LYNX RAPID TRANSIT SERVICES

Silver Line Southeast Corridor

Southeast Corridor Transit Study

Evaluation of Rail Alignment Options

December 2016

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1 INTRODUCTION

1.1 Purpose of Document

The purpose of this report is to document the evaluation process and identification of a preferred rail corridor. This document builds on the *Opportunity Statement Report*, which identified the corridor goals and initial list of alternatives, by documenting the next phase of the study process. This *Evaluation of Rail Alignment Options Report* provides the results of an initial screening process, description of alternatives evaluated in detail, and results of detailed evaluation. While the Southeast Corridor Transit Study focuses on the needs for a major transit investment, both bus and rail components, this document specifically focuses on the rail alternatives.

Based on the conclusions of this detailed evaluation and consultation with Charlotte and Matthews, a rail alignment was identified as the preferred alignment. Subsequently, corridor preservations strategies that link to this specific preferred rail alignment that has emerged will be developed.

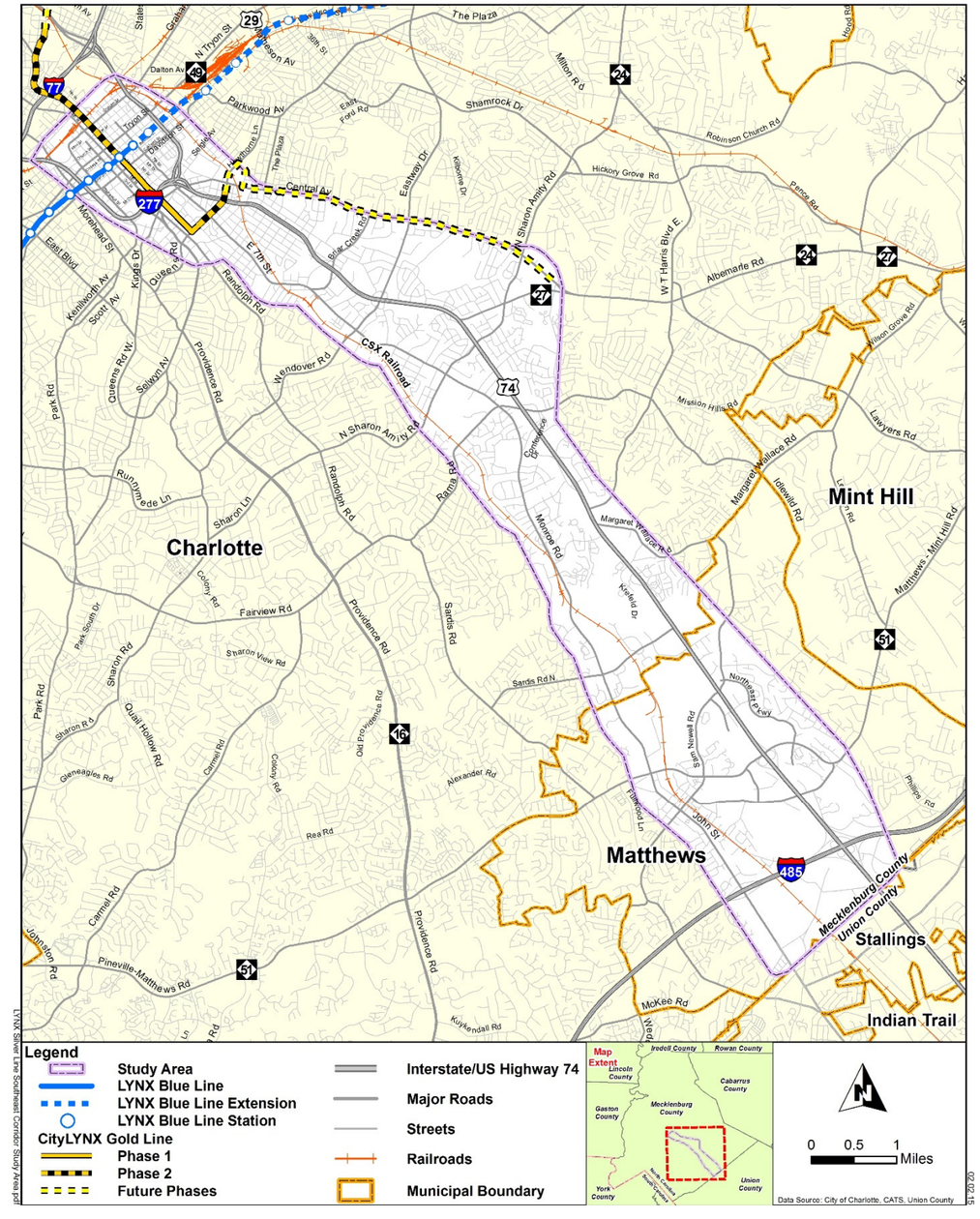
1.2 Project Background

The Metropolitan Transit Commission (MTC) directed the Charlotte Area Transit System (CATS) to conduct an Alternatives Analysis (AA) for the Southeast Corridor (LYNX Silver Line), which is a heavily traveled corridor extending approximately 13.5 miles southeast from Center City Charlotte to the Mecklenburg / Union County border. Approximately 3.5 miles of the corridor near the county line is located within the Town of Matthews; the remainder of the corridor is located within the City of Charlotte.

The primary purpose of the AA is to provide the necessary transportation and land use analysis, and public outreach to facilitate the MTC's selection of a rail-based technology and alignment for a Locally Preferred Alternative (LPA). A secondary purpose of the AA is to provide recommendations and an operating and capital plan for bus service within the proposed express lanes on Independence Boulevard (US 74). The project study area, shown in **Figure 1**, includes Independence Boulevard and is bounded on either side generally by 7th Street/Monroe Road and portions of Central Avenue. A Class I single track main line railroad owned and operated by CSX Transportation also extends through the study area.

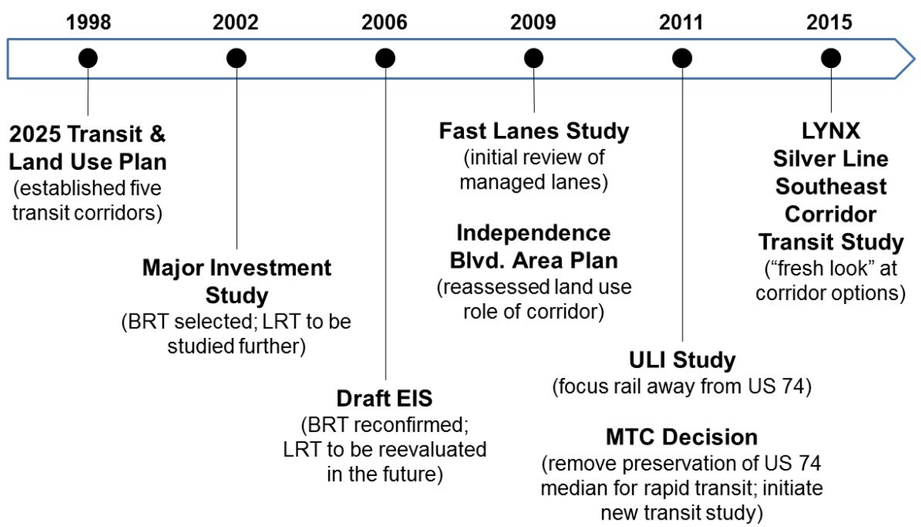
The need for improvements along the Independence Boulevard corridor has been a top priority among local and state agencies, political leadership, and community advocates for decades. Yet progress to convert US 74 into a freeway has been slow and expensive, while the surrounding community has witnessed significant change along those portions of US 74 that have been converted to a freeway. The neighborhoods closest to Uptown Charlotte have turned their backs to the freeway (i.e. reoriented themselves away from the freeway) and have experienced notable reinvestment. However, disinvestment has occurred along the freeway section farther from Uptown Charlotte where the adjoining parcels remain oriented to US 74.

Figure 1: Southeast Corridor Study Area



Fixed guideway transit has been viewed as a major component of numerous plans to reinvigorate the corridor. However, previous studies failed to gain the necessary consensus to move forward with a viable project. Several previous studies recommended the implementation of a Bus Rapid Transit (BRT) project, but additional consideration of Light Rail Transit (LRT) was also directed. Funding limitations have prevented the advancement of either option to date. Major planning milestones in the corridor since the late 1990's are illustrated below in **Figure 2**.

Figure 2: Corridor Planning History



Support for a new approach to transit in the corridor gained momentum as a result of several key initiatives occurring between 2009 and 2011:

- **The Independence Boulevard Area Plan was developed.** This plan reconsidered the future role of Independence Boulevard and recommended a long-term reverse-frontage land use vision for the corridor that re-orients development away from Independence Boulevard.
- **The Urban Land Institute's Rose Center Fellowship Report** recommended bus service and auto-oriented land uses along Independence Boulevard in conjunction with streetcar and community-focused development along Central Avenue (already planned) and Monroe Road (a new recommendation) within the city of Charlotte. This report acknowledged the auto-oriented nature of Independence Boulevard and suggested to focus transit-oriented development efforts on parallel arterials. This study, along with the Independence Boulevard Area Plan adopted by Charlotte City Council in 2011, has opened up the possibility for a more comprehensive approach that allows for broader consideration of transit alignments and technologies in the corridor.
- **The MTC elected to no longer preserve the median of Independence Boulevard for future exclusive use as a transit fixed guideway**. This decision effectively eliminated the median of Independence Boulevard as a transit guideway alignment option. The MTC passed specific actions in 2011 that directed CATS to:
    - Remove special provisions in the 2030 Transit System Plan that required preservation of Rapid Transit in the median of Independence Boulevard.
    - Work closely with NCDOT and Charlotte Department of Transportation (CDOT) to incorporate bus services into the design of the Independence Boulevard express lanes.
    - Bring back a process and plan/schedule for an alignment study to evaluate a rail transit alignment on the Southeast Corridor that is not in the median of Independence Boulevard.
    - Ensure that the alignment study will review the technologies of light rail, streetcar and commuter rail, and recommend a rail transit alignment, which will involve examining all potential rail alternatives in the corridor, including those previously studied.
    - Study a connection between the CityLYNX Gold Line and the LYNX Silver Line.
    - Study up to the Mecklenburg County line and into Union County.

The focus of transit investment in the corridor is no longer about "rail or bus"; both modes will be included in the corridor solution.

In response to these initiatives, the focus of transit investment in the corridor is no longer about "rail or bus", but rather is centered on how a rail transit project on a new alignment can work in a complementary manner with enhanced bus services using the future US 74 express lanes. This multi-faceted transit approach, coupled with a broader perspective of the corridor itself, is viewed as the best way to address the many diverse transit needs and land use goals in the corridor. Because the study is focused on a combined rail and bus approach, rather than a single transit alignment, the study is being referred to as the "Southeast Corridor Transit Study" rather than the "Silver Line Alternatives Analysis".

2 OVERALL EVALUATION PROCESS

Options for the rail element of the Southeast Corridor were defined based on an overall transit, mobility, and land use vision for the corridor, supported by a series of targeted goals. The general alignment options were then evaluated in detail to identify the benefits and impacts of each option, with the ultimate intent of identifying a single preferred rail alignment in the corridor.

A five-stage evaluation process was used to identify and assess a wide range of segments and then aggregate the individual segments into various corridor route options. Following iterative additional analysis, the corridor options were narrowed and refined to produce a preferred rail alignment. **Figure 3** illustrates the general evaluation framework.

Figure 3: General Evaluation Framework

1 — June 2015 – September 2015

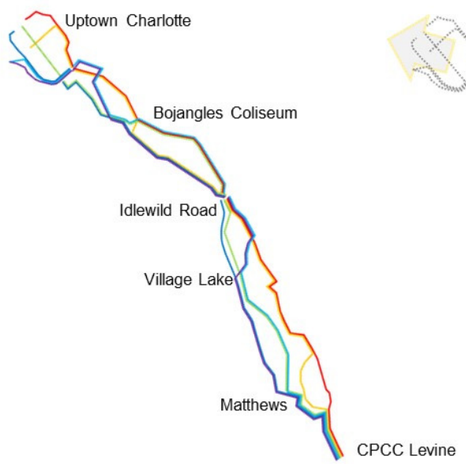
Identification of Goals

- Provide **reliable and efficient connections** within the corridor including **the use of dedicated guideway**.
- Build upon efforts to **coordinate land use and transportation planning** in the corridor.
- Reflect varying land use characteristics through **responsive station siting and design** elements.
- Support the **vision for the overall CATS system**.

- Based on feedback received from public at workshops
- Builds upon corridor vision to establish high-quality transit to help focus and shape growth
- Supports a wide variety of travel needs

2 — October 2015 – January 2016

Identification and Screening of Initial Corridor Segments

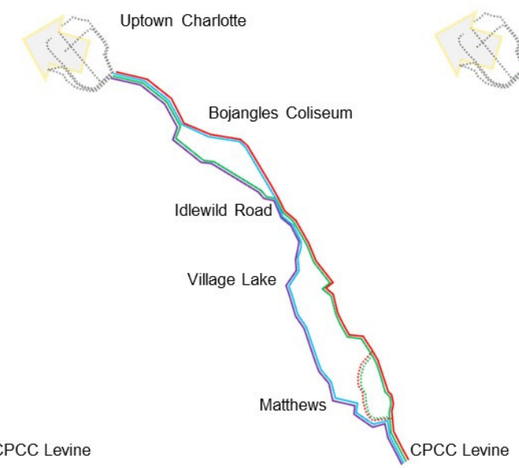


18 segment options

- Identification of a wide range of possible routes by segment
- Screening based on objective criteria linked to goals
- Segments eliminated that require shared lanes or CSX right-of-way; decision to further examine freight rail alignments as part of future regional commuter rail study

3 — February 2016 – April 2016

Identification and Evaluation of Corridor Options

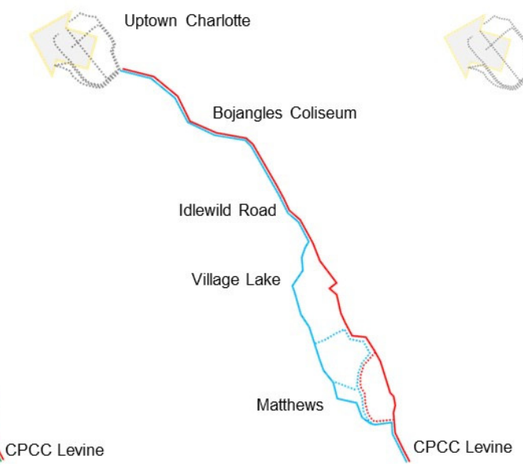


4 corridor options

- Identification of four corridor-wide options focusing on side-running along Independence Blvd. and median-running on Monroe Rd.
- Public feedback gathered on route preferences
- Two leading corridor options identified; "inner" portion of Monroe Road eliminated
- Viewed as part of longer Airport-Matthews rail transit corridor

4 — May 2016 – July 2016

Refinement of Leading Corridor Options

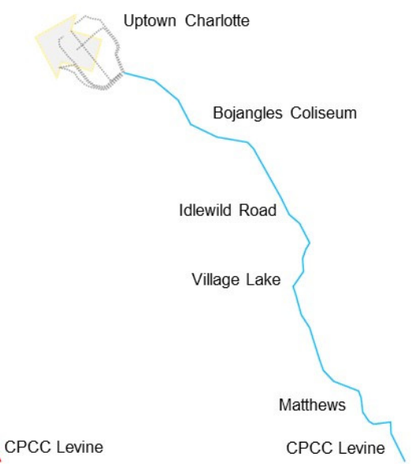


2 leading options

- Both remaining options "score well" based on objective criteria
- Final decision based primarily on consistency with local corridor-level vision for land use and transit
- Main difference in options is route through Matthews; additional design options considered to blend the two leading options

5 — August 2016 – October 2016

Selection of Preferred Alignment



1 preferred alignment

- Final alignment selected based on further consultation with Charlotte and Matthews
- Route blends access to existing and potential activity hubs along Independence Blvd. and Monroe Rd., with close-by access to Downtown Matthews
- Uptown options connecting to West Corridor to be evaluated in future study

3 STAGE 1: DEFINITION OF GOALS

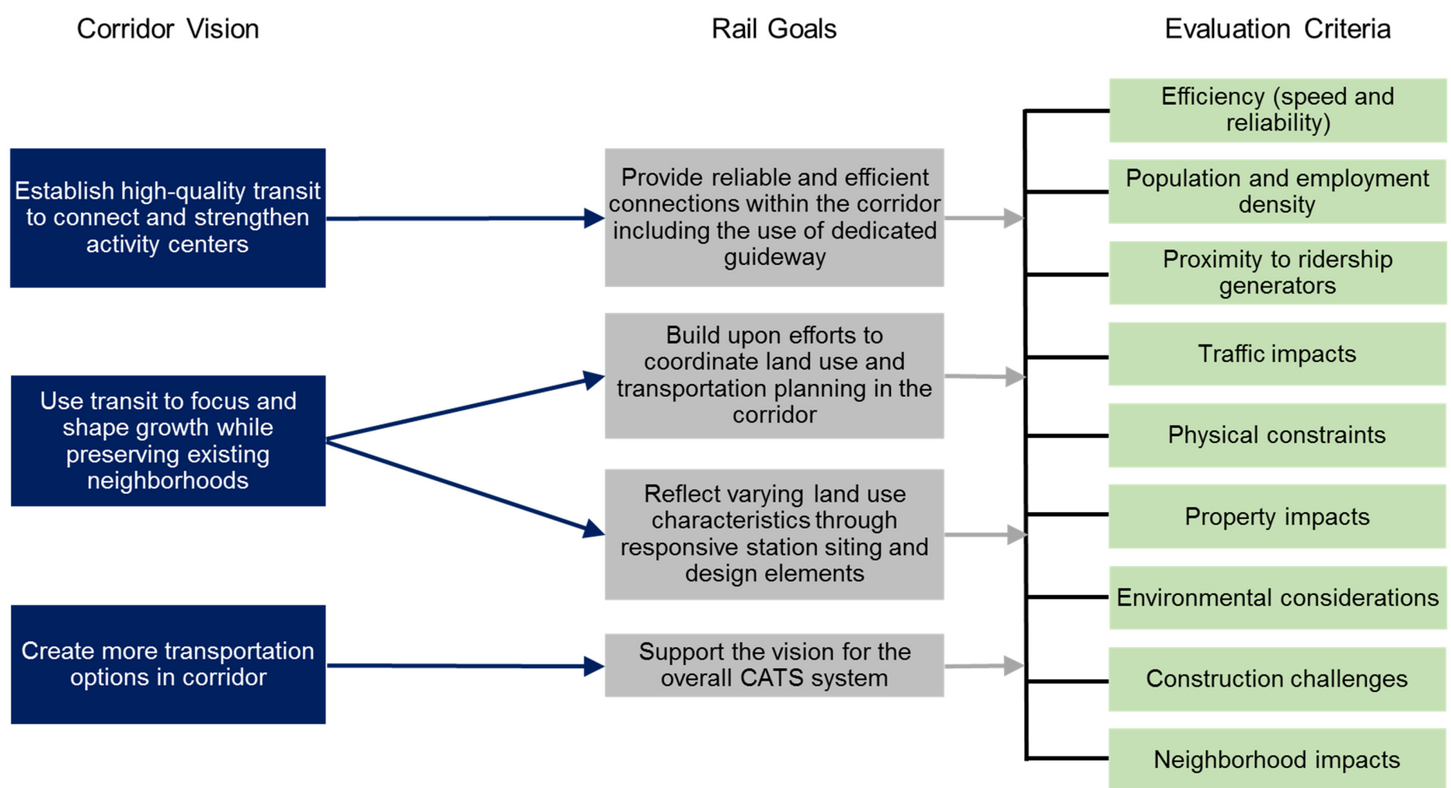
The initial stage of the evaluation process was to define the goals for the rail element of the Southeast Corridor. These goals were formed from a broader vision that sought to define the overall roles of high-capacity transit in the corridor. During the course of the study, it became clear that synergies already in place can be built upon to create a corridor vision that is truly a renewed land use and transportation vision. Rather than thinking narrowly of a light rail project in the corridor, a tremendous opportunity exists to view this project as a comprehensive mobility, land use, and quality of life approach that includes light rail as well as managed lanes, enhanced bicycle and pedestrian connections including trails, and new street connections supporting a viable land use vision.

The corridor vision statements and corresponding rail goals were established based on initial discussion with the Project Management Team (PMT) and other stakeholders, including a specific goal-setting workshop held with the PMT. These goals were then refined based on feedback gathered through the first round of Public Workshops. Using the established goals as a basis, several related evaluation criteria were defined to assess the various benefits and impacts of each route option. Viewed collectively, the evaluation criteria help to determine how well particular route options address the overall goals and vision for the project.

A tremendous opportunity exists to view this project as a comprehensive mobility, land use, and quality of life approach.

The corridor vision, rail goals, and supporting evaluation criteria for the Silver Line rail project are shown in **Figure 4**.

Figure 4: Corridor Vision, Rail Goals, and Evaluation Criteria

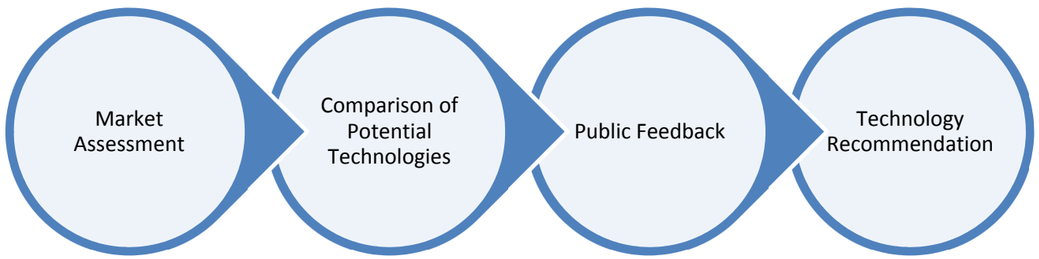


4 STAGE 2 – IDENTIFICATION AND SCREENING OF INITIAL CORRIDOR SEGMENTS

4.1 Rail Technology Identification

As stated earlier, both rail and bus modes are integral parts of a corridor solution for transit. It is recognized that express bus services will use the future US 74 express lanes; however, a rail technology must be selected for the rail investment in the corridor. The preferred rail technology was selected using the approach outlined and described in **Figure 5** below.

Figure 5: Rail Technology Selection Approach



4.1.1 Market Assessment

Previous transit studies in the corridor principally examined light rail transit (LRT) and bus rapid transit (BRT) modes, recognizing the need for enhanced transit to serve a variety of trip purposes within the corridor. This current study affirmed this previous finding that although suburban commuters can benefit from improved transit between outlying communities and the Uptown Charlotte employment hub, this is not the only transit need in the corridor. As demonstrated in the *Opportunity Statement* published as part of this study, there is a significant level of trip-making within the corridor for all trip purposes, not just longer-distance commute trips. For this reason, commuter rail was deemed to be inconsistent with the specific transit needs under consideration. Commuter rail may indeed be part of a larger-scale regional transit network in the future, but because it serves a different type of need, commuter rail is recommended to be reconsidered in the context of a separate study of regional transit needs extending farther into the counties surrounding Mecklenburg.

Commuter rail may indeed be part of a larger-scale regional transit network in the future, but it serves a different type of need.

In 2011, the Urban Land Institute's Rose Center Fellowship Report recommended implementation of streetcar along the entire length of Monroe Road through the City of Charlotte, with a connector on Sharon Amity Road and Albemarle Road to the Eastland Mall site. The intent of this recommendation is to help create a more transit- and pedestrian-focused environment along Monroe Road as compared to the auto-centric environment along Independence Blvd. Streetcar technology has demonstrated its compatibility with higher-density, transit-focused development; however, there are nuances between the streetcar and light rail design philosophies that optimize the benefits of each for different environments.

4.1.2 Comparison of Potential Rail Technologies

Building upon the assessment of markets to be served in the corridor, light rail and streetcar technologies were evaluated in more detail to determine which is most compatible with the Southeast Corridor transit needs. Although there are some projects that blend various design elements of both light rail and streetcar, the primary differences are highlighted in **Table 1**.

Table 1: Differences Between Streetcar and Light Rail

Streetcar		Light Rail
• Intended for short connections within a compact urban setting • Focus is on local access and circulation – a "walk extender"	**Markets Served**	• Intended for longer-distance trips across a city or from suburbs into city • Focus is on regional mobility
• Does not require its own right-of-way • Typically shares lanes with autos in mixed traffic (like a bus)	**Right-of-Way**	• Typically has own right-of-way, with limited interaction with autos and fewer utility conflicts • Can operate in its own corridor or in-street (separated from autos)
• Stations (stops) every 2-3 blocks • Simple platforms at a lower height blend into urban streetscape • Intended for walk-up access	**Station Spacing and Design**	• Stations every 1-2 miles • Larger stations to serve longer trains • Some stations have park-and-ride access • Higher platforms enable level boarding
• Smaller and more nimble than light rail • Usually operates as single car • Typical length = 60'-70' • Speed = up to 40 mph • Capacity = 120-150 (seated + standing)	**Type of Vehicle**	• Larger vehicles (for higher capacities) • Can connect 2-4 cars • Typical length = 90'-100' • Speed = up to 60 mph • Capacity = 170-200 (seated + standing)
• Can make tighter turns than light rail • Lots of interaction with peds and bicycles	**Track Design**	• Larger vehicles require wider turns • Focus on limiting interaction with autos / peds / bicycles

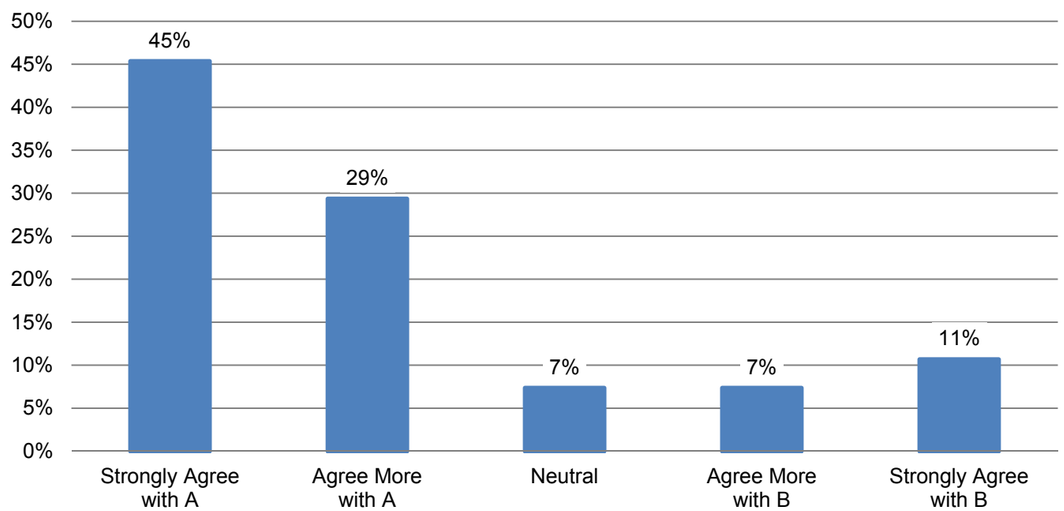
4.1.3 Public Feedback

During the first round of public workshops in August 2015, participants were posed with a series of trade-off questions. These trade-off activities sought input regarding several key planning considerations that are important components of overall transit service design. For each trade-off, two opposing statements were offered, and participants were asked to select the statement that better aligns with their opinion, and also indicate the strength of their preference. The responses shown are specific to the Southeast Corridor, given the public's understanding of the overall travel needs in the corridor. Different corridors with different needs would elicit different responses.

One of the trade-off questions focused on the willingness of participants to accept property takings along the rail corridor in order to create fast service. Statement **A** indicated, **"I want an efficient and reliable travel time, even if it means significant property must be acquired for a dedicated right-of-way,"** and Statement **B** indicated, **"I want to minimize property impacts, even if it results in less consistent travel times due to rail transit sharing travel lanes with cars."**

Of all the trade-off exercises, this comparison had the strongest response in affirmation of one particular statement. Although results differed somewhat by the workshop location and by the zip codes of participants, an overwhelming majority of participants, 74 percent, supported Statement **A** (see **Figure 6**). A total of 150 people responded to this trade-off question during the public workshops.

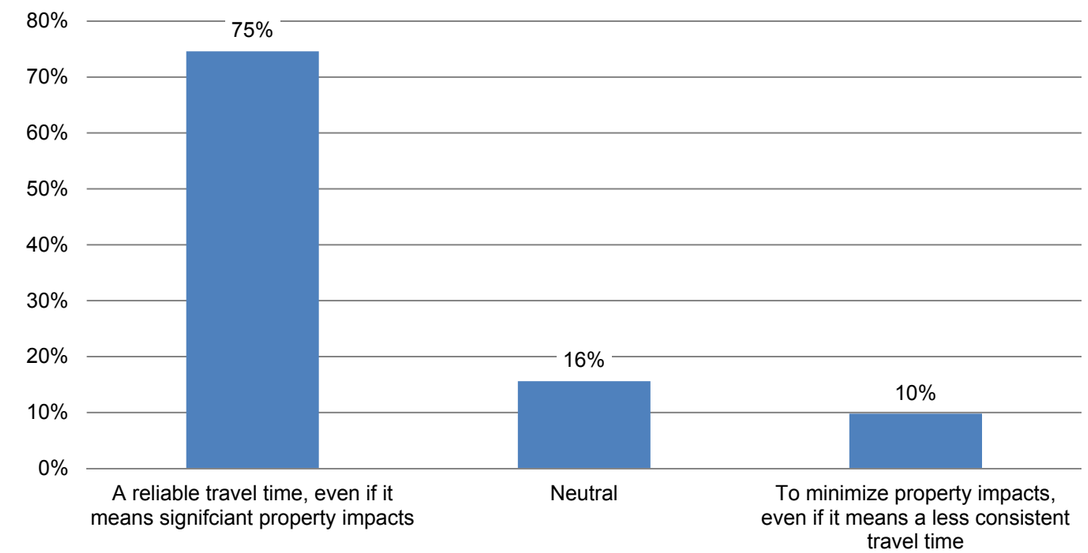
Figure 6: Trade-Off Question: Reliability vs. Property Impacts (Public Workshops)



These results indicate that the public has a strong desire for reliable rail service, even if significant property acquisitions are required to create a dedicated right-of-way.

Similar results were obtained from an online survey that was posted for approximately two months after the first round of public workshops. Approximately 300 people responded to this question on the online survey, and respondents overwhelmingly supported an emphasis on reliability, as shown in **Figure 7**.

Figure 7: Trade-Off Question: Reliability vs. Property Impacts (Online Survey)



Building from these responses, one of the rail goals established (see Section 3) was to "Provide reliable and efficient connections within the corridor including the use of dedicated guideway".

4.1.4 Technology Recommendation

Based on the market assessment, it is clear that this corridor has a diverse array of travel needs within the corridor that focuses on trips between neighborhoods or across the city, with less of an emphasis on short trips within a neighborhood. Likewise, public feedback indicates that for these longer types of trips, it is important to have a reliable travel time, and a primary determinant of schedule reliability is the provision of dedicated right-of-way for transit.

The design philosophy of light rail is most appropriate for the Southeast Corridor given these considerations. Streetcar is a viable technology for shorter-distance trips where travel time is not as critical, but the nature of travel expected in the Southeast Corridor is more appropriately served by light rail.

The diverse array of travel needs in the Southeast Corridor between neighborhoods and across the city is most appropriately served by light rail.

It should be noted that as the design process proceeds, there could be the need to consider some short segments of streetcar-like conditions in areas with severe space restrictions such as Uptown Charlotte. However, the use of shared right-of-way with automobiles should be minimized, and in accordance with the goal cited above, the alignment process sought to focus on areas where dedicated right-of-way is viable.

4.2 Segment Identification

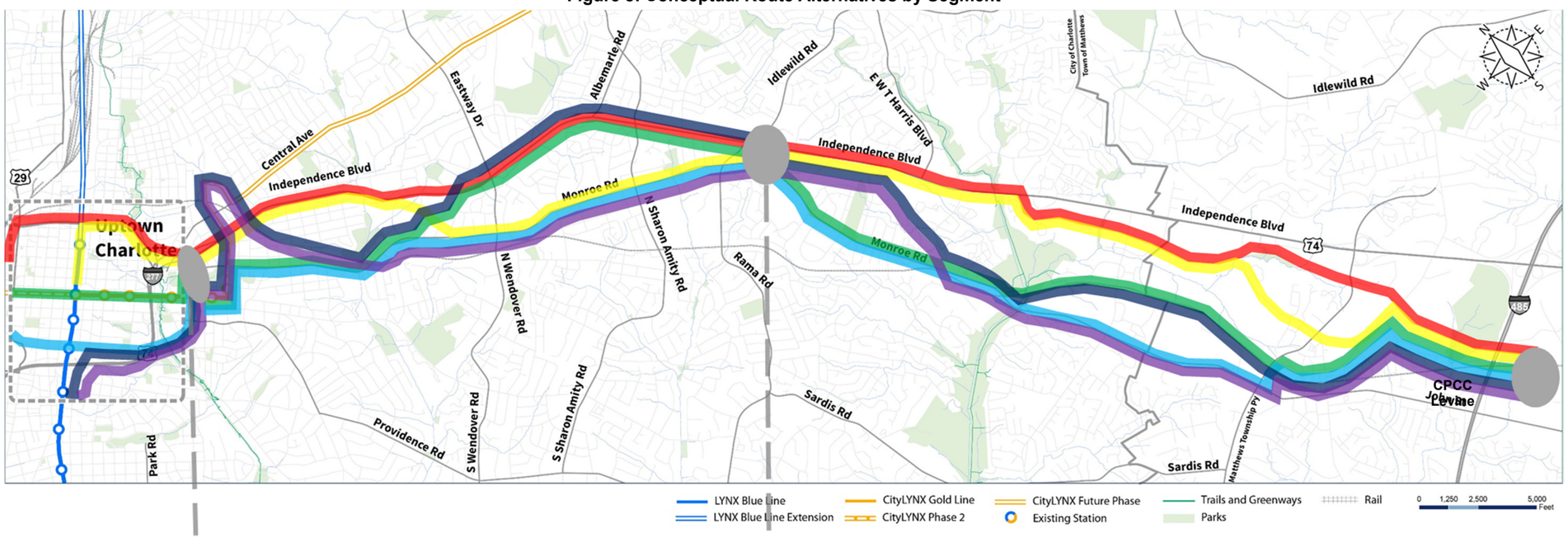
Based on feedback from the PMT, other stakeholder meetings, and from the public workshops, a "long list" of potential rail route options was identified within the corridor. Each of these options sought to address the overall vision and goals for the project.

Recognizing the differing demographic and development characteristics of the corridor between Uptown Charlotte and Matthews, the corridor was subdivided into three geographic segments, or sub-areas (see **Figure 8**):

- "Inner Segment" is Uptown Charlotte (high-density commercial, residential, and institutional uses);
- "Middle Segment" is from Uptown Charlotte to Idlewild Road / Conference Drive (strip commercial development with clusters of higher density focused on existing corridors), and
- "Outer Segment" is from Idlewild Road / Conference Drive to Matthews (a mix of land uses and densities including the Town of Matthews).

Within each segment, various rail options were identified. During this stage of the evaluation, the focus is on identifying benefits, impacts, and challenges within each of the three segments. The alignments within the segments generally come together in the vicinity of Charlottetowne Avenue and Meridian Place (between Idlewild Road and Conference Drive). In the subsequent evaluation step (Stage 3), the most viable options within each segment are stitched together to create a series of corridor options.

Figure 8: Conceptual Route Alternatives by Segment



Inner Segment

- 12th to Gateway
- 12th to BLE
- Trade St. Interline
- Stonewall to Gateway
- Stonewall to Carson
- I-277 to Carson

Middle Segment

- Independence
- Independence to Monroe
- 7th to Independence
- 7th to Monroe
- Gold Line / CSX / Independence
- Gold Line / CSX / Monroe

Outer Segment

- Independence to Independence Pointe
- Independence to Sam Newell
- Monroe / CSX / Downtown Matthews
- Monroe / Downtown Matthews
- Village Lake / CSX / Downtown Matthews
- Village Lake / Monroe / Downtown Matthews

4.2.1 Inner Segment: Uptown Charlotte

The six route options identified in Uptown Charlotte are shown in **Figure 9;** a brief description of each option is provided in **Table 2**.

Figure 9: Inner Segment Route Options

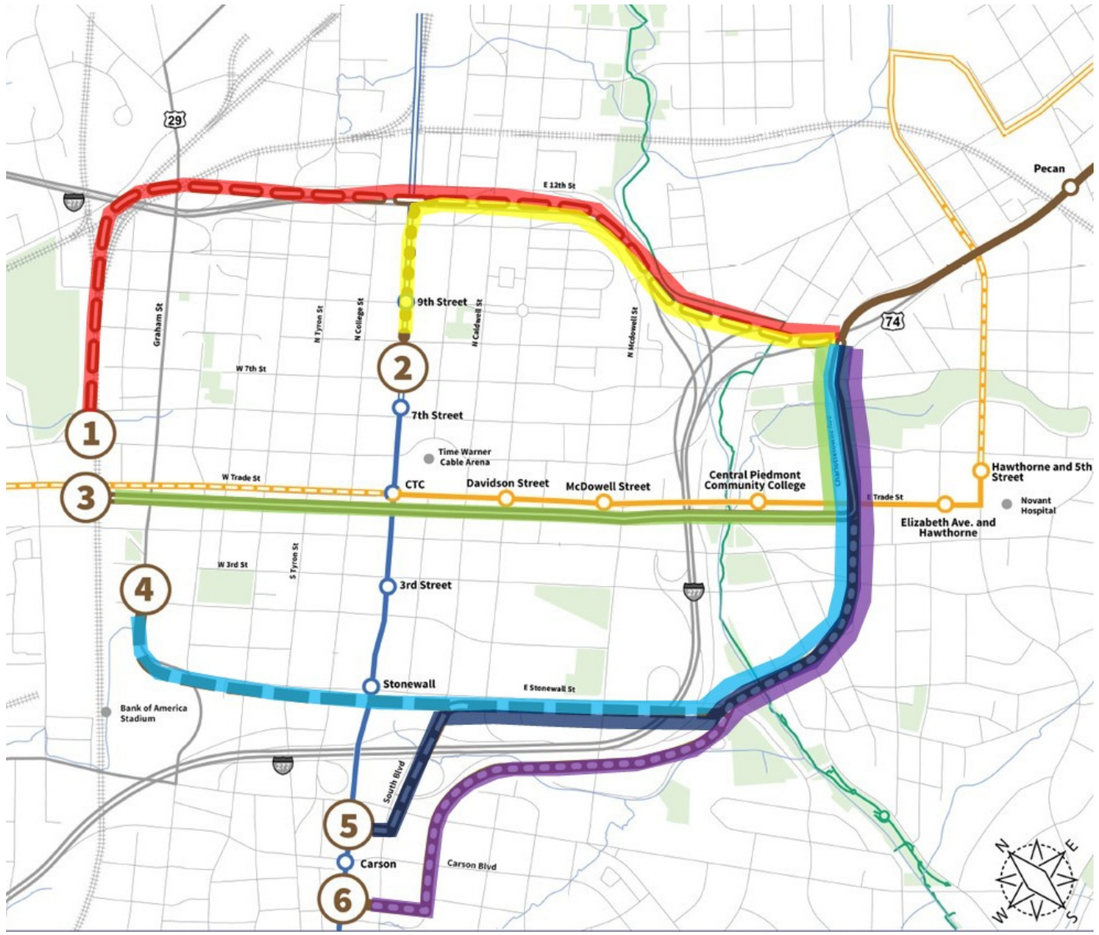


Table 2: Descriptions of Inner Segment Route Options

Alignment Option	Description
1 12th to Gateway Station	• The rail alignment would operate in its own right-of-way generally between 12th Street and I-277, crossing under I-277 at the CSX railroad underpass. The alignment would operate in-street along Smith Street to the future Gateway Station area. • Direct connection to Gateway Station and LYNX Blue Line. • Supports development and connectivity efforts at Gateway Station area. • Access to LYNX Blue Line would be through a transfer. • Does not go through the heart of Uptown. • Potential to extend to the west.
2 12th to Blue Line Extension (BLE)	• The rail alignment would operate in its own right-of-way generally between 12th Street and I-277, connecting directly onto Blue Line Extension tracks at 12th Street. • Direct connection to the LYNX Blue Line. • Connection to the Charlotte Transportation Center via Blue Line. • Does not access Gateway Station. • Potential to extend to the west.
3 Trade (Interline with Gold Line)	• Silver Line trains would share tracks with CityLYNX Gold Line streetcars through Uptown Charlotte. • Direct connection to the Charlotte Transportation Center and heart of Uptown Charlotte. • Sharing tracks would make efficient use of rail infrastructure that is already in place; however, the Trade Street alignment has more frequent stops and is inconsistent with the desired characteristics of the Silver Line to facilitate quicker trips over longer distances. • Enhancing the prioritization of transit on Trade Street (for example, with a dedicated transit lane) would improve the travel speeds of rail vehicles on Trade Street. • Could extend to Gateway Station and beyond to the west.
4 Stonewall to Gateway Station	• Creates a new rail alignment that connects to the Blue Line on the south side of Uptown at Stonewall Station. • The rail alignment would travel along Charlottetowne Avenue, then along Stonewall Street where it would operate in-street for a short distance before turning north on Graham Street. • Provides connection to Gateway Station. • Mixed traffic decreases reliability. • Special events at Bank of America Stadium may impact reliability.
5 Stonewall to Carson	• Creates a new rail alignment that connects to the Blue Line on the south side of Uptown at Carson Station. • The rail alignment would travel along Charlottetowne Avenue., then along Stonewall Street before turning south at South Boulevard, where it would cross I-277. • Silver Line trains would not necessarily connect onto the Blue Line alignment; instead, the Silver Line could continue westward. • Does not connect to Gateway Station. • Mixed traffic decreases reliability.
6 I-277 to Carson	• Creates a new rail alignment that would connect to the Blue Line in the South End area near the Carson Station. • The rail alignment would travel along Charlottetowne Avenue., then could travel along Stonewall Street or in a new guideway along the south side of I-277, before operating in-street along Carson Street. • Creation of a new alignment in the vicinity of I-277 is likely to require acquisition of existing properties. • Silver Line trains would not necessarily connect onto the Blue Line alignment; instead, the Silver Line could continue westward.

4.2.2 Middle Segment: Uptown Charlotte to Idlewild Road / Conference Drive

The six route options identified from Uptown Charlotte to Idlewild Road / Conference Drive are shown in **Figure 10;** a brief description of each option is provided in **Table 3**.

Figure 10: Middle Segment Route Options

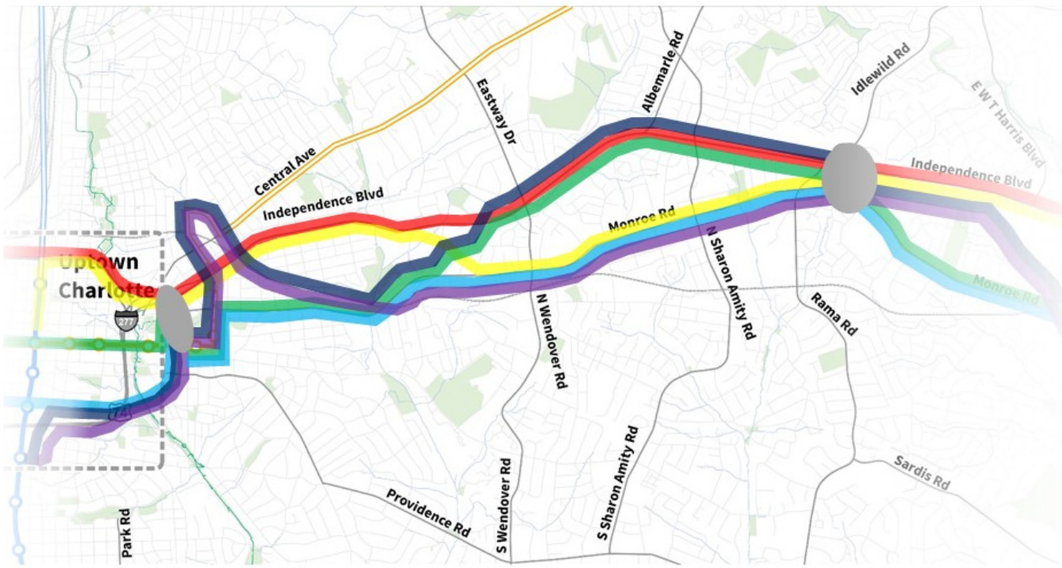


Table 3: Descriptions of Middle Segment Route Options

Alignment Option	Description
1 Independence	• Creates a new exclusive rail guideway alongside Independence Boulevard. • The guideway could run along the north side of Independence Boulevard between Charlottetowne Avenue and Bojangles' Coliseum, and on the south side of Independence Boulevard between Bojangles' Coliseum and Meridian Place. • Design challenges include street crossings of Independence Boulevard such as Hawthorne Lane.
2 Independence to Monroe	• Creates a new exclusive rail guideway along the north side of Independence Boulevard between Charlottetowne Avenue and Bojangles' Coliseum, then creates a new rail guideway in the median of Monroe Road next to the vehicle lanes between Bojangles' Coliseum and Meridian Place. • Design challenges include street crossings of Independence Boulevard such as Hawthorne Lane. • Widening of Monroe Road would be needed to create space for two vehicle lanes in each direction, plus a rail guideway in the roadway median consisting of two tracks (one in each direction). • Property impacts would consist of encroachment into existing front yards and parking lots.
3 7th to Independence	• The rail alignment would operate in-street along Monroe Road / 7th Street before transitioning at Bojangles' Coliseum to side-running to the south of Independence Boulevard. • The narrow width of 7th Street / Monroe Road through the Elizabeth and Grier Heights neighborhoods and numerous structures close to the street would result in significant property impacts for any street widening. • The use of reversible lanes along 7th Street makes incorporation of a rail guideway much more complex.
4 7th to Monroe	• The rail alignment would operate in-street along Monroe Road / 7th Street before transitioning at Bojangles' Coliseum to a new rail guideway in the median of Monroe Road next to the vehicle lanes. • The narrow width of 7th Street / Monroe Road through the Elizabeth and Grier Heights neighborhoods and numerous structures close to the street would result in significant property impacts for any street widening. • Sharing one lane in each direction between rail and autos would reduce the widening required, but would also reduce the speed and reliability of the rail line. • The use of reversible lanes along 7th Street makes incorporation of a rail guideway much more complex.
5 Gold Line / CSX / Independence	• Silver Line trains would share tracks with CityLYNX Gold Line streetcars along Trade Street and Hawthorne Lane. • Creates a new two-track rail alignment adjacent to the existing CSX track within the CSX right-of-way before transitioning at Bojangles' Coliseum to side-running to the south of Independence Boulevard. • CSX has stated opposition to the shared use of their right-of-way.
6 Gold Line / CSX / Monroe	• Silver Line trains would share tracks with CityLYNX Gold Line streetcars along Trade Street and Hawthorne Lane. • Creates a new two-track rail alignment adjacent to the existing CSX track within the CSX right-of-way before transitioning at Bojangles' Coliseum to a new rail guideway in the median of Monroe Road next to the vehicle lanes. • CSX has stated opposition to the shared use of their right-of-way.

4.2.3 Outer Segment: Idlewild Road / Conference Drive to Matthews

The six route options identified from Idlewild Road / Conference Drive to Matthews are shown in **Figure 11**; a brief description of each option is provided in **Table 4.**

Figure 11: Outer Segment Route Options

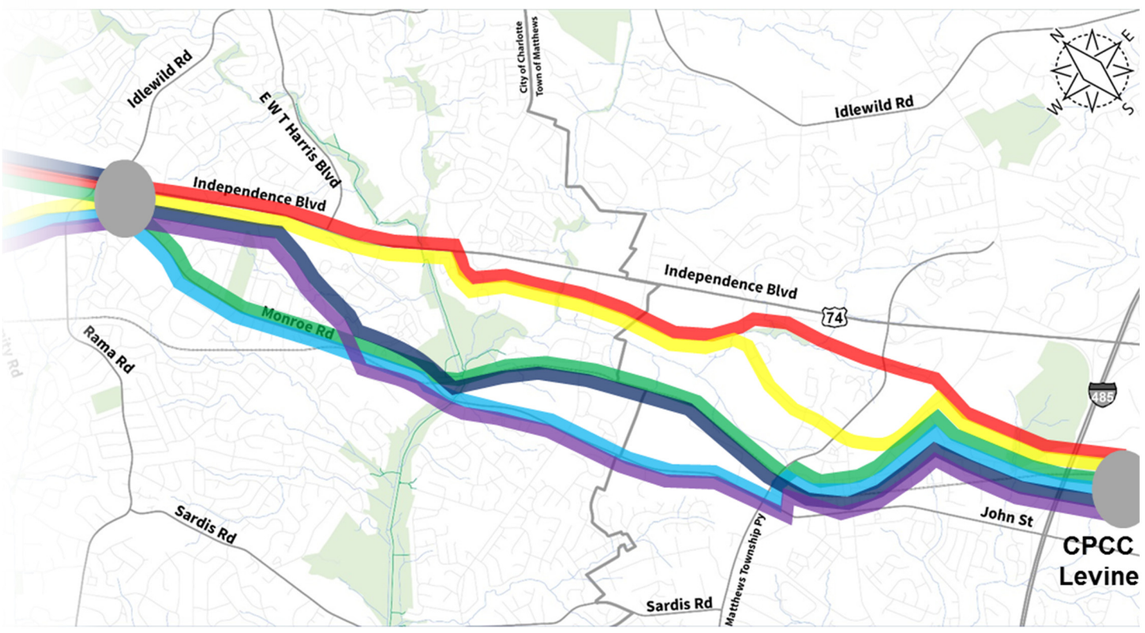


Table 4: Descriptions of Outer Segment Route Options

Segment		Description
1	Independence to Independence Pointe	• Creates a new exclusive rail guideway along the south side of Independence Boulevard consisting of two tracks; space for an adjacent bicycle / pedestrian trail could also be reserved. Existing properties on the south side of Independence Boulevard would need to be acquired. • The portion of the alignment along Krefield Drive and Independence Pointe Parkway would use widened and new street connections.
2	Independence to Sam Newell	• Creates a new exclusive rail guideway alongside Independence Boulevard consisting of two tracks; space for an adjacent bicycle / pedestrian trail could also be reserved. Existing properties on the south side of Independence Boulevard would need to be acquired. • The portion of the alignment along Krefield Drive and Independence Pointe Parkway would use widened and new street connections. • Creates a new guideway generally along Sam Newell Road and Matthews–Mint Hill Road. Property impacts appear to be limited to open space along much of the alignment. • A new alignment would need to be created between Trade Street and Matthews–Mint Hill Road generally on hospital property between the hospital and Downtown Matthews.
3	Monroe / CSX / Downtown Matthews	• A new alignment would operate in the median of Monroe Road next to the vehicle lanes, connect to the existing CSX railroad right-of-way between the CSX bridge near McAlpine Creek and Matthews Township Parkway (NC 51). • In the segment along the CSX right-of-way, create a new two-track rail alignment adjacent to the existing CSX track. • CSX has stated opposition to the shared use of their right-of-way. • A new alignment through Downtown Matthews generally runs along the side of existing streets, although some in-street segments may be required and some segments would require property acquisitions.
4	Monroe / Downtown Matthews	• A new alignment would operate in the median of Monroe Road next to the vehicle lanes, which will require property acquisitions due to the encroachment into existing front yards and parking lots. • A new alignment would operate in-street along E. Matthews Street, and generally along the side of existing streets through Downtown Matthews, which will require property acquisitions along some segments.
5	Village Lake / CSX / Downtown Matthews	• Creates a new alignment that turns south from Independence Boulevard at Sharon Forest Drive, tucking a new guideway between existing neighborhoods, connecting to Village Lake Drive where it would operate as side-running. • A new alignment would operate in the median of Monroe Road next to the vehicle lanes, connect to the existing CSX railroad right-of-way between the CSX bridge near McAlpine Creek and Matthews Township Parkway (NC 51). • In the segment along the CSX right-of-way, create a new two-track rail alignment adjacent to the existing CSX track. • CSX has stated opposition to the shared use of their right-of-way. • A new alignment would operate in-street along E. Matthews Street, and generally along the side of existing streets through Downtown Matthews, which will require property acquisitions along some segments.
6	Village Lake / Monroe / Downtown Matthews	• Creates a new alignment that turns south from Independence Boulevard at Sharon Forest Drive, tucking a new guideway between existing neighborhoods, connecting to Village Lake Drive where it would operate as side-running. • A new alignment would operate in the median of Monroe Road next to the vehicle lanes, which will require property acquisitions due to the encroachment into existing front yards and parking lots. • A new alignment would operate in-street along E. Matthews Street, and generally along the side of existing streets through Downtown Matthews, which will require property acquisitions along some segments.

4.3 Initial Screening of Segments

As part of the initial screening process, a screening analysis of constraints and challenges associated with each of the segments was completed. The defining characteristics of each option are summarized for each segment in **Table 5, Table 6,** and **Table 7**, respectively. Supporting exhibits are included as **Appendix A**.

Table 5: Initial Screening (Inner Segment)

Criteria	**Option 1** 12th to Gateway	**Option 2** 12th to BLE	**Option 3** Trade interline	**Option 4** Stonewall to Gateway	**Option 5** Stonewall to Carson	**Option 6** I-277 to Carson
Efficiency (speed & reliability)	• Slower progression when operating in mixed traffic along Smith Street.	• Expected to efficiently operate in side-running cross-section.	• **Slower progression when operating in mixed traffic along Trade Street when tied into Gold Line Route.**	• **Slower progression when operating in mixed traffic along Graham Street between Gateway Station and BLE.**	• Efficiency slightly impacted by operating in median of Charlottetowne Avenue.	• **Slower progression when operating in mixed traffic along Caldwell Street.**
Population and Employment Density	• Highest population density among segments.	• Relatively high population density.	• Relatively high population density. • Highest employment density among segments.	• Relatively high employment density.	• Relatively high employment density.	• Relatively low population and employment density.
Proximity to Ridership Generators	• Directly accesses Gateway Station.	• Directly accesses the Charlotte Transportation Center.	• Directly accesses the Charlotte Transportation Center and Gateway Station.	• Directly accesses the Metropolitan, NASCAR Hall of Fame, Convention Center, Panthers Stadium and Gateway Station.	• Directly accesses the Metropolitan and BLE Carson Station.	• Directly accesses BLE Carson Station.
Traffic Impacts	• Mixed traffic along Smith Street.	• Anticipate minimal impacts to vehicular traffic progression.	• Ties into Gold Line Route.	• **Mixed traffic on Graham Street between Gateway Station and BLE / Convention Center.** • Reduces traffic capacity on Charlottetowne Avenue.	• Reduces traffic capacity on Charlottetowne Avenue.	• **Mixed traffic in Caldwell Street.** • Reduces traffic capacity on Charlottetowne Avenue.
Physical Constraints *(see Appendix A; Figure A1)*	• Potentially 3 severe constraints: 1. Requires a tunnel under I-277. 2. Rebuilding Graham Street overpass over freight railroad. 3. Rebuild Central Avenue Bridge.	• Potentially 1 severe constraint: 1. Rebuild Central Avenue Bridge.	• No severe constraints were identified.	• No severe constraints were identified.	• Potentially 2 severe constraints: 1. New bridge at Morehead Street over South Boulevard. 2. Possible new bridge at South Boulevard over I-277.	• No severe constraints were identified.
Property Impacts	• Approximately 1 building and 5 parcels will be impacted.	• No impacts to existing buildings. • Approximately 1 parcel will be impacted.	• No impacts to buildings or parcels.	• No impacts to buildings or parcels.	• No impacts to buildings or parcels.	• Approximately 2 building and 3 parcels will be impacted.
Environmental Considerations *(see Appendix A; Figure A4)*	• Passes through EJ areas (1 minority and 5 low income). • Proximity to 1 community feature. • Crosses 3 SHPO historic districts. • Crosses 1 stream and 1 floodplain.	• Passes through EJ areas (1 minority and 4 low income). • Proximity to 1 community feature. • Crosses 1 SHPO historic district. • Crosses 1 stream and 1 floodplain.	• Passes through EJ areas (3 low income). • No community features. • Crosses 1 SHPO historic district. • No impacts to streams or floodplains.	• Passes through EJ areas (2 low income). • Proximity to 1 community feature. • Crosses 1 SHPO historic district. • Crosses 1 stream and 1 floodplain.	• Passes through EJ areas (3 low income). • Proximity to 1 community feature. • Crosses 1 SHPO historic district. • Crosses 1 stream and 1 floodplain.	• Passes through EJ areas (3 low income). • Proximity to 1 community feature. • Crosses 1 SHPO historic district. • Crosses 2 streams and 1 floodplain.
Construction Challenges *(see Appendix A; Figure A7)*	• Potentially 4 severe challenges: 1. Tunnel under I-277 2. Rebuilding Graham Street overpass over freight rail will require coordination 3. Guideway between 12th Street and I-277 will require portions of 12th Street, I-277 ramps, Church Street, Tryon Street and College Street to be temporarily closed for construction and construction staging 4. Rebuilding Central Avenue Bridge will require temporary lane closures on Central Avenue and Independence	• Potentially 2 severe challenges: 1. Guideway between 12th Street and I-277 will require portions of 12th Street, I-277 ramps and College Street to be temporarily closed for construction and construction staging 2. Rebuilding Central Avenue Bridge will require temporary lane closures on Central Avenue and Independence	• Potentially 1 severe challenge: 1. Existing streetcar stations will have to maintained while being extended to accommodate light rail vehicle	• No severe challenges were identified.	• Potentially 2 severe challenges: 1. New Morehead Street bridge over South Boulevard will require temporary closures on Morehead Street and South Boulevard 2. New South Boulevard bridge over I-277 will require temporary closures on South Boulevard and I-277	• No severe challenges were identified.
Neighborhood Impacts	• Supports efforts at Gateway Station.	• Supports existing Charlotte Transportation Center.	• Supports existing Charlotte Transportation Center and efforts at Gateway Station.	• Connection from Metropolitan to Uptown would strengthen area. • Strengthens connection to NASCAR Hall of Fame, Convention Center and Panthers Stadium. • Supports efforts at Gateway Station.	• Connection from Metropolitan to Uptown would strengthen area.	• Connection from Metropolitan to Uptown would strengthen area.

Data sources: US Census, Mecklenburg County GIS, NC State Historic Preservation Office

Table 6: Initial Screening (Middle Segment)

Criteria	Option 1 Independence	Option 2 Independence to Monroe	Option 3 7th Street to Independence	Option 4 7th Street to Monroe	Option 5 Gold Line / CSX / Independence	Option 6 Gold Line / CSX
Efficiency (speed & reliability)	• Expected to efficiently operate side-running along Independence Boulevard.	• Expected to efficiently operate side-running along Independence Boulevard. • Efficiency slightly impacted by operating in median of Monroe Road.	• Efficiency slightly impacted by operating in median of Charlottetowne Avenue. • **Slower progression when operating in mixed traffic along 7th Street when tied into Gold Line Route.**	• Efficiency slightly impacted by operating in median of Charlottetowne Avenue. • **Slower progression when operating in mixed traffic along 7th Street when tied into Gold Line Route.**	• Slower progression when operating in mixed traffic along Pecan Avenue. • Expected to efficiently operate in CSX right-of-way.	• Slower progression when operating in mixed traffic along Pecan Avenue. • Expected to efficiently operate in CSX right-of-way.
Population and Employment Density	• Population density is similar for all options in this segment. • Relatively low employment density.	• Population density is similar for all options in this segment. • Relatively low employment density.	• Population density is similar for all options in this segment. • Relatively high employment density.	• Population density is similar for all options in this segment. • Highest employment density among segments.	• Population density is similar for all options in this segment.	• Population density is similar for all options in this segment.
Proximity to Ridership Generators	• Directly accesses Bojangles' Coliseum.	• Directly accesses Bojangles' Coliseum.	• Directly accesses Bojangles' Coliseum.	• Directly accesses Bojangles' Coliseum.	• Directly accesses Bojangles' Coliseum.	• Directly accesses Bojangles' Coliseum.
Traffic Impacts	• Anticipate minimal impacts to vehicular traffic progression.	• Slight impacts to vehicular traffic progression with fixed transit operating in median of Monroe Road.	• Reduces traffic capacity on Charlottetowne Avenue. • Slower progression when operating in mixed traffic along Trade Street when tied into Gold Line Route. • **Slower progression when operating in mixed traffic along 7th Street.**	• Reduces traffic capacity on Charlottetowne Avenue. • Slower progression when operating in mixed traffic along Trade Street when tied into Gold Line Route. • **Slower progression when operating in mixed traffic along 7th Street.**	• Mixed traffic along Pecan Avenue.	• Mixed traffic along Pecan Avenue.
Physical Constraints *(see Appendix A; Figure A2)*	• Potentially 5 severe constraints: 1. New bridge over US74 2. Hawthorne Bridge 3. Bridge over US74 in the vicinity of Morningside Drive; skew and long 4. Sharon Amity Interchange 5. Bridge over Idlewild Road	• Potentially 5 severe constraints: 1. New bridge over US74 2. Hawthorne Bridge 3. Bridge over US74 in the vicinity of Morningside Drive; skew and long 4. Grade separated into Monroe Road 5. Bridge over Wendover Road	• Potentially 3 severe constraints: 1. Hawthorne Road / 7th Street intersection 2. Sharon Amity Interchange 3. Bridge over Idlewild Road	• Potentially 2 severe constraints: 1. Hawthorne Road / 7th Street intersection 2. Bridge over Wendover Road	• Potentially 4 severe constraints: 1. CSX right-of-way between Pecan Avenue and Monroe Road 2. Grade separated into Monroe Road 3. Sharon Amity Interchange 4. Bridge over Idlewild Road	• Potentially 3 severe constraints: 1. CSX right-of-way between Pecan Avenue and Monroe Road 2. Grade separated into Monroe Road 3. Bridge over Wendover Road
Property Impacts	• **Approximately 17 building and 15 parcels will be impacted.**	• Approximately 3 building and 5 parcels will be impacted.	• **Approximately 18 building and 16 parcels will be impacted.**	• Approximately 4 building and 2 parcels will be impacted.	• **Approximately 19 building and 18 parcels will be impacted.**	• Approximately 5 building and 2 parcels will be impacted.
Environmental Considerations *(see Appendix A; Figure A5)*	• Passes through EJ areas 1 minority; and 5 low income. • Proximity to 3 community features. • Crosses 3 SHPO historic districts. • Near 2 hazmat areas. • Anticipate minimal noise impacts due to proximity to Independence Boulevard.	• Passes through EJ areas 2 minority; and 5 low income. • Proximity to 4 community features. • Crosses 3 SHPO historic districts. • Near 1 hazmat area. • Noise impacts expected along Monroe Road.	• Passes through EJ areas 3 minority; and 7 low income. • Proximity to 1 community feature. • Crosses 4 SHPO historic districts. • Near 1 hazmat area. • **Potential impacts to park at Hawthorne Lane / 7th Street.** • Noise impacts expected along 7th Street.	• Passes through EJ areas 3 minority; and 6 low income. • Proximity to 2 community features. • Crosses 4 SHPO historic districts. • **Potential impacts to park at Hawthorne Lane / 7th Street.** • Noise impacts expected along 7th Street.	• Passes through EJ areas 2 minority; and 6 low income. • Proximity to 1 community feature. • Crosses 4 SHPO historic districts. • Near 1 hazmat area. • Anticipate minimal noise impacts near Independence Boulevard and in CSX corridor.	• Passes through EJ areas 2 minority; and 5 low income. • Proximity to 2 community features. • Crosses 4 SHPO historic districts. • Anticipate minimal noise impacts in CSX corridor.
Construction Challenges *(see Appendix A; Figure A8)*	• Potentially 4 severe challenges: 1. Temporary closure of US74 to construct new bridge 2. Constructability requires Hawthorne Bridge to be rebuilt or (if alignment is under US74) temporarily closing lanes on US74 3. New bridge over CSX will require coordination with rail road flagmen 4. Temporary closure of US74 to construct new bridge over US74 in the vicinity of Morningside Drive	• Potentially 4 severe challenges: 1. Temporary closure of US74 to construct new bridge 2. Constructability requires Hawthorne Bridge to be rebuilt or (if alignment is under US74) temporarily closing lanes on US74 3. New bridge over CSX will require coordination with rail road flagmen 4. Temporary closure of US74 to construct new bridge over US74 in the vicinity of Morningside Drive	• Potentially 2 severe challenges: 1. Temporary closure of Charlottetowne Avenue to build guideway in center lanes 2. Temporary closure of 7th Street between Hawthorne Road and 5th Street	• Potentially 2 severe challenges: 1. Temporary closure of Charlottetowne Avenue to build guideway in center lanes 2. Temporary closure of 7th Street between Hawthorne Road and 5th Street	• Potentially 2 severe challenges: 1. Temporary closure of Pecan Avenue to build guideway in mixed traffic 2. Construction and staging areas within CSX right-of-way between Pecan Avenue and Monroe Road	• Potentially 2 severe challenges: 1. Temporary closure of Pecan Avenue to build guideway in mixed traffic 2. Construction and staging areas within CSX right-of-way between Pecan Avenue and Monroe Road
Neighborhood Impacts	• Accesses the 4 station area and 2 overlay districts identified in the area plan. • Property impacts could be a positive neighborhood impact.	• Accesses the 2 station area and 3 overlay districts identified in the area plan. • Potential to strengthen neighborhoods along Monroe Road by provide additional mobility options.	• Accesses the 4 station area and 2 overlay districts identified in the area plan.	• Accesses the 2 station area and 3 overlay districts identified in the area plan. • Potential to strengthen neighborhoods along Monroe Road by provide additional mobility options.	• Accesses the 4 station area and 2 overlay districts identified in the area plan.	• Accesses the 2 station area and 3 overlay districts identified in the area plan. • Potential to strengthen neighborhoods along Monroe Road by provide additional mobility options.

Data sources: US Census, Mecklenburg County GIS, NC State Historic Preservation Office

Table 7: Initial Screening (Outer Segment)

Criteria	Option 1 Independence to Independence Pointe	Option 2 Independence to Sam Newell	Option 3 Monroe / CSX / Downtown Matthews	Option 4 Monroe / Downtown Matthews	Option 5 Village Lake / CSX / Downtown Matthews	Option 6 Village Lake / Monroe / Downtown Matthews
Efficiency (speed & reliability)	• Expected to efficiently operate side-running along Independence Boulevard.	• Expected to efficiently operate side-running along Independence Boulevard and Sam Newell Road.	• Efficiency slightly impacted by operating in median of Monroe Road. • Expected to efficiently operate in CSX right-of-way. • Slower progression when operating in mixed traffic along E Matthews Street.	• Efficiency slightly impacted by operating in median of Monroe Road. • Slower progression when operating in mixed traffic along E Matthews Street.	• Expected to efficiently operate in separate right-of-way near Village Lake and in CSX right-of-way. • Slower progression when operating in mixed traffic along E Matthews Street.	• Expected to efficiently operate in separate right-of-way near Village Lake right-of-way. • Slower progression when operating in mixed traffic along E Matthews Street.
Population and Employment Density	• Highest population density among segments.	• Relatively high population density.	• Relatively high employment density.		• Highest employment density among segments.	
Proximity to Ridership Generators	• Directly accesses the Sportsplex and CPCC.	• Directly accesses the Sportsplex and CPCC.	• Accesses Downtown Matthews. • Directly accesses the Sportsplex and CPCC.	• Accesses Downtown Matthews. • Directly accesses the Sportsplex and CPCC.	• Accesses Downtown Matthews. • Directly accesses the Sportsplex and CPCC.	• Accesses Downtown Matthews. • Directly accesses the Sportsplex and CPCC.
Traffic Impacts	• At-grade crossing with Sam Newell, Matthews Township and Matthews Mint Hill Road will result in impacts to cross streets.	• At-grade crossing with Matthews Mint Hill Road.	• Mixed traffic in E Matthews Street. • Impacts to Monroe Road vehicular traffic.	• Mixed traffic in E. Matthews Street. • Impacts to Monroe Road vehicular traffic. • At-grade crossing with Matthews Mint Hill Road.	• Mixed traffic in E. Matthews Street. • At-grade crossing with Matthews Mint Hill Road.	• Mixed traffic in E. Matthews Street. • Impacts to Monroe Road vehicular traffic. • At-grade crossing with Matthews Mint Hill Road.
Physical Constraints *(see Appendix A; Figure A3)*	• Potentially 5 severe constraints: 1. Grade separate over Idlewild Road; move south of the Idlewild Road / US74 Bridge 2. Grade separate over Conference Drive; move south of the Conference Drive/ US74 Bridge 3. Grade separated over Village Lake Drive 4. Powerline conflicts along Independence Pointe Parkway 5. New bridge over I-485	• Potentially 4 severe constraints: 1. Grade separate over Idlewild Road; move south of the Idlewild Road / US74 Bridge 2. Grade separate over Conference Drive; move south of the Conference Drive/ US74 Bridge 3. Grade separated over Village Lake Drive 4. New bridge over I-485	• Potentially 5 severe constraints: 1. Grade separated crossing to get into CSX right-of-way 2. In CSX right-of-way 3. Rebuild Sardis Road North bridge to provide space to go under 4. Rebuild Matthews Township Parkway bridge to provide space to go under 5. New bridge over I-485	• Potentially 3 severe constraints: 1. New CSX bridge over Monroe Road 2. New bridge over CSX 3. New bridge over I-485	• Potentially 6 severe constraints: 1. Grade separated into Monroe Road 2. Grade separated crossing to get into CSX right-of-way 3. In CSX right-of-way 4. Rebuild Sardis Road North bridge to provide space to go under 5. Rebuild Matthews Township Parkway bridge to provide space to go under 6. New bridge over I-485	• Potentially 4 severe constraints: 1. Grade separated into Monroe Road 2. New CSX bridge over Monroe Road 3. New bridge over CSX 4. New bridge over I-485
Property Impacts	• **Approximately 10 building and 20 parcels will be impacted.**	• Approximately 10 building and 20 parcels will be impacted.	• **Approximately 15 building and 1 parcel will be impacted.**	• Approximately 13 building and 20 parcels will be impacted.	• Approximately 10 building and 7 parcels will be impacted.	• Approximately 6 building and 7 parcels will be impacted.
Environmental Considerations *(see Appendix A; Figure A6)*	• Passes through EJ areas 3 minority; and 2 low income. • Crosses 3 wetlands, 10 streams, and 3 floodplains. • Anticipate minimal noise impacts due to proximity to Independence Boulevard.	• Passes through EJ areas 3 minority; and 2 low income. • Near 1 brownfield. • Crosses 2 wetlands, 6 streams, and 3 floodplains. • Minimal noise impacts along US74. Noise impacts expected elsewhere.	• Passes through EJ areas 3 minority; and 3 low income. • Near 1 brownfield. • Crosses 1 wetland, 5 streams, and 1 floodplain. • Anticipate minimal noise impacts in CSX corridor. Noise impacts expected elsewhere.	• Passes through EJ areas 3 minority; and 3 low income. • Near 1 brownfield. • Crosses 2 wetlands, 3 streams, and 1 floodplain. • Noise impacts expected.	• Passes through EJ areas 3 minority; and 3 low income. • Near 1 brownfield. • Crosses 1 wetland, 6 streams, and 1 floodplain. • Anticipate minimal noise impacts in CSX corridor.	• Passes through EJ areas 3 minority; and 3 low income. • Near 1 brownfield. • Crosses 2 wetlands, 4 streams, and 1 floodplain.
Construction Challenges *(see Appendix A; Figure A9)*	• Potentially 4 severe challenges: 1. Temporarily close of portions of Krefeld Drive to rebuild roadway with exclusive guideway 2. Temporarily close of portions of Independence Pointe Parkway to rebuild roadway with exclusive guideway 3. Possible relocate powerlines along Independence Pointe Parkway 4. Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485	• Potentially 2 severe challenges: 1. Temporarily close of portions of Krefeld Drive to rebuild roadway with exclusive guideway 2. Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485	• Potentially 5 severe challenges: 1. Construction and staging areas within CSX right-of-way between Monroe Road and Matthews Township Parkway 2. New Sardis Road North bridge will require temporary closures 3. New Matthews Township Parkway bridge will require temporary closures 4. Temporary closure of E Matthews Street from Ames Street through Trade Street 5. Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485	• Potentially 4 severe challenges: 1. Rebuilding CSX bridge over Monroe Road will require coordination with rail road flagmen 2. New bridge over CSX will require coordination with rail road flagmen 3. Temporary closure of E Matthews Street from Ames Street through Trade Street 4. Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485	• Potentially 3 severe challenges: 1. Construction and staging areas within CSX right-of-way between Monroe Road and Matthews Township Parkway 2. Temporary closure of E Matthews Street from Ames Street through Trade Street 3. Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485	• Potentially 4 severe challenges: 1. Rebuilding CSX bridge over Monroe Road will require coordination with rail road flagmen 2. New bridge over CSX will require coordination with rail road flagmen 3. Temporary closure of E Matthews Street from Ames Street through Trade Street 4. Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485
Neighborhood Impacts	• Accesses the 6 station areas identified in the Matthews Land Use Plan. • Possible catalyst for redevelopment in an area identified by the City as an area that could benefit from purchasing property along Independence Boulevard.	• Accesses the 5 station areas in the Matthews Land Use Plan. • Possible catalyst for redevelopment in an area identified by the City as an area that could benefit from purchasing property along US74.	• Accesses the 2 station areas identified in the Matthews Land Use Plan. • Potential to strengthen neighborhoods along Monroe Road. • Provide additional mobility option to Downtown Matthews.	• Accesses the 2 station areas identified in the Matthews Land Use Plan. • Potential to strengthen neighborhoods along Monroe Road. • Provide additional mobility option to Downtown Matthews.	• Accesses the 2 station areas identified in the Matthews Land Use Plan.	• Accesses the 2 station areas identified in the Matthews Land Use Plan.

After this initial review, most alternatives were relatively similar when compared to the evaluation criteria. Some segments better meet the criteria than others, but there were no obvious "fatal flaws". To further assess these segment-level options, additional analysis was undertaken to screen out options that are least viable.

Data sources: US Census, Mecklenburg County GIS, NC State Historic Preservation Office

4.4 Shared Lane Analysis

A key element of the vision for the corridor is to establish high-quality transit to connect and strengthen activity centers by offering reliable and efficient connections. An important aspect of achieving this goal is to provide as much exclusive guideway (i.e. not sharing lanes with other traffic) for rail as possible.

Several of the potential route options would operate within a street. Ideally, an exclusive guideway for transit would be achieved by either widening the roadway cross-section to accommodate a transit guideway in addition to the existing travel lanes, or by removing existing travel lanes to provide exclusive space for rail transit. However, in some cases, neither of these options is viable. In many instances, existing traffic volumes and projected growth in traffic volumes render it highly unlikely to obtain support for repurposing existing automobile travel lanes. Likewise, in many areas, widening to create space for a transit guideway may be impractical due to the nature and extent of development along the street edge, as well as potential harmful impacts to the community fabric due to roadway widening.

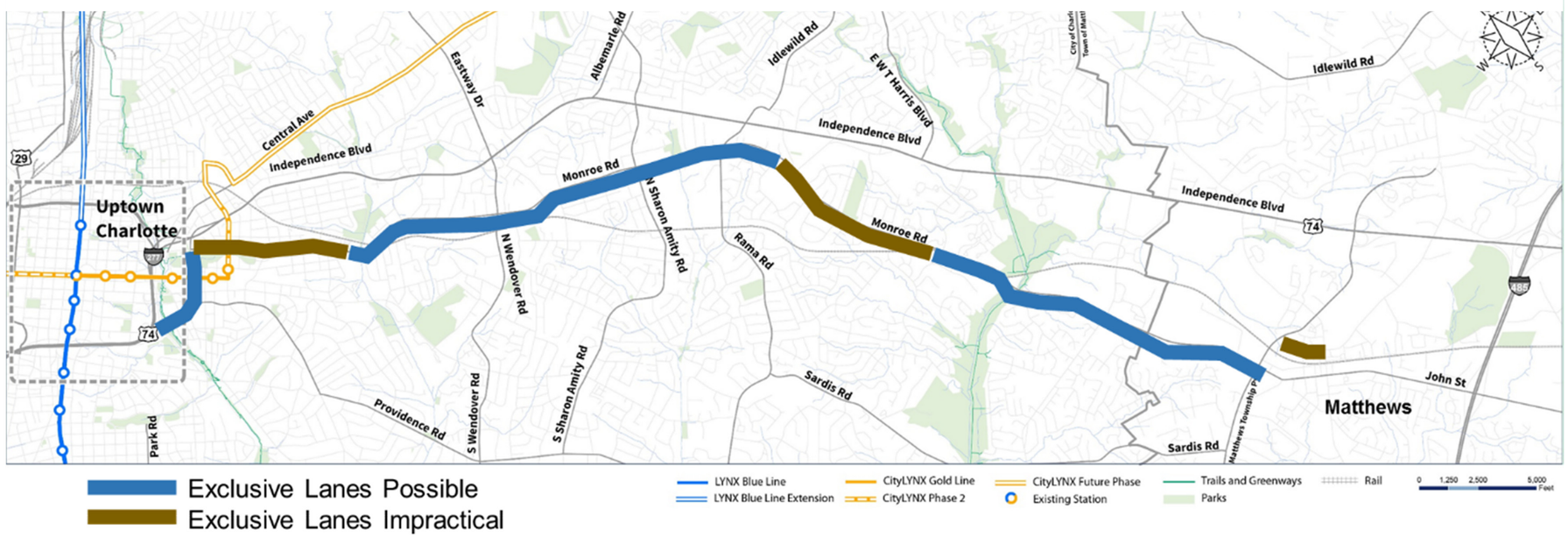
A "shared lane analysis" was conducted to determine where the creation of exclusive lanes for transit along an in-street running section may be practical. Streets that are not good candidates for either widening or lane removal to accommodate and exclusive transit guideway would be forced to have rail transit sharing lanes with other traffic (i.e. a streetcar design approach). These streets that require shared-lane operation then become candidates for elimination as an option, due to the inconsistency with the stated desire to provide dedicated guideway where possible.

A summary of the results of the shared lane analysis is given in **Table 8** and **Figure 12.** Additional detail on each street examined, including the spreadsheet-based scoring tool, is included in **Appendix B**.

Table 8: Shared Lane Analysis Results

Roadway Section	Exclusive Lanes Possible?	Analysis Results
Charlottetowne Avenue (Kenilworth Avenue to 7th Street)	Yes	Exclusive guideway on Charlottetowne Avenue is better for transit efficiency, but traffic also needs to be considered.
7th Street (Hawthorne Lane to Laurel Avenue)	No	Widening on 7th Street to create exclusive guideway is inconsistent with neighborhood plans.
Monroe Road (5th Street to Conference Drive)	Yes	Widening along the inner section of Monroe Road results in significant impacts, but the commercial and higher-density residential land use is generally conducive.
Monroe Road (Conference Drive to Village Lake Drive)	No	Monroe Road between Conference Drive and Village Lake Drive impacts a number of single-family residential properties; widening would be inconsistent with the neighborhood plan.
Monroe Road (Village Lake Drive to Matthews Township Parkway)	Yes	Monroe Road east of Village Lake Drive is more commercial in nature with large setbacks and parking lots.
Matthews Street (Ames Street to Trade Street)	No	The small town feel of Downtown Matthews would be compromised by widening to create an exclusive guideway.

Figure 12: Summary of Shared Lane Analysis Results for In-Street Rail Options



4.5 Segments Eliminated from Further Consideration

As noted earlier, the initial screening analysis revealed that many of the segments have similar environmental considerations, neighborhood impacts, access to population and employment density, and proximity to ridership generators. This is largely to be expected, because the alignment options are located close together. As such, the various options serve many of the same areas. The segments generally "scored well" according to the evaluation criteria or had similar orders of magnitude for physical constraints, construction challenges and property impacts. However, none of the options are easy and each presents its own design challenges.

Options that require significant shared-lane operation

Options that utilize CSX right-of-way

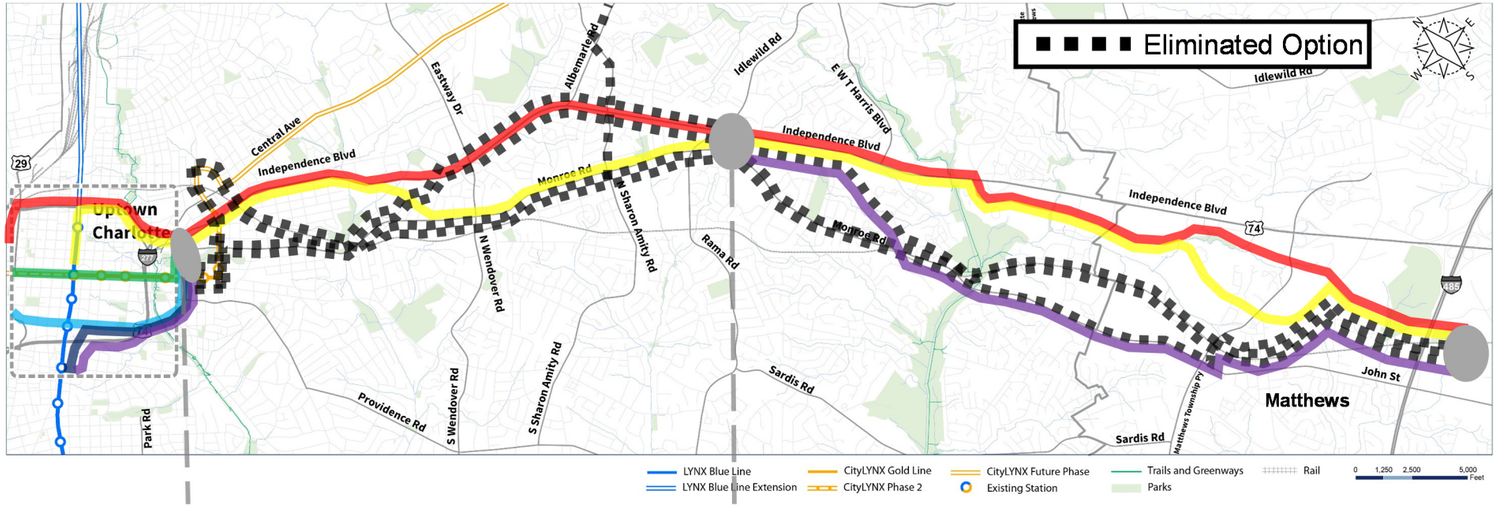
Therefore, to narrow down the remaining alternatives, several options were eliminated on the basis that significant shared-lane operation would be required. Lengthy stretches of shared-lane operation is consistent with the clear goal to provide reliable and efficient service using exclusive guideway as much as possible.

Additionally, options that utilize the CSX right-of-way were also eliminated. A review of the CSX alignment indicates that light rail along the CSX right-of-way would be inconsistent with the land use and mobility goals of the study area, and would have significant property and neighborhood impacts to areas that are predominantly established single-family residential neighborhoods. Furthermore, securing amenable agreements with freight rail operators for transit use of the right-of-way has been difficult nationally, and CSX Transportation is not supportive of any transit use of their tracks of right-of-way at this time (see correspondence received in **Appendix C**). It is recommended that this corridor be revisited as part of a future commuter rail study due to the regional nature of this corridor.

No Inner Segment ("Uptown Charlotte") options were eliminated at this stage, due to the uncertainty associated with the ultimate terminus location of the Silver Line. Uptown Charlotte options are further discussed in Section 5.2.

The recommendation of the Urban Land Institute from their 2011 study to consider a streetcar connection along Sharon Amity Road and Albemarle Road to the Eastland Mall site was also examined. As noted earlier in Section 4.1.4, the travel markets and public feedback received through the study outreach effort resulted in the identification of light rail as the preferred transit technology. This type of rail investment is most effective with a longer corridor connecting multiple major activity nodes, whereas the number and magnitude of activity nodes along Sharon Amity Road and Albemarle Road are limited due to the relatively short length of that connection and the surrounding land use. For a short-distance rail circulator, activity densities typically need to be much higher to attract a sufficient number of customers (such as in Center City Charlotte where the CityLYNX Gold Line operates). Operationally, it is difficult to integrate a short, independent rail project that connects to the middle of an adjacent corridor. For these reasons, an independent streetcar connection along Sharon Amity Road and Albemarle Road was eliminated from further consideration.

Figure 13: Eliminated Segment Options



Inner Segment

- 12th to Gateway
- 12th to BLE
- Trade St. Interline
- Stonewall to Gateway
- Stonewall to Carson
- I-277 to Carson

Middle Segment

- Independence
- Independence to Monroe
- ~~7th to Independence~~
- ~~7th to Monroe~~
- ~~Gold Line / CSX / Independence~~
- ~~Gold Line / CSX / Monroe~~

Outer Segment

- Independence to Independence Pointe
- Independence to Sam Newell
- ~~Monroe / CSX / Downtown Matthews~~
- ~~Monroe / Downtown Matthews~~
- ~~Village Lake / CSX / Downtown Matthews~~
- Village Lake / Monroe / Downtown Matthews

5 STAGE 3 – IDENTIFICATION AND EVALUATION OF CORRIDOR OPTIONS

5.1 Corridor Identification

Using the remaining segments that emerged from the Stage 2 analysis, four potential corridor alignments stretching across both the "middle" and "outer" segments were defined to assess impacts and opportunities at a corridor level, in addition to the segment-level analysis previously conducted. These four corridor options are illustrated in **Figure 14**, and are described as follows:

- Option A: Along the side of Independence Boulevard
- Option B: Along the side of Independence Boulevard to Widened Monroe Road
- Option C: Widened Monroe Road to along the side of Independence Boulevard
- Option D: Widened Monroe Road

At this stage, all primary corridor options are assumed to use exclusive guideway, noting that a very short section of shared-lane operation may be required based on site-specific design requirements. As such, rail would primarily operate in its own lane either in the median or along the side of the roadway. In addition, all corridor options reflect the use of light rail technology, similar to the LYNX Blue Line and Blue Line Extension, rather than streetcar such as the CityLYNX Gold Line.

Because of the similarities between alignments using Independence Pointe Parkway and Sam Newell Road, the option for rail to use either of these routes was preserved. However, rather than evaluating these as entirely separate options, the two corridor options that could use Sam Newell Road were treated as "design options" that could be implemented rather than the portion of Independence Pointe Parkway through the same area. Options A and C both reflect a "Sam Newell design option", which is shown as a dashed line in **Figure 14**.

Specific impacts and benefits for these four options were evaluated during this stage of the evaluation.

5.2 Uptown Charlotte Options

All six of the Uptown Charlotte (Segment A) route options, previously shown in **Figure 9**, were advanced for further evaluation. The Silver Line corridor has the opportunity to support other CATS initiatives, such as connecting to Gateway Station and extending to the west, or interlining with LYNX Blue Line. It is difficult to select a single preferred option in Uptown, since the location and timing of these other initiatives are unknown. Given that a goal of this study is to support the vision for the overall CATS system, advancing the various options in Uptown Charlotte provides the greatest flexibility to compliment other initiatives as projects moves forward. Stakeholders were supportive of the concept of viewing the Silver Line as part of a longer east-west rail corridor across Mecklenburg County that would connect Uptown Charlotte, Matthews, and Charlotte-Douglas International Airport. Such a corridor would be primed for future extensions east into Union County or west into Gaston County.

Stakeholders were supportive of the concept of viewing the Silver Line as part of a longer east-west rail corridor across Mecklenburg County

5.3 Corridor Evaluation Measures

An evaluation of the four alignment options was performed to determine how each would compare on a corridor level (rather than on a segment level). Evaluation criteria that support the overall goals for the corridor were used for this stage of the evaluation process:

- **Travel Time**
  To determine the travel time of each alignment option, the alignments were divided into sections based on the typical cross-section for each location. For each section, an inventory was taken of infrastructure elements that may affect the average transit travel speed, including the number of at-grade signalized intersections, at-grade unsignalized crossings, and stations. The length of each segment was measured. The travel time for each segment was calculated based on the assumed average speed (adjusted to account for other infrastructure elements) and the length of the segment. The individual segment travel times were then summed to produce an overall corridor travel time.

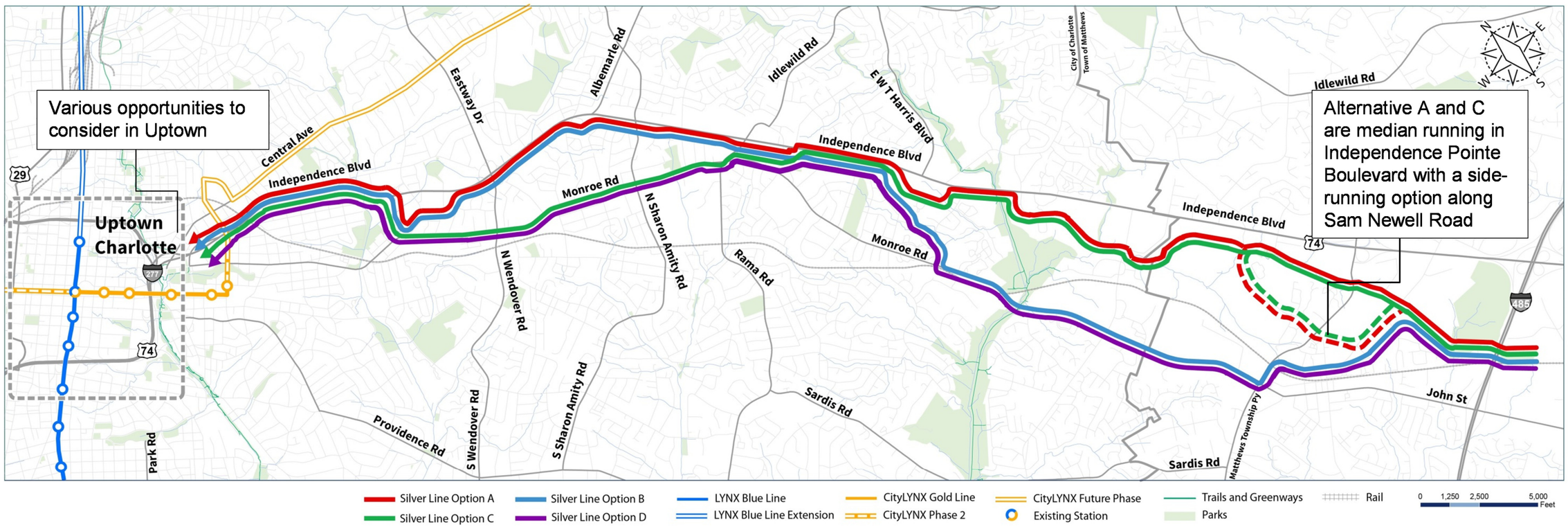
- **Parcel Impacts**
  A GIS analysis was performed to determine the potential number of parcels that could be impacted along the four alignment options. Parcels were considered impacted if the width of the cross section encroached more than two feet into the adjacent parcel boundary.

- **Building Impacts**
  A GIS analysis was performed to determine the number of potential building impacts that could occur along the four alignment options. Buildings were considered impacted if the width of the cross section intercepted the building footprint. Buildings were also considered impacted if the width of the cross section was in close proximity to a structure. This analysis was based on a visual review using aerial imagery. Being in close proximity to a structure was considered an impact if the cross section would likely interfere with entering the structure. Proximity was generally based on a distance of 10 feet for commercial structures and 20 feet for residential facilities.

- **Population within 1/2 Mile**
  To calculate the amount of population within ½ mile of each study corridor, a ½ mile buffer was created around each alignment option. Using 2015 Traffic Analysis Zone (TAZ) data from the Metrolina Regional Travel Demand Model (MRM), the amount of population from each TAZ was calculated based on the percent share of area covered by the ½ mile buffers. For example, if the buffer area overlapped 40% of a TAZ area, then 40% of the population from that TAZ was assigned to the corridor. This process was done for all intersecting TAZs and then summed for a total count of population per corridor.

- **Jobs with 1/2 Mile**
  A ½ mile buffer was created around each corridor alignment to calculate the amount of employment within ½ mile of each alignment option. Using 2015 Traffic Analysis Zone (TAZ) data from the Metrolina Regional Travel Demand Model (MRM), the number of jobs from each TAZ was calculated based on the percent share of area covered by the ½ mile buffers. This process was done for all intersecting TAZs and then summed for a total count of jobs per corridor.

Figure 14: Primary Corridor Alignment Options



A. ALONG THE SIDE OF INDEPENDENCE BOULEVARD	B. ALONG THE SIDE OF INDEPENDENCE BOULEVARD TO WIDENED MONROE	C. WIDENED MONROE ROAD TO ALONG THE SIDE OF INDEPENDENCE BOULEVARD	D. WIDENED MONROE ROAD
• Light rail would operate in an exclusive guideway with adjacent multi-use path along the side of Independence Boulevard in an exclusive rail guideway between Charlottetowne Avenue and Sam Newell Road. • East of Sam Newell Road the route would operate in its own lanes along Independence Pointe Parkway in a widened and extended roadway. • Sam Newell design option creates a closer connection to Downtown Matthews and Novant Health.	• Light rail would operate in an exclusive guideway with adjacent multi-use path along the side of Independence Boulevard between Charlottetowne Avenue and Sharon Forest Drive. • East of Sharon Forest Drive, the route would follow a new alignment through undeveloped property to Village Lake Drive. • East of Village Lake Drive, the route would operate in its own lanes in the middle of a widened Monroe Road. • The route includes a short section in Downtown Matthews where rail vehicles would share a lane with cars; the route then runs along the side of Matthews-Mint Hill Road in its own guideway. • Creates direct connection to Downtown Matthews.	• Operates next to Independence Boulevard in an exclusive rail guideway between Charlottetowne Avenue and Briar Creek Road with an adjacent multi-use path. • Transit guideway located in the middle of Monroe Road from Briar Creek Road to Idlewild; limits left turns for cars and limits pedestrian crossing. • Monroe Road footprint will expand from 60 ft. wide to between 140 ft. to 175ft. • East of Sam Newell Road, operates in its own lanes along Independence Pointe Parkway in a widened and extended roadway • Sam Newell design option creates a closer connection to Downtown Matthews and Novant Health.	• Light rail would operate next to Independence Boulevard in an exclusive rail guideway between Charlottetowne Avenue and Sharon Forest Drive with an adjacent multi-use path. • Transit guideway located in the middle of Monroe Road; limits left turns for cars and limits pedestrian crossing. • Monroe Road footprint will expand from 60 ft. wide to between 140 ft. to 175ft. • Route includes short section in Downtown Matthews where rail vehicles would share a lane with cars.

5.4 Before and After Visualizations

Figure 15: Independence Blvd. Near The Plaza (Before; Looking North from Elizabeth)

Figure 16: Independence Blvd. Near The Plaza (After; Looking North from Elizabeth)

Options A, B, C, D

Figure 17: Independence Blvd. Near The Plaza (Before; Looking East)

Figure 18: Independence Blvd. Near The Plaza (After; Looking East)

Options A, B, C, D

Figure 19: Independence Blvd. East of Wendover Road (Before; Looking West)

Figure 20: Independence Blvd. East of Wendover Road (After; Looking West)

Options A, B

Figure 21: Independence Blvd. East of Wendover Road (Before; Looking East)

Figure 22: Independence Blvd. East of Wendover Road (After; Looking East)

Options A, B

Figure 23: Independence Blvd. East of Wendover Road (Before; Looking West at Ground Level)

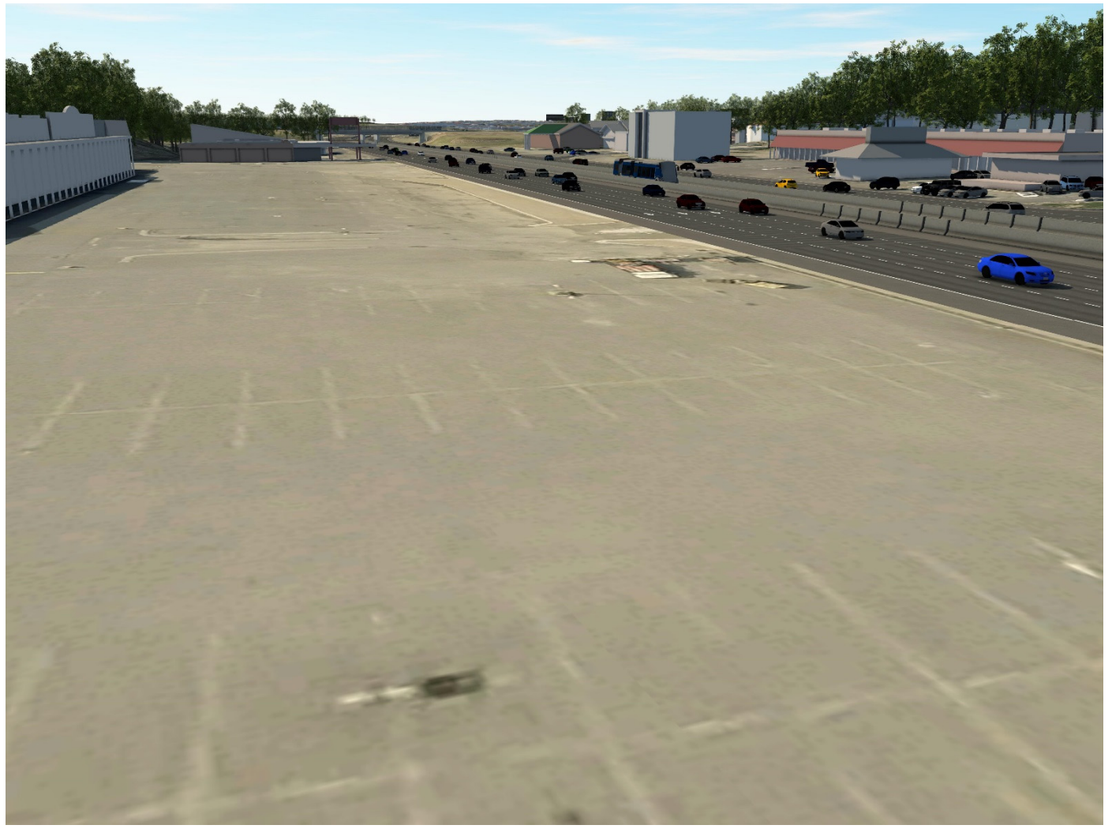


Figure 24: Independence Blvd. East of Wendover Road (After; Looking West at Ground Level)

Options A, B

Figure 25: Monroe Road East of Wendover Road (Before; Looking North)

Figure 26: Monroe Road East of Wendover Road (After; Looking North)

Options C, D

Figure 27: Monroe Road East of Wendover Road (Before; Looking East)

Figure 28: Monroe Road East of Wendover Road (Before; Looking North)

Options C, D

Figure 29: Monroe Road At Wendover Road (Before; Looking East)

Figure 30: Monroe Road At Wendover Road (After; Looking East)

Options C, D

5.5 Corridor Analysis Results

The impacts vary among the four alignment options that extend from just outside of Uptown Charlotte to the CPCC Levine campus in Matthews. The results of the detailed evaluation are summarized below, and profiles of each option are provided following the synopsis of results.

Figure 31 illustrates the population within ½ mile of the corridors. Because the corridor options are in close proximity to each other, these results are similar across all four options.

Figure 31: Population within 1/2 Mile of Corridors

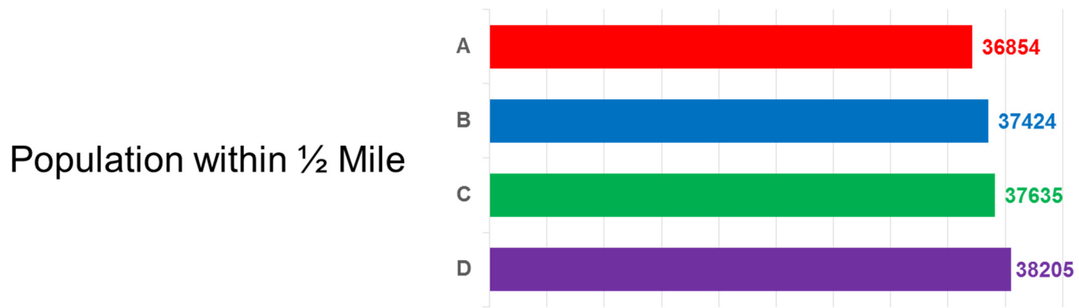
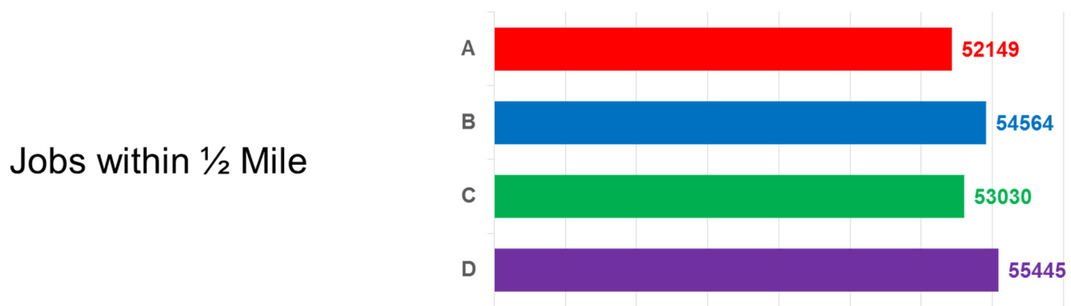


Figure 32 Illustrates the number of jobs within ½ mile of the corridors. Similar to population shown above, there is not a significant amount of variation in the number of jobs within close proximity to the four options.

Figure 32: Jobs within ½ Mile of Corridors



There is some variation in average time for the corridor options. The estimates shown in **Figure 33** do not include the estimated travel times of the Uptown Charlotte options. The travel times of the Uptown Charlotte options range between six and ten minutes; these times can be added to the projected corridor travel times to produce an overall range of travel times inclusive of the Uptown Charlotte options. Details for the segment-level travel time calculations are included in the *Conceptual Rail Operations Plan Memorandum*.

Figure 33: Average Travel Time for Corridor Options

A significant difference exists in the number of buildings impacted, as shown in **Figure 34**. Options A and B have far fewer impacts than Options C and D. This discrepancy is due to the large number of buildings located close to the roadway along the "inner" portion of Monroe Road that is associated with Options C and D. Additionally, roadway widening would occur on both sides of Monroe Road, contributing to the higher number of impacts. Comparatively, there are far fewer building impacts along Independence Blvd., and the rail alignment would only affect one side of the roadway.

Figure 34: Building Impacts for Corridor Options

The number of parcels impacted illustrates a similar pattern as building impacts. The widening on both sides of the "inner" portion of Monroe Road contributes to a high number of parcel impacts for Options C and D, as shown in **Figure 35**.

Figure 35: Parcel Impacts for Corridor Options

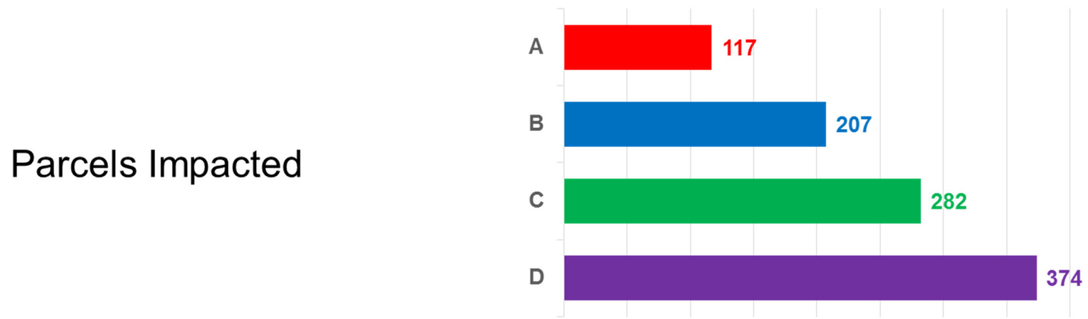


Table 9 summarizes the results of the above-referenced analysis.

Table 9: Summary of Corridor Analysis

	A. Along the Side of Independence Boulevard	B. Along the Side of Independence Boulevard to Widened Monroe	C. Widened Monroe Road to Along the Side of Independence Boulevard	D. Widened Monroe Road
Travel Time (minutes) *(includes Uptown options)*	29 – 33	32 – 36	31 – 35	34 – 38
Buildings Impacted (units)	45	74	98	127
Parcels Impacted (number of parcels)	117	207	282	374
Population within 1/2 mile (number of people)	36,854	37,424	37,635	38,205
Jobs within 1/2 mile (number of jobs)	52,149	54,564	53,030	55,445

5.6 Corridors Eliminated from Further Consideration

Public workshops were held in April 2016 to present the findings of the detailed evaluation to the public. The purpose was to solicit feedback on what alignment characteristics are important and which alignments best support the study goals. When asked to identify their preferred alignments, most respondents selected Option A as their "first choice" and Option B as their "second choice". As shown in **Table 10**, the percentage of respondents identifying either Option A or Option B as one of their top two choices was significantly higher than the percentage of respondents identifying either Option C or Option D as one of their top two. The results cited below represent 162 individuals completing the ranking activity.

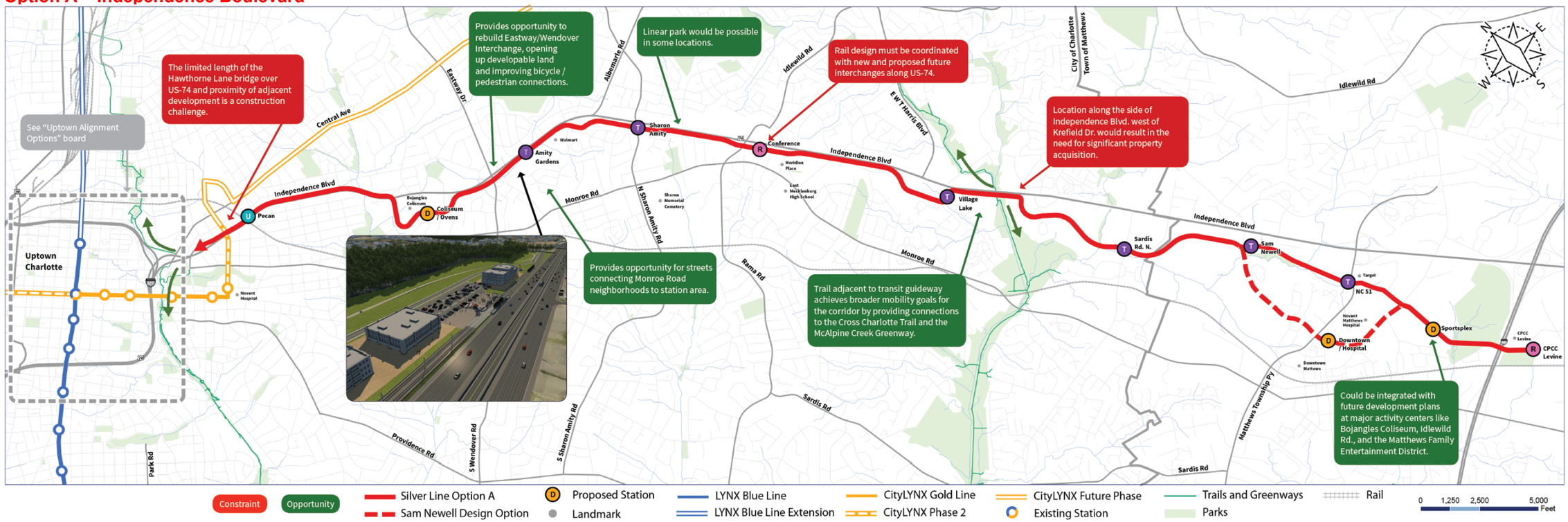
Table 10: Public Survey Results on Alignment Preference

Option	First Choice	Second Choice
A: Along the side of Independence	**53%**	15%
B: Independence to Monroe	19%	**41%**
C: Monroe to Independence	9%	31%
D: Widened Monroe	19%	13%

Options C & D were eliminated from further consideration for the following reasons:

- Options A & B had significantly better public feedback than Options C & D;
- Options A & B have significantly fewer parcel and building impacts than Options C & D; and
- There is no compelling advantage for Options C & D with regard to access to population and jobs as compared to Options A & B.

Option A – Independence Boulevard



Summary

- Light rail would operate in an exclusive guideway with adjacent multi-use path along the side of Independence Boulevard between Charlottetowne Avenue and Sam Newell Road.
- East of Sam Newell Road, the route would operate in its own lanes along Independence Pointe Parkway in a widened and extended roadway.
- Sam Newell design option creates a closer connection to Downtown Matthews and Novant Health.
- Similar to the other alignment options the end-of-line is CPCC Levine.

Travel Time along Corridor

29-33 minutes

- 32-36
- 31-35
- 34-38

Buildings Impacted*

45 units

- 74
- 98
- 127

Parcels Impacted*

117 parcels

- 207
- 282
- 374

Population within 1/2 mile*

36,854 people

- 37,424
- 37,635
- 38,205

Jobs within 1/2 mile*

52,149 jobs

- 54,564
- 53,030
- 55,445

Key

Metric

Option A

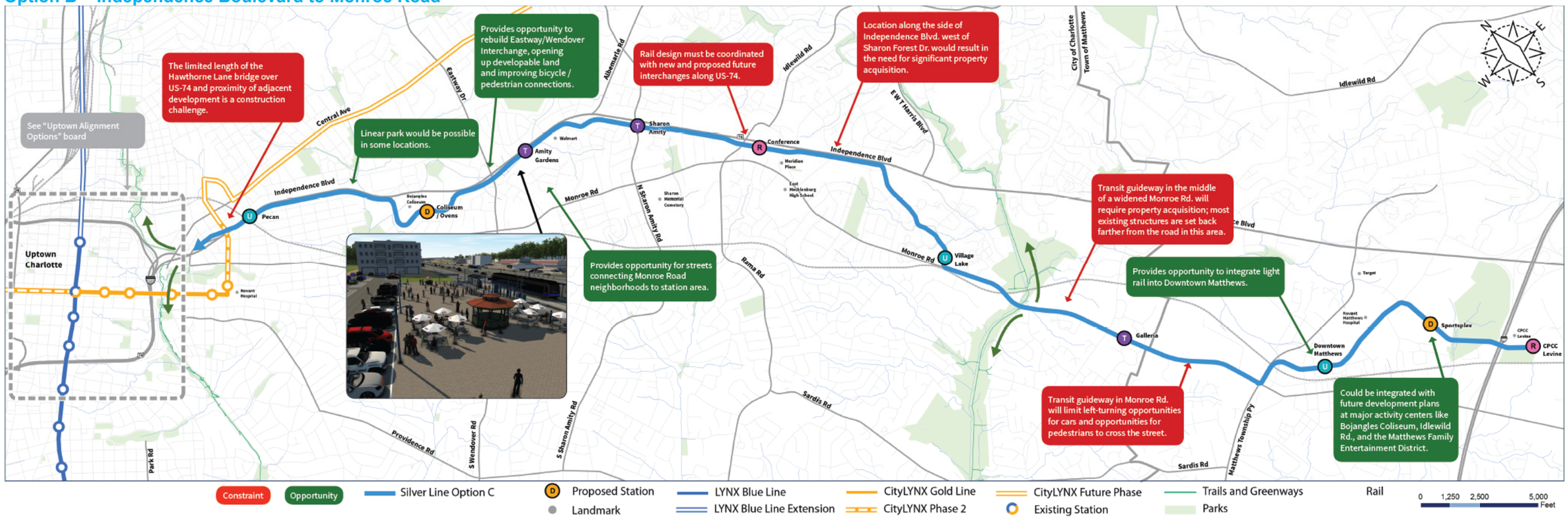
- Option B
- Option C
- Option D

*numbers do not include Uptown portion of project

*with Sam Newell design option:

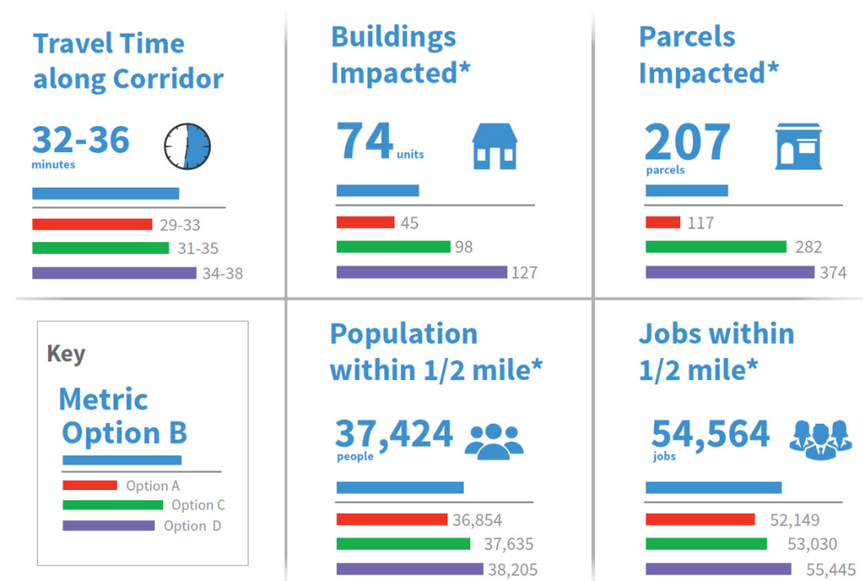
- 30-34 minutes
- 48 units
- 125 parcels
- 36,800 people
- 53,382 jobs

Option B – Independence Boulevard to Monroe Road



Summary

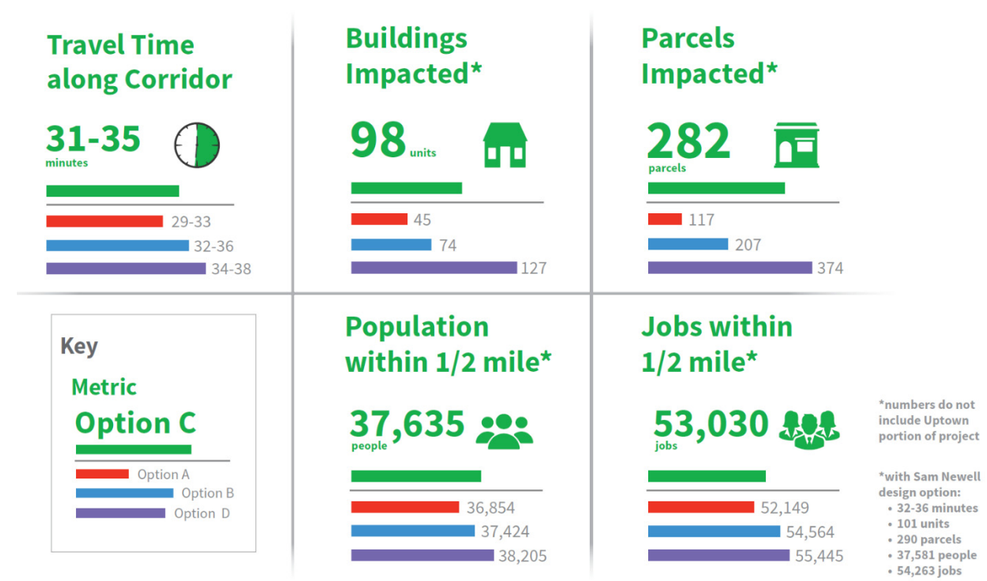
- Light rail would operate in an exclusive guideway with adjacent multi-use path along the side of Independence Boulevard between Charlottetowne Avenue and Sharon Forest Drive.
- East of Sharon Forest Drive, the route would follow a new alignment through undeveloped property to Village Lake Drive.
- East of Village Lake Drive, the route would operate in its own lanes in the middle of a widened Monroe Road.
- The route includes a short section through Downtown Matthews where rail vehicles would share a lane with cars; the route then runs along the side of Matthews-Mint Hill Road in its own guideway.
- Creates a direct connection to Downtown Matthews.
- Similar to the other alignment options the end-of-line is CPCC Levine.



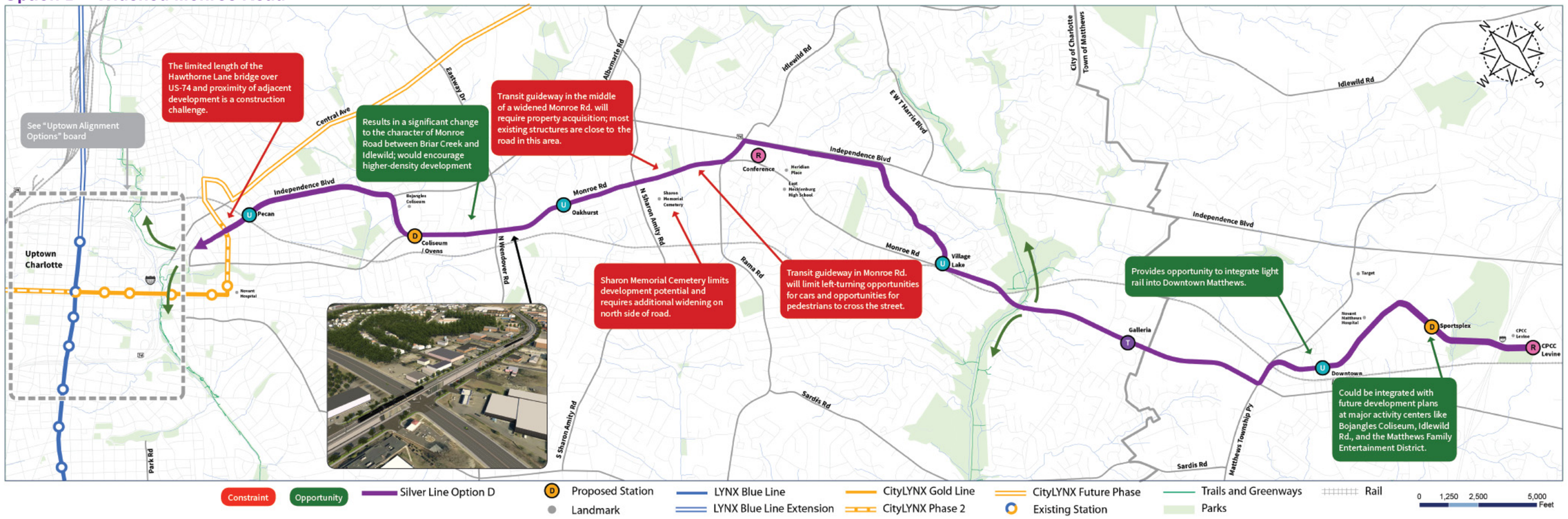
Option C – Monroe Road to Independence Boulevard

Summary

- Light rail would operate in an exclusive guideway exclusive guideway with adjacent multi-use path along the side of Independence Boulevard between Charlottetowne Avenue and Briar Creek Road.
- East of Briar Creek Road, the route would operate in its own lanes in the middle of a widened Monroe Road.
- East of Conference Drive, the route would operate in an exclusive guideway with adjacent multi-use path along the side of Independence Boulevard.
- East of Sam Newell Road, the route would operate in its own lanes along Independence Pointe Parkway in a widened and extended roadway.
- Sam Newell design option creates a closer connection to Downtown Matthews and Novant Health.
- Similar to the other alignment options the end-of-line is CPCC Levine.



Option D – Widened Monroe Road



Summary

- Light rail would operate in an exclusive guideway exclusive guideway with adjacent multi-use path along the side of Independence Boulevard between Charlottetowne Avenue and Briar Creek Road.
- East of Briar Creek Road, the route would operate in its own lanes in the middle of a widened Monroe Road.
- East of Conference Drive, the route would operate in an exclusive guideway with adjacent multi-use path along the side of Independence Boulevard.
- East of Sharon Forest Drive, the route would follow a new alignment through undeveloped property to Village Lake Drive.
- East of Village Lake Drive, the route would operate in its own lanes in the middle of a widened Monroe Road.
- The route includes a short section through Downtown Matthews where rail vehicles would share a lane with cars; the route then runs along the side of Matthews-Mint Hill Road in its own guideway.
- Similar to the other alignment options the end-of-line is CPCC Levine.

Travel Time along Corridor

34-38 minutes

29-33
32-36
31-35

Buildings Impacted*

127 units

45
74
98

Parcels Impacted*

374 parcels

117
207
282

Key

Metric

Option D

Option A
Option B
Option C

Population within 1/2 mile*

38,205 people

36,854
37,424
37,635

Jobs within 1/2 mile*

55,445 jobs

52,149
54,564
53,030

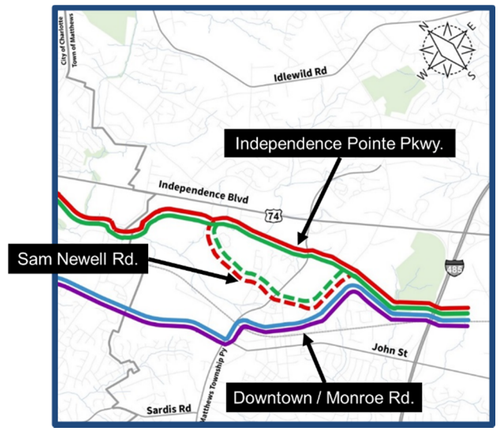
6 STAGE 4 – REFINEMENT OF LEADING CORRIDOR OPTIONS

6.1 Supplemental Corridor Analysis through Matthews

The distinguishing characteristic between the two leading options, Option A and Option B, is the route through Matthews (see **Figure 36**). Based on the objective analyses performed in previous stages of the evaluation, it is clear that both of these options "score well". At this stage, the differentiating factors are more philosophical than technical in nature. Key distinguishing factors among the options revolve around which option better fits with the local vision for growth and development. Primary tradeoffs considered include the following:

- Consistency with previous decisions
- Access to downtown
- Visual impacts
- Potential development opportunities / growing the tax base
- Design challenges
- Corridor preservation opportunities

Figure 36: Route Options in Matthews



6.1.1 Location Relative to Downtown Matthews

A workshop to discuss alignment options through Matthews was held with local stakeholders on February 10, 2016. This workshop sought to gather more detailed input on the desired rail characteristics through the Town of Matthews, including the desirable proximity of a rail alignment to major destinations in the area. Through electronic polling and subsequent discussion, participants expressed a unanimous desire for rail to serve Downtown Matthews; however, respondents' opinions differed on whether the alignment should include a station in the heart of Downtown Matthews or at a location that is on the periphery of Downtown but in close proximity (see **Figure 38**).

Similarly, respondents also shared a consensus desire for rail to provide proximate access to Novant Health Matthews Medical Center (see **Figure 37**). The increased emphasis on connecting to these two destinations represents a shift in thinking from previous transit studies in the corridor. Meeting notes from this workshop are included as **Appendix D**.

Figure 38: Workshop Question: Should Rail Serve Downtown Matthews?

Answers	Responses	Percent
Yes; station should be in the heart of Downtown Matthews	11	61.11
Yes; station should be close by (but not in the middle of) Downtown	7	38.89
No; Downtown should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

Figure 37: Workshop Question: Should Rail Serve Novant Health Matthews Medical Center?

Answers	Responses	Percent
Yes; station should be immediately adjacent to the hospital	2	10.53
Yes; station should be close by (but not next to) the hospital	17	89.47
No; the hospital should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

After additional planning-level development of the route options, a second workshop was held on June 14, 2016 with Town of Matthews staff and elected officials to review the three primary route options in Matthews: Independence Pointe Parkway, Sam Newell Road, and Monroe Road (see **Figure 36**). Discussion at this workshop focused on key tradeoffs among these three options, as summarized in **Table 11**.

Table 11: Key Tradeoffs Among Matthews Alignment Options

	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Consistency with previous planning decisions	Consistent with previous recommendation throughout Matthews	Consistent with previous recommendation east of Matthews-Mint Hill Rd.; differs west of Matthews - Mint Hill Rd. to Independence Pointe.	Consistent with previous recommendation east of Matthews-Mint Hill Rd.; differs west of Matthews - Mint Hill Rd.
Access to downtown	Potential station approx. 1 mile (20 minute walk) from Town Hall	Potential station approx. 0.25 mile (5 minute walk) from Town Hall	Directly serves Downtown with a station near Matthews St. / Trade St. intersection
Potential development opportunities / growing the tax base	Redevelopment opportunities along Independence Pointe, but constrained by US 74	Redevelopment opportunities along Independence Pointe, but constrained by quarry	Redevelopment opportunities along Monroe Road / Matthews Township Parkway
Traffic impacts	Left turns along future Independence Pointe Pkwy. would be restricted	Traffic impacts relatively minor if alignment flies over Matthews Township Pkwy / John Street	Left turns on Monroe Road would be restricted; downtown traffic impacts anticipated to be relatively minor
Design challenges	Alignment behind Home Depot is tight with topographical challenges and high-voltage lines	Wetlands near the intersection of Independence Pointe Pkwy. and Sam Newell Rd; detailed alignment between hospital and downtown	Entering / exiting the median of Monroe Road; relatively narrow cross-section on Matthews Street
Corridor preservation provisions	Rail alignment can be protected as part of NCDOT plans for Independence Pointe Pkwy.	Rail alignment can be protected as part of NCDOT plans for Independence Pointe Pkwy.; protection near hospital would be near-term need	Supportive development policies would need to be created to reserve physical space for future alignment
Visual impacts	A bridge may be needed over Matthews Township Parkway	A bridge may be needed to fly over Matthews Township Parkway and Trade Street	Aerial structures would be required around Matthews Township Parkway / Monroe Road; character of Monroe Rd. would change

To further support the consideration of tradeoffs, a series of visualizations was created to illustrate potential future conditions with light rail along Sam Newell Road, and also through Downtown (on Matthews Street).

Figure 39: Sam Newell Rd. at Matthews Township Parkway (Looking East Toward Novant Health Matthews Medical Center)

Figure 40: Sam Newell Rd. at Matthews Township Parkway (Looking South Toward Downtown Matthews)

Figure 41: Sam Newell Rd. at Matthews Township Parkway (Looking West at Ground Level)

Figure 42: Downtown Matthews (Matthews Street Looking West Toward Matthews Township Parkway)

Figure 43: Downtown Matthews (Matthews Street Looking East Toward Trade Street)

Figure 44: Downtown Matthews (Aerial View Looking North)

The staff and elected officials reiterated the desire to serve Downtown Matthews with light rail, but the group was evenly split regarding whether the alignment should traverse the middle of Downtown (via Matthews Street and Matthews-Mint Hill Road). Participants were also evenly split regarding the alignment using Sam Newell Road. Upon further discussion, the group generally agreed that the location along Sam Newell Road would be acceptable; however, the visual impacts of a large aerial structure over Matthews Township Parkway elicited strong negative feedback. The discussion concluded with the Sam Newell Road alignment as the consensus preference, assuming that an underground alignment could be implemented to minimize the visual impacts of the rail line.

Sam Newell Road emerged as the consensus alignment, assuming that the line can cross under Matthews Township Parkway to minimize visual impacts.

The slide deck presented at the workshop and meeting notes are included as **Appendix E** and **Appendix F**, respectively.

6.1.2 Coordination with City of Charlotte

This preference was subsequently discussed with City of Charlotte staff. Charlotte staff expressed a preference to use Monroe Road as the alignment in the Village Lake / Sardis Road North area, which is different from the Sam Newell alignments analyzed previously that connect to Independence Pointe Parkway (and not to Monroe Road). City of Charlotte staff favorably viewed long-term redevelopment opportunities along Monroe Road in the vicinity of Sardis Road North and Village Lake Drive as reasons to shift the alignment to Monroe Road in this area. Such an alignment also provides closer access to the many neighborhoods south of this area stretching to Sardis Road and beyond.

6.2 Refinement of Corridor Design Options

As a result of the preferences expressed by Matthews and Charlotte representatives, two additional design options were identified that blend the local desire of Matthews to use Sam Newell Road along with the local desire of Charlotte to use Monroe Road in the Galleria area (see **Figure 45**):

- Sardis Road North Option: Along Sardis Road North to Krefield Drive to Sam Newell Road
- Industrial Drive Option: Along Monroe Road to a new alignment in the vicinity of Industrial Drive connecting on new alignment to Sam Newell Road

An additional screening of the two Charlotte-Matthews connection options was performed to understand the differences. The impacts vary among the two corridor options; however, each has the potential to support different development potentials near station locations. The results of the evaluation are summarized in **Table 12**. Based on further discussion with Town of Matthews staff, the Town endorsed the Industrial Drive Option to be part of the preferred alignment, based largely on the potential long-term redevelopment opportunities afforded along the Monroe Road corridor.

Figure 45: Charlotte-Matthews Connection Options

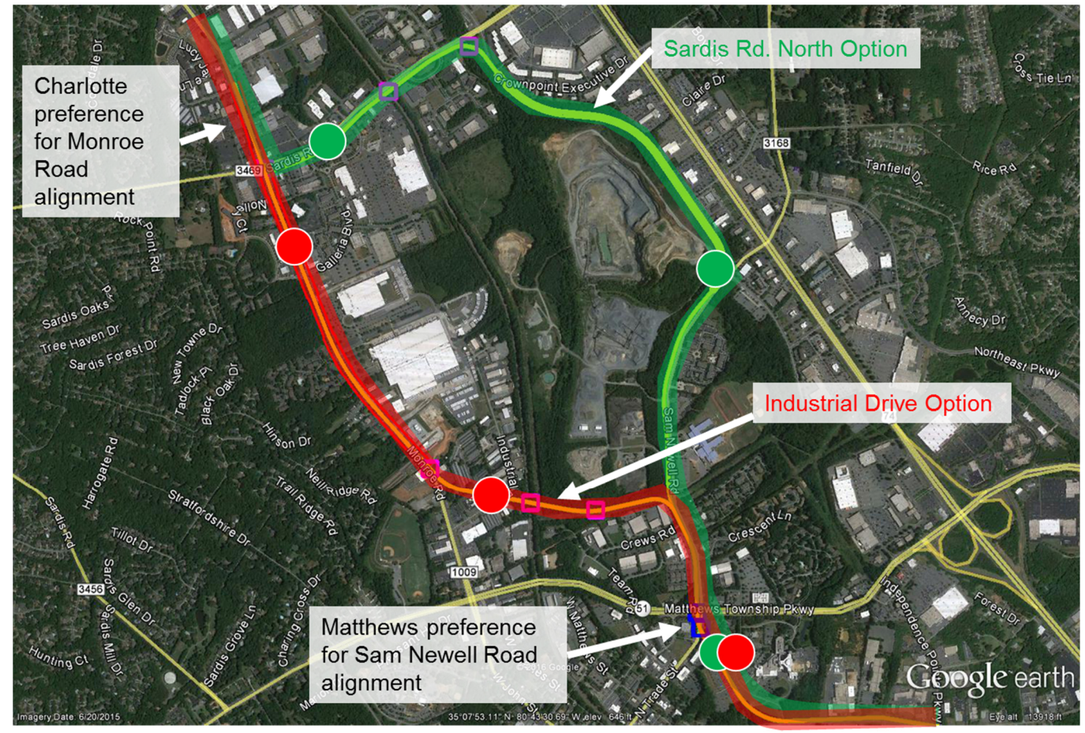


Table 12: Charlotte-Matthews Connections Screening Summary

	Sardis Road North Option	Industrial Drive Option
Stop Locations	• Sardis Rd. N. near Monroe Rd. • Krefield Dr. near Sam Newell Rd. • Novant Health Matthews Medical Center	• Monroe Rd. near Galleria Blvd. • Industrial Dr. near Monroe Rd. • Novant Health Matthews Medical Center
Design Challenges	• Large structure through intersection of Monroe / Sardis Rd. N. • Possible conflict with power lines east of CSX bridge • Bridge over creek / wetlands required near transition between Sardis Rd. N. and Independence Pointe	• Large structure through intersection of Monroe / Sardis Rd. N. • Requires redevelopment of Industrial Dr. area in Matthews; a station in this area would need to be on aerial structure • Existing grades would require a lengthy structure between Monroe Road, CSX, and low areas south of quarry; bridge could be ~2600' long
Distance / Readability	2.6 miles	1.9 miles
Land Use	• Opportunity to spur redevelopment along Sardis Rd. North • Only limited opportunity adjacent to quarry; US 74 is a barrier	• Opportunity to spur redevelopment in Industrial Drive area and along Monroe Rd.

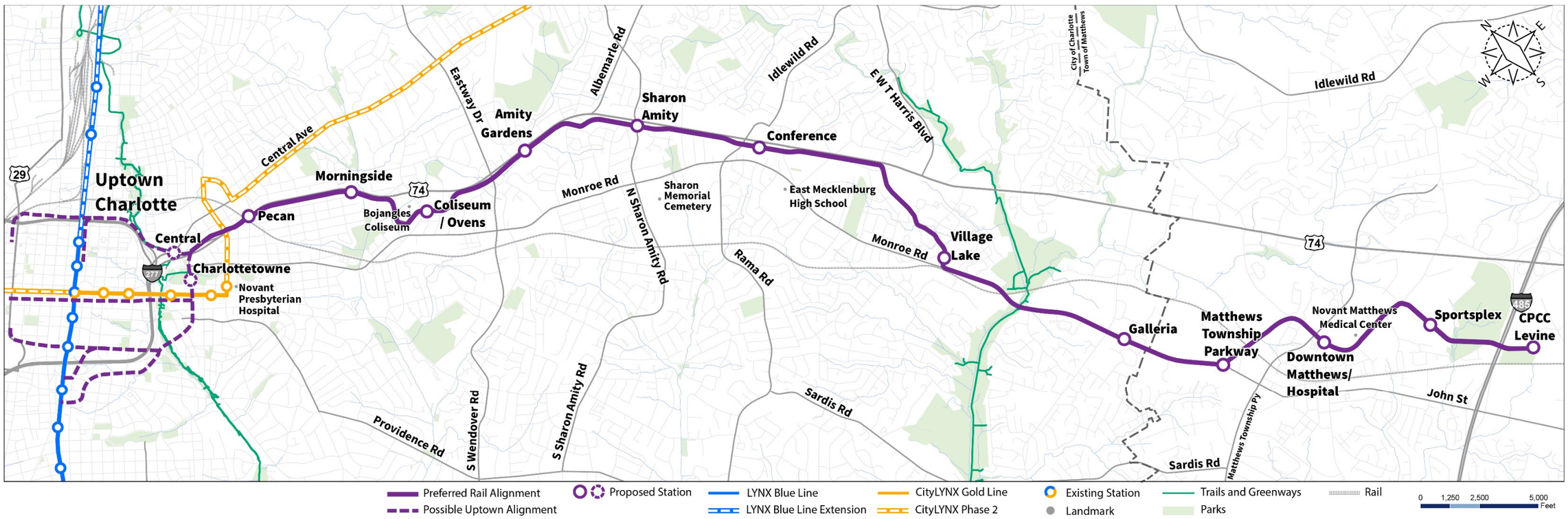
7 STAGE 5 – SELECTION OF PREFERRED ALIGNMENT

The preferred alignment represents the single route that will serve as the "locally preferred alternative" for the rail component of the Silver Line project. The identification of this corridor resulted from a significant outreach effort to the public and corridor stakeholders, along with a collaborative working relationship between CATS, the City of Charlotte, and the Town of Matthews to identify a preferred route that meets each agency's goals.

Additional corridor refinement will occur during subsequent environmental analyses and advanced design phases; however, designation of a single corridor allows for a more specific and targeted corridor preservation program. The designation of the preferred alignment also offers more certainty with regard to the desired transit outcome than has been generated in previous planning efforts for this corridor.

As shown in **Figure 46**, the preferred alignment is a variation of "Corridor Option B" that accesses Monroe Road in Matthews, but connects between Sam Newell Road and Monroe Road via a new alignment in the vicinity of Industrial Drive. This routing allows for close access to Downtown Matthews while not traversing the heart of Downtown. This alignment represents the "Industrial Drive" option evaluated during Stage 4.

Figure 46: Preferred Alignment



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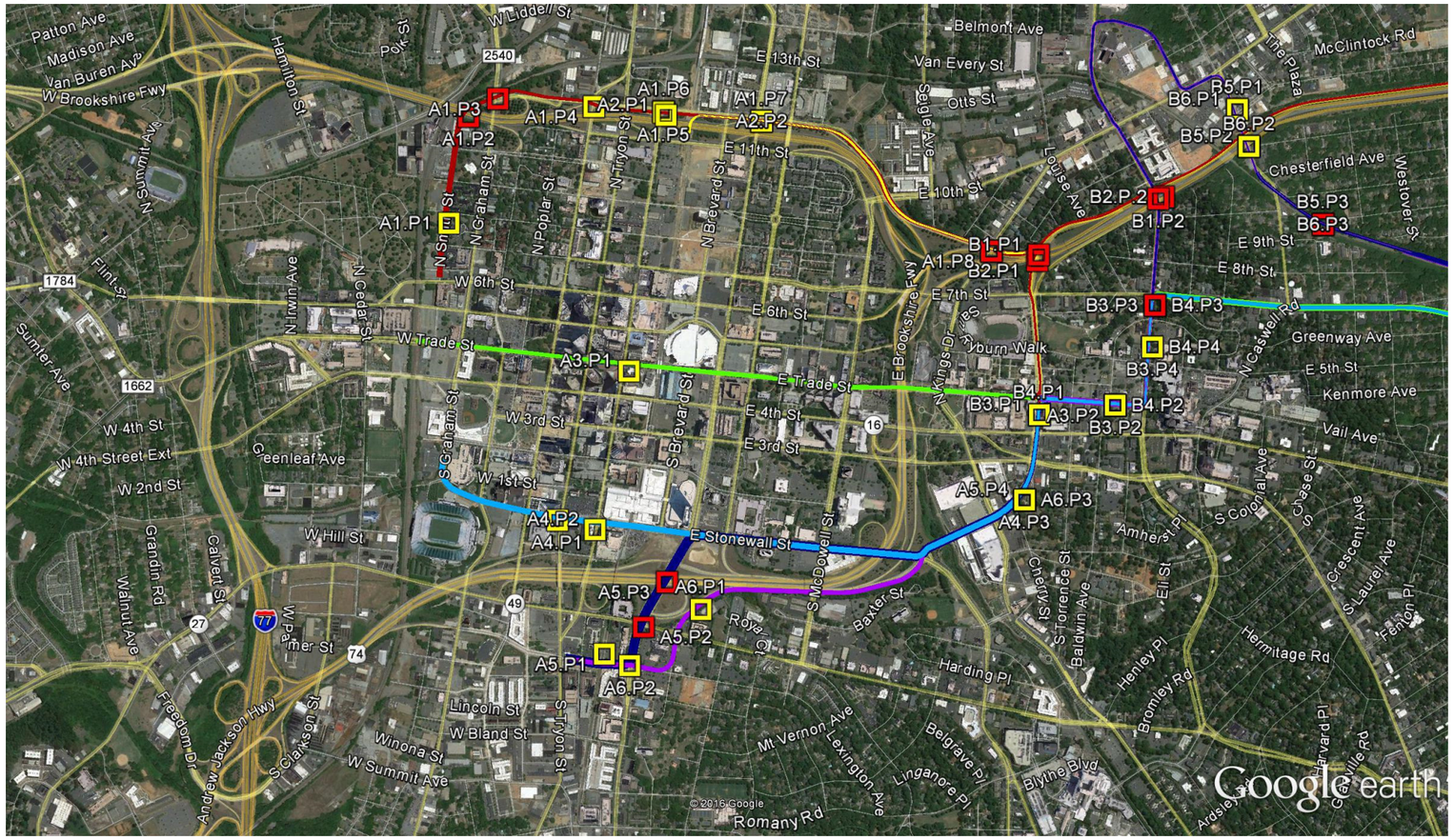
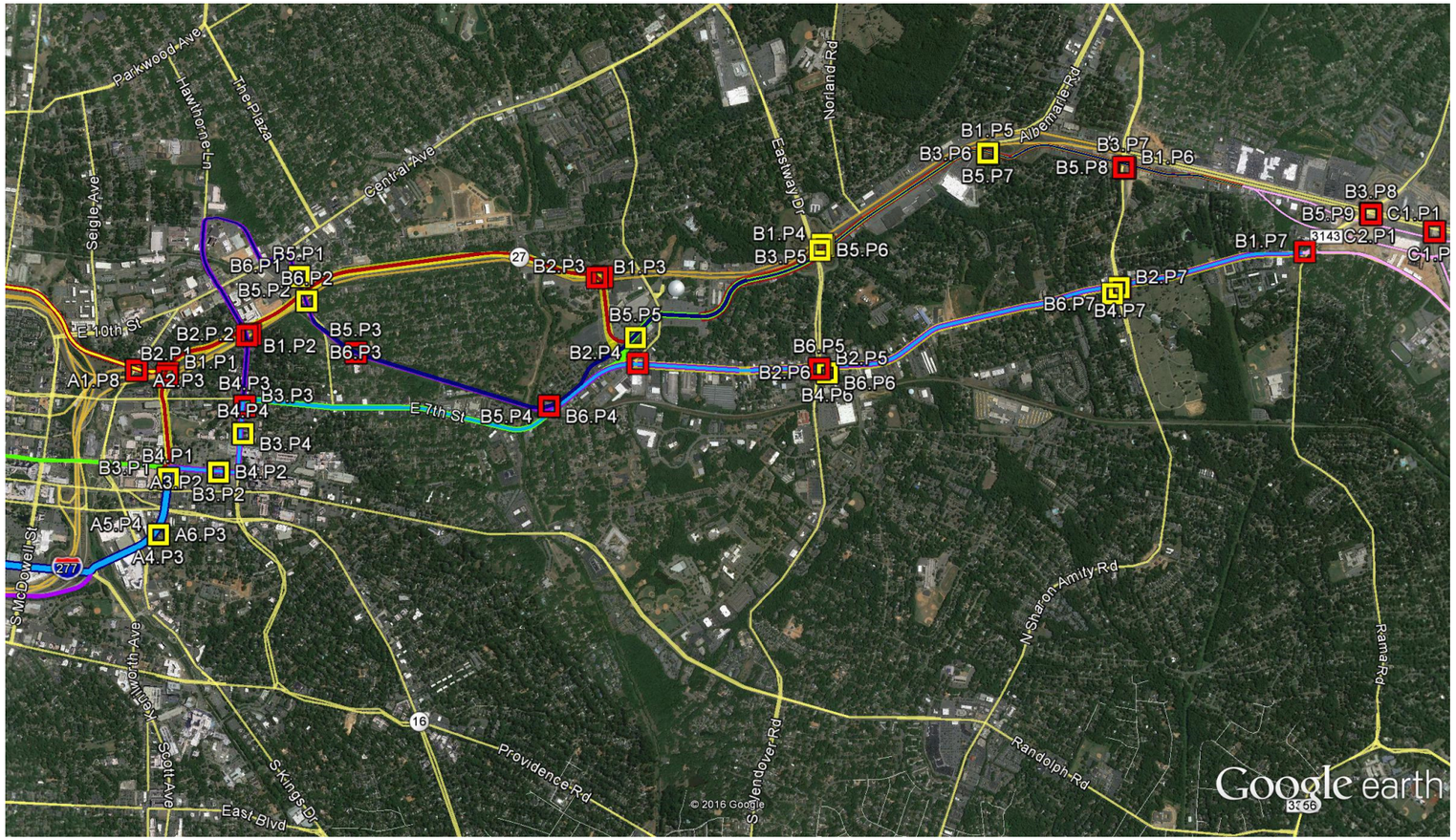
APPENDIX A: INITIAL SCREENING EXHIBITS

Figure A1: Physical Constraints in Inner Segment ("Segment A")



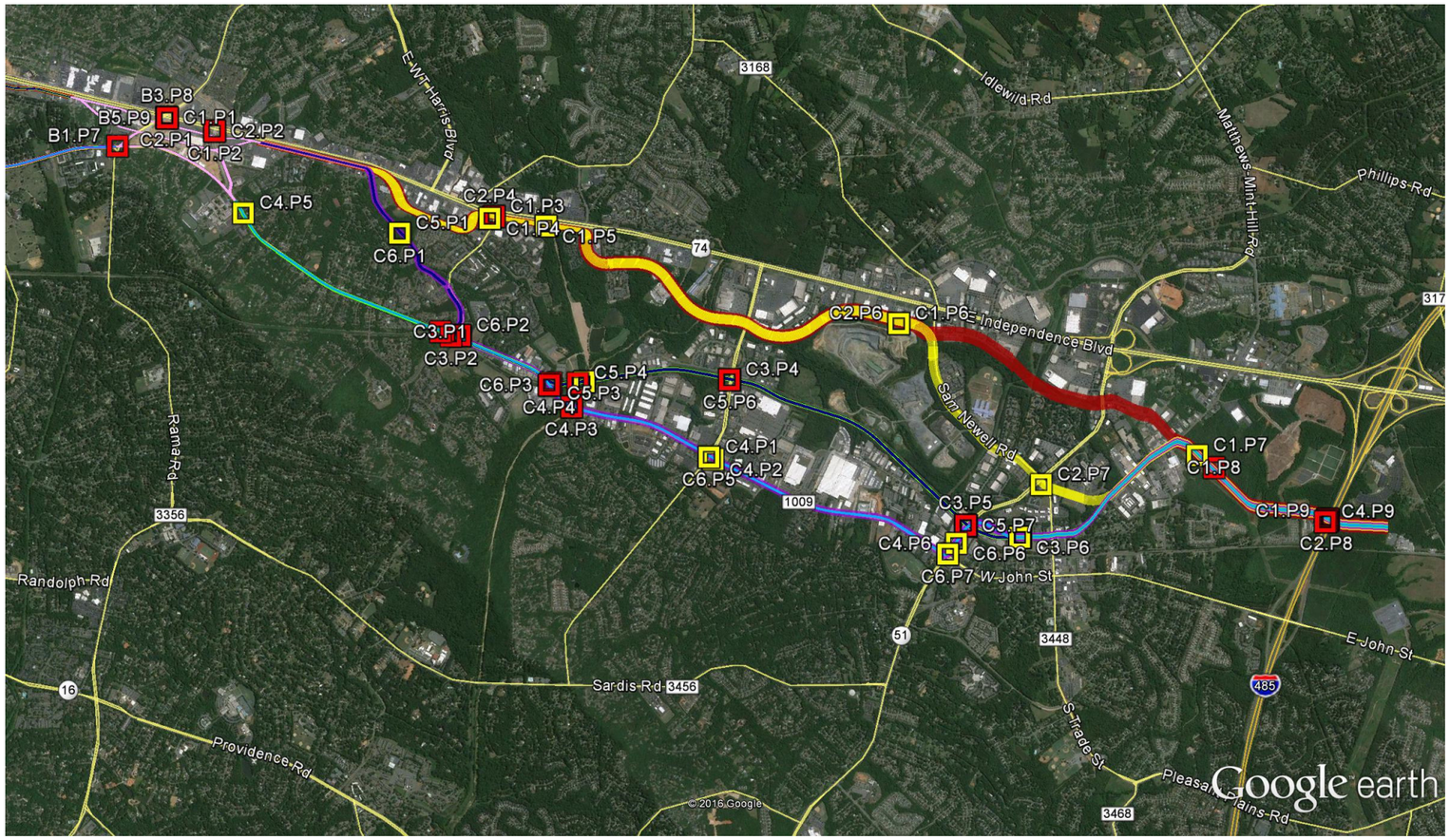
Segment	ID	Severity (Red/Yellow)	Description
Segment A1 12th to Gateway	A1.P1	Y	Smith Street is a narrow road; needs to be in mixed traffic
	A1.P2	R	**Tunnel under I-277**
	A1.P3	R	Rebuilding Graham Street overpass over freight rail
	A1.P4	Y	6% grade in the vicinity of N. Church Street
	A1.P5	Y	6% grade in the vicinity of N. College Street
	A1.P6	Y	Station in the vicinity of College Street would be difficult
	A1.P7	Y	6% grade in the vicinity of Caldwell Street
	A1.P8	R	Rebuild Central Avenue Bridge
	A2.P1	Y	Station in the vicinity of College Street not desirable
	A2.P2	Y	6% grade in the vicinity of Caldwell Street
	A2.P3	R	Rebuild Central Avenue Bridge
Segment A3 Trade interline	A3.P1	Y	6% grade in the vicinity of College Street
	A3.P2	Y	Extending existing streetcar stations may be challenging
Segment A4 Stonewall to Gateway	A4.P1	Y	Mixed traffic on Stonewall Street between Gateway and Convention Center
	A4.P2	Y	Grades at the proposed station location are not ideal
	A4.P3	Y	Reduces traffic capacity on Charlottetowne Avenue
Segment A5 Stonewall to Carson	A5.P1	Y	Relocated existing Carson Station to the north
	A5.P2	R	New bridge at Morehead Street over South Boulevard
	A5.P3	R	Analyze whether a new bridge at South Boulevard over I-277 is needed
	A5.P4	Y	Reduces traffic capacity on Charlottetowne Avenue
Segment A6 I-277 to Carson	A6.P1	Y	Grade as station locations are steeper than design criteria
	A6.P2	Y	Mixed traffic in Caldwell Street
	A6.P3	Y	Reduces traffic capacity on Charlottetowne Avenue

Figure A2: Physical Constraints in Middle Segment ("Segment B")



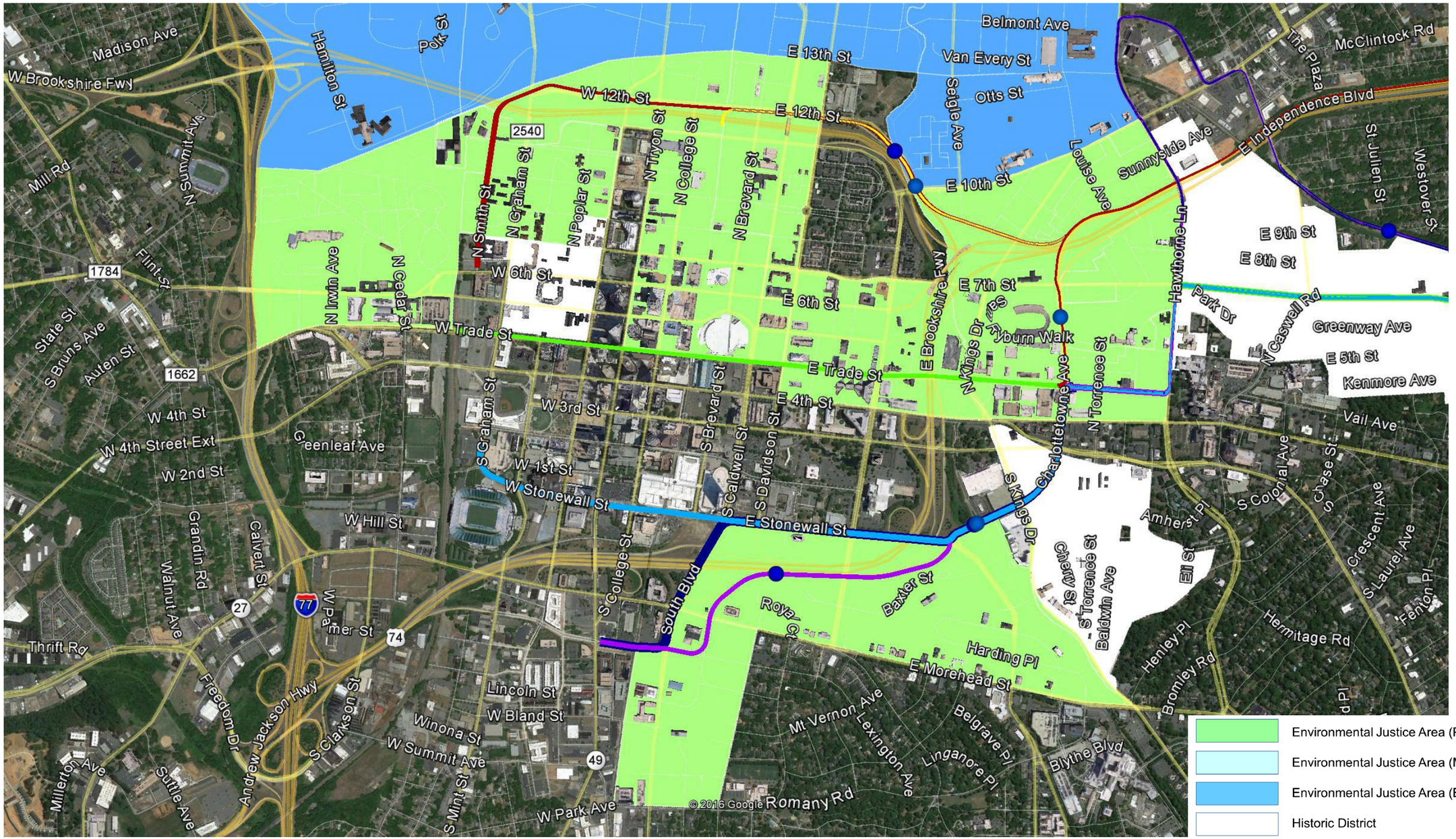
Segment	ID	Severity (Red/Yellow)	Description
Segment B1 Independence	B1.P1	R	New bridge over US74
	B1.P2	R	**Hawthorne Bridge**
	B1.P3	R	Bridge over US74 in the vicinity of Morningside Drive; skew and long
	B1.P4	Y	Eastway / Wendover Interchange
	B1.P5	Y	Bridge over Person Drive
	B1.P6	R	Sharon Amity Interchange
	B1.P7	R	Bridge over Idlewild Road
Segment B2 Independence to Monroe	B2.P1	R	New bridge over US74
	B2.P2	R	**Hawthorne Bridge**
	B2.P3	R	Bridge over US74 in the vicinity of Morningside Drive; skew and long
	B2.P4	R	Grade separated into Monroe Road
	B2.P5	R	Bridge over Wendover Road
	B2.P6	Y	Aerial station in the vicinity of Wendover Road
	B2.P7	Y	Aerial station in the vicinity of Sharon Amity Road
Segment B3 7th Street to Independence	B3.P1	Y	Reduces traffic capacity on Charlottetowne Avenue
	B3.P2	Y	Extending existing streetcar stations may be challenging
	B3.P3	R	**Hawthorne Road / 7th Street intersection**
	B3.P4	Y	Mixed traffic on 7th Street between Hawthorne Lane and 5th Street
	B3.P5	Y	Eastway / Wendover Interchange
	B3.P6	Y	Bridge over Person Drive
	B3.P7	R	Sharon Amity Interchange
	B3.P8	R	Bridge over Idlewild Road
Segment B4 7th Street to Monroe	B4.P1	Y	Reduces traffic capacity on Charlottetowne Avenue
	B4.P2	Y	Extending existing streetcar stations may be challenging
	B4.P3	R	**Hawthorne Road / 7th Street intersection**
	B4.P4	Y	Mixed traffic on 7th Street between Hawthorne Lane and 5th Street
	B4.P5	R	Bridge over Wendover Road
	B4.P6	Y	Aerial station in the vicinity of Wendover Road
	B4.P7	Y	Aerial station in the vicinity of Sharon Amity Road
Segment B5 Gold Line / CSX / Independence	B5.P1	Y	Mixed traffic on Pecan Avenue
	B5.P2	Y	Low clearance on Pecan Avenue at I-277
	B5.P3	R	**CSX right-of-way between Pecan Avenue and Monroe Road**
	B5.P4	R	Grade separated into Monroe Road
	B5.P5	Y	Grade issues through parking lot at Bojangles
	B5.P6	Y	Eastway / Wendover Interchange
	B5.P7	Y	Bridge over Person Drive
	B5.P8	R	Sharon Amity Interchange
	B5.P9	R	Bridge over Idlewild Road
Segment B6 Gold Line / CSX / Monroe	B6.P1	Y	Mixed traffic on Pecan Avenue
	B6.P2	Y	Low clearance on Pecan Avenue at I-277
	B6.P3	R	**CSX right-of-way between Pecan Avenue and Monroe Road**
	B6.P4	R	Grade separated into Monroe Road
	B6.P5	R	Bridge over Wendover Road
	B6.P6	Y	Aerial station in the vicinity of Wendover Road
	B6.P7	Y	Aerial station in the vicinity of Sharon Amity Road

Figure A3: Physical Constraints in Outer Segment ("Segment C")



Segment	ID	Severity (Red/Yellow)	Description
Segment C1 Independence to Independence Pointe	C1.P1	R	Grade separate over Idlewild Road; move south of the Idlewild Road / US74 Bridge
	C1.P2	R	Grade separate over Conference Drive; move south of the Conference Drive/ US74 Bridge
	C1.P3	R	Grade separated over Village Lake Drive
	C1.P4	Y	Aerial station at Village Lake Drive
	C1.P5	Y	Guideway from Village Lake Drive to Krefeld will be on structure
	C1.P6	Y	Rebuild / build Krefeld Drive with exclusive guideway (Independence to Sam Newell)
	C1.P7	Y	Rebuild / build Independence Pointe Parkway with exclusive guideway (Sam Newell to CPCC)
	C1.P8	R	Powerline conflicts along Independence Pointe Parkway
	C1.P9	R	New bridge over I-485
Segment C2 Independence to Sam Newell	C2.P1	R	Grade separate over Idlewild Road; move south of the Idlewild Road / US74 Bridge
	C2.P2	R	Grade separate over Conference Drive; move south of the Conference Drive/ US74 Bridge
	C2.P3	R	Grade separated over Village Lake Drive
	C2.P4	Y	Aerial station at Village Lake Drive
	C2.P5	Y	Guideway from Village Lake Drive to Krefeld will be on structure
	C2.P6	Y	Rebuild / build Krefeld Drive with exclusive guideway (Independence to Sam Newell)
	C2.P7	Y	Grade separating over Matthews Township Parkway
	C2.P8	R	New bridge over I-485
Segment C3 Monroe / CSX / Downtown Matthews	C3.P1	R	Grade separated crossing to get into CSX right-of-way
	C3.P2	R	**In CSX right-of-way**
	C3.P3	Y	New bridge over the stream
	C3.P4	R	Rebuild Sardis Road North bridge to provide space to go under
	C3.P5	R	Rebuild Matthews Township Parkway bridge to provide space to go under
	C3.P6	Y	Mixed traffic on E. Matthews Street
	C3.P7	R	New bridge over I-485
Segment C4 Monroe / Downtown Matthews	C4.P1	Y	Grade separation over Sardis Road North
	C4.P2	Y	Aerial station at Sardis Road North
	C4.P3	Y	New bridge over the stream in the vicinity of Covdale Drive
	C4.P4	Y	Power Lines
	C4.P5	R	New CSX bridge over Monroe Road
	C4.P6	Y	Grade separated into Monroe Road
	C4.P7	Y	Grade separated at Matthews Township Parkway
	C4.P8	R	New bridge over CSX
	C4.P9	Y	Mixed traffic on E. Matthews Street
	C4.P10	R	New bridge over I-485
Segment C5 Village Lake / CSX / Downtown Matthews	C5.P1	Y	New guideway from Independence Blvd.
	C5.P2	R	Grade separated into Monroe Road
	C5.P3	R	Grade separated crossing to get into CSX right-of-way
	C5.P4	R	**In CSX right-of-way**
	C5.P5	Y	New bridge over the stream
	C5.P6	R	Rebuild Sardis Road North bridge to provide space to go under
	C5.P7	R	Rebuild Matthews Township Parkway bridge to provide space to go under
	C5.P8	Y	Mixed traffic on E. Matthews Street
	C5.P9	R	New bridge over I-485
Segment C6 Village Lake / Monroe / Downtown Matthews	C6.P1	Y	New guideway from Independence Blvd.
	C6.P2	R	Grade separated into Monroe Road
	C6.P3	R	New CSX bridge over Monroe Road
	C6.P4	Y	New bridge over the stream in the vicinity of Covdale Drive
	C6.P5	Y	Grade separated over Sardis Road North
	C6.P6	Y	Grade separated over Matthews Township Parkway
	C6.P7	Y	Grade-separated at Monroe Road and Matthews Township Parkway
	C6.P8	R	New bridge over CSX
	C6.P9	Y	Mixed traffic in E Matthews Street
	C6.P10	R	New bridge over I-485

Figure A4: Environmental Constraints in Inner Segment ("Segment A")



Environmental Justice Area (Poverty)

Environmental Justice Area (Minority)

Environmental Justice Area (Both)

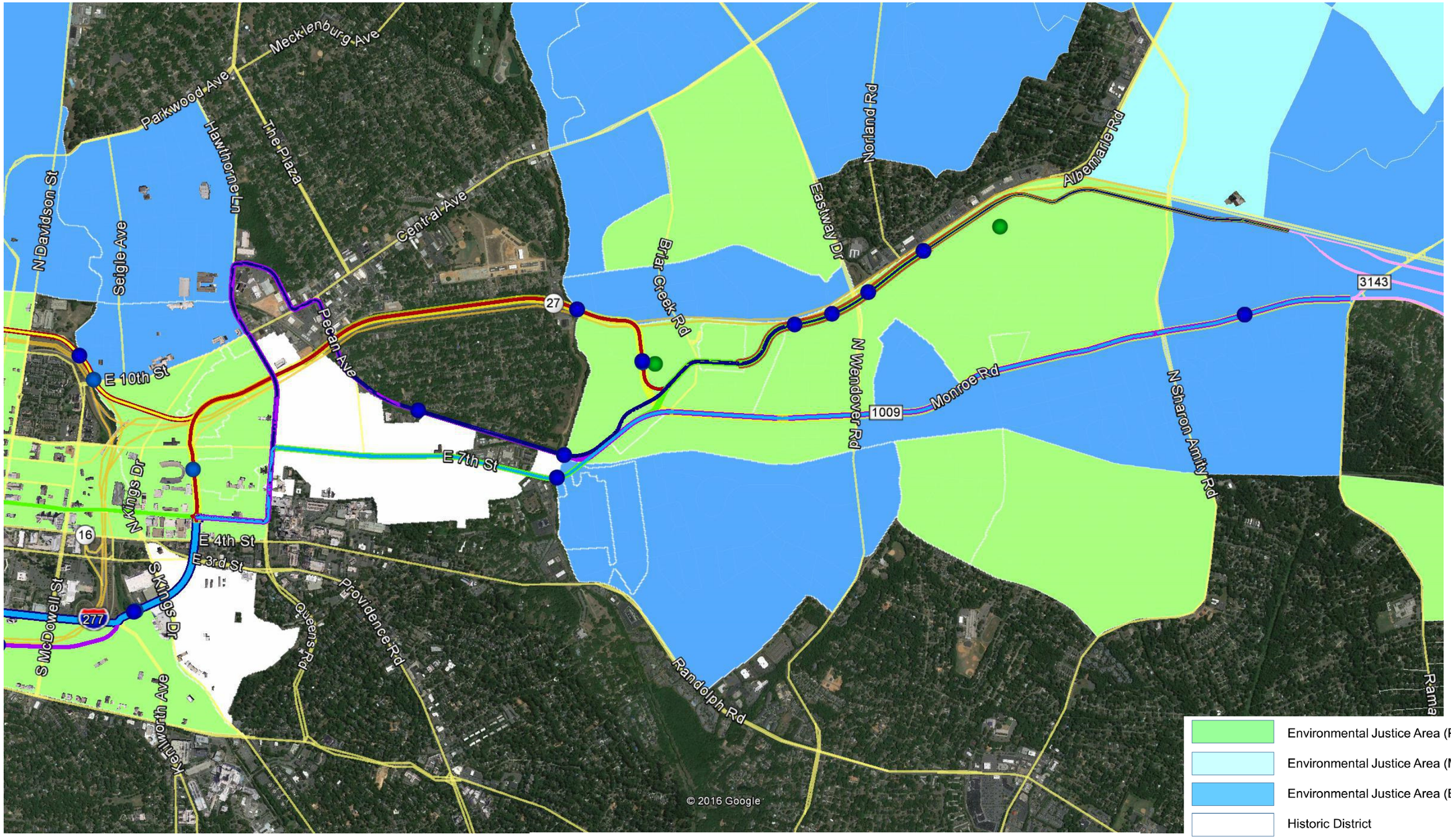
Historic District

Other impact points noted (hazardous materials, streams, wetlands, schools, parks as noted per kml .file)

Data sources: US Census, NC State Historic Preservation Office

Note: The Elizabeth neighborhood is a National Register-listed Historic District, and the Cherry and Fourth Ward neighborhoods are on the "Study List" for possible future designation in the National Register of Historic Places.

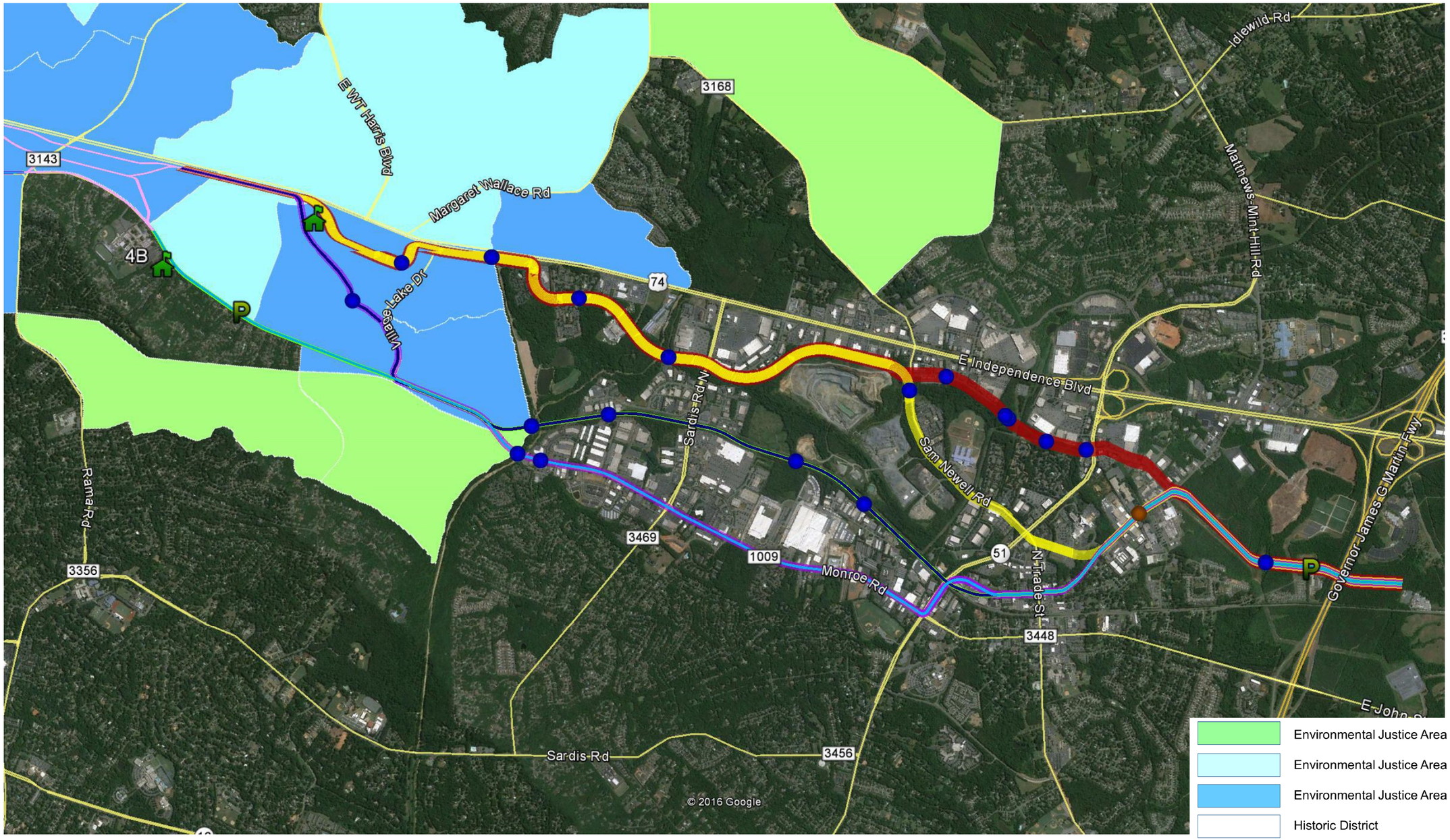
Figure A5: Environmental Constraints in Middle Segment ("Segment B")



Data sources: US Census, NC State Historic Preservation Office

Note: The Elizabeth neighborhood is a National Register-listed Historic District, and the Cherry neighborhood is on the "Study List" for possible future designation in the National Register of Historic Places.

Figure A6: Environmental Constraints in Outer Segment ("Segment C")



Environmental Justice Area (Poverty)

Environmental Justice Area (Minority)

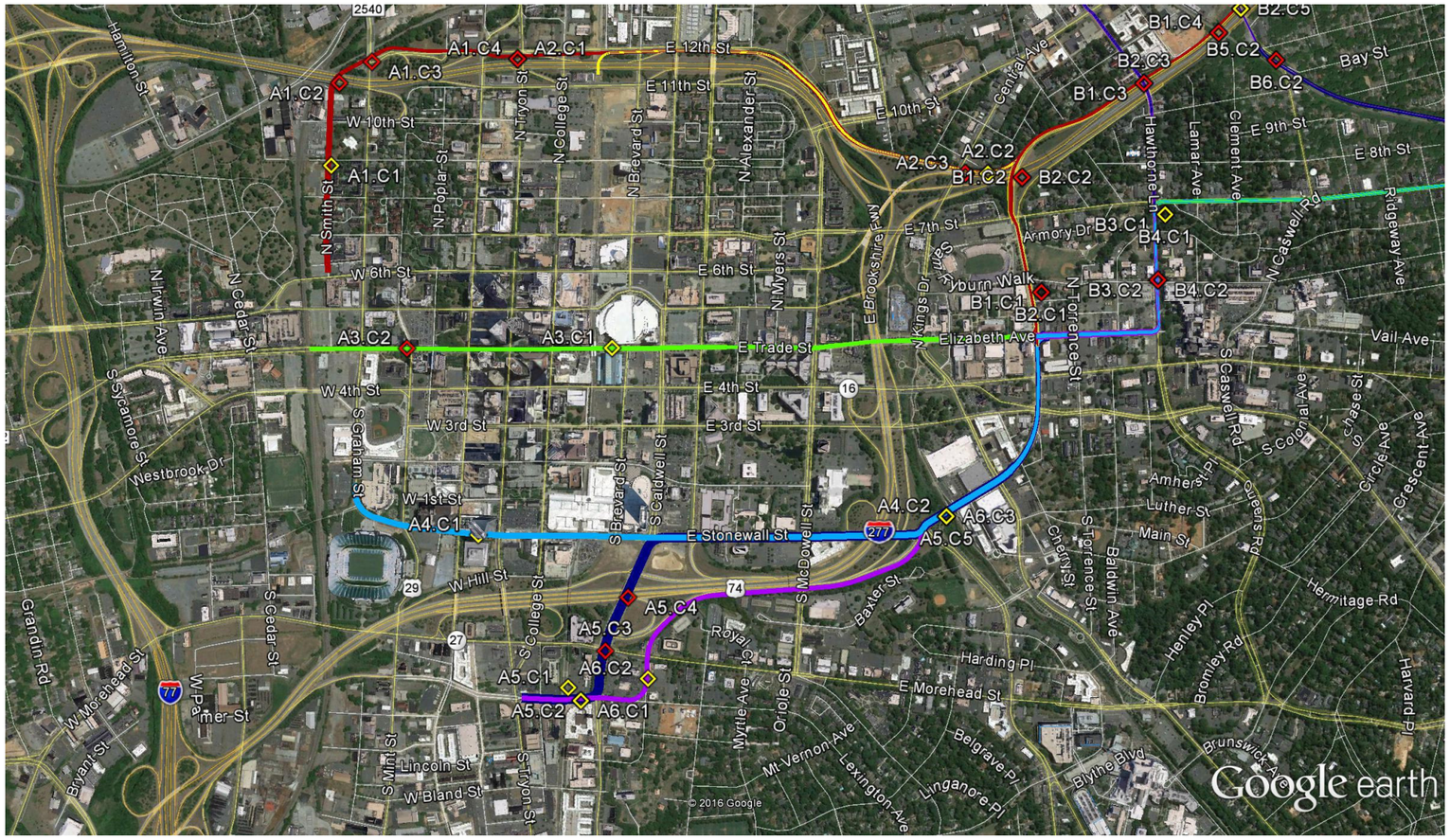
Environmental Justice Area (Both)

Historic District

Other impact points noted (hazardous materials, streams, wetlands, schools, parks as noted per kml .file)

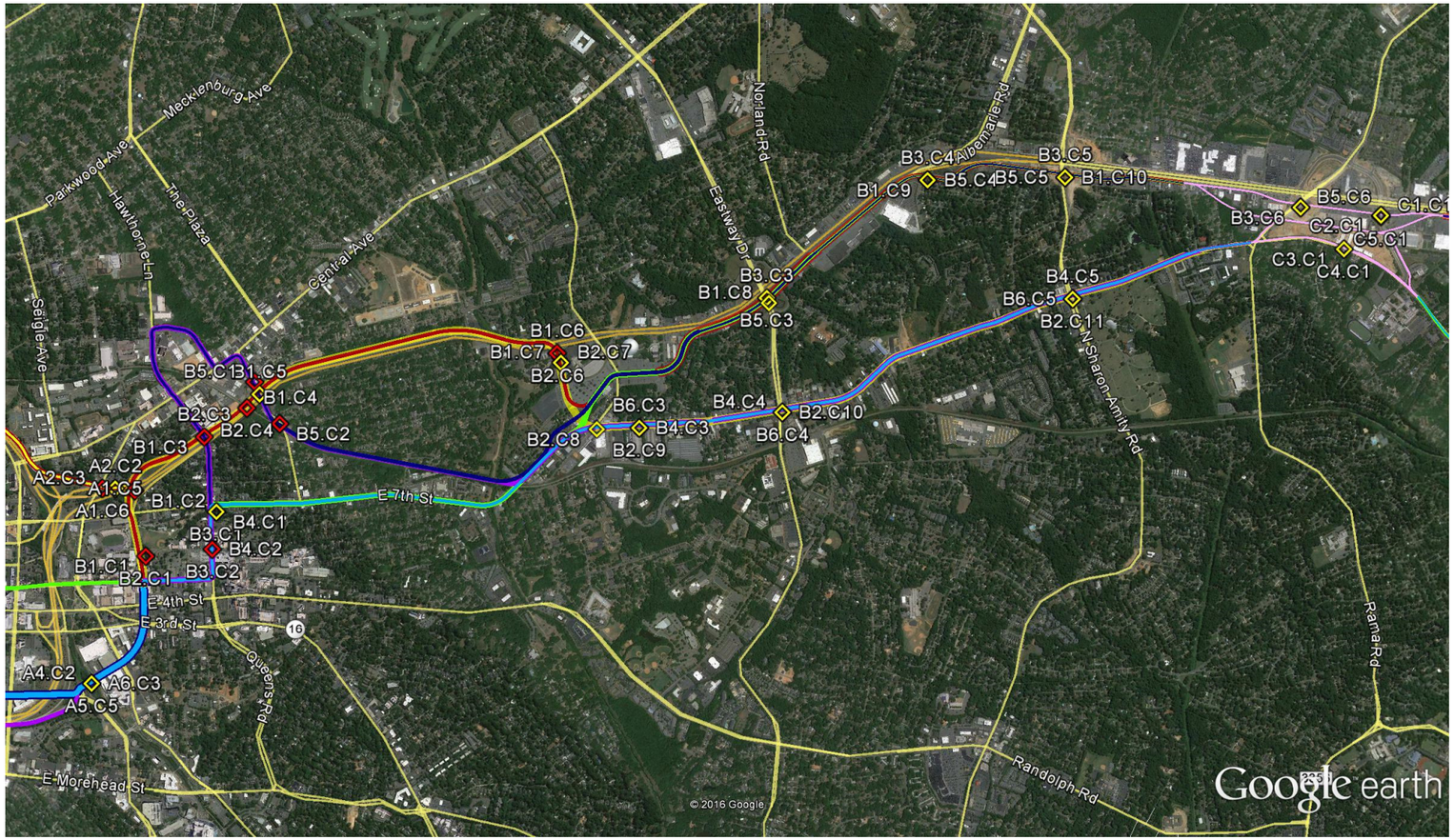
Data sources: US Census, NC State Historic Preservation Office

Figure A7: Construction Challenges in Inner Segment ("Segment A")



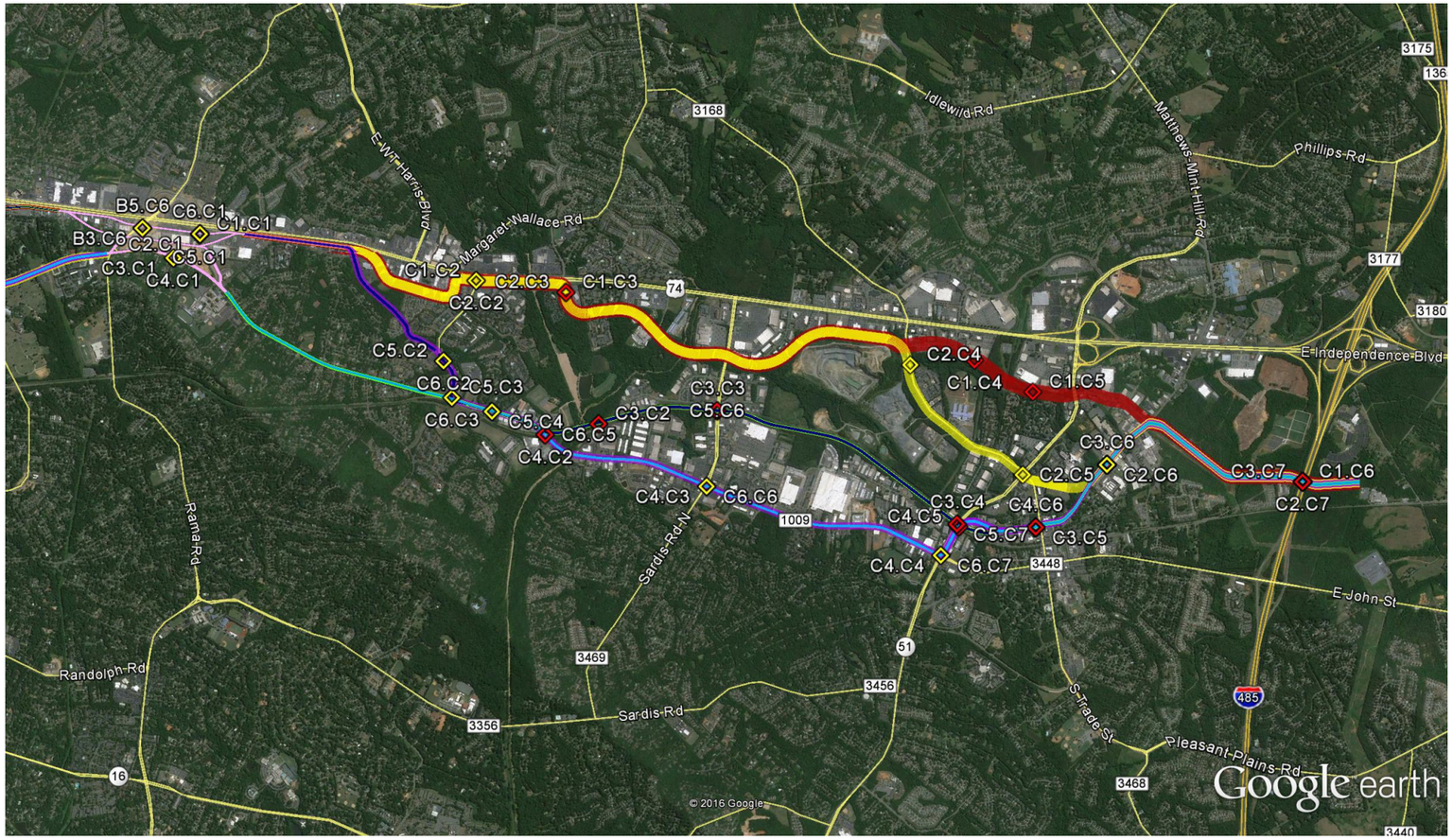
Segment	ID	Severity (Red/Yellow)	Description
Segment A1 12th to Gateway	A1.C1	Y	Temporary closure of Smith Street to build guideway in mixed traffic
	A1.C2	R	Tunnel under I-277
	A1.C3	R	Rebuilding Graham Street overpass over freight rail will require coordination with rail road flagmen
	A1.C4	R	Guideway between 12th Street and I-277 will require portions of 12th Street, I-277 ramps, Church Street, Tryon Street and College Street to be
	A1.C5	Y	Proximity to I-74/I-277 ramp will require temporary ramp closer for construction staging
	A1.C6	R	Rebuilding Central Avenue Bridge will require temporary lane closures on Central Avenue and Independence
Segment A2 12th to BLE	A2.C1	R	Guideway between 12th Street and I-277 will require portions of 12th Street, I-277 ramps and College Street to be temporarily closed for construction
	A2.C2	Y	Proximity to I-74/I-277 ramp will require temporary ramp closer for construction staging
	A2.C3	R	Rebuilding Central Avenue Bridge will require temporary lane closures on Central Avenue and Independence
Segment A3 Trade interline	A3.C1	R	Existing streetcar stations will have to maintained while being extended to accommodate light rail vehicle
Segment A4 Stonewall to Gateway	A4.C1	Y	Closing Stonewall Street between Gateway and BLE/Convention Center to build guideway in mixed traffic
	A4.C2	Y	Permanent closure of two inside lanes on Charlottetowne Avenue and temporary shifting lanes to build guideway
Segment A5 Stonewall to Carson	A5.C1	Y	Existing Carson Station will have to be maintained while new relocated station is built to the north
	A5.C2	R	New Morehead Street bridge over South Boulevard will require temporary closures on Morehead Street and South Boulevard
	A5.C3	R	New South Boulevard bridge over I-277 will require temporary closures on South Boulevard and I-277
	A5.C4	Y	Permanent closure of two inside lanes on Charlottetowne Avenue and temporary shifting lanes to build guideway
Segment A6 I-277 to Carson	A6.C1	Y	Temporary closure of Caldwell Street to build guideway in mixed traffic
	A6.C2	Y	Permanent closure of two inside lanes on Charlottetowne Avenue and temporary shifting lanes to build guideway

Figure A8: Construction Challenges in Middle Segment ("Segment B")



Segment	ID	Severity (Red/Yellow)	Description
Segment B1 Independence	B1.C1	R	Temporary closure of US74 to construct new bridge
	B1.C2	R	Constructability requires Hawthorne Bridge to be rebuilt or (if alignment is under US74) temporarily closing lanes on US74
	B1.C3	R	New bridge over CSX will require coordination with rail road flagmen
	B1.C4	Y	New bridge over Pecan Avenue would require temporary closure of Pecan Avenue
	B1.C5	R	Temporary closure of US74 to construct new bridge over US74 in the vicinity of Morningside Drive
	B1.C6	Y	Proximity to Eastway / Wendover Interchange will require temporary ramp closer for construction and staging
	B1.C7	Y	New bridge over Person Drive will require temporary closures
	B1.C8	Y	Proximity to Sharon Amity Interchange will require temporary closures on Sharon Amity Road
Segment B2 Independence to Monroe	B2.C1	R	Temporary closure of US74 to construct new bridge
	B2.C2	R	Constructability requires Hawthorne Bridge to be rebuilt or (if alignment is under US74) temporarily closing lanes on US74
	B2.C3	R	New bridge over CSX will require coordination with rail road flagmen
	B2.C4	Y	New bridge over Pecan Avenue would require temporary closure of Pecan Avenue
	B2.C5	R	Temporary closure of US74 to construct new bridge over US74 in the vicinity of Morningside Drive
	B2.C6	Y	Temporarily close lanes on Monroe Road to construct grade separated access into Monroe Road
	B2.C7	Y	New bridge over Wendover Road will require temporary closures
	B2.C8	Y	New bridge over Sharon Amity Road will require temporary closures
Segment B3 7th Street to Independence	B3.C1	R	Temporary closure of Charlottetowne Avenue to build guideway in center lanes
	B3.C2	Y	Construction staging may impact park in the vicinity of Hawthorne Road / 7th Street intersection
	B3.C3	R	Temporary closure of 7th Street between Hawthorne Road and 5th Street
	B3.C4	Y	Proximity to Eastway / Wendover Interchange will require temporary ramp closer for construction and staging
	B3.C5	Y	New bridge over Person Drive will require temporary closures
	B3.C6	Y	Proximity to Sharon Amity Road Interchange will require temporary closures on Sharon Amity Road
Segment B4 7th Street to Monroe	B4.C1	R	Temporary closure of Charlottetowne Avenue to build guideway in center lanes
	B4.C2	Y	Construction staging may impact park in the vicinity of Hawthorne Road / 7th Street intersection
	B4.C3	R	Temporary closure of 7th Street between Hawthorne Road and 5th Street
	B4.C4	Y	Temporarily close and shift lanes on Monroe Road
	B4.C5	Y	New bridge over Wendover Road will require temporary closures
	B4.C6	Y	New bridge over Sharon Amity Road will require temporary closures
Segment B5 Gold Line / CSX / Independence	B5.C1	R	Temporary closure of Pecan Avenue to build guideway in mixed traffic
	B5.C2	R	Construction and staging areas within CSX right-of-way between Pecan Avenue and Monroe Road
	B5.C3	Y	Temporarily close and shift lanes on Monroe Road
	B5.C4	Y	Proximity to Eastway / Wendover Interchange will require temporary ramp closer for construction and staging
	B5.C5	Y	New bridge over Person Drive will require temporary closures
	B5.C6	Y	Proximity to Sharon Amity Road Interchange will require temporary closures on Sharon Amity Road
	B5.C7	Y	New bridge over Idlewild Road will require temporary closures
Segment B6 Gold Line / CSX / Monroe	B6.C1	R	Temporary closure of Pecan Avenue to build guideway in mixed traffic
	B6.C2	R	Construction and staging areas within CSX right-of-way between Pecan Avenue and Monroe Road
	B6.C3	Y	Temporarily close and shift lanes on Monroe Road
	B6.C4	Y	New bridge over Wendover Road will require temporary closures
	B6.C5	Y	New bridge over Sharon Amity Road will require temporary closures

Figure A9: Construction Challenges in Outer Segment ("Segment C")



Segment	ID	Severity (Red/Yellow)	Description
Segment C1 Independence to Independence Pointe	C1.C1	Y	New bridge over Idlewild Road will require temporary lane closures
	C1.C2	Y	New bridge over Conference Drive will require temporary lane closures
	C1.C3	Y	New bridge over Village Lake Drive will require temporary lane closures
	C1.C4	R	Temporarily close of portions of Krefeld Drive to rebuild roadway with exclusive guideway
	C1.C5	R	Temporarily close of portions of Independence Pointe Parkway to rebuild roadway with exclusive guideway
	C1.C6	R	Possible relocate powerlines along Independence Pointe Parkway
	C1.C7	R	Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485
Segment C2 Independence to Sam Newell	C2.C1	Y	New bridge over Idlewild Road will require temporary lane closures
	C2.C2	Y	New bridge over Conference Drive will require temporary lane closures
	C2.C3	Y	New bridge over Village Lake Drive will require temporary lane closures
	C2.C4	R	Temporarily close of portions of Krefeld Drive to rebuild roadway with exclusive guideway
	C2.C5	Y	New bridge over Matthews Township Parkway will require temporary lane closures
	C2.C6	R	Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485
Segment C3 Monroe / CSX / Downtown Matthews	C3.C1	Y	Temporarily close and shift lanes on Monroe Road
	C3.C2	R	Construction and staging areas within CSX right-of-way between Monroe Road and Matthews Township Parkway
	C3.C3	R	New Sardis Road North bridge will require temporary closures
	C3.C4	R	New Matthews Township Parkway bridge will require temporary closures
	C3.C5	R	Temporary closure of E Matthews Street from Ames Street through Trade Street
	C3.C6	R	Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485
Segment C4 Monroe / Downtown Matthews	C4.C1	Y	Temporarily close and shift lanes on Monroe Road
	C4.C2	Y	New Sardis Road North bridge will require temporary closures
	C4.C3	R	Rebuilding CSX bridge over Monroe Road will require coordination with rail road flagmen
	C4.C4	Y	Possible relocate powerlines along Independence Point Parkway
	C4.C5	Y	New Monroe Road bridge will require temporary lane closures
	C4.C6	Y	New Matthews Township Parkway bridge will require temporary closures
	C4.C7	R	New bridge over CSX will require coordination with rail road flagmen
	C4.C8	R	Temporary closure of E Matthews Street from Ames Street through Trade Street
	C4.C9	R	Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485
Segment C5 Village Lake / CSX / Downtown Matthews	C5.C1	Y	Temporarily close and shift lanes on Monroe Road
	C5.C2	R	Construction and staging areas within CSX right-of-way between Monroe Road and Matthews Township Parkway
	C5.C3	Y	New Sardis Road North bridge will require temporary closures
	C5.C4	Y	New Matthews Township Parkway bridge will require temporary closures
	C5.C5	R	Temporary closure of E Matthews Street from Ames Street through Trade Street
	C5.C6	R	Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485
Segment C6 Village Lake / Monroe / Downtown Matthews	C6.C1	Y	Temporarily close and shift lanes on Monroe Road
	C6.C2	R	Rebuilding CSX bridge over Monroe Road will require coordination with rail road flagmen
	C6.C3	Y	New Sardis Road North bridge will require temporary closures
	C6.C4	Y	New Matthews Township Parkway bridge will require temporary closures
	C6.C5	R	New bridge over CSX will require coordination with rail road flagmen
	C6.C6	R	Temporary closure of E Matthews Street from Ames Street through Trade Street
	C6.C7	R	Temporary closure of lanes and/or shift of lanes on I-485 to construct new bridge over I-485

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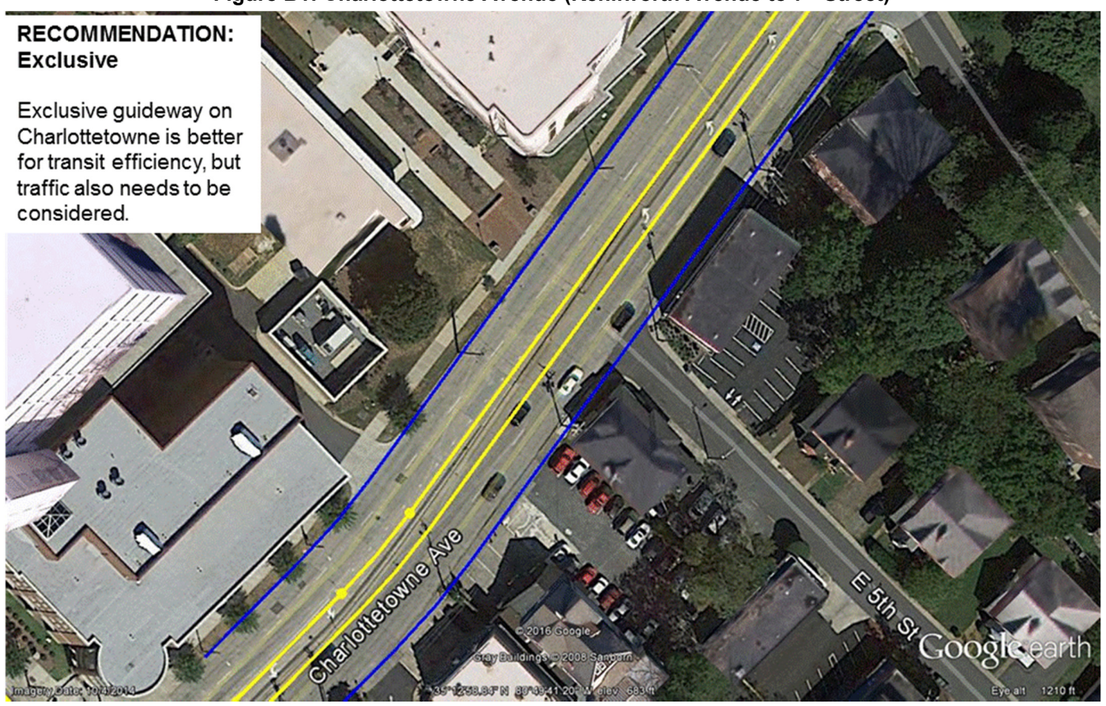
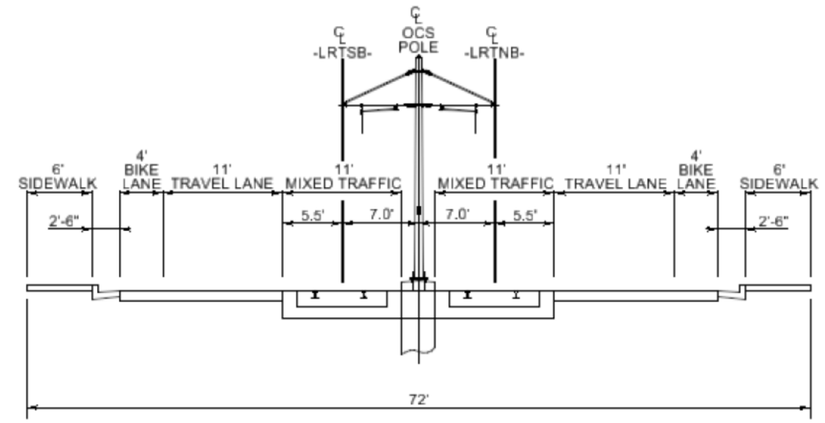
APPENDIX B: SHARED LANE ANALYSIS

Charlottetowne Avenue (Kenilworth Avenue to 7th Street)

A reduction to existing travel lanes on Charlottetowne Avenue from Kenilworth Avenue to 7th Street would be recommended to accommodate a new guideway based on conceptual design. The new cross-section would be two travel lanes (one in each direction), two tracks (one in each direction) in the median, bike lanes and sidewalks. While there are impacts to traffic capacity, the exclusive guideway on Charlottetowne Avenue is better for transit efficiency. **Figure B1** shows an aerial of Charlottetowne Avenue with the edge of proposed sidewalk in blue and centerline of the rail in yellow, along with a cross-section.

Figure B1: Charlottetowne Avenue (Kenilworth Avenue to 7th Street)





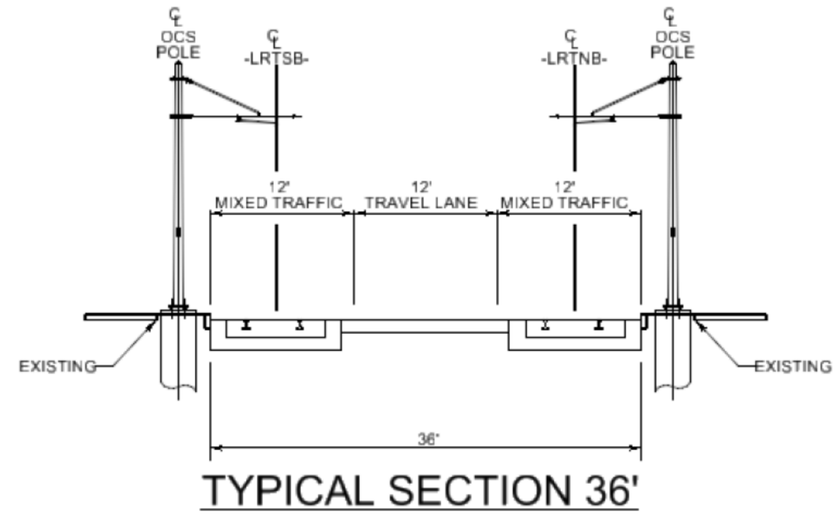
TYPICAL SECTION 72'

Street	From	To	Applicable Alignment Options	Rail Goal	Evaluation Criteria	Which Meets Goal Better? (Exclusive, Neutral, Shared)	Score (-1 = E, 0 = N, 1, S)	Weight (1-5)	Score	Comments
Charlottetowne	Kenilworth	7th	A4, A5, A6, B1, B2	Reliable and efficient connections	Maximize efficiency (transit speed and reliability)	E	-1	5	-5	Shared lanes would slow travel time and decrease reliability significantly due to numerous intersections and turning movements
				Balance mobility needs of all users	Minimize negative traffic impacts	S	1	4	4	Exclusive lanes would take away one lane of traffic, further detailed traffic analysis is needed to determine impacts
					Avoid major physical constraints	N	0	3	0	There are no major physical constraints along this roadway
				Strengthen existing neighborhoods	Minimize negative property impacts	N	0	4	0	No major property impacts are required
					Minimize negative environmental impacts	N	0	3	0	No major environmental impacts would result from either option
					Minimize negative impacts during construction	N	0	2	0	Both exclusive and shared lanes would cause significant disruption
					Maintain consistency with neighborhood	N	0	5	0	Both options support additional multimodal infrastructure
									-1	SUM
									Exclusive	Recommendation

7th Street (Hawthorne Lane to Laurel Avenue)

Based on conceptual design, rail would operate in mixed traffic on 7th Street from Hawthorne Lane to Laurel Avenue. Widening to accommodate an exclusive guideway is inconsistent with neighborhood plans. **Figure B2** shows an aerial of 7th Street and how the centerline of the track (shown in yellow) would fit within the existing travel lanes.

Figure B2: 7th Street (Hawthorne Lane to Laurel Avenue)

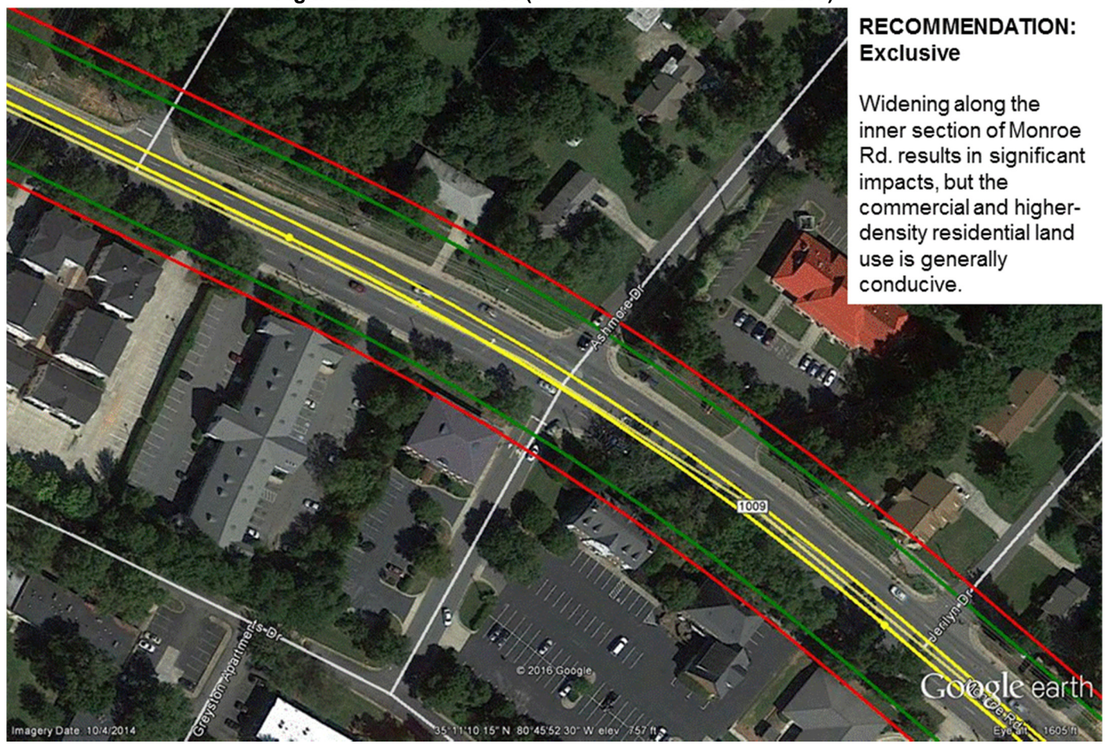


Street	From	To	Applicable Alignment Options	Rail Goal	Evaluation Criteria	Which Meets Goal Better? (Exclusive, Neutral, Shared)	Score (-1 = E, 0 = N, 1, S)	Weight (1-5)	Score	Comments
7th	Hawthorne	Laurel	B3, B4	Reliable and efficient connections	Maximize efficiency (transit speed and reliability)	E	-1	5	-5	Shared lanes would slow travel time and decrease reliability significantly due to numerous intersections and turning movements
				Balance mobility needs of all users	Minimize negative traffic impacts	E	-1	4	-4	Shared lanes would result in queued traffic behind rail vehicle at stops in 3-lane section
					Avoid major physical constraints	S	1	3	3	Significant physical constraints due to narrow roadway width
				Strengthen existing neighborhoods	Minimize negative property impacts	S	1	4	4	Exclusive ROW would require significant property acquisition of thriving properties
					Minimize negative environmental impacts	S	1	3	3	Exclusive ROW likely would impact parkland
					Minimize negative impacts during construction	N	0	2	0	Both exclusive and shared lanes would cause significant disruption
					Maintain consistency with neighborhood	S	1	5	5	The widening required for exclusive ROW is not consistent with neighborhood land use
									6	SUM
									Shared	Recommendation

Monroe Road (5th Street to Conference Drive)

A reduction to existing travel lanes on Monroe Road from 5th Street to Conference Drive would not be feasible due to the significant impacts to traffic capacity. Therefore, the exclusive guideway on Monroe Road is recommended with a cross-section of four travel lanes (two in each direction), two tracks (one in each direction) in the median, bike lanes and sidewalks. Widening along the inner section of Monroe Road results in significant property impacts, but commercial and higher-density residential land use is generally conducive. **Figure B3** shows an aerial of Monroe Road with the edge of proposed sidewalk in red and centerline of the rail in yellow, along with a cross-section.

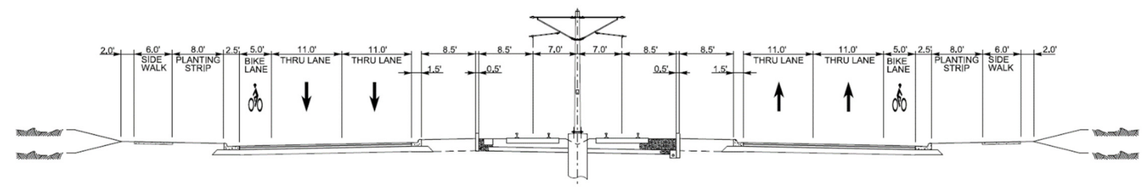
Figure B3: Monroe Road (5th Street to Conference Drive)



RECOMMENDATION: Exclusive

Widening along the inner section of Monroe Rd. results in significant impacts, but the commercial and higher-density residential land use is generally conducive.

TYPICAL SECTION 139'

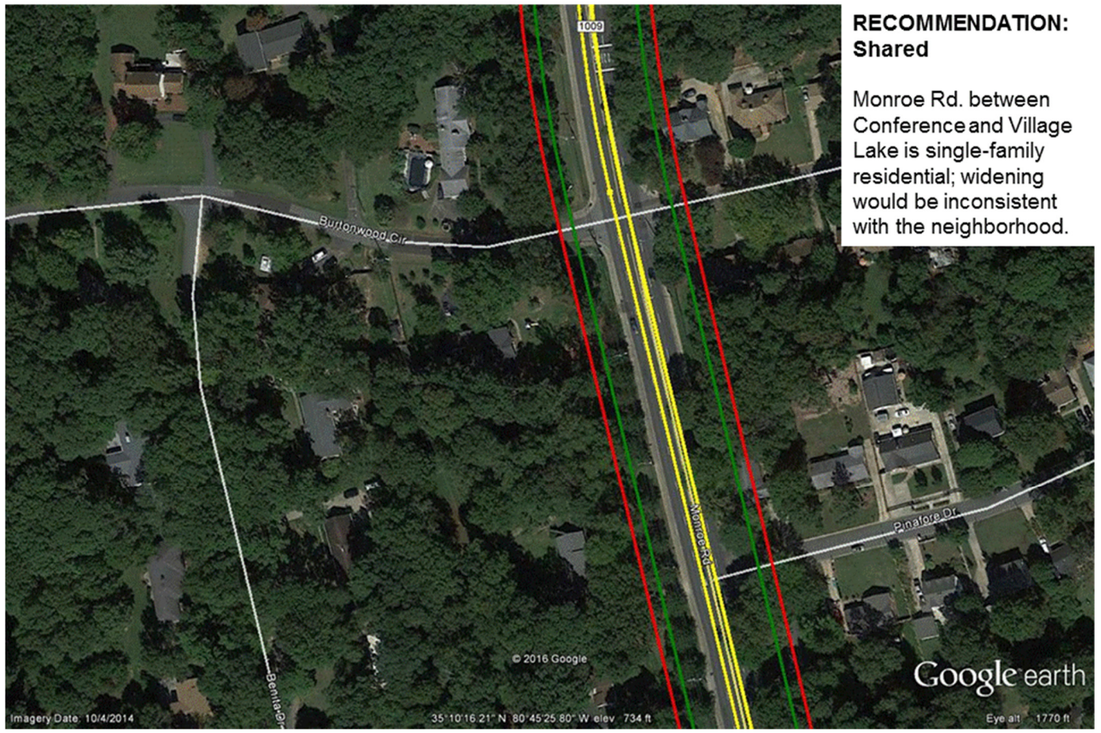


Street	From	To	Applicable Alignment Options	Rail Goal	Evaluation Criteria	Which Meets Goal Better? (Exclusive, Neutral, Shared)	Score (-1 = E, 0 = N, 1, S)	Weight (1-5)	Score	Comments
Monroe	5th	Conference	B2, B4, B6	Reliable and efficient connections	Maximize efficiency (transit speed and reliability)	E	-1	5	-5	Shared lanes would slow travel time and decrease reliability significantly due to numerous intersections and turning movements
				Balance mobility needs of all users	Minimize negative traffic impacts	E	-1	4	-4	The existing number of travel lanes would be maintained
					Avoid major physical constraints	N	0	3	0	There are minimal major physical constraints along this section (but the CSX bridge would require reconstruction)
				Strengthen existing neighborhoods	Minimize negative property impacts	S	1	4	4	Exclusive lanes would result in some property impacts
					Minimize negative environmental impacts	N	0	3	0	Environmental impacts would be comparable for both options
					Minimize negative impacts during construction	N	0	2	0	Both exclusive and shared lanes would cause significant disruption
					Maintain consistency with neighborhood	N	0	5	0	Either option would create enhanced transit along Monroe Road
									-5	SUM
									Exclusive	Recommendation

Monroe Road (Conference Drive to Village Lake Drive)

Due to the significant impacts to traffic capacity, a reduction to existing travel lanes on Monroe Road from Conference Drive to Village Lake Drive would not be feasible. The conceptual design considered a 139-foot cross-section consisting of four travel lanes (two in each direction), two tracks (one in each direction) in the median, bike lanes and sidewalks. Widening along the inner section of Monroe Road results in significant property impacts that are inconsistent with the surrounding neighborhood. **Figure B4** shows an aerial of Monroe Road with the edge of proposed sidewalk in red and centerline of the rail in yellow, along with a cross-section.

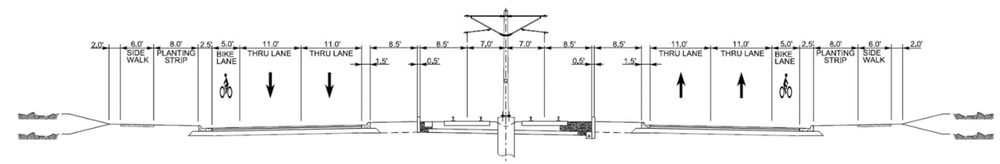
Figure B4: Monroe Road (Conference Drive to Village Lake Drive)



RECOMMENDATION: Shared

Monroe Rd. between Conference and Village Lake is single-family residential; widening would be inconsistent with the neighborhood.

TYPICAL SECTION 139'



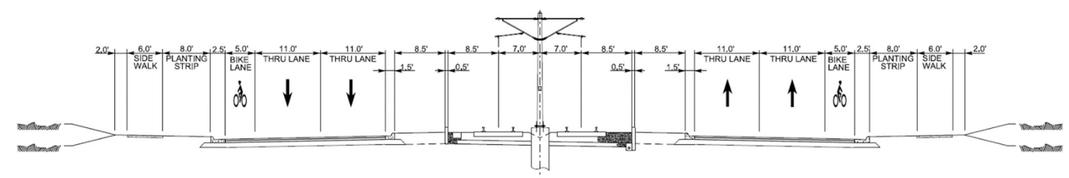
Street	From	To	Applicable Alignment Options	Rail Goal	Evaluation Criteria	Which Meets Goal Better? (Exclusive, Neutral, Shared)	Score (-1 = E, 0 = N, 1, S)	Weight (1-5)	Score	Comments
Monroe	Conference	Village Lake	C3, C4	Reliable and efficient connections	Maximize efficiency (transit speed and reliability)	E	-1	5	-5	Shared lanes would slow travel time and decrease reliability significantly due to numerous intersections and turning movements
				Balance mobility needs of all users	Minimize negative traffic impacts	E	-1	4	-4	The existing number of travel lanes would be maintained
					Avoid major physical constraints	N	0	3	0	There are minimal major physical constraints along this section
				Strengthen existing neighborhoods	Minimize negative property impacts	S	1	4	4	Exclusive lanes would result in some property impacts
					Minimize negative environmental impacts	S	1	3	3	Single family residential neighborhood will be sensitive to visual impacts of widened roadway to accommodate exclusive rail guideway
					Minimize negative impacts during construction	N	0	2	0	Both exclusive and shared lanes would cause significant disruption
					Maintain consistency with neighborhood	S	1	5	5	A widened roadway with exclusive rail guideway is not as consistent with the single-family residential land use of this segment
									3	SUM
									Shared	Recommendation

Monroe Road (Village Lake Drive to Matthews Township Parkway)

A reduction to existing travel lanes on Monroe Road from Village Lake Drive to Matthews Township Parkway would not be feasible due to the significant impacts to traffic capacity. Therefore, the exclusive guideway on Monroe Road is recommended with a cross-section of four travel lanes (two in each direction), two tracks (one in each direction) in the median, bike lanes and sidewalks. Widening along the inner section of Monroe Road results in property impacts, but less than other sections of Monroe Road due to the large setbacks and parking lots along the roadway. **Figure B5** shows an aerial of Monroe Road with the edge of proposed sidewalk in red and centerline of the rail in yellow, along with a cross-section.

Figure B5: Monroe Road (Village Lake to Matthews Township Parkway)

TYPICAL SECTION 139'

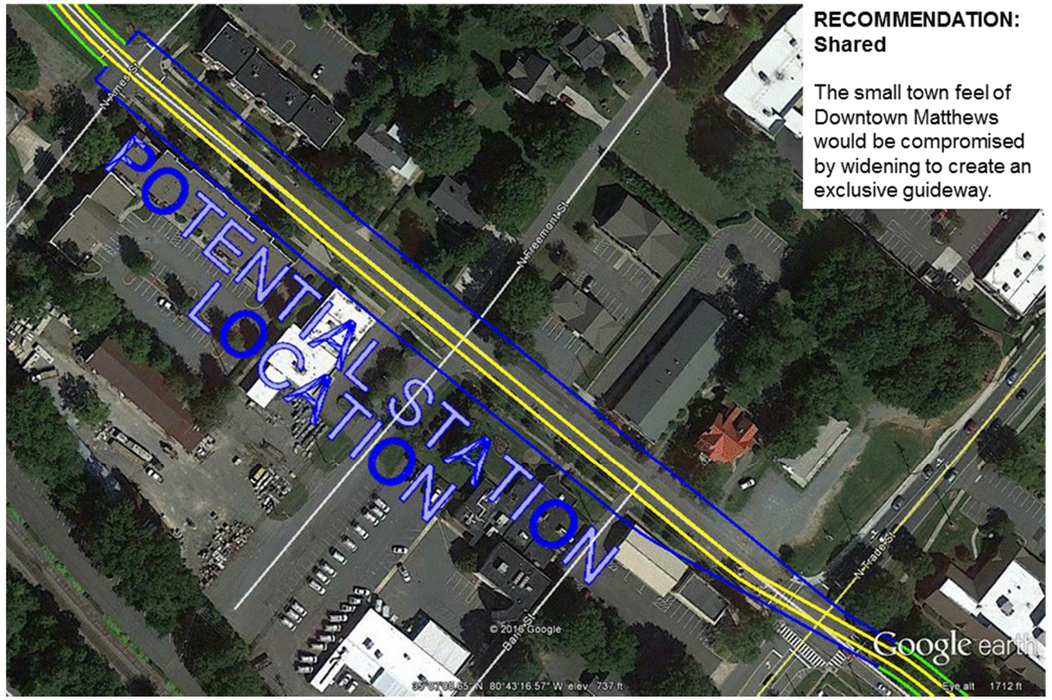


Street	From	To	Applicable Alignment Options	Rail Goal	Evaluation Criteria	Which Meets Goal Better? (Exclusive, Neutral, Shared)	Score (-1 = E, 0 = N, 1, S)	Weight (1-5)	Score	Comments
Monroe	Village Lake	Matthews Township Parkway	C3, C4, C5, C6	Reliable and efficient connections	Maximize efficiency (transit speed and reliability)	E	-1	5	-5	Shared lanes would slow travel time and decrease reliability significantly due to numerous intersections and turning movements
				Balance mobility needs of all users	Minimize negative traffic impacts	E	-1	4	-4	The existing number of travel lanes would be maintained
					Avoid major physical constraints	N	0	3	0	There are minimal major physical constraints along this section
				Strengthen existing neighborhoods	Minimize negative property impacts	S	1	4	4	Exclusive lanes would result in some property impacts (CSX overpass may require replacement)
					Minimize negative environmental impacts	N	0	3	0	Environmental impacts would be comparable for both options
					Minimize negative impacts during construction	N	0	2	0	Both exclusive and shared lanes would cause significant disruption
					Maintain consistency with neighborhood	E	-1	5	-5	This corridor is more commercial in nature with large setbacks. A large portion of the corridor is already dedicated to transportation (i.e. roads and parking lots)
									-10	SUM
									Exclusive	Recommendation

Matthews Street (Ames Street to Trade Street)

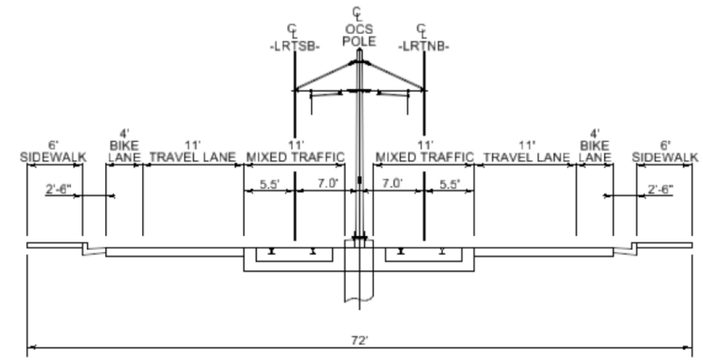
Based on conceptual design, rail would operate in mixed traffic on Matthews Street from Ames Street to Trade Street. Widening to accommodate an exclusive guideway may compromise the small town feel of Downtown Matthews. A station is proposed in this location. Therefore, operating in mixed traffic has less impact on travel time because the rail vehicles will be slowing to a stop at the station regardless. **Figure B6** shows an aerial of Matthews Street and how the centerline of the track (shown in yellow) would fit within the existing travel lanes.

Figure B6: Matthews Street (Ames Street to Trade Street)



RECOMMENDATION: Shared

The small town feel of Downtown Matthews would be compromised by widening to create an exclusive guideway.



TYPICAL SECTION 72'

Street	From	To	Applicable Alignment Options	Rail Goal	Evaluation Criteria	Which Meets Goal Better? (Exclusive, Neutral, Shared)	Score (-1 = E, 0 = N, 1, S)	Weight (1-5)	Score	Comments
Matthews St.	Ames	Trade	C3, C4, C5, C6	Reliable and efficient connections	Maximize efficiency (transit speed and reliability)	N	0	5	0	This short section is through a downtown area and contains a likely station location, so travel speed will be slow for either shared or exclusive guideway
				Balance mobility needs of all users	Minimize negative traffic impacts	N	0	4	0	This is not a through street and has light traffic
					Avoid major physical constraints	N	0	3	0	There are minimal major physical constraints along this section
				Strengthen existing neighborhoods	Minimize negative property impacts	S	1	4	4	Exclusive lanes would result in property impacts, which may be particularly critical in a downtown area
					Minimize negative environmental impacts	S	1	3	3	The downtown neighborhood will be sensitive to visual impacts of widened roadway to accommodate exclusive rail guideway
					Minimize negative impacts during construction	N	0	2	0	Both exclusive and shared lanes would cause significant disruption
					Maintain consistency with neighborhood	S	1	5	5	A widened roadway with exclusive rail guideway is not as consistent with the small-town downtown land use of this segment
									12	SUM
									Shared	Recommendation

APPENDIX C: CSX CORRESPONDENCE

Local public interest in possible transit use of the CSX-owned rail line that traverses the study area has permeated through the previous study efforts in this corridor, and CSX has historically been uninterested in transit use of their rail corridor (whether on the existing rail or in the adjacent right-of-way). Interest in use of the CSX corridor was again expressed by the public as part of this analysis. This study concluded that a transit corridor in the location of the rail line does not support the land use and mobility goals of the study area, and significant property and neighborhood impacts would result in predominantly single-family neighborhoods. However, CATS did inquire with CSX regarding their current views toward transit use of their corridor, and CSX correspondence confirms that their position has not changed. The letters below represents recent as well as historical correspondence regarding this issue.

EMAIL DATED JULY 15, 2015

From: Turra, Marco <Marco_Turra@csx.com>
Sent: Wednesday, July 15, 2015 5:10 PM
To: Carol, David; Dillard, John W
Cc: Wallace, Brett P.; Westbrook, Jay
Subject: RE: Charlotte

Hi Dave,

Sorry for taking so long to respond. I was on vacation and then John was out as well so we could not talk before we circle back with you. Unfortunately, CSX position has not changed since the last time we have corresponded.

The Charlotte Sub remains a core route for CSX and we are unable to introduce a passenger service on the line.

We would hope that the use of CSX tracks and property could be excluded as one of the options to be considered by CATS and/or other agencies since CSX is not in a position to support the transit projects.

Please let us know if you have any questions.

Marco

LETTER DATED JULY 1986

cc/ file "Light Rail"

RECEIVED
JUL 21 1986
OFFICE OF THE MAYOR

Mayor Gantt!! cc B. Pressley

CSX TRANSPORTATION

John W. Snow
President and Chief Executive Officer
Rail Transport Group
100 North Charles Street
Baltimore, MD 21201
(301) 237-1700 5507

RECEIVED
JUL 25 1986
TRANSPORTATION MANAGEMENT

The Honorable Harvey B. Gantt
Mayor of the City of Charlotte
600 E. Trade Street
Charlotte, N. C. 28202

Dear Mayor Gantt:

I was pleased to learn about the useful discussion held in your office on July 8 with members of my staff and Mark Erwin regarding the potential use of CSX Transportation property (formerly the Seaboard System Railroad) extending from downtown Charlotte to the proposed Crown Point Center approximately nine miles to the east. We shall be happy to cooperate with the City of Charlotte in exploring the technical and financial feasibility of using a portion of this right-of-way for some kind of transit service, and comparing the costs and benfits of these options with other alternatives designed to help meet the region's transporation needs along the Independence Boulevard corridor.

We believe the following factors should be taken into account in considering the possible use of our right-of-way:

1. This is an important portion of our mainline track, carrying an average of more than sixteen million tons of freight each year.

2. It is a single track, without any computerized train control system, and therefore can accommodate only one train in either direction at any one time, which must be carefully monitored and controlled by means of radio communication.

3. The maximum speed limit permitted along this section of track is 20 or 25 miles per hour, based upon city ordinances and our own internal safety regulations.

4. There are twelve grade crossings where the track intersects city streets.

5. There are five bridges carrying the track over streets or other natural barriers such as streams, and two overpasses carrying major thoroughfares over the tracks.

6. There are approximately ten sidetracks, which provide service from this mainline to local businesses.

7. There are overhead communication lines alongside the track for most of the distance, and several places where underground cables are also buried on both sides of the track.

8. Several miles of the track are carried on a high embankment created from fill, in order to maintain a level and stable base.

9. The right of way is legally two hundred feet wide, granted by charter from the State approximately one hundred years ago; however, title to much of this land is held by adjacent property owners who have constructed buildings which in some places are located within twenty feet or so of the track itself.

10. During periods of heavy demand, we operate as many as twenty trains a day over this track. Even during slack periods when only six or seven through trains may be operated, there is a need for local yard engines to move individual cars in and out of the approximately one dozen industries located along the track, which limits the availability of the track for use by other trains for several hours during each day.

11. In the case of the through freight trains, they are operated on demand - that is, not according to rigidly pre-defined schedules, and must be moved through Charlotte as rapidly and efficiently as possible when they arrive.

These factors clearly tend to limit the possibility of sharing the existing single track with other users - such as a commuter train. Not only would such an additional service have to use equipment compatible with our track dimensions and grade crossing signal circuitry, it would: a) have to be extremely limited in the hours of service provided; or b) be prepared to be preempted by our regular freight trains when they arrived; or c) require the construction of additional sidetracks (or an entire duplicate track) to enable one train to be held while another train passed it, or both trains to move simultaneously and operate in opposite directions.

Because our regular freight service travels such long distances and is generally operated under binding long-term contracts, (with severe penalty clauses for failure to meet established delivery schedules) we could not regularly set aside or delay these trains without incurring excessive costs that either would have to be passed on to the entity operating the commuter service, or would eventually result in our loss of the business to some more cost effective competitor. This line is used heavily for the shipment of coal from the Kentucky and West Virginia mines to major utilities along the southeast coast, and the shipment of grain and manufactured components to and from the Port of Wilmington. These trains must have priority rights over our tracks if we are to serve these customers in accordance with their service requirements. If we have to give up the use of our mainline track through Charlotte for four hours a day to allow commuter trains to operate, then we are likely to experience additional charges -- including not only the cost of idling our locomotives and paying the crews to wait, but also penalty charges up to $25,000 per day if it means that ships are kept waiting in the Port of Wilmington. We cannot bear these costs and I doubt the city would be willing to assume them either.

Consideration might be given to developing an entirely new set of tracks along our right-of-way adjacent to the existing tracks. This option, however, would require acquisition and removal of a number of private buildings located within our right-of-way by the private owners, plus widening of the embankment necessary to carry the tracks, and the widening of the several bridges and overpasses along the route. Provision would also have to be made for continuing service to the dozen or so adjacent industries located along both sides of the tracks, as well as the relocation of the overhead and underground communication lines. A preliminary rough estimate of the cost for such an undertaking, subject to detailed surveys and engineering studies, would be in the range of $20 million. It should be noted further that unless such additional tracks are developed, a commuter train could run in only one direction at a time, and therefore, (assuming that each trip takes approximately thirty minutes each way,) there might only be two trips possible during each typical 7AM-9AM and 4PM-6PM peak commuter period. This, in turn, may not produce sufficient ridership and, therefore revenue, to sustain a fair share of the operating costs for such a system -- much less provide sufficient revenue to amortize the capital cost of construction and the expense of maintaining a roadbed.

In view of these limitations, the city might wish to consider developing some other form of transit service, such as express buses operating either on reversible bus lanes on existing streets, or perhaps a dedicated right-of-way along a portion of our railroad right-of-way adjacent to the existing track. Although the latter option would still involve the need to acquire additional property, relocate existing businesses, and construct new roadbed, bridges and overpasses, it is likely to be the less expensive option involving the use of our property.

Further analyses performed by the City will undoubtedly identify other factors that need to be considered, as well as detailed engineering and financial data. The issues summarized above, however, seem to us to be among the primary ones that would need to be addressed. We would be happy to cooperate with you to develop further information about the

various alternatives which you may wish to pursue in more detail.

In addition, representatives of our Division Office will be in contact with your staff to inform them of our capital improvements program schedule, so that you may have the opportunity to coordinate your grade crossing improvements with our rail replacement program.

Very truly yours,

Copy:

The Honorable James G. Martin
Mr. M. W. Erwin
Mr. E. Copeland, Jr.

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APPENDIX D: MATTHEWS ALIGNMENT DEFINITION WORKSHOP MEETING NOTES

Southeast Corridor Transit Study

Matthews Alignment Workshop

Meeting Location: Matthews Town Hall – Hood Room

Meeting Date / Time: February 10, 2016; 9AM – 2PM

SUMMARY OF MEETING:

- Mayor Taylor opened with introductions, emphasizing the importance of the Southeast Corridor to Matthews.
- Jason Lawrence gave a project overview and described the background and history of study in the corridor.
- Stuart Basham provided an overview of NCDOT projects:
  - Monroe Expressway – started construction early last year, will start work in Indian Trail/Stallings area in spring of this year. Open to traffic in late 2018.
  - John Street/Old Monroe Road – Three segments for this widening project (Trade/John Street to I-485, I-485 to Indian Trail Road, Indian Trail Road to Wesley Chapel Road). All segments are funded. Right-of-way acquisition expected to begin in 2020 and construction beginning in 2022. Anticipated to be four lanes with a superstreet concept.
  - McKee Road Extension – should be let in 2016.
  - Widening of Trade Street in downtown Matthews. Will be completed Spring 2016. NCDOT is working on design for an additional segment extending to Weddington Road.
- Kathi Ingrish and Hazen Blodgett provided an overview of the Town's planning efforts in support of the transit corridor:
  - Independence Pointe Parkway – preserved BRT option along the proposed alignment for Silver Line. Planning efforts continue to recognize Independence Pointe Parkway as the preferred alignment.
  - Hendrick Corporation acquired a large parcel of property in the southeast quadrant of the I-485 / US 74 interchange property 10 years ago when zoning took place. Hendrick owns the land but Matthews is encouraging mixed use development if there will be a station in that area. Hendrick is not actively pursuing development of the land at this time.
  - CPCC Levine campus and Sportsplex land was acquired and the Town started planning alternatives to the landfill that was once planned for the area. The Sportsplex concept arose out of various opportunities over time. The Town believes that transit would support the Sportsplex and adjoining Family Entertainment District.
- Jason Lawrence led the group through a polling exercise that used an audience response system to solicit feedback on a series of questions related to the desired attributes and characteristics about a rail alignment through Matthews.

<u>Polling Exercise Responses</u>

1. **Should rail serve the Sportsplex / Family Entertainment District?**

Total Responses 19

Answers	Responses	Percent
Yes; station should be integrated into the district	16	84.21
Yes; station should be close by but not within the district	3	15.79
No; this area should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

Participant notes:

- Attendees stated that the Sportsplex is not dependent on light rail, but it would be beneficial. Players and their families will probably still need to use their cars because of equipment; however spectators and visitors to the Family Entertainment District would benefit from a rail stop there (similar to people taking the light rail to the Bank of America stadium).
- A station should be considered between the Sportsplex and the Family Entertainment District.
- The Sportsplex will include a 2,700-seat stadium, expandable to 6,000 seats.

2. **Should rail serve Novant Health Matthews Medical Center?**

Total Responses 19

Answers	Responses	Percent
Yes; station should be immediately adjacent to the hospital	2	10.53
Yes; station should be close by (but not next to) the hospital	17	89.47
No; the hospital should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

Participant notes:

- The hospital is growing toward Independence Pointe Parkway, so the hospital campus would be getting closer to an Independence Pointe transit alignment by default.

3. Should rail serve Downtown Matthews?

Total Responses 18

Answers	Responses	Percent
Yes; station should be in the heart of Downtown Matthews	11	61.11
Yes; station should be close by (but not in the middle of) Downtown	7	38.89
No; Downtown should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

4. Should rail serve the CPCC Levine Campus?

Total Responses 20

Answers	Responses	Percent
Yes; station should be immediately adjacent to the campus	16	80
Yes; station should be close by (but not next to) the campus	4	20
No; the campus should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

Participant notes:

- There is already a fair amount of interaction between the Levine and Central campuses.
- CPCC Levine is looking to add more meeting space and more arts space, which would be open to town use as well. Parking is currently filled to capacity.
- There are approximately 4000 students on the Levine campus on an average day. The curriculum focus is on general education, and there are specialized automotive and medical assistant programs.

5. What are other places that should be served?

Total Responses 11

Unique Participants 8

Answers	Upvotes	Downvotes
Union county	1	0
Galleria	3	0
Extend to Union County	9	0
A regional Park and Ride lot accessible from I-485.	7	1
Galleria	1	0
Surrounding retail nodes	0	1
Indian Trail Park	1	0
Access to the John Dt./I-485 interchange	4	0
Indian trail	2	0
485 park and ride location	5	0
Park and ride lot	3	0

6. How much parking should be available at the end of the line?

Total Responses 19

Answers	Responses	Percent
Lots of parking (>1000 spaces)	15	78.95
Moderate parking (300 - 1000 spaces)	4	21.05
Limited parking (<300 spaces)	0	0

Participant notes:

- It was noted that the primary park-and-ride lot does not necessarily need to be located at the end of line station.
- It was stated that capturing traffic from Union County will require a large lot.
- The opportunity for shared parking between transit use and the Sportsplex / Family Entertainment District was discussed. Approximately 900 – 1100 parking spaces are currently available at the Sportsplex.

7. What else should be located at the end of the line?

Total Responses 20

Answers	Responses	Percent
Should be solely a station with parking	1	5
Small scale, lower density development	4	20
Large scale, higher density transit-oriented development	15	75

8. What other types of uses/places should be nearby?

Total Responses 12

Unique Participants 9

Answers	Upvotes	Downvotes
Shopping	5	0
CPCC	6	0
bus transfers	10	0
Employment	9	0
Destination retail center	6	1
Multifamily development	10	0
Bike trail	7	0
Retail	5	0
Light Rail Vehicle Maintenance Facility	2	2
Entertainment	6	0
CMS k-12 Campus	2	0
Various uses	0	0

9. What level of automobile access to the end of line is appropriate?

Total Responses 20

Answers	Responses	Percent
Direct ramps into the station from the freeway	6	30
Nearby access to a freeway interchange	14	70
Circulate through local streets	0	0

Participant notes:

- Attendees expressed a concern about cumbersome access into the Sportsplex, particularly after the US 74 widening is completed. It is likely that the Town will encourage access via John Street (and new connector roads to be constructed).

10. Where should the end of line be located relative to I-485?

Total Responses 18

Answers	Responses	Percent
Inside I-485	0	0
Outside I-485	17	94.44
I don't have a strong preference	1	5.56

Participant notes:

- Hazen Blodgett expressed a strong desire to capture traffic from Union County outside of I-485.
- Direct HOV/HOT connections between I-485 and US 74 are being considered; any opportunities for direct connections into a parking garage should be considered now as part of NCDOT studies related to US74.

11. Where should the end of line be located relative to US 74 and John Street?

Total Responses 21

Answers	Responses	Percent
Closer to US 74	1	4.76
Closer to John Street	4	19.05
Between US 74 and John Street (Independence Pointe Pkwy)	16	76.19
Somewhere else	0	0

Participant notes:

- Stuart Basham discussed the US74 construction priority as follows:
  - 1. Mainline
  - 2. Connections to the mainline
  - 3. Parallel routes (Northeast Parkway and Independence Pointe Parkway)
- Stuart noted that the parallel routes would be removed if project budget issues emerge. Mayor Taylor commented that the construction of the parallel routes is critical for the town.
- Tim Gibbs noted the importance of providing grade-separated access over the CSX railroad at the station access point. Hazen Blodgett noted that an overpass along the McKee Road extension was desired, but budget and neighborhood concerns arose.

12. How important is an exclusive guideway?

Total Responses 21

Answers	Responses	Percent
1 - Not important at all	0	0
2	0	0
3	4	19.05
4	11	52.38
5 - Very important	6	28.57

Participant notes:

- Lee Jones commented that a balance of safety and efficiency drives the exclusivity decision. Mayor Taylor commented that the key is reliability.

13. Would widening existing streets be acceptable to create an exclusive guideway?

Total Responses 18

Answers	Responses	Percent
No - don't even think about it	1	5.56
Yes - minimize property impacts (result is slower overall speed)	4	22.22
Yes - maximize speed (result is more property impacts)	13	72.22

14. What is the appropriate balance between station access and travel time?

Total Responses 19

Answers	Responses	Percent
More stations (better station access but slower corridor travel times)	5	26.32
Fewer stations (more limited station access but faster corridor travel times)	14	73.68
I don't have a strong preference	0	0

15. How important is it to consider possible future extensions into Union County as part of the evaluation of alignment and station location options?

Total Responses 20

Answers	Responses	Percent
1 - Not important at all	0	0
2	1	5
3	2	10
4	4	20
5 - Very important	13	65

16. How important is it for the rail line to capture Union County traffic?

Total Responses 19

Answers	Responses	Percent
1 - Not important at all	0	0
2	0	0
3	2	10.53
4	6	31.58
5 - Very important	11	57.89

Breakout Session

Participants were divided into three groups and asked to define a preferred route alignment through Matthews based on the discussion and polling exercise.

General comments during the breakout session:

- CPCC owns a swath of land south of their current facilities near the proposed Independence Pointe Parkway extension.
- Hendrick is doing something near their (Hendrick's) land because the fire department will be burning houses the next two weekends.
- The end of line needs to provide good access for motorists. It needs to provide a good capture prior to downtown.
- The Sportsplex would be served best by a walk-up style station.
- CPCC has a concern with the Independence Pointe Parkway extension near their campus as it is currently planned because it would divide their campus when it is further developed.

- A location for a rail maintenance facility needs to be identified and the end of the line is logical. The City of Charlotte owns 20 acres where the rail intersects with Campus Ridge Road behind CPCC Levine.
- The currently proposed alignment for Independence Pointe Parkway over I-485 is the worst location per NCDOT due to elevation challenges.

Blue Group Synopsis:

Four stations:

- Park and ride at Sam Newell Rd.
- Station near Matthews Mint Hill Rd. or Matthews Township Pkwy.
- Sportsplex station
- Off of a new Independence Pointe Parkway alignment near CPCC Levine and the Mecklenburg Co. land parcel (with access via a new roadway from John Street)

The alignment chosen is from Independence Pointe Parkway to Home Depot, across Matthews Township Parkway, behind the hospital (approximately one-half mile from here to Town Hall), shared parking with the hospital, turn on Matthews - Mint Hill Rd. to the Sportsplex and end between the planned Independence Pointe Parkway and the CSX rail corridor. A new roadway off of John Street would provide access (keep in mind superstreet impacts). The county parcel would be used for parking.

Yellow Group Synopsis:

Five stations:

- CPCC Levine
- I-485/John St.
- Sportsplex/Family Entertainment District
- Novant Health Matthews
- Downtown Matthews

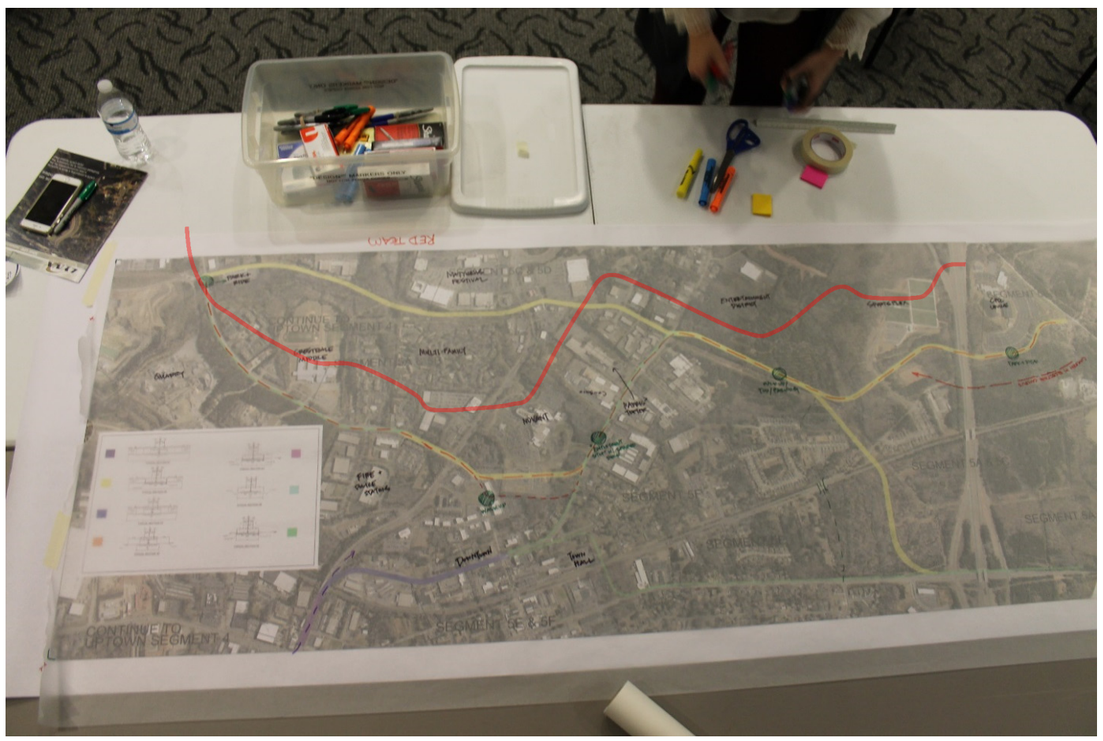
The alignment chosen includes CPCC Levine (300 – 1,000 parking spaces) to I-485/John Street with parking (1,000+ parking spaces), to Sportsplex (walk up station) to hospital (100-300 parking spaces) to Matthews-Mint Hill Road to Matthews/Trade Street and west to the CSX rail corridor to Highway 51 to Alternatives B and C in the next segment (toward Charlotte). There would be a shuttle that would connect to the light rail to provide access for those on Independence Pointe Parkway not being served directly by the light rail. Rail would operate in mixed-traffic in the downtown area for a short period.

Red Group Synopsis:

Five stations:

- Near downtown
- Employment stop near Novant Health Matthews
- Sportsplex/Family Entertainment District
- CPCC Levine
- I-485/John St.

The alignment chosen was the middle option (Sam Newell side-running) with a new piece of alignment near the hospital ending south of the current proposed Independence Pointe Parkway near CPCC Levine. There would be a maintenance facility and a park and ride lot at the end of the line.



Closing and Follow-Up Items:

- All groups used all exclusive guideways with the exception of the yellow team; they had one section in mixed traffic for downtown Matthews.
- All groups agree there needs to be a large parking facility (more than 1,000 spaces) close to I-485.
- NCDOT's EA will recommend a superstreet.
- The Town of Matthews does not want Independence Pointe Parkway to connect to Old Monroe Road.
- *Follow up with NCDOT regarding their evaluation of I-485 and crossing locations.
- *Follow up with Candice and the MPO for their evaluation of where to cross I-485 for Independence Pointe Parkway.

Southeast Corridor Silver Line Matthews Workshop
Matthews Town Hall, Hood Room
February 10, 2016, 9:00 AM – 2:00 PM

Name	Organization	Email Address
Dennis Green	Town of Matthews	dgreen@matthewsnc.gov
Scott Bruggeman	WSP/PB	bruggemans@pbworld.com
Juliann Sheldon	CATS	Juliann.Sheldon@charlotte.nc.gov
Jen Thompson	Town of Matthews	jthompson@matthewsnc.gov
Joe Lesch	Union County	Joseph.Lesch@co.union.nc.us
[illegible]	NCDOT - DIV 10	SLBRASHAM@NCDOT.GOV
Lance A. OLLIVIERRE	CPCC	lance.Ollivierre@cpcc.edu
Mary Jo Gollnitz	Town of Matthews	mjgollnitz@matthewsnc.gov
Kathi Ingrish	Matthews	kingrish@matthewsnc.gov
Hazen Blodgett	"	hblodgett@matthews.gov
John Muth	CATS	jmuth@charlottenc.gov

Southeast Corridor Silver Line Matthews Workshop
Matthews Town Hall, Hood Room
February 10, 2016, 9:00 AM – 2:00 PM

Name	Organization	Email Address
Jay Camp	Town of Matthews	jcamp@matthewsnc.gov
Becky Hawke	" " "	bhawke@matthewsnc.gov
Dillon Lackey	Town of Matthews	dlackey@matthewsnc.gov
Lorna Allen	CJS	
Ginny Young	CJS	
Tim Gibbs	CDOT	tgibbs@charlottenc.gov
EDITH MCELROY	CPCC	edith.mcelroy@cpcc.edu
CJ O'Neill	Matthews	cjoneill@matthewsnc.gov
W. LEE JONES	Mecklenburg County Parks & Rec	lee.jones@mecklenburgcountync.gov

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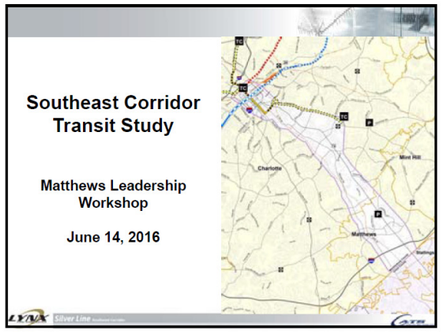
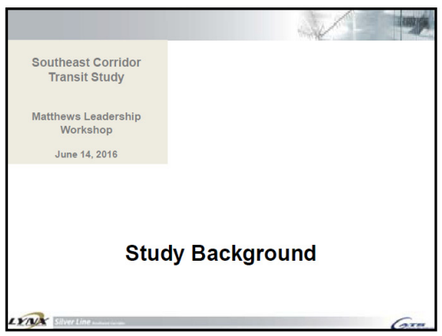
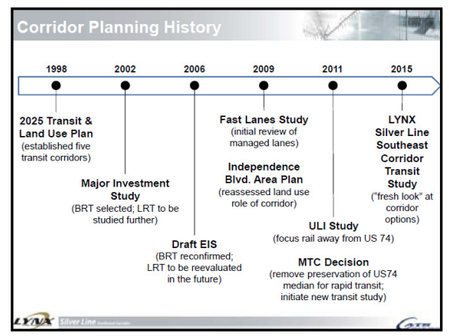
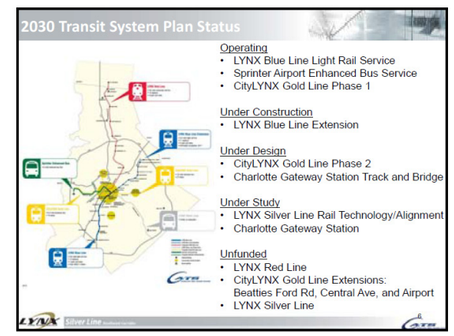
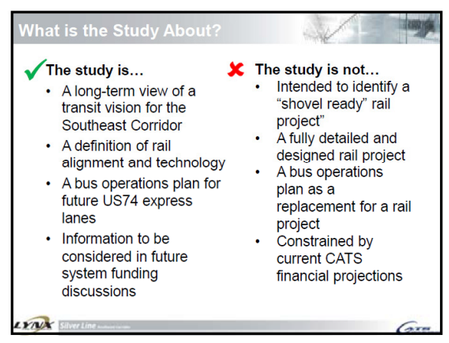
APPENDIX E: MATTHEWS LEADERSHIP WORKSHOP SLIDE DECK

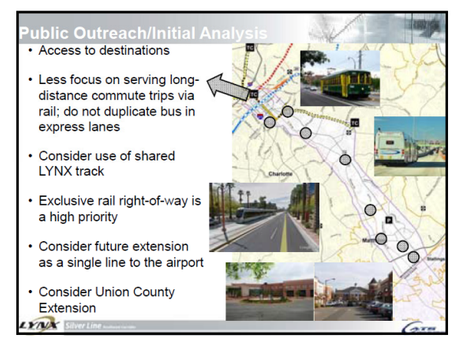








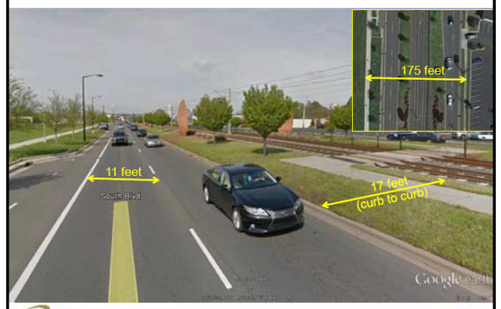




The Cross Section Question

- Use of a 110' section is based on assumption; there is risk that a wider section ultimately may be required
- Has been implemented elsewhere in the U.S., but not in Charlotte
  - Assumes minimal separation between travel lane and rail
  - Scaleybark and North Tryon use wider typical sections with greater separation
  - Use of a similar section on Monroe Road would result in significant neighborhood impacts, particularly on narrower sections of Monroe Road in Charlotte

What We Know in Charlotte



What We Know in Charlotte

What Options Can We Eliminate?

Options that require significant shared-lane operation

Options that utilize CSX right-of-way

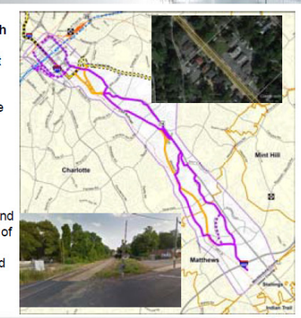
What Options Can We Eliminate?

Options where required widening is inconsistent with neighborhood

- Widening on 7th Street through Elizabeth
- Monroe Rd. between Conference and Village Lake is single-family residential

CSX ROW

- Rail alignment along CSX ROW would be inconsistent with the land use and mobility goals of the study area
- Significant property and neighborhood impacts
- Future regional commuter rail study?



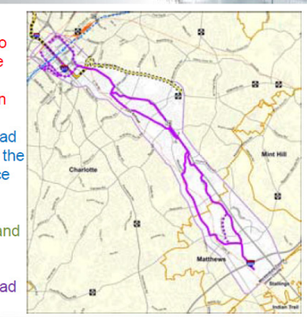
Remaining Alignment Options

A. Along the side of Independence Blvd to Independence Pointe Parkway with Sam Newell Design Option

B. Widened Monroe Road with segments along the side of Independence Blvd

C. Independence Blvd and Monroe Road

D. Widened Monroe Road



North Tryon St Example

North Tryon St Example

LYNX Blue Line with Rail Trail

LYNX Blue Line with Rail Trail

Independence Blvd. East of Wendover Road
Options A, B

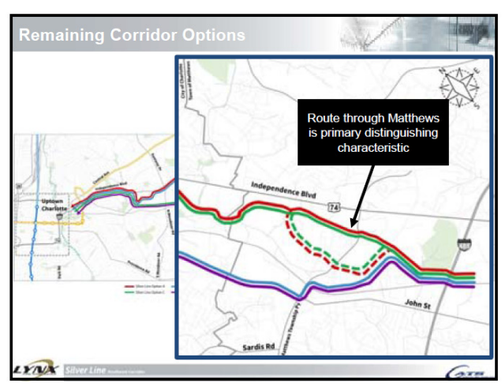
Independence Blvd. East of Wendover Road
Options A, B

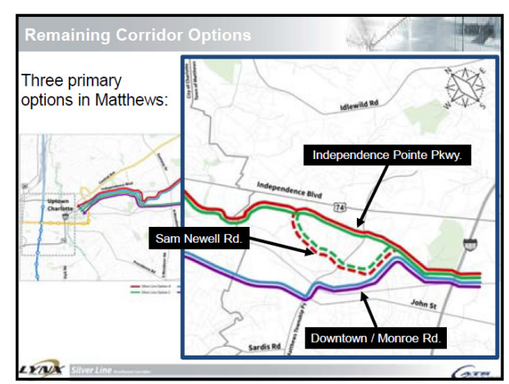
Monroe Road East of Wendover Road
Options C, D

Monroe Road East of Wendover Road
Options C, D

Independence Blvd. East of The Plaza
Options A, B, C, D

Independence Blvd. East of The Plaza
Options A, B, C, D

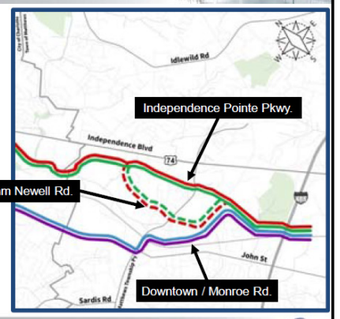

Remaining Corridor Options
Route through Matthews is primary distinguishing characteristic
Independence Blvd
John St
Sardis Rd


Remaining Corridor Options
Three primary options in Matthews:
Independence Pointe Pkwy.
Sam Newell Rd.
Downtown / Monroe Rd.
Independence Blvd
John St
Sardis Rd

Remaining Corridor Options

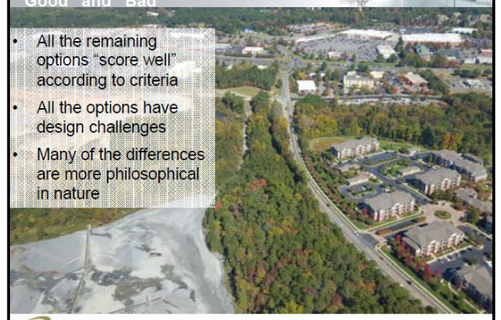
Commonalities:
1. All end at CPCC Levine
2. All directly serve the Sportsplex

Differences:
1. Service to Downtown
2. Areas served from Matthews-Mint Hill Rd. to Charlotte city limits



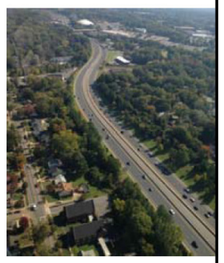
Not a Choice Between "Good" and "Bad"

- All the remaining options "score well" according to criteria
- All the options have design challenges
- Many of the differences are more philosophical in nature



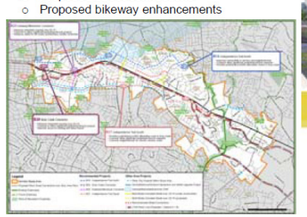
Upcoming Corridor Preservation

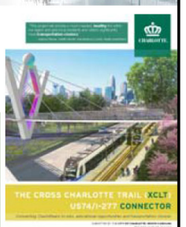
- How to maintain ability to construct project in the future?
- Significant opportunities for synergies with other corridor projects
- Opportunities for implementation of multiple corridor projects, not just a transit project



Coordination is Critical

- US 74 improvements
- Little Sugar Creek Greenway connection
- Hawthorne Lane bridge
- Independence Pointe Parkway
- Proposed street connections
- Proposed bikeway enhancements





What's Next

Corridor Evaluation
- Ridership
- Cost Estimation
- Maintenance Facility
- Station Site Assessment

Identification of a single preferred alignment option for the entire corridor (possible design options where necessary)

2030 System Plan Update

Update 2030 System Plan with a new Locally Preferred Alternative.

- CATS will present a fixed rail guideway recommendation to the Metropolitan Transit Commission (MTC) in July/August 2016.
- In Summer 2016 the MTC will vote on the fixed rail guideway recommendations.
- CATS will submit the updated 2030 System Plan to the MPO

Southeast Corridor Transit Study

Matthews Leadership Workshop

June 14, 2016

Matthews Planning Background

Southeast Corridor Transit Study

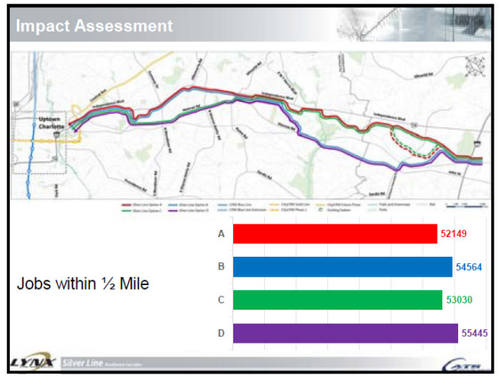
Matthews Leadership Workshop

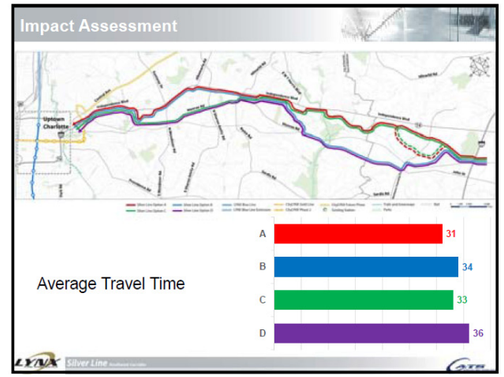
June 14, 2016

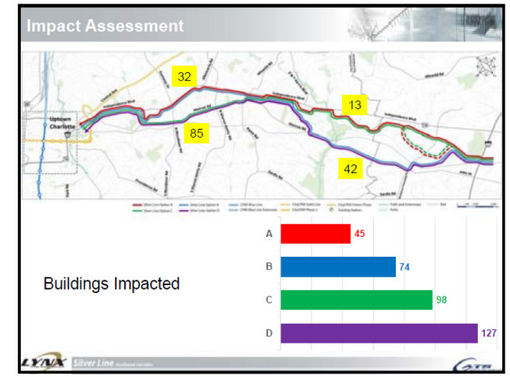
Recap of What We Know (Corridor Evaluation)

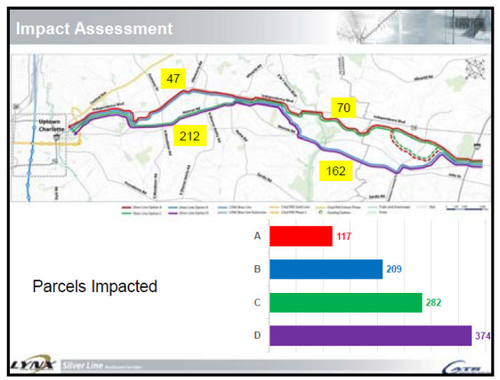
Impact Assessment

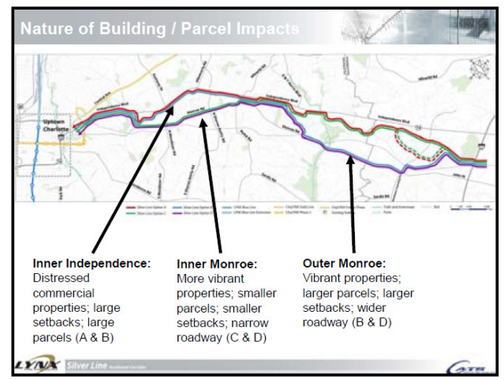
Population within ½ Mile

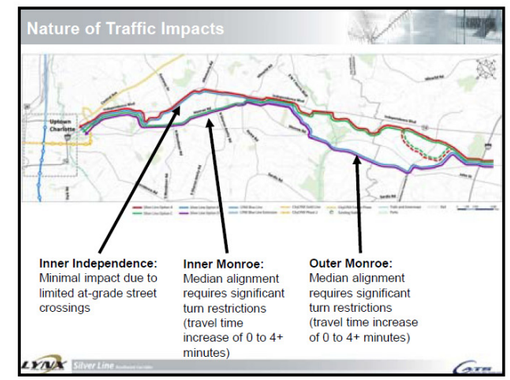

Impact Assessment
Jobs within ½ Mile
A 52149
B 54564
C 53030
D 55445

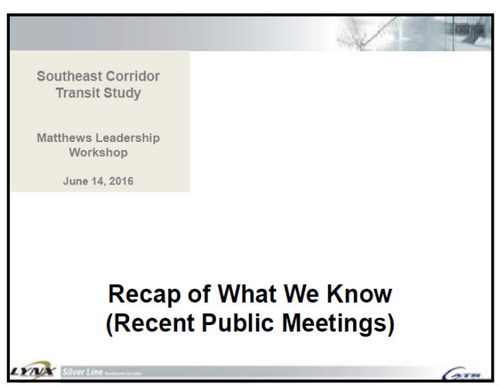

Impact Assessment
Average Travel Time
A 31
B 34
C 33
D 36


Impact Assessment
32
13
85
42
Buildings Impacted
A 45
B 74
C 98
D 127

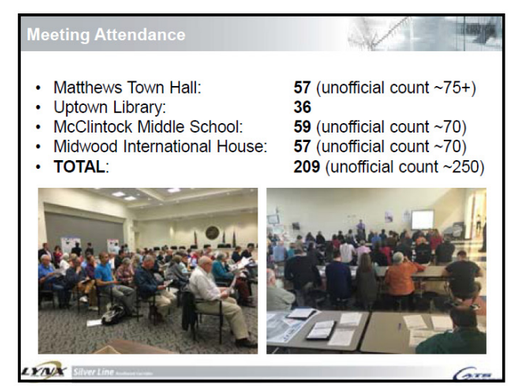

Impact Assessment
47
70
212
162
Parcels Impacted
A 117
B 209
C 282
D 374


Nature of Building / Parcel Impacts
Inner Independence: Distressed commercial properties; large setbacks; large parcels (A & B)
Inner Monroe: More vibrant properties; smaller parcels; smaller setbacks; narrow roadway (C & D)
Outer Monroe: Vibrant properties; larger parcels; larger setbacks; wider roadway (B & D)


Nature of Traffic Impacts
Inner Independence: Minimal impact due to limited at-grade street crossings
Inner Monroe: Median alignment requires significant turn restrictions (travel time increase of 0 to 4+ minutes)
Outer Monroe: Median alignment requires significant turn restrictions (travel time increase of 0 to 4+ minutes)


Southeast Corridor Transit Study
Matthews Leadership Workshop
June 14, 2016
Recap of What We Know
(Recent Public Meetings)

Public Meetings
April 5, 2016
6:00 pm - 7:30 pm
Matthews Town Hall
April 6, 2016
11:30 am - 1:00 pm
Charlotte Mecklenburg Public Library
Uptown Charlotte Branch
April 6, 2016
6:00 pm – 7:30 pm
McClintock Middle School
April 7, 2016
6:00 pm - 7:30 pm
Midwood International House


Meeting Attendance
Matthews Town Hall: 57 (unofficial count ~75+)
Uptown Library: 36
McClintock Middle School: 59 (unofficial count ~70)
Midwood International House: 57 (unofficial count ~70)
TOTAL: 209 (unofficial count ~250)

Purpose of Meetings

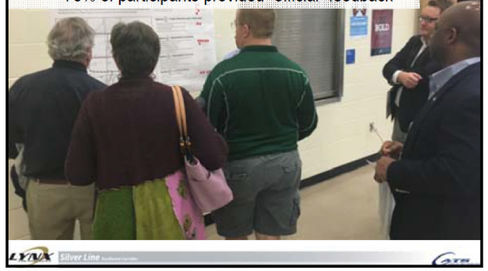
1. What alignment characteristics are important?
2. Which alignments would your community most likely use?
3. Which alignments best support the vision overall?

What We Shared

- Corridor history and study goals
- Conclusions reached thus far
- Evaluation process
- Alignment options eliminated
- Alignment options remaining
- Next steps

Participation

- 167 individuals completed feedback forms
  - 162 completed the ranking
  - 78% of participants provided "official" feedback



What We Heard

First-choice alignment option:

Option	Responses	Percentage
A: Along the side of Independence	**86**	**53%**
B: Independence to Monroe	31	19%
C: Monroe to Independence	14	9%
D: Widened Monroe	31	19%

Second-choice alignment option:

Option	Responses	Percentage
A: Along the side of Independence	17	15%
B: Independence to Monroe	**47**	**41%**
C: Monroe to Independence	35	31%
D: Widened Monroe	15	13%

What We Heard (By Location)

First-choice alignment option:

Option	Matthews	Uptown	McClintock	Midwood
A	30	12	22	22
B	3	6	11	11
C	2	2	6	4
D	10	4	13	4

Second-choice alignment option:

Option	Matthews	Uptown	McClintock	Midwood
A	4	3	4	6
B	8	7	15	17
C	10	6	13	6
D	5	2	8	0

Public Feedback

Option	First Choice	Second Choice
A: Along the side of Independence	**53%**	15%
B: Independence to Monroe	19%	**41%**
C: Monroe to Independence	9%	31%
D: Widened Monroe	19%	13%

Recommendation for Elimination of Options

- Eliminate Options C & D
- Conduct further refined analysis on Options A & B

Southeast Corridor Transit Study

Matthews Leadership Workshop

June 14, 2016

Recap of What We Know (Matthews Alignment Workshop)

What We Heard At Matthews Workshop

Should rail serve the Sportsplex / Family Entertainment District?

Answers	Responses	Percent
Yes; station should be integrated into the district	16	84.21
Yes; station should be close by but not within the district	3	15.79
No; this area should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

What We Heard At Matthews Workshop

Should rail serve Novant Health Matthews Medical Center?

Answers	Responses	Percent
Yes; station should be immediately adjacent to the hospital	2	10.53
Yes; station should be close by (but not next to) the hospital	17	89.47
No; the hospital should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

What We Heard At Matthews Workshop

Should rail serve Downtown Matthews?

Answers	Responses	Percent
Yes; station should be in the heart of Downtown Matthews	11	61.11
Yes; station should be close by (but not in the middle of) Downtown	7	38.89
No; Downtown should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

What We Heard At Matthews Workshop

Should rail serve the CPCC Levine Campus?

Answers	Responses	Percent
Yes; station should be immediately adjacent to the campus	16	80
Yes; station should be close by (but not next to) the campus	4	20
No; the campus should not be served by rail	0	0
I don't feel strongly one way or the other	0	0

Southeast Corridor Transit Study

Matthews Leadership Workshop

June 14, 2016

Key Tradeoffs Among Options

Key Tradeoffs

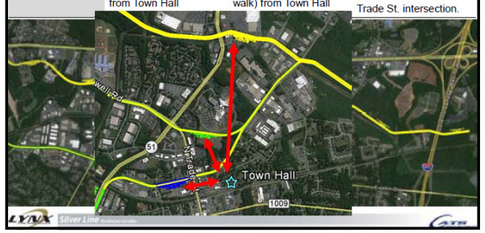
- Consistency with previous decisions
- Access to downtown
- Visual impacts
- Potential development opportunities / growing the tax base
- Traffic impacts
- Design challenges
- Corridor preservation opportunities

Key Tradeoffs

Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Consistency with previous planning decisions	Consistent with previous recommendation throughout Matthews	Consistent with previous recommendation east of Matthews-Mint Hill Rd.; differs west of Matthews - Mint Hill Rd. to Independence Pointe.	Consistent with previous recommendation east of Matthews-Mint Hill Rd.; differs west of Matthews - Mint Hill Rd.

Key Tradeoffs

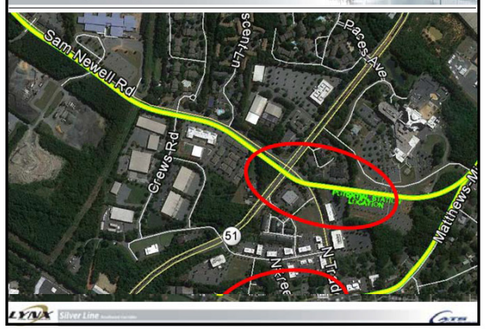
Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Access to downtown	Potential station approx. 1 mile (20 minute walk) from Town Hall	Potential station approx. 0.25 mile (5 minute walk) from Town Hall	Directly serves Downtown with a station near Matthews St. / Trade St. intersection.

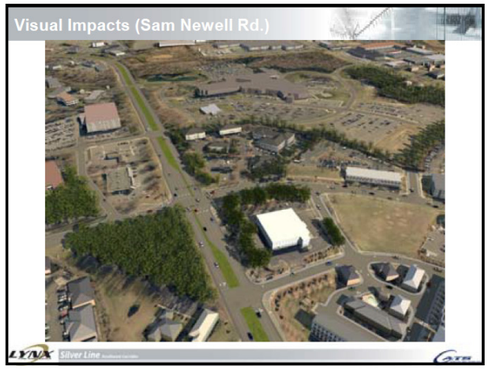


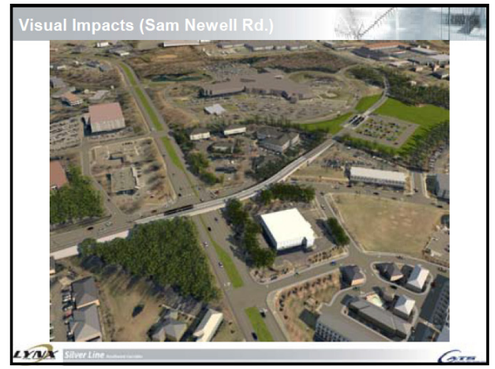
Key Tradeoffs

Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Visual impacts	A bridge may be required over Matthews Township Parkway	A bridge would likely be required to fly over Matthews Township Parkway and Trade Street	Aerial structures would be required around Matthews Township Parkway / Monroe Road; character of Monroe Rd. would change

Visual Impacts (Sam Newell Rd.)




Visual Impacts (Sam Newell Rd.)


Visual Impacts (Sam Newell Rd.)

Visual Impacts (Sam Newell Rd.)

Visual Impacts (Sam Newell Rd.)

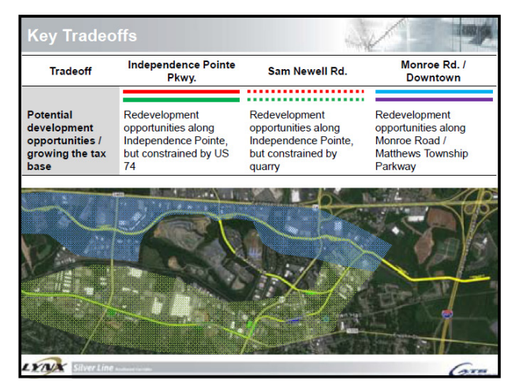
Visual Impacts (Sam Newell Rd.)

Visual Impacts (Sam Newell Rd.)

Visual Impacts (Sam Newell Rd.)

Visual Impacts (Sam Newell Rd.)

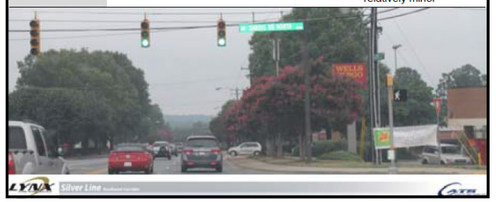
Visual Impacts (Downtown)
Town Hall
W Matthews St
Old Depot Ln
W Charles St
E Matthews St
Matthews
51
3453
1009
3448



Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Potential development opportunities / growing the tax base	Redevelopment opportunities along Independence Pointe, but constrained by US 74	Redevelopment opportunities along Independence Pointe, but constrained by quarry	Redevelopment opportunities along Monroe Road / Matthews Township Parkway

Key Tradeoffs

Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Traffic impacts	Left turns along future Independence Pointe Pkwy. would be restricted	Traffic impacts relatively minor if alignment flies over Matthews Township Pkwy / John Street	Left turns on Monroe Road would be restricted; downtown traffic impacts anticipated to be relatively minor



Key Tradeoffs

Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Design challenges	Alignment behind Home Depot is tight with topographical challenges and high-voltage lines	Wetlands near the intersection of Independence Pointe Pkwy. and Sam Newell Rd; detailed alignment between hospital and downtown	Entering / exiting the median of Monroe Road; relatively narrow cross-section on Matthews Street

Key Tradeoffs

Tradeoff	Independence Pointe Pkwy.	Sam Newell Rd.	Monroe Rd. / Downtown
Corridor preservation provisions	Rail alignment can be protected as part of NCDOT plans for Independence Pointe Pkwy.	Rail alignment can be protected as part of NCDOT plans for Independence Pointe Pkwy.; protection near hospital would be near-term need	Supportive development policies would need to be created to reserve physical space for future alignment

Southeast Corridor Transit Study

Matthews Leadership Workshop

June 14, 2016

Group Discussion

Southeast Corridor Transit Study

Matthews Leadership Workshop

June 14, 2016

Consensus Strategy

APPENDIX F: MATTHEWS LEADERSHIP WORKSHOP MEETING MINUTES

Southeast Corridor Transit Study
Matthews Leadership Workshop

Meeting Location: Matthews Town Hall

Meeting Date / Time: June 14, 2016; 6PM – 9PM

Attendance List:

Name	Organization	E-mail
George Sottilo	TAC	Gs2212@yahoo.com
Susan Habina-Woolard	Town staff	shwoolward@matthewsnc.gov
Lou Abernathy	TAC	tacmail@earthlink.net
Jeff Miller	Commissioner	jmiller@matthewsnc.gov
Hazen Blodgett	Town Manager	hblodgett@matthewsnc.gov
Chris Melton	Commissioner	cmelton@matthewsnc.gov
Larry Whitley	Commissioner	Lwhitley@matthewsnc.gov
Kathi Ingrish	Town staff	kingrish@matthewsnc.gov
Gregory Lee	Planning Board	greghlee@yahoo.com
Mary Jo Gollnitz	Town staff	mjgollnitz@matthewsnc.gov
Michael Ham	Planning Board	michaellham@gmail.com
David Wieser	Planning Board	Wieser214@windstream.net
John Muth	CATS	jmuth@ci.charlotte.nc.us
David McDonald	CATS	dmcdonald@ci.charlotte.nc.us
John Lewis	CATS	jlewis@charlottenc.gov
Jay Camp	Town staff	jcamp@matthewsnc.gov
Jim Taylor	Mayor	mayortaylor@matthewsnc.gov
Dillon Lackey	Town staff	dlackey@matthewsnc.gov
Kerry Lamson	Planning Board	kerrylamson@gmail.com
John Ross	Commissioner	jross@matthewsnc.gov
Brett Wallace	WSP|PB	wallacebp@pbworld.com
Claire Brinkley	WSP|PB	brinkleyca@pbworld.com
Jason Lawrence	CATS	JLawrence@ci.charlotte.nc.us
Genevieve Rubrecht	WSP|PB	rubrechtg@pbworld.com

SUMMARY OF MEETING:

- Jason Lawrence opened with introductions around the room.
- Jason discussed the workshop goal (determine a preferred alignment), project history, public outreach efforts, initial evaluation of alignment options, and remaining options.
  - Question: When you get ROW will you have room for a third track for an express train? Answer: This study is focused on double track for planning purposes, but the need for a third track could be reviewed in a future design phase.
  - Question: What about single track? Answer: Light rail typically uses double track; it would be difficult to maintain schedules and reliability is hard to manage on a single track. We would consider use single track only in very constrained areas, and for short distances.
- Kathi Ingrish provided an overview on Matthews planning history related to light rail and bus rapid transit.
- Jason summarized the public meeting results and what we heard from the last Matthews workshop.
- Jason discussed the trade-offs associated with three primary options through Matthews:
  - Independence Pointe Parkway
  - Sam Newell Road
  - Downtown / Monroe Road
- Comments during discussion of trade-offs:
  - Matthews: The town likes its small town feel; do not want rail infrastructure to wipe out that feel (Sam Newell Rd).
  - Matthews: Not sure this area would get the commercial build-up (like South End in Charlotte) to warrant rail in downtown.
  - Matthews: Developers are building apartments for millennials; millennials don't want to use cars so this would be good for millennials.
  - Matthews: We want to preserve the small town feel; we don't want to be Charlotte.
  - Matthews: If you put stations in Downtown Matthews you draw rush hour traffic which was the number one issue (traffic) on the Town's citizen survey.
  - Matthews: Traffic is coming with or without this project.
  - CATS: As Independence changes traffic patterns will change; also depending on the type of station you may not draw automobile traffic to downtown; there will be a station on the other side of I-485 that will accommodate commuters.
  - Matthews: This might work 20 years from now. Is there a way to meet the two options in the middle? Can that be evaluated further in design?

POLLING ACTIVITY:

1. What should light rail accomplish in Matthews?

Total Responses 17

Unique Participants 11

Responses	Upvotes	Downvotes
Keep rush hour traffic OUT!	2	1
Move people into Charlotte including Union County	3	0
Transportation options (another choice besides car)	6	0
Help create vibrancy	1	0
Make commuting to Charlotte via mass transit viable	4	0
Make Matthews adis	0	0
Create alternative transportation options and facilitate development or redevelopment of vacant and underutilized land	5	0
provide access for residents to Charlotte and reduce rush hour traffic by allowing pass through persons to avoid driving through Matthews downtown area. provide transportation for those without other options.	4	0
Serve destinations around Matthews such as Downtown and promote growth along corridor	3	0
Keep rush our traffic OUT!	0	0
Make Matthews a destination.	5	0
Allow commutes in both directions	2	0
Bring people here	2	0
Easier access to uptown Charlotte.	3	0
Reduce traffic	2	0
give choices to people	0	0
Target growth in specific districts like Ent	0	0

2. How should light rail fit into the Town's vision for development and land use?

Total Responses 12

Unique Participants 12

Response options	Count	Percent
5 - It is the central factor in defining how Matthews will grow in the future	3	25
4	7	58.33
3	2	16.67
2	0	0
1 - It is not important and should not be a major consideration in planning decisions	0	0

3. What is the most important tradeoff consideration in selecting an alignment?

Total Responses 13

Unique Participants 13

Response options	Count	Percent
Consistency with previous decisions	2	15.38
Visual impacts	5	38.46
Access to downtown	3	23.08
Growing the tax base	1	7.69
Traffic impacts	1	7.69
Design challenges	0	0
Corridor preservation opportunities	1	7.69

Discussion:

- These are variable based on where the line is located.
- Comment that rail would have a negative impact if it is downtown. More concrete takes away from the downtown.
- It is essential we have rail somewhere, this is just refining where, how, why.
- Doesn't need to run downtown to access downtown; a shuttle could be used. Downtown in 20 years may be larger; this can help it grow.

4. Is light rail desirable along Independence Pointe Pkwy. and/or Sam Newell Road?

Total Responses 13

Unique Participants 13

Response options	Count	Percent
Yes	12	92.31
No	0	0
Not sure	1	7.69

Discussion:

- A station at the intersection of Matthews Township Parkway and Independence Pointe Parkway versus the other side of the hospital increases walk distance to downtown and that is a concern of late night safety issues coming from downtown.
- Bus gets people to Charlotte; does the rail need to do the same thing?

5. Is light rail desirable in Downtown Matthews?

Total Responses 13

Unique Participants 13

Response options	Count	Percent
Yes	7	53.85
No	6	46.15
Not sure	0	0

Discussion:

- Want to have light rail accessible from downtown but not sure if the alignment should be in the heart of downtown.
- Opinions on the definition of downtown vary to some extent.

6. Is light rail desirable along Monroe Road?

Total Responses 13

Unique Participants 13

Response options	Count	Percent
Yes	2	15.38
No	9	69.23
Not sure	2	15.38

Discussion:

- People at Family Dollar are not coming from downtown Matthews.
- A lot of options exist for rail along Monroe Road but if it is just the purple line (shown on the map) then no.
- There is a lot of potential to bring development like the Conference Drive area. If light rail stays on Independence Pointe Parkway, the gap between the alignment and Monroe Road is wide.
- A lot will depend on where the stations are located and the type of station at each site.

7. Based on the discussions and tradeoff considerations, what is the desired route?

Total Responses 12

Unique Participants 12

Response options	Count	Percent
Independence Pointe Parkway	4	33.33
Sam Newell Road	8	66.67
Monroe Road / Downtown	0	0

**** NOTE: The responses were initially evenly split between Independence Pointe and Sam Newell, with one stated preference for Monroe Rd. / Downtown, but Mayor Taylor asked what the response would be if Sam Newell Road could have an alignment that passed under NC51 and Trade Street, rather than on aerial structure. CATS responded that such a design would be possible and could be evaluated as part of the future design phase.**

Discussion:

- Discussion of why the Blue Line Extension alignment was placed in the middle of Tryon. The primary reasons are related to safety and impacts.
- Matthews does not want to miss the opportunity of having the alignment on Sam Newell Road but something needs to be done to minimize the visual impacts of a large aerial structure near downtown.
- If the alignment is on Independence Pointe Parkway then it's too far away from downtown; we don't want to run buses back and forth from the station to downtown constantly.
- Could the rail go under instead of up? It could go under Matthews Township Parkway and Trade Street. More people were in favor of this option if the rail alignment goes underground for a portion here.

CLOSING:

CATS will present to MTC. There will be a summer meeting with staff recommendations. MTC will also vote on the corridor preservation strategy and the bus element. If there is an opposing vision between Matthews and the City of Charlotte, then another discussion will be held to reconcile prior to presenting a recommendation to the MTC.

A suggestion was given to make the visualization slides more realistic to what is there now. (referring to Sam Newell Road option). CATS responded that the visualizations were completed quickly with the intent of showing the general look and feel of the option.