with an overview of the project schedule and public involvement opportunities.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods and the input received during the breakout groups are documented in Section 5 of this report.

4.2. Attendance

A total of 25 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from the CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. When will you complete the Northeast Corridor light rail project?

   - *CATS plans to have some level of investment in all corridors by 2012. (Andy Mock, CATS)*
   - *We are currently developing an implementation plan for all the corridors. The 2025 Plan updated in November 2002 calls for light rail to 36th Street by 2012 and to the University area by 2017. We are reevaluating the schedule for the Northeast Corridor. (David Leard, CATS)*

2. Is the alignment set in stone?

   - *No. What you see on the maps is the general route for light rail in the Northeast Corridor, but it may vary throughout planning and design. For example, the exact route from North Davidson over to North Tryon has not been determined. (Andy Mock)*

3. Why does the alignment follow US 49 instead of the existing rail road?

   - *There are economic development opportunities along US 29 and better service to the hospital and university than along the existing rail road right of way. (Andy Mock)*
   - *CATS is different from other transit agencies in that it doesn't make transportation decisions without considering land use options. (David Leard)*

4. Where could we find plans for the City's future growth pattern?

   - *The City of Charlotte's Corridor Plan from 1994 can be found on the City's Planning Department webpage. (Laura Harmon, CMPC)*

5. Will CATS have an EIS for the Northeast Corridor by 2006?

- *The Draft Environmental Impact Statement (DEIS) for the Northeast Corridor should be completed by summer 2006. (Andy Mock)*

- *CATS started this process for the South Corridor in 2000. As a comparison, it would take five to six years for the Northeast Corridor to begin construction. There's a lot of work to be done with the federal government to reach that phase. (David Leard)*

6. When will CATS begin buying the necessary right of way?

    - *After the project receives a Record of Decision (ROD) from the federal government. (David Leard)*

7. This looks great, but I'm concerned about the distance from the nearest light rail station to UNCC's campus.

    - *The stations indicated on these maps are general locations. We will approach UNCC about locating a station on the campus to better serve the university. (Andy Mock)*

8. Will one leg of the Northeast Corridor begin before the other?

    - *We are considering completing the project in phases. It's an option to extend the South Corridor light rail line to 36th Street as a first phase and then further extend it to the university area as a second phase. (Andy Mock)*

9. How are you determining which corridor comes next?

    - *All of the remaining corridors will compete for federal funds through the New Starts Program. CATS is working on each of the corridors but they will naturally advance through the federal process at different rates. (David Leard)*

10. How difficult has it been to obtain federal money for the South Corridor Project?

    - *It has been very difficult. The Federal Transit Administration (FTA) has changed the process over the last few years. This year Charlotte was one of the four or five projects recommended for funding out of 200. It is very competitive and difficult to advance projects. Political support here in Charlotte helps in moving these transit projects forward. (David Leard)*

Public Meeting Summary
Northeast Corridor Light Rail Project
Hilton Charlotte University Place
8629 JM Keynes Drive
April 5, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to introducing station location considerations and station types, the meeting also served to gain public feedback and suggestions on the following:

- Project Goals
- Project Purpose and Need
- MIS-proposed Alignment and Stations
- FTA Project Development Process
- Station Location Considerations
- Light Rail Stations
- MIS Station Location Evaluation
    - Operational Spacing and Service Area
    - Future Development Potential
    - Existing Transit-Supportive Uses

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on April 5, 2005 from 6:00 pm to 7:30 pm, at the Hilton Charlotte University Place at 8629 JM Keynes Drive in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the first week of March to residents and property owners within one-half mile of the stations, and to citizens and groups who previously have expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during previous workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publications on the following dates:

- La Noticia (Spanish) March 30, 2005
- Charlotte Observer (and Website) March 29, 2005
- Charlotte Post March 31, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from March 22nd until April 7th.

On April 1st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database. The meeting notice was also included in Corporate Communications' FYI and City Notes.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project purpose and goals. He also discussed the Major Investment Study (MIS) proposed alignment and stations and the Federal Transit Administration (FTA) project development process. Mary Raulerson, a consultant with Glatting Jackson, explained the considerations of station locations and the types of stations. Jane Lim-Yap, a consultant with Glatting Jackson, explained the MIS station location evaluation methodology.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report.

Attendees were also urged to complete surveys provided before the presentation and turn them in before leaving. Eleven surveys were collected and the results are documented in Section 5.2 of this report.

4.2. Attendance

A total of 31 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from the CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. What will be the hours of operation? What type of noise or vibration impact will light rail have?

   - *The hours of operation for the South Corridor will be from 5:00 am – 1:00 am, so it is likely that will be the same hours for the Northeast. Through the Environmental Impact Statement (EIS), CATS will investigate all of the environmental impacts. In doing so, CATS will evaluate any vibration impacts and mitigate them in some way. (Andy Mock, CATS)*

2. Is the purpose of this light rail system to get people to and from work?

   - *We are visionary in that we are building for the future. You plan for what's currently on the corridor now and how it may develop in the future. There are a lot of employers in the University area, which could generate a lot of trips. However, in the future, there will be more Transit Oriented Development (TOD) allowing people to use light rail for entertainment or recreational uses. (Mary Raulerson, Glatting Jackson)*

3. The hospital expansion at Harris Blvd Station could lead to more employees taking light rail from Center City to the University area. Has there been any coordination with other improvement plans for this area and locating the station on the north side of Harris Blvd?

   - *The Urban Boulevard Project sponsored by University City Partners (UCP) is looking at North Tryon as an urban boulevard and making it more walkable. Having Glatting Jackson working on both the Urban Boulevard Project and the Northeast Corridor Light Rail Project is an advantage in that efforts aren't duplicated. To address your other comment, the potential employment growth at the hospital is a consideration. (Andy Mock)*

4. I believe that you should combine the Harris Blvd and UNCC stations. As that intersection is now, it is hard to imagine a pedestrian friendly station there. The vehicular traffic is too high. Pull the station away and continue serving the hospital and university.

5. The area at Harris Blvd and North Tryon is one of the most sensitive considering the proximity to the hospital and possible reverse commuting to the university. Because they are adjacent, moving away from the intersection even with the pedestrian improvements will still be a challenge. I would recommend eliminating the station at Harris and moving the UNCC station closer to the hospital to serve both at a safe location.

   The University City Blvd station at the 29/49 split needs to move north even with the grade separation because there's no potential for TOD where it's proposed. Or, possibly move the Harris station south to provide two stations between Harris and 29/49.

6. It is important to design the system for future years. You cannot ignore the importance of that intersection. If you don't locate a station there, it will become a self-fulfilling prophecy. If not through this project, funds will not be available to improve pedestrian access to that area.

   I agree. It is a wonderful opportunity to make it the true heart of University City. There needs to be a major redevelopment here through this project or it will not happen otherwise. You can make a great station there, but it will still be one of the worst intersections. Do it all and do it right.

7. Is the WT Harris station located at the intersection of WT Harris and North Tryon? Is the UNCC station located at the light in front of the hospital?

   - *The WT Harris Blvd station is located at the intersection of WT Harris and North Tryon. (Mary Raulerson)*

   - *The UNCC station is located at the Intersection of JW Clay Blvd.. (Andy Mock)*

8. What are the options for moving staff and students on to the university campus? Will you get close enough for people to walk to campus or will circulator buses be needed?

   - *CATS will be evaluating alternatives to serve UNCC better, and will approach them for their reaction in the near future (Andy Mock)*

9. It is imperative for CATS to establish a strategic vision and then communicate it to the University. I am involved with University Planning and I know there's a real interest at taking a fresh look at how people get from US 29 across campus without putting people in cars. CATS has been silent.

10. Can you move the alignment from US 29 and actually go through the heart of the campus?

    - *It is an excellent idea and we have been considering it. We are treading lightly but agree that a station in the heart of the campus would be ideal. (Andy Mock)*

11. The stations, as they are proposed, do not represent the University as a major node midway between the two ends of the line and the hospital intensifies this. There is an opportunity with the University to create something unique instead of running down the middle of or bordering the edge of a six lane highway.

12. What is the reasoning behind the station locations? Some stations seem in the middle of commercial and others are close to neighborhoods. However, there are some neighborhoods that aren't served. Can you explain this?

    - *I believe that Hidden Valley is a great example and one of the largest neighborhoods in the City. The alignment cannot get too far away from US 29 without resulting in residential property acquisitions. There will be an integrated bus system that will serve this area. We can't get close enough to serve Hidden Valley from a pedestrian perspective. Wexford is in the same situation. (Andy Mock)*

13. Is there an opportunity to expand into Concord to serve the new pedestrian friendly development?

    - *A separate project for the Northeast Corridor involves a bus rapid transit line on a fixed guideway, but it's a long term goal. (Andy Mock)*

    - *There are many attractions in Concord, including a regional airport, Concord Mills mall and the Speedway. I can say that we are actively looking at how to expand rapid transit into Cabarrus County. It will not be a part of this project but it is being seriously evaluated. (Chair of the Cabarrus County Chamber of Commerce Transportation Committee attending the meeting)*

    - *There is nothing to preclude the extension of rapid transit in the future if Cabarrus County would support and fund it. It is just not going to happen under this project. (Andy Mock)*

14. Will there be any improvements to the Harris Blvd intersection?

    - *University City Partners is working on the entire Hwy 29 corridor from the split to Mallard Creek Church. That intersection is a bottleneck that CATS cannot solve on its own. It will take cooperation between CATS, CDOT, NCDOT, UCP and Planning. (Andy Mock)*

14. Is the light rail alignment really coming down the middle of North Tryon?

    - *It could run down the middle or either side. If it is on one side, it would close off driveways. Running down the center is our preference, but we do not know how NCDOT will respond. We will be working with them on this arrangement. The platforms could be centered, paired or staggered. There are many configurations for how a station is laid out but the elements would be the same. (Andy Mock)*

15. How would you get pedestrians over North Tryon to the stations?

    - *Pedestrian crossings and signals will be added to get people to the stations. We expect that having light rail down the center will slow traffic down. Having the station in the center means that pedestrians only cross one direction of traffic, instead of two if the line is oriented to one side. (Andy Mock)*

16. What about security?

    - *All of the stations are lit and have cameras and emergency call boxes on the platform and in the park and ride lots. The cameras are monitored at the main control center all of the time. There is also a division within Charlotte Mecklenburg Police Department of transit police that will monitor the park and ride lots and light rail vehicles. (Andy Mock)*

17. Will light rail realistically alleviate the traffic at the Harris intersection? Where are all those people in those cars going? Will light rail serve these trips?

    - *We are counting on people going from the suburbs to University City and downtown, and vice versa. As the TOD occurs around station in the future, the traffic patterns will change. (Mary Raulerson)*

18. What is the layout of the stations? Are they raised with some type of barrier or is it open?

    - *Some stations must be grade separated, but we hope that most will be at grade and barrier free. (Andy Mock)*

19. What City are you modeling this light rail system after?

    - *We have staff members that have worked for other systems and they may be similar. As far as land use, we are doing things more proactively than any other city. That's what makes Charlotte unique. (Andy Mock)*

    - *Light rail will be above ground similar to Dallas, San Diego and Portland. (Mary Raulerson)*

20. I've heard terrible things about the contractors in other cities. What will CATS be doing to monitor them?

    - *Construction just began, but we have a Quality Control/Quality Assurance department that will perform audits and Construction Management to oversee the contractors. (Jennifer Green)*

21. I'm very excited to see the progression of rapid transit in Charlotte over the last six years with bus service, park and ride lots and now light rail. However, there needs to be solid pedestrian connections between stations.

22. Do you take rising gas prices and parking costs into consideration?

    - *These issues are included in the modeling required by the Federal government's approval and funding of the project. (Mary Raulerson)*
    - *The projections are important because Charlotte is competing with other projects around the country for funding. (Andy Mock)*

5.2 Survey Results

1. What is the closest proposed station to your place of residence? (Some people indicated more than one station.)
    - City Blvd: 0
    - McCullough: 1
    - Harris: 2
    - UNCC: 1
    - Mallard Creek Church: 5
    - Salome Church: 1
    - 9th: 1

2. If you were going to use the light rail line, how would you get to the station (check all that may apply):
    - Drive: 8
    - Bike: 1
    - Walk: 4

3. Do you think there should be a station at 9th Street?
    - Yes: 7
    - No: 3
    - If no, why not?
        - In the future, not until buildings go in.
        - The distance between the other two stations makes this a viable consideration.
        - Transferring to a bus route would/could be confusing.
        - If there is a station two blocks away on 7th Street, the money spent on that station could be put to better use elsewhere.
        - Too close to 7th.

4. Do you think there should be a station at 27th Street?
    - Yes: 7
    - No: 2
    - If no, why not?
        - Yes, area is ripe for revitalization.
        - Yes, need to have service for the people who can walk to the stations.
        - Yes, I believe it is important to encourage additional residential development around the NoDa area, whether the more appropriate station to encourage NoDa is 27th or 36th is something that needs careful study.
        - Yes, access.
        - Depends. What was the reason for choosing it? Is it because of the population around it?
        - Seems to close to 16th and 36th stations.
        - Maybe, it would depend on anticipated demand.
        - No, seems to be lots of overlap with 16th and 36th. Perhaps possible if lots of redevelopment opportunities.

5. Do you think there should be a station at WT Harris Blvd?
    - Yes: 8
    - No: 1
    - Please explain why or why not:
        - Yes, Major destinations: shopping, banking, hotels, dining, hospital, library. Major intersection – if there is a station, maybe the intersection will be completely redone to become a city square for University City.
        - Yes, you need this station to accommodate this area because there are not any crosswalks or sidewalks.
        - Yes, it is likely that NCDOT will need to see a major local investment around that intersection in order to obtain the significant funding that will be required. A NE Corridor station in the vicinity of the Harris intersection is the best catalyst for leveraging that state funding.
        - Yes, 29 and Harris. High traffic counts.
        - Yes, if you can make all four corners accessible and maintain traffic flow. No, if you make it worse.
        - No, this is a very congested intersection. The McCullough and UNCC stations could serve business along Harris equally well.
        - Yes, lots of trip generators and attractors at this location. Perhaps consolidate with University.
        - Yes, it should be seen as the Trade and Tryon of the UC area.

6. Please provide comments on the proposed MIS station locations in your area:
    - <u>City Blvd:</u>
        - Industrial – don't see a great potential for ridership.
        - What about 29/49 realignment? DOT pushed construction date back.
        - Depends on future land use.
    - <u>McCollough Dr:</u>

- Lots of office workers – good potential ridership.
- Business park access.
- Excellent possible link with a local loop bus. Lots of people work on McCullough.

- WT Harris Blvd:
  - The big one.
  - Important location, but it is possible that this station could be combined with the UNC Charlotte station. Need for dialogue with University officials.
  - Need better pedestrian mobility.
  - Will the current intersection be reworked? The heavy traffic makes accessibility problematic.
  - Very busy intersection. Pedestrian traffic or park and ride could be nightmarish.
- UNC-Charlotte:
  - Perhaps consolidate with the Harris Station.
  - Like McCollough, great for links to local loop bus service. Extension of JW Clay Blvd to Hwy 49 would make UNCC campus more accessible.
  - As far as location, what's good for the university is good for me.
  - Access strong commuter population. More involvement with University.
  - It is possible that this station could be combined with the WT Harris Blvd station. Need dialogue with University officials.
  - Huge potential for students.
- Mallard Creek Church Rd.:
  - Very hairy intersection surrounded by wetlands. Might want to push a bit north.
  - It's ok; however, I wish that I had transportation to the rail.
  - Pulls from lots of new residential.
- Salome Church Rd:
  - Some good possibilities for link to Pavilion and its surrounding apartment complexes.
  - Great potential from amphitheater, shuttle to Lowe's Motor Speedway.

7. Are there other station locations that you would like to see? (Please be specific)
   - Would like to see this move to Concord.
   - Yes, Eastfield Drive and Prosperity to Hyland Creek.

8. Additional comments and suggestions:
   - I hope we will be sensitive to how this rail helps to build connectivity and serve the community.
   - Consider extending north into Cabarrus County. Very large mixed use plan suggested for 29 and Roberta Church Road. Also picks up Speedway traffic and could link west towards Concord Mills Mall, which forms a continuous loop.

- If the money for this project is short, I'd be happy to see a busway put in. I've found buses are more versatile and user-friendly in my years of mass transit use. To finance the line, CATS should build, develop and lease out commercial properties adjacent to stations.
- Concord access. Shuttle bus connector (i.e. 249). University City Chamber of Commerce meetings. Greater cooperation with UNCC.
- Must have good walkways/bikeways to UNCC campus. Would like to see walkways/bikeways along entire ROW. Swing the line into University campus and go more directly to amphitheater – leave Hwy 29 roadway.

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugaw Creek Presbyterian Church
101 West Sugar Creek Road
April 7, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to introducing station location considerations and station types, the meeting also served to gain public feedback and suggestions on the following:

- Project Goals
- Project Purpose and Need
- MIS-proposed Alignment and Stations
- FTA Project Development Process
- Station Location Considerations
- Light Rail Stations
- MIS Station Location Evaluation
    - Operational Spacing and Service Area
    - Future Development Potential
    - Existing Transit-Supportive Uses

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on April 7, 2005 from 6:00 pm to 7:30 pm, at the Sugaw Creek Presbyterian Church Fellowship Hall at 101 West Sugar Creek Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the first week of March to residents and property owners within one-half mile of the stations, and to citizens and groups who previously have expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during previous workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publications on the following dates:

- La Noticia (Spanish) March 30, 2005
- Charlotte Observer (and Website) March 29, 2005
- Charlotte Post March 31, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from March 22nd until April 7th.

On April 1st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database. The meeting notice was also included in Corporate Communications' FYI and City Notes.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project purpose and goals. He also discussed the Major Investment Study (MIS) proposed alignment and stations and the Federal Transit Administration (FTA) project development process. Mary Raulerson, a consultant with Glatting Jackson, explained the considerations of station locations and the types of stations. Jane Lim-Yap, a consultant with Glatting Jackson, explained the MIS station location evaluation methodology.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report.

Attendees were also urged to complete surveys provided before the presentation and turn them in before leaving. Fifteen surveys were collected and the results are documented in Section 5.2 of this report.

4.2. Attendance

A total of 26 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from the CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. Has CATS considered placing a station closer to the Highland Mills condo development?

    - *We think it is important to have a station at 36th Street in the heart of NoDa. It is not operationally efficient to have another station that close. Maybe instead we can improve the pedestrian and bike connection to 36th Street from Highland Mills. (Andy Mock, CATS)*

2. I like the idea of having a station at 36th Street in the heart of NoDa. CATS should also consider another development at the corner of Garrison and Spencer, which is about a 10 minute walk from the 36th Street station.

3. What will be the development impact of a station at 36th Street on the NoDa area?

    - *It will have a positive impact on NoDa as a neighborhood station to serve businesses and residences. It is unlikely that there would be a park and ride lot associated with this station. (Andy Mock)*

4. What property acquisition will be necessary to accommodate the station?

    - *A neighborhood station doesn't require a lot of property acquisition. It can be accommodated within the existing railroad right of way. CATS shouldn't have to buy much property. (Andy Mock)*

5. Many residents in the Belmont neighborhood rely on public transportation. However 16th Street is oriented towards the industrial side instead of the neighborhood where more people would use it. Why?

    - *The Major Investment Study (MIS) identified the existing railroad right of way for the alignment. We think that it would be best to find a mid-point and serve communities on the east and west side of this freight rail barrier. The 16th*

Street Station is located at Parkwood to provide an east/west connection. (Jane Lim-Yap, Glatting Jackson)

- *We are looking for ways to enhance the east/west connection because we realize that the rail yard is a barrier. (Mary Raulerson, Glatting Jackson)*

- *Also, locating a station there may not be the best way to serve the neighborhood. They may be better served through increased or improved bus service. (Jane Lim-Yap)*

6. I would like to point out that there are many street improvements planned for that neighborhood as a part of the Belmont Revitalization Plan.

7. Is there an option to move the alignment away from the existing railroad right of way?

    - *We have explored that option, but it is much easier to work within the existing right of way because it minimizes property acquisitions. (Andy Mock)*

8. Will there be shuttles to get people from neighborhoods to the stations?

    - *There will be a bus-rail integration plan to serve neighborhoods around stations that are not served well by the light rail alignment. (Andy Mock)*

9. The 27th Street Station seems isolated, why?

    - *It is backed up against the rail yard and seems isolated. The station was placed there during the MIS with the assumption that it is going away. Now, it is our understanding that the Norfolk Southern rail yard will not be moving to the airport. (Andy Mock)*

10. Do you foresee riders using light rail over the Davidson Street bus?

    - *Our initial thought is that the southern stations will be used by people traveling north. Those traveling south into Uptown will probably be better served by increased bus service. (Jane Lim-Yap)*

14. Without the 9th Street Station, will there be a gap between 7th Street and 16th?

    - *Yes. The South Corridor Light Rail Project ends at 7th Street and there would be a gap there. A station at 9th Street would serve future development. (Andy Mock)*

5.2 Survey Results

1. What is the closest proposed station to your place of residence? (Some people indicated more than one station.)
    - 9th: 1
    - 16th: 3
    - 27th: 4
    - 36th: 6
    - Sugar Creek: 1
    - Eastway: 0
    - Tom Hunter: 1
    - WT Harris: 1

2. If you were going to use the light rail line, how would you get to the station (check all that may apply):
    - Drive: 7
    - Bike: 6
    - Walk: 11

3. Do you think there should be a station at 9th Street?
    - Yes: 13
    - No: 1
    - If no, why not?
        - In the interest of using LRT for fast, long-distance travel, this station could be replaced with the bus network closer to and in Uptown.
        - It's important to connect the 7th and 16th.
        - Need intermediate station downtown.
        - 10 – 15 years look for a better route. Ridership in the downtown area would be considerable. Put the train on a monorail for transportation and view for all people.

4. Do you think there should be a station at 27th Street?
    - Yes: 9
    - No: 3
    - If no, why not?
        - Depends. If there is redevelopment potential in the immediate vicinity, it might be a good idea for a station there. Viable industrial areas in the City should also be protected / fostered. That should be a consideration in this decision.
        - I do not currently see 27th as a destination or getting off point. It might develop to be beneficial in the future, but I don't see it today.
        - Too close proximity to rail yard.
        - Move intermodal track beds so as to service businesses and residents on the North Tryon corridor.

- Absolutely! Probably one of your biggest user markets (Belmont) if the cost is free or nominal.
- If future development materializes. Fast Charlotte development seems strongly possible.
- Would be nicer to have something in between 9th and 36th.
- Good for future development.
- Need to be on North Tryon Street at 27th Street. A monorail from 9th to Sugar Creek.

5. Do you think there should be a station at WT Harris Blvd?
   - Yes: 8
   - No: 2
   - Please explain why or why not:
     - No, focus on serving the University – students and staff.
     - No, it would be too redundant, the other stations would overlap.
     - Yes, alleviate traffic congestion in area.
     - Yes, only if the land uses there support a pedestrian environment, which they do not now.
     - Yes, might help ease traffic and give people other transportation options. Might also encourage town center development in University City.
     - Yes, because it's the heart of University City.
     - Yes, because it is a major traffic area. Diverse usage.

6. Please provide comments on the proposed MIS station locations in your area:
   - <u>16th Street:</u>
     - Since I live on Mecklenburg Avenue, I would love to have a shuttle vehicle to transport me to 16th or 36th.
     - Poor location. Should be closer to town. Maybe 12th street. Too close to rail yard.
     - Would be most successful if also developed as a neighborhood center for residents (grocery, etc.).
     - Urban.
     - I'd prefer the line to be more accessible to the Belmont neighborhood. I recommend moving the yards.
   - <u>27th Street:</u>
     - Maybe 28th.
     - Not needed. Too close to rail yard.
     - Would be most successful if also developed as a neighborhood center for residents (grocery, etc.). Station should have a good network of buses serving area neighborhoods – especially Plaza Midwood and Commonwealth.
     - Neighborhood or park and ride station.
     - 26th Street and North Tryon Street.

- 36th Street:
  - Yes. Not Elevated!
  - Station should have very strong urban design that contributes to an urban streetscape. Kiss and ride should be to side of station not right in front of building.
  - I think this station has some of the best potential for drawing ridership. The neighborhoods surrounding have the best design for contributing to transit.
  - NoDa – tons of potential for young professionals. Should be designed to orient visitors to area as well. Station should have a good network of buses serving area neighborhoods – especially Plaza Midwood and Commonwealth.
  - Neighborhood station.
  - 36th Street and North Tryon Street.
- Sugar Creek Road:
  - Improvements should be made to improve pedestrian/bike environment here (trails); needs good bus connections. Station should have a good network of buses serving area neighborhoods – especially Plaza Midwood and Commonwealth.
  - Might aid in revitalization.
  - Regional station.
  - Ok.
- Eastway Drive:
  - Improvements should be made to improve pedestrian/bike environment here (trails); needs good bus connections.
  - Might aid in revitalization.
  - Regional station.
  - Ok.
- Tom Hunter Road:
  - Improvements should be made to improve pedestrian/bike environment here (trails); needs good bus connections.
  - Might aid in revitalization.
  - This station should be located midway between Tom Hunter and Owen Blvd because Owen is a primary access point for neighborhoods on opposite side of North Tryon from Tom Hunter.
  - Look to the future. Because of the length of time a monorail would be a better investment. Gas will be 10 times today's cost.

7. Are there other station locations that you would like to see? (Please be specific)
   - 12th Street.
   - No. Keep it minimal but convenient for residents.
   - Between West Rocky River Road and Hwy 49.

8. Additional comments and suggestions:
   - Don't use the abbreviations as much.
   - Good presentation on April 7th.
   - Add station at 12th Street.

- Bike Lanes – Bike Facilities – Bike Lockers. Residents in this area more than any other would be likely to ride light rail if easily, safely and quickly accessed by bicycle. These residents are probably the most accepting of transit, if the stations are truly, creatively designed and fitted with modern conveniences. (Showers, wireless internet, media center, etc.)
- This is pertinent to the revival of center city Charlotte. This is also pertinent to begin minimizing traffic/commuter congestion, which by 2020, if unaddressed will be impossible.
- 9th Street station will be vital to the success of this Corridor. Students coming from UNCC to Uptown or workers leaving Uptown to commute to University area need access from uptown inside the I-277 loop, not starting at 16th Street.
- Please do not locate station at University City Blvd (Hwy 49) / North Tryon on the outboard side of North Tryon. There is more R.3 between Rocky River and Hwy 49. Station should be located between Hwy 49 and Rocky River Road.
- A better view of Charlotte. A monorail system from 7th Street to Sugar Creek would cost more now, but would serve more events. Plus attract business and homes to be served. Would create a better tax base. A monorail would give Charlotte the look and the central service needed to join other transportation systems. North Tryon is a State road – another means of support for investments.

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugaw Creek Presbyterian Church
101 Sugar Creek Road
June 7, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to presenting alignment refinements and recommendations on station locations, the meeting also served to assign preliminary station types and gain public feedback and suggestions.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on June 7, 2005 from 6:00 pm to 8:00 pm, at Sugaw Creek Presbyterian Church at 101 Sugar Creek Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,500 notices announcing the meeting were mailed during the second week of May to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Charlotte Observer (and Website) June 5, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment

opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from May 12th until June 9th.

On June 1st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. It was re-released on June 7th. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database and distributed by the University City Partners. The meeting notice was also included in Corporate Communications' C-Mail.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project background including the MIS-proposed alignment and stations and the Federal Transit Administration's (FTA) project development process. He also reviewed feedback received during previous meetings and explained how it was incorporated into the station location and alignment refinements. Andy also discussed alignment issues/concerns about the 27th Street Station, the North Davidson (NoDa) area, the transition to North Tryon and the University City area and then presented the project staff's recommendations. Jane Lim-Yap, a land-use planning consultant with Glatting Jackson, explained the light rail station types and how each station in the northeast corridor would be classified.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report.

Attendees were also urged to participate in break-out groups to discuss and provide feedback on the station(s) that interested them. Afterwards, a citizen presented his/her group's feedback on the staff's recommendations to the larger group. The information collected in these break-out groups is included in Section 5.2 of this report.

4.2. Attendance

A total of 18 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. Why do you recommend Option B at Sugar Creek over Option A? Does Option A require purchasing the entire property? If CATS chooses Option B, would it cost more to make it a regional station instead of a community station?

    - *Option A puts the station up front through the center of the Asian Corners shopping center but could possibly hinder future redevelopment of that property. (Andy Mock, CATS)*
    - *Option A could possibly limit access to the businesses in that shopping center. In which case, the property owner and tenants may prefer to sell the entire property to CATS. (Andy Mock)*
    - *We are not certain at this time whether making Sugar Creek a regional station would cost more. The connectivity at that station between Sugar Creek, North Tryon and I-85 is definitely something that is considered in the process of choosing station types. (Andy Mock)*

2. By eliminating a University City station, don't you create a large gap between the Tom Hunter and City Boulevard stations? I believe that the fourth station should be added back in.

    - *Yes, removing one of the stations in University City does create a wider gap, but the stations are still relatively close together in this area. The elimination of a station in University City and the shifting of the remaining stations are due in part to the uncertainty surrounding the 29/49 weave. (Andy Mock)*
    - *Final planning and design of the weave is still unknown. If the weave goes away, it is the Charlotte Mecklenburg Planning Commission's (CMPC) request that the fourth station is reintroduced in that area. (Troy Russ, Glatting Jackson)*

3. Why is CATS buying so much land to build this light rail system?

    - *For the most part, light rail will operate within the existing rail and road right-of-way. Therefore, a majority of the land needed for the project will be purchased from North Carolina Railroad and the State of North Carolina.*

Some land must be purchased for stations and park and ride lots. It is in CATS best interest to minimize real estate acquisitions to control the cost of the project. (Andy Mock)

4. I think that light rail operating on North Tryon will be unsafe considering the speed of the traffic and the congestion. How will CATS address safety concerns?

   - *Safety is definitely one of CATS biggest concerns. Regardless of whether light rail runs on the sides of North Tryon or in the center, it will be in a dedicated right of way separate from other vehicles. (Andy Mock)*

5. What is the timeline for this project?

   - *At this time, we believe that the first portion from 7th Street to North Davidson (NoDa) will be completed by 2012 and the extension to University City will be completed by 2017. (Andy Mock)*

6. Aren't freight trains operating in the existing railroad right of way?

   - *Yes, freight trains are currently operating in the North Carolina Railroad right of way. Light rail will not be operating on the same tracks as freight trains. Light rail will have its own set of tracks within the same right of way. When the alignment transitions from the east side of the freight tracks to the west side, the light rail tracks will be grade separated on a bridge over the freight rail line. (Andy Mock)*

5.2 Break-Out Group Results

Group 1: 9th – 27th

- Prefers alignment that follows the railroad alignment on the west side of NoDa (behind the buildings)
- Prefers 36th Street Station be at grade to spur redevelopment and encourage pedestrian friendly environment
- Consider delaying the 27th Street Station because of potential future development – don't eliminate all together
- Proposed parking along Brevard as a part of light rail and greenway plan
- Sugar Creek alignment options: the yellow option has greater development opportunities, but the blue line offers quicker connection times

Group 2: 36th

- Support recommended alignment through NoDa
- Prefer the light rail station be as close as possible to the heart of NoDa
- Do not support an elevated station or additional parking

Concerns about the freight train stopped across 36th Street for up to 45 minutes each day and its effect on development potential, safety and access to a light rail station

Group 3: Sugar Creek – Tom Hunter

- Supports Yellow Line Option at Sugar Creek because it is closer to Hidden Valley neighborhood and would promote development along North Tryon
- If the Blue Line Option is chosen, improvements and redevelopment along North Tryon would not happen because it will be bypassed
- Sugar Creek could possibly be a regional station instead of a community station because of the connectivity with Sugar Creek, North Tryon and I-85
- Redevelopment of Eastway Mall is not enough to make the Blue Line Option accessible to the community
- Asian Corners does not serve the community and Eastway Mall is "dead"
- Supports the station types proposed for Eastway and Tom Hunter

Group 4: University City

- Harris Station should be moved away from the non-friendly intersection of North Tryon and WT Harris
- The 4th station in UC should be added back in if the weave is at grade
- Salome Church station should be on the north side of I-485 to provide access to Blockbuster Pavilion and I-485
- Safety concerns with station locations in the center of North Tryon and the impact on pedestrian movement

Public Meeting Summary
Northeast Corridor Light Rail Project
Hilton Charlotte University Place
8629 JM Keynes Drive
June 9, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to presenting alignment refinements and recommendations on station locations, the meeting also served to assign preliminary station types and gain public feedback and suggestions.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on June 9, 2005 from 6:00 pm to 8:00 pm, at the Hilton Charlotte University Place at 8629 JM Keynes Drive in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,500 notices announcing the meeting were mailed during the second week of May to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Charlotte Observer (and Website) June 5, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment

opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from May 12th until June 9th.

On June 1st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. It was re-released on June 7th. In addition, a meeting announcement for the public meeting was placed on the City of Charlotte and CATS websites and in the Charlotte Center City weekly update e-mail.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database and distributed by the University City Partners. The meeting notice was also included in Corporate Communications' C-Mail.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented a brief overview of the Northeast Corridor Light Rail Project background including the MIS-proposed alignment and stations and the Federal Transit Administration's (FTA) project development process. He also reviewed feedback received during previous meetings and explained how it was incorporated into the station location and alignment refinements. Andy also discussed alignment issues/concerns about the 27th Street Station, the North Davidson (NoDa) area, the transition to North Tryon and the University City area and then presented the project staff's recommendations. Jane Lim-Yap, a land-use planning consultant with Glatting Jackson, explained the light rail station types and how each station in the northeast corridor would be classified.

After the presentation, a question and answer period focused on obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report.

Attendees were also urged to participate in break-out groups to discuss and provide feedback on the station(s) that interested them. Afterwards, a citizen presented his/her group's feedback on the staff's recommendations to the larger group. The information collected in these break-out groups is included in Section 5.2 of this report.

4.2. Attendance

A total of 20 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. Since there are only three stations in University City now, what is the exact location of the Harris Station?

    - *At this time, we are not able to provide exact locations. We hope to present more specific station locations at our next series of public meetings. (Andy Mock, CATS)*
    - *Right now we have a conceptual idea. When we come back to the public in August, we will have more specifics about station locations. (David Leard, CATS)*
    - *Generally, it is at the intersection of Kent Hoffman and North Tryon across from the Burger King. (Andy Mock)*

2. Will light rail travel down the center of North Tryon?

    - *That is our assumption at this time. We still need to coordinate that with North Carolina Department of Transportation since North Tryon is a state-maintained road. It is also possible that the line could transition from the side of North Tryon to the center if necessary. (Andy Mock)*

3. How will the stations function in the middle of North Tryon? How will pedestrians safely access the stations by crossing a four lane highway?

    - *North Tryon is not very pedestrian friendly in its current state. The University City Partners (UCP) Urban Boulevard Project is focused on taming North Tryon and making it more pedestrian friendly. It is important that pedestrians can safely cross North Tryon to access the stations because parking will be on one side or the other. It is a major challenge and CATS realizes that. (Andy Mock)*

4. With the rising cost of steel, wouldn't it be best to go ahead and build the bridge over I-485 for future rail expansion?

    - *This project will compete with other projects around the country for federal funding. That last portion of the alignment across I-485 could cost approximately $12million. That additional cost may be justified because of future development or ridership. It is hard to predict what steel prices may be in the future. They could even drop over the next five years. (David Leard)*

5. Will trains operate at grade level?

    - *Yes, trains will operate at grade unless crossing a major intersection on a bridge structure. There will be some type of barrier between the light rail tracks and the automobile lanes of North Tryon St. (Andy Mock)*

6. I have a concern with the 2nd phase to University City. I believe CATS should stop with Option C at Sugar Creek and proceed along the North Carolina Railroad alignment. It would be cheaper since the state owns the land and there would be no crossings requiring bridges.

    - *That's a great point that can be further discussed in the break-out groups. (Andy Mock)*

5.2 Break-Out Group Results

Group 1: 9th – Tom Hunter

- Concerns about North Carolina Railroad alignment shifting redevelopment away from North Tryon Street
- Concerns about North Tryon Street alignment resulting in slower operations
- Stations around Tom Hunter and closer to North Tryon would better serve Hidden Valley neighborhood

Group 2: Tom Hunter - University City

- Concerned about eliminating a station
- The fourth station could be added back in at Rocky River Road and North Tryon Street
- The City Blvd station should be located in such a way to serve both North Tryon and City Boulevard
- Pedestrian access and safety concerns about at grade stations located in the median of North Tryon Street
- Better connectivity between the greenway and UNCC station to serve TIAA CREF employees
- Station at Mallard Creek important to connect greenway and student housing
- Pay attention to aesthetics
- Locate the last station south of I-485 to minimize cost

Group 3: University City

- Supports the recommended alignment and station locations through University City with Harris Station moved south; moving the station from that busy intersection will improve pedestrian access
- Pedestrian crossings are a major safety concern
- Pull alignment into the UNCC campus by crossing Mallard Creek at a lower area and ending with a station at the Blockbuster Pavilion
- Providing a station in the heart of UNCC's campus will increase student ridership; don't use feeder buses between UNCC and the light rail line
- University City needs a community gathering spot
- Think of access, social infrastructure and connectivity; light rail should support community development

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugaw Creek Presbyterian Church
101 Sugar Creek Road
September 6, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to presenting alignment refinements and recommendations on station locations, the meeting also served to assign preliminary station types and gain public feedback and suggestions.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on September 6, 2005 from 6:00 pm to 8:00 pm, at Sugaw Creek Presbyterian Church at 101 Sugar Creek Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,500 notices announcing the meeting were mailed during the second week of August to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Charlotte Observer (CityZone and Website) August 23, 2005
- Neighbors of University City (Charlotte O.) August 14 & 28, 2005
- La Noticia August 24, 2005
- University City Magazine (September Issue) August 30, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic

Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from August 15th – September 8th.

On August 31st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. It was re-released on September 6th and 8th. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database and distributed by the University City Partners. The meeting notice was also included in Corporate Communications' C-Mail on August 31st.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented the recommended station locations for the Draft Environmental Impact Statement (DEIS) and an overview of the station design and amenities. Jane Lim-Yap, a land-use planning consultant with Glatting Jackson, presented the station area planning principles: land use, mobility and community character.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report.

Attendees were also urged to participate in break-out groups to discuss and provide feedback on the station(s) that interested them. The information collected in these break-out groups is included in Section 5.2 of this report.

4.2. Attendance

A total of 23 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. When will CATS make a decision about where the alignment will be located around 27th and 36th Street?

    - *CATS will make a decision and document it within the next year for the Draft Environmental Impact Statement (DEIS). (Andy Mock, CATS)*

2. Where is the location of the NoDa Station?

    - *Essentially, the 36th Street station will be located along the railroad tracks either north or south of 36th Street. Please participate in the break-out groups to provide feedback on the location of this station. (Andy Mock)*

3. What information do you have about the relocation of the intermodal rail yard at 27th Street?

    - *The City is currently conducting a feasibility study. We will know whether or not it is even possible to relocate the rail yard in three months. (Andy Mock)*

4. How often will the trains run?

    - *CATS hasn't determined the service frequency in the Northeast Corridor yet. However, in the South Corridor, trains will run every 7.5 minutes during peak hours and every 15 minutes during non-peak. (Andy Mock)*

5. I would suggest that CATS evaluate the Transit Oriented Development (TOD) parking ratio requirements for restaurants. The ratio of one space per 150 square feet is still suburban and may hinder TOD.

5.2 Break-Out Group Results

Group 1: 9th – 36th

- Questions about how the "areas for potential rezoning" would be rezoned
- Property owner adjacent to the NCRR north of 30th Street would like for the alignment to transition to the NCRR closer to 30th Street to avoid impacts to his property
- Provide connection to neighborhood west of tracks
- Eliminate the large multimodal train facility
- Investigate how access to the truck yard can be maintained

Group 2: Sugar Creek – Tom Hunter

- Sugar Creek Option 2 is more ideal because it is more visible.
- Street connections and streetscape improvements are good ideas – 'Go for it!'

Public Meeting Summary
Northeast Corridor Light Rail Project
University Place Hilton Hotel
8629 JM Keynes Drive
September 8, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to presenting alignment refinements and recommendations on station locations, the meeting also served to assign preliminary station types and gain public feedback and suggestions.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on September 8, 2005 from 6:00 pm to 8:00 pm, at the University Place Hilton Hotel at 8629 JM Keynes Drive in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,500 notices announcing the meeting were mailed during the second week of August to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Charlotte Observer (CityZone and Website) August 23, 2005
- Neighbors of University City (Charlotte O.) August 14 & 28, 2005
- La Noticia August 24, 2005
- University City Magazine (September Issue) August 30, 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic

Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from August 15th – September 8th.

On August 31st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. It was re-released on September 6th and 8th. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database and distributed by the University City Partners. The meeting notice was also included in Corporate Communications' C-Mail on August 31st.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) presented the recommended station locations for the Draft Environmental Impact Statement (DEIS) and an overview of the station design and amenities. Jane Lim-Yap, a land-use planning consultant with Glatting Jackson, presented the station area planning principles: land use, mobility and community character.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report.

Attendees were also urged to participate in break-out groups to discuss and provide feedback on the station(s) that interested them. The information collected in these break-out groups is included in Section 5.2 of this report.

4.2. Attendance

A total of 28 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

Listed below are statements made by the public and the questions asked along with the response given during the question and answer period. Those that responded to the questions are noted in parenthesis.

5.1 Question and Answers

1. What is the timeline for making a decision and submitting proposals on the final alignment and station locations?

    - *CATS will make a decision and document it within the next year for the Draft Environmental Impact Statement (DEIS). CATS will then come back out to the public to receive feedback. (Andy Mock, CATS)*

2. Has the City established starting and ending dates for the 29/49 split?

    - *It is my understanding that the City is waiting on modeling numbers and will come out to the public in early spring 2006. (Andy Mock)*

3. The schedule information seems to be missing from the presentation. Do you have an update?

    - *The system plan that was completed in 2002 projected that the Northeast Corridor light rail line would be built to 36th Street by 2012 and completed to University City Area by 2017. There are other factors that should be taken into consideration when developing the schedule, such as the five other rapid transit projects and limited funding. All of the projects are going through the same studies/process, which should be complete in the next year. Then, CATS will prioritize the projects and update the system plan. (Andy Mock)*

4. Rocky River Road station is shown in the presentation as an option. Will it become part of the Environmental Impact Statement?

    - *Yes. There is a station area plan for Rocky River, so please provide your comments during the break-out groups. (Andy Mock)*

5. What drives the station location decisions?

    - *We try to keep a general spacing for operational efficiency, but we also look at opportunities for future development. (Andy Mock)*

6. Will the light rail line run through Derita?

    - *No. The North Corridor Commuter Rail line will serve Derita. That's a separate project from the Northeast Corridor Light Rail Line; but they are both CATS' projects. (Andy Mock)*

7. Have you looked at other cities in planning this project?

    - *Many of the project staff have come from other cities with light rail. We have also visited and studied other systems to better plan this project. (Andy Mock)*

8. Which city would you say this project is modeled after?

    - *We use both Portland, OR and Dallas, TX as examples. Both systems have recently opened new lines or extensions of older lines. (Andy Mock)*

9. In regards to pocket parks you mentioned earlier in the presentation, would the money that you are putting into stations go into improving existing pocket parks or constructing new ones?

    - *The station area plans are blue prints for the area but all of the elements may not be funded or constructed by the light rail projects. Pocket parks, for example, would fall under the Parks and Recreation Department. (Jane Lim-Yap, Glatting Jackson)*

10. What are the three most important factors to look at when choosing where a station is located?

    - *There are many factors to consider. In my opinion, the three most important would be access, potential for future development and engineering feasibility. You also have to consider the level of service that you want to provide by not spacing the stations too close together or too far apart. You also have to plan for the existing uses that can benefit from transit while considering future uses. (Jane Lim-Yap)*

5.2 Break-Out Group Results

Group 1: Rocky River – City Boulevard

- Supports ecological improvements (Rocky River)
- Cautions about location of City Boulevard
- Concerns about the realignment of Rocky River
- Good/Workable concept
- Rocky River station could become an urban design project (impetus for redevelopment)
- City Boulevard Option 2 is better – Option 1 is not viable

Group 2: Harris Boulevard and UNCC

- Need pedestrian connections
- UNCC connection within campus – improve access
- Possible land swap with Hospital – Library
- Provide bike access to station, bike racks at stations and access to the existing bike route (Little Suger Creek greenway)
- UNCC route location
- CATS and UNCC bus routes integrated with system
- Probably need UNCC bus feeder system

- Connectivity is key in University Area
- UCP traffic counts; highest at UNCC and Harris (N. Harris)
- UNCC station may be more interesting and have more pedestrian support than stations south of City Boulevard
- UNCC station should link into campus to serve concert halls and athletic facilities

Group 3: Mallard Creek and Salome Church

- The two stations overlap. Consolidate closer to I-485, especially considering constraints at Mallard Creek.
- North of I-485 is desirable for development north of Salome Church and Speedway. It may also alleviate parking at Verizon Amphitheater.
- Will Salome Church Road align with Verizon in the future?
- Salome Church option 2 doesn't help pick up traffic at Verizon
- Salome Church option 1 provides better access to the Speedway

Public Meeting Summary
Northeast Corridor Light Rail Project
University Place Hilton Hotel
8629 JM Keynes Drive
December 6, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to reviewing corridor characteristics, the development process and station area planning principles, the meeting also served to provide a detailed overview of station design and amenities and gain public feedback and suggestions on station site plans.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on December 6, 2005 from 6:00 pm to 8:00 pm, at the University Place Hilton Hotel at 8629 JM Keynes Drive in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 6,600 notices announcing the meeting were mailed during the second week of November to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Charlotte Observer (CityZone and Website) November 30, 2005
- Neighbors of University City (Charlotte O.) November 30, 2005
- La Noticia December 1, 2005
- University City Magazine December 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from November 14th – December 7th.

On November 30th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. It was re-released on December 6th. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites and the City's public meetings calendar in Outlook.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database on November 21st and a reminder was sent on November 28th. The meeting notice was also included in Corporate Communications' C-Mail on November 23rd.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) reviewed the corridor characteristics and project development process. Jason Hellendrung, a landscape architect with Sasaki Associates, reviewed the station area planning principles and presented a detailed overview of the station design and amenities.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report. The name of the person who responded to the question is noted in parenthesis.

Attendees were also urged to participate provide feedback on the station site plans that interested them. The information collected is included in Section 5.2 of this report.

4.2. Attendance

A total of 29 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

5.1 Question and Answers

1. You mentioned that light rail will be located in the median of North Tryon Street. How will that conflict with crossing streets?

    - *CATS will use modeling required for the Environmental Impact Statement (EIS) to identify traffic impacts. Most intersections will only require gates and signals like those at railroad crossing. Some major intersections may require grade separation with light rail crossing over the intersection on a bridge structure. (Andy Mock, CATS)*

2. Will light rail travel up the middle of North Tryon Street from 9th Street to University City?

    - *No, the alignment is in the existing railroad right of way from 9th Street to 36th Street. Then light rail will transition from the railroad right of way to North Tryon Street at either Sugar Creek Road or Eastway Drive and continue in the median of North Tryon Street through the University area. (Mock)*

3. Please explain the difference between City Boulevard Station Option 1 and 2.

    - *The City Boulevard Station is area is located on the west side of North Tryon Street in option 1 and on the east side in option 2. The station platform is located in the center of North Tryon Street for both options. We are evaluating both alternatives based on constraints. (Jason Hellendrung, Sasaki)*

4. How far from City Boulevard is the station located?

    - *The station is located at Shopping Center Drive at the entrance of Home Depot. (Mock)*

    I thought that the stations would be located at major intersections to allow pedestrians to cross at a cross walk.

    - *The location of the station is dependent on Shopping Center Drive eventually extending through and becoming a cross street as development occurs in the future. If this does not happen, CATS will reevaluate the station location. (Mock)*

5. Where is Rocky River Road station?

    - *Rocky River Road station is dependent upon the 29/49 project. If the outcome is an at-grade intersection, there will be a Rocky River Road station. Therefore, CATS will carry the station through the EIS and do all of the necessary environmental studies. (Mock)*

6. Why is Harris a neighborhood station?

   - *The station types were chosen through station area planning. Harris will be more of a walk-up station. The commuter traffic will go to either I-485 or City Blvd. stations. Both Harris and UNCC are primarily walk-up stations serving the University, the hospital and University Place. (Hellendrung)*

   Why isn't Harris an urban station, then?

   - *Harris doesn't meet the criteria for an urban station. Only the uptown stations will be considered urban. (Troy Russ, Glatting Jackson)*

7. How will rail running through North Tryon Street lead to development in the corridor? In the South Corridor, development will occur adjacent to the light rail line. In the Northeast, light rail is in the middle of a major state road.

   - *North Tryon Street is a major, pedestrian-unfriendly road. We will need to rethink North Tryon Street, lower the speed limit and improve its developability. Through the light rail project and station area planning, much of North Tryon Street will be rebuilt. University City Partners (UCP) initiated the UCP Boulevard Project in an effort to tame North Tryon Street. (Mock)*

   Which will come first? Light rail or the taming of North Tryon Street?

   - *Many things must happen to tame North Tryon Street. Most importantly, we must work with the State of North Carolina because North Tryon Street is a state road. (Mock)*
   - *UCP hopes to tame North Tryon Street before light rail. We recently learned that NCDOT doesn't consider North Tryon Street to be a "strategic corridor" requiring six lanes. Conversations between City of Charlotte and NCDOT have been hopeful and modeling suggests that two lanes in either direction are adequate. We are certainly heading in the right direction. Troy Russ has been working with land owners around the 29/49 weave on developing a street network that would lessen the need for major roads such as North Tryon Street as it exists today. (Mary Hopper, UCP)*
   - *CDOT asked the station area planning team to work with the land owners and all agreed that the 29/49 intersection will not work without additional street network in the area. The land owners around the intersection area accommodating so CDOT is doing a model with the street network including the Rocky River Road station to present to NCDOT. (Russ)*

8. How do you turn the train around at the end of the alignment?

   - *The light rail vehicles are double-ended. They don't need to turn around. At the end of the line, the operator will get out of the vehicle, walk to the other end, and train will continue in the opposite direction. The vehicle will switch from the northbound track to the southbound track at a cross over. (Mock)*

9. Please explain the criteria for choosing either Mallard Creek Option 1 or 2.

    - *Cost is always a factor. Also, the location of the I-485 station will affect station spacing. The stations should be spaced about a mile apart to maintain operational efficiency. (Mock)*
    - *There are also land use criteria to consider like access and traffic circulation. (Russ)*

10. Will you build the entire line at once or complete it in phases?

    - *The Northeast Corridor will be completed in phases with service from Center City to 36th Street by 2013 and an extension to I-485 by 2018. (Mock)*

11. In regards to City Boulevard option 2, there is some undevelopable property near the substation, which will have less impact on cost. There is also a shopping center planned to be built near the site for City Boulevard option 1 in the next few years.

12. What are the criteria for choosing station types?

    - *There are functional characteristics that determine whether the station will accommodate pedestrians, bicycles, buses and vehicles. These functional characteristics are then considered within the environmental context of development characteristics, development potential and what the community wants the area to become. Those factors are all combined to come up with the five station types: multimodal, urban, neighborhood, community and regional. (Russ)*

13. Will light rail be built in the existing North Tryon Street right of way?

    - *We hope the existing right of way will accommodate light rail. There is more space in the outer portion of the alignment. Utility placement in the inner part of the corridor (from Sugar Creek to Harris) is much closer to the road, requiring relocation. (Mock)*

14. Is CATS considering alignment options on UNC-Charlotte campus?

    - *CATS is working closely with the University to explore several options. We will study the default station along US29 and may include at least one campus alternative into the EIS process. (Mock)*

5.2 Station Site Plan Feedback

City Blvd.:

- Get 29-49 fixed and put a station at Rocky River.
- Make the Rocky River station at an intermediate level between 29 & 49.
- Option #1 has a shopping center to be built within the next 2 years.
- Option #2 has non useable land by the existing sub-station to use.

Harris / University Blvd.:

- Need sidewalks along N. Tryon Street.
- Add monumentation at N. Tryon and Harris denoting center of University City, maybe a major public art project.

UNCC:

- Parking may be an issue in terms of people parking on private lots to get to the station.
- Need Sidewalks on N. Tryon Street.
- What is the rational of why the station is split?
  Answer: The split station is used to efficiently locate the stations in a vehicular roadway in a manner that allows riders to get to the station platform as safely as possible. Access to the platform is located so that riders can get from the sidewalk to the platform as safely as possible using the traffic signal to stop vehicular traffic at the roadway intersection. The layout of the split station staggers the platform on opposite sides of the intersection, which allows for left turn lanes for vehicular traffic within the same right-of-way at a road intersection. The rail/road alignment is mirrored on both sides of the intersection with a cross-section that is roughly 100' wide.
- With a pedestrian signal, why could the side stations not be together?
  Answer: With a pedestrian signal, the side stations could be together. However, this would require a wider, less safe, and less efficient use of the road right-of-way at a road intersection for all users: pedestrians, drivers, and light rail passengers. The roadway traffic lanes would need to transition through the intersection from a roughly 115-foot wide roadway at the stations/platforms to a narrower roadway (less than 90 feet).
- What is an emergency secondary access? It is required by the North Carolina Building Code that all stations have a secondary mean of evacuating the stations in an emergency

Mallard Creek Church:

- Option #2: There are steep grades. Not many opportunities for pedestrians.

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugaw Creek Presbyterian Church
101 Sugar Creek Road
December 7, 2005

1. Purpose and Intent

The purpose of this meeting was to update the public on the Northeast Corridor Light Rail Project. In addition to reviewing corridor characteristics, the development process and station area planning principles, the meeting also served to provide a detailed overview of station design and amenities and gain public feedback and suggestions on station site plans.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on December 7, 2005 from 6:00 pm to 8:00 pm, at Sugaw Creek Presbyterian Church at 101 Sugar Creek Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 6,600 notices announcing the meeting were mailed during the second week of November to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Charlotte Observer (CityZone and Website) November 30, 2005
- Neighbors of University City (Charlotte O.) November 30, 2005
- La Noticia December 1, 2005
- University City Magazine December 2005

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from November 14th – December 7th.

On November 30th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. It was re-released on December 6th. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites and the City's public meetings calendar in Outlook.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database on November 21st and a reminder was sent on November 28th. The meeting notice was also included in Corporate Communications' C-Mail on November 23rd.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) reviewed the corridor characteristics and project development process. Jason Hellendrung, a landscape architect with Sasaki Associates, reviewed the station area planning principles and presented a detailed overview of the station design and amenities.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report. The name of the person who responded to the question is noted in parenthesis.

Attendees were also urged to participate provide feedback on the station site plans that interested them. The information collected is included in Section 5.2 of this report.

4.2. Attendance

A total of 25 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

5.1 Question and Answers

1. You mentioned that light rail will be located in the median of North Tryon Street. How will that work since there isn't currently a median in North Tryon Street?

    - *In the inner part of the corridor, between Sugar Creek and Arrowhead, North Tryon is five lanes with a left turn lane. To put light rail in the median, CATS would have to rebuild driveways and relocate utilities. It is easier and cheaper in the outer portion of the corridor because there is an existing median that we could work within, requiring us to rebuild less of the road. (Andy Mock, CATS)*

2. What criteria were used to determine not to provide parking at 36th street station?

    - *Modeling takes land use and traffic patterns into consideration to give us an idea about whether or not to provide parking and how much is needed. Current modeling shows that we do not need parking at 36th Street. (Mock)*

3. You mentioned during the presentation that light rail is also intended to spur economic growth. Do you have any examples?

    - *There are examples of light rail projects around the country that have experienced development and growth around the station areas, like Portland and Dallas. Kyle Keahey can provide you with more specific information about those examples. In conjunction with the light rail project, the City of Charlotte will also improve infrastructure, develop station area plans and implement the necessary zoning to accommodate future development around the stations. (Mock)*

4. What is your experience with Norfolk Southern so far?

    - *CATS is working with Norfolk Southern on both the South, Northeast and North corridors. We recently contacted them to begin working towards an agreement on the Northeast Corridor. (Mock)*

5. Has there been any progress made to locate a light rail station on UNCC's campus?

    - *CATS continues to work with the University to identify possible alignment alternatives on campus. A charrette is planned for the beginning of next year. We will study the default station along US29 and may include at least one campus alternative into the EIS process. (Mock)*

5.2 Station Site Plan Feedback

9th Street:

- Can you give me an update of the Streetcar Project regarding connecting to the 9th Street Station from 10th Street?
  Answer: There is not a direct connection between the Streetcar project and the Northeast Corridor Light Rail Project proposed for this station at this time. The nearest proposed streetcar stop would be at West 10th Street & North Church Street, which is about 3 blocks away. Please contact Willie Noble, Center City Streetcar Senior Project Manager, with further questions regarding the Streetcar project.

16th Street:

- Given the revitalization of Optimist Park and the Belmont neighborhood, the location of this station will definitely impact on the success of this area.
- As a 1st time home buyer the close proximity to the light rail station had a significant impact on my choice of where to stay.
- What is the status of the funding for the Northeast Corridor Light Rail Project from 9th Street to 36th Street?
  Answer: CATS will seek federal funding for half of the total cost of the entire project thru FTA's New Starts process.

27th Street:

- This is as important development station as they all are.
- 27th Street Station looks good.

36th Street:

- This is an important development station.
- Can you clarify if the station will be completed in 2012 or 2010?
  Answer: The 2002 System Plan identified that the Northeast Corridor will be completed in phases with service from Center City to 36th Street by 2013 and an extension to I-485 by 2018. The system plan will be revisited after the environmental studies are complete.

Public Meeting Summary
Northeast Corridor Light Rail Project
University Place Hilton Hotel
8629 JM Keynes Drive
May 1, 2006

1. Purpose and Intent

The purpose of this meeting was to explain the decision-making process, present the proposed alignment options and station locations for the Northeast Corridor Light Rail Project and receive public feedback to present to the Metropolitan Transit Commission.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on May 1, 2006 from 6:00 pm to 8:00 pm, at the University Place Hilton Hotel at 8629 JM Keynes Drive in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the second week of April to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Neighbors of University City (Charlotte O.) — April 23 and 30, 2006
- La Noticia — April 26, 2006
- The Charlotte Post — April 26, 2006
- Charlotte Weekly — April 28, 2006

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from April 17th – May 2nd.

On April 26th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites and the City's public meetings calendar in Outlook.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database on April 10th and a reminder was sent on April 25th. The meeting notice was also included in Corporate Communications' C-Mail.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) explained the Metropolitan Transit Commission's system planning decision making process and provided a brief overview of the Northeast Corridor's characteristics. Mr. Mock presented the following design options in detail: Sugar Creek or NCRR alignment, UNC Charlotte or North Tryon alignment, and the terminus station location.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report. The name of the person who responded to the question is noted in parenthesis.

Attendees were also asked to complete a survey providing feedback on the station and alignment options presented and general comments about the project. The information collected from the surveys is included in Section 5.2 of this report.

4.2. Attendance

A total of 38 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

5.1 Question and Answers

1. Why was the South Corridor selected first?

   - *The South Corridor had a lot of good things going for it. It had high ridership numbers. I-77 is limited in its expandability. It was built within an existing railroad right of way reducing property acquisitions. The South Corridor also had the necessary funding. (Andy Mock, CATS)*

2. Did the SouthPark Mall board have any influence in the decision?

   - *No. The South Corridor light rail line is not near the SouthPark Mall, so I don't think that affected the decision for the South Corridor to be built first. (Mock)*

3. When you refer to a station, do you mean where passengers will get on and off?

   - *Yes. The station is where there is a light rail stop. The station is a 180-foot long platform with shelters, benches, and ticket vending machines. (Mock)*

4. How long will it take to get from the end of the line station to Uptown?

   - *It depends on which alignment is chosen, but the range is between 25-30 minutes. (Mock)*

5. You stated that there will be elevators at elevated stations. Will security be provided for the elevators?

   - *We worked with Charlotte Mecklenburg Police Department (CMPD) during design, of the South Corridor Project, to make sure that the entire system is safe, including the stations, vehicles and park and ride lots. There will be cameras and emergency call boxes in all three locations. CMPD officers will randomly patrol the park and ride lots and ride on the vehicles. The elevators will be glass to increase visibility and safety. Escalators are problematic from a maintenance perspective. (Mock)*

6. If the route goes along North Tryon at Asian Corners will you have to tear down the area? Will you have to condemn properties if the owners do not want to sell them to you?

   - *Yes. This option looks at purchasing all of Asian Corners. If we were to put the line in the middle of Asian Corners, then access would be limited to the shops possibly hurting their business. If we acquire the property and put the tracks on the back side (away from Sugar Creek and North Tryon), then that parcel could redevelop into a more transit oriented development. (Mock)*

- *Yes. The City of Charlotte may have to condemn properties that owners do not want to sell but only as a last resort. The City tries to negotiate with the land owner to reach a resolution. (Mock)*

7. What is the distance between the two station location options for Sugar Creek?

   - *Approximately 1,500 feet. The station locations are very similar. The only significant difference is the development potential of Asian Corners. (Mock)*

8. At what time will these design options be made?

   - *Project staff will make a recommendation to the MTC at the end of June. That recommendation will identify one of these options at all three locations. However, CATS will still evaluate both options for all three locations in the Draft Environmental Impact Statement (DEIS). (Mock)*

9. How will the trains cross North Tryon Street to enter and exit the median?

   - *Light rail will cross North Tryon Street at-grade with gates and bells. The crossing will happen much quicker than a freight railroad crossing. (Mock)*

10. Will there be buses serving the community?

    - *There will be buses serving the University circulating people around campus and to and from the stations. (Mock)*

11. Will there be any historic properties affected through the University Area?

    - *No historic properties will be affected in the University Area. However, there may be noise and stream impacts with the UNCC option. (Mock)*

12. With rail going on campus, do you think that crime will increase?

    - *It is something we have discussed with the University. Safety is a concern of CATS' and the University. CATS will monitor the station and have cameras and emergency call boxes at the UNCC Station. (Mock)*

13. At what points will the line be elevated?

    - *The alignment will be elevated over Sugar Creek Road, the NCRR tracks, the 29/49 "connector", Harris Blvd., and the wetlands/creeks. (Mock)*

14. When the train goes through the JW Clay intersection, how would this appear?

    - *We have a computer animated graphic of what the alignment and station will look like at an intersection. There will be two through lanes with light rail operating in the median in between. There will be split stations, which means that the southbound station will be on one side of the intersection and the northbound station on the other side. The intersection will have gates and*

signals coordinated with traffic signals to minimize the impact on vehicular traffic. (Mock)

15. Will there be any engineering constraints associated with the alignment on UNCC campus?

    - *Yes. There are engineering constraints with the UNCC on-campus option because of the topography. There will be areas that require cutting and filling and building bridges. (Mock)*

16. Will there be transit services available for the Verizon Pavilion and Lowe's Motor Speedway?

    - *We have talked to them about possible event buses from the terminus station. However, the events at the Speedway are only four weeks a year, so it is difficult to plan for such infrequent events. (Mock)*

17. Will parking be available at the stations?

    - *There will be parking at Sugar Creek, Eastway, Rocky River (if it's built), Tom Hunter, City Blvd, Mallard Creek Church, and I-485/North Tryon. There would not be parking at the Harris Blvd/University City station or the UNCC station. (Mock)*

18. What priority will this corridor have in relation to other corridors?

    - *CATS does not know the priority yet. All of the corridors will present their recommendations to the MTC and they will decide the priority in the fall. (Mock)*

19. Has there been any focus on placing this line along the railroad alignment that parallels Old Concord Road?

    - *There is a considerable amount of student housing on that side. However, our focus has been on transforming the land uses around North Tryon St. and providing service to the US 29 Corridor. (Mock)*

20. Will there be 'real' security (a police presence) along the rail line, on trains and at stations?

    - *CMPD officers will ride the vehicles randomly. There are currently three CMPD officers in the transit division. That number will increase as we gear up to begin operations in the South Corridor. The officers will also patrol the park and ride lots. (Mock)*

21. Where will the trains be housed?

- *The trains are housed in the vehicle maintenance facility currently under construction in the South Corridor. There will also be storage tracks at the end of the line for operational efficiency. (Mock)*

22. How will I get to the light rail station?

- *You can drive and park for free at the stations that have park and ride lots. There will also be a bus feeder system at each station that circulates within the station area. (Mock)*

23. Why are you building separate systems in each corridor?

- *The projects have different technologies that best fit the needs of the corridor. Although there are multiple modes, they will all tie in Uptown at the Charlotte Transportation Center and proposed Gateway Station to make for a seamless system. (Mock)*

24. How close will you get to Uptown?

- *The 9th Street station is Uptown. Because the Northeast Corridor is an extension of the South Corridor, there will also be stations at Stonewall, 3rd Street, CTC/Arena, and 7th Street providing access to Uptown. (Mock)*

25. How fast will the trains operate?

- *The maximum speed is 55 mph. It will have to slow down when it approaches stations, pedestrian environments or sharp curves. (Mock)*

26. Will the trains accommodate bicycles and the disabled?

- *Yes. There will be four bike racks and four accessible spots on each vehicle. We'll be running two car trains, so there will be eight of each. There are also bike racks near the stations. (Mock)*

27. Where are the intersections in which you will bridge over?

- *We will build bridges over Sugar Creek Road, 29/49 "connector", and Harris Blvd. (Mock)*

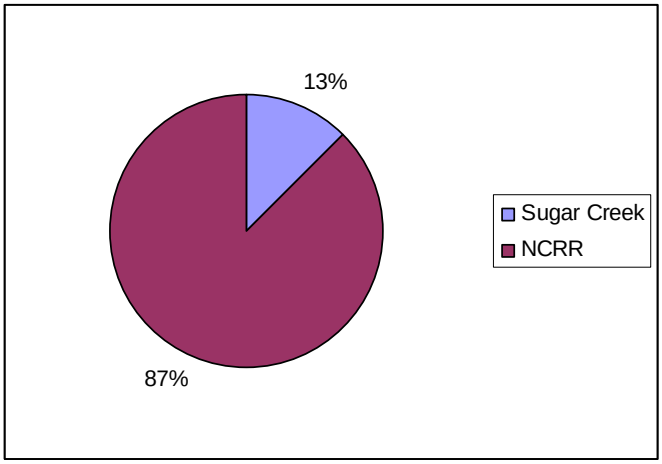
28. What will cause the Mallard Creek Church Station to go away?

- *If the UNCC on-campus option is chosen, the Mallard Creek Church Station may be re-evaluated. (Mock)*

5.2 Survey Results

1. I prefer the following alignment:

a. Sugar Creek: 3
b. North Carolina Railroad: 21

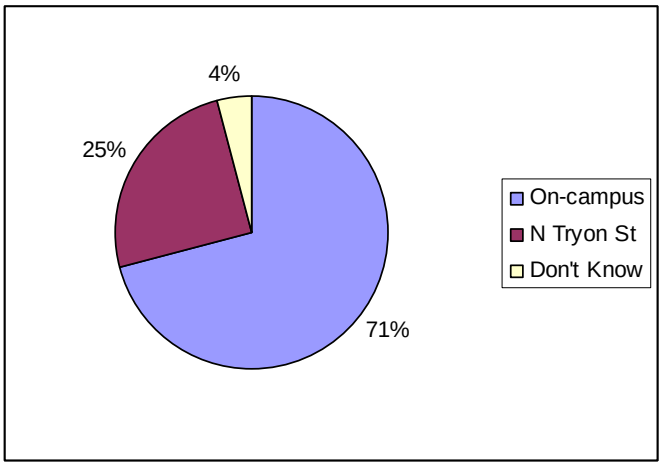


Comments:

- Sugar Creek offers visability and presence.
- NCRR appears to be less impact and makes more sense.
- NCRR because it is already partially built, so it would be more economical. It would also serve the entire community from University City Blvd, Back Creek Church Road, Rocky River-Grier to Harris Blvd, which is already developed.
- We dislike all impacts of Sugar Creek Alignment (real estate, environmental, traffic, etc.).
- NCRR because I lived through the elimination of left turns in Atlanta with MARTA's south line. It destroyed several neighborhoods and businesses.
- NCRR is shorter and would cost less money. I really think removing Asian Corners would be a loss to our multicultural community.
- NCRR will result in less business disruption (loss of left turns).
- NCRR because negotiating with the eight or so property owners at Asian Corners will be difficult, if not impossible.
- NCRR because North Tryon Street will have local transportation.
- NCRR results in a cost savings. May speed up implementation of light rail line. Potential negative impacts to businesses along North Tryon.

2. The station for UNC Charlotte should be located:

a. On-campus: 17
b. Along N Tryon St: 6
c. Don't Know: 1

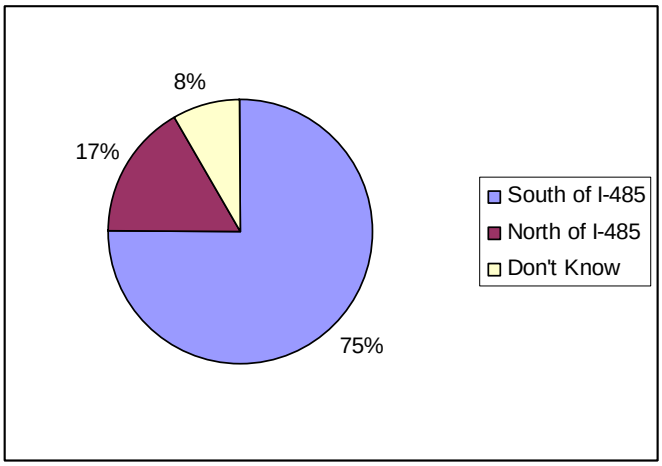


Comments:

- On-campus to link the University to the larger community, so they can take advantage of the entertainment and educational opportunities.
- On-campus option would be a tourist attraction like driving through campus.
- On-campus because most students prefer this service.
- On-campus would be more useful to students who don't have cars and the same for the local residents and students south of University City Blvd.
- On-campus would provide the most benefit to students, faculty and visitors.
- On-campus would provide great ridership and facilitate conferences and meetings.
- More students will use it if the station is on-campus, but the security is of utmost importance.
- Missed opportunity if you don't enter campus.
- On-campus would make it easier for students to travel downtown.
- On-campus should be done if the benefits and revenues from ridership of going onto campus far outweigh costs to add extra track and two bridges.
- Station should be along North Tryon Street with a bus feeder.
- Along North Tryon Street because local buses are already on-campus.
- Along North Tryon Street because the impact to campus is too great.
- Along North Tryon Street and Old Concord to enhance "back" side of campus.
- Don't know. Route onto campus may increase crime on campus.

3. The terminus Station should be located:

a. South of I-485: 18
b. North of I-485: 4
c. Don't Know: 2



Comments:

- South of I-485 cost savings.
- South of I-485 will serve the students, shopkeepers and local residents. The Mallard Creek projects could have an extension after the infrastructure is in place and the shops open.
- South of I-485 presents fewer "issues."
- South of I-485 and perhaps the speedway can help extend it.
- South of I-485 close to the feeder-artery of Mallard Creek Church Drive.
- The savings from stopping south of I-485 may offset some of the costs of going on campus.
- North of I-485, save the Speedway developer's money. The rail needs to reach the speedway with the Hall of Fame downtown.
- North of I-485. I think you are underestimating the ridership from Verizon Wireless users. Although the same theory as the on-campus stop should apply here, if the costs to extend over I-485 are too great, then the line should stop south of I-485.
- South of I-485 can always be extended later.
- North of I-485 will prepare for extension further north.
- North of I-485 will provide a catalyst for further application.
- South of I-485 is too expensive with no significant increase in ridership.

Additional Comments:

- Please try to keep the Mallard Church Station.
- The immediate priority for the light rail system should be the airport/Uptown link in the light rail plans. Charlotte is a financial-business center. We live or die with conventions and meetings of businessmen. The national businessmen association is considering a recommendation that businessmen and others should not come to Charlotte for conventions and meetings. Also, we have built all of the museums and other cultural center Uptown. The light rail link from the Uptown to the airport would decrease the stress and cost for all of these visitors. It would help lower the costs from taxes, such as the hotel tax and the rental car tax. Charlotte must act immediately and give the Uptown/Airport link priority regardless of scarce money and other competing light rail links.
- Start encouraging ridership now by encouraging CATS to add buses up and down W.T. Harris to and from shopping malls, Concord Mills and apartments along both routes. Bus stops with weather shelters.
- As a University Area resident, I would appreciate and use a system that is conveniently located (JW Clay is convenient) and would take me to downtown without the bother of having to locate parking in the downtown area.
- If the 29/49 weave becomes an at-grade intersection, I think the Rocky River station is a must for future pedestrian friendly land use.
- When presenting these subway/commuter rail/light rail lines to public, you should use or give examples of other cities that have similar situations. For instance Boston, MA has extensive lines that run in the median of heavily traveled roads in the city. Also, they have commuter rail lines that run from the suburbs into the city and stop. Riders then get off and connect to subway or bus lines. Also, what are the possibilities or what is the feasibility of taking the northeast light rail line to Concord Mills?
- Glad to see that Rocky River Road station is still being considered.
- The majority of focus appears to be linked to area business leaders. The scale of this project is narrow. The ideas needed for a successful system need to be radical. Narrow-mindedness will lead this project into failure. More designing and less engineering need to be incorporated into the group. Engineering is boring! To complex of a project – Keep it simple!!!

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugaw Creek Presbyterian Church
101 Sugar Creek Road
May 2, 2006

1. Purpose and Intent

The purpose of this meeting was to explain the decision-making process, present the proposed alignment options and station locations for the Northeast Corridor Light Rail Project and receive public feedback to present to the Metropolitan Transit Commission.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on May 2, 2006 from 6:00 pm to 8:00 pm, at the Sugaw Creek Presbyterian Church at 101 Sugar Creek Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the second week of April to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Neighbors of University City (Charlotte O.) — April 23 and 30, 2006
- La Noticia — April 26, 2006
- The Charlotte Post — April 26, 2006
- Charlotte Weekly — April 28, 2006

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from April 17th – May 2nd.

On April 26th, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites and the City's public meetings calendar in Outlook.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database on April 10th and a reminder was sent on April 25th. The meeting notice was also included in Corporate Communications' C-Mail.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. At the beginning of the presentation, Andy Mock of the Charlotte Area Transit System (CATS) explained the Metropolitan Transit Commission's system planning decision making process and provided a brief overview of the Northeast Corridor's characteristics. Mr. Mock presented the following design options in detail: Sugar Creek or NCRR alignment, UNC Charlotte or North Tryon alignment, and the terminus station location.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report. The name of the person who responded to the question is noted in parenthesis.

Attendees were also asked to complete a survey providing feedback on the station and alignment options presented and general comments about the project. The information collected from the surveys is included in Section 5.2 of this report.

4.2. Attendance

A total of 26 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

5.1 Question and Answers

1. Why would you want to take the Sugar Creek option when the NCRR option seems to be the better idea?

    - *There are benefits to the Sugar Creek option. There is development potential at Asian Corners benefiting the area, transit and the City. (Andy Mock, CATS)*

2. Comment: It may benefit Asian Corners but it may strangle businesses on North Tryon Street.

    - *Limiting left turns will impact many businesses along North Tryon Street and that is something the City will need to take into consideration. (Mock)*

3. Will the light rail line go through the northbound lanes or over the northbound lanes of North Tryon Street?

    - *Light rail will cross the northbound lanes at-grade with gates and flashers to stop vehicular traffic. It will happen much quicker than a freight railroad crossing. (Mock)*

4. Any consideration for a loop to serve the campus that can tie into the rail service?

    - *Yes. Regardless of if choose the North Tryon Street option or the On-Campus option, a bus will circulate throughout campus. However, the on-campus option will be more convenient for some students and faculty,because they would not have to transfer from a bus to light rail. (Mock)*

5. Is this on-campus option the closest alignment to the center of campus?

    - *Yes. The topography of the campus has many difficulties. There are many hills and wetlands as well as facilities that our alignment would have to navigate around. We did consider many alignments but reached concensus with the University and local stakeholders on the alignment identified in the presentation. (Mock)*

6. How much bridge is in that on-campus option?

    - *Approximately 1,000 feet total. Two 500 foot bridges. (Mock)*

7. Can you extend the line into Concord?

    - *Neither option precludes the Northeast Corridor line being extended into Concord, NC in the future. Concord is not currently represented on the MTC because they do not have a half cent sales tax. (Mock)*

8. What are the thoughts on providing service to the Speedway based on discussions late last summer?

    - *The Speedway has expressed interest in extending the line but is not sure exactly what service and frequency they want. We would need to continue working with them. Nothing we are doing now precludes us from extending the line to the Speedway in the future. (Mock)*

9. Will you build a bridge over Sugar Creek at the 27th Street station?

    - *We will follow along Brevard, go under Matheson Street, through NoDa and over Sugar Creek. (Mock)*

10. Could there also be potential for development at the Eastway Drive Mall (Northpark)?

    - *There are a few issues with that site. An economic specialist studied this station area. There is a big box which we thought would be strong. However, Eastway Drive dead ends and it is surrounded by car lots. We bumped it north to pick up people from Old Concord Road heading from the University area. And the undeveloped land across from the Northpark site is park land. (Mock)*

11. Where will the 36th Street station be located?

    - *It will be located on the north side of the 36th Street behind the Johnston Mecklenburg mill and the boxing academy along the railroad tracks. (Mock)*

12. Was the ridership studied at the I-485 station (north and south options)?

    - *Yes, we studied ridership between those two locations and found that the differences are minimal. (Mock)*

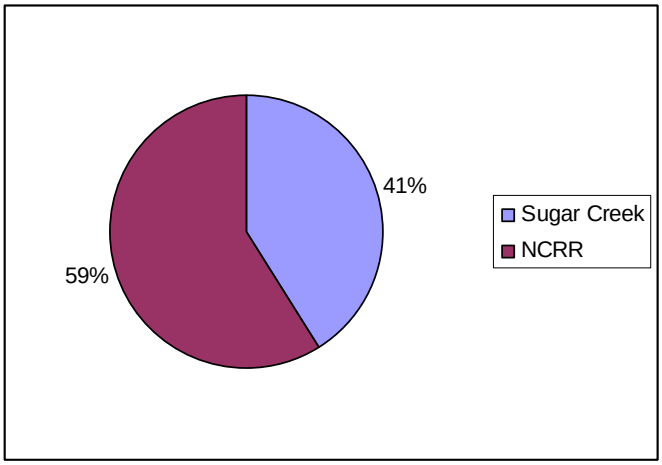
13. Under what circumstances would the Rocky River station be constructed?

    - *The 29/49 Project may result in redevelopment in that area making it more pedestrian friendly. If that project happens, CATS will consider putting a station there. (Mock)*

5.2 Survey Results

1. I prefer the following alignment:

a. Sugar Creek: 7
b. North Carolina Railroad: 10

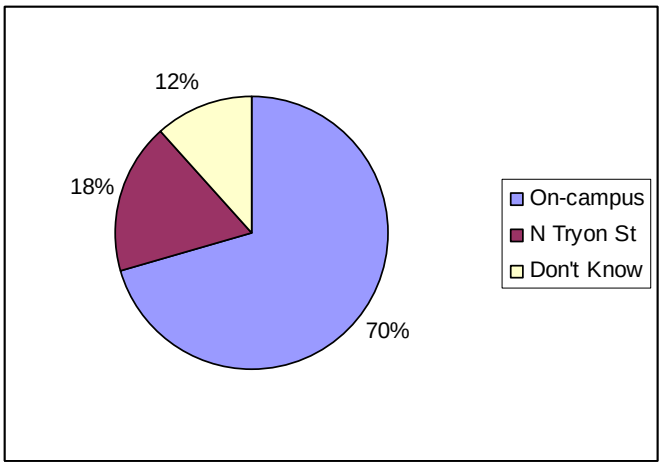


Comments:

- Sugar Creek would produce more ridership.
- Sugar Creek. There is great development potential at Asian Corners and along North Tryon Street.
- Sugar Creek would promote development.
- Sugar Creek would result in economic development of Asian Corners and North Tryon Street.
- NCRR would result in a faster run and interfere with North Tryon less than the Sugar Creek option.
- NCRR because it would cost less.
- NCRR is the logical choice because it is a straight line.
- NCRR will have less of an impact to existing traffic patterns and utilities. Save the money and use it to extend past I-485.
- Sugar Creek offers seemingly better access to Hwy 29.

2. The station for UNC Charlotte should be located:

a. On-campus: 12
b. Along N Tryon St: 3
c. Don't Know: 2

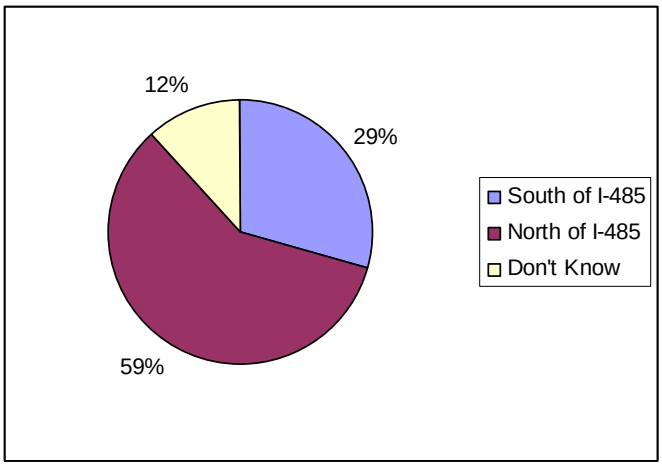


Comments:

- North Tryon Street option avoids the increased costs of going on campus.
- On-campus option provides greater accessibility for students, faculty and staff.
- On-campus would result in increased ridership potential.
- North Tryon Street option with campus served through local transportation.
- Don't know. Could the loop through UNCC be just on the northbound route with the southbound route being a more direct shot to downtown?
- On-campus may foster better relations through access to businesses downtown.
- The visibility of an on-campus station would increase ridership.

3. The terminus Station should be located:

a. South of I-485: 5
b. North of I-485: 10
c. Don't Know: 2



Comments:

- South of I-485 because of the cost savings.
- South of I-485 because the additional ridership does not warrant the increased cost.
- South of I-485. you can always extend when need arises.
- The north of I-485 option allows for future extension and avoids congestion.
- North of I-485 because future growth is inevitable and delaying any extension will make it harder to implement changes in the long-term. Extending past I-485 will open the gate for a much better utilization of the system much sooner, by more riders and vehicles from having to cross I-485 congestion to access.
- North of I-485 is accessible for more walkability to Verizon and the movie theater.
- North of I-485 because future connection to Concord/speedway will be important.
- The option to the north of I-485 takes advantage of the music pavilion with 20,000 seats and 20-30 events per year. The walk would only take 5-10 minutes and decrease traffic during music events. This is a great opportunity!

Additional Comments:

- If completed in phases, complete at least to 36th Street in phase one.
- Thanks for allowing public comments and enlightenment.
- Excellent graphics.
- Great presentation. Very clear plans. Open line to 36th Street first.

Public Meeting Summary
Northeast Corridor Light Rail Project
Sugaw Creek Presbyterian Church
101 Sugar Creek Road
June 5, 2006

1. Purpose and Intent

The purpose of this meeting was to present the proposed alignment and station locations that were presented to the Metropolitan Transit Commission and discuss the next steps in the decision-making process.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on June 5, 2006 from 6:00 pm to 8:00 pm, at the Sugaw Creek Presbyterian Church at 101 Sugar Creek Road in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the third week of May to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Neighbors of University City (Charlotte O.) — May 28 and June 4, 2006
- La Noticia — May 31, 2006
- The Charlotte Post — May 31, 2006
- Charlotte Weekly — June 2, 2006

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from May 16th – June 6th.

On June 1st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites and the City's public meetings calendar in Outlook.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database on May 22nd and a reminder was sent on June 1st. The meeting notice was also included in Corporate Communications' C-Mail.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. Andy Mock of the Charlotte Area Transit System (CATS) began by providing a general project overview and reviewing the Federal Transit Administration's project development process. Mr. Mock then explained each design option and summarized the contributing factors, including ridership, real estate, traffic and environmental impacts, land use and cost. He also shared the public survey results for each design option. In conclusion, Mr. Mock reviewed the Northeast Corridor system planning schedule.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report. The name of the person who responded to the question is noted in parenthesis.

4.2. Attendance

A total of 40 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

5.1 Question and Answers

1. Comment: I prefer the NCRR option because it seems easier and quicker to build. I am unsure how acquiring land along North Tryon Street will improve economic development and land use.

    - *The Sugar Creek option will require more individual property acquisition but will also allow the City to consolidate properties. The City's Economic Development department can then facilitate the redevelopment of North Tryon Street. This redevelopment may not happen on its own if light rail isn't in the median of North Tryon Street. (Andy Mock, CATS)*

2. Comment: The population of Hidden Valley is 13,000. The North Tryon Street option benefits more people and is a better option.

3. What's the ridership difference between the Sugar Creek and NCRR options?

    - *The two station locations are very close together, about 1,400 feet. At this early stage, our ridership model doesn't recognize a difference in ridership between these two options. The same number of people will get on and off at both station options. Also keep in mind that even though we are making a recommendation to the MTC at the end of the month, we will still carry both options through our environmental studies. This allows us to continue studying the ridership and cost of both options. (Mock)*

4. Does either option make a significant difference to ridership in the University area?

    - *Probably not because the Sugar Creek option is only 500 feet longer than the NCRR option. That small increase in track length and run time is not enough to create a disincentive for riders north of the Sugar Creek station. (Mock)*

5. Considering the entire route between Sugar Creek and the University area, which option would be more heavily populated?

    - *The Sugar Creek Alignment is closest to the Hidden Valley neighborhood. However, the station is not much closer, only 500 ft. Having the tracks closer to the Hidden Valley neighborhood doesn't provide a better level of service. Also, remember that there will be bus service at each station. Because the Hidden Valley neighborhood is so large, the majority of residents will have to take a small circulator bus to the station. Therefore, the difference in station locations is not very important to the service of Hidden Valley. (Mock)*

6. What is the difference in redevelopment opportunities for the Sugar Creek and NCRR options?

- *We know that there will be a lot of real estate impacts along North Tryon Street with the Sugar Creek option. However, we aren't sure whether they are partial or full acquisitions. At this stage of planning, we cannot estimate the redevelopment potential of both options with any degree of certainty. (Mock)*

7. What would the timeline for redevelopment be?

   - *Potentially, Asian Corners has a lot of redevelopment potential especially because of its location at a major intersection and the size of the parcel. The Asian Corners site might redevelop faster with the Sugar Creek option. However, it would redevelop if we chose the NCRR alternative too, but it might take longer. (Mock)*

8. Comment: it would be a major catalyst. That area needs infrastructure. There are 15 acres vacant at Eastway/Tryon. This development would increase tax value. Sale of the property may even offset the cost of the Sugar Creek option. Redevelopment is one of the major reasons to build the project. The NCRR option doesn't provide any redevelopment opportunities.

   - *Remember that this project is competing against other projects around the country for federal funding. Our project has to be cost effective, carrying the most riders for the least amount of money. (Mock)*

9. Comment: The South Corridor is a great example. Look at South End, Wilmore and all the way south to Scaleybark.

10. How will the Sugar Creek option affect traffic on North Tryon Street?

    - *Keep in mind that CATS hasn't designed this entire section. Light rail will run in the median of North Tryon Street resulting in a huge infrastructure investment. CATS would have to control/consolidate left turns. More traffic would turn left at intersections. (Mock)*

11. When I hear that, I think of Independence Boulevard. The restrictions there dried up a lot of businesses. When you do that, you decrease the need for light rail. Have you given any thought to putting stations at-grade and then going aerial in between? That way you would have left turns under the bridge.

    - *We discussed it internally but is would be very expensive. Not only would we have to build the bridge structures, but we would still have to rebuild much of North Tryon Street. It is an option that we can investigate further during preliminary engineering when we have a better understanding of all the variables. Also, Scaleybark Station area in the South Corridor is a good example of an area where CATS is controlling left turns. That used to be a high-crash area. By controlling left turns, vehicular safety will be improved. (Mock)*
    - *I wanted to note that there will be constraints along North Tryon Street with the Sugar Creek option. However, it will not be like Independence Boulevard.*

Access along Independence Boulevard is totally controlled. CDOT wouldn't control access along North Tryon Street. We would not prohibit people from accessing the businesses. (Veronica Wallace, CDOT)

- *Independence Boulevard is more like a freeway. Whereas, North Tryon Street would be more like a boulevard. (Mock)*

12. The survey results said that 76% of people preferred the NCRR option. Do you know their reasons?

    - *In the comment section, people said that it was cost-effective, direct and simple. We administered that survey at this location and at the University area meeting. Also, all of the survey results are available in the public meeting summaries posted on CATS website, www.ridetransit.org. (Mock)*

13. Please compare the ridership estimates of the South Corridor to the Northeast Corridor.

    - *Initially the South Corridor had approximately the same amount of riders as the Northeast Corridor at this phase. As planning of the South Corridor progressed, ridership increased, which could correlate to the Northeast Corridor. (Mock)*

Deleted: *The Northeast has similar numbers at this phase.*

14. Does higher ridership mean more federal money?

    - *Not necessarily, but it does mean that the Northeast Corridor will be in a better position to compete for federal money. (Mock)*

15. Why isn't the Eastway station closer to the Hidden Valley neighborhood on North Tryon Street to better serve this population of potential transit riders?

    - *Initially we looked at this location. It had a few problems. Eastway Drive is a dead end so there isn't as much development potential. Also, it is still far away from the heart of Hidden Valley. The location we chose also makes it easier to pick up riders from Old Concord Road from the University area. (Mock)*

16. What is driving your recommendation to the MTC?

    - *Cost, ridership, land use and economic development. (Mock)*

17. Between the University and I-485, how many people will you pick up? Why can't the University station be the terminus station?

    - *Maybe a thousand more riders. You need a terminus station with a lot of parking and great access. The University station will be a walk-up only station. The purpose of the I-485 station is to draw more regional riders. (Mock)*

18. Wouldn't it be less expensive in the short-term and more expensive in the long-term to build the project in phases? What I mean is that if you build half of the project now and then come back in six or seven year to complete it, it would be more expensive.

    - *Possibly. If we build it all at once, there are a lot of variables. North Tryon is a state-owned road. A lot of work must be done with NCDOT. That may push out the schedule for the entire project. If we build to Sugar Creek, it could happen relatively quickly. The majority of the real estate would be acquired from only one owner, the railroad. We could use that time to work with NCDOT on the extension to the University area, which is very complicated. (Mock)*

19. Is there any concern that there won't be federal money for any of these projects?

    - *Absolutely. That is a concern. There are a lot of great projects competing for limited funds. That's why it is so important to present the most cost effective project possible. (Mock)*

20. What cities are we competing against?

    - *Many mid-tier cities, including Phoenix and Nashville. (Mock)*

21. Since the South Corridor will already be running will you open the Northeast Corridor one station at a time or wait to open it all at once?

    - *The System Plan identifies two phases. We will identify those phases this fall. We can expedite the first leg and then use that time to work with stakeholders on the extension to I-485. (Mock)*

22. Is there a way to connect the North Corridor to the South Corridor?

    - *The North Corridor is commuter rail and terminates Uptown at the multimodal station on West Trade Street. That multi modal station will serve buses, Greyhound, AmTrak, commuter rail and possibly streetcar. The connection to the Northeast and South Corridors will be along Trade Street via bus mall or streetcar to the existing Charlotte Transportation Center. (Mock)*

Public Meeting Summary
Northeast Corridor Light Rail Project
University Place Hilton Hotel
8629 JM Keynes Drive
June 6, 2006

1. Purpose and Intent

The purpose of this meeting was to present the proposed alignment and station locations that were presented to the Metropolitan Transit Commission and discuss the next steps in the decision-making process.

2. Meeting Date, Time, and Location

This public meeting for the Northeast Corridor Light Rail Project was held on June 6, 2006 from 6:00 pm to 8:00 pm, at the University Place Hilton Hotel at 8629 JM Keynes Drive in Charlotte, North Carolina.

3. Public Notices

3.1. Mailings

Approximately 8,000 notices announcing the meeting were mailed during the third week of May to residents and property owners within one-half mile of the stations, and to citizens and groups who previously expressed interest in the Northeast Corridor Light Rail Project. Citizens, churches and neighborhood groups who provided their names and addresses during past workshops were included in the mailing.

3.2 Newspaper Announcements

An advertisement inviting the public to attend the public meeting and comment on the project appeared in the following publication on the following date:

- Neighbors of University City (Charlotte O.) — May 28 and June 4, 2006
- La Noticia — May 31, 2006
- The Charlotte Post — May 31, 2006
- Charlotte Weekly — June 2, 2006

3.3 Other Communications

The City of Charlotte uses a cable government channel to inform its citizens of events and decisions. The channel uses an Electronic Billboard (also known as an Electronic Bulletin Board) to post information on public meetings, road closings, employment opportunities, etc. These series of announcements air several times a day. Notifications for the public meeting were placed on the Board from May 16th – June 6th.

On June 1st, a press release from CATS Marketing Department was sent via fax to newspapers and radio and television stations throughout the Charlotte area. In addition, a meeting announcement was placed on the City of Charlotte and CATS websites and the City's public meetings calendar in Outlook.

An electronic version of the meeting notice was e-mailed to all CATS employees and citizens and organizations in the Corridor Database on May 22nd and a reminder was sent on June 1st. The meeting notice was also included in Corporate Communications' C-Mail.

4. Meeting Procedure

4.1. Presentation

A formal presentation was given at 6:00 pm. Andy Mock of the Charlotte Area Transit System (CATS) began by providing a general project overview and reviewing the Federal Transit Administration's project development process. Mr. Mock then explained each design option and summarized the contributing factors, including ridership, real estate, traffic and environmental impacts, land use and cost. He also shared the public survey results for each design option. In conclusion, Mr. Mock reviewed the Northeast Corridor system planning schedule.

After the presentation, a question and answer period focused on clarifying and obtaining verbal input on the information in the presentation. The comments received during the question and answer periods are documented in Section 5.1 of this report. The name of the person who responded to the question is noted in parenthesis.

4.2. Attendance

A total of 34 people from the public attended the meeting. To assist these attendees and answer questions one-on-one, representatives from CATS and other City of Charlotte departments were present along with representatives from the consultant team.

5. Summary of Public Input

5.1 Question and Answers

1. If you choose the NCRR alignment option, how much property would you need to acquire outside of the railroad right-of-way?

    - *It is difficult to say at this time. We must allow for clearance from the freight railroad center line. Right now, it is not clear where the railroad right-of-way line is and we are not at a level of engineering/design to answer those specific questions. (Jeff Boerma, Parsons)*

2. If you choose the on-campus alignment option, where will the tracks reenter North Tryon?

    - *If we choose the on-campus option, we would not reenter North Tryon Street. The alignment would stay on the east side of North Tryon Street, crossing over Mallard Creek Church Rd and continuing to the I-485/N. Tryon station. (Andrew Mock, CATS)*

3. If you are bridging over Harris Boulevard, why don't you just go away from North Tryon Street on to the hospital property at Harris Boulevard?

    - *That is something that we discussed in our internal workshops, and may revisit in the future. However, we feel that the station at JW Clay should be in the median to serve development on both sides of North Tryon Street. (Mock)*

4. What kind of station will JW Clay be?

    - *It will be a walk-up only station. There will not be a parking component. (Mock)*

5. Is there a vehicle maintenance facility proposed for the Northeast Corridor?

    - *The Northeast Corridor is considered an extension of the South Corridor Light Rail Project. CATS is building a light rail maintenance facility for the South Corridor, and the Northeast Corridor will need to expand the yard and supplement some equipment and facilities, but much of the Vehicle Maintenance Facility will be ready for the Northeast Corridor.. (Mock)*

6. How does the Northeast Corridor rank compared to other projects in terms of ridership and cost?

    - *I do not know the costs of the Southeast and West Corridor projects because they have not gone to the Metropolitan Transit Commission (MTC) yet. The North Corridor project is cheaper ($250 million range). However, it is a different and much simpler project that will be built within the existing freight railroad tracks. Also, the operation is commuter style service with*

approximately four trips into and out of Uptown Charlotte each day. The Streetcar Project is around $245 million. I don't know the ridership. (Mock)

7. What were the original South Corridor ridership and cost projections?

   - *The ridership was in the same range as the Northeast at this phase. The initial cost estimate for the South Corridor was approximately $340m. (Mock)*

8. Comment: I personally prefer the UNCC on-campus option.

9. Comment: Please note that regardless of the option chosen, CATS will provide bus service at all light rail stations to serve communities and developments that are around the station but not within walking distance*. (Mock)*

10. Which alignment option (NCRR vs. Sugar Creek) will save time during construction and land acquisitions?

    - *NCRR is the easiest and fastest in both of those regards. However, there is also a trade-off with redevelopment potential. (Mock)*

11. How would you rank the Northeast Corridor among the other corridors?

    - *I can't answer that question. The Northeast Corridor project has strong ridership and strong generators with NoDa and the University Area. The project also has good cost-effectiveness. (Mock)*

12. How much does economic development factor into receiving federal grant money?

    - *There are many factors. However, ridership and cost are the major factors. Land use benefits are also weighed into the rating. (Mock)*

13. Where are we with the State on North Tryon Street?

    - *We have met with NCDOT four times. The State thinks that it is feasible for light rail to run in the median of North Tryon Street. There is still a lot of work to do. It will be a slow process. (Mock)*

14. Will it cost more to ride light rail than buses?

    - *No. When light rail opens, the ticket will cost the same as a local bus ticket. (Mock)*

15. When the MTC prioritizes the corridors, does it matter how much they hear from us?

    - *That may help politically. However, the decision will be driven by what projects CATS can afford to build. (Mock)*

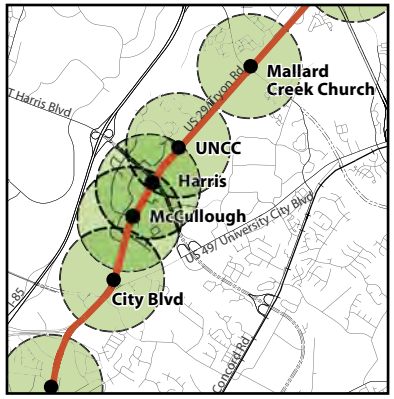
16. Comment: Through the website, www.ridetransit.org, you can sign up to receive information about all of the rapid transit projects electronically. (Mock)

17. You've talked a lot about construction costs. Please talk about the capital costs of extending the South Corridor line.

    - *CATS must purchase more vehicles. However, the VMF and most of the staff needed will already be in place through the South Corridor project. We will just have to supplement the staff and equipment. (Mock)*

18. Do you think having two corridors in this part of town is a disadvantage?

    - *The North Corridor project is a very different project than the Northeast Corridor project and would probably not compete for the same type of federal funding. The two projects may compete for local funds though. (Mock)*



CATS Systems Plan

Northeast Corridor Light Rail Project

Station Location Refinement Report

Prepared for:
Charlotte Area Transit System
Charlotte-Mecklenburg Planning Commission

September 2005

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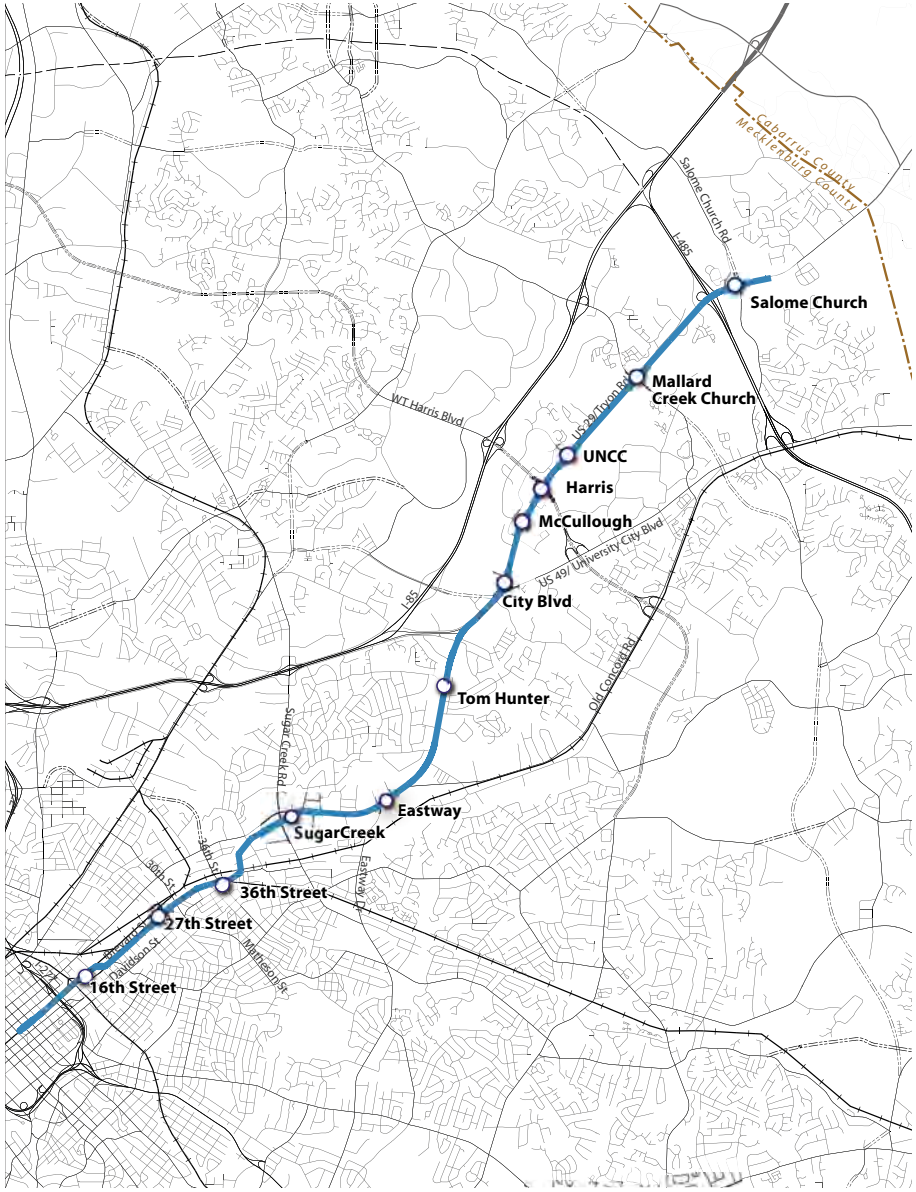


MIS-Proposed Station Locations

Background and Methodology

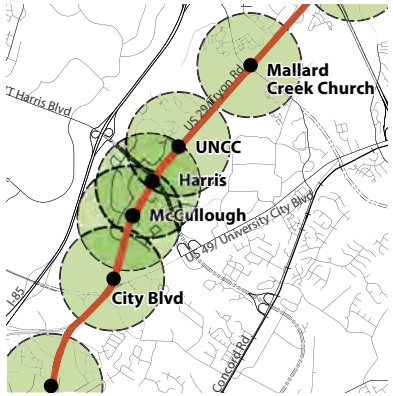
The Northeast Corridor as defined by the 2002 Major Investment Study (MIS) generally spans northeast from Center City Charlotte to the Cabarrus County line. A total of seven different alternatives were evaluated by the MIS with different mode options (light rail transit (LRT), bus rapid transit (BRT), or a combination of both) and alignment options. The preferred alternative carried forward from the MIS is shown in the adjacent map.

This station location refinement process focuses on the 13 stations identified in the LRT component of the MIS-preferred alignment. Its purpose is to evaluate the station locations identified in the MIS and, if necessary, modify (shift, add, or remove) stations. This evaluation is also based on information collected in preparation of the Preliminary Engineering and Draft Environmental Impact Statement (PE/DEIS) and any new developments occurring since the MIS. The Station Location Refinement Process is divided into three parts.

1. MIS Station Location Analysis - evaluate the spacing and service areas of the MIS-defined stations to identify any potential overlaps or gaps in the transit corridor's service area and recommend potential station relocation, addition or removal.

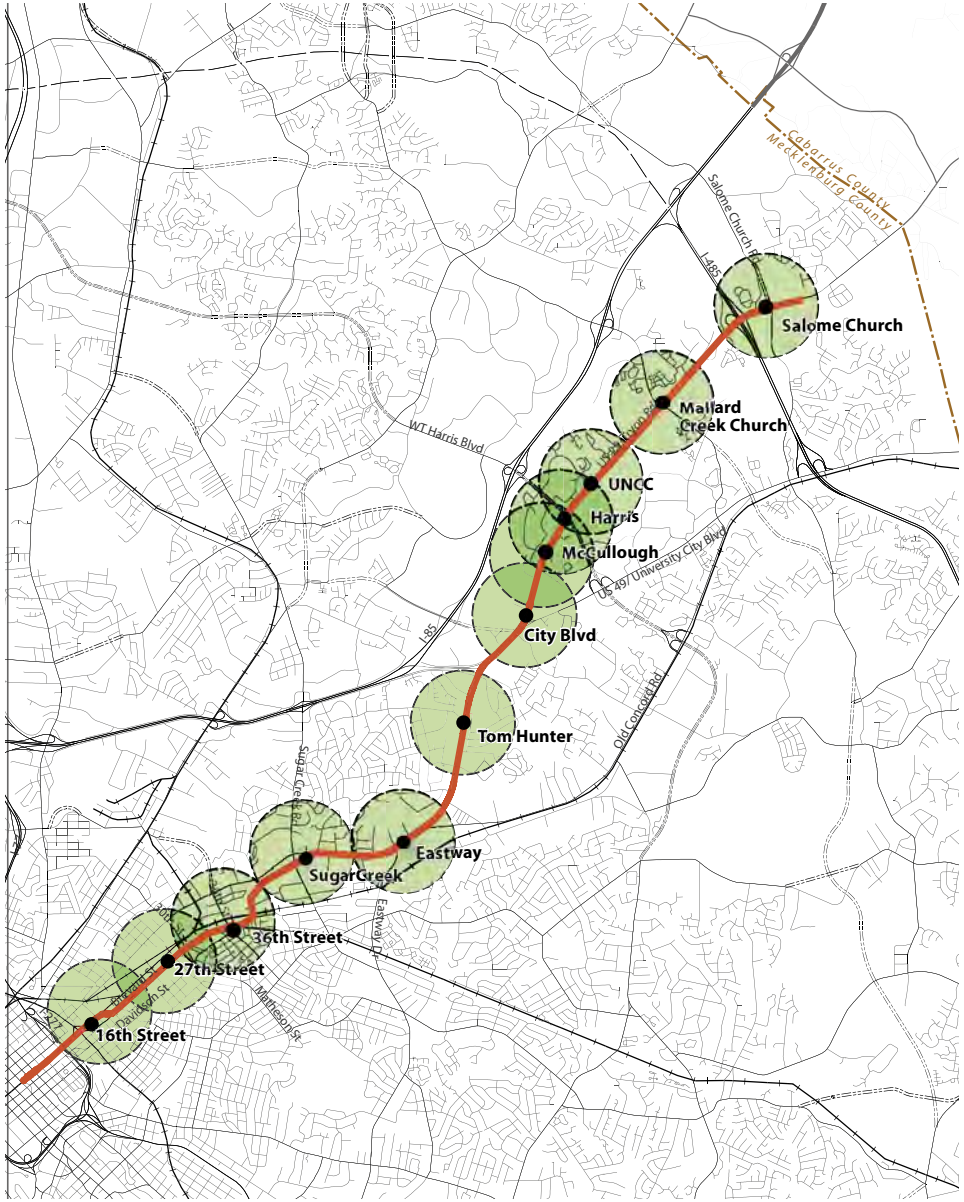
2. Station Site Selection Analysis - select parcel-specific station locations, working closely with key stakeholders to understand development opportunities, and with transit engineers to incorporate operational and site design requirements.

3. Station Area Statistical Baseline Analysis - document the defined station area transit supportive measures and create a Station Area Statistical Baseline Analysis. These measures will be used to evaluate potential future station location modifications and identify infrastructure and land use changes needed to support the transit station.



Part 1: MIS Station Location Analysis

The purpose of this analysis is to identify any potential overlaps or gaps in the corridor's service area and recommend potential relocation, addition or removal of stations.



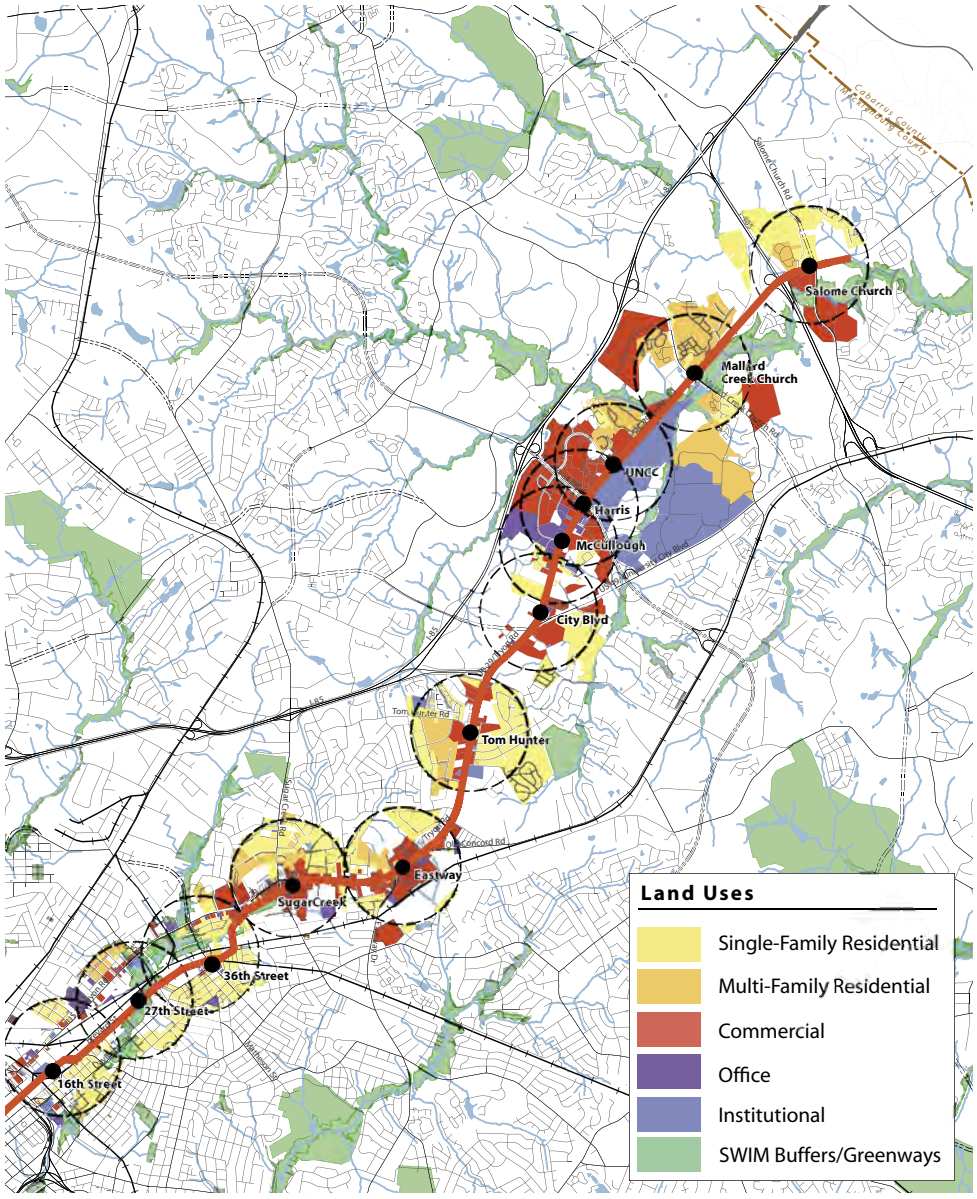
Half-mile Radius Buffer around Stations

Operational Spacing

The first evaluation analyzes the alignment's operational efficiency based on distances between stations. If stations are located too close together, the efficiency of the transit service is sacrificed. On the other hand, stations have to be located at appropriate intervals to capture sufficient riders.

For the purposes of evaluating the operational spacing of the Northeast Corridor, the optimal spacing distance for light rail stations is assumed to be between half-mile to three miles. The adjacent diagram has a half mile-radius buffer around each station that illustrates the minimum operational spacing for light rail. Overlapping station area buffers indicate stations that are potentially located too close together.

Significant overlaps of service area buffers can be observed in the University area (between City Boulevard Station and UNCC Station). Some overlap, although to a lesser extent, occurs around the 27th Street Station area (between 16th Street to 27th Street). The rest of the stations are located between the ideal half-mile to three-mile spacing range.



Existing Transit-Supportive Land Uses around Stations

Existing Transit-Supportive Uses

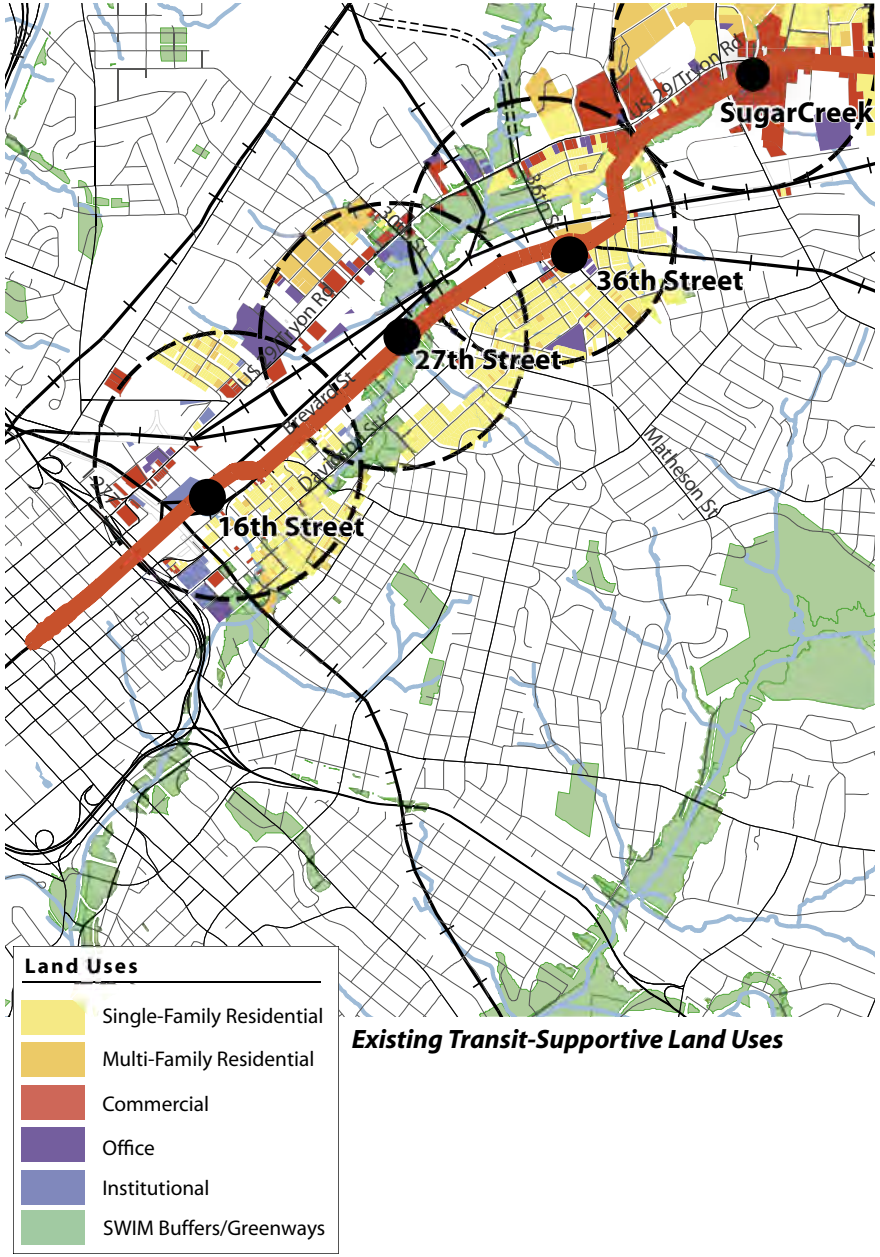
The existing land use patterns around each station is an important factor in evaluating the area's ability to be supportive of transit. The station location refinement process defines land uses served by transit as residential, commercial, and office use. Land uses with low transit ridership potential (industrial, utilities, and vacant properties) have been excluded.

For each station, the total acreages of residential parcels (origins) and commercial and office uses (destinations) within one-half mile of each station were calculated. Existing transit-supportive land uses around each station is described in further detail in the following pages while the Urban Design Framework report describes the corridor's context in more detail.

Transit-Supportive Land Uses and Residential Densities around Stations

Station	Transit-Supportive Land Uses (Acres)			Residential Density (housing units/acre)*	Motel/ Hotel Rooms
	Commercial & Office Uses	Residential Uses	Total Transit-Supportive Uses		
Salome Church	137	163	300	0.77	
Mallard Creek	15	264	279	0.52	
UNCC	194	220	414	0.45	700
Harris	304	22	326	1.82	551
McCullough	249	54	303	1.28	4
City Blvd.	162	175	337	0.54	46
Tom Hunter	89	337	426	1.37	
Eastway	124	131	255	2.05	
Sugar Creek	126	157	283	1.95	
36th Street	57	161	218	3.50	40
27th Street	50	104	154	3.31	
16th Street	52	106	157	5.63	

** Does not include existing and planned 6,370 bed student housing in UNCC and existing hotel rooms.*



Existing Transit-Supportive Land Uses

16th Street Station

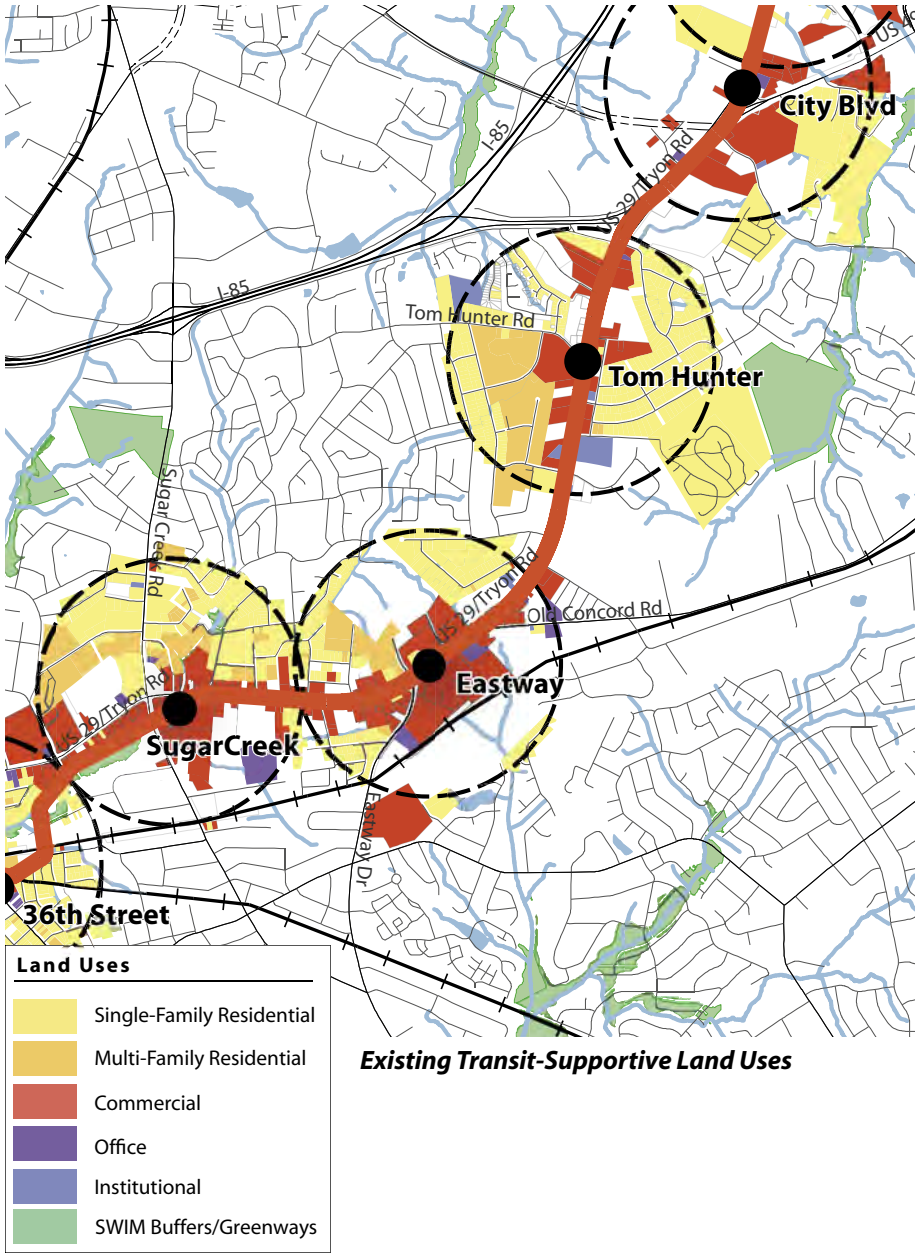
16th Street Station is located near the intersection of 16th Street and Brevard Street, around the southern end of the Norfolk Southern intermodal yard . Located just outside of the I-277 loop, 16th street has almost 160 acres of transit-supportive land uses within its half-mile buffer. Two-thrids of these indentified land uses are residential with average densities of 5.5 units per acre. Residential land uses near the station include the Optimist Park community and the southern end of Lockwood neighborhood.

27th Street Station

27th Street Station is located along Brevard Street near 27th Street and directly adjacent to the Norfolk Southern intermodal yards. The 27th Street station captures around 150 acres of transit supportive uses but with a lower density-residential land use (3 units/acre) compared to the 16th Street Station. Although the northern edge of the buffer captures some multi-family apartments (Dillehay Courts and Tryon Hills Apartment), the Norfolk Southern rail yard is a significant barrier preventing direct access from these multi-family uses to the station.

36th Street Station

36th Street Station is located in the commercial core of the North Davidson (NoDa) area. It has more than 200 acres of transit-supportive uses within the half-mile buffer, more than three-quarters of which are residential land uses with a density of 3.5 units per acre. The eastern quadrants of the station buffer are the neighborhoods of Highland Park Mill Village and Mecklenburg Mill Village. The NoDa district is also a designated historic neighborhood with a number of historic mill buildings in close proximity to the MIS-designated station location.



Existing Transit-Supportive Land Uses

Sugar Creek Station

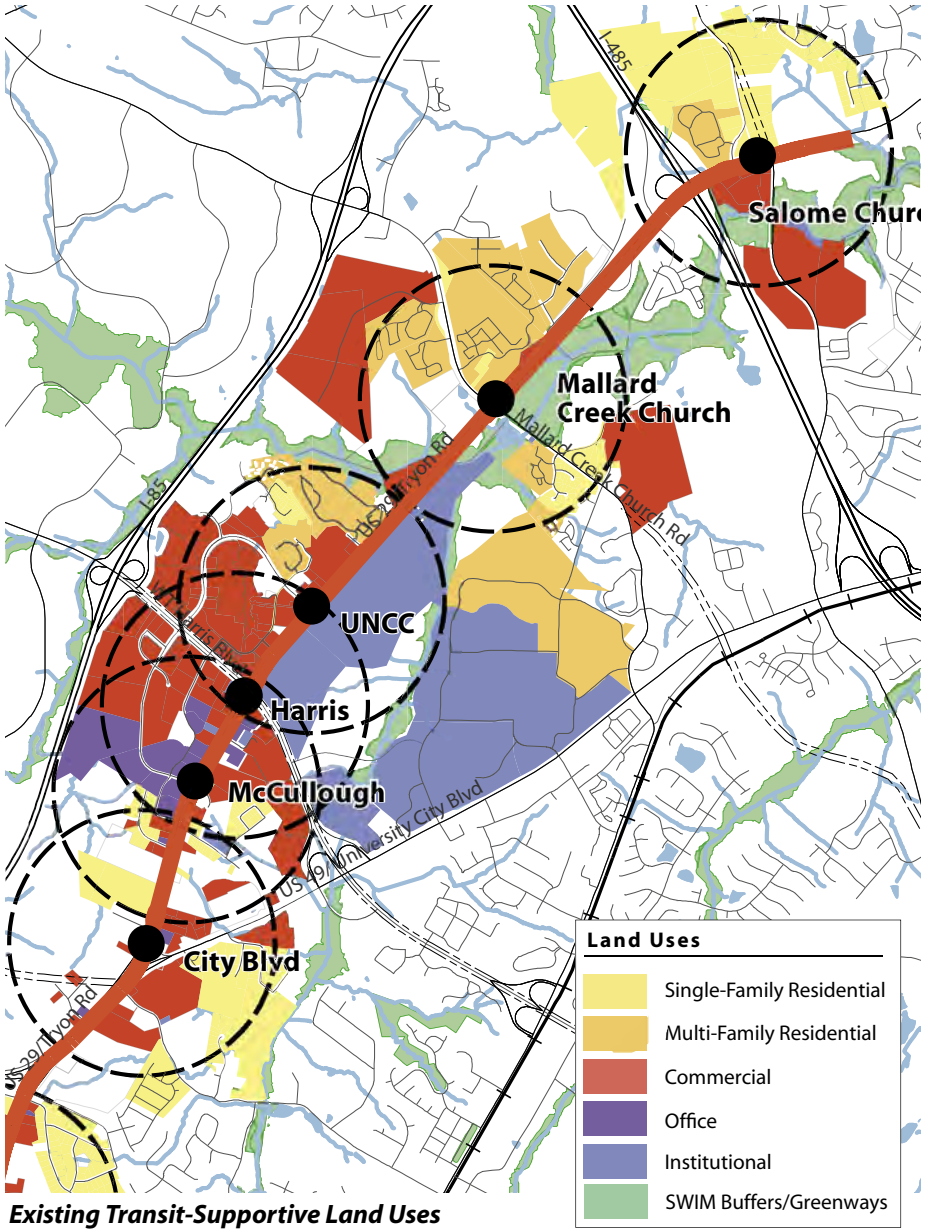
This station is located in the Asian Corner property at the intersection of Sugar Creek Road and Tryon Road. It has more than 280 acres of transit-supportive land uses within the half-mile buffer, more than half of which are residential. Land use patterns around Sugar Creek Station have a much lower density and are more suburban in character, compared to the previous three stations. The Asian Corner Mall and its associated out-parcels make up most of the identified commercial land uses. Residential land uses are concentrated on the northern quadrants of the station's buffer.

Eastway Station

Similar in character as the Sugar Creek Station, Eastway's half-mile buffer also includes a strip shopping center- the North Park Mall. Behind the strip commercial and car dealerships along Tryon, some multi-family homes and single-family residential uses can be found on the northern quadrants of the Station's buffer.

Tom Hunter Station

Tom Hunter Station has the largest acreage of residential land use within a station's half-mile radius among all the Northeast Corridor stations. Tom Hunter can potentially serve more than 300 acres of multi-family (Maple Runs Apartments) and single-family neighborhoods (Hidden Valley Neighborhood and North Ridge Village). small individual retail and restaurant parcels and automobile-related commercial uses line Tryon Road near Tom Hunter Station.



Existing Transit-Supportive Land Uses

City Boulevard Station

The MIS Study located the City Boulevard Station north of the intersection of Tryon Road (US29) and University City Boulevard (NC49), commonly referred to as the "weave". There are almost 330 acres of transit-supportive land uses around the station. These land uses however, are in low-density suburban development pattern (0.5 unit/acre). The existing commercial uses include a travel hotel and the southern end of a strip shopping center .

Becasue of safety and congestion concerns around the weave area, NCDOT has planned to grade-separate the intersection of US29/ NC49. Recent budget constraints has delayed this improvement and prompted the City to evaluate other possible solutions for the intersection. The future plans for the intersection will obviously affect the feasibility of the station location and the extent of transit-oriented development potential around it.

McCullough Station

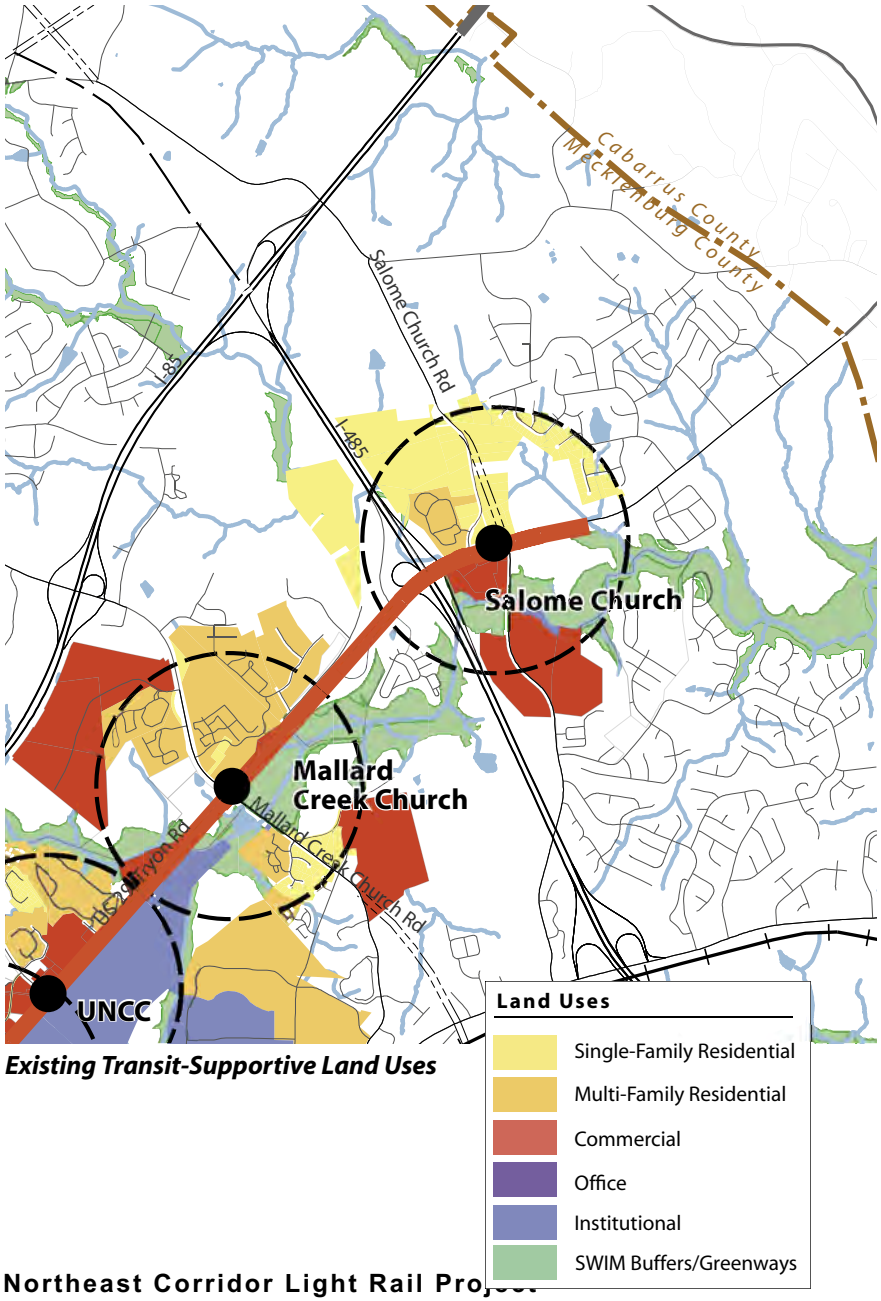
Most of the 300-acre of transit-supportive uses around McCullough station are in the form of retail and office uses. The office uses include one to three story professional office buildings and medical offices. Part of the Carolinas Medical Center (Hospital) is within McCullough Station's half-mile buffer. Commercial uses include the Grand Promenade Shopping Center and a number of hotels and restuarants.

Harris Station

Because of close station spacing, Harris Station shares more than half of the identified transit-supportive land uses for McCullough Station and the other half with the UNCC Station, the station north of Harris.

UNCC Station

The UNCC Station half-mile buffer encompasses approximately 400 acres of potential transit-supportive land uses. Half of this area are residential uses in the form of multi-family and student housing. The rest of the buffer area includes retail and hotel developments in the University Place and Mallard Pointe shopping centers. The Hospital and the UNCC Research Institute are also located around the station.



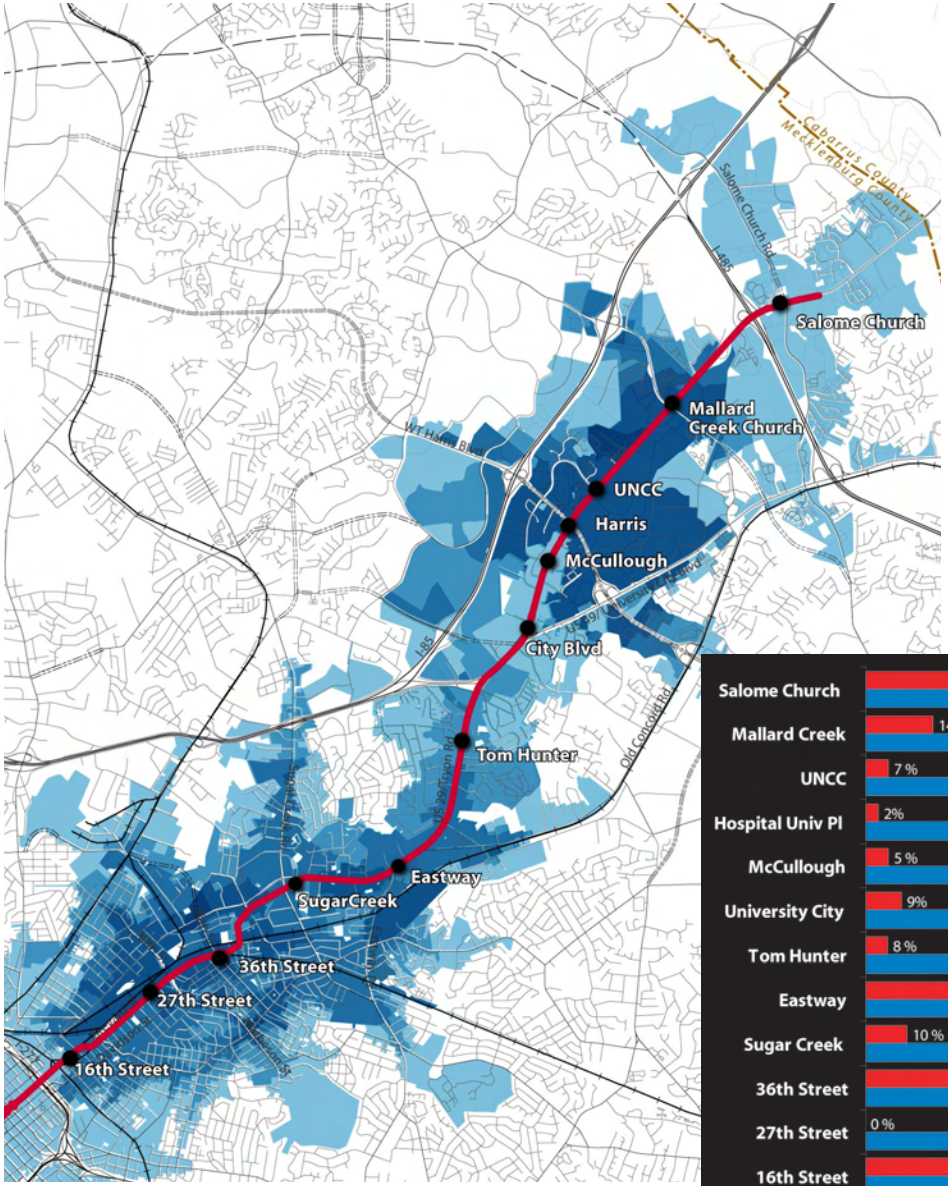
Existing Transit-Supportive Land Uses

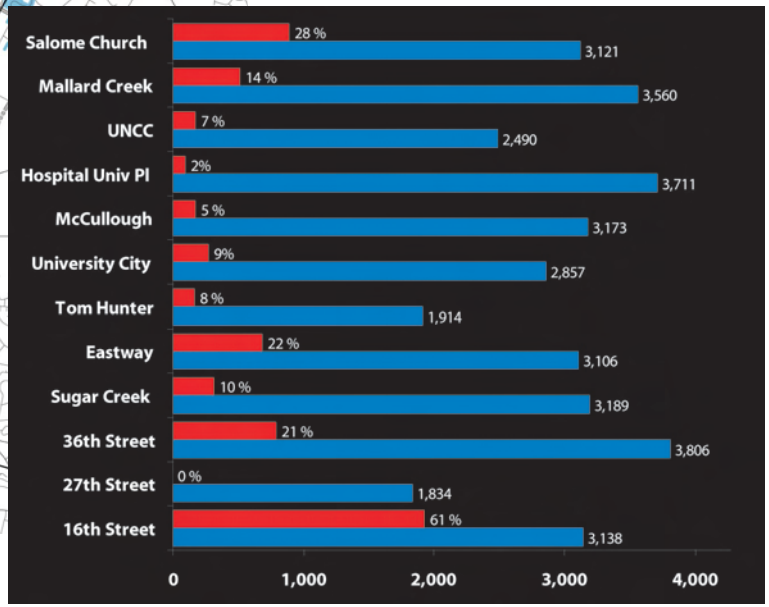
Mallard Creek Church

Around 280 acres of properties around the Mallard Creek Station is comprised of transit-supportive commercial and residential uses. All of the residential uses are multi-family apartment homes. A considerable amount of the station area is within the 100-year floodplain and are part of the Mallard Creek Greenway. The northeast quadrant of the station buffer is occupied by a county soccer field and a stone quarry.

Salome Church Station

The MIS located the terminal station north of I-485 near the Salome Church Road/Tryon Rd intersection. The station buffer area captures the Starlight Cinema along Pavillion Road and portions of the Verizon Amphitheater parking area. Residential uses include the Pavillion Crossing Apartments and rural-density residential homes. Mallard Creek Greenway continues north along the northeastern quadrant of the station area buffer.



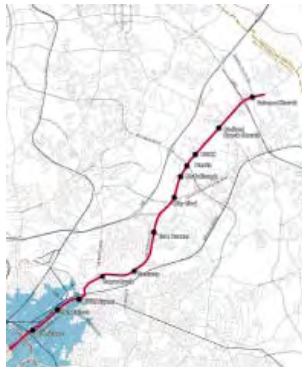


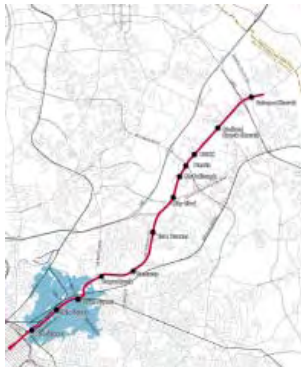
Effective Service Area

The effective service area is measured as the total land area within a five-minute drive of each station. The five-minute drive is defined by assuming an average speed of 10 mph for a local streets, 15 mph for collector streets, 25 mph for arterial streets, and 45 mph for freeways. These speeds account for traffic signals, congestion, and other road characteristics. This analysis also assumes future street connections based on the City of Charlotte's 2020 Thoroughfare Plan.

Parcels that will be served by only one station are shown with the lightest shade of blue and the darker shades of blue indicate service overlaps occurring between stations. Darker colors indicate more stations serving a particular parcel.

The average five-minute drive for each station area is between 1 to 2 miles depending on the extent, density and type of the street network serving the station. Based on this analysis, the overlap in effective service area accounts for more than 80% of the total service area of the corridor, with only 17% uniquely served by a single station. The next few pages illustrate key observations on the 5-minute service areas of the different stations.


16th Street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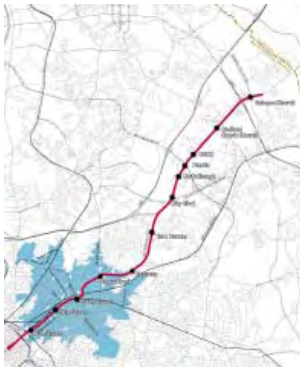
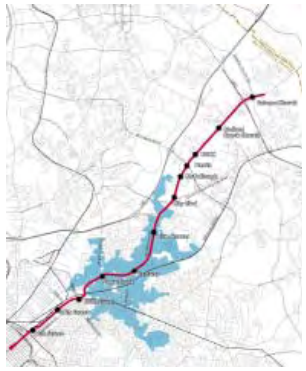
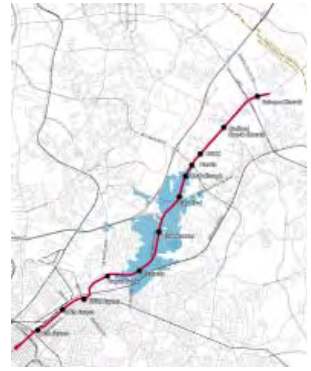

36th Street

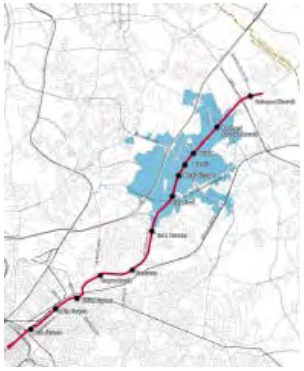

Sugar Creek

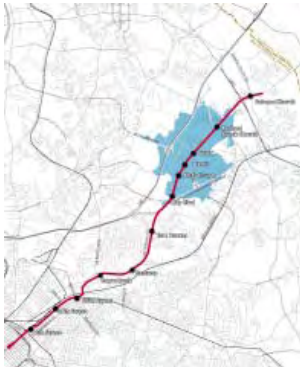

Eastway

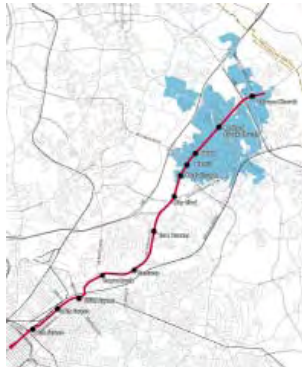

Tom Hunter

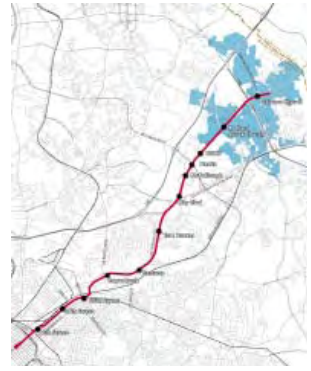

City Blvd


McCullough


Harris


UNCC


Mallard Creek Church


Salome Church

Service Areas vary in Size

The size of each station's service area differs based on the characteristics of the street network and the presence of barriers to connections around the station.

- 36th Street and Harris stations have the two largest 5-minute service areas (more than 3,500 acres). For 36th Street Station, this is due to the presence of good network of streets around it. For Harris Street Station, this is due to its proximity to a number of high-speed arterials around the station extending the reach of the 5-minite drive distance.
- 27th Street and Tom Hunter stations have two of the smallest total 5-minute service area. 27th Street Station is mostly isolated from its immediate sorroundings because of the Norfolk Southern rail yard and Tom Hunter Station is surrounded by neighborhoods streets that do not form a connected network.

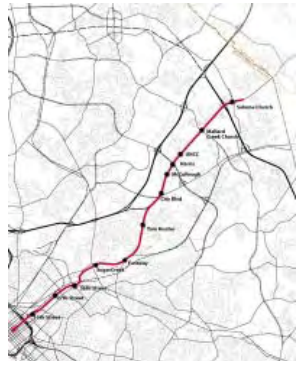

16th Street


27th Street


36th Street


Sugar Creek


Eastway


Tom Hunter

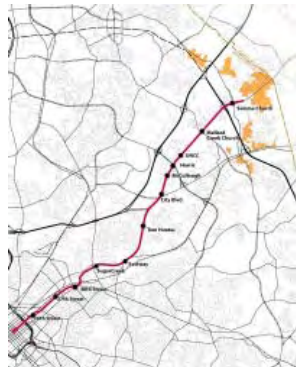

City Blvd


McCullough


Harris


UNCC


Mallard Creek Church

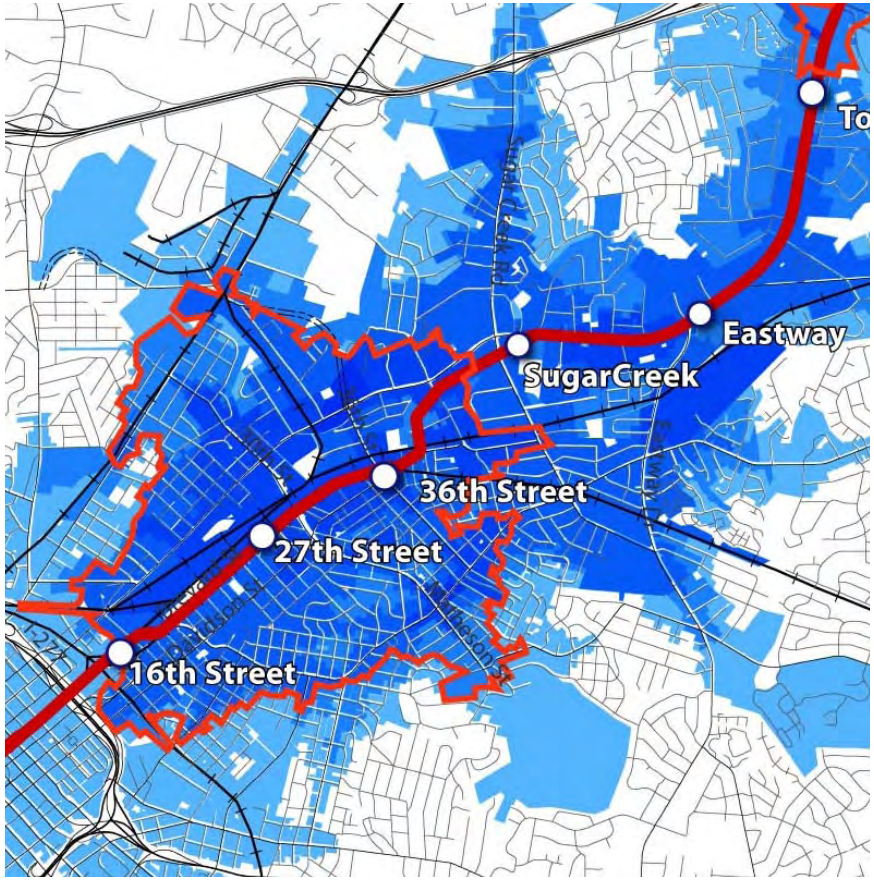

Salome Church

Unique Service Areas

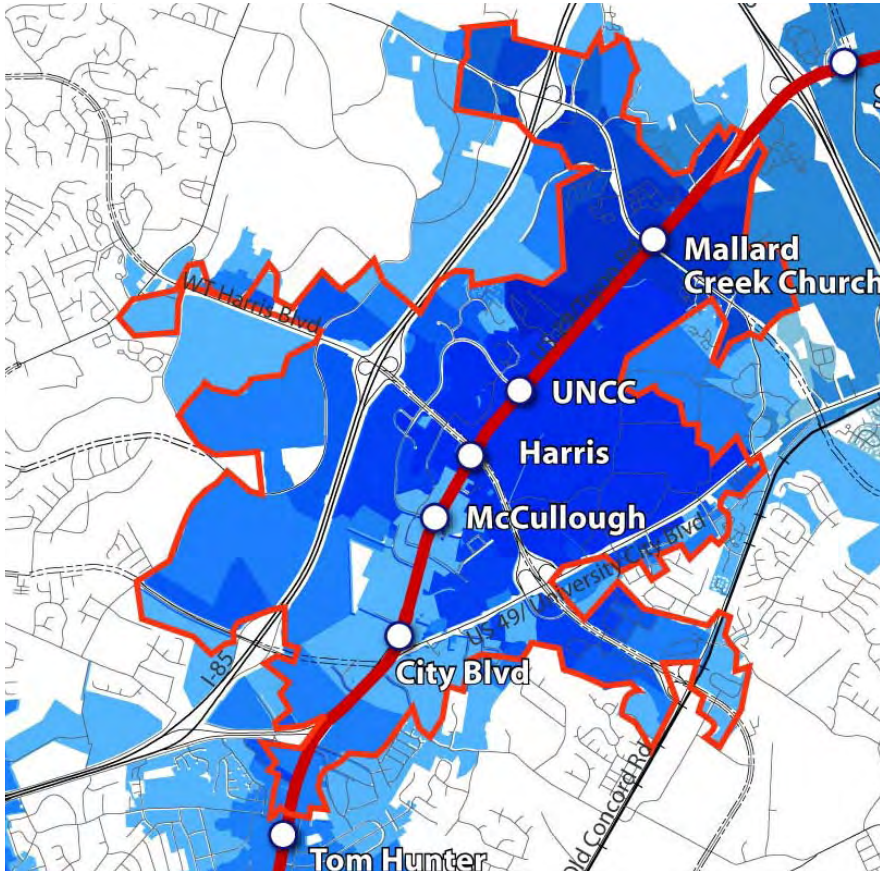
Unique service areas are those areas exclusively served by a single station. The northeast corridor station's unqiue service area varies between zerp to sixty percent of the total area of each station.

- Having only one station adjacent to them, the two end-of-line stations (16th Street and Salome Church) have the largest percentage of unique service area compared to the total area each station serves.

- As with the half-mile operational spacing spacing analysis, the five minute service area analsysis shows significant service overlaps around University City and the 27th Street Station area.



27th Street Station 5-minute Drive Service Area (outlined in red)

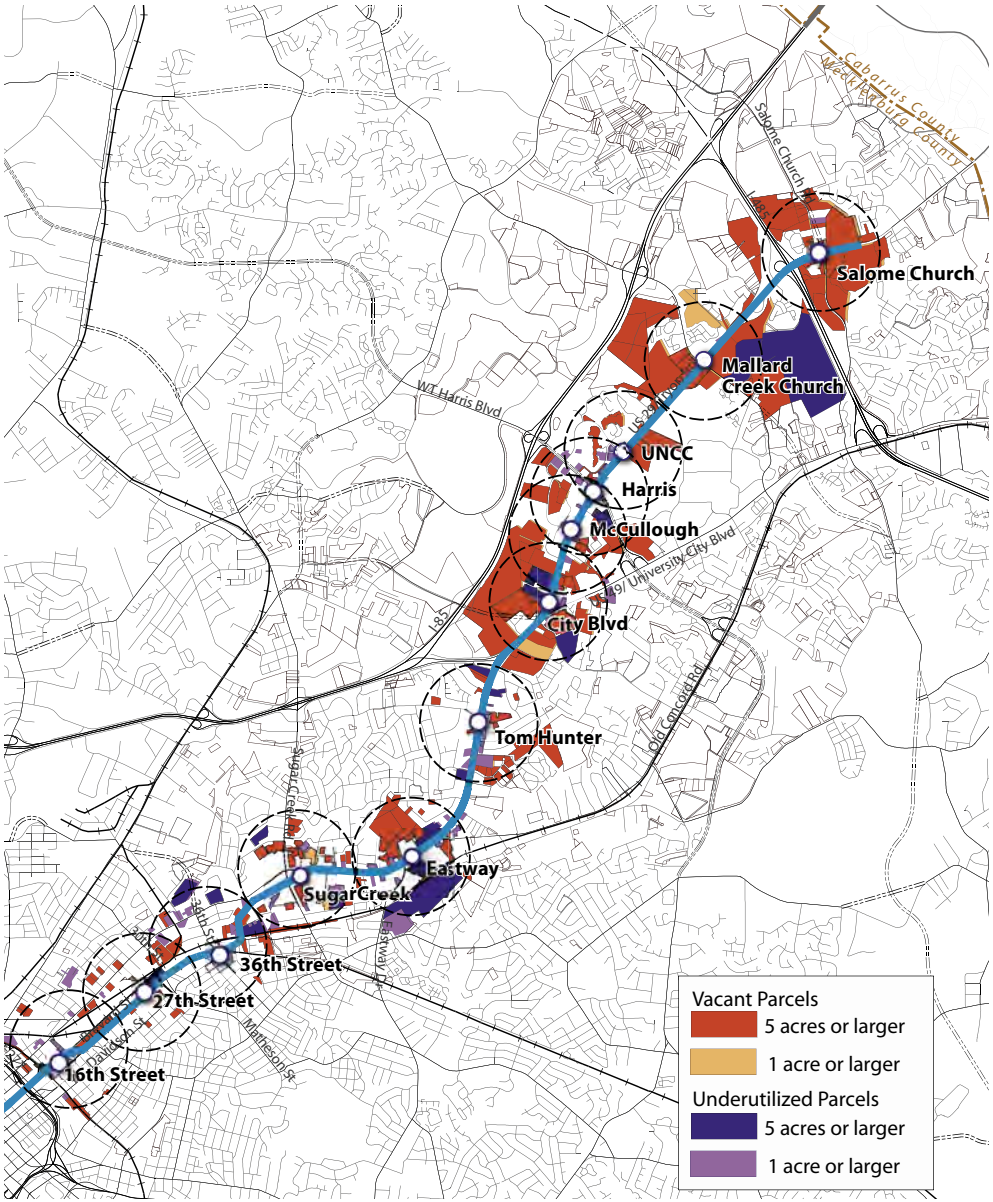


Harris Station 5-minute Drive Service Area (outlined in red)

Some stations have limited or no unique service areas

- 27th Street Station has no unique service area. All of the parcels that can be reached within a five-minute drive from 27th Street Station can be served by either 36th Street Station or 16th Street Station.

- Harris Station has the second lowest unique service area among all the Northeast Corridor stations. Almost 98 percent of the 3,700 acre-service area are being served by adjacent stations (City Boulevard, McCullough, UNCC or Mallard Creek Stations).



Transit-Oriented Development Potential

TOD Opportunities

The purpose of identifying transit-oriented development (TOD) opportunities is to ensure that the proposed stations are sited and located to take best advantage of and support future development opportunities.

For the purposes of this analysis, TOD opportunities are defined as parcels larger than 1-acre that are either vacant (undeveloped) or "underutilized". Underutilized parcels are defined as parcels where the value of existing buildings is less than 40% of the total appraised value of the land, suggesting redevelopment or reinvestment is likely. By calculating the total acreage of these opportunities the stations can be compared to each other based on their relative ability to accommodate TOD.

The adjacent diagram maps these opportunity sites within a half-mile radius of the transit stations.

The table summarizes estimated quantities of potential TOD sites throughout the Northeast Corridor. It can be observed that:

Development Opportunities differ by relative distance from Uptown

- Station areas around the stations that are closer to Uptown (south of Sugar Creek Station) have significantly fewer potential TOD sites relative to the more suburban Stations (north of Tom Hunter Station). This is due to the more built-up nature of areas closer to town as well as because of in-town properties having smaller parcel sizes.

- With the exception of UNCC Station, stations north of Tom Hunter Station all have more than 200 acres of potential TOD opportunities.

Potential TOD Development Density depends on Land Use Context

- South of Sugar Creek Station, the existing development densities are higher than north of it. The nature of this density difference has a significant effect on our interpretation of the TOD opportunities of a station. For instance, there is a higher probability that the effective development intensity of a parcel yielding more residential and commercial density around a station closer to Uptown than around a station farther away. When considering TOD potential, we must therefore take into consideration a parcel's context and potential development density.

Potential TOD depends on Transportation Context

- Harris station and City Blvd station are located the two busiest arterials in the corridor. These stations are likely to be grade-separated from Tryon, therefore limiting their ability to provide the optimum pedestrian and vehicular connections. Since the potential for transit-oriented development depends on the ability of a station area to provide adequate roadway and pedestrian network to access the station, locating these two stations at a location where an at-grade station is possible will help capture the more than 600 acres of underutilized and vacant properties around it.

TOD Potential around Stations

Station	Underutilized		Vacant		Total TOD Potential	
	1+Acre-Parcel	5+Acre Parcel	1+Acre-Parcel	5+Acre-Parcel	1+Acre-Parcel	5+Acre-Parcel
Salome Church	4	0	378	327	382	327
Mallard Creek	261	259	362	347	623	606
UNCC	26	0	88	78	114	78
Harris	30	0	176	145	206	145
McCullough	12	0	369	334	381	334
City Blvd.	24	14	388	359	412	373
Tom Hunter	34	20	115	73	149	93
Eastway	60	41	104	78	164	119
Sugar Creek	31	11	68	22	99	33
36th Street	59	37	55	29	114	66
27th Street	9	4	59	24	68	28
16th Street	24	14	53	8	77	22
Total	**574**	**400**	**2,216**	**1,824**	**2,789**	**2,224**

Conclusions and Recommendations

The different MIS-designated station locations were evaluated based on existing transit-supportive land uses around them, their five-minute service area, and the potential TOD. The following table shows a summary of this evaluation.

Based on findings from this evaluation, the station area planning team has the following recommendations:

Regarding 9th Street Station

- Between the 7th Street South Corridor Station and the 16th Street Northeast Corridor Station is an underutilized portion of Uptown Charlotte expected to to redevelop into a higher density, mixed-use area. A station is recommended at 9th Street station to serve this future development and tie the First Ward, Fourth Ward and the Uptown business district together.

Regarding 27th Street Station

- The physical and development barrier created by the Norfolk Southern rail yard and intermodal yard restricts the service area reach and TOD potential of the 27th Street Station. Having no unique service area, the lowest total service area reach among all 12 northeast corridor stations, and the lowest TOD potential, the 27th Street Station is recommended to be postponed to a future date.
- The City's Economic Development Department has started a study to assess the feasibility of relocating/removing the Norfolk Southern Intermodal Yard. Depending on the results of the study, the benefit of retaining the 27th Street Station may need to be re-assessed.

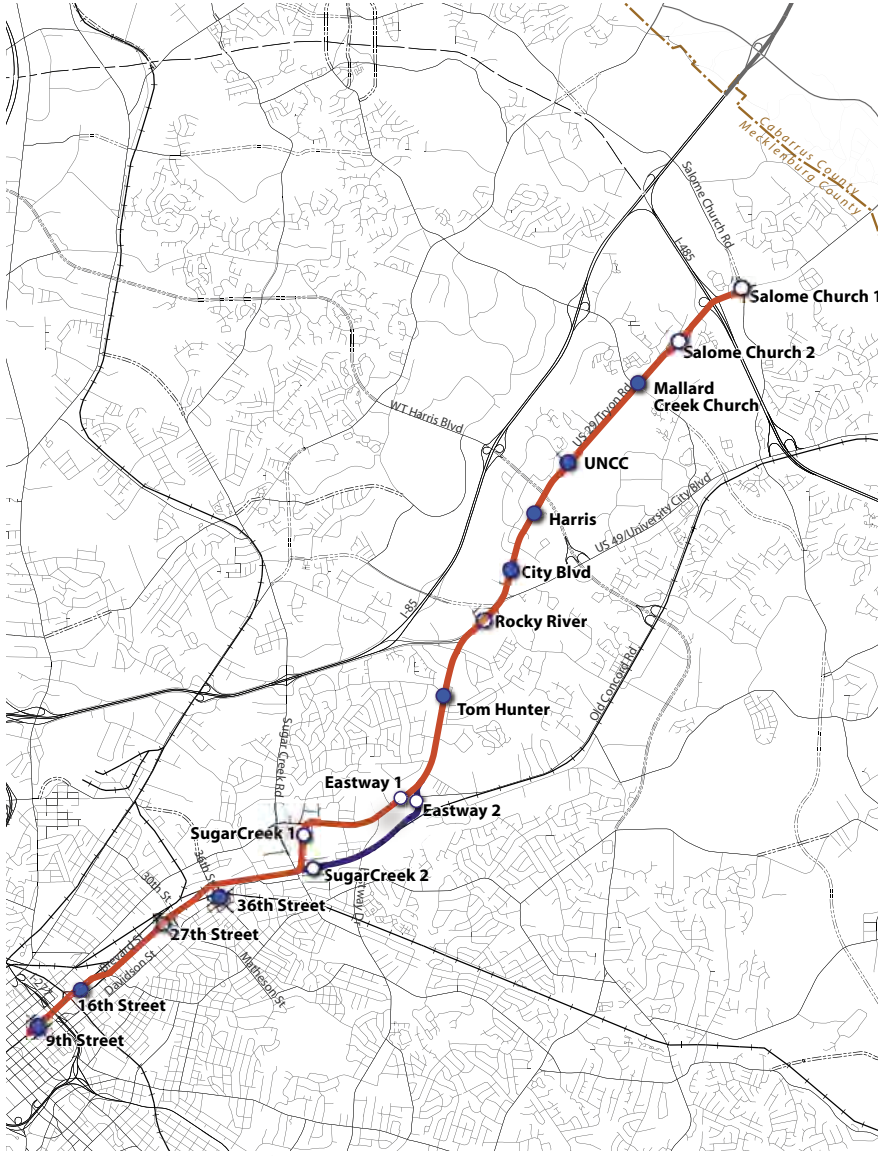
MIS Station Location Analysis

Station	Service Area		Total TOD Potential		Transit-Supportive
	Total (Acres)	Unique (% of Total)	1+Acre-Parcel	5+Acre-Parcel	Land Uses (Acres)
Salome Church	3,121	28%	382	327	300
Mallard Creek	3,560	14%	623	606	279
UNCC	2,490	7%	114	78	414
Harris	3,711	2%	206	145	326
McCullough	3,173	5%	381	334	303
City Blvd.	2,857	9%	412	373	337
Tom Hunter	1,914	8%	149	93	426
Eastway	3,106	22%	164	119	255
Sugar Creek	3,189	10%	99	33	283
36th Street	3,806	21%	114	66	218
27th Street	1,834	0%	68	28	154
16th Street	3,138	61%	77	22	157
Total	**35,899**	**16%**	**2,216**	**1,824**	**3,452**

Regarding the University City Area Stations

The four University Area Stations (City Blvd., McCullough, Harris and UNCC) have overlapping service areas. Depending on the future plans for the "weave" area, we recommend the following:

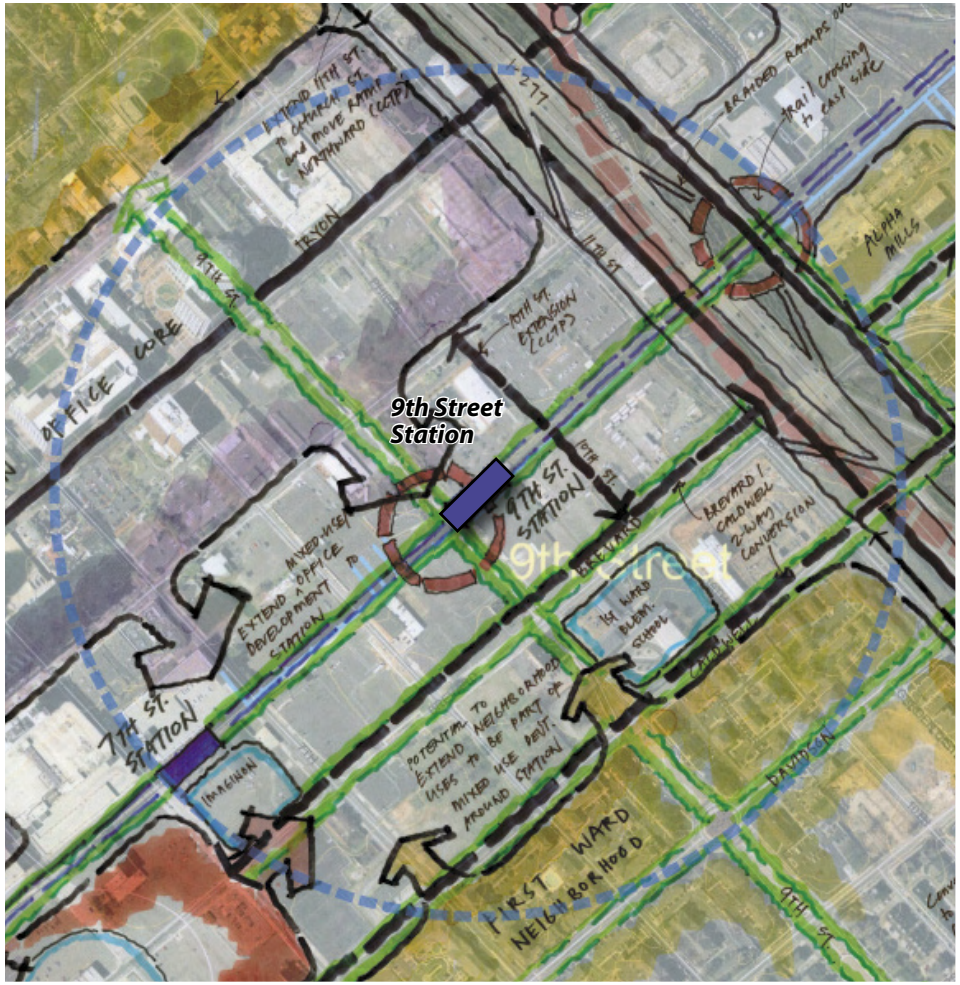
- ***If the 29/49 intersection is grade-separated or "weave" condition remains:*** Drop McCullough Station, move Harris Station south to Ken Hoffman Drive and City Boulevard north to Shopping Center Drive. This scenario allows for stations to be located at exisiting signal locations and at a favorable 1/2 mile spacing providing adequate service to the major users around the area. This scenario also allows for the City Boulevard station to be at-grade at a pedestrian accessible location.
- ***If the 29/49 is at-grade and the "weave" condition is corrected:*** The recommendation will still be to remove McCullough station and adjust the three remaining stations as in the previous scenario. However, with the weave corrected, the possibility of locating an additional station between City Boulevard and Tom Hunter stations is recommended. This new station will be located near a potential extension of Rocky River Road and will provide service for a considerable amount of potential TOD properties around the weave area.



Proposed Station Locations

Part 2: Station Site Selection Analysis

The purpose of the Station Site Selection Analysis is to select parcel-specific station locations, working closely with the City departments and the transit engineers to understand and incorporate development opportunities and operational and design issues. The recommended locations are the result of a number of team coordination meetings and work sessions. The following graphics show each of the station site opportunities and constraints.



LEGEND

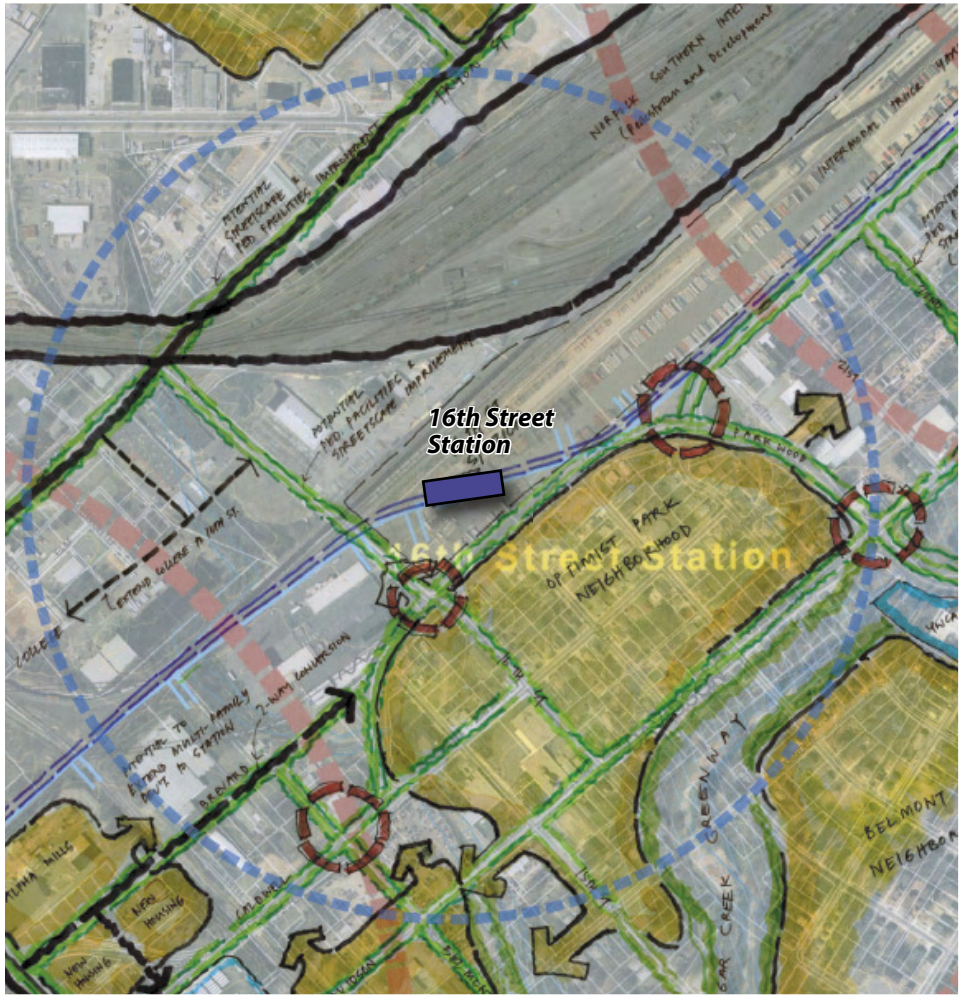
- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

9th Street Station

Recommended: At-grade center platform located north of 9th Street along the Uptown Rail Corridor. No other options were considered because current location considers optimum spacing from 7th Street Station.

Issues and Considerations

- Station is located in the heart of underutilized parcels zoned for mixed-use development.
- Station is located close to 9th Street, the major link between First Ward, Fourth Ward and the Uptown office core area
- There is a significant grade difference between the LRT alignment and adjacent land uses.
- CATS is considering a pocket track between proposed 10th Street extension and under the I-277 bridge. Ensure that the pocket track's visual impact is kept to a minimum.



LEGEND

- Station Platform
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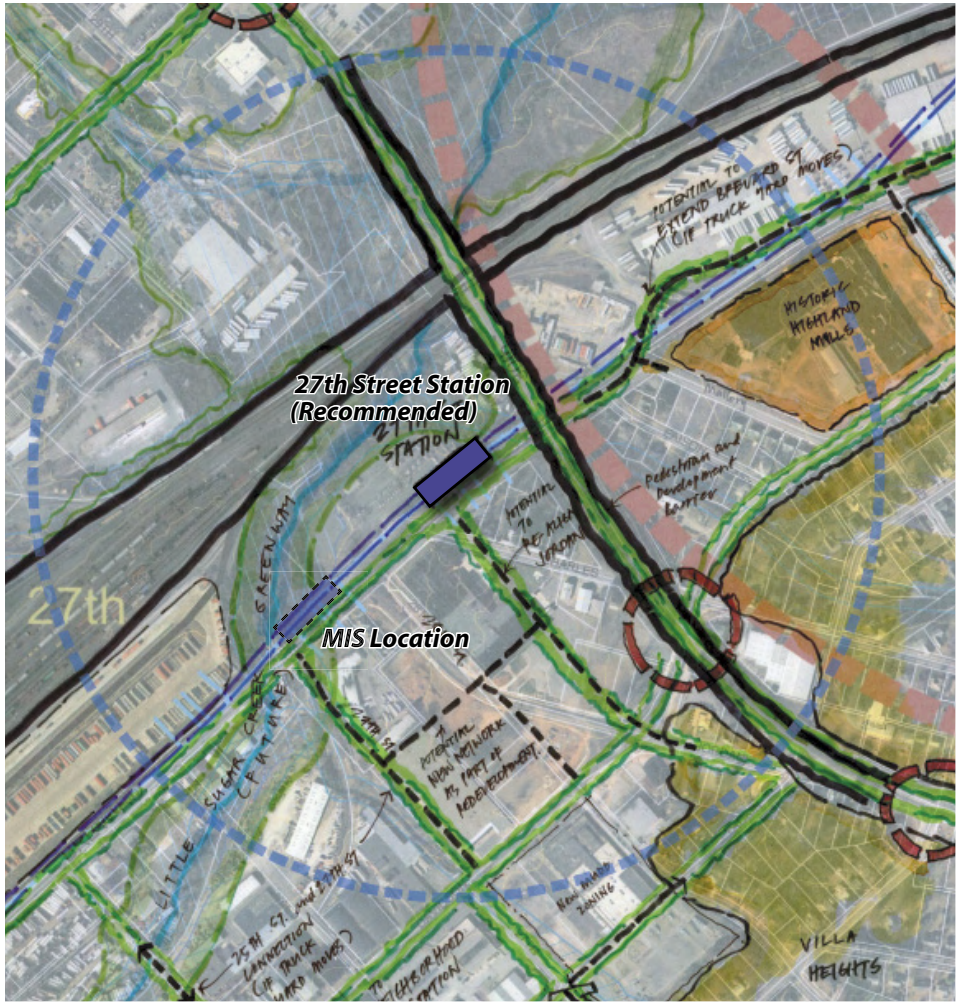
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

16th Street Station

Recommended: MIS-proposed at-grade center platform located north of 16th Street in the southern end of the intermodal truck yard. No other options were considered because of station spacing requreiments and land availability.

Issues and Considerations

- Station is located along two major roadway connections (16th Street and Parkwood Avenue) that link the neighborhoods on either sides of the rail road tracks.
- The station can spur redevelopment of truck yard (if it relocates).
- The station is within walking distance of the Optimist Park neighborhood.
- The Norfolk Southern Rail yard (and the intermodal yard) is a physical barrier for pedestrian and vehicular connections from the station to the neighborhoods on the north side of the yard.
- Parkwood Avenue is not pedestrian-friendly.
- There is a lack of pedestrian and vehicular connections between station area and the Belmont/Optimist Park neighborhoods
- Area streets have poor pedestrian facilities.
- Station location would require acquisition of a portion of the intermodal yard.



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
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- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

27th Street Station - *Potential Future Station*

Recommended: At-grade center platform located between Charles Street and Matheson Street (30th Street) bridge.

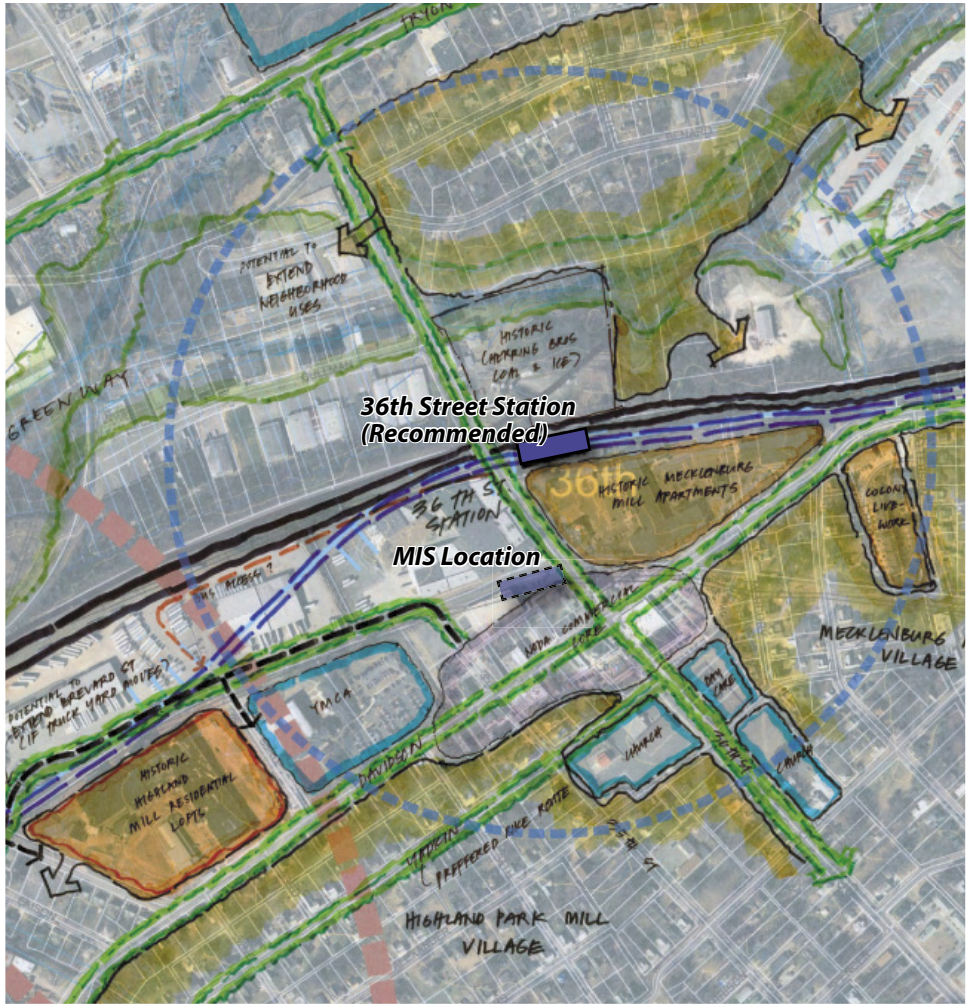
Issues and Considerations

- Station sitiing is the closest possible location to major roadway connection between the east and the west sides of rail yard.
- Vertical circulation between station and the Matheson bridge can be incorporated to circualtion amenities between station and Brevard Street .
- 28th Street, Brevard Street and Charles Street are all potential links between station and surrounding land uses.
- Station is near power sub-station (may need visual screening and treatment).
- There is a significant grade difference between the proposed LRT alignment and Brevard Street.
- Matheson Street bridge is a development and pedestrian access barrier between NoDa and station area. The potential extension of Brevard Street north can help link station to NoDa.
- Area streets have poor pedestrian facilities and may require additional vehciular and pedestrian connections.

MIS Location: Elevated station located north of 27th Street ROW. MIS location is not recommended because:

- Elevated station is more difficult for pedestrian access (compared to recommended option).
- Station has no other street access except via Brevard Street.
- Station is far from Matheson Street bridge, the only link between both sides of the rail yard.

Station Site Selection Analysis



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

36th Street Station

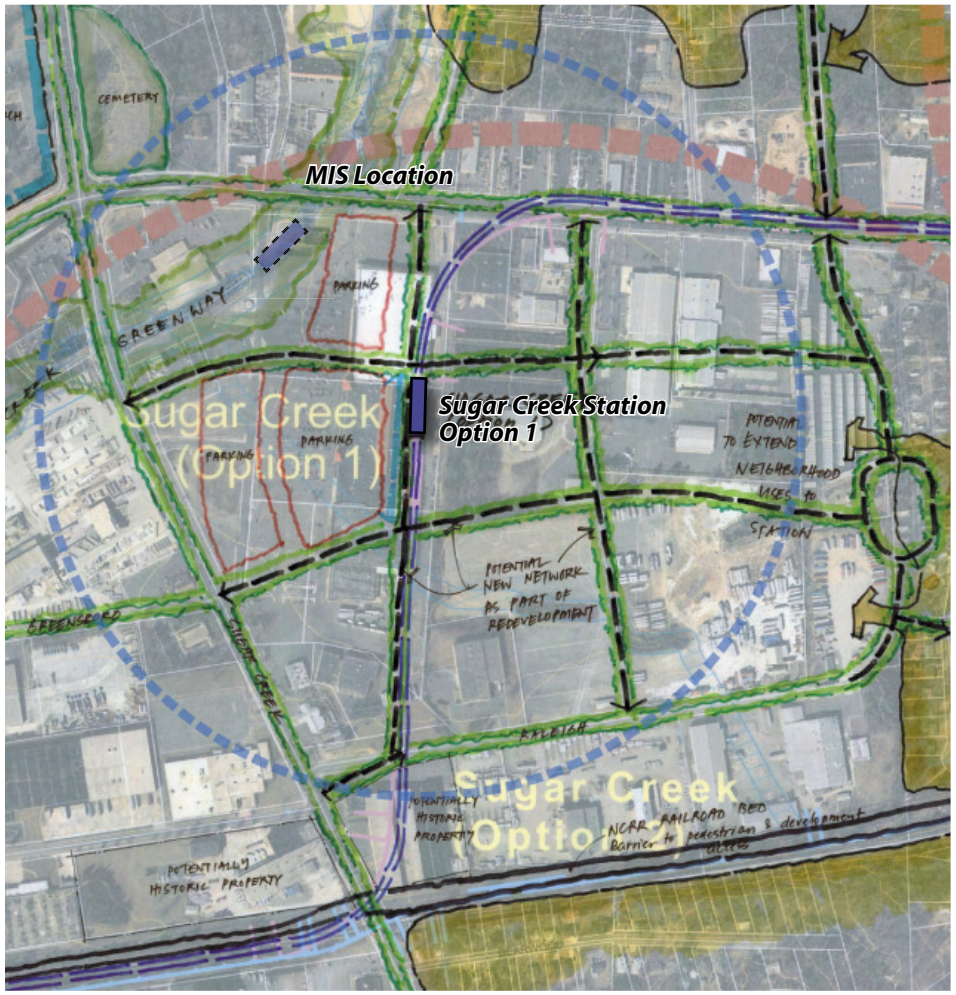
Recommended: At-grade center platform located north of 36th Street

Issues and Considerations

- Stations is one block from the heart of NoDa and highly visible from 36th Street.
- Station can support redevelopment of Mecklenburg Mills Apartments.
- At-grade station provides easier pedestrian access.
- At-grade station (and alignment) has less visual impacts.
- CATS bus operations may need a bus turn-around that will be difficult to accommodate on-site. A potential bus loop can be accommodated on the south side of 36th Street.

MIS Location: Elevated station south of 36th Street. The MIS option was eliminated because:

- Elevated alignment and station would restrict development potential.
- Elevated alignment and station would have significant visual impacts.
- Elevated alignment would have potential impacts on historic Mecklenburg Mills.



LEGEND

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- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Sugar Creek Station

Recommended: Two station options, Options 1 and 2 (corresponding to the two alignment options between Sugar and Eastway stations), are recommended to be carried forward.

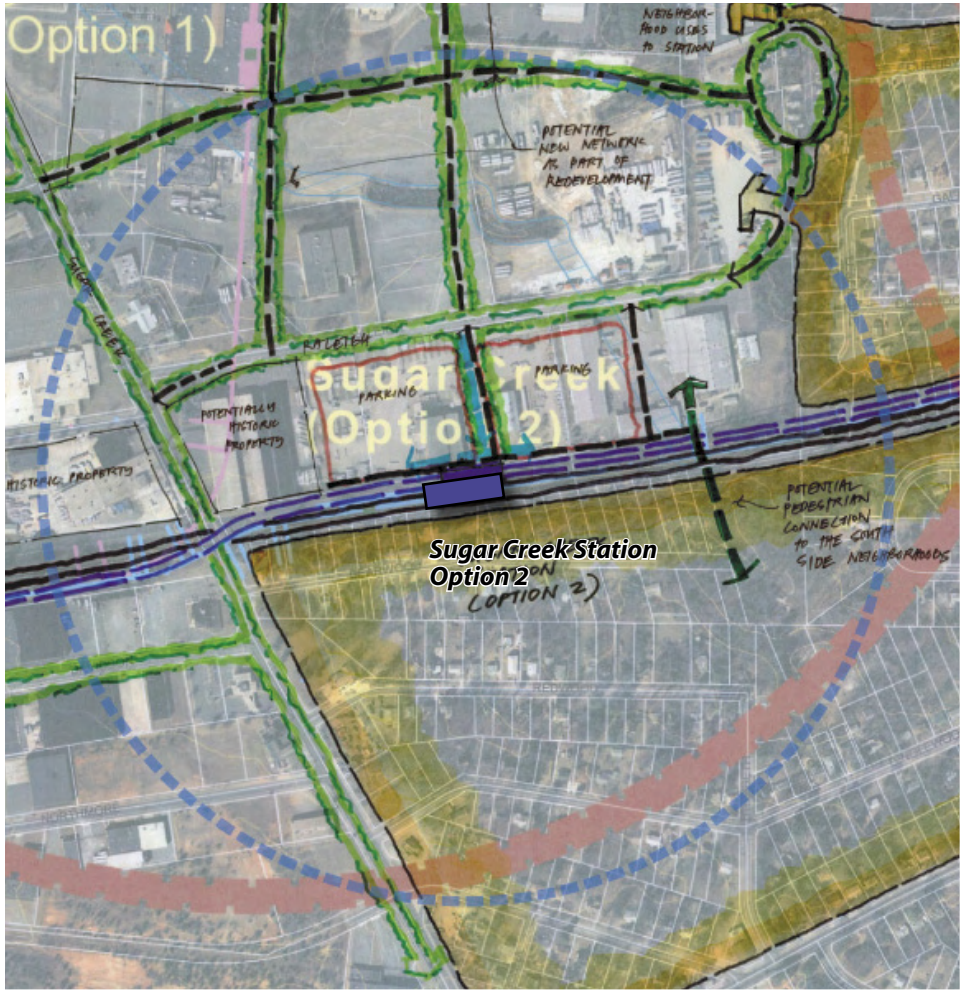
Option 1: At-grade center station located on Asian Corner property

Issues and Considerations

- Station can support redevelopment of Asian Corner.
- Station is surrounded by large parcels that can be redeveloped as transit-oriented development (TOD).
- Station has good access from Tryon Street and Sugar Creek Road.
- Large parcels around station provide interim terminal station parking.
- Station would require partial/full acquisition of the Asian Corner property.
- Station may impact potentially historic properties along Sugar Creek Road.

MIS Option: Elevated station located on Asian Corners property. This option is eliminated because:

- Elevated alignment and station would restrict development potential and have significant visual impacts.
- Elevated station would make pedestrian access more difficult.
- Elevated alignment would have potential impacts on Sugar Creek Greenway and wetlands.



LEGEND

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- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

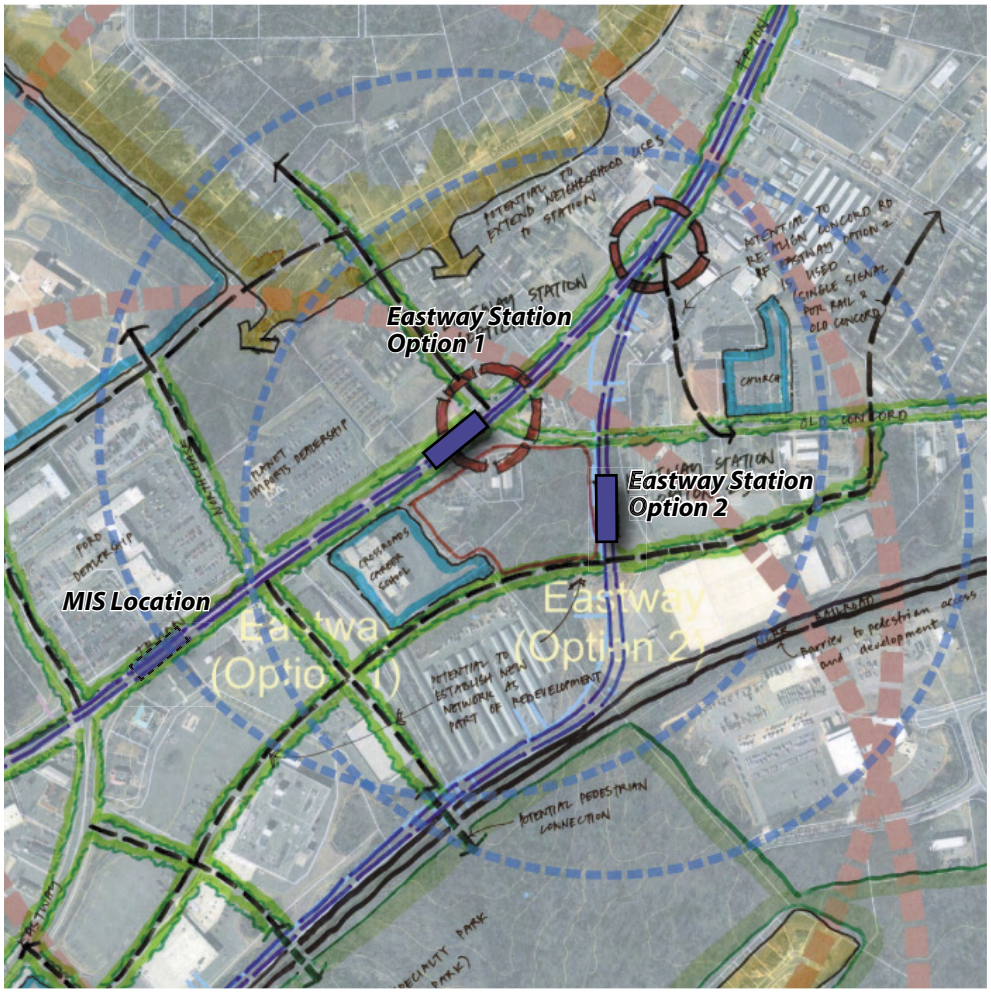
Sugar Creek Station

Option 2: At-grade station along NCRR Alignment (between industrial uses and the North Charlotte nieghborhood)

Issues and Considerations

- Station will not impact potentially historic properties along Sugar Creek Road.
- Station will not be visible from Tryon Street and Sugar Creek Road.
- Station may require partial acquisition of Asian Corner and industrial land uses for access to station and parking.
- There is a significant grade difference between alignment and the adjacent land uses which may require additional vertical circulation facilities.
- Station is in close proximity to residential neighborhoods and may have potential visual and noise impacts.
- Pedestrian connections to the neighborhood on the south side of the station are ideal.

Station Site Selection Analysis



LEGEND

- Station Platform
- LRT Alignment
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- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Eastway Station

Recommended: Two station options (corresponding to the two alignment options between Sugar and Eastway) are recommended to be carried forward.

Option 1: At-grade station located along Tryon Street south of Old Concord/Tryon intersection

Issues and Considerations

- Station has good visibility from Tryon Street.
- Station can utilize signal at Old Concord/Tryon for pedestrian access.
- Vacant and underutilized parcels around station that can be redeveloped into TOD.
- Vacant and underutilized parcels can be used as park facility in the short-term.
- Station is closer to area neighborhoods that are within walking distance (compared to Option 2).

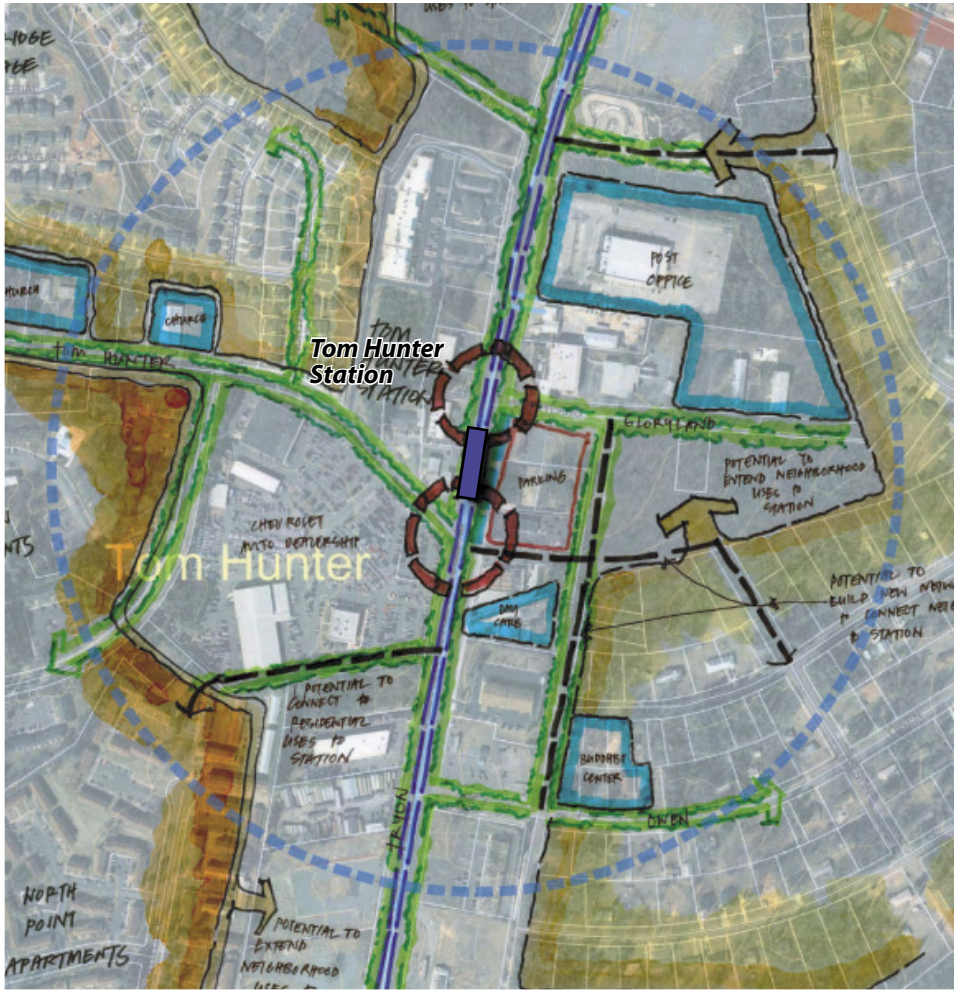
Option 2: At-grade station south of Old Concord Road along NCRR alignment

Issues and Considerations

- Station may require re-alignment of Old Concord Road to utilize signal of Old Concorn/Tryon for LRT merging into Tryon.
- Vacant and underutilized parcels around station can be redeveloped into TOD.

MIS Option: At-grade station north of Eastway/Tryon intersection (near Ford Dealership). This option was eliminated because:

- There are fewer opportunities for TOD development around the station compared to Options 1 and 2 (car dealerships are not likely to change in the short-term).
- There are no vacant parcels avaialable around the station for station parking facilities.



LEGEND

- Station Platform
- LRT Alignment
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- 1/4 Mile Radius from the Station
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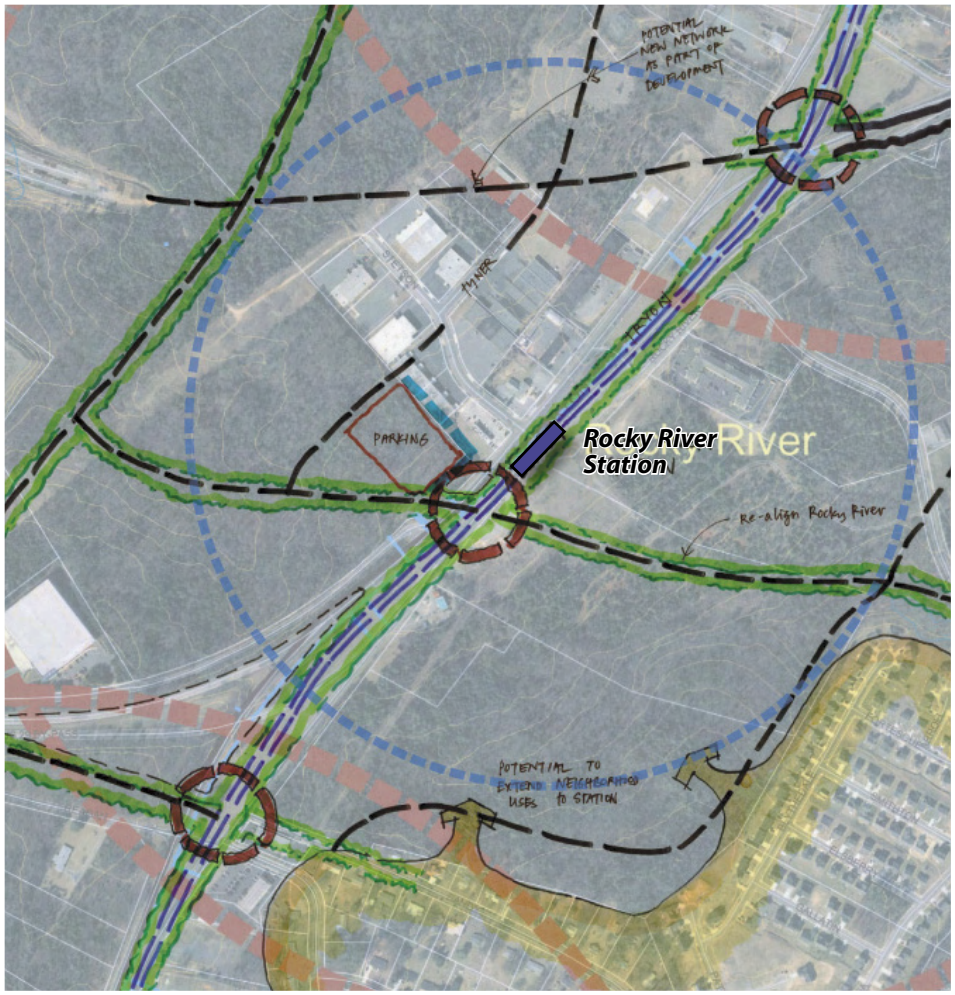
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Tom Hunter Station

Recommended: MIS-proposed at-grade center platform located along Tryon Street north of Tom Hunter/Tryon intersection.

Issues and Considerations

- Station has good access and visbility from Tryon Street and Tom Hunter Road.
- Additional vehicular and pedestrian connections between the station and the area neighborhoods are needed.
- The northeast quadrant of intersection is an ideal location of station parking facilities.



LEGEND

- Station Platform
- LRT Alignment
- Greenway
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- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

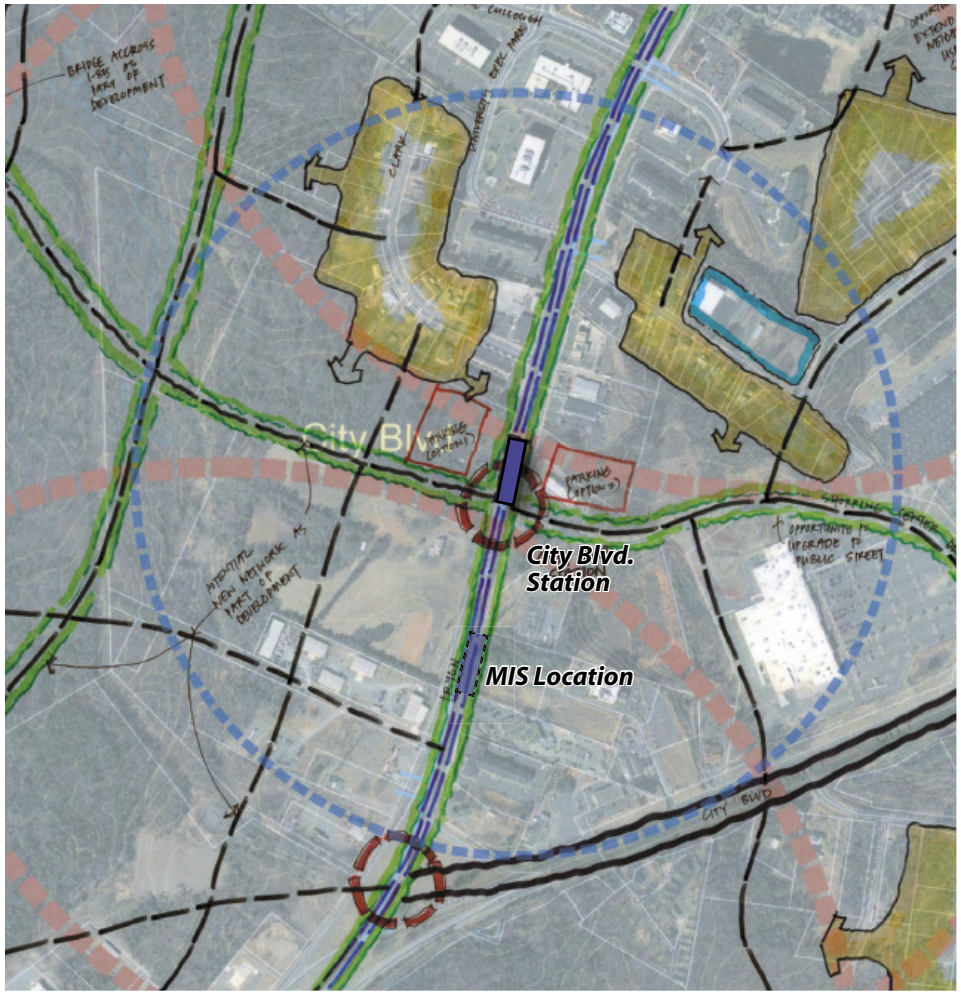
Rocky River Station

Recommended: At-grade station located along Tryon Street north of potential Rocky River/Tryon intersection (Rocky River will be re-aligned to connect to Stretson Street). Station is recommended only if US29/NC49 weave solution is an at-grade intersection at both the US29 bypass/Tryon and US29/NC49 intersections.

Issues and Considerations

- A parking facility, if necessary, can be integrated with new TOD development on the west side of Tryon Street.
- Significant vacant parcels with excellent interstate access around the station offers potential TOD opportunities.
- Additional roadway network should be built as part of new development.
- Final design of the US29/NC49 intersection will impact access and visibility of the station.

Station Site Selection Analysis



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

City Boulevard Station

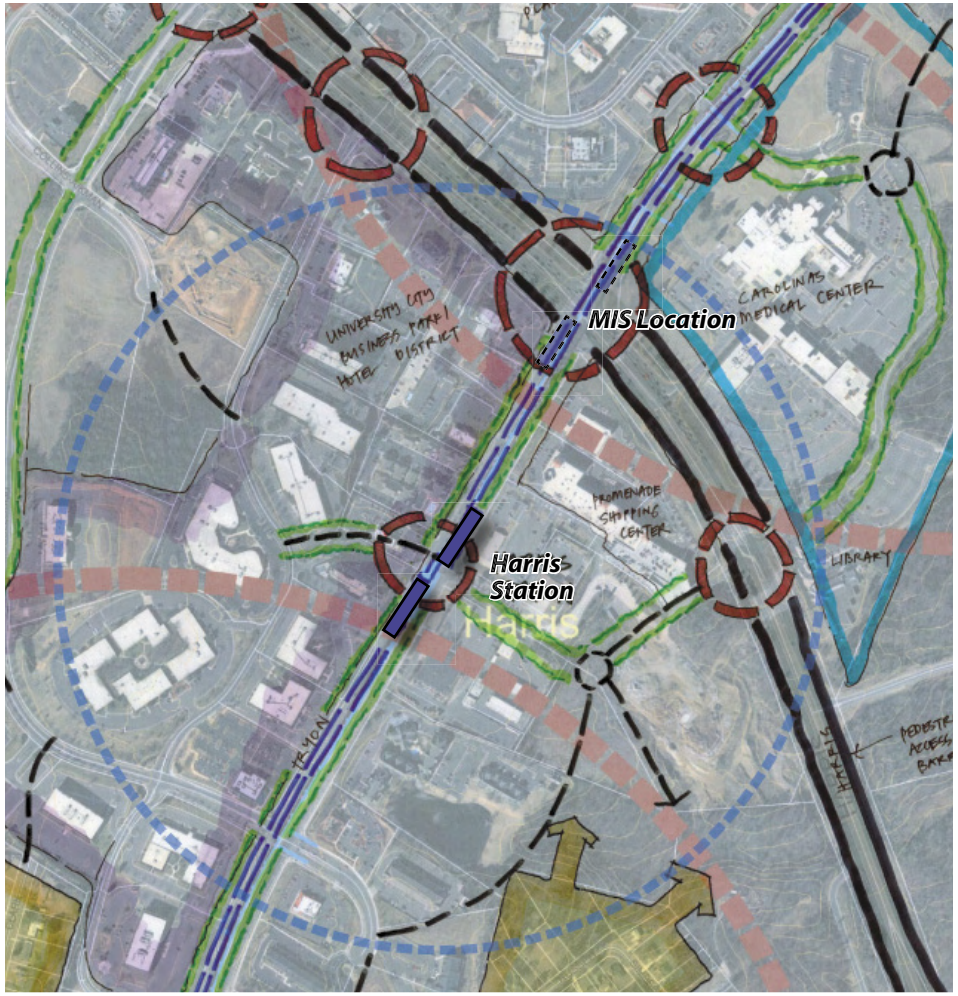
***Recommended*:** At-grade station located along Tryon Street north of Shopping Center/Tryon intersection

Issues and Considerations

- Station will capture large commuting population from southbound City Boulevard and Tryon Street.
- Southbound commuters on City Boulevard will access the station through Shopping Center Drive (Shopping Center/ University City intersection is signalized).
- Significant vacant parcels with excellent interstate access around station offers potential TOD opportunities
- Additional roadway network should be built as part of new development.
- Shopping Center Drive is a private street and would have to be upgraded for public access.
- The station will be at-grade and not affected by future plans for US29/NC29 weave solutions.
- Two potential parking locations are feasible (on either side of Tryon Street).
- Signal spacing requirements allow for a new signal on Tryon Street for pedestrian and parking access.
- Station location provides ideal station spacing (with elimination of McCullough Station and shifting of Harris Station).

***MIS Option*:** Station located north of Brookside/Tryon intersection. MIS Option was eliminated because:

- With current “weave” condition, station will have limited pedestrian and vehicular access.
- Any potential parking facility configuration asociated with the station would entail acquisition of existing businesses.
- Future plans for US29/NC 49 might require more costly elevated station
- Future plans for US 29/NC 49 may restrict TOD potential of station.
- New signals for pedestrian access and parking ingress/egress on both Tryon Street and City Boulevard might not be feasible because of signal spacing requirements.



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Harris Station

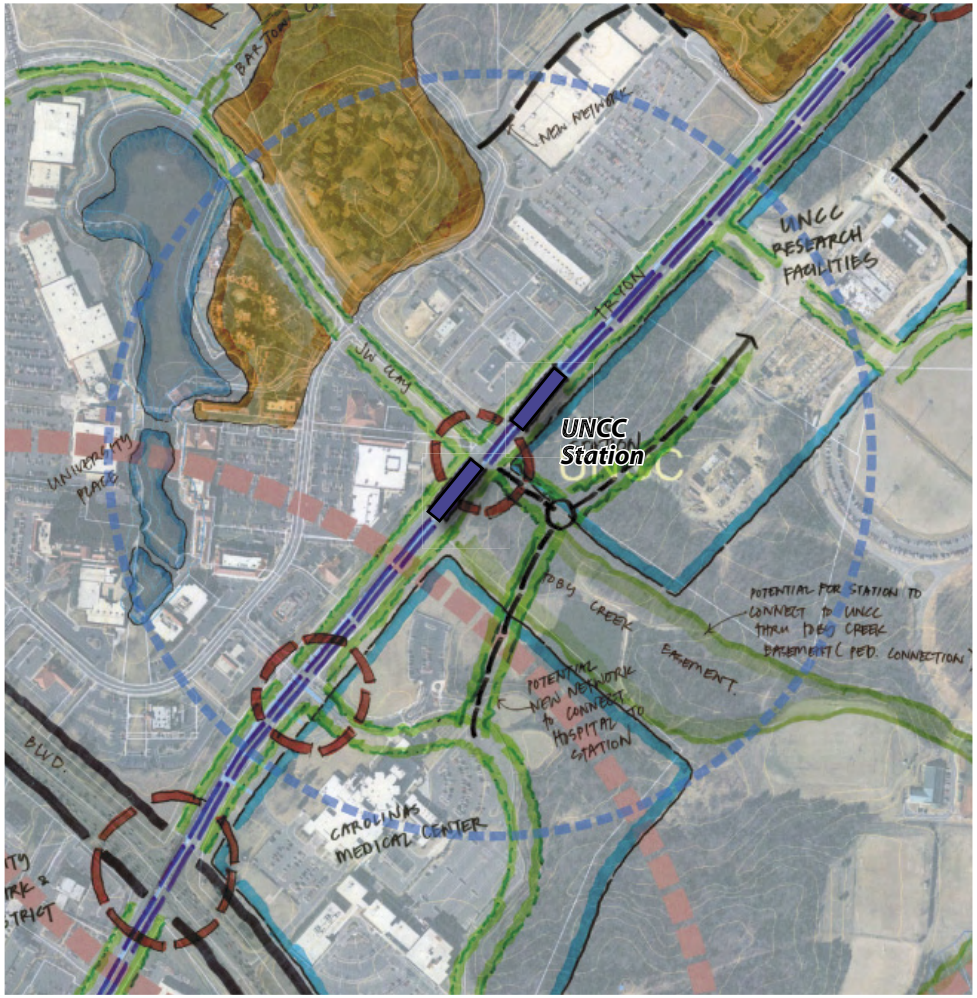
***Recommended*:** At-grade split platform located along Tryon Street at the Ken Hoffman/Tryon intersection

Issues and Considerations

- Station is located at a signalized intersection which is ideal for pedestrian access.
- Station is in close proximity to the University City business park and hotel district and the Promenade shopping center.
- Station is located at a much smaller, more pedestrian and vehicle accessible intersection (compared to Harris/Tryon intersection).
- Station location allows for ideal station spacing (with the dropping of McCullough Station and shifting of City Blvd. Station).
- New pedestrian and vehicular connections should be built to allow better access to the station.

MIS Location: At-grade station located at the Harris/Tryon intersection. MIS Option was eliminated because:

- Staion is located at a hostile, high-speed, and congested intersection.
- The traffic volume on the Harris/Tryon intersection might require that the LRT be grade separated from Harris, therefore requiring the station to be elevated.
- Station location provides overlapping service with UNCC Station and will be too far from City Boulevard Station (with McCullough Station eliminated).



LEGEND

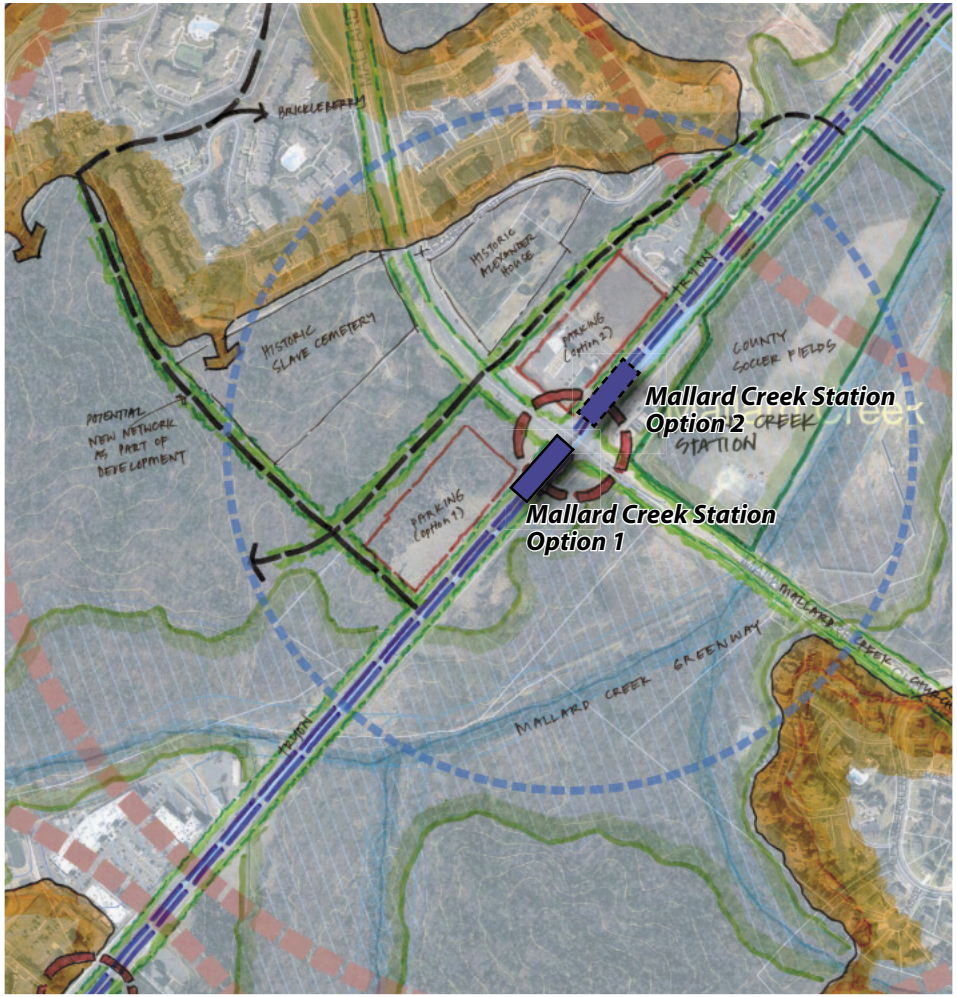
- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

UNCC Station

Recommended: MIS-proposed at-grade split platform along Tryon Street at the intersection of JW Clay/Tryon. No other options were considered because of station spacing requreiments.

Issues and Considerations

- Ensure that there is access friom Toby Creek Greenway to station.
- Potential new vehicular and pedestrian connections should be built to connect station to UNCC campus, the Hospital and the UNCC Research Institute.



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Mallard Creek Station

Recommended: Two station options are being considered until further evaluation of costs and negotiations with NCDOT on signal locations.

***Option 1*:** At-grade center platform located south of Mallard Creek Church/Tryon intersection

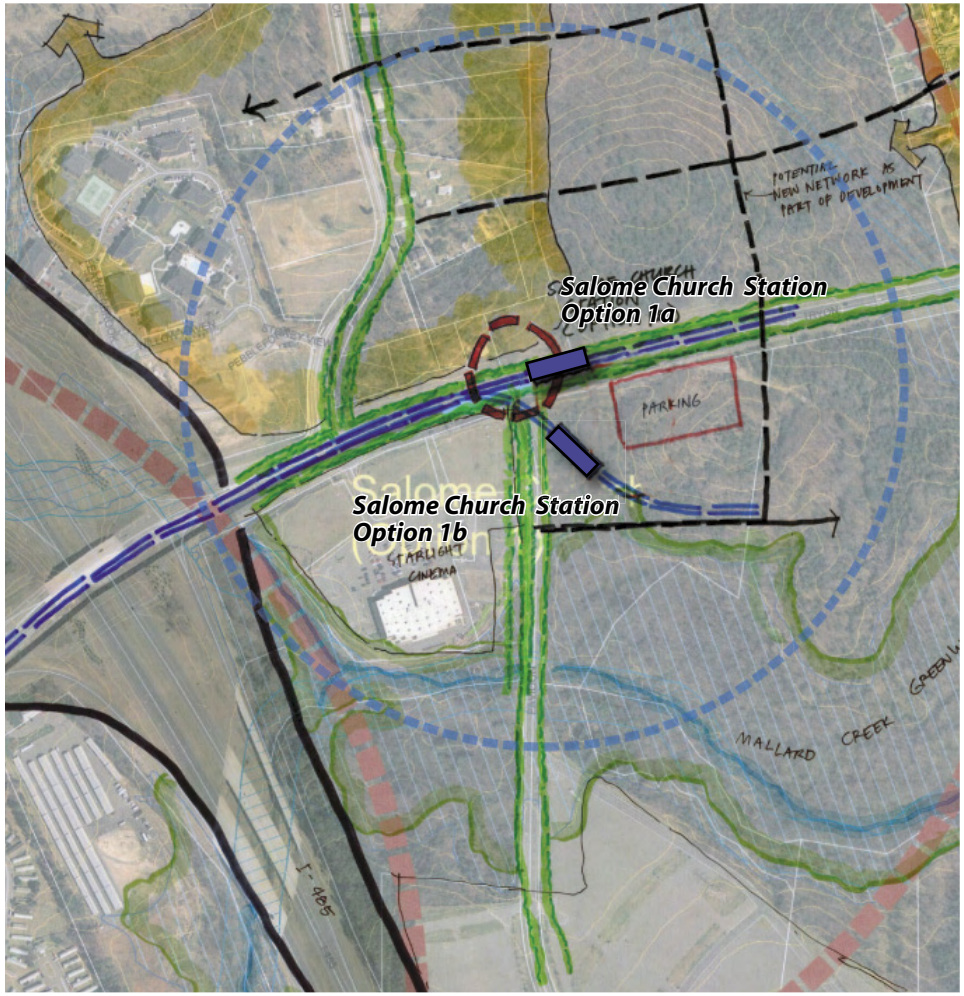
Issues and Considerations

- Station location allows for potential joint-use garage and TOD development.
- Parking facilities can be located in the only vacant parcel available around the intersection.
- Parking and parking access location is constratined by historic slave cemetery.
- Parking access to station may not be at a signalized inetersection because of signal spacing limitations (both at Mallard Creek Church Road and at Tryon Street).
- Alternative parking access that connects to Brickleberry Road would satisfy signal spacing requirements but would require significant additional roadway section to be built.

***Option 2*:** At-grade center platform located north of Mallard Creek Church/Tryon intersection

Issues and Considerations

- Parking facilities would require acquisition of existing Exxon Gas Station.
- Parking access can be at a signalized intersection along Tryon Street (based on signal spacing requirements).
- There is limited vacant properties available for joint-use parking garage development (compared to Option 1).



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Salome Chruch Station

Recommended: There are three locations being considered for the terminal station. Further engineering and cost analysis will have to be done to decide on the final station location.

***Option 1a*:** At-grade center platform located along Tryon Street north of Pavilion/Tryon intersection

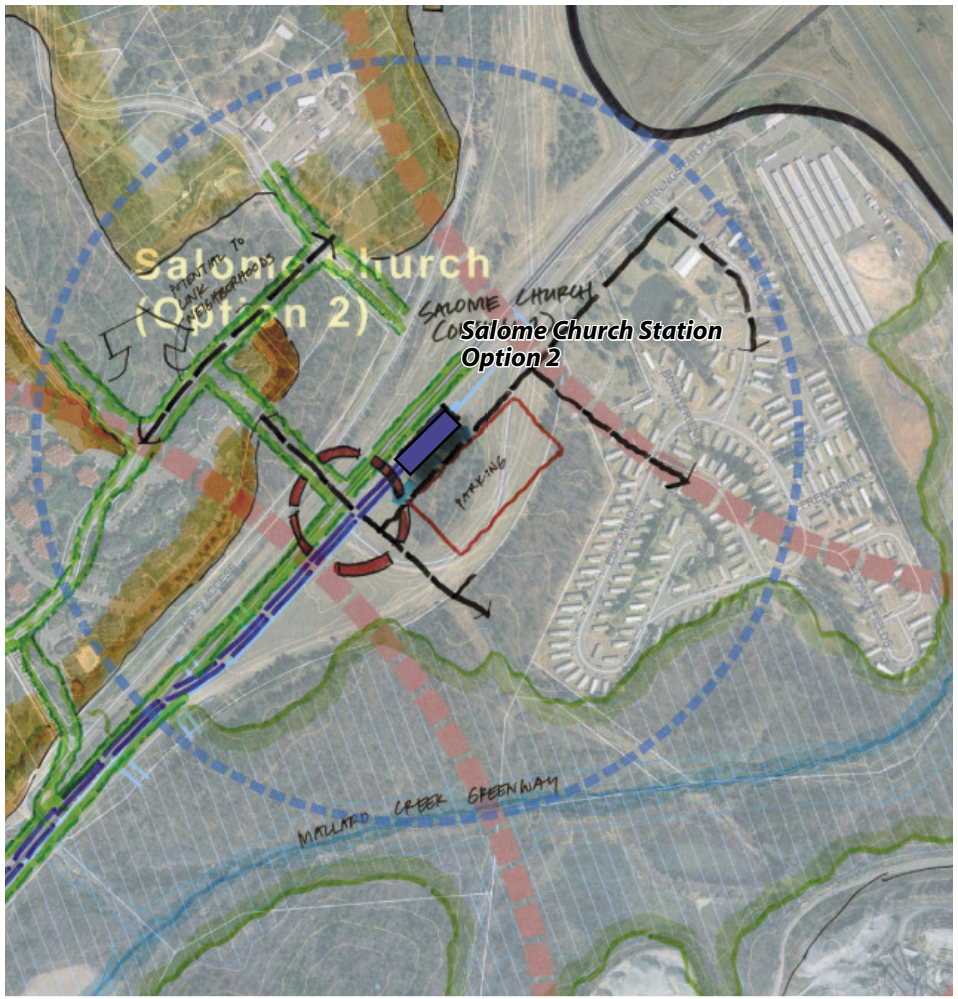
Issues and Considerations

- Station is located near large vacant properties that can be potentially developed as TOD.
- Station location allows for potential joint-use parking garage.
- Station is within half mile of Verizon Amphitheater, a potential short shuttle ride.
- Pedestrians have to cross Tryon Street to get to and from the parking facility (maybe a concern for terminal station customer satisfication).
- Tail tract (and stored vehciles) will be visible from Tryon Street.
- Station location might require rebuilding of I-485 bridge to accommodate LRT.

***Option 1b*:** At-grade center platform located within parcel on the northeast quadrant of the Pavilion/Tryon intersection

Issues and Considerations

- Station is located near large vacant properties that can be potentially developed as TOD.
- Station allows for potential joint-use parking garage.
- Station is within half mile of Verizon Amphitheater, a potential short shuttle ride.
- Pedestrian access to and from the parking facility to station is internal to site.
- Tail tract (and stored vehciles) can be visually buffered from Tryon Street.
- Station location might require rebuilding of I-485 bridge to accommodate LRT.



LEGEND

- Station Platform
- LRT Alignment
- Greenway
- 1/4 Mile Radius from the Station
- Potential Street Connection/ Improvement
- Major Pedestrian Paths
- Potential Pedestrian Connection
- Intersections that need Pedestrian Improvements
- Institutional Uses
- Neighborhoods
- Multi-Family Residential
- Office Uses

Salome Church Station

***Option 2*:** At-grade station within the parcel on the northeast quadrant of US29 Service Road/Tryon intersection

Issues and Considerations

- Station location would not require the rebuilding of I-485 bridge to accommodate LRT.
- There are fewer underutilized and vacant properties available for TOD (compared to Options 1a and 1b).
- TOD potential is limited by Mallard Creek Greenway, a stone quarry and the I-485 barrier.

Part 3: Station Area Statistical Baseline Analysis

Population Served.

Station	Current Population within 5-min. walk	Current Population within 10-min. walk	Current Population within 5-min. drive	Current Employment within 10 minute walk	Transit Dependent Population (Percentage of households without a car within 1/2 mile buffer)
9th Street	1,727	31	8,644	1,129	9.8%
16th Street	163	1,638	20,987	2,491	10.5%
27th Street *(Future station)*	52	1,610	9,963	2,280	10.2%
36th Street	108	2,347	17,392	3,446	9.4%
Sugar Creek Opt. 1	0	19	6,204	2,551	5.0%
Sugar Creek Opt. 2	79	34	6,204	2,326	5.0%
Eastway Opt. 1	3	421	4,194	1,729	4.8%
Eastway Opt. 2	3	861	4,194	3,369	4.8%
Tom Hunter	44	1,641	5,677	1,485	3.8%
Rocky River *(Pending final design of US29/NC49 Weave Solution)*	0	244	1,360	950	2.9%
City Blvd	34	265	702	2,658	1.8%
Harris	0	153	759	4,448	1.1%
UNCC	21	2,006	889	2,707	0.6%
Mallard Creek (Opt 1 &2)	5	2,257	12,180	257	0.7%
Salome Church Opt. 1A &1B	55	1,107	1,491	216	0.8%
Salome Church Opt. 2	5	145	1,491	214	0.8%

Current Residential Population

Existing parcel data was used to document the total number of residential units by land use category within a 5-minute walk, 10-minute walk, and 5-minute drive of each station. Total population was calculated by using the Charlotte Region's average household size per unit for each housing type.

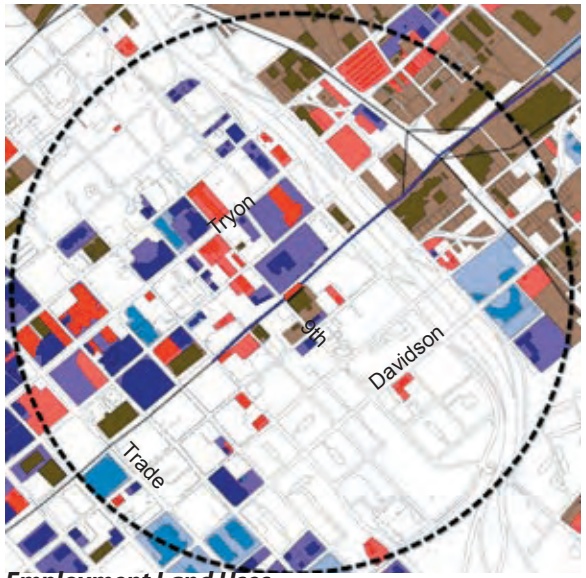
Current Transit-Dependent Population

Year 2000 Census Block Group Data was used to document the existing transit dependant populations within a half-mile of each station.

Current Employment

Existing parcel data was used to document the total square feet of commercial, industrial, and institutional land use within a 5-minute drive of each station. The total number of employees was calculated by factoring the ITE average employment density (based on the ITE Trip Generation Manual 7th Edition.

Residential Land Uses



Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Employment Land Uses

	9th Street Station
Current Population (within 5-min walk)	**1,727**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**8,644**
Current Employment (within 10-min walk)	**122,232**
Transit Dependent Population (within 1/2 mile)	**9.8%**

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses

Employment Land Uses

Land Use

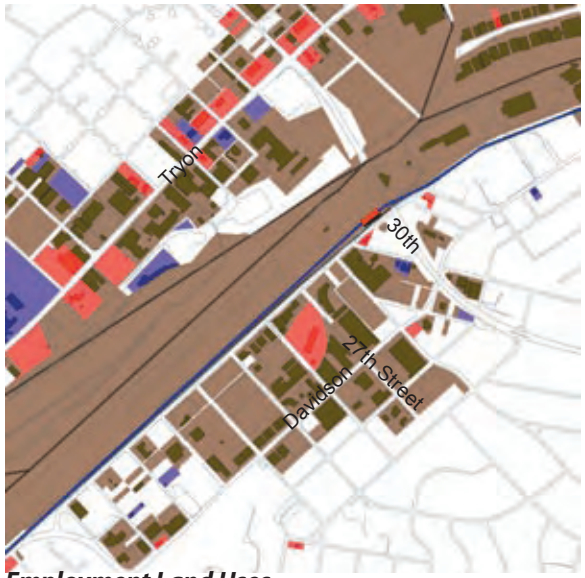
- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

	16th Street Station
Current Population (within 5-min walk)	**163**
Current Population (within 10-min walk)	**xxxxx**
Current Population (within 5-min drive)	**20,987**
Current Employment (within 10-min walk)	**342,387**
Transit Dependent Population (within 1/2 mile)	**10.5%**

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses



Employment Land Uses

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

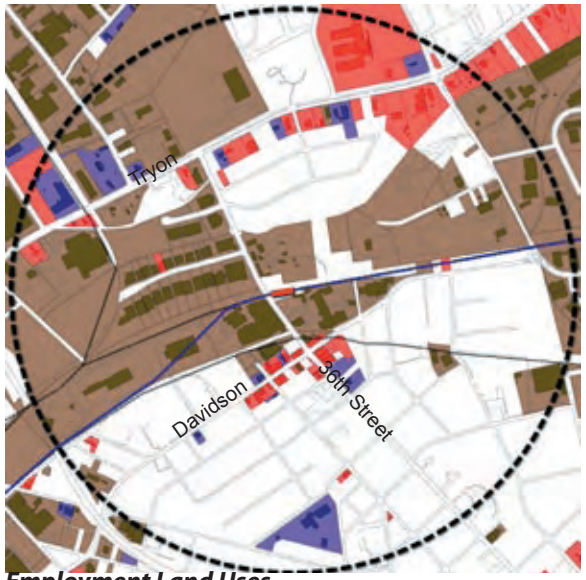
	27th Street Station*
Current Population (within 5-min walk)	**52**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**9,963**
Current Employment (within 10-min walk)	**123,252**
Transit Dependent Population (within 1/2 mile)	**10.2%**

**Future Station*

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses



Employment Land Uses

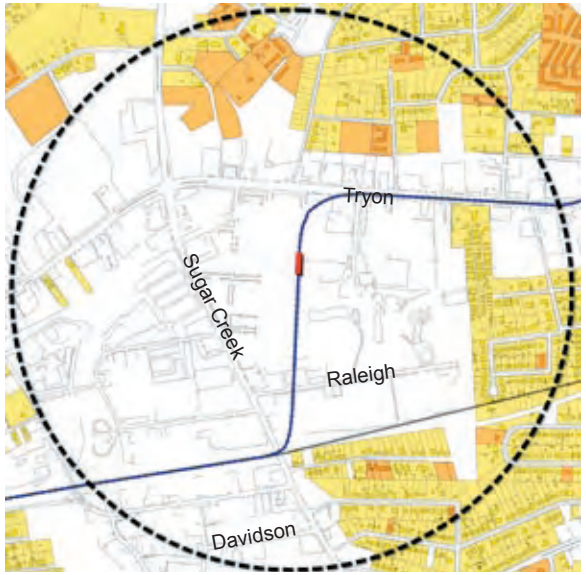
Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

	36th Street Station
Current Population (within 5-min walk)	**108**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**17,392**
Current Employment (within 10-min walk)	**702,795**
Transit Dependent Population (within 1/2 mile)	**9.4%**

Station Area Statistical Baseline Analysis

Population Served



Residential Land Uses

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

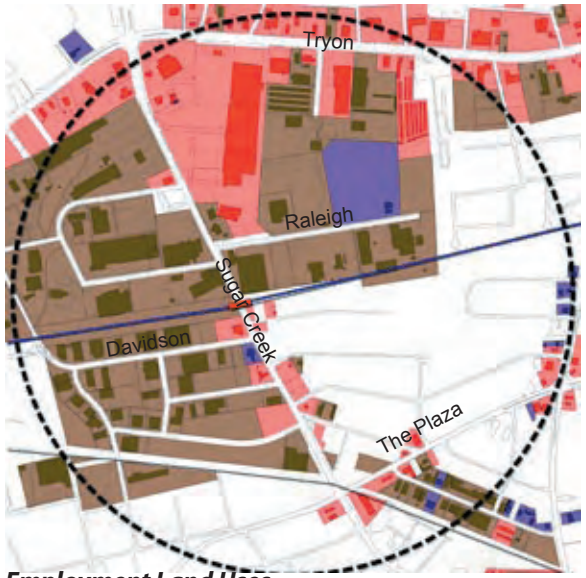
Employment Land Uses

	Sugar Creek Station: Option 1
Current Population (within 5-min walk)	**0**
Current Population (within 10-min walk)	**xxx**
Current Population (within 5-min drive)	**6,204**
Current Employment (within 10-min walk)	**138,376**
Transit Dependent Population (within 1/2 mile)	**5%**

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses



Employment Land Uses

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Sugar Creek Station: Option 2	
Current Population (within 5-min walk)	**79**
Current Population (within 10-min walk)	**xxxxx**
Current Population (within 5-min drive)	**6,204**
Current Employment (within 10-min walk)	**138,376**
Transit Dependent Population (within 1/2 mile)	**5%**

Station Area Statistical Baseline Analysis

Population Served

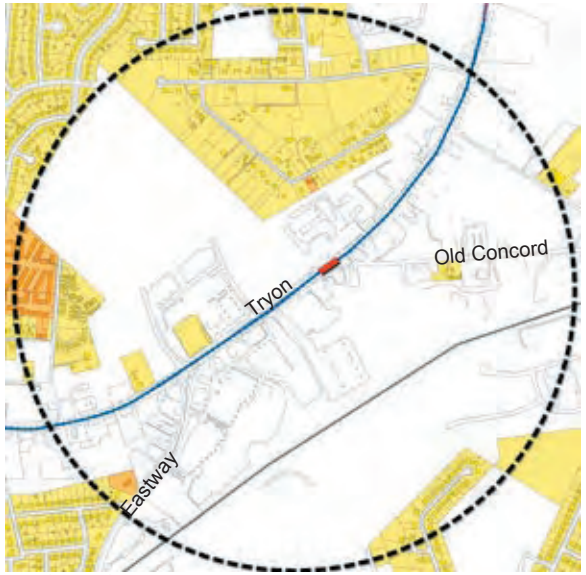
Residential Land Uses

Employment Land Uses

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

	Eastway Station: Option 1
Current Population (within 5-min walk)	**3**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**4,194**
Current Employment (within 10-min walk)	**135,779**
Transit Dependent Population (within 1/2 mile)	**4.8%**



Residential Land Uses

Land Use

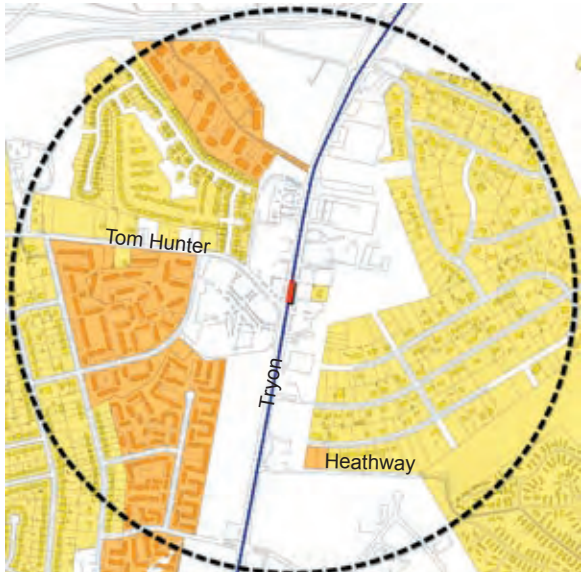
- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Employment Land Uses

	Eastway Station: Option 2
Current Population (within 5-min walk)	**3**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**4,194**
Current Employment (within 10-min walk)	**135,779**
Transit Dependent Population (within 1/2 mile)	**4.8%**

Station Area Statistical Baseline Analysis

Population Served



Residential Land Uses

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

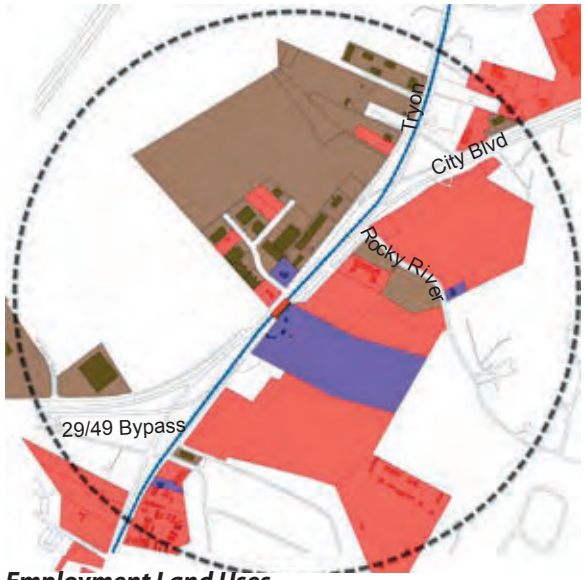
Employment Land Uses

	Tom Hunter Station
Current Population (within 5-min walk)	**44**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**5,677**
Current Employment (within 10-min walk)	**159,626**
Transit Dependent Population (within 1/2 mile)	**3.8%**

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses



Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

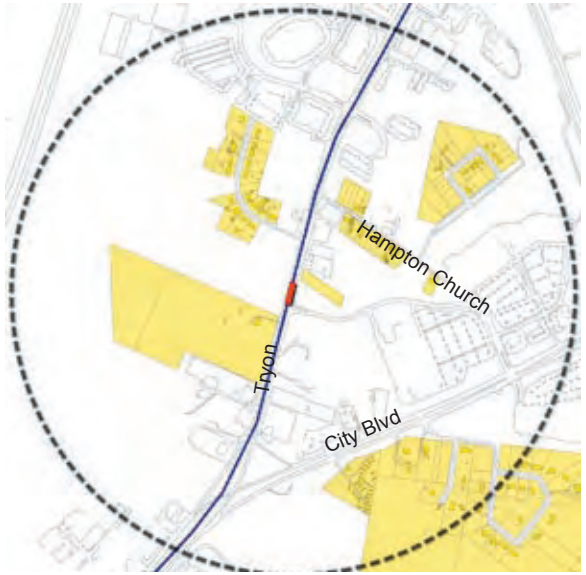
Employment Land Uses

	Rocky River Station*
Current Population (within 5-min walk)	**0**
Current Population (within 10-min walk)	**xxx**
Current Population (within 5-min drive)	**1,360**
Current Employment (within 10-min walk)	**268,542**
Transit Dependent Population (within 1/2 mile)	**2.9%**

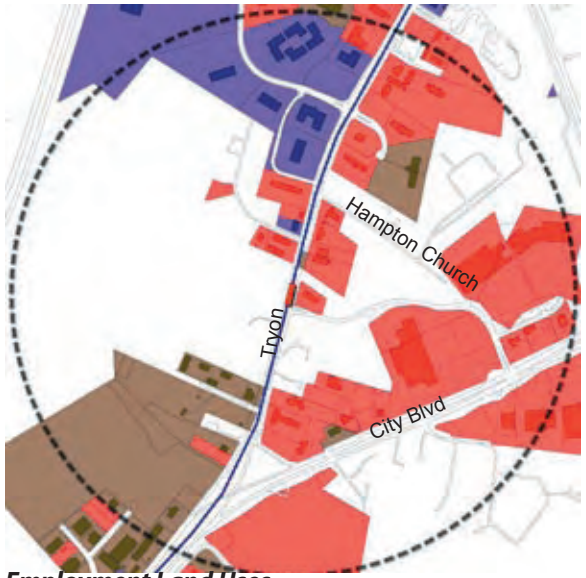
**Pending Final Design of US 29/NC 49 Weave Solution*

Station Area Statistical Baseline Analysis

Population Served



Residential Land Uses



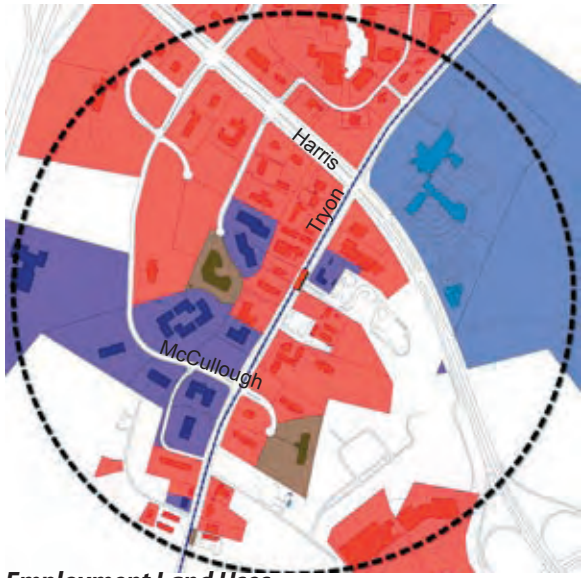
Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Employment Land Uses

	City Blvd. Station
Current Population (within 5-min walk)	**34**
Current Population (within 10-min walk)	**xxxxx**
Current Population (within 5-min drive)	**702**
Current Employment (within 10-min walk)	**248,815**
Transit Dependent Population (within 1/2 mile)	**1.8%**

Residential Land Uses



Land Use

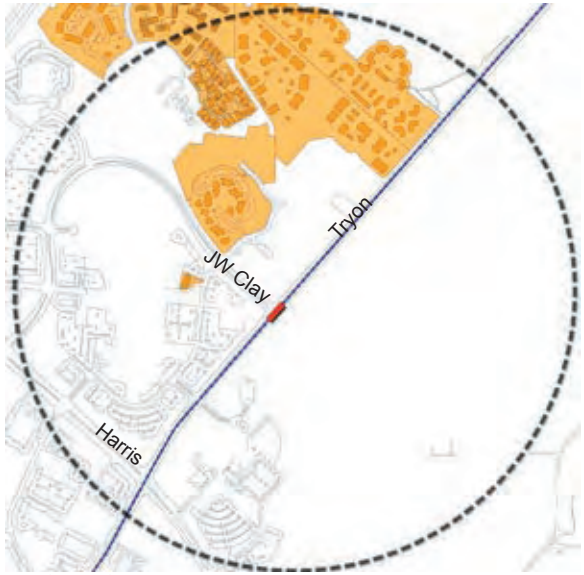
- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Employment Land Uses

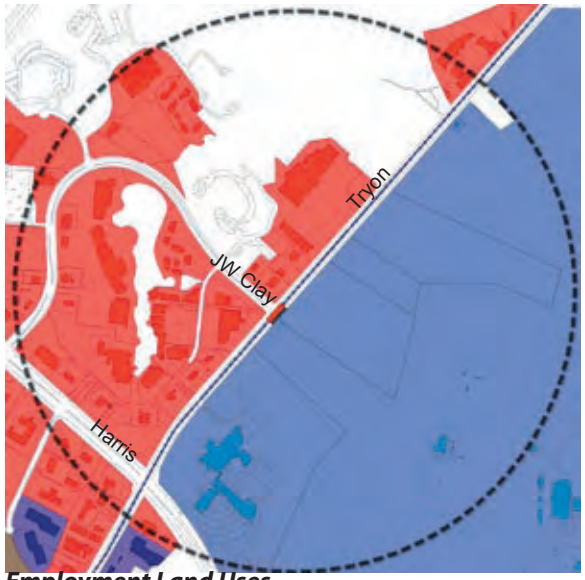
	Harris Station
Current Population (within 5-min walk)	**0**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**759**
Current Employment (within 10-min walk)	**315,045**
Transit Dependent Population (within 1/2 mile)	**1.1%**

Station Area Statistical Baseline Analysis

Population Served



Residential Land Uses



Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

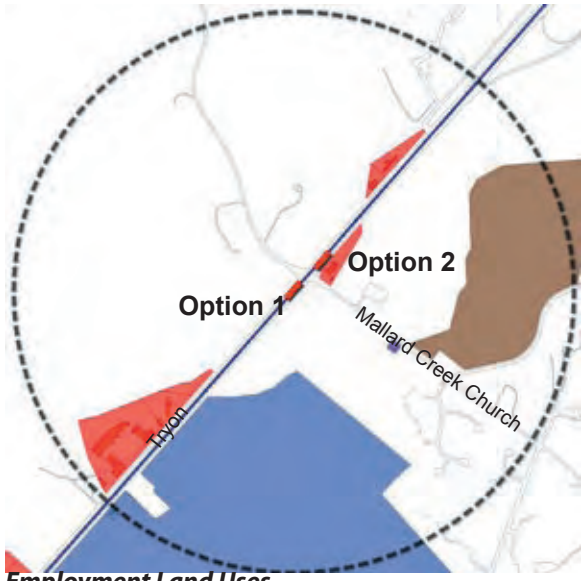
Employment Land Uses

	UNCC Station
Current Population (within 5-min walk)	**21**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**889**
Current Employment (within 10-min walk)	**178,828**
Transit Dependent Population (within 1/2 mile)	**0.6%**

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses



Land Use

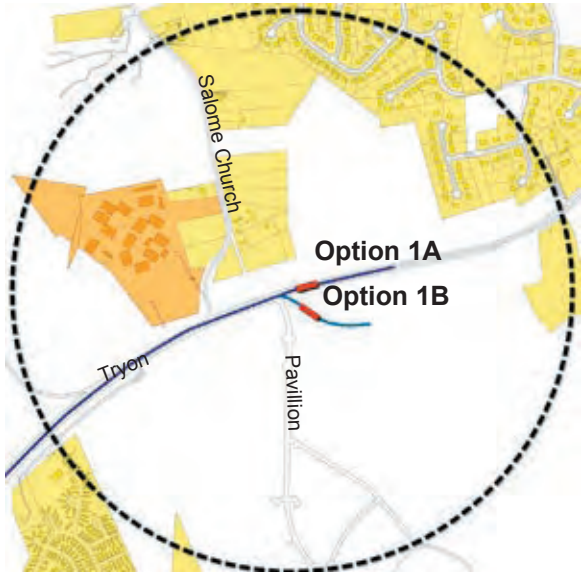
- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Employment Land Uses

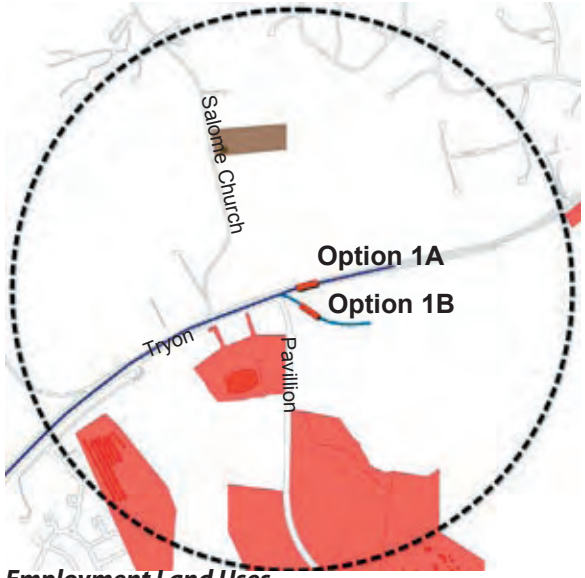
	Mallard Creek Station (Op. 1 & 2)
Current Population (within 5-min walk)	**5**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**12,180**
Current Employment (within 10-min walk)	**812,795**
Transit Dependent Population (within 1/2 mile)	**0.7%**

Station Area Statistical Baseline Analysis

Population Served



Residential Land Uses



Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

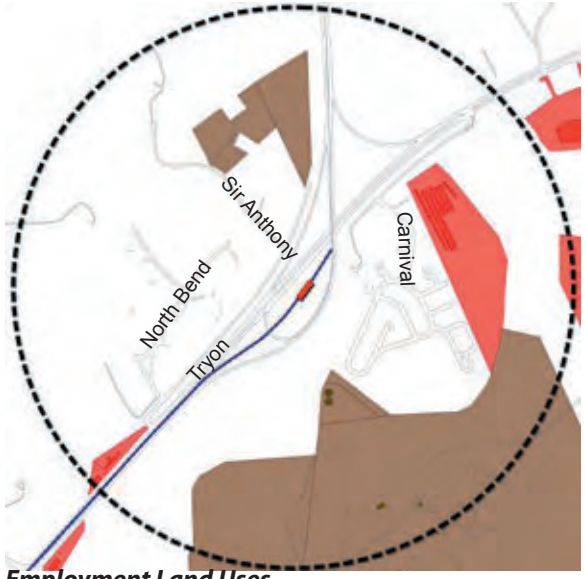
Employment Land Uses

Salome Church Station: Option 1A & 1B	
Current Population (within 5-min walk)	**55**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**1,491**
Current Employment (within 10-min walk)	**315,045**
Transit Dependent Population (within 1/2 mile)	**0.8%**

Station Area Statistical Baseline Analysis

Population Served

Residential Land Uses



Employment Land Uses

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial

Salome Church Station: Option 2	
Current Population (within 5-min walk)	**5**
Current Population (within 10-min walk)	**xxxx**
Current Population (within 5-min drive)	**1,491**
Current Employment (within 10-min walk)	**315,145**
Transit Dependent Population (within 1/2 mile)	**0.8%**

Part 3: Station Area Statistical Baseline Analysis

Accessiblity

Station Area Statistical Baseline Analysis

Station	Connectivity Analysis (CDOT/CMPC Methodology)	Pedestrian Access Acres within 10-minute walk	Vehicular Access Acres within 5-minute drive	Visual Prominence High, Medium, Low
9th Street	753	406	1,649	High
16th Street	567	325	3,138	Medium
27th Street *(Future station)*	482	286	1,834	Low
36th Street	499	310	3,806	High
Sugar Creek Opt. 1	357	153	3,189	Medium
Sugar Creek Opt. 2	258	257	3,135	Low
Eastway Opt. 1	960	178	1,867	High
Eastway Opt. 2	289	165	1,729	Medium
Tom Hunter	1,054	284	1,914	High
Rocky River *(Pending final design of US29/NC49 Weave Solution)*	434	224	3,798	High
City Blvd	472	210	3,349	High
Harris	315	230	4,069	High
UNCC	395	206	3,711	High
Mallard Creek (Opt 1 &2)	819	244	3,681	High
Salome Church Opt. 1A &1B	617	231	3,151	High
Salome Church Opt. 2	535	161	3,936	High

Connectivity Analysis
Using the CDOT/CMPC's adopted connectivity analysis methodology, a roadway connectivity score was calculated for each station area (half-mile radius).

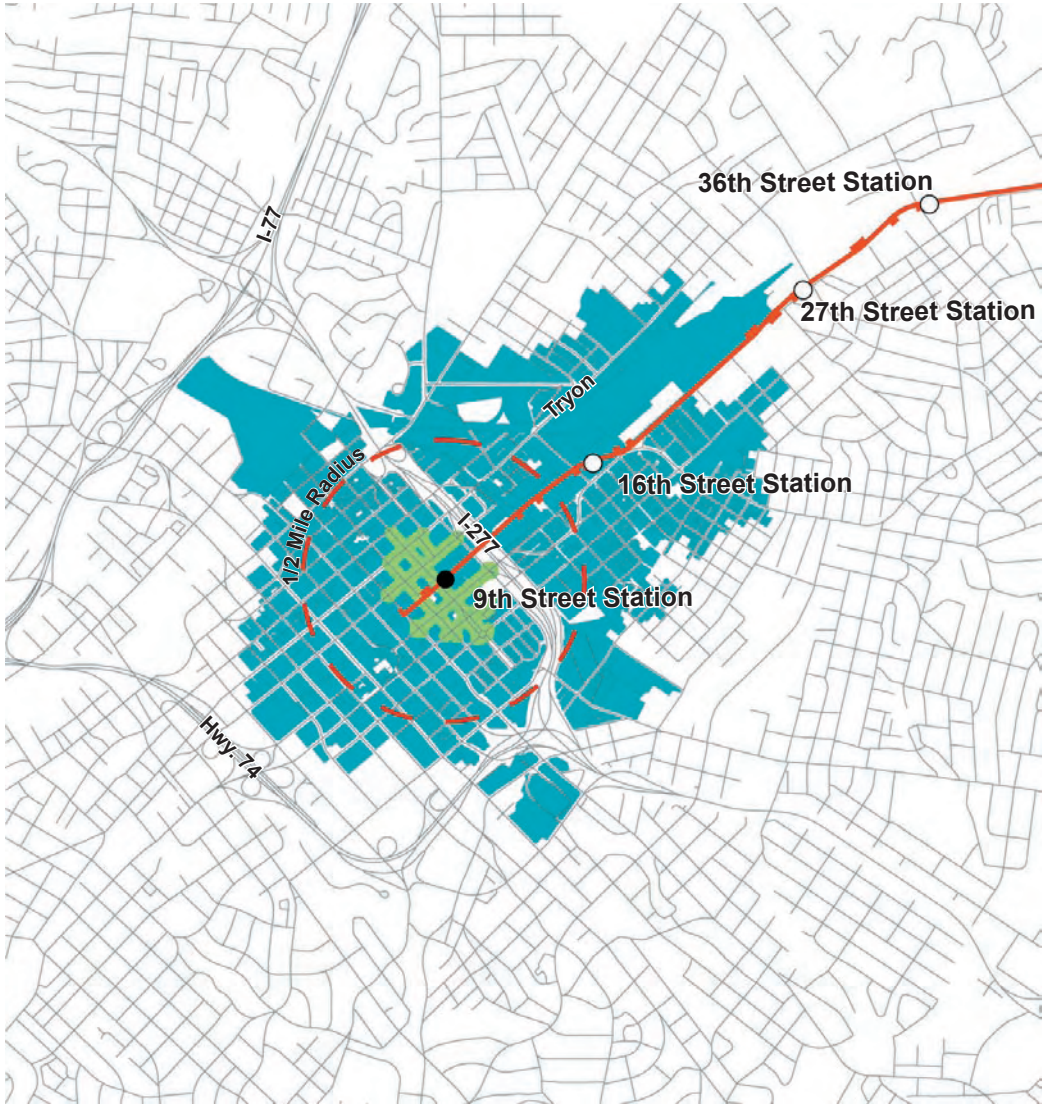
Pedestrian Access
The pedestrian access measure documents the total acres of land within each station area (half-mile radius) of each station.

Vehicular Access
The vehicular access measure documents the total acres of land within a 10-minute drive of each station.

Visual Prominence
The visual prominence measure documets the qualitative visual characteristics of each station location. A score of high, medium, or low was given to each station based on its potential to be visually prominent (i.e. is it along a major thoroughfare, or hidden in the middle of a block).

Station Area Statistical Baseline Analysis

Accessiblity



5 Minute Drive

5 Minute Walk

	9th Station
Connectivity Analysis (CDOT/CMPC Methodology)	**763**
Pedestrian Access Acres within 1/2 mile walk	**78**
Vehicular Access Acres within 5 min drive	**1,649**
Visual Prominence High, Medium Low	**High**

Station Area Statistical Baseline Analysis

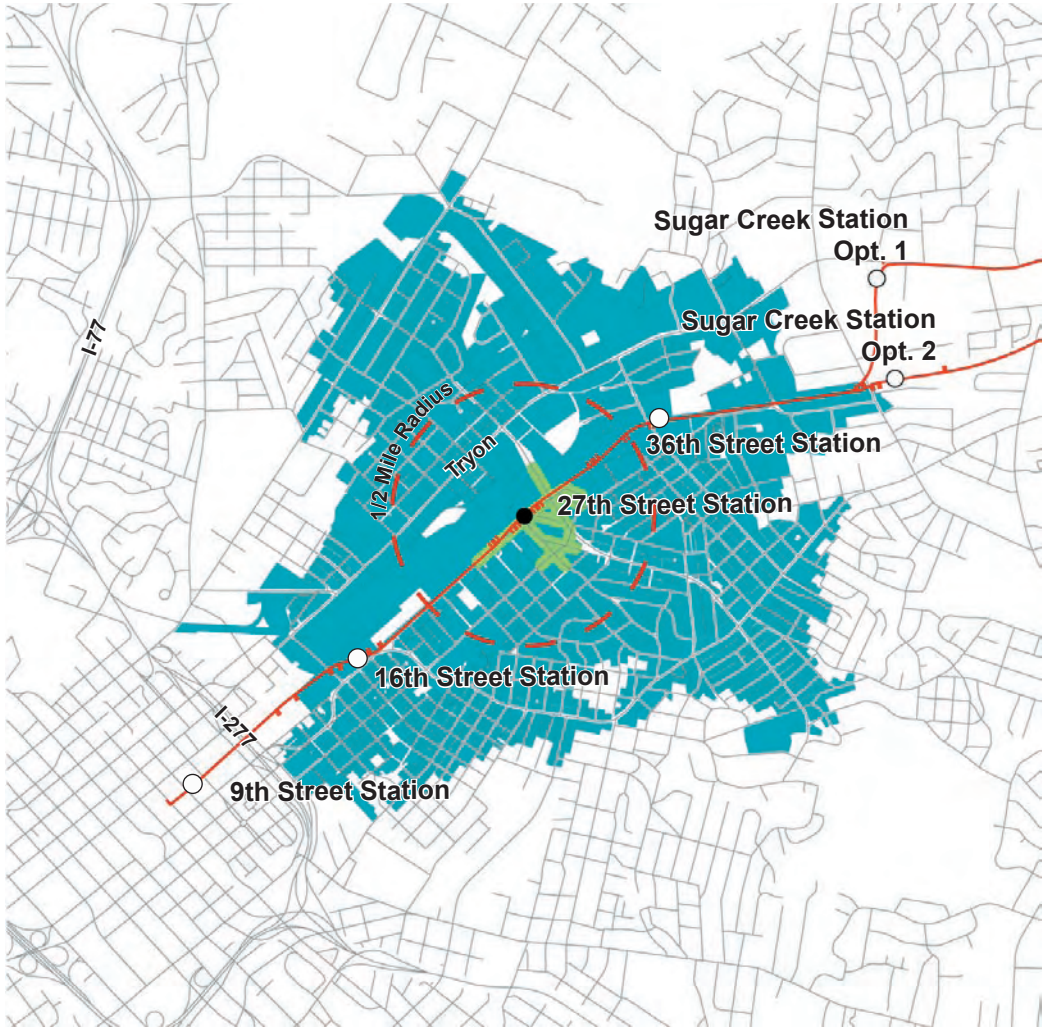
Accessiblity

	16th Station
Connectivity Analysis (CDOT/CMPC Methodology)	**567**
Pedestrian Access Acres within 1/2 mile walk	**150**
Vehicular Access Acres within 5 min drive	**3,138**
Visual Prominence High, Medium Low	**Medium**

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

Accessiblity



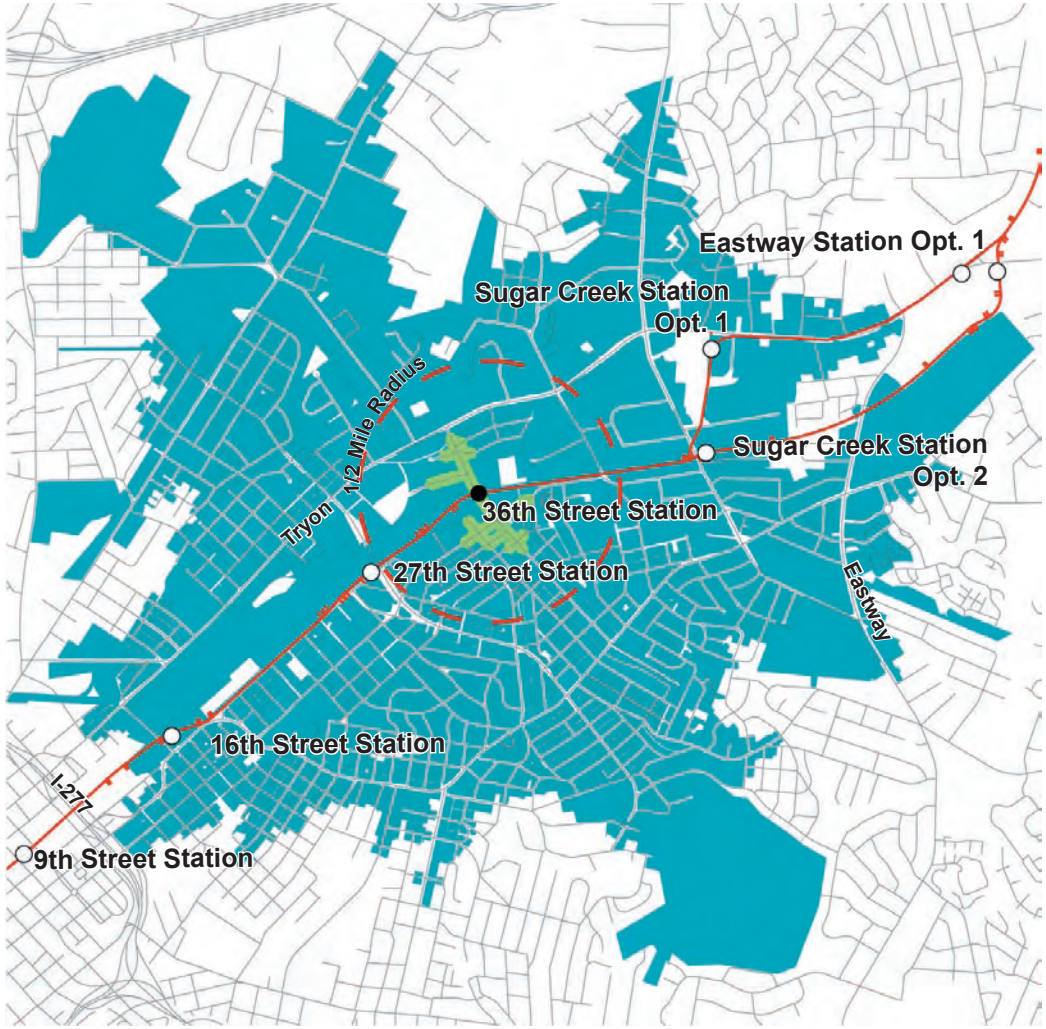
	27th Station*
Connectivity Analysis (CDOT/CMPC Methodology)	**482**
Pedestrian Access Acres within 1/2 mile walk	**176**
Vehicular Access Acres within 5 min drive	**1,834**
Visual Prominence High, Medium Low	**Low**

5 Minute Drive 5 Minute Walk

**Future Station*

Station Area Statistical Baseline Analysis

Accessiblity



5 Minute Drive

5 Minute Walk

	36th Station
Connectivity Analysis (CDOT/CMPC Methodology)	**499**
Pedestrian Access Acres within 1/2 mile walk	**60**
Vehicular Access Acres within 5 min drive	**3,806**
Visual Prominence High, Medium Low	**High**

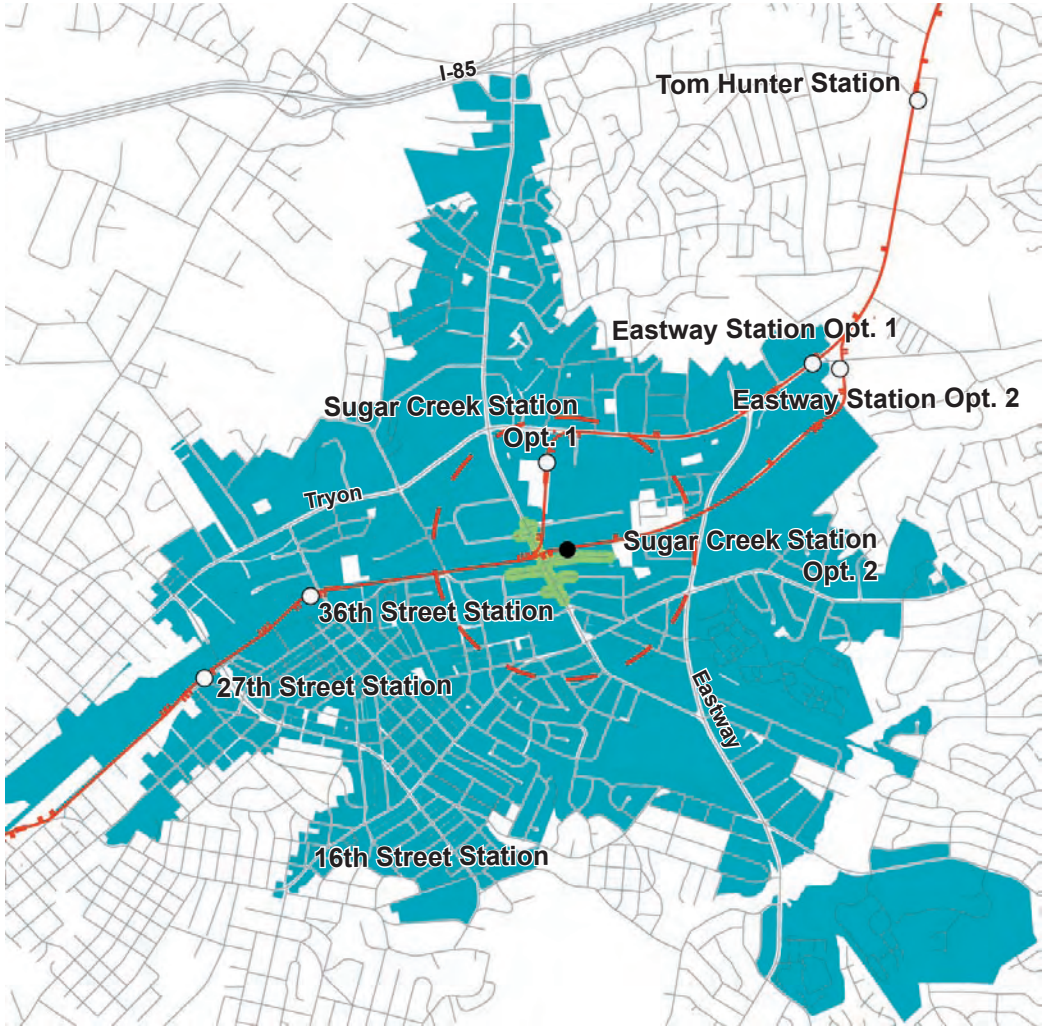
Station Area Statistical Baseline Analysis

Accessiblity

5 Minute Drive

5 Minute Walk

Sugar Creek Station: Option 1	
Connectivity Analysis (CDOT/CMPC Methodology)	**357**
Pedestrian Access Acres within 1/2 mile walk	**49**
Vehicular Access Acres within 5 min drive	**3,189**
Visual Prominence High, Medium Low	**Medium**

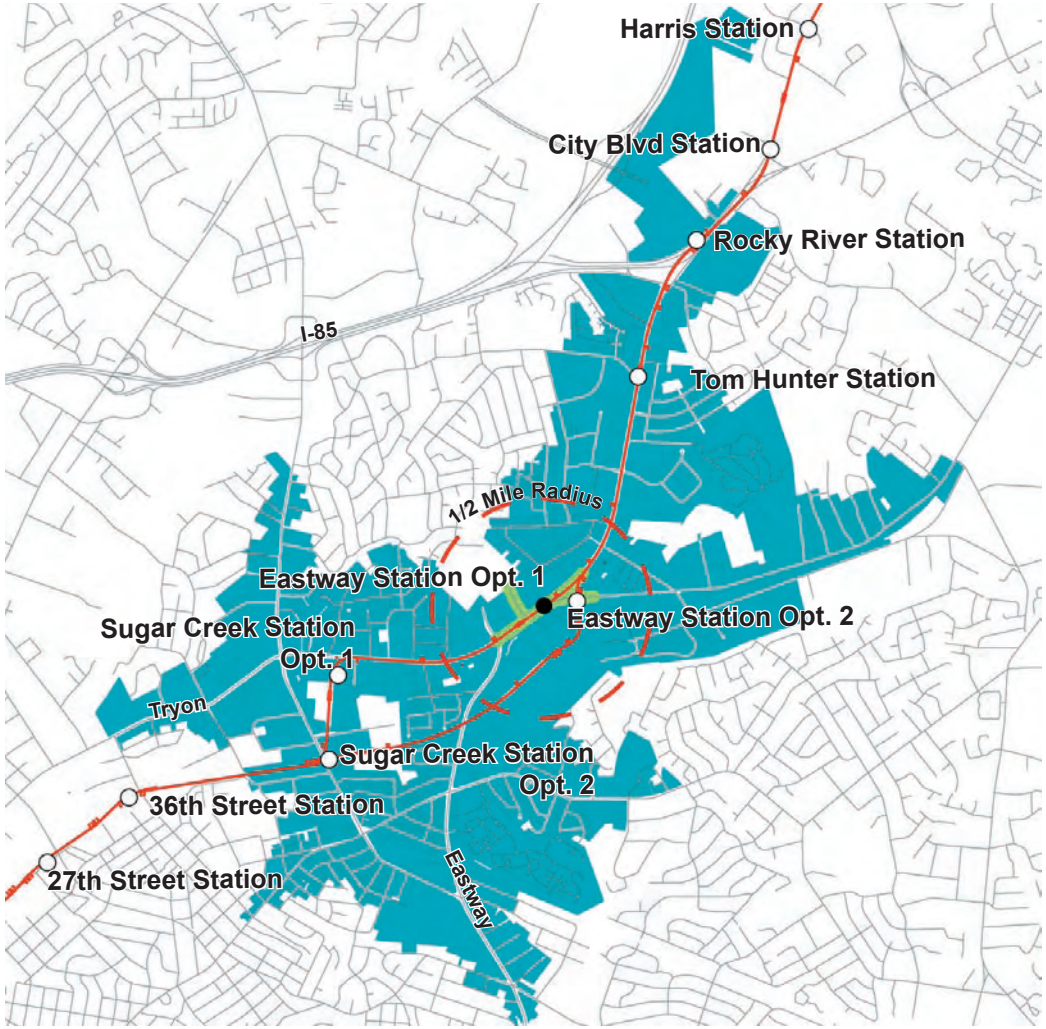


5 Minute Drive 5 Minute Walk

Sugar Creek Station: Option 2	
Connectivity Analysis (CDOT/CMPC Methodology)	**258**
Pedestrian Access Acres within 1/2 mile walk	**55**
Vehicular Access Acres within 5 min drive	**3,135**
Visual Prominence High, Medium Low	**Low**

Station Area Statistical Baseline Analysis

Accessiblity



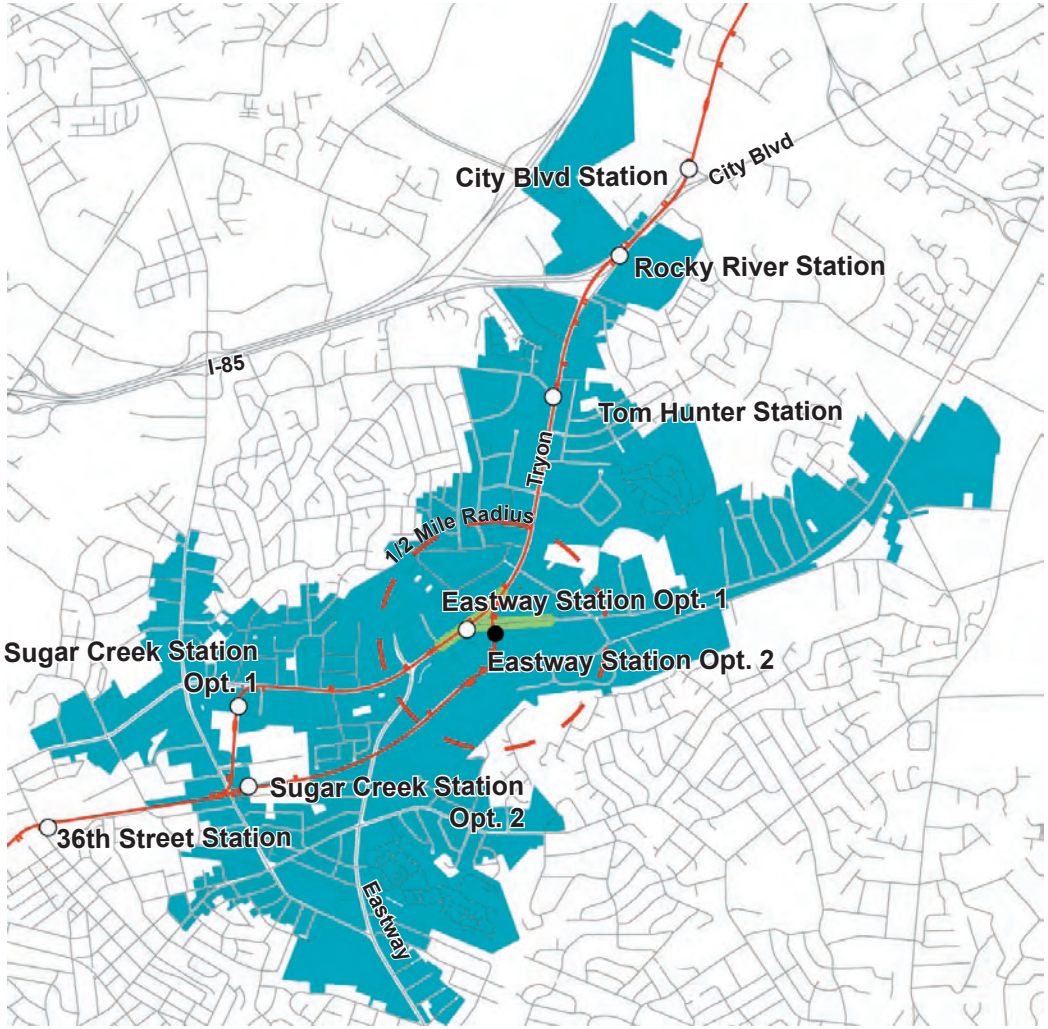
5 Minute Drive

5 Minute Walk

Eastway Station: Option 1	
Connectivity Analysis (CDOT/CMPC Methodology)	**960**
Pedestrian Access Acres within 1/2 mile walk	**110**
Vehicular Access Acres within 5 min drive	**1,867**
Visual Prominence High, Medium Low	**High**

Station Area Statistical Baseline Analysis

Accessiblity



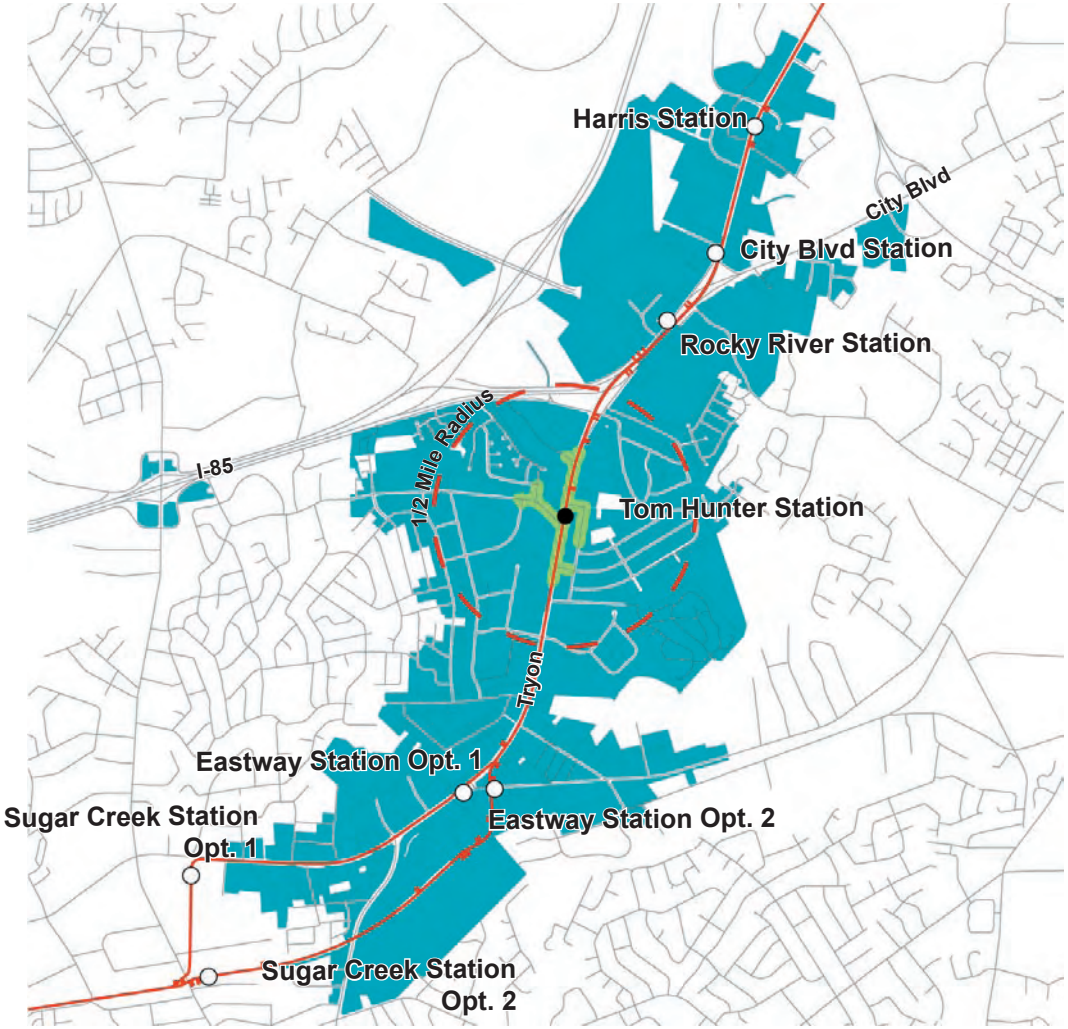
5 Minute Drive

5 Minute Walk

Eastway Station: Option 2	
Connectivity Analysis (CDOT/CMPC Methodology)	**289**
Pedestrian Access Acres within 1/2 mile walk	**97**
Vehicular Access Acres within 5 min drive	**1,867**
Visual Prominence High, Medium Low	**High**

Station Area Statistical Baseline Analysis

Accessiblity

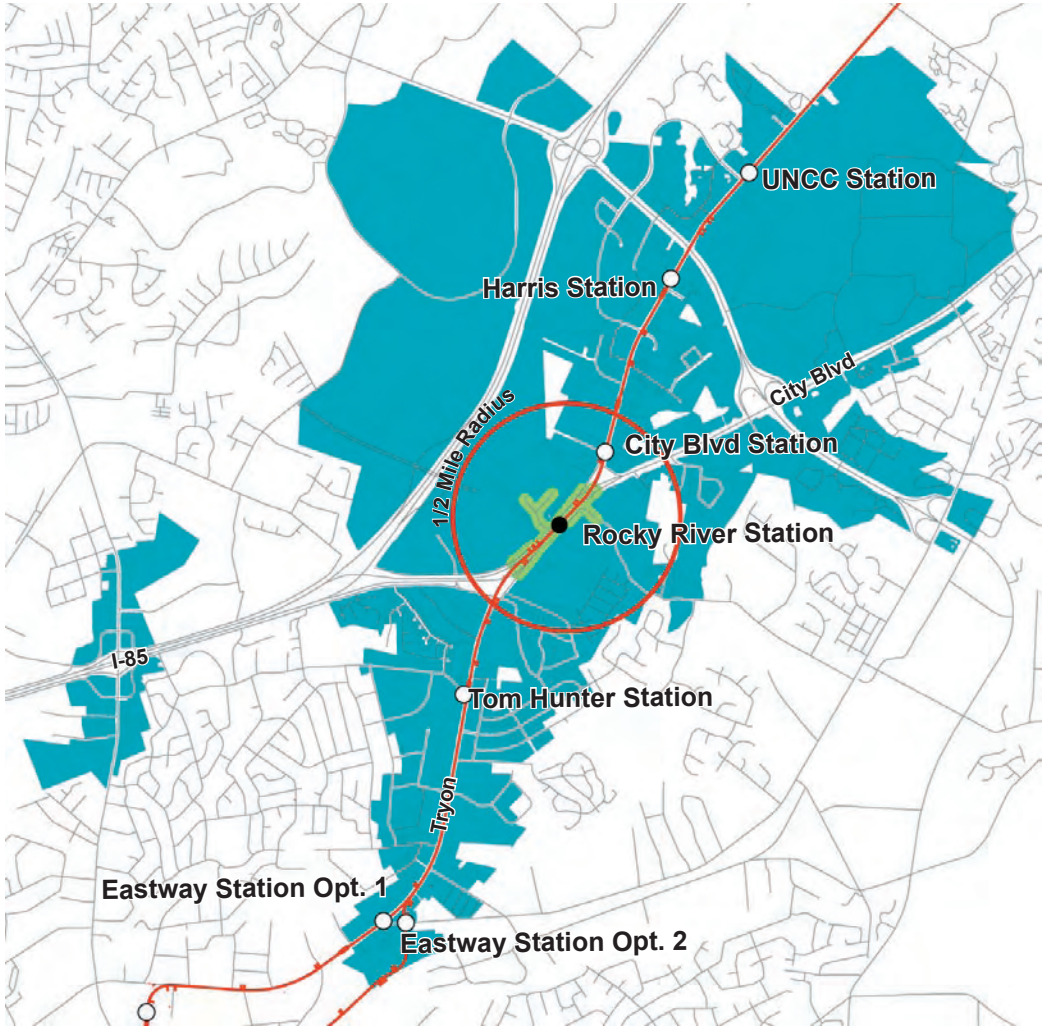


	Tom Hunter Station
Connectivity Analysis (CDOT/CMPC Methodology)	**1054**
Pedestrian Access Acres within 1/2 mile walk	**91**
Vehicular Access Acres within 5 min drive	**1,914**
Visual Prominence High, Medium Low	**High**

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

Accessiblity



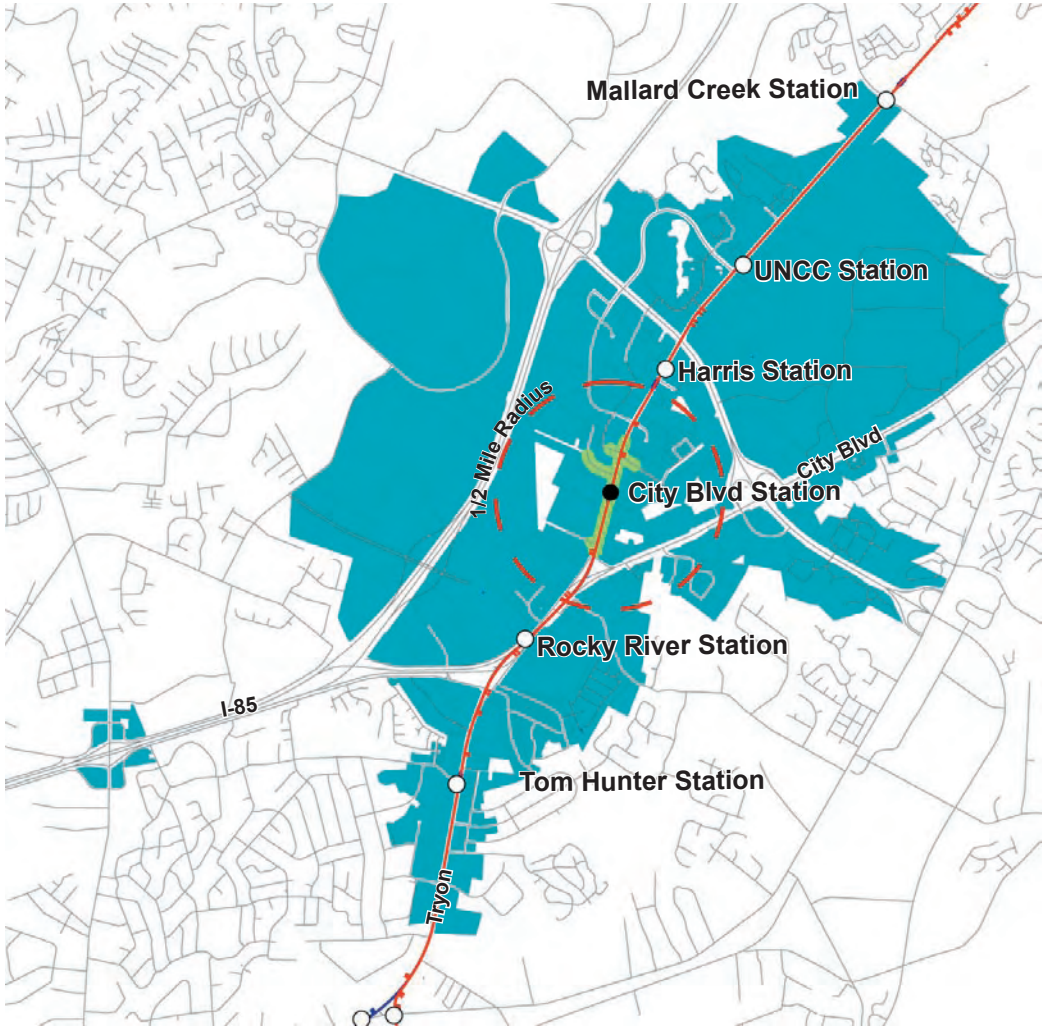
	Rocky River Station*
Connectivity Analysis (CDOT/CMPC Methodology)	**434**
Pedestrian Access Acres within 1/2 mile walk	**326**
Vehicular Access Acres within 5 min drive	**3,798**
Visual Prominence High, Medium Low	**High**

**Pending Final Design of US29/NC49 Weave Solution*

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

Accessiblity



	City Blvd Station
Connectivity Analysis (CDOT/CMPC Methodology)	**472**
Pedestrian Access Acres within 1/2 mile walk	**107**
Vehicular Access Acres within 5 min drive	**3,349**
Visual Prominence High, Medium Low	**High**

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

Accessiblity

	Harris Station
Connectivity Analysis (CDOT/CMPC Methodology)	**315**
Pedestrian Access Acres within 1/2 mile walk	**64**
Vehicular Access Acres within 5 min drive	**4,069**
Visual Prominence High, Medium Low	**High**

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

Accessiblity

	UNCC Station
Connectivity Analysis (CDOT/CMPC Methodology)	**395**
Pedestrian Access Acres within 1/2 mile walk	**794**
Vehicular Access Acres within 5 min drive	**3,711**
Visual Prominence High, Medium Low	**High**

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

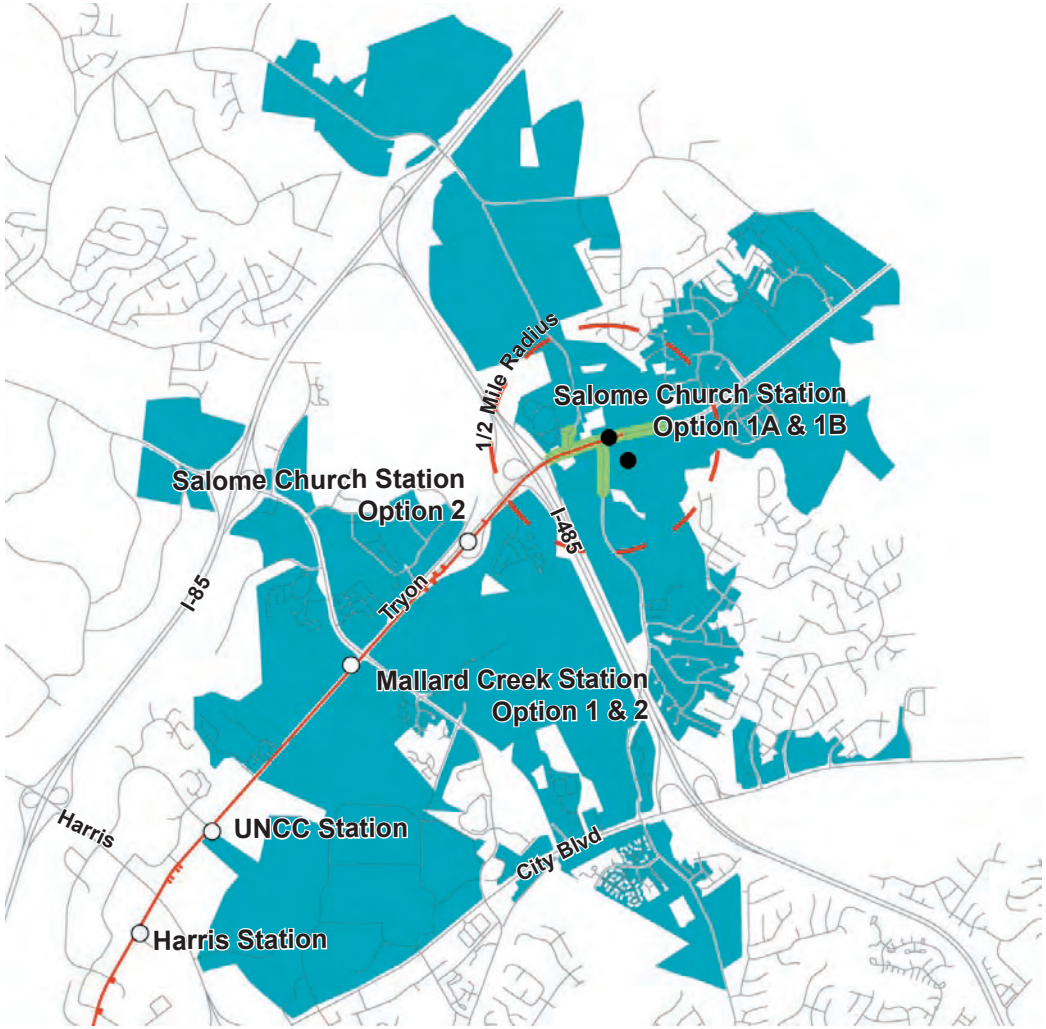
Accessiblity

Mallard Creek Station Option 1 & 2	
Connectivity Analysis (CDOT/CMPC Methodology)	**819**
Pedestrian Access Acres within 1/2 mile walk	**172**
Vehicular Access Acres within 5 min drive	**3681**
Visual Prominence High, Medium Low	**High**

5 Minute Drive 5 Minute Walk

Station Area Statistical Baseline Analysis

Accessiblity



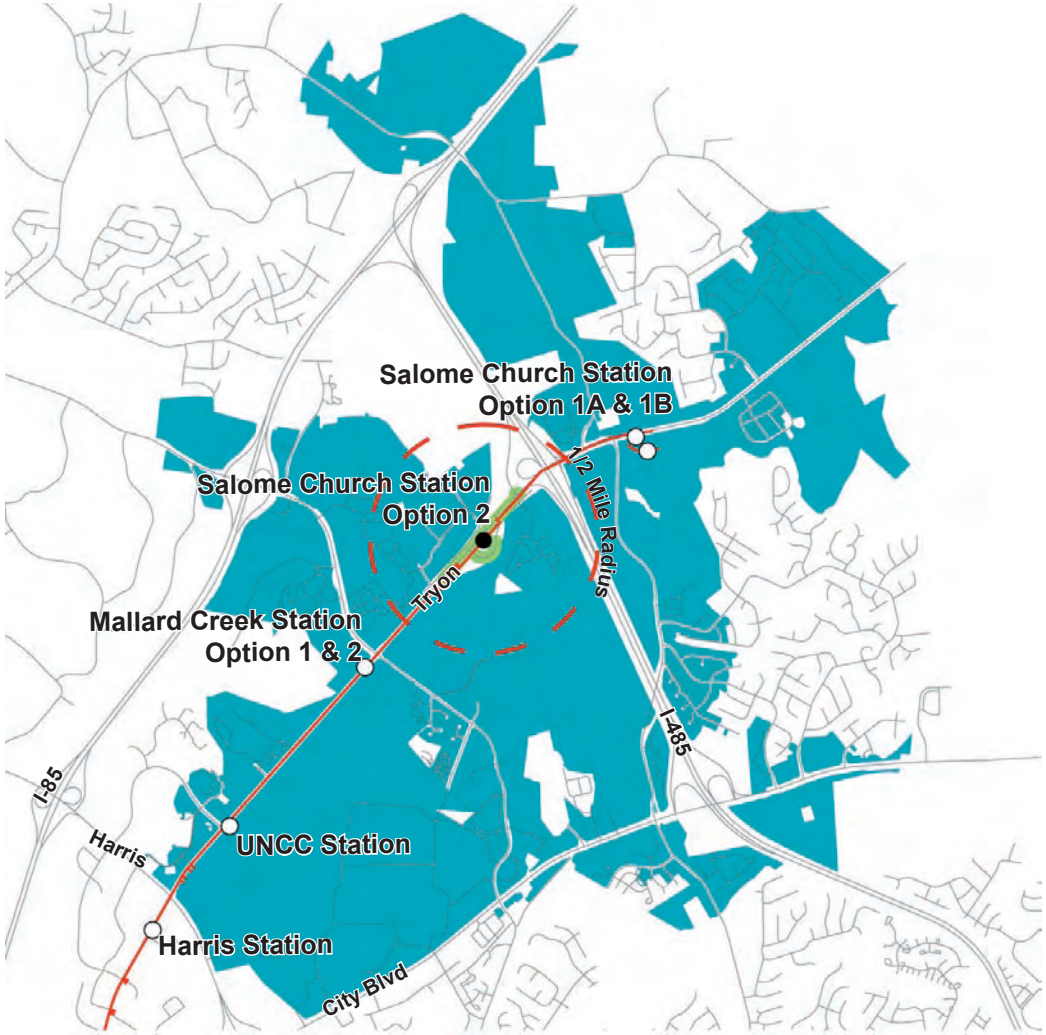
5 Minute Drive

5 Minute Walk

Salome Church Station: Option 1A & 1B	
Connectivity Analysis (CDOT/CMPC Methodology)	**617**
Pedestrian Access Acres within 1/2 mile walk	**215**
Vehicular Access Acres within 5 min drive	**3,121**
Visual Prominence High, Medium Low	**High**

Station Area Statistical Baseline Analysis

Accessiblity



5 Minute Drive

5 Minute Walk

Salome Church Station: Option 2	
Connectivity Analysis (CDOT/CMPC Methodology)	**535**
Pedestrian Access Acres within 1/2 mile walk	**92**
Vehicular Access Acres within 5 min drive	**3,936**
Visual Prominence High, Medium Low	**High**

Part 3: Station Area Statistical Baseline Analysis

Development Opportunities

Station	Level of Opportunity: Office	Flex Office	Regional Retail	Neighborhood Retail	Rental Residential	For Sale Residential	Timing
9th Street	4	1	3		5	5	Short
16th Street	2	3	1		2	1	Mid
27th Street *(Future station)*	2	2	1		2	1	Mid
36th Street	3	2	1		3	4	Short-mid
Sugar Creek Opt. 1	2	3	2		3	3	Mid
Sugar Creek Opt. 2	2	3	1		3	3	Mid-long
Eastway Opt. 1	2	3	1		3	3	Mid
Eastway Opt. 2	2	3	1		3	3	Mid
Tom Hunter	2	3	1		2	1	Mid
Rocky River *(Pending final design of US29/NC49 Weave Solution)*	4	4	3		5	4	Mid-long
City Blvd	4	4	3		5	3	Mid-long
Harris	4	3	4		4	3	Short
UNCC	3	1	3		4	3	Mid
Mallard Creek (Opt 1 &2)	3	2	3		5	5	Short-mid
Salome Church Opt. 1A &1B	3	3	3		5	5	Mid-long
Salome Church Opt. 2	3	4	3		3	3	Mid-long

Station	Transit Supportive Development: Acres of land not zoned institutional, or parks & open space within 1/2 mile.	Undeveloped Land: Acres of vacant or undeveloped land 5 acres or larger, within 1/2 mile: 1 + Acres	5+ Acres	Underutilized Land: Acres of land where improved value is less than 40% of total property value, within 1/2 mile: 1 + Acres	5+ Acres
9th Street	*	*	*	*	*
16th Street	300	53	8	24	14
27th Street *(Future station)*	279	59	24	9	4
36th Street	414	55	29	59	37
Sugar Creek Opt. 1	326	68	30	31	11
Sugar Creek Opt. 2	326	68	35	31	24
Eastway Opt. 1	303	104	56	60	110
Eastway Opt. 2	303	104	70	60	124
Tom Hunter	337	115	73	34	20
Rocky River	255	383	331	43	29
City Blvd *(Pending final design of US29/NC49 Weave Solution)*	252	381	282	28	21
Harris	329	350	229	29	12
UNCC	218	88	78	26	0
Mallard Creek (Opt 1 &2)	154	362	347	261	249
Salome Church Opt. 1A &1B	157	378	372	4	0
Salome Church Opt. 2	157	378	265	4	249

Level of Opportunity

Based on the Northeast Corridor Transit Oriented Development Analysis prepared by Robert Charles Lesser & Co., each station area has been evaluated to determine its level of development opportunity for a range of land uses and their corresponding development timing. For each land use evaluated, the level of opportunity on a range of low (1) to high (5) and timing from short to long-term were identified.

Transit Supportive Devlopment

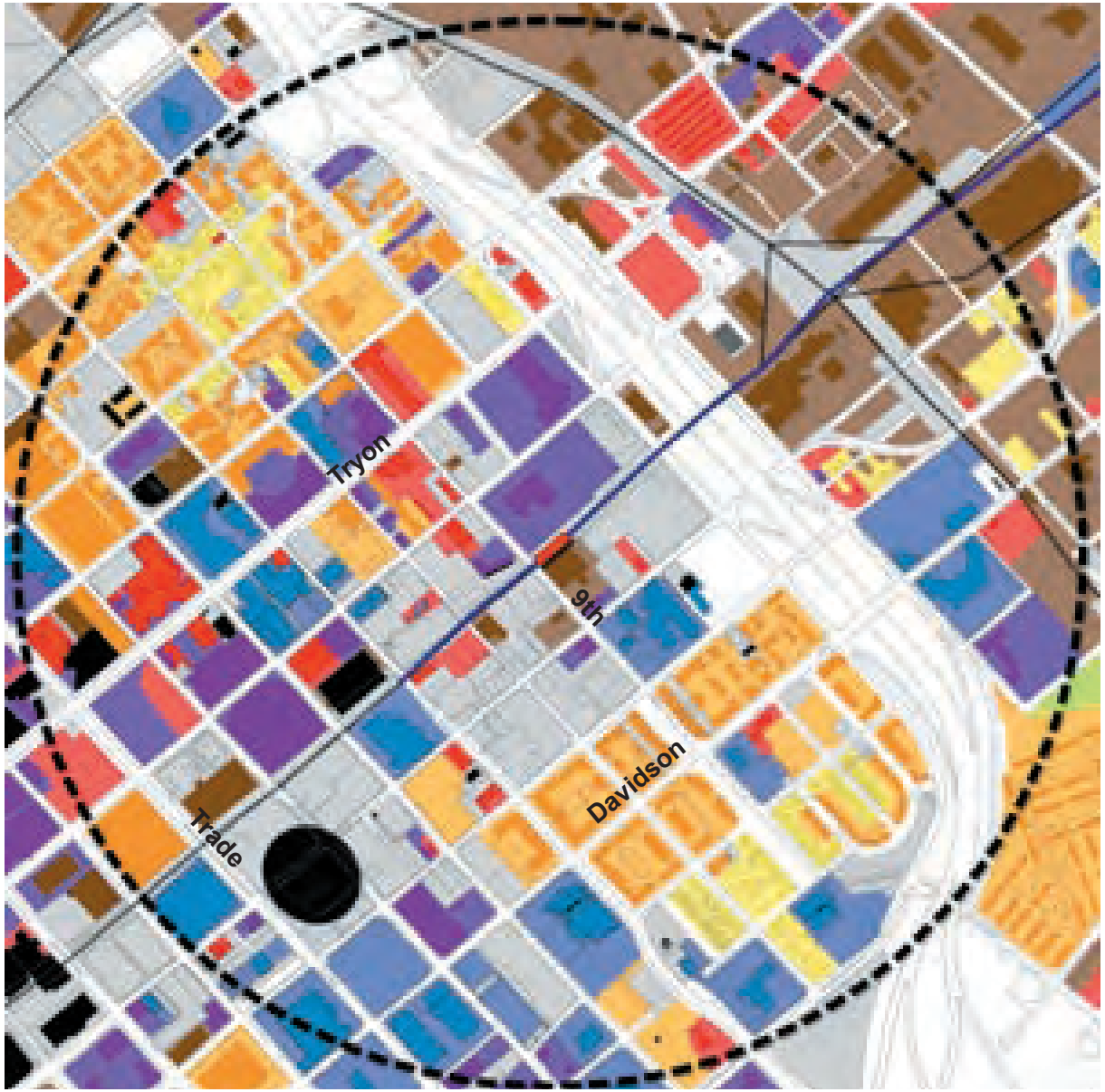
Transit supportive development is defined as any land within the station area (half-mile) not zoned for institutional or park and open space. This measure attempts to quantify the level of opportunity of land whose land use could be changed to support transit oriented development.

Undeveloped Land

Undeveloped land is defined as parcels that are vacant or undeveloped within the station area (1-mile) that are 5 acres or larger in size.

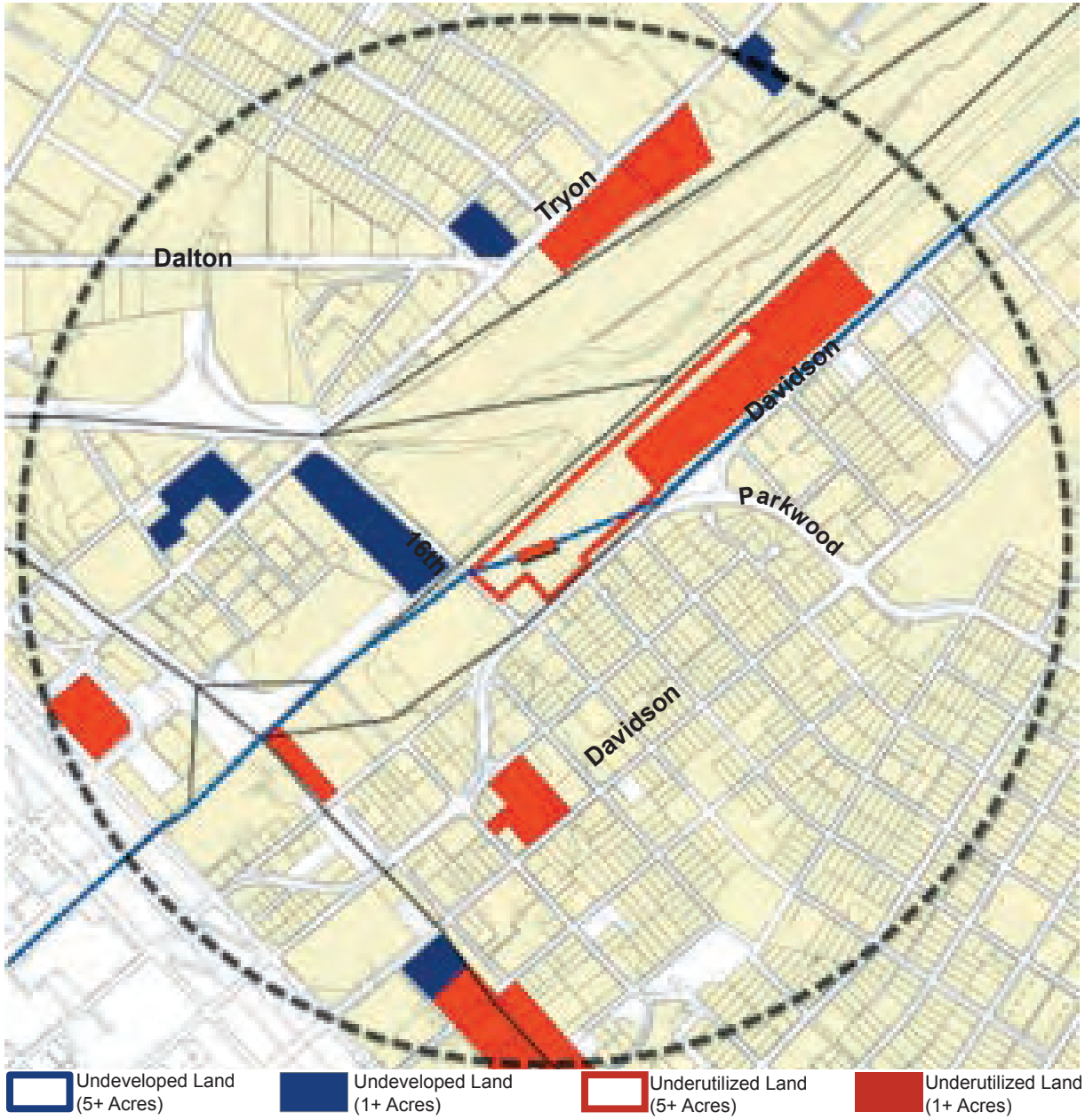
Underutilized Land

Underutilized land is defined as parcels where the improved value (buildings) is less than 40% of the total value of the property. this measure attempts to identify those parcels that are likely to redevelop based on a high land value relative to building value.



	9th Street Station*
Level of Opportunity	
Office	4
Flex Office	1
Regional Retail	3
Neighborhood Retail	3
Rental Residential	5
For Sale Residential)	5
Timing	Short
Amount of Opportunity	
Transit Supportive Development	
Acres	*
Vacant Land	
Acres (1+ Acres)	*
Acres (5+ Acres)	*
Underutilized Land	
Acres (1+ Acres)	*
Acres (5+ Acres)	*

** There is no tax data available for the these parcels*

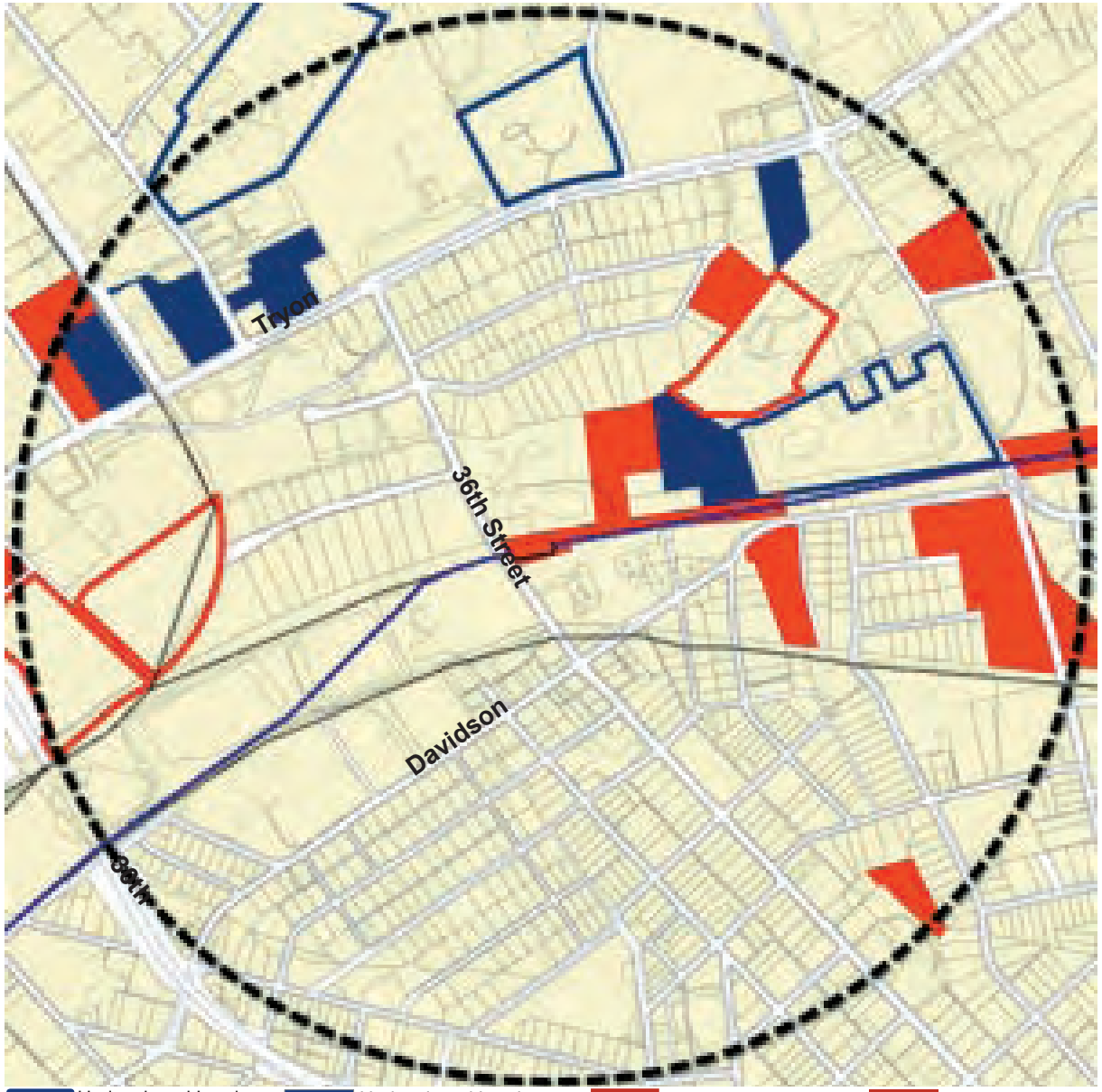


	16th Street Station
Level of Opportunity	
Office	**2**
Flex Office	**3**
Regional Retail	**1**
Neighborhood Retail	**2**
Rental Residential	**2**
For Sale Residential)	**1**
Timing	**Mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**300**
Vacant Land	
Acres (1+ Acres)	**53**
Acres (5+ Acres)	**8**
Underutilized Land	
Acres (1+ Acres)	**24**
Acres (5+ Acres)	**14**

Undeveloped Land (5+ Acres)
Undeveloped Land (1+ Acres)
Underutilized Land (5+ Acres)
Underutilized Land (1+ Acres)

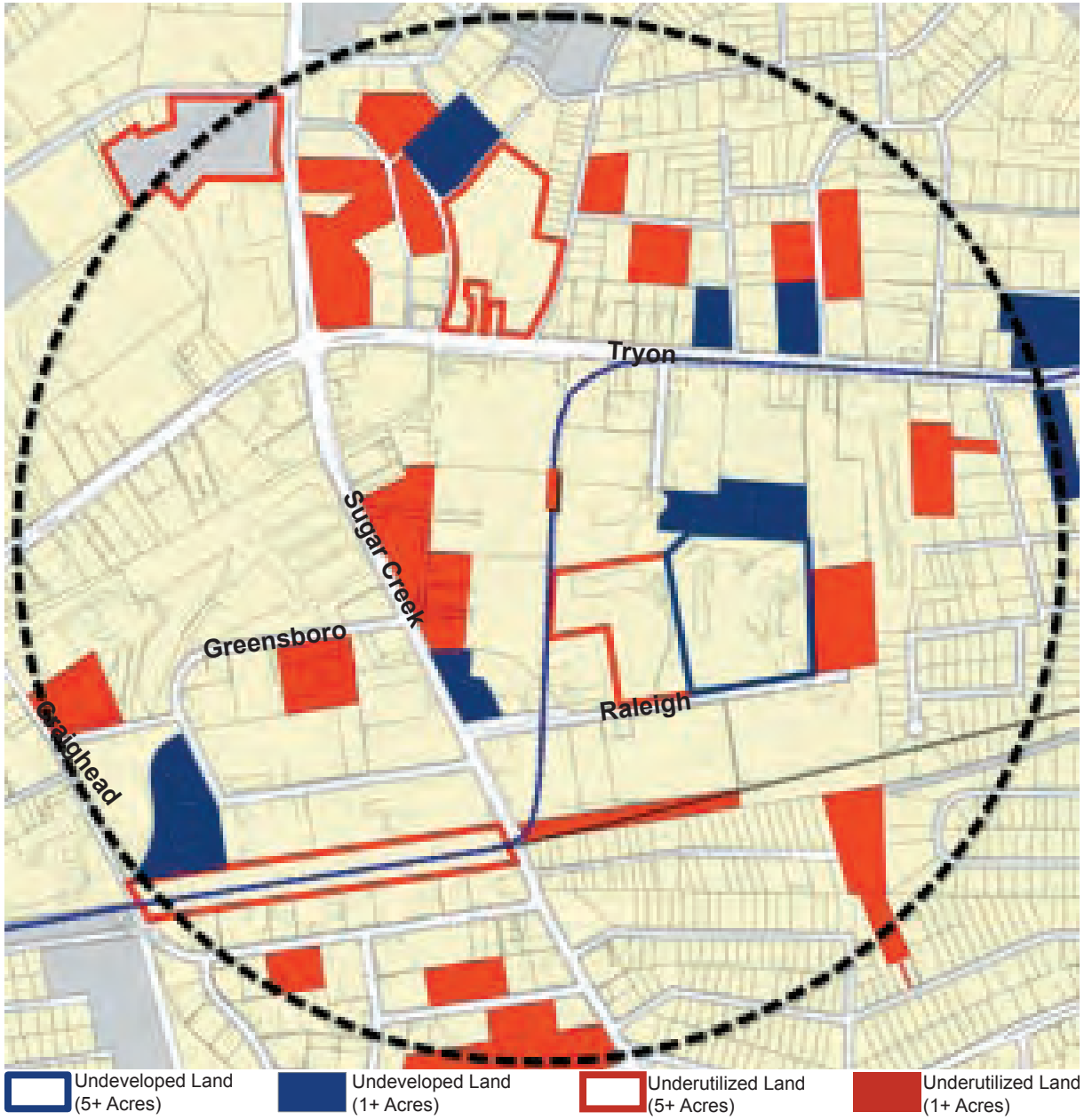
	27th Street Station*
Level of Opportunity	
Office	**2**
Flex Office	**2**
Regional Retail	**1**
Neighborhood Retail	**2**
Rental Residential	**2**
For Sale Residential)	**1**
Timing	**Mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**279**
Vacant Land	
Acres (1+ Acres)	**59**
Acres (5+ Acres)	**24**
Underutilized Land	
Acres (1+ Acres)	**9**
Acres (5+ Acres)	**4**

** Future Station*

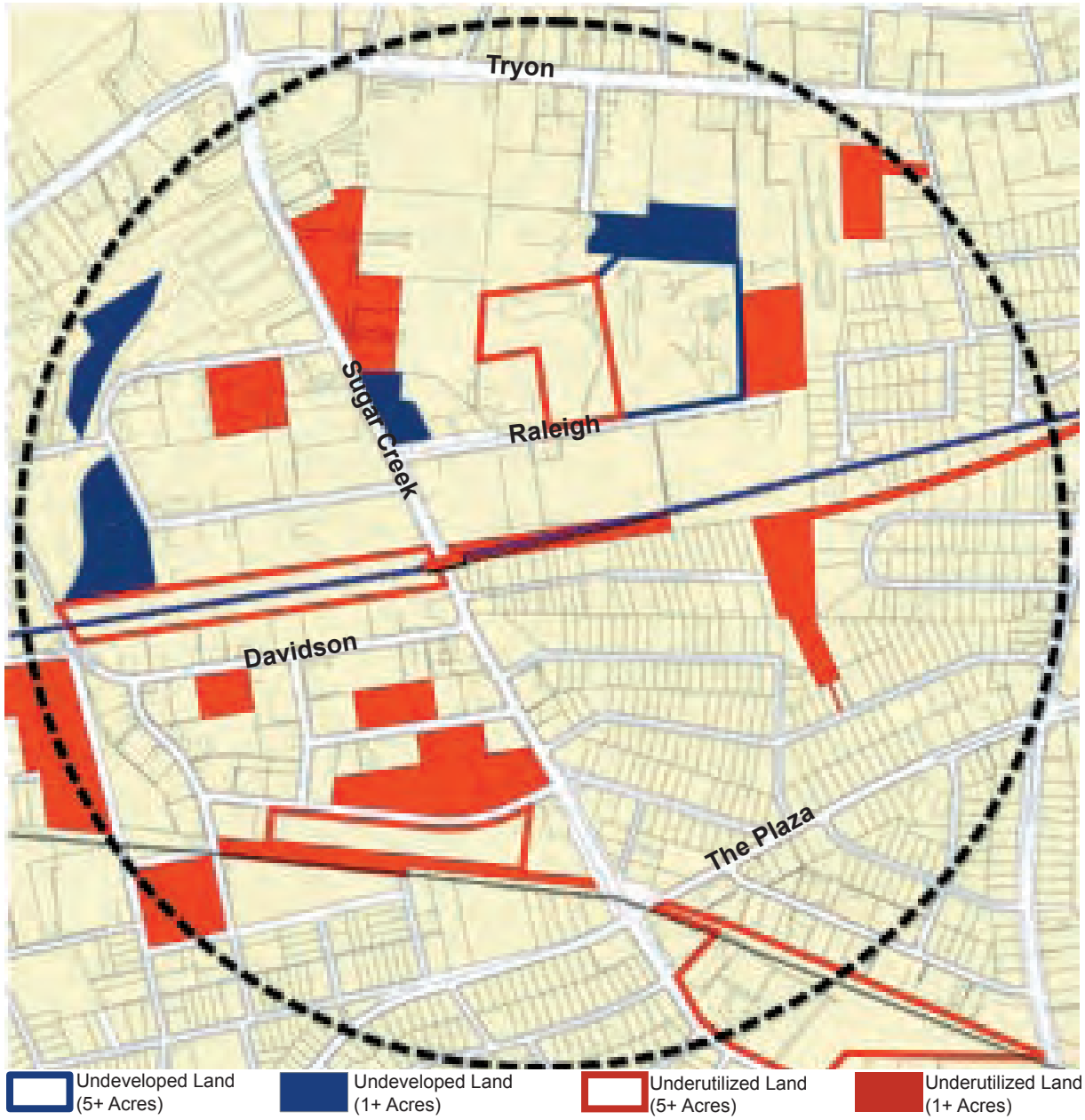


Undeveloped Land (5+ Acres)
Undeveloped Land (1+ Acres)
Underutilized Land (5+ Acres)
Underutilized Land (1+ Acres)

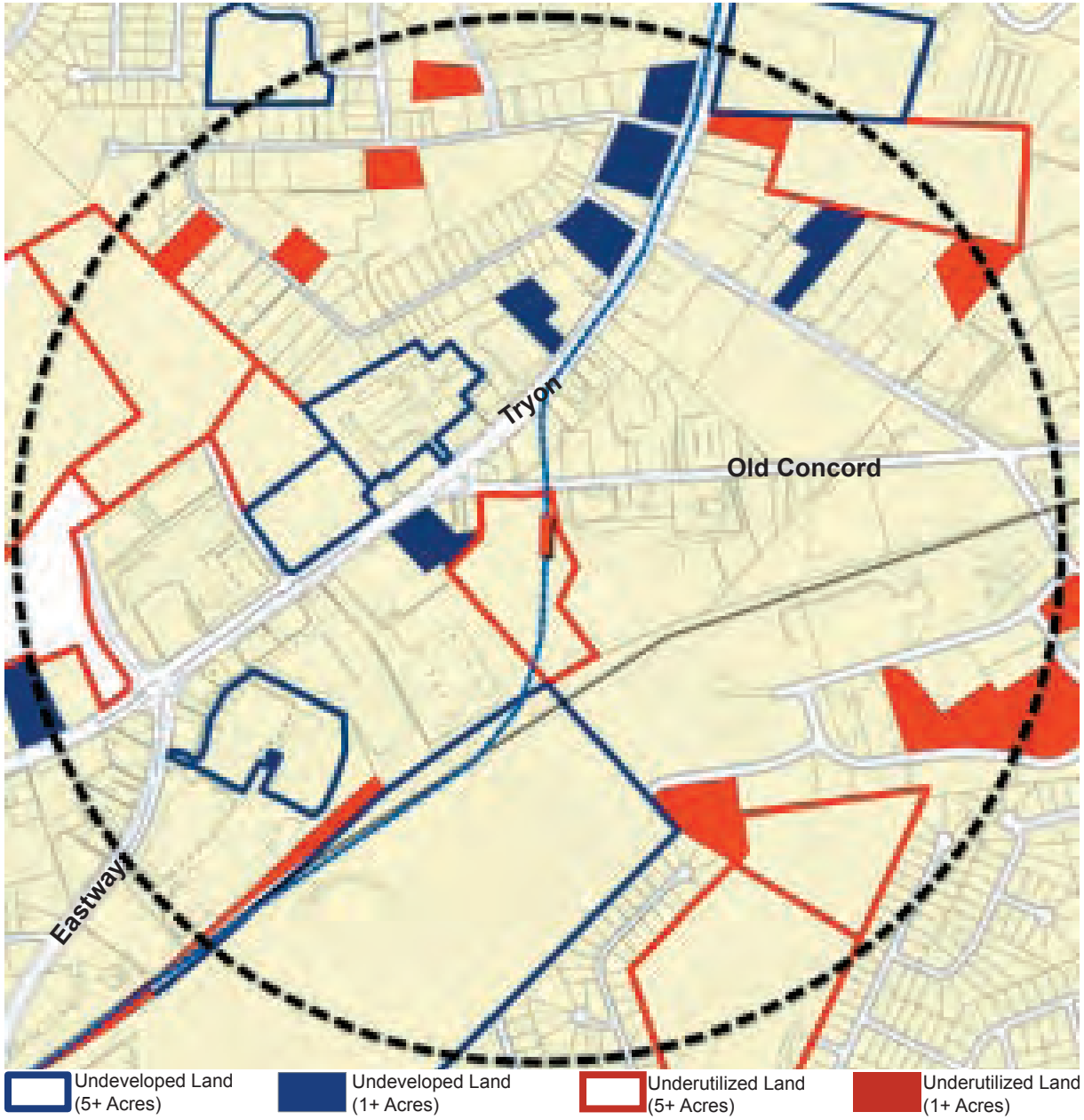
	36th Street Station
Level of Opportunity	
Office	**3**
Flex Office	**2**
Regional Retail	**1**
Neighborhood Retail	**4**
Rental Residential	**3**
For Sale Residential)	**4**
Timing	**Short-mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**414**
Vacant Land	
Acres (1+ Acres)	**55**
Acres (5+ Acres)	**29**
Underutilized Land	
Acres (1+ Acres)	**59**
Acres (5+ Acres)	**37**



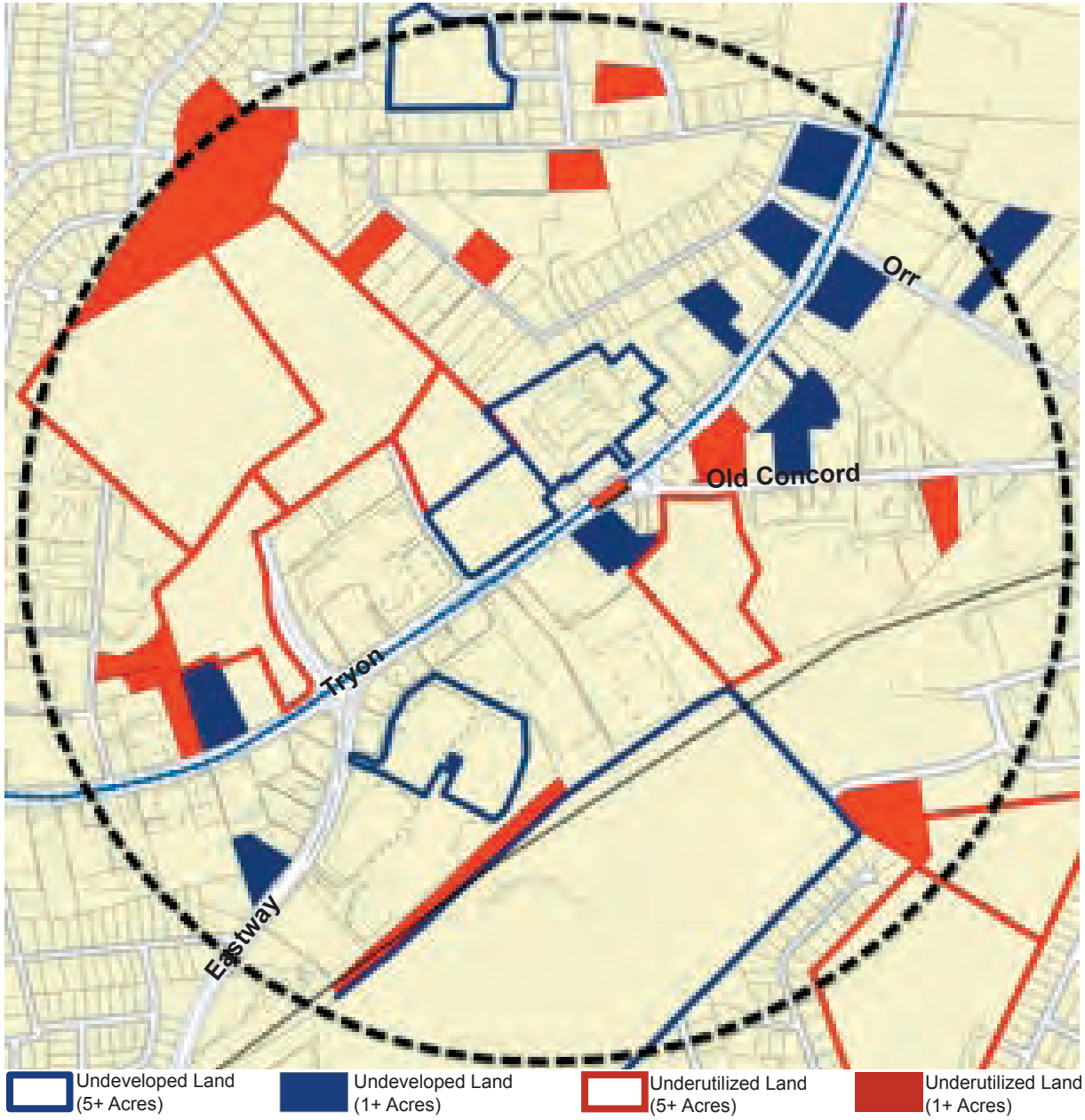
Sugar Creek Station: Option 1	
Level of Opportunity	
Office	**2**
Flex Office	**3**
Regional Retail	**2**
Neighborhood Retail	**4**
Rental Residential	**3**
For Sale Residential)	**3**
Timing	**Mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**326**
Vacant Land	
Acres (1+ Acres)	**68**
Acres (5+ Acres)	**30**
Underutilized Land	
Acres (1+ Acres)	**31**
Acres (5+ Acres)	**11**



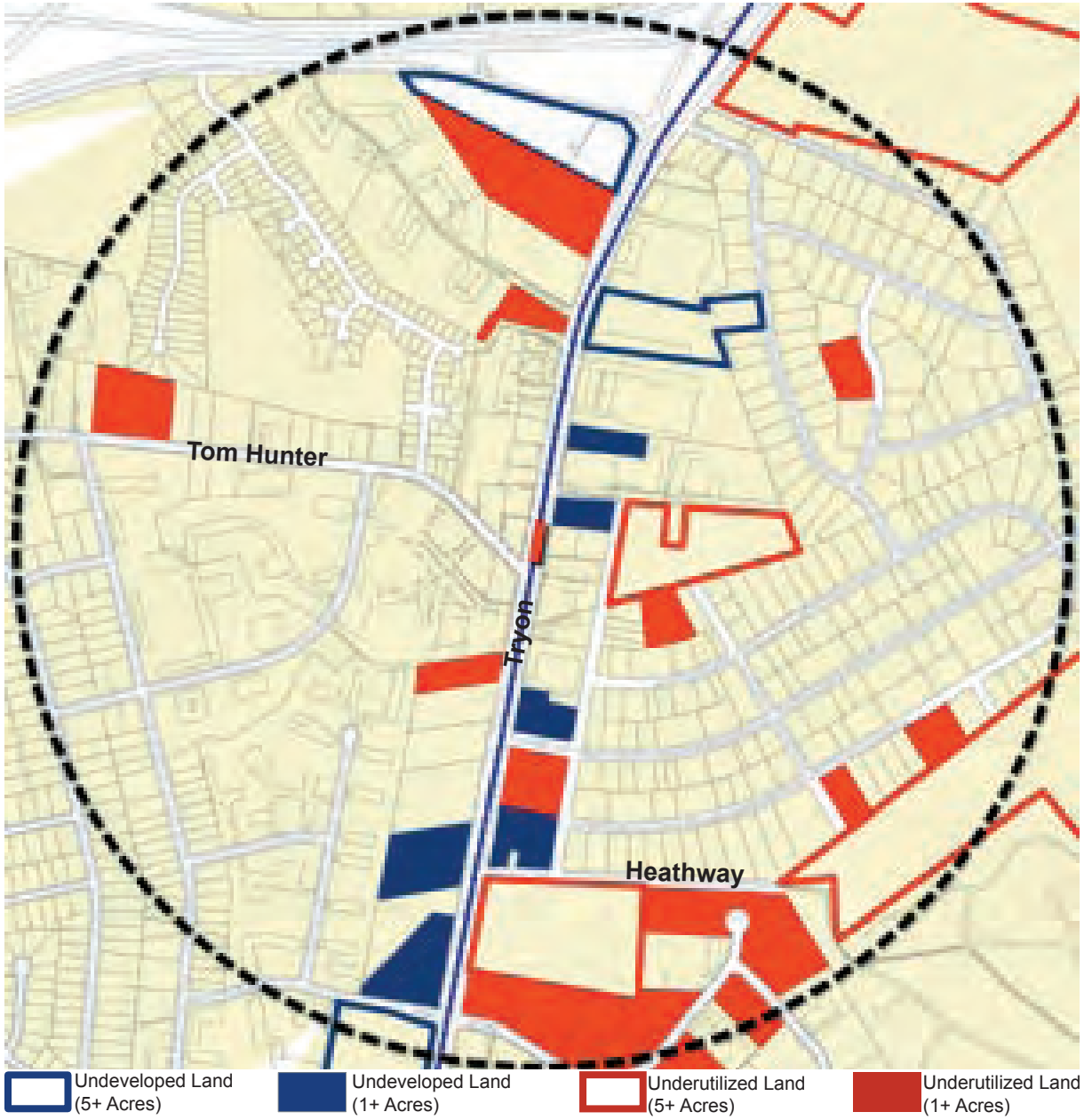
Sugar Creek Station: Option 2	
Level of Opportunity	
Office	**2**
Flex Office	**3**
Regional Retail	**1**
Neighborhood Retail	**3**
Rental Residential	**3**
For Sale Residential)	**3**
Timing	**Mid-long**
Amount of Opportunity	
Transit Supportive Development	
Acres	**326**
Vacant Land	
Acres (1+ Acres)	**68**
Acres (5+ Acres)	**35**
Underutilized Land	
Acres (1+ Acres)	**31**
Acres (5+ Acres)	**24**



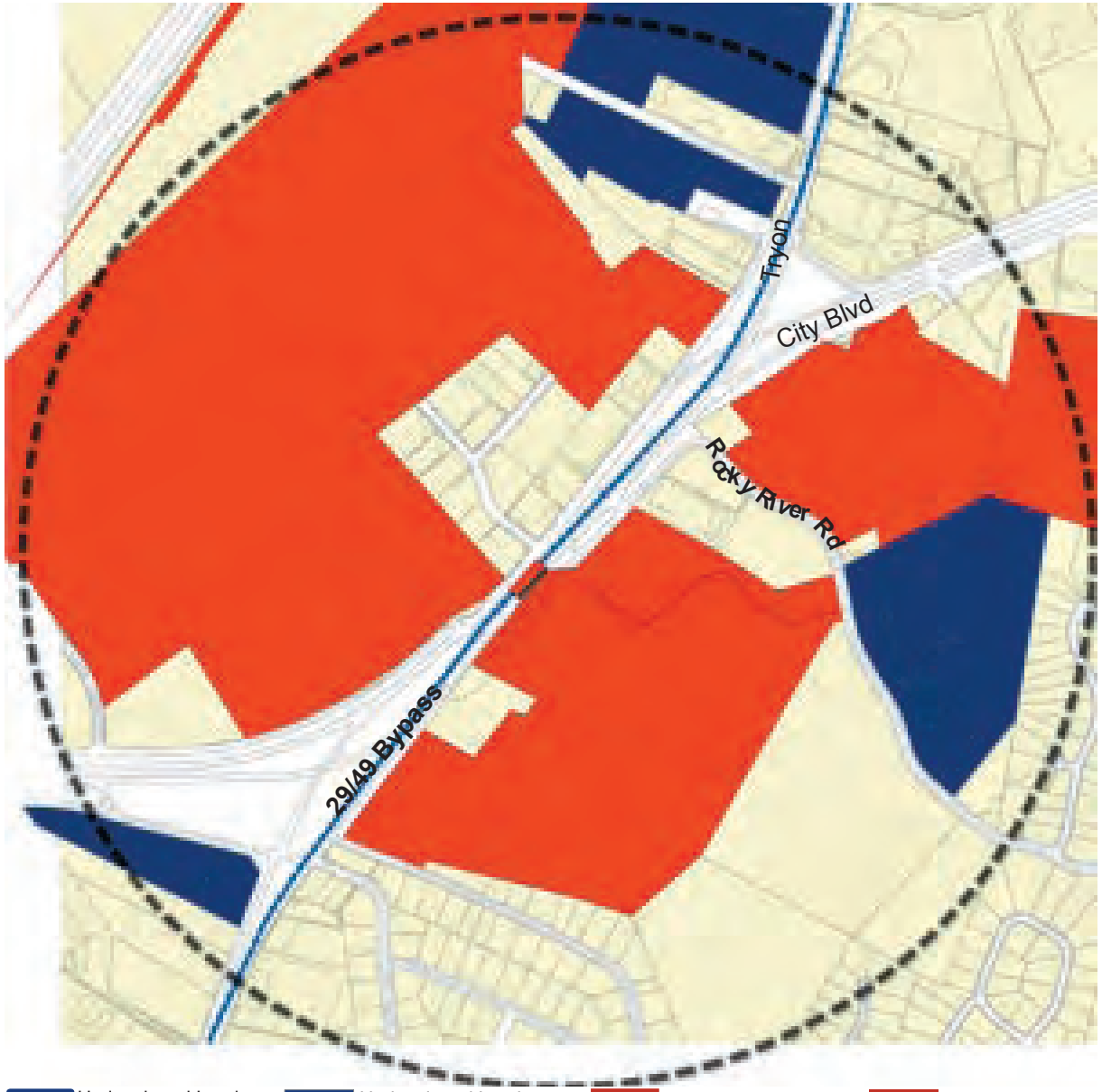
Eastway Station: Option 1	
Level of Opportunity	
Office	**2**
Flex Office	**3**
Regional Retail	**1**
Neighborhood Retail	**3**
Rental Residential	**3**
For Sale Residential)	**3**
Timing	**Mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**303**
Vacant Land	
Acres (1+ Acres)	**104**
Acres (5+ Acres)	**56**
Underutilized Land	
Acres (1+ Acres)	**60**
Acres (5+ Acres)	**110**



Eastway Station: Option 2	
Level of Opportunity	
Office	**2**
Flex Office	**3**
Regional Retail	**1**
Neighborhood Retail	**3**
Rental Residential	**3**
For Sale Residential)	**3**
Timing	**Mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**303**
Vacant Land	
Acres (1+ Acres)	**104**
Acres (5+ Acres)	**70**
Underutilized Land	
Acres (1+ Acres)	**60**
Acres (5+ Acres)	**124**



	Tom Hunter Station
Level of Opportunity	
Office	**2**
Flex Office	**3**
Regional Retail	**1**
Neighborhood Retail	**2**
Rental Residential	**2**
For Sale Residential)	**1**
Timing	**Mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**337**
Vacant Land	
Acres (1+ Acres)	**115**
Acres (5+ Acres)	**73**
Underutilized Land	
Acres (1+ Acres)	**34**
Acres (5+ Acres)	**20**



	Rocky River Station*
Level of Opportunity	
Office	**4**
Flex Office	**4**
Regional Retail	**3**
Neighborhood Retail	**4**
Rental Residential	**5**
For Sale Residential)	**4**
Timing	**Mid-long**
Amount of Opportunity	
Transit Supportive Development	
Acres	**255**
Vacant Land	
Acres (1+ Acres)	**N/A**
Acres (5+ Acres)	**392**
Underutilized Land	
Acres (1+ Acres)	**N/A**
Acres (5+ Acres)	**55**

Undeveloped Land (5+ Acres)

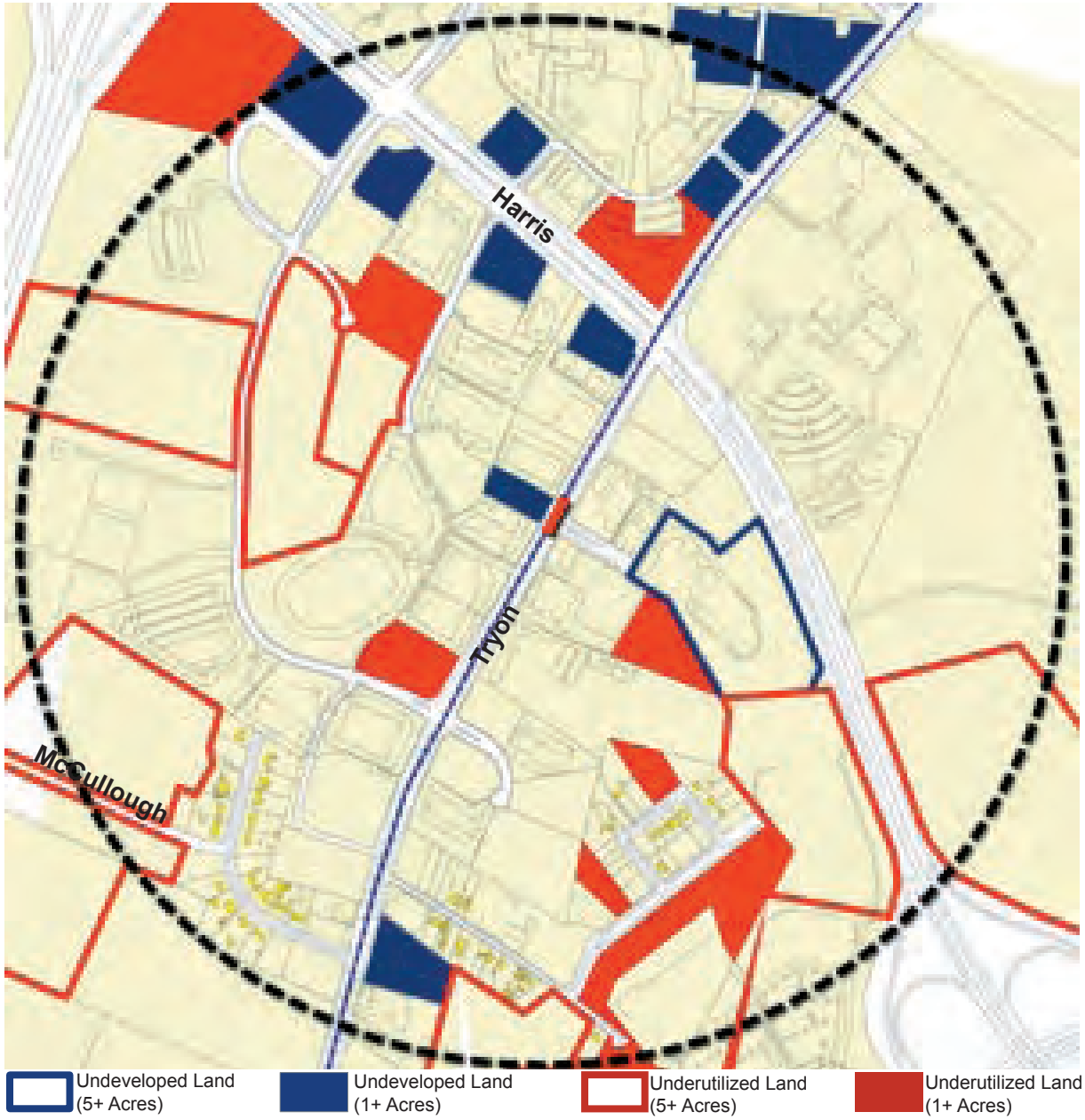
Undeveloped Land (1+ Acres)

Underutilized Land (5+ Acres)

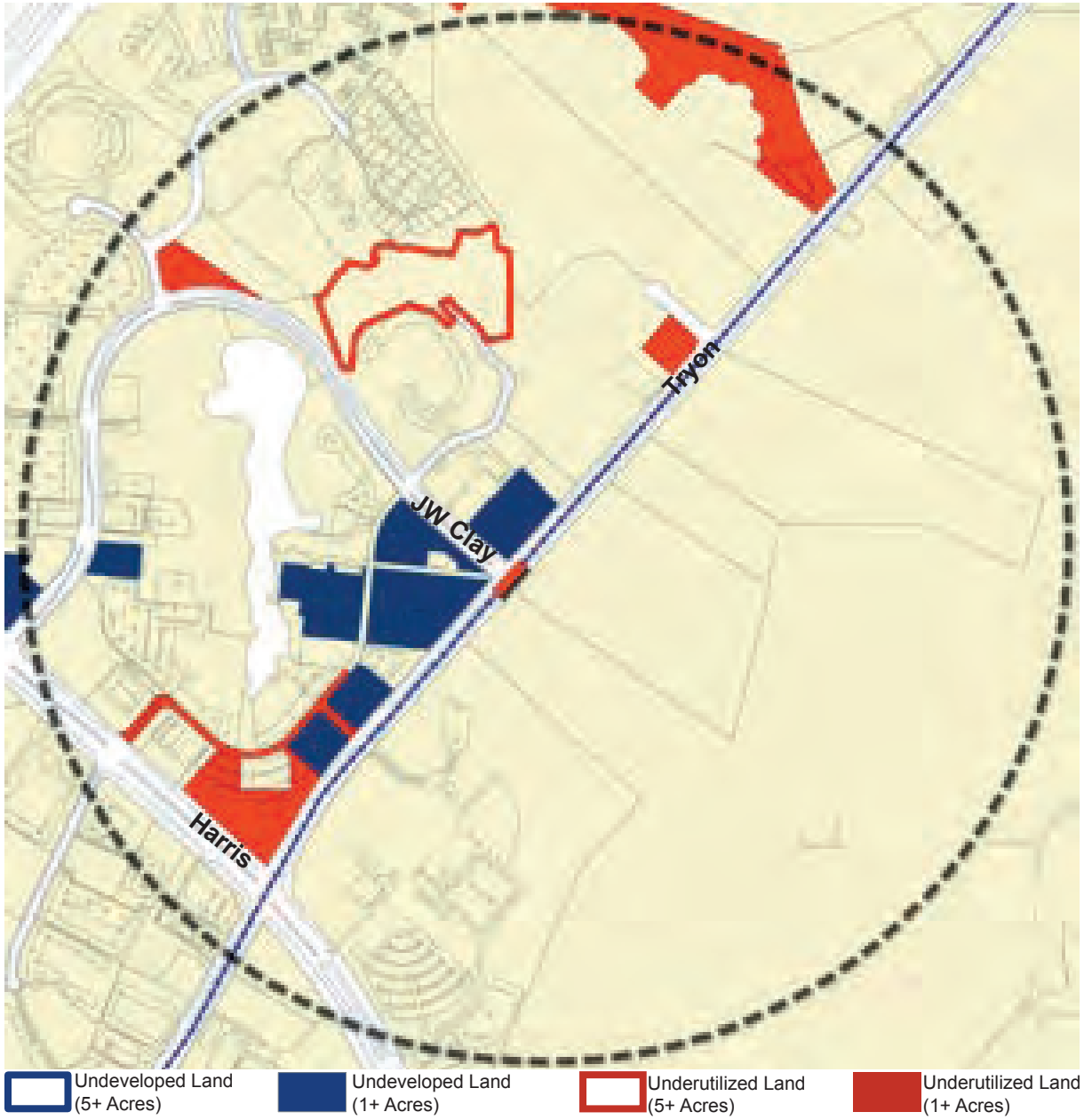
Underutilized Land (1+ Acres)

** Pending Final Design of US 29/49 Weave Solution*

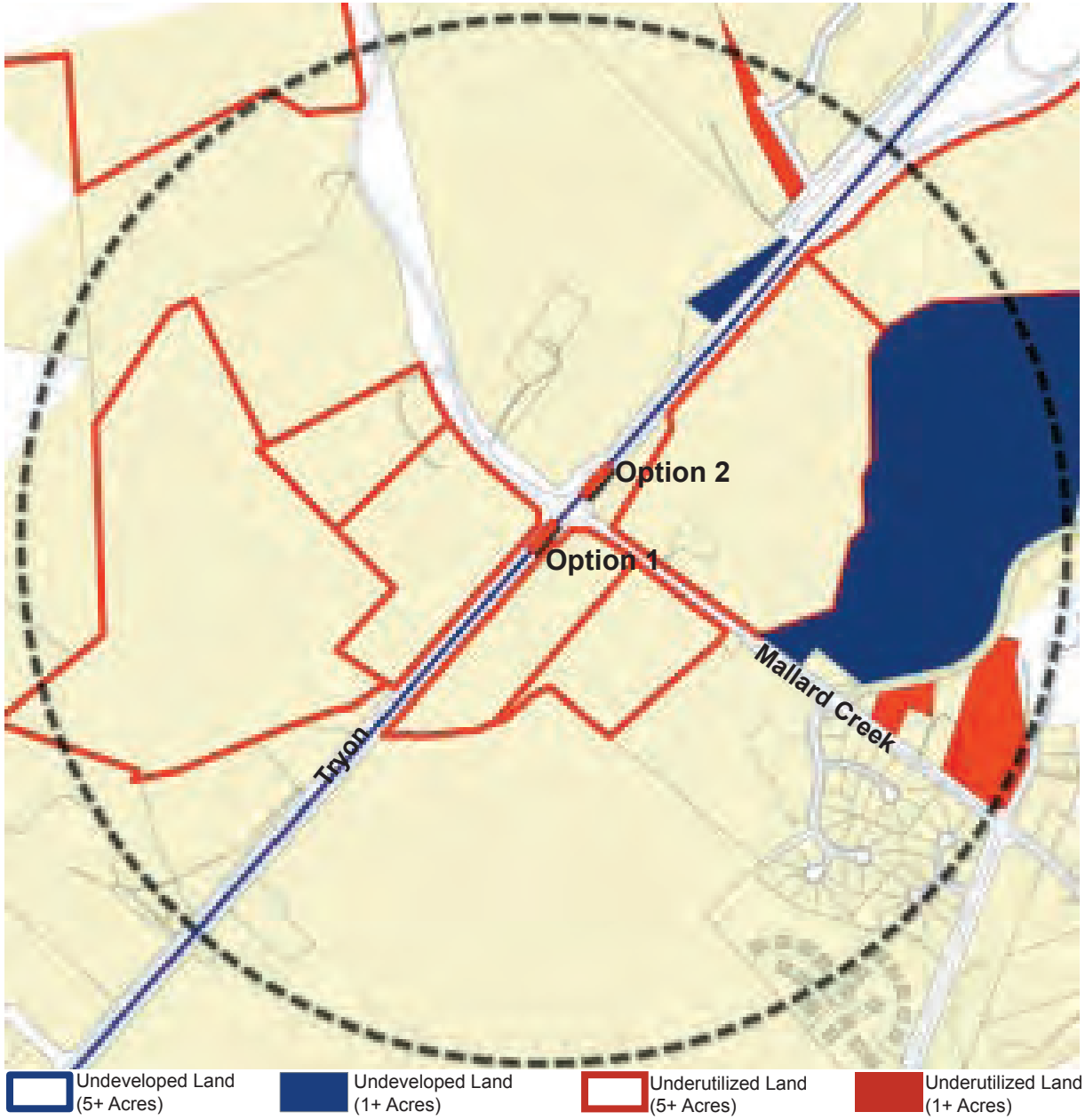
	City Blvd. Station
Level of Opportunity	
Office	**4**
Flex Office	**4**
Regional Retail	**3**
Neighborhood Retail	**4**
Rental Residential	**5**
For Sale Residential)	**3**
Timing	**Mid-long**
Amount of Opportunity	
Transit Supportive Development	
Acres	**252**
Vacant Land	
Acres (1+ Acres)	**N/A**
Acres (5+ Acres)	**282**
Underutilized Land	
Acres (1+ Acres)	**N/A**
Acres (5+ Acres)	**45**



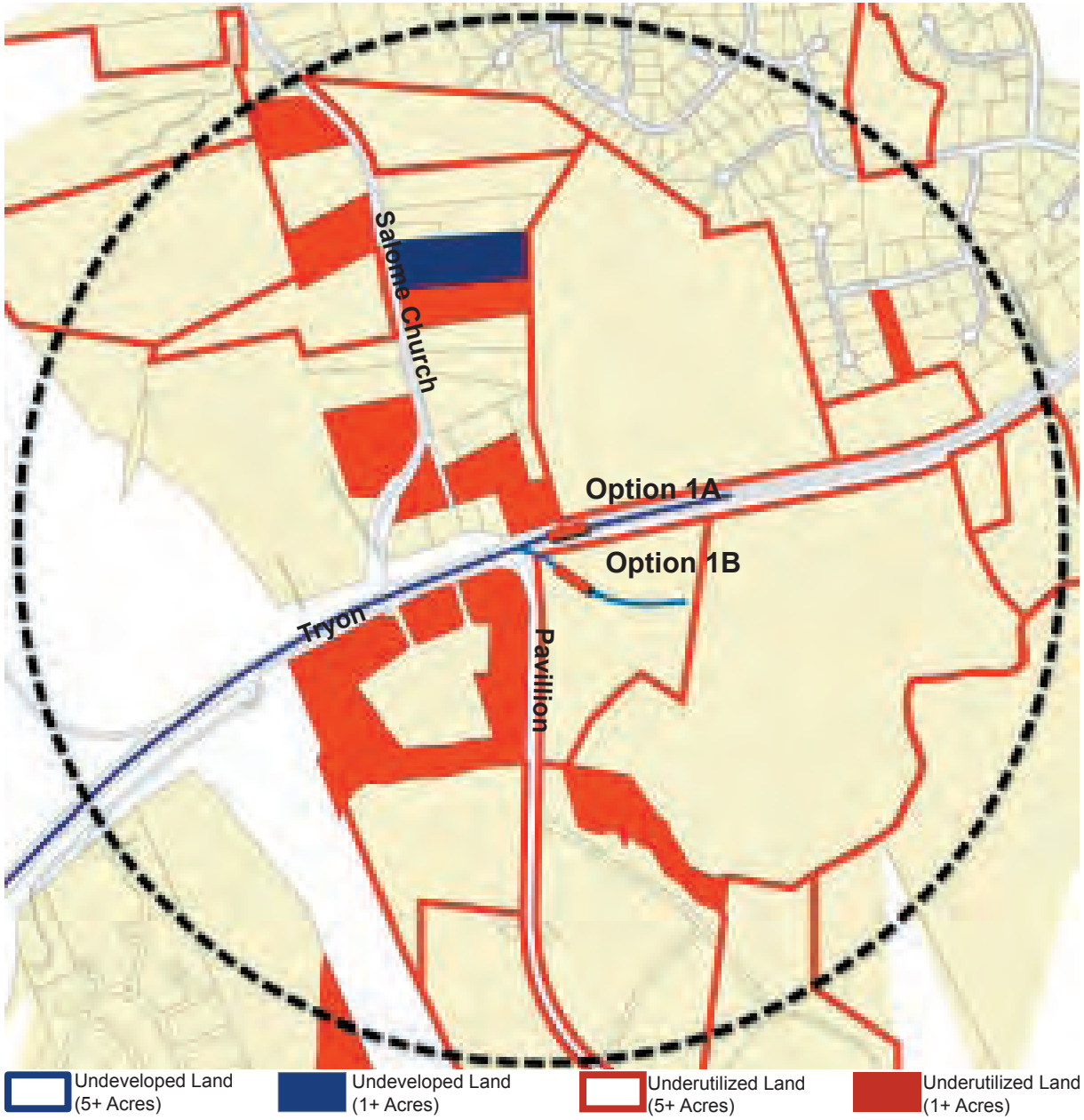
	Harris Station
Level of Opportunity	
Office	**4**
Flex Office	**4**
Regional Retail	**4**
Neighborhood Retail	**2**
Rental Residential	**4**
For Sale Residential)	**3**
Timing	**Short**
Amount of Opportunity	
Transit Supportive Development	
Acres	**329**
Vacant Land	
Acres (1+ Acres)	**N/A**
Acres (5+ Acres)	**229**
Underutilized Land	
Acres (1+ Acres)	**N/A**
Acres (5+ Acres)	**12**



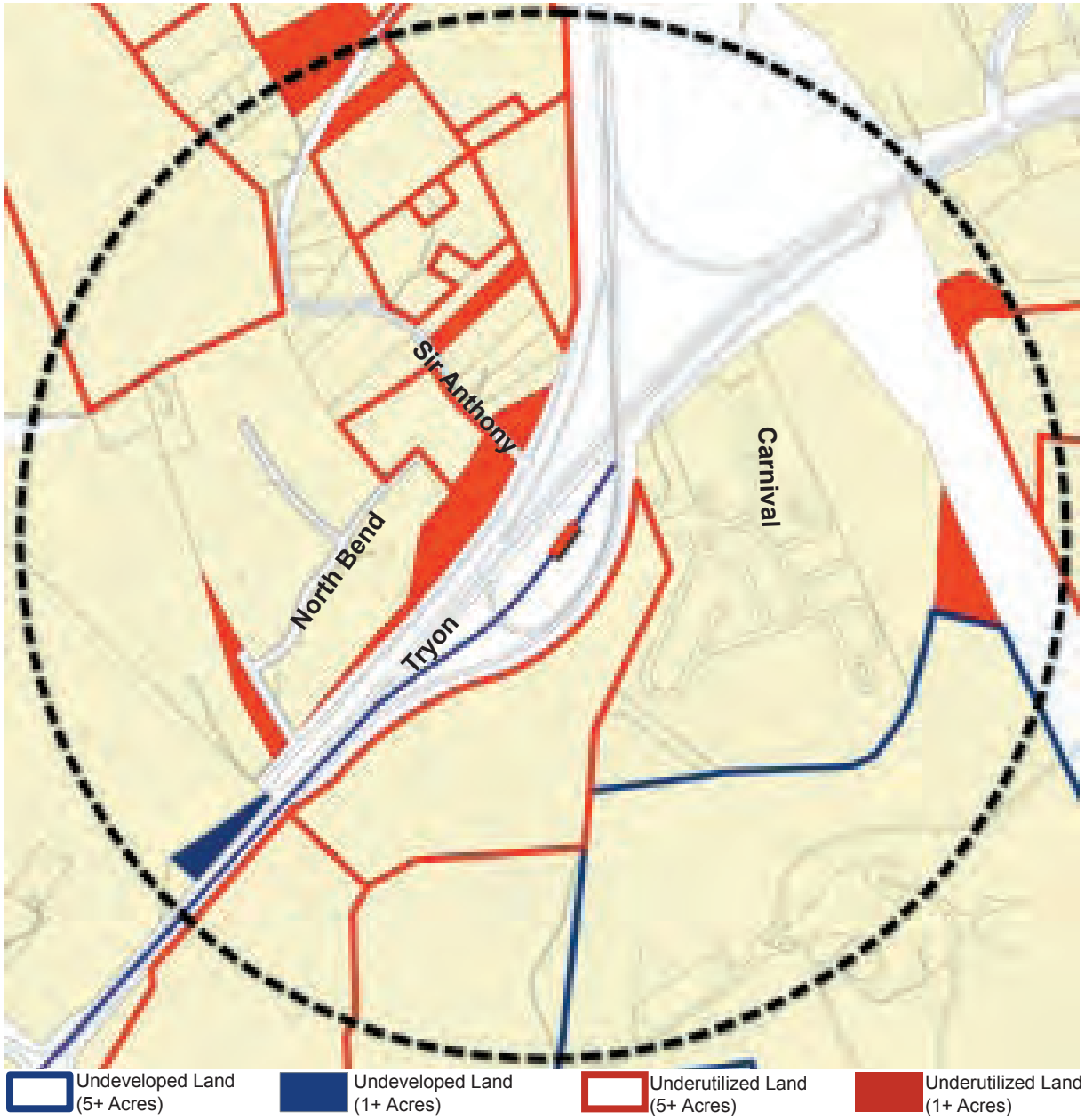
	UNCC Station
Level of Opportunity	
Office	**3**
Flex Office	**1**
Regional Retail	**3**
Neighborhood Retail	**3**
Rental Residential	**4**
For Sale Residential)	**3**
Timing	**Mid-**
Amount of Opportunity	
Transit Supportive Development	
Acres	**218**
Vacant Land	
Acres (1+ Acres)	**88**
Acres (5+ Acres)	**78**
Underutilized Land	
Acres (1+ Acres)	**26**
Acres (5+ Acres)	**0**



Mallard Creek Station (Opt. 1 & 2)	
Level of Opportunity	
Office	**3**
Flex Office	**2**
Regional Retail	**3**
Neighborhood Retail	**4**
Rental Residential	**5**
For Sale Residential)	**5**
Timing	**Short-mid**
Amount of Opportunity	
Transit Supportive Development	
Acres	**154**
Vacant Land	
Acres (1+ Acres)	**362**
Acres (5+ Acres)	**347**
Underutilized Land	
Acres (1+ Acres)	**261**
Acres (5+ Acres)	**259**



Salome Church Station: Option 1 (Opt 1A & 1B)	
Level of Opportunity	
Office	**3**
Flex Office	**3**
Regional Retail	**3**
Neighborhood Retail	**4**
Rental Residential	**5**
For Sale Residential)	**5**
Timing	**Mid-long**
Amount of Opportunity	
Transit Supportive Development	
Acres	**157**
Vacant Land	
Acres (1+ Acres)	**378**
Acres (5+ Acres)	**372**
Underutilized Land	
Acres (1+ Acres)	**4**
Acres (5+ Acres)	**0**



Salome Church Station: Option 2	
Level of Opportunity	
Office	**3**
Flex Office	**4**
Regional Retail	**3**
Neighborhood Retail	**3**
Rental Residential	**3**
For Sale Residential)	**3**
Timing	**Mid-long**
Amount of Opportunity	
Transit Supportive Development	
Acres	**157**
Vacant Land	
Acres (1+ Acres)	**378**
Acres (5+ Acres)	**265**
Underutilized Land	
Acres (1+ Acres)	**4**
Acres (5+ Acres)	**259**

Part 3: Station Area Statistical Baseline Analysis

Transit Supportive Measure

Station Area Statistical Baseline Analysis

Station	Land Use & Development	Mobility	Community Design
9th Street	High	High	High
16th Street	Medium	Medium	Low
27th Street *(Future station)*	Low	Low	Low
36th Street	High	High	High
Sugar Creek Opt. 1	Medium	Medium	Low
Sugar Creek Opt. 2	Medium	Medium	Low
Eastway Opt. 1	Medium	Medium	Low
Eastway Opt. 2	Medium	Medium	Low
Tom Hunter	Medium	Medium	Low
Rocky River	Low	Low	Low
City Blvd *(Pending final design of US29/NC49 Weave Solution)*	Medium	Low	Low
Harris	High	Low	Low
UNCC	Medium	Low	Low
Mallard Creek (Opt 1 &2)	Low	Low	Low
Salome Church Opt. 1A &1B	Low	Low	Low
Salome Church Opt. 2	Low	Low	Low

Transit Supportive Measure

The purpose of the Transit Supportive measure is to evaluate each existing area's station consistency with the City of Charlotte's adopted transit-supportive principles. These principles are organized into three categories; land use & development, mobility, and community design. Each station area was given a high, medium, or low rating based on the area's existing consistency with the principles. The principles are:

On Land Use & Development

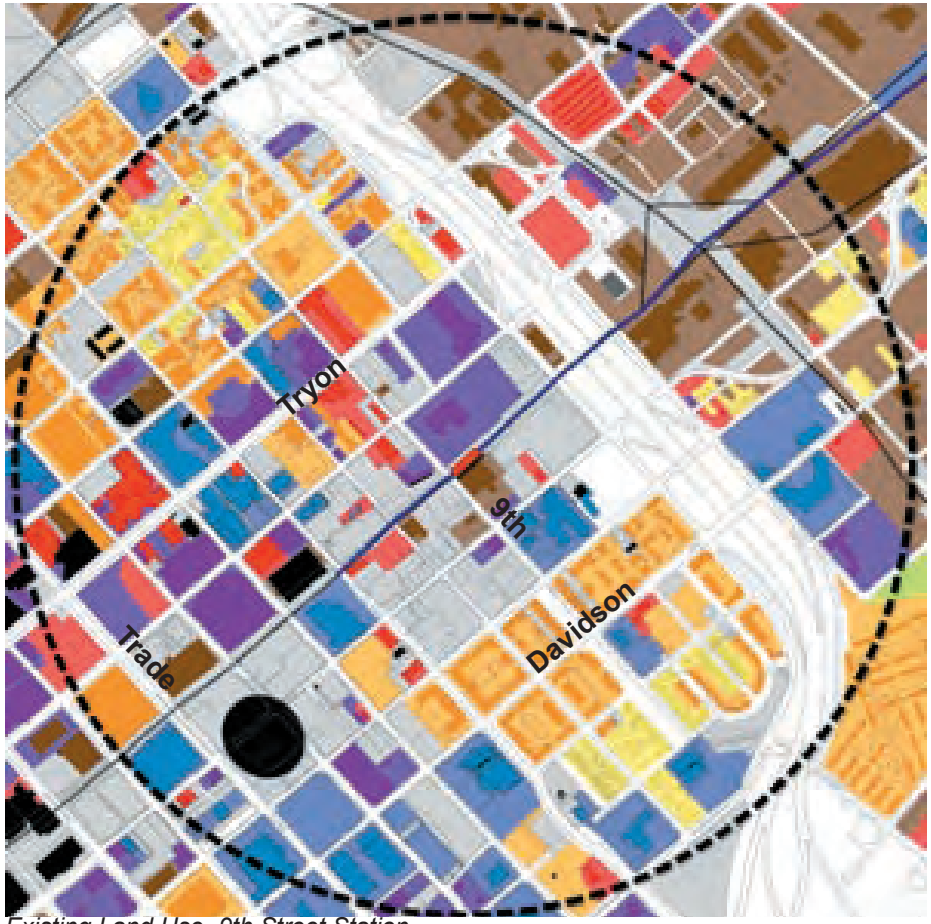
Concentrate a mix of complementary, well-integrated land uses within walking distance of the transit station.

On Mobility

Enhance the existing transportation network to promote good walking, bicycle and transit connections.

On Community Design

Use urban design to enhance the community identity identity of station areas and to make them attractive, safe and convenient places.



Existing Land Use- 9th Street Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
9th Street	High	High	High

Existing Land Use- 16th Street Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
16th Street	Medium	Medium	Low

Existing Land Use- 27th Street Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
27th Street*	Low	Low	Low

**Future Station*

Existing Land Use- 36th Street Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

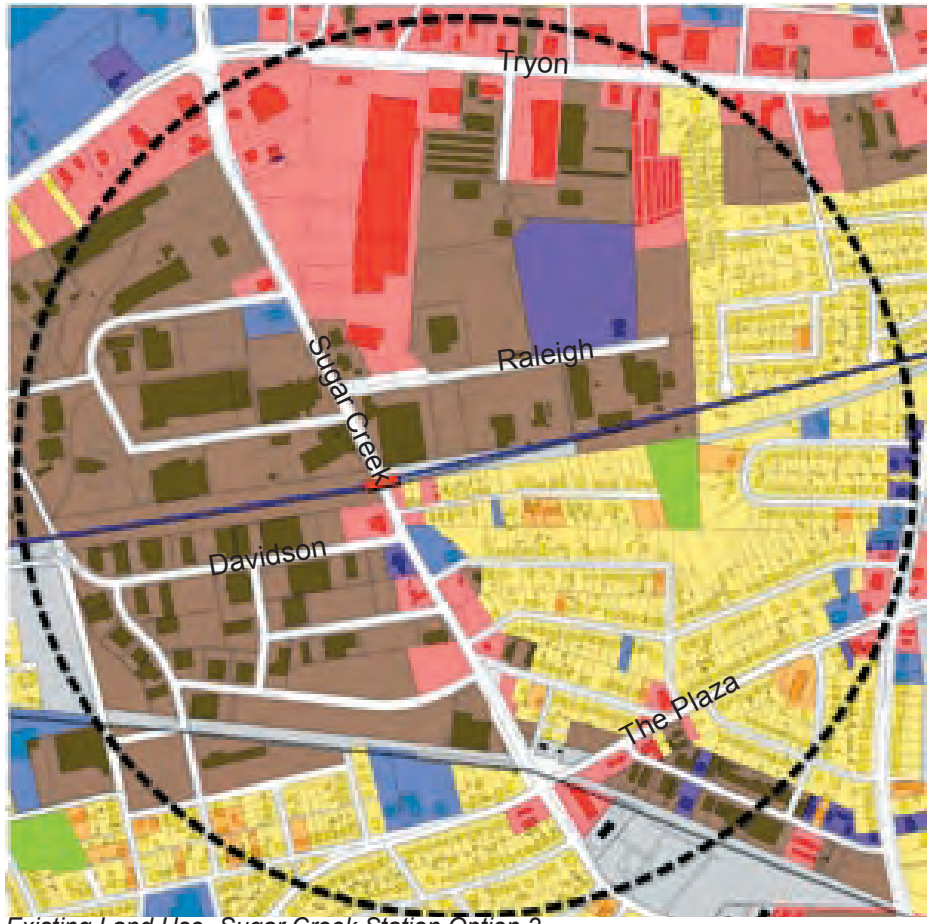
Station	Land Use & Development	Mobility	Community Design
36th Street	High	High	High

Existing Land Use- Sugar Creek Station Option 1

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Sugar Creek (Opt. 1)	Medium	Medium	Low

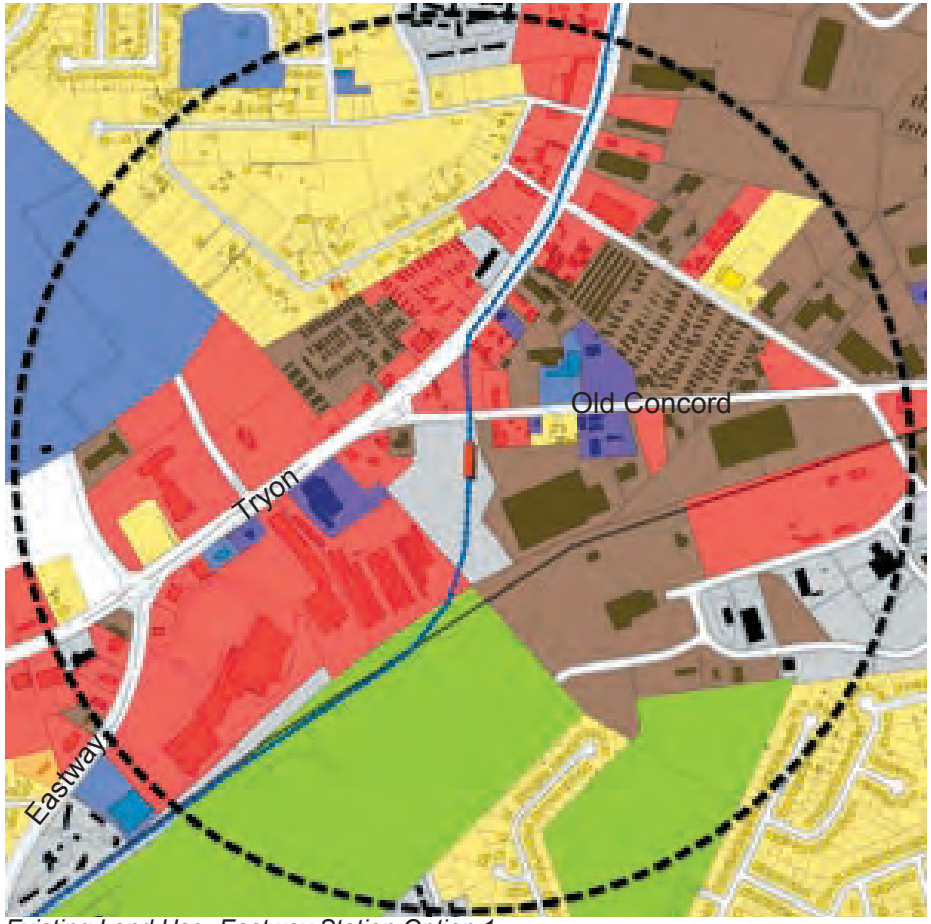


Existing Land Use- Sugar Creek Station Option 2

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Sugar Creek Opt. 2	Medium	Medium	Low



Existing Land Use- Eastway Station Option 1

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

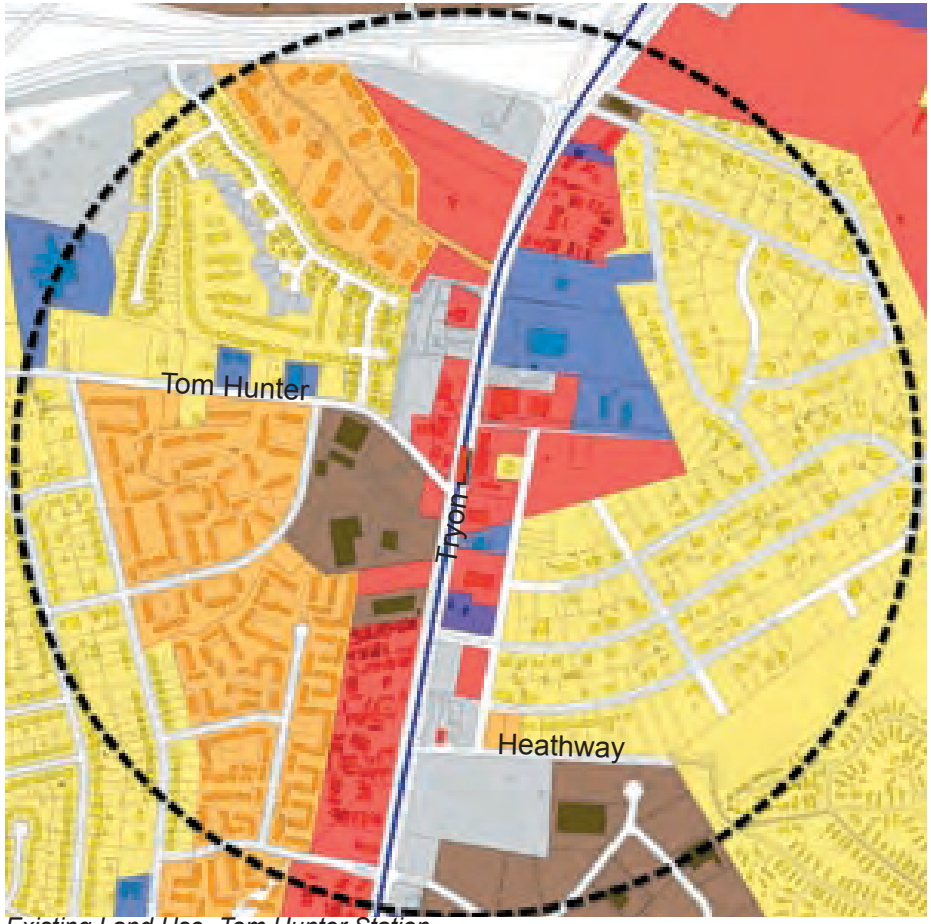
Station	Land Use & Development	Mobility	Community Design
Eastway Opt. 1	Medium	Medium	Low

Existing Land Use- Eastway Station Option 2

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Eastway Opt. 2	Medium	Medium	Low



Existing Land Use- Tom Hunter Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Tom Hunter	Medium	Medium	Low

Existing Land Use- Rocky River Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Rocky River	Low	Low	Low

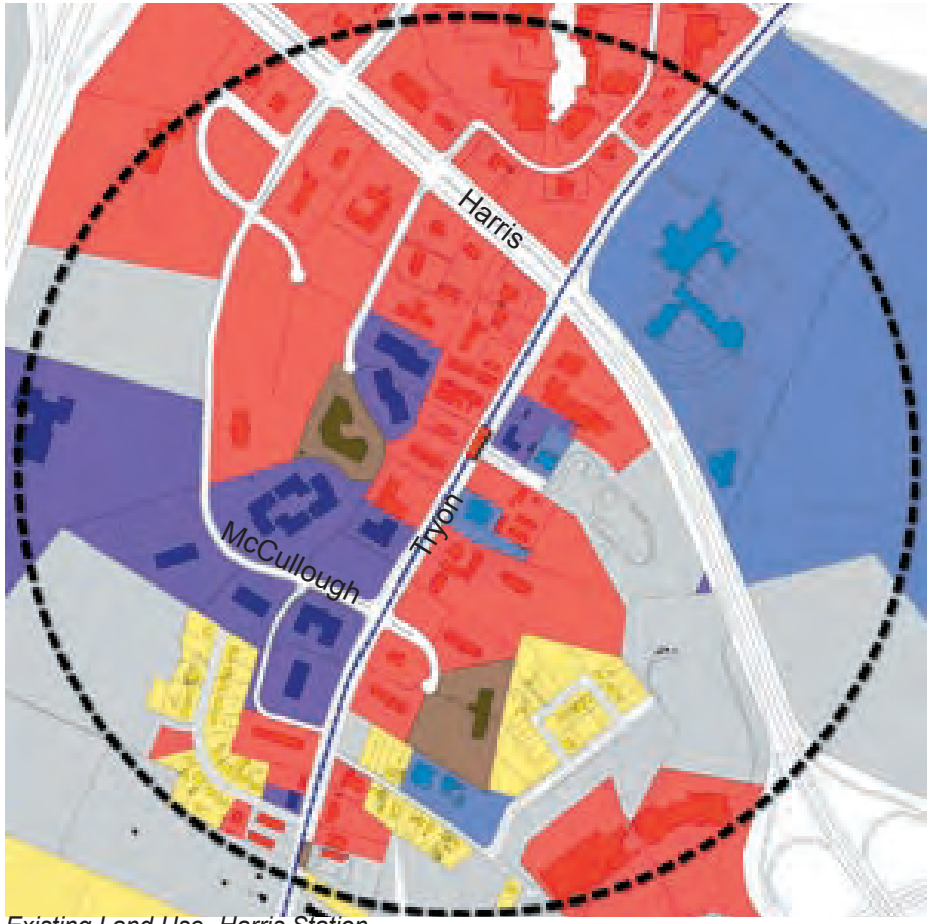
**Pending Final Design of US29/49 Weave Solution*

Existing Land Use- City Blvd. Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
City Blvd.	Medium	Low	Low

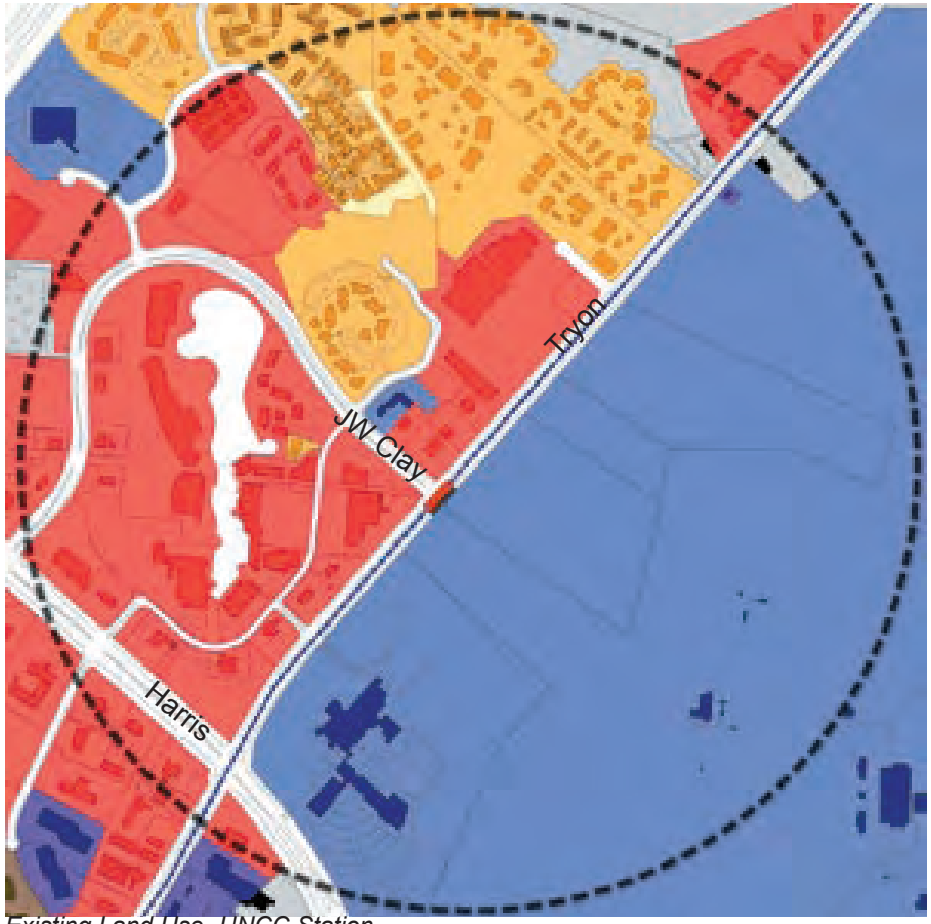


Existing Land Use- Harris Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Harris	High	Low	Low



Existing Land Use- UNCC Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

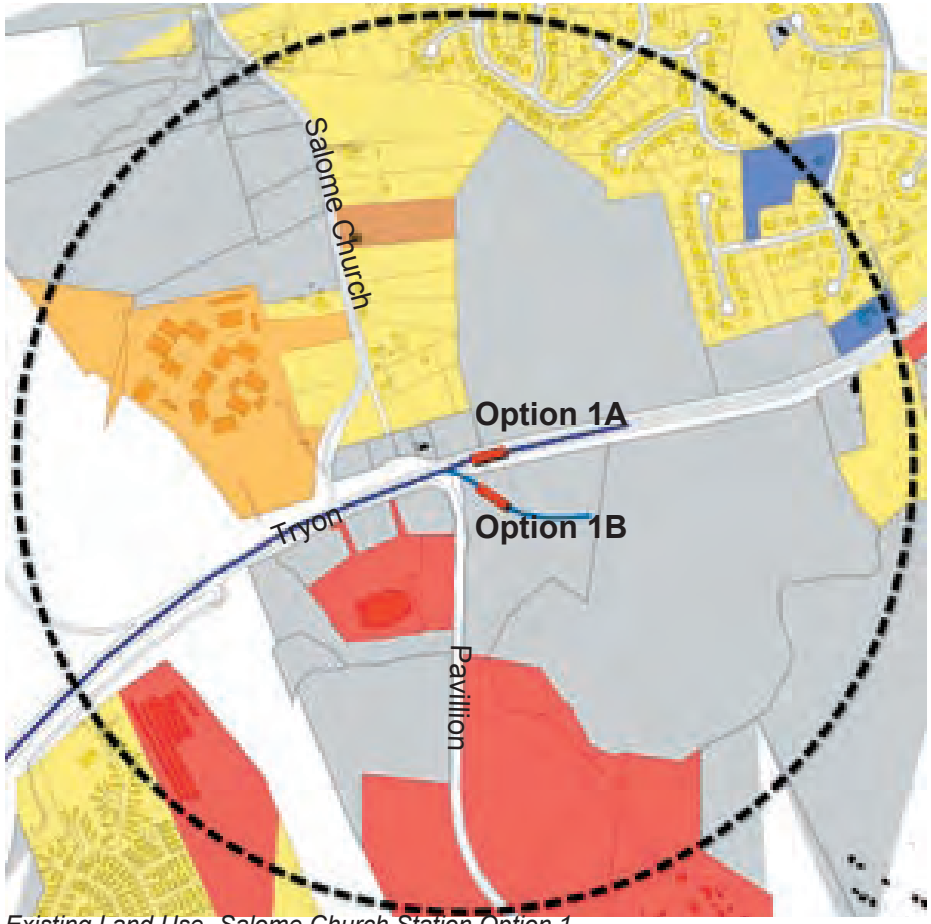
Station	Land Use & Development	Mobility	Community Design
UNCC	Medium	Low	Low

Existing Land Use- Mallard Creek Station

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Mallard Creek Opt.1 & 2	Low	Low	Low



Existing Land Use- Salome Church Station Option 1

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Salome Church Opt. 1A & 1B	Low	Low	Low

Existing Land Use- Salome Church Station Option 2

Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial/Mixed Use
- Civic/Institutional
- Office
- Industrial
- Vacant
- Public Open Space

Station	Land Use & Development	Mobility	Community Design
Salome Church Opt. 2	Low	Low	Low

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Appendix B: Results of Case Study Analysis: Other Campuses Served by Transit

Appendix C: Results of Stakeholder Interviews, Glatting Jackson

Appendix D: Charrette Group A's Alignment Drawings and Notes

Appendix E: Charrette Group B's Alignment Drawings and Notes

Appendix F: Evaluation Matrix, Workshop #2

Appendix G: Meeting Agenda and Lists of Attendees, Workshop #2

Appendix H: Descriptions and Engineering Sketches of Alignments, Meeting Notes, Charrette #2

Appendix I: Notes, List of Attendees, Charrette #2

Appendix J: Results, Survey of University Community

Appendix K: Green and Yellow Alignments

Appendix L: Order of Magnitude Engineering Cost Estimates

CATS wishes to extend its gratitude for the contributions of all those who participated:

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Introduction

The Charlotte Area Transit System (CATS) is planning for future light rail service along North Tryon Street, called the Charlotte Northeast Corridor Light Rail Project (NECLRP). This transit line is envisioned to provide access to University City and the University of North Carolina, Charlotte (UNC-Charlotte) campus, in addition to other communities through which it would pass. In review of a current design under consideration within the past year, interest on the part of the UNC-Charlotte administration and comments from the larger Charlotte community voiced in public meetings have encouraged CATS to examine alternative alignments that may provide more direct service to UNC-Charlotte.

CATS initiated a data-gathering, alternative generation, and evaluation process to decide which, if any, alternative alignment to the current design that improves service to UNC-Charlotte and the University City area should be part of the Draft Environmental Impact Statement (Draft EIS) and its analysis. This decision will be made by the end of June, 2006.

This examination of UNC-Charlotte alignment alternatives takes place in parallel to the production of the Draft EIS for the current design and is expected to be completed this fall. The Draft EIS will document the design of the proposed rail line and its potential impacts to communities and the natural environment. It is required by the Federal Transit Administration in order to secure federal funding for the design and construction of the project.

The data-gathering, alternative generation, and evaluation process was envisioned with the following milestones:

- An initial charrette held February 23, 2006, that teamed UNC-Charlotte administration and staff with City of Charlotte staff, including CATS staff and technical consultants, to generate a range of alignment alternatives for investigation;
- A three-week work effort by CATS technical consultants to generate engineering and environmental data on the alternatives, to inform an evaluation process;
- A second, follow-up charrette held March 29, 2006, at which results of the three-week effort were presented, and participants evaluated alternatives; and,
- A third forum organized by the University and held April 6, 2006, as an opportunity for the University community to view and comment on the alternatives and their evaluation, together with an electronic survey distributed via email and its results.

A charrette workshop structure was chosen to initiate the process to forge a working relationship between the University and CATS and its sister agencies, to go back to a framework without preconceived notions to the extent possible, and to suspend judgment in order to identify many alternatives in a short time.

Kick-off and Charrette #1: Alignments

Kick-off Meeting, February 22, 2006, 1:00 p.m. to 2:30 p.m.
(Appendix A includes the agenda and the list of attendees.)

Hosted by the Chancellor of the University and the leadership of the CATS Northeast Corridor project, representatives from each organization invited to participate in the charrette attended and were provided an overview of the process for the following workshop day and upcoming weeks of study. Discussion included presentations on the University's master plan and upcoming master plan update, summary of information gathered in recent stakeholder interviews, and case studies of other campuses served by light rail transit.

Charrette #1: Alignments, February 23, 2006, 9 a.m. to 5 p.m.
(Appendix A includes the agenda and the list of attendees.)

For approximately an hour and in an informal format, charrette participants were presented an overview of data to consider in their investigation of alignments that might serve the University and University City. Data included:

- Engineering and environmental constraints:
    - Storm Water Improvement & Management (SWIM) Stream Buffers, Mecklenburg County;
    - 100-year floodplain surrounding Toby and Little Mallard creeks;
    - Toby Creek Greenway, planned extension and connecting open space easement from North Tryon Street, Mecklenburg County Parks Department;
    - Little Mallard Creek Greenway and planned extension, Mecklenburg County Parks Department;
    - Public parks and recreation areas, and,
    - Light rail engineering and operations requirements (grades, curvatures).

- Case study analysis: other campuses served by transit

  A number of university campuses are served by light rail and heavy rail transit across North America. As part of the UNC-Charlotte charrette, seven examples were chosen as case study comparables to draw some observations and lessons as to how transit can serve a University. These case study examples were chosen based on rough similarities that they may have with UNC-Charlotte's setting, student population size, campus size, and distance from the city core.

The seven universities examined were:

- University of Utah, Salt Lake City, UT;
- Auraria Campus, Denver, CO;
- University of Missouri, St. Louis, MO;
- San Diego State University, San Diego, CA;
- University of Washington, Seattle, WA (Proposed station);
- University of Miami, Coral Gables, FL (Heavy rail); and,
- Illinois Institute of Technology, Chicago, IL (Heavy rail).

The following are the observations and trends drawn from the case study examples:

- The student union and campus athletic facilities are often within walking distance of a transit station;
- Some have multiple stations;
- Alignment is around perimeter of campus;
- Some have site challenges similar to those at UNC-Charlotte; and,
- Campuses are typically served by shuttle service.

A more detailed description of case study findings and illustrations may be found in Appendix B.

- Results of stakeholder interviews, Glatting Jackson

On February 15 and 16, Glatting Jackson interviewed the stakeholders around the University City/ UNC-Charlotte (University) area. The interviews were conducted to get an initial understanding of the issues and opportunities related to alternative Northeast Corridor Light Rail alignments that could more directly serve the University. The following were the stakeholders interviewed:

- University City Partners (UCP);
- Carolinas Medical Center-University;
- UNC-Charlotte staff and student body representatives;
- CASTO (Shoppes at University Place);
- Public Library of Charlotte and Mecklenburg County;
- County Parks and Recreation;
- Charlotte Department of Transportation (CDOT);
- CATS;
- Charlotte-Mecklenburg Planning Commission (CMPC); and,
- Charlotte-Mecklenburg Economic Development Office (EDO).

A more detailed and illustrated summary of the results of the interviews is in Appendix C. The following are the key goals or objectives that were voiced in the interviews:

- Serve major activity centers with transit;
- Contribute to University City's civic core with transit service;
- Evaluate premium transit service (easily accessible and few transfers) to UNC-Charlotte;
- Realize increased economic development potential through an optimized alignment;
- Demonstrate increased transit ridership through an optimized alignment;
- Consider environmental constraints and costs to overcome constraints
- Protect and preserve existing environmental features; and,
- Improve pedestrian and roadway network.

- Process and methods for the working session

After this information was presented, participants separated into two groups, with a facilitator, scribe, and designer/artist assigned to each. Both groups spent over two hours brainstorming alternatives. Following that effort, several people left for a few hours while remaining participants continued work to document and prioritize the resulting alignment concepts for further study. For three hours each group developed additional information, investigated variations, and drew early conclusions utilizing a matrix of goals for transit service in the area. The larger group then reconvened for one hour in the late afternoon to discuss the products of the day, each groups' alternatives and priorities for moving ahead, and next steps for the upcoming work effort.

Charrette Process and Results

Group A

(Notes, alignment drawings, and evaluation worksheets represented in Appendix D)

This group's process began by quickly drawing a wide range of alignment alternatives on one page – the "long list" of alternatives. The group discussed these alternatives relative to area goals and potential fatal flaws. Some alternatives were determined to be either clearly inferior or minor variations of other proposed alternatives. The more promising alternatives were compiled into a "short list" of alternatives which would be subjected to more detailed evaluation. Each alternative on the short list was then drawn on a separate sheet and, using the evaluation matrix as a tool, alternatives were prioritized based on the positive features each might contribute.

Group A summarized their main conclusions as follows:

- There are several "cores" of activity (future and existing) that would benefit from direct transit service: (1) the area south of the North Tryon/Harris intersection near Ken Hoffman Drive; (2) the

area north of the North Tryon/Harris intersection near J.W. Clay Boulevard; (3) the campus core near the proposed new student union; and (4) a potential redevelopment area north of Mallard Creek Church Road on UNC-Charlotte property.

- The main trade-offs between alternatives are a function of how directly each alternative serves these activity centers, the number of environmental constraints, and how the alternative reaches the end-of-line station.
- Alternatives that included a station near J.W. Clay Boulevard were rated more highly because they would provide service to key destinations, including University Memorial Hospital, the University Research Institute, the Shoppes at University Place, and the University's proposed "urban village center" near North Tryon and the existing UNC-Charlotte fitness trails.
- Alternatives that included a station on the University campus were also rated highly, because they would provide the best connectivity for University faculty, staff, students, and visitors. Alternatives with a station near the new student union location were rated more highly than alternatives with a station further north along the campus perimeter because the student union location would be within easy walking distance of both academic buildings and student housing.
- Alternatives that exited the campus near Mary Alexander Road were rated highly because in addition to providing direct campus service, these alternatives would provide a direct connection to a potential University expansion area. These alternatives would require re-evaluation of the end-of-line station. Ridership analysis may show that an end-of-line station along Mallard Creek Church Road near Mary Alexander Road would have benefits relative to an end-of-line station along North Tryon.
- Based on the evaluation of the short list of alternatives, three alignments that provide direct service to the University were selected to be evaluated in more detail (Orange North, Orange South, and Light Green). All three alignments run along North Tryon up to J.W. Clay and continue along the western perimeter of the University (along Cameron Boulevard.). Station location options are indicated on each of the concept diagrams.

Group B

(Notes, alignments drawings and evaluation worksheets represented in Appendix E)

This group's process included:

- Developing a shared understanding of the context – University existing and future development, University City existing and future development, centers of activity – by creating an analysis graphic base;
- Working through the morning talking through a wide range of alternatives, their opportunities and challenges, in very rough format; then,
- Working through the afternoon to document the most promising alignments and thinking, concluding with a discussion to prioritize the options.

The alternatives that evolved are as follows:

#1 – Connection to Campus

Considerations included:

- Alternatives which eliminated a UNC-Charlotte station were discounted, because it was felt that station was essential to serve uses west of North Tryon Street.
- The best option for leaving the median of North Tryon Street was agreed to be near the intersection with J.W. Clay Boulevard, to control traffic crossing the tracks while not requiring a grade-separated crossing.
- A range of on-campus station locations were examined:
    - Several near the Charlotte Research Institute, or between there and Cameron Boulevard near Craver Road at the edge of the core UNC-Charlotte campus, were thought to not sufficiently serve either the core campus or University City development.
    - One location, where Cameron Boulevard turns east adjacent to an area slated for new student residences, seemed like a promising location to capture student ridership.
    - Station locations in the campus core (on Craver Road or similar) would bring rail vehicles through campus and that was thought to be too divisive.
    - The best station location was thought to be along northbound Cameron Boulevard near the Craver Road intersection, with the potential for capture of and service to students (commuting and non-commuting), faculty and visitors.
- Exiting the campus, several ideas were considered.
    - An alignment along Mary Alexander Road was thought to diminish the potential for effective park-and-ride near I-485.
    - A range of ways to return to North Tryon were developed, with the most promising following the edge of the floodplain and minimizing floodplain and stream crossings to the extent possible. The most promising actually may reduce proximity and affects to water resources in the area just south of Mallard Creek Church Road over the current design.
- The resolution of the re-entry to the North Tryon Street corridor was left as a separate decision. It was recognized that much of the decision-making would rely on ridership analysis not yet complete, and whether such analysis might show that a Mallard Creek Church Road station would have few boardings. It was also recognized that a crossing back into the roadway median may require an aerial structure and may include substantial impacts. A promising idea is for the alignment to remain along the east edge of North Tryon Street, connecting to state-owned land just south of the US-29/I-485 interchange that is a promising location for park-and-ride.

#2 – East Side, North Tryon

Considerations included:

- The best option for leaving the median of North Tryon Street was agreed to be near the intersection with Harris Boulevard, with a grade-separated crossing.
- The UNC-Charlotte Station location at J. W. Clay Boulevard remains as in the current design, east of the roadway rather than in the median.
- Driveways to land uses east of North Tryon Street would be impacted by grade crossings, including at the Charlotte Research Institute.
- Continuing north from the Research Institute along the east edge of North Tryon Street, several ideas were considered.
    - Retaining the Mallard Creek Church Road Station location would require two grade-separated crossings of Little Mallard Creek and the associated floodplain, and possibly would generate modest or little ridership.
    - The group chose to represent the alignment staying east of the roadway, connecting to state-owned land just north of Mallard Creek Church Road that may be a good location for a park-and-ride.

#3 – Alternative Crossings of Harris

Considerations included:

- Utilizing an alignment that shifts well east of North Tryon Street south of the current design's Harris Station location, in order to bring the alignment near the UNC-Charlotte core campus to create a station.
- This solution eliminates the possibility of a Harris Station and service to the ample University City development south of Harris Boulevard; this was seen as a substantial shortcoming.
- Departing from the median in North Tryon via an elevated structure, the alignment would continue along a utility easement to Harris Boulevard.
- At Harris Boulevard, a grade separated crossing just west of the Public Library allows traffic to continue unobstructed.
- Once across Harris Boulevard, the group considered three alternatives:
    - One in which the alignment veers west towards North Tryon after coming back to grade, allowing for a UNC-Charlotte station north of the intersection within the campus of the Charlotte Research Institute; a station south of the intersection would be preferred but seems to push the engineering constraints too much. This option would maintain good service for uses across North Tryon and the Research Institute.
    - The second, in which the alignment more gradually veers back towards North Tryon Road and

allows for a station at the edge of the Charlotte Research Institute campus, with impacts to future development there but also the advantage of immediate transit service for the Institute.

- The third and preferred option had the alignment continuing directly from Harris Boulevard and skirting the edge of the Research Institute campus, then continuing along the edge of the floodplain of Toby Creek to rejoin North Tryon Street.

- Re-entering North Tryon Street, the same issues regarding the elevated crossings of North Tryon Street, the value of the Mallard Creek Church Road Station, and opportunities to stay east along North Tryon Street and access potential park-and-ride locations remain.

#4 – Tunnel Crossing of Harris

Considerations included:

- A strong desire was expressed to maintain the current design's location for Harris Station, while grade-separating the alignment's crossing of Harris Boulevard. The group thought that a tunnel may be the best engineering means to achieve this.
- Leaving Harris Station in the median of North Tryon Road, it seems there is sufficient distance to reach underground clearances and tunnel under Harris.
- The tunnel would continue in the median past the Hospital, then curve east and utilize the sloping grades to emerge from the ground. There is question as to whether this is possible due to the nearby location of a lake.
- The alignment would then skirt the edge of the Research Institute campus, with a station located near its center. A greenway provides connections to the core of the UNC-Charlotte campus, but service to uses east of North Tryon Street at J.W. Clay Boulevard is diminished.
- Re-entering North Tryon Street, the same issues regarding the elevated crossings of North Tryon Road, the value of the Mallard Creek Church Road Station, and opportunities to stay east along North Tryon Street and access potential park-and-ride locations remain.

Alignment Families

1. North Tryon Street Alignment

Variations – alignment segment's length and/or station(s) east of roadway

- *Current design, median of North Tryon*
- *Group A, Blue Alignment*
- *Group B #2 - East Side North Tryon*

2. Connection to Campus

Variations – number of stations, station locations, exit alignment, terminal station location

- *Exits Mary Alexander*
  - Group A, Orange North
  - Group A, Orange South
  - Group A, Green
- *Exits North Tryon*
  - Group A, Light Green
  - Group B #1 - Connection to Campus

3. Alternative Crossing of Harris

Variations – aerial or tunnel structures, crossing locations south of North Tryon

- *Elevated structure south of North Tryon*
  - Group A, Purple
  - Group B #3 - Alternative Crossing of Harris
- *Tunnel*
  - Group B #4 - Tunnel Crossing of Harris

Interim Data Gathering Effort

Between Charrettes #1 and #2, Parsons engineers applied basic sketch-level engineering principles to the alignments, and drew them in plan and profile utilizing computer-aided design and drafting tools. Principles applied included conceptual turning radii conforming to vehicle design speeds, conceptual vertical and horizontal clearances where possible, locating vertical transitions to aerial structures as appropriate, and a quick attempt to coordinate alignment profiles with existing grades. Given the short time frame and many alignments to draw, none are precise, and all include issues to be resolved during Preliminary Design. The purpose of these efforts was to begin to assess potential challenges in implementing any of the alignments, and potential impacts and/or benefits from a given alignment.

Based on those sketches, preliminary, "back of the envelope," order of magnitude cost estimates were developed. These estimates applied simple linear foot cost estimates to the basic features of a given alignment: length of segments at grade, length of aerial segments, etc. The best information generated by these estimates is a sense of whether a given alignment is likely to be more expensive than the current design, or less; and, how the cost of a given alignment might compare with the others.

CATS technical consultants' environmental team conducted a fatal flaw analysis of each of the alignments in order to assess the feasibility to advance the alignments into a Draft EIS process. Secondary data from existing sources was utilized to assess the potential environmental impacts of the alignments; these included:

- Storm Water Improvement & Management (SWIM) Stream Buffers, Mecklenburg County GIS;
- Wetlands, Mecklenburg County GIS;
- Listed resources from the National Register of Historic Places;
- Identification of Potential Archaeological Resources from Coastal Carolina Inc., from the University's Campus Master Plan;
- Noise and Vibration Screening distances, FTA Transit Noise & Vibration Impact Assessment Guidance, April 1995; and,
- Public Parks and Recreation areas, Mecklenburg County GIS and meeting with Mecklenburg County Greenway Planner.

In addition, data such as length of conceptual alignment, types and lengths of structures, number and types of at-grade rail crossings of roadways and driveways, and similar data were used to make broad, conceptual assessments of differential ridership, cost, and traffic conditions.

CATS technical consultants' environmental team worked with CATS, the University and Glatting Jackson to develop a series of evaluation criteria based on community input and compiled data by which to compare the conceptual alignments and their analysis. Criteria represent land use, transit operations, environmental, and cost and financial feasibility considerations. These criteria were then compiled into a matrix, and each conceptual alignment scored against each criterion in a general way with a low, medium or high score. This type of matrix is a tool of ranking and comparison commonly used in evaluation of alternatives. A draft of the team's preliminary scoring, represented in Appendix F, was presented for discussion at the second charrette to reinforce the general evaluation discussions.

For presentation purposes, labels and graphic symbols were added to by hand to the large-format, engineering computer drawings of each conceptual alignment in order to highlight key aspects of the alignments. These drawings are included in Appendix H: Descriptions and Engineering Sketches of Alignments, Meeting Notes, Charrette #2.

Charrette #2: Evaluation

The second charrette was held Wednesday, March 29, 2006, at the University Hilton. The morning was spent with the participants of the first charrette:

- describing the results of the engineering studies of eight alignments accomplished over previous weeks, alignment by alignment;
- discussing pros and cons of the various approaches, including a review of environmental issues; and,
- evaluating them in order to identify which might be the best solution.

Please refer to Appendix H: Descriptions and Engineering Sketches of Alignments, Meeting Notes, Charrette #2, for text descriptions and diagrams illustrating the alignments, their key aspects, and possible disadvantages.

Alignments were categorized in three families:

- Alignments similar to the current design, but incorporating a shift to the east side of North Tryon Street:
    - U1: #2 East Side North Tryon, Group B;
    - U2: #3 East Side - South of Research Center, Group B; and,
    - U3: Blue Alignment, Group A.
- Alignments that traversed eastward to reach the edge of the University's core campus, and then returned to parallel North Tryon Street as efficiently as possible:
    - U4: Light Green Alignment, Group A; and,
    - U5: #5 Campus Connector, Group B.
- Alignments that traversed eastward to reach the edge of the University's core campus, and then existed the core campus via Mary Alexander Road, crossing Mallard Creek Church Road and either returning to North Tryon Street and the current design's location for I-485 Station, or continuing across I-485 to an alternative I-485 Station location north of the interstate.
    - U6: Green Alignment, Group A;
    - U7: Orange South, Group A; and,
    - U8: Orange North, Group A.

All eight alignment alternatives with new engineering studies were shown, explained, discussed and evaluated

Notes from Charrette #2 are included in Appendix I. To summarize, key points of discussion by charrette participants included:

A variation on U4 and U5 was sketched by Glatting Jackson staff and also discussed. It proposed an alignment refinement that reduced impacts to valued natural areas (hiking trails and a rock outcrop) in the conservation easement granted by the University to provide a connection to the Toby Creek Greenway. Their variation also maintained UNC-C Station in the median of North Tryon Street at J. W. Clay Boulevard. This alignment was named "The Yellow Alignment".

Two types of alignments were not progressed for this charrette: alternatives that crossed Harris well east of the Harris/North Tryon intersection, and alternatives that include a spur track to the UNC-Charlotte core campus in addition to the main line along North Tryon. Reasons to dismiss these alternatives were presented to the charrette group as follows:

Alternative Crossings of Harris Boulevard (east of North Tryon Street):

- Were not prioritized in Charrette #1;
- Would eliminate a Harris/University City Station serving development south of Harris Boulevard, east and west of North Tryon Street;
- Make connections back to North Tryon difficult and preclude a UNC-Charlotte station;
- Make connections through UNC-Charlotte campus difficult, due to squeeze point at the stadium;
- Add cost and travel time due to longer alignment; and,
- Reduce ridership because of the loss of Harris and UNC-Charlotte stations.

Alternatives Featuring Spur Tracks:

- Would decrease service frequencies on "branches":
  - 7.5-minute frequency throughout line;
  - 15-minute frequency at I-485 Station and Mallard Creek Church Station; and,
  - 15-minute frequency at UNC-C campus.
- Would reduce attractiveness of service due to decreased frequencies at key boarding and destination points; end result could be decreased ridership;
- A combination of reduced ridership due to decreased frequencies and increased costs would make project less competitive for federal funding; and,
- Would discourage park-and-ride passengers traveling from the north to the University (change of seats).

Participants in discussion

Presented with these discussion points, the charrette group agreed to set these alternatives aside.

Following detailed presentation of each of the alignments developed (please refer to text descriptions and graphics in Appendix H: Engineering Sketches, Charrette Alignments), a general discussion of the alternatives yielded the following points:

The location of UNC-Charlotte Station. In general, the group supported the location of the station as near as possible to the intersection of J.W. Clay Boulevard and North Tryon Street, and

not off-corridor. Discussion of the station in the median versus the station on the east side yielded the understanding that the station in the median would facilitate larger streetscape improvements to the North Tryon roadway, while a station on the side of the roadway would best serve as a catalyst for future development around it. The difference in travel distance from the west side of North Tryon would be less than 100 feet, or roughly 30 seconds at the moderate walking speed of 3 feet per second. Some alternatives featured an aerial station, which, in general, was not favored by the group, although they recognized that an aerial station might work well in conjunction with a pedestrian bridge crossing of North Tryon.

Impacts to existing commercial properties. Alignments along the east edge of North Tryon Street that began south of Harris Boulevard were dismissed as either requiring acquisition of commercial properties or resulting in reduced areas and visibility for those commercial properties fronting the roadway.

The location of and need for a Mallard Creek Church Station. In discussion, the point was made that the highest purpose of a Mallard Creek Church Station is to serve as a park-and-ride overflow location for the I-485/North Tryon Station in either alternative location. Alignments along the east side of North Tryon Street would require more study to determine the best means of providing a park-and-ride facility due to insufficient space (constrained by wetlands) to site such facilities on the east side of the roadway. Similarly, the alignments which investigated an alternative station location at Mary Alexander Road and Mallard Creek Church Road faced grade challenges which also limited the prospects of a successful park-and-ride, in addition to the fact that the location is less visible and requires more time to access. If Mallard Creek Church Road Station can be accommodated in the location in the current design, it should be, and otherwise may not be worth the investment.

Active discussion culminated in narrowing down the number of alternatives

Crossing of I-485. The charrette participants agreed there was little benefit to justify the significant engineering challenges, additional environmental impacts and expense of crossing I-485 with the alignment and a station.

Opportunities and constraints of exiting the core campus via Mary Alexander Road. There was strong desire on the part of the University and Charlotte-Mecklenburg Planning Commission (CMPC) to try to locate a station to serve the University's "100 Acres", a future development site north of Mallard Creek Church Road. However, University staff recognized the significant grade and alignment challenges inherent in bringing the alignment along Mary Alexander Road. As discussion progressed, University

staff was interested in looking at an alignment that did not follow Mary Alexander Road, due the very narrow right-of-way, difficulties in accommodating light rail on existing steep grades, and possible limits to vehicles utilizing the roadway as a result.

Evaluation/Moving Towards Consensus

Charrette participants quickly agreed on three points:

- South of Harris Boulevard, stay in the median to avoid impacts to east-side land uses.
- There is no obvious benefit to crossing I-485 to get to only one station to the north; the southern station location alternative was preferred.
- The alignment should stay in the median of North Tryon Street at least to the northern point of UNC-Charlotte Station.

The charrette participants further agreed that the alignments on or adjacent to North Tryon were to be considered variations on the current design, rather than alternatives that addressed the benefits and impacts of a station at the core campus. Categorized in that way, they were set aside for consideration in refinement of the current design.

Active discussion culminated in narrowing down the number of alternatives

Alternatives that utilized Mary Alexander Road to exit campus, and that traversed through the gravel quarry and across I-485 were acknowledged to feature significant challenges with few benefits, and they were set aside.

As discussion drew to a close, it focused on a variation of U6: Green Alignment (hereafter referred to as "Green Alignment") and the variation on U4 and U5, the Yellow Alignment. In comparing the Yellow and the Green alignments, University staff voiced several concerns about the Yellow Alignment running between the Charlotte Research Institute to the north and the conservation easement to the south, near athletic facilities:

- As shown, the Yellow Alignment crosses Cameron Boulevard at grade, introducing a rail vehicle/roadway vehicle conflict and requiring a reconfiguration of the roadway not accommodated in campus planning.
- The track has potential to create a boundary or barrier on that portion of campus, including fenced portions of the alignment with limited opportunities for pedestrian crossings, or segments on raised fill.

- The Yellow Alignment will run near and between several sports and recreation facilities near Toby Creek, and may affect improvements to the campus baseball stadium. These kinds of facilities are expensive to replace. Adjacent to the stadium is a possible graveyard. University staff were concerned about potential effects.
- In order to achieve a desired location of UNC-Charlotte Station as close to J. W. Clay Boulevard's intersection with North Tryon Street as possible, the alignment leaves the median of North Tryon with a tight, 25 mile-per-hour curve in order to stay south of a new physical plant under construction for the Charlotte Research Institute. The superelevation of the tracks required on such a curve will not meet North Carolina Department of Transportation standards for roadway design, due to the bumps they will create in the roadway. Additional noise and vibration impacts to the Charlotte Research Institute would result from a curve with a small turning radius.
- In general, staff allowed that there were so many physical constraints in that portion of campus, that it would be difficult to design an alignment without significant impacts.

The Green Alignment, which continues in the median of North Tryon to the north of the Charlotte Research Institute, turns out of North Tryon Street on a 35 mile-per-hour curve, reducing superelevation effects to acceptable standards for roadway design. As it continues eastward towards the core of the UNC-Charlotte campus, there are no existing physical elements for the alignment to avoid until reaching Cameron Boulevard; therefore, there is design flexibility for the evolution of this concept.

Departing the core of the University, a variation of the Green Alignment was proposed that would return to an east side of North Tryon alignment south of Mallard Creek Church Road, and travel north to the current design's location for I-485 Station, rather than existing campus via Mary Alexander Road and continuing through the quarry area across I-485 to a northern station and terminus.

An alignment at Mary Alexander Road presents challenges to developing a station at Mallard Creek Church Road or within the "100 Acres". There are two alternatives:

- The rail alignment may continue up a 6% grade along Mary Alexander Road to a grade crossing of Mallard Creek Church Road, with a possible station located approximately 800 feet north of the intersection.
- In order to construct a station at Mallard Creek Church Road, the alignment would be depressed beneath the road to create a level platform boarding area as required by design standards. This would also achieve a grade separated crossing of the road for the rail alignment. Pedestrian access to the boarding platforms would present a design challenge, requiring stairs, ramps and/or elevators for access. The alignment would then emerge and return to grade further east.

Because there is not yet a land use plan for this "100 Acres" site, there is no information available to define possible infrastructure, land uses, or density of use. Without that information it is difficult to gauge the potential for new ridership generated from future development of the "100 Acres", or when that ridership might come on line. For those reasons, CATS is focused on the known benefit of the I-485 Station

and building a cost efficient rail line; they will focus on the alignment that returns westward to North Tryon south of Mallard Creek Church Road and utilizes the current design's location for I-485 Station. At such time as the University has a master plan for the "100 Acres", CATS will work with them to determine the feasibility of serving that future development with transit.

Because of the fewer existing physical constraints to address, the ability to maintain a median location of the UNC-Charlotte Station similar to the current design, and the likely efficiency of a quick return to North Tryon Street, the Green Alignment was preferred by charrette participants. Still, it was also decided by the group that both Yellow and Green alignments be addressed in one more drawing refinement, to facilitate comparison.

Survey of the University Community

To supplement input from staff and students received from an open forum held at the University on April 3, 2006, the University utilized an electronic survey. Results of that survey demonstrated the following preferences of the nearly 1000 respondents:

- 97% of respondents were students.
- 78% preferred a station location near the center of campus, over a location on North Tryon.
- There was a slight trend toward being less inclined to use transit if the station were located at North Tryon – roughly 38% responded in the "definitely will" or "probably will" ride categories, compared to 70% if the station were located at the center of campus. If the category of "maybe will ride" is added, the range is 72% for the station at North Tryon versus 78% at the center of campus.
- Whether the station would be located at North Tryon or in the center of campus, the majority of respondents (62%) felt they would walk to the station.
- Respondents felt they would ride in off-peak (nights, weekends) almost as much as peak.

The full results are included in Appendix J: Results, Survey of University Community.

Comparison, Green Alignment vs. Yellow Alignment

Appendix K includes graphics depicting refinements made to Green and Yellow alignments following Charrette #2.

For the Yellow Alignment, efforts were made by the engineer to avoid all physical constraints in the corridor between the Charlotte Research Institute and open space resources identified in the Charrette – the conservation easement, the new physical plant for the University, the baseball stadium, and the possible graveyard site. The alignment drawn avoids most of these, excepting the baseball stadium, which would be significantly impacted. It also returns to North Tryon south of Mallard Creek Church Road, and continues to an I-485 Station location.

For the Green Alignment, refinements include showing a direct return to North Tryon Street from a UNC-Charlotte Station to the south of Mallard Creek Church Road. It also features a segment circumnavigating anticipated residential expansion on the campus with a 5 1/2% hill climb and descent, before rejoining North Tryon Street similar to the current design.

Costs: Comparing the Alignments

Based on the engineering sketches developed for Charrette #2, and in a second look at the Green and Yellow alignments, preliminary, "back of the envelope", order of magnitude engineering cost estimates were developed. These estimates applied simple linear foot cost estimates to the basic engineering features of a given alignment: length of segments at grade, length of aerial segments, etc. The best information generated by these estimates is a sense of whether construction of a given alignment is likely to be more expensive than the current design, or less; and, how the cost of a given alignment might be more or less than others. Right-of-way costs are not addressed in these estimates.

Some general conclusions may be drawn from the data developed for Charrette #2:

- The alignments most similar to the current design, on or near North Tryon Street (U1, U2 and U3), are very similar in cost to the current design. Those that shift the alignment from the median to the east side of North Tryon show the potential for cost savings, but that cost saving may be offset in right-of-way costs not addressed in these estimates.
- The other alignments (U4, U5, U6, U7, and U8), were in the range of 20% to 25% more expensive than the current design. These early alternatives, however, included features that were eliminated conceptually following Charrette #2, for example, a crossing of I-485; and segments of the alignments along Mary Alexander Road and near the quarry.

Following Charrette #2 and concurrent with refinements in the Yellow and Green Alignments, new order of magnitude cost estimates were developed to address the refinements. With both refined alignments returning to North Tryon Street south of Mallard Creek Church Road, the Yellow and Green alignments are now roughly equivalent in cost, and estimated to add approximately 8% to 12% of the cost of the current design, approximately $7 million to $9.5 million. While the Green Alignment is approximately 1000 feet longer, the Yellow Alignment includes more aerial structure including an aerial station that increases its costs. Again, these estimates do not consider right of way costs.

Some base data for these estimates is included in Appendix L: Order of Magnitude Cost Estimates.

Conclusions

Much valuable information resulted from this investigation process that will inform the alignment design as the Northeast Corridor Project continues to develop its Draft Environmental Impact Statement over the summer.

In the U1, U2 and U3 alignments, alternatives to the current design that may be considered minor alterations were shown to have promise in terms of potentially reducing costs and impacts, and will be considered as possible refinements to the current design moving forward.

Recognizing that the service to University faculty and students from only a station at North Tryon Street is inherently limited, the Green Alignment identified by the charrette participants as the most promising of the alternatives that extend to the University's core campus will also continue to be investigated. Balancing the desires to moderate costs, to minimize impacts to existing University facilities, and to maximize potential ridership, the Green Alignment seems to offer the greatest potential of the alignments developed in the charrette process. Charrette participants representing the University, City agencies, business interests and CATS were in general agreement that this alternative met project goals for UNC-C and University City. The location of the alignment features fewer existing physical constraints to address, offers the ability to maintain a median location of the UNC-Charlotte Station similar to the current design, and preserves the oppportunity to achieve the likely efficiency of a quick return to North Tryon Street; these are distinct advantages of the Green Alignment. Still, the information derived from studying the other seven alternatives will contribute greatly to project development.

CATS extends its thanks for the many City agency and university staff who contributed their time and energy to this highly successful process.

RESOLUTION
No. 2006-03

ADOPTION OF A POLICY AUTHORIZING THE NORTHEAST CORRIDOR LOCALLY PREFERRED ALTERNATIVE

A motion was made by Ned McCrory and seconded by Lee Myers for the adoption of the following resolution and upon being put to a vote was duly adopted.

WHEREAS, the Metropolitan Transit Commission, in November 2002, adopted Light Rail along the North Carolina railroad and North Tryon Street right-of-way as the Locally Preferred "Build" Alternative ("LPA") in the Northeast Corridor, and

WHEREAS, the LPA did not include specific site locations for stations, and

WHEREAS, the preparation of a Draft Environmental Impact Statement (DEIS) and conceptual engineering for the Northeast Corridor Project was initiated in June 2004, and

WHEREAS, a primary task in preparation of the DEIS is the refinement of alignment and station locations on which to prepare detailed environmental, site design, and engineering plans for comparison to the No-Build and Baseline alternatives in the Northeast Corridor, and

WHEREAS, the Northeast Corridor Project team has worked with staff from the City of Charlotte, University City Partners, UNC Charlotte, and citizens of the City of Charlotte to validate alignment issues, optimally locate station sites, and identify a viable terminus in an open, fair, comprehensive, and impartial manner, and

WHEREAS, staff recommends that the LPA be refined to reflect selection of station, alignment and terminus sites, as detailed in Attachment A, and

WHEREAS, this decision to refine the LPA for the Northeast Corridor does not represent a commitment to build the alignment or stations;

NOW, THEREFORE, be it resolved by the Metropolitan Transit Commission that:

1. The Northeast Corridor alignment, terminus and station location recommendations contained in Attachment A hereto are hereby adopted for use in all necessary planning, site design, engineering, and environmental studies required to prepare the Environmental Impact Statement for the Northeast Corridor Project.
2. This resolution shall take effect immediately upon its adoption.

Attachment A – Northeast Corridor Background & Recommendations, Alignment Design Options, Station Locations and Terminus Station Location

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I, H. Parks Helms, MTC Chairman do hereby certify that the above is a true and correct copy of an excerpt from the minutes of a meeting of the Metropolitan Transit Commission, duly held on June 28, 2006.

H. Parks Helms, MTC Chairman

METROPOLITAN TRANSIT COMMISSION
ACTION ITEM

STAFF SUMMARY

SUBJECT: Northeast Corridor Refined Locally Preferred Alternative **DATE: June 28, 2006**

1.0 **PURPOSE/SCOPE**: The purpose of this action item is to approve refinements to the Locally Preferred Alternative (LPA) for the Northeast Corridor.

2.0 **BACKGROUND**: The 2025 Corridor System Plan adopted by the MTC in November 2002 included light rail as the Locally Preferred Alternative for the Northeast Corridor. The Northeast Corridor project team has evaluated the alignment and station locations identified in the MIS. The evaluation of the Northeast Corridor alignment identified two primary areas where alternative alignments were considered; additionally, terminal station alternatives inside and outside I-485 have been evaluated.

Attachment A provides a discussion of the station locations, alignment options, and terminal station alternatives that have been developed during the conceptual engineering work and an accompanying staff recommendation for refining the Locally Preferred Alternative.

3.0 **PROCUREMENT BACKGROUND**: Not Applicable

POLICY IMPACT: The MTC, by taking these actions will approve the Northeast Corridor refined LPA that will be used for system plan prioritization and for inclusion in the Draft Environmental Impact Study (DEIS).

ECONOMIC IMPACT: The proposed Northeast Corridor Light Rail stations have the potential to enhance and stimulate development and re-development opportunities within the ¼ to ½ mile radius of each station and more generally along the corridor. The result will be an expanded tax base with high-quality, mixed-use development.

ALTERNATIVES:
(A) Adopt different station locations, alignment options, and terminal station location.
(B) Not adopt the recommended alignment alternative for the LPA.

7.0 **RECOMMENDATIONS**: Staff recommends approval of the refinement of the LPA as detailed in Attachment A.

ATTACHMENT(S):
A. Northeast Corridor Background & Recommendations, Alignment Design Options, Station Locations and Terminus Station Location

SUBMITTED AND RECOMMENDED BY:

Ronald J. Tober
Chief Executive Officer, Charlotte Area Transit System
Director of Public Transit, City of Charlotte

ATTACHMENT A

Northeast Corridor Light Rail
Background & Recommendations
Alignment Design Options, Station Locations & Terminus Station Location

This Northeast Corridor light rail project will begin at Seventh Street, which is the terminus of the South Corridor Light Rail Project. It will be an extension of the South Corridor light rail line and generally follows the existing abandoned freight tracks from Uptown toward the North Davidson Historic District (NODA). North of NODA, the alignment exits railroad right-of-way and enters into the median of North Tryon Street, serving University City, including UNC Charlotte, and follows that alignment to its terminus, near I-485.

The following is a list of the design options that make up this alignment and the associated staff recommendation for MTC approval:

1) Sugar Creek or NCRR Alignment

- Sugar Creek Alternative- Continue along the eastside of NCRR until the alignment reaches Sugar Creek. At that time the alignment would rise on an elevated structure and bank to the west over NCRR and Sugar Creek Road. The end of the structure would descend into the Asian Corners Shopping Center and provide a station near the backside of the parcel. The alignment would then merge onto North Tryon Street and continue to the north. The Eastway Station would be located in the median of North Tryon Street near Old Concord Road.
- NCRR Alternative- Continue along the eastside of NCRR until the alignment reaches Sugar Creek Road. At that time the alignment would elevate on a structure over Sugar Creek Road and transition to the west side of the of NCRR. A station has been identified in the vicinity of the alignment and Sugar Creek Road. The alignment would then follow NCRR on the west side, under Eastway Drive and merge onto North Tryon Street near Old Concord Road. The Eastway Station would be located out of North Tryon Street right-of-way, near Old Concord Road.

Staff recommends:

1.) **The adoption of the lower cost North Carolina Railroad (NCRR) design option in the Locally Preferred Alternative.**
2.) **That further study and evaluation be conducted during Preliminary Engineering for both the adopted NCRR option and the alternative Sugar Creek/North Tryon Street alignment option.**

Both these options will be documented in the Draft Environmental Impact Study (DEIS). This additional evaluation of the Sugar Creek/North Tryon Street alignment option is being recommended because of the potential economic development benefits associated with this alignment.

2) UNC Charlotte or North Tryon Alignment

- UNC Charlotte Alignment- North of the University Research Facility the light rail alignment would diverge from the median of North Tryon Street, and enter the UNC Charlotte campus. An on-campus station would be located near an existing residence hall, which is in proximity to the new student union being planned by the University, this station is tentatively being called UNC Charlotte Central. The alignment will then exit the campus and travel along the east side of North Tryon Street to the terminus station. This alignment is the consensus on-campus alignment alternative of University City Stakeholders (including UNC Charlotte, University City Partners, City of Charlotte and private developers).
- North Tryon Alignment- This alignment remains in the median of North Tryon Street, and would provide service to the campus through a feeder bus service to a station at JW Clay Blvd. or Mallard Creek Church Road.

Staff recommends adopting the UNC Charlotte alignment/station into the Locally Preferred Alternative

3) Terminus Location

1) I-485 North- This alignment is consistent with the MIS and would require a separate bridge be built, which would span I-485 and its ramps. The terminus station would be located in the vicinity of Pavilion Blvd.
2) I-485 South- The I-485 Alignment would have its terminus station short of I-485 at Morningstar Drive. This alternative would have a considerable cost savings over the I-485 North alternative because it would not be necessary to build the bridge over I-485.

Staff Recommends adopting the I-485 South alternative into the Locally Preferred Alternative

Station Locations

- **Staff recommends adoption of the proposed stations listed below including the potential Rocky River station with the understanding that it will continue to be evaluated in conjunction with local roadway planning efforts. It is likely that the US29/NC49 interchange project currently included in the Long Range Transportation Plan will be scaled back to an at-grade intersection project making the Rocky River Road station both feasible and desirable. Considerable land use planning has occurred with property owners under the assumption that the scaled back project will be built thereby offering opportunities for improved roadway infrastructure in the area and opening up economic development opportunities that were precluded by the interchange project.**

Station Location Recommendations:

- 9th Street Station- It is recommended that a station be included at this location to serve the many private developments, which are being built in this section of downtown. It is located north of 9th Street in Uptown.
- 16th Street Station- Similar to location identified in MIS, near intersection of Parkwood Drive and 16th Street.
- 27th Street Station- Similar to location identified in MIS, along Brevard Street near Norfolk Southern Intermodal Yard.
- 36th Street Station- Similar to location identified in MIS, north of 36th Street in "NoDa" neighborhood.
- Sugar Creek Station- Staff recommends that this station be located near the intersection of the NCRR railroad tracks and Sugar Creek Road (see NCRR alternative description). As noted above, this station and alignment will be further studied.
- Eastway Station- Staff recommends that this station be located near the Old Concord Road (see NCRR alternative description). As noted above, this station and alignment will be further studied.
- Tom Hunter- Similar to location identified in MIS, near intersection of Tom Hunter Road and North Tryon Street.
- Rocky River- Staff recommends inclusion of a potential Rocky River station into the DEIS
- City Boulevard Station- This station is located near Shopping Center Drive to avoid complications of the 29/49 "weave".
- Harris Boulevard Station- This station is located south of Harris Boulevard to avoid the complicated Harris/North Tryon intersection.
- UNC Charlotte Station- Similar to location identified in MIS, near intersection of JW Clay and North Tryon Street.
- UNC Charlotte Central Station- Staff recommends the inclusion of a station on UNC Charlotte's campus into the DEIS. See UNC Charlotte alignment description above.
- Mallard Creek Church Station- Staff recommends that this station be further studied based on the UNC Charlotte alignment recommendation.
- I-485 Stations- Staff recommends that this station be located on the south side of I-485. See "Terminus Location" description above

RESOLUTION
No. 2006-09

ADOPTING A 2030 TRANSIT CORRIDOR SYSTEM PLAN INCLUDING LOCALLY PREFERRED ALTERNATIVES FOR THE NORTH, NORTHEAST, SOUTHEAST, WEST AND CENTER CITY STREETCAR CORRIDORS AND AN IMPLEMENTATION PLAN

A motion was made by Mayor Kincaid and seconded by Mayor Knox for the adoption of the following resolution and upon being put to a vote was duly adopted.

WHEREAS, the Center and Corridors Land Use strategy, adopted in 1994, established five primary corridors for future transit investment; and

WHEREAS, in 1998, the 2025 Integrated Transit/Land Use Plan was prepared and formed the basis for local elected officials approving a ballot referendum for public transportation financing; and

WHEREAS, the residents of Mecklenburg County approved in November 1998 the half cent sales tax to be used for improvements to the public transportation system, including rapid transit; and

WHEREAS, in February 2000, the Metropolitan Transit Commission adopted Light Rail as the Locally Preferred Alternative for the South Corridor; and

WHEREAS, Major Investment Studies of various alternative alignments and technologies were completed in 2002 for the remaining four corridors including the North, Northeast, Southeast, and West Corridors in accordance with Federal Transit Administration requirements; and

WHEREAS, based upon the results of these Major Investment Studies and public involvement process, in November 2002 the Metropolitan Transit Commission adopted the 2025 Corridor System Plan that designated rapid transit improvements for the remaining four corridors and identified additional transit system improvements designed to form the foundation for a regional transit system including a plan for integrating the corridor improvements together in the downtown Charlotte area and a streetcar line along three of the four highest ridership bus routes; and

WHEREAS, conceptual engineering and environmental studies of the rapid transit improvements and streetcar line have been nearly completed pursuant to a memorandum of understanding with the Federal Transit Administration dated June 22, 2004 in order to develop more detailed information on ridership, capital and operating costs, land use, economic development and environmental impacts of the corridor transit improvements; and

WHEREAS, based upon the results of these conceptual engineering and environmental studies, the Metropolitan Transit Commission has adopted refined Locally Preferred Alternatives for each of the four corridors and the streetcar line establishing alignments, termini, station locations and transit technologies; and

WHEREAS, the Charlotte Area Transit System (CATS) Chief Executive Officer has recommended a Plan for implementing the corridor and transit system improvements in phases between now and the year 2030 and beyond; and

WHEREAS, the recommended 2030 Transit Corridor System Plan is consistent with the goals of the original 2025 Integrated Transit/Land Use Plan; and

WHEREAS, the recommended 2030 Transit Corridor System Plan is financially feasible within the projected capacity of the half cent transit sales tax assuming significant assistance from the Federal Transit Administration, the State of North Carolina and other potential sources on capital improvements; and

WHEREAS, adoption of a 2030 Transit Corridor System Plan, including selection of the Locally Preferred Alternatives for the North, Northeast, Southeast, West and Center city Streetcar Corridors, is essential to achieve future financial assistance from the Federal Transit Administration and the State of North Carolina; and

WHEREAS, the 2025 integrated Transit/Land Use Plan makes both goals – transit and land use – equal as goals for the MTC; and

WHEREAS, the North Corridor is most advanced of all five corridors in its use of transit as a basis for land use decisions; and

WHEREAS, the North Corridor has standing as the next corridor for construction in MTC Resolution No. 2001-05.

WHEREAS, implementation of specific elements of the 2030 Transit Corridor System Plan is subject to the review and approval of the Federal Transit Administration and the North Carolina Department of Transportation;

NOW, THEREFORE, be it resolved by the Metropolitan Transit Commission that:

A. The 2030 Transit Corridor System Plan, including the Locally Preferred Alternatives for each corridor, described in Attachment A is hereby adopted.

B. The Implementation Plan for the 2030 Transit Corridor System Plan shown in Attachment B is hereby adopted subject to the review and approval of the Federal Transit Administration. Under this plan, design of both the North and Northeast Corridors begins in 2007. Construction of the North line begins in 2009 and construction of the Northeast line in 2011. The MTC endorses this sequencing.

C. CATS staff is directed to complete the draft environmental documents for those corridor improvement projects in the 2030 Transit Corridor System Plan that will be subject to early implementation in accordance with the provisions of the June 22, 2004 memorandum of understanding with the Federal Transit Administration and with applicable state and federal law.

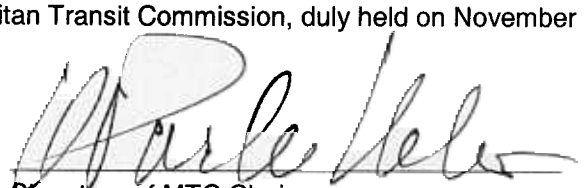
D. CATS staff is directed to advise Congressional representatives that any funds appropriated in federal fiscal year 2007 for an extension of the Charlotte rapid transit system should be allocated to the Northeast Corridor Light Rail Project for preliminary engineering studies.

E. CATS staff is directed to work with the City of Charlotte, Mecklenburg County, the North Carolina Department of Transportation, the Towns of Cornelius, Huntersville and Davidson, and with North Corridor stakeholders to develop a strategy for funding the North Corridor for approval by the Metropolitan Transit Commission. Staff shall consider all financing opportunities including both revenue enhancement and cost reduction such as developer funding of stations, phasing of construction, and deferral of stations with little transit-oriented land use. CATS staff shall report back to the MTC by July 1, 2007 the result of this work.

The same evaluation, review, and due diligence will be expected for the Northeast Corridor.

F. This Resolution shall take effect immediately upon its adoption.
Attachment A - 2030 Transit Corridor System Plan
Attachment B - Implementation Plan
Attachment C – Financial Plan

I, H. Parks Helms, MTC Chairman do hereby certify that the above is a true and correct copy of an excerpt from the minutes of a meeting of the Metropolitan Transit Commission, duly held on November 15, 2006.



Signature of MTC Chairman