

Figure 250: Area of Potential Effects map (western half) with APE outlined in red and resources inventoried at the reconnaissance level identified with URS survey numbers



Figure 251: House-607 Adams Street (URS survey #21) (ca.1947 according to tax records)



Figure 252: House-605 Adams St (URS survey #22) (ca.1932 according to tax records)



Figure 253: House-603 Adams Street (URS survey #23) (ca.1946 according to tax records)



Figure 254: House-601 Adams Street (URS survey #24) (ca.1961 according to tax records)



Figure 255: House-523 Adams Street (URS survey #25) (ca.1944 according to tax records)



Figure 256: House-521 Adams Street (URS survey #26) (ca.1922 according to tax records)



Figure 257: House-515/517 Adams Street (URS survey #27) (ca.1915 according to tax records)



Figure 258: House-513 Adams Street (URS survey #28) (ca.1912 according to tax records)



Figure 259: House-509 Adams Street (URS survey #29) (ca.1912 according to tax records)



Figure 260: House-507 Adams St (URS survey #30) (ca.1960 according to tax records)



Figure 261: House-503 Adams Street (URS survey #31) (ca.1922 according to tax records, but likely modern)



Figure 262: House-501 Adams St (URS survey #32) (ca.1922 according to tax records)



Figure 263: Second Reformed United Church of Christ (URS survey #33): Church (1927) at center and no-longer-extant parsonage (1927) at left, in 1934 (source: Second United Church of Christ 1967)



Figure 264: Second Reformed United Church of Christ (URS survey #33): Church with 1951 addition at right and altered sanctuary windows at center left

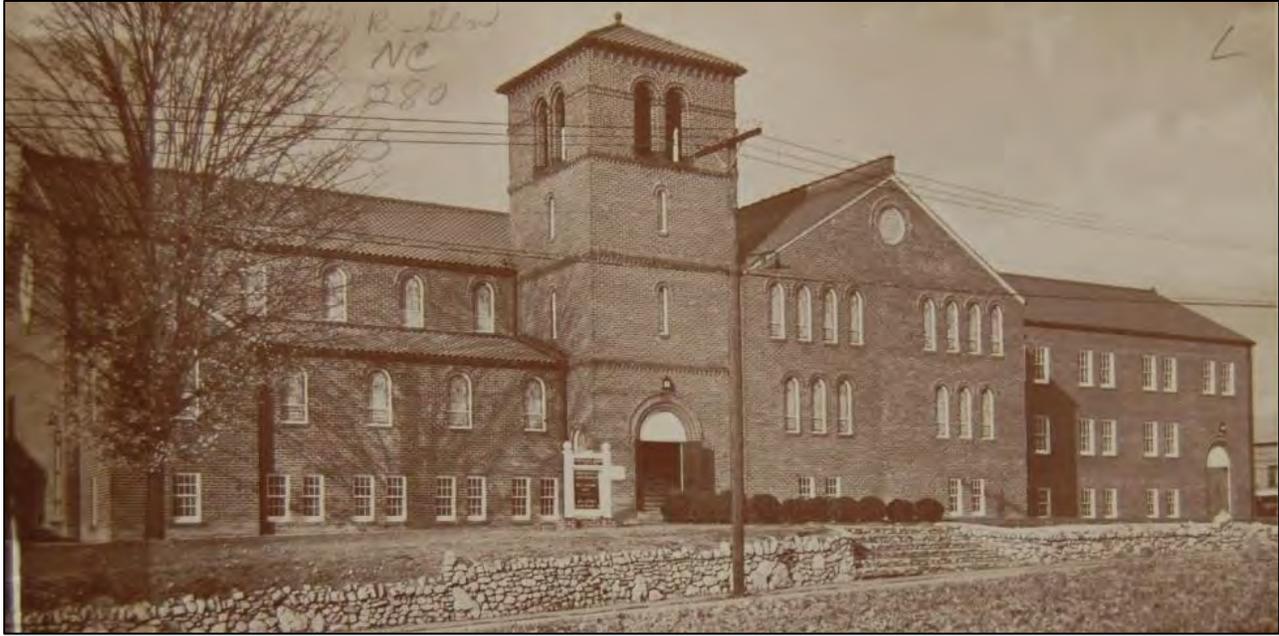


Figure 265: Second Reformed United Church of Christ (URS survey #33): Church with 1951 additions and alterations, in 1953 (source: Second United Church of Christ 1967)



Figure 266: Second Reformed United Church of Christ (URS survey #33): Church with 1951 addition at left



Figure 267: Second Reformed United Church of Christ (URS survey #33): Fellowship building in 1944 (source: Second United Church of Christ 1967)



Figure 268: Second Reformed United Church of Christ (URS survey #33): Fellowship building with modern alterations



Figure 269: Second Reformed United Church of Christ (URS survey #33): Rear elevation of church with 1964 additions and alterations

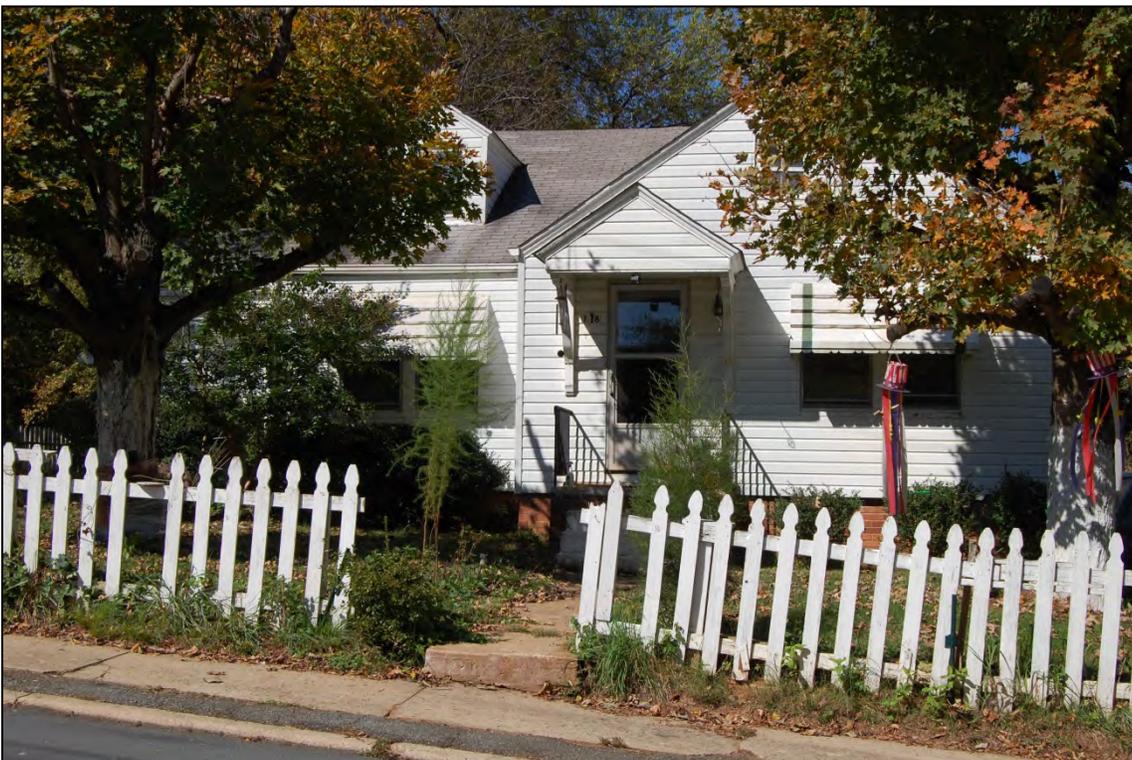


Figure 270: House-118 North Church Street (URS survey #34) (ca.1941 according to tax records)



Figure 271: Todd's Tires-223 East Center Street (URS survey #35) (ca.1954 according to tax records)



Figure 272: Warehouse Complex-134 Elk St (URS survey #36) (ca.1958 according to tax records): Corrugated-metal-clad building on Elk and East 3rd Avenue Extension at left and brick building on 3rd Avenue Extension at right



Figure 273: Warehouse Complex-134 Elk St (URS survey #36) (ca.1958 according to tax records): Back of brick building on East 3rd Avenue Extension



Figure 274: Warehouse Complex-134 Elk St (URS survey #36) (ca.1958 according to tax records): Corrugated-metal-clad building at corner of Elk and East 3rd Avenue Extension at right and brick building on Elk Street at left



Figure 275: Warehouse Complex-134 Elk St (URS survey #36) (ca.1958 according to tax records): Brick building on Elk Street



Figure 276: House-201 East 5th Avenue Extension (URS survey #37) (ca.1940 according to tax records)



Figure 277: House-203 East 5th Avenue Extension (URS survey #38) (ca.1940 according to tax records)



Figure 278: House-207 East 5th Avenue Extension (URS survey #39) (ca.1940 according to tax records)



Figure 279: House-209 East 5th Avenue Extension (URS survey #40) (ca.1940 according to tax records)



Figure 280: House-211 East 5th Avenue Extension (URS survey #41) (ca.1940 according to tax records)



Figure 281: House-219 East 5th Avenue Extension (URS survey #42) (ca.1910-1920)



Figure 282: House-221 East 5th Avenue Extension (URS survey #43) (ca.1920 according to tax records)



Figure 283: Store-400 Tanyard Street (URS survey #44) (ca.1950-1960)

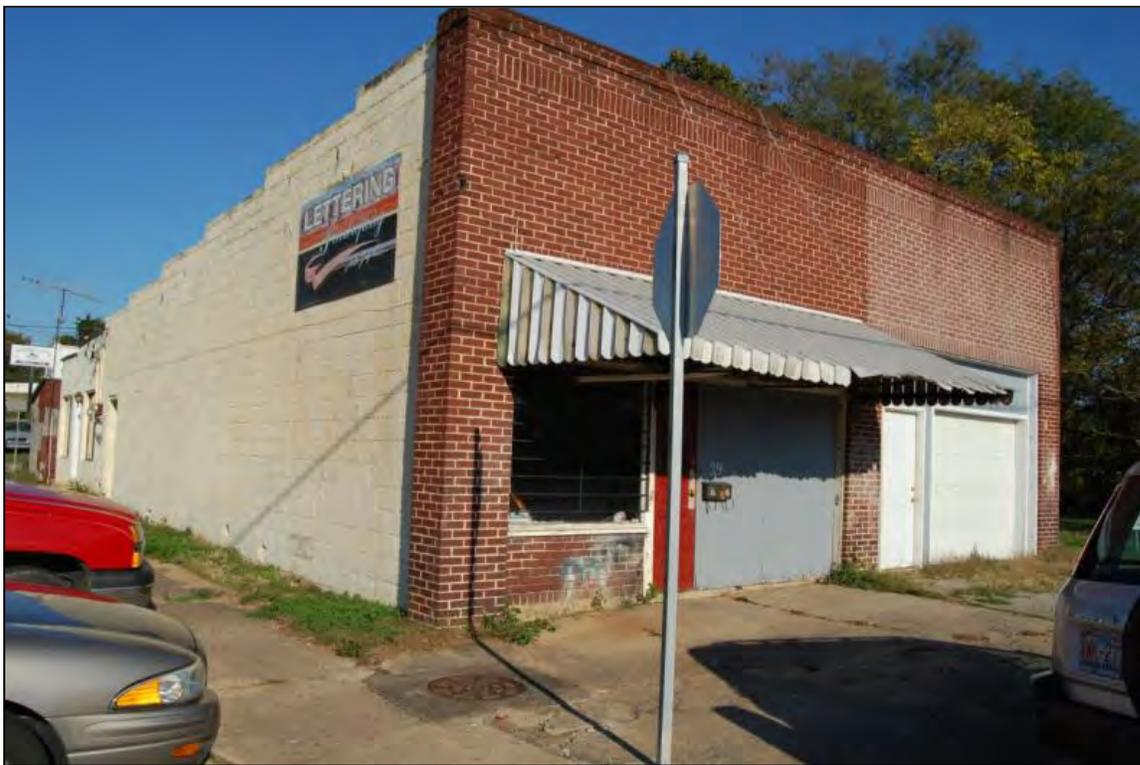


Figure 284: Commercial Building-29 East 1st Avenue (URS survey #45) (ca.1923-1929 according to Sanborn maps)



Figure 285: Carolina Theater-217 South Main Street (URS survey #46) (1948 according to *Lexington Dispatch*, May 17, 1948 and Going to the Show website)



Figure 286: Carolina Theater-217 South Main Street (URS survey #46) (1948): 1948 rendering by architect Erle Stillwell at left (source: Going to the Show website); theater in ca.1966 at right (source: Cinema Treasures website)



Figure 287: Full Deliverance Outreach Center-16 East 3rd Avenue (URS survey #47) (ca.1950 according to tax records)



Figure 288: Carolina Propane Gas-339 South Main Street (URS survey #48) (ca.1955 according to tax records)



Figure 289: Piedmont Funeral Home-405 South Main Street (URS survey #49) (ca.1940 and ca.1973 according to tax records)



Figure 290: Piedmont Funeral Home-405 South Main Street (URS survey #49) (ca.1940 and ca.1973 according to tax records)



Figure 291: House-29 East 5th Avenue (URS survey #50) (ca.1940 according to tax records)



Figure 292: House-24 East 6th Avenue (URS survey #51) (ca.1925 according to tax records)



Figure 293: House-22 East 6th Avenue (URS survey #52) (ca.1925 according to tax records)



Figure 294: Young's BP Service Station-521 South Main Street (URS survey #53) (ca.1960-1980)



Figure 295: Garage-behind 601 South Main Street (URS survey #54) (ca.1950-ca.1960)



Figure 296: Our Lady of the Rosary Catholic Church-619 South Main Street (URS survey #55): Church (1958 according to *Lexington Dispatch*, October 17, 1957)



Figure 297: Our Lady of the Rosary Catholic Church-619 South Main Street (URS survey #55): Drawing of proposed church (source: *Lexington Dispatch*, October 17, 1957)



Figure 298: Our Lady of the Rosary Catholic Church-619 South Main Street (URS survey #55): Former parsonage (1958) to rear (south) of church



Figure 299: Ray's Enterprise Furniture Outlet-727-729 South Main Street (URS survey # 56) (ca.1946 and ca.1954 according to tax records)



Figure 300: Ray's Enterprise Furniture Outlet-727-729 South Main Street (URS survey # 56) (ca.1946 and ca.1954 according to tax records)

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APPENDIX E – Memorandum of Agreement on Historic Resources and Concurrence Form for Assessment of Effects

**MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL RAILROAD ADMINISTRATION,
CITY OF LEXINGTON
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE PROPOSED MULTI-MODAL TRANSPORTATION CENTER PROJECT,
LEXINGTON, DAVIDSON COUNTY, NC**

WHEREAS, the Federal Railroad Administration (FRA) proposes to fund the Lexington Multi-Modal Transportation Center planned through its TIGER II Planning Grant; and

WHEREAS, the Undertaking consists of construction of the Multi-Modal Transportation Center in Lexington, Davidson County, North Carolina; and

WHEREAS, FRA has determined that the Undertaking will have an adverse effect on the Lexington Industrial Historic District, a property determined eligible for inclusion in the National Register of Historic Places (NRHP), and more particularly the contributing tunnel under the Southern Railroad right-of-way and segments of the adjacent streetscapes; and

WHEREAS, the FRA has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. §800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. §470f); and

WHEREAS, the FRA has invited the North Carolina Department of Transportation Rail Division (NCDOT Rails) and the City of Lexington (City) to participate in the consultation and concur in this Memorandum of Agreement (MOA); and

WHEREAS, in accordance with 36 C.F.R. §800.6(a)(1), the FRA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW, THEREFORE, the FRA, City and North Carolina SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on historic properties.

STIPULATIONS

The FRA and City shall ensure that the following measures are carried out:

I. DOCUMENTATION OF CURRENT CONDITIONS

- A. Prior to the initiation of construction, the City will record the existing conditions of two Contributing Resources: (a) the existing tunnel structure, and (b) segments of the adjacent streetscapes, both located within the Lexington Industrial Historic District in accordance with the attached Historic Structures and Landscape Recordation Plan (Appendix A).
- B. The results of the recordation will be submitted to the North Carolina SHPO in advance of any work taking place. The SHPO shall have fifteen (15) days from receipt of the materials to review and comment. If no comments are received by City after the 15 days, work may commence.
- C. Copies of the documentation will be deposited in the files of the North Carolina SHPO and the Lexington Branch of the Davidson County Public Library.

II. PRESERVATION OF PORTION OF TUNNEL STRUCTURE

The City will fill in place the existing tunnel structure in order to implement the Undertaking including the realignment of railroad tracks and the associated widening of the railroad corridor. The closure will reveal the edge of the north/west headwall arch opening to the extent possible as determined by a certified structural inspection and integrity report. A marker will be erected at the site of the tunnel to show where it used to be, and documentation of the tunnel will be incorporated into the public interpretive installation outlined in accordance with stipulation III below.

III. PUBLIC INTERPRETIVE INSTALLATION

Within the Multi-Modal Transportation Center, or at another location within the district determined appropriate by the City and the SHPO, the City will incorporate an interpretive exhibit of lasting value that documents, memorializes, and reflects the character of the surrounding Lexington Industrial Historic District, including buildings and structures that have or may be lost due to the Undertaking and anticipated redevelopment near the Center. The City will submit the exhibit plans to the SHPO for comment.

IV. UNANTICIPATED DISCOVERY

In accordance with 36 CFR 800.13(a), if additional historic resources are identified during construction, and the North Carolina SHPO determines them to be eligible for listing in the NRHP, all work shall be halted within the limits of the NRHP-eligible resource(s). If, after consultation with the Signatory and Concurring Parties, additional mitigation is determined necessary, the City of Lexington, in consultation with the North Carolina SHPO, will develop and implement appropriate protection/mitigation measures

for the resource(s). Inadvertent or accidental discovery of human remains will be handled in accordance with the North Carolina General Statute 65 and 70.

V. DURATION

This MOA will be null and void if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, the FRA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VIII below.

VI. MONITORING AND REPORTING

Following the execution of this MOA and until it expires, is terminated, or its terms fulfilled, the City of Lexington shall submit brief semi-annual reports to the FRA and North Carolina SHPO detailing work undertaken pursuant to its terms. Such reports shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the City of Lexington's efforts to carry out the terms of this MOA. The reports may be submitted electronically to FRA and North Carolina SHPO.

VII. DISPUTE RESOLUTION

Should the North Carolina SHPO or any other party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the FRA shall consult with such party to resolve the objection. If the FRA determines that such objection cannot be resolved, the FRA will:

A. Forward all documentation relevant to the dispute, including the FRA's proposed resolution, to the ACHP. The ACHP shall provide the FRA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the FRA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The FRA will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the FRA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the FRA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

C. The FRA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VIII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

IX. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VIII above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the Undertaking, the FRA must either (a) execute an MOA pursuant to 36 CFR§800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR§800.7. The FRA shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by the FRA, the City of Lexington, and SHPO and implementation of its terms evidence that the FRA has taken into account the effects of this Undertaking on historic properties and afforded the ACHP an opportunity to comment.

AGREED:

Federal Railroad Administration

_____ Date: _____
John Winkle

North Carolina State Historic Preservation Officer

_____ Date: _____
Kevin Cherry, Ph.D.

_____ Date: _____
City of Lexington
(Title)

CONCUR:

North Carolina Department of Transportation Rail Division

_____ Date: _____
Paul Worely, Director

FILED:

_____ Date: _____
Advisory Council on Historic Preservation

DRAFT

APPENDIX A

Recordation Plan For Lexington Multi-Modal Transportation Center Lexington, Davidson County

Photographic Requirements

- Elevations and oblique views of buildings, including the Tunnel, within the Area of Potential Effects for the Lexington Multi-Modal Transportation Center.
- Representative streetscapes, including the Tunnel, within the Area of Potential Effects for the Lexington Multi-Modal Transportation Center.
- Aerial/birds eye views of the Area of Potential Effects for the Lexington Multi-Modal Transportation Center.
- All photographs and views to be keyed to a map/site plan that is easily understood.

Photographic Format

- Color digital images (all views). Images are to be shot on a SLR digital camera with a minimum resolution of 6 megabyte pixels, at a high quality (preferably RAW) setting, to be saved in TIF format as the archival masters and labeled according to the State Historic Preservation Office standards.
- All processing to be done to archival standards.
- The accompanying printed inventory of the images – including subject, location, date, and photographer information for each image – is to be completed according to the State Historic Preservation Office standards.

Copies and Curation

- One (1) set of all above mentioned photographic documentation, including a compact disc of labeled images, will be deposited with the North Carolina State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection.
- One (1) set of all above mentioned photographic documentation, including a compact disc of labeled images, will be deposited with the Lexington Branch of the Davidson County Public Library.

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Construct the Lexington Multi-modal Transportation Station (MMTS) at 3rd Avenue and Railroad Street; complete street improvements along portions of Railroad and Elk Streets, and 3rd, 2nd and 5th Avenues to allow for vehicular transit and pedestrian access to the Lexington MMTS; platforms and canopies along the NCRR/NS railroad corridor; pedestrian and baggage tunnels (concourse) extending from the MMTS to the platforms; a pedestrian tunnel connecting to Elk Street; and track work extending approximately 5,700 feet.

On November 21, 2014 representatives of the

- X City of Lexington (COL)
- X Federal Railroad Administration (FRA)
- X North Carolina State Historic Preservation Office (SHPO)

Reviewed the subject project and agreed on the effects findings listed within the table following this signature page.

Signed:

Representative, City of Lexington Date

Representative, Federal Railroad Administration Date

Representative, State Historic Preservation Officer Date

Proposed construction of Lexington Multi-modal Transportation Station (MMTS) at 3rd Avenue and Railroad Street; complete street improvements along portions of Railroad and Elk Streets, and 3rd, 2nd and 5th Avenues to allow for vehicular transit and pedestrian access to the Lexington MMTS; platforms and canopies along the NCRR/NS railroad corridor; pedestrian and baggage tunnels (concourse) extending from the MMTS to the platforms; a pedestrian tunnel connecting to Elk Street; and track work extending approximately 5,700 feet.

Property Name and National Register of Historic Places (NRHP) or Determination of Eligibility (DOE) Status	Effect Finding	Alternatives	Reasons
Grace Episcopal Church (National Register Listed, Criteria A, C)	No Effect	Build Alternative for MMTS	Project is not within the vicinity of the resource.
Wennoah Cotton Mills (DOE, Criteria A,C)	No Effect	Build Alternative for MMTS	Project is within the vicinity of the resource. However, the construction limits are within the railroad right-of-way and do not impact the historic property boundaries.
Wennoah South Side Mill Village (DOE, Criterion A)	No Effect	Build Alternative for MMTS	Project is not within the vicinity of the resource.
Wennoah Cotton Mills/Mill Village Historic District (DOE by SHPO, Criteria A, C)	No Effect	Build Alternative for MMTS	Project is within the vicinity of the resource. However, the construction limits are within the railroad right-of-way and do not impact the historic property boundaries.
Mountcastle Knitting Company/Dixie Furniture Company Showroom-Offices (DOE, Criteria A,C)	No Effect	Build Alternative for MMTS	Project is not within the vicinity of the resource.
North Carolina Candy Company (DOE, Criteria A, C)	No Effect	Build Alternative for MMTS	Project is within the vicinity of the resource. However, the proposed complete street improvements do not impact the historic property boundaries.

City of Lexington _____

FRA _____

SHPO _____

Property Name and National Register of Historic Places (NRHP) or Determination of Eligibility (DOE) Status	Effect Finding	Alternatives	Reasons
Lexington Southern Railway Freight Depot (DOE, Criteria A, C)	No Adverse Effect	Build Alternative for MMTS	Project will construct surface parking and landscaping within the DOE boundaries, specifically the land south of the depot.
Lexington City Light and Water Office (DOE, Criteria A, C)	No Effect	Build Alternative for MMTS	Project is not within the vicinity of the resource.
Siceloff Manufacturing Company (DOE, Criterion A)	No Effect	Build Alternative for MMTS	Project is within the vicinity of the resource. However, the proposed complete street improvements do not impact the historic property boundaries.
Eureka Trouser Company (DOE, Criteria A,C)	No Effect	Build Alternative for MMTS	Project is within the vicinity of the resource. However, the proposed complete street improvements do not impact the historic property boundaries.
Expansion of Uptown Lexington Historic District to include W.T. Grant Department Store/Kimbrell's Furniture Building; Redwine's Grocery and Clodfelter's Market; Hedrick Block (DOE for inclusion in NRHP Uptown Lexington Historic District)	No Effect	Build Alternative for MMTS	Project is not within the vicinity of the resource.
Hedrick Block (DOE, Criteria C)	No Effect	Build Alternative for MMTS	Project is not within the vicinity of the resource.

City of Lexington _____

FRA _____

SHPO _____

Property Name and National Register of Historic Places (NRHP) or Determination of Eligibility (DOE) Status	Effect Finding	Alternatives	Reasons
<p>Lexington Industrial Historic District – includes Mountcastle Knitting Company/Dixie Furniture Company Showroom, North Carolina Candy Company, Lexington Southern Railway Freight Depot, Lexington City Light and Water Office, Sicheloff Manufacturing Company, Eureka Trouser Company, Lexington Shirt Company, the Dixie Furniture Company, the railroad right-of-way, the one lane tunnel connecting Railroad Street and Elk Street, the elevated passage over Railroad Street, and the existing streetscapes within the proposed district boundaries (DOE by SHPO, Criteria A,C)</p>	<p>Adverse Effect on existing streetscapes within the DOE boundaries, and on existing tunnel under railroad (Tunnel Street) connecting Railroad and Elk Streets</p>	<p>Build Alternative for MMTS</p>	<p>The Project will implement streetscape improvements in accordance with a complete streets program to facilitate multimodal access through the Project area. These include repair and/or installation of new utility infrastructure; repair/resurfacing of existing roadway; repair/replacement of existing curb and gutter; installation of accessible ramps; replacement and/or installation of new striping at roadway traffic lanes and intersection crosswalks; improvements to existing streetscape including new sidewalks, streetlights, street trees, and/or pedestrian furniture; replacement and/or installation of new traffic and wayfinding signage.</p> <p>The Project will close and abandon the current tunnel structure to construct new tracks, dual side platforms and passenger concourse from the MMTS to the platforms.</p>

City of Lexington _____

FRA _____

SHPO _____

City of Lexington Environmental Commitment: Stipulations will be developed through the Memorandum of Agreement process to mitigate the Adverse Effect on the Lexington Industrial Historic District (DOE November 4, 2013).

APPENDIX F – Commonly Used Terms, Acronyms and Initialisms

APPENDIX F – Commonly Used Terms, Acronyms and Initialisms

TERMS

Center platform: A single passenger rail station platform that has tracks on both sides and which serves trains traveling in both directions.

Consultant Team: The consultants hired by the City of Lexington (COL) to evaluate station plan alternatives and complete the Environmental Assessment, consisting of Shook Kelley Architects, URS Corporation, Vrettos Pappas Consulting Engineers, Gibbs Planning Group, the Littlejohn Group, and Vantage Point.

Depot District: The portion of Lexington which includes several blocks of the former Lexington Home Brands manufacturing and the site of the former Lexington passenger rail station and future Multi-modal Transportation Station.

Dual side platforms: Two opposing platforms with railroad tracks between them. Each platform serves passenger trains traveling in one direction.

Lexington Home Brands (LHB) Plant 1: Several connected and stand-alone buildings that were owned and operated by Lexington Home Brands within the Depot District. Previous owners included the Dixie Furniture Company.

Lexington Industrial Historic District: An historic district proposed by the State Historic Preservation Office that would include most the LHB Plant 1, other buildings eligible for inclusion in the National Register of Historic Places, the tunnel connecting South Railroad and Elk Streets, and the existing streetscapes surrounding the LHB Plant 1.

Project area: An overall area or corridor being evaluated.

Section 106: A section of the National Historic Preservation Act (NHPA) that requires Federal agencies, to consider the effects of Federally funded projects on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such projects prior to the expenditure of any Federal funds.

Section 4(f): A section of the original U.S. Department of Transportation Act of 1966 which established the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development.

Southeast Corridor: The federally-designated passenger railroad corridor operating from Washington, DC, and connecting to Raleigh and Charlotte. Also known as the Southeast High Speed Rail Corridor.

Station Area Plan (SAP): The planning area for the City of Lexington developed as a proposal for the adaptive reuse and development of the former LHB Plant 1 property. The SAP Site Boundary is approximately 25.5 acres and includes the proposed Lexington MMTS building (train station), passenger platform, passenger concourse, adjacent railroad track modifications, transit vehicle boarding bays, and complete street improvements.

SAP Team: Representatives with a wide range of transit and land development expertise from the following agencies: COL Office of Business and Community Development, Public Works/Engineering

Department, and Finance Department; Davidson County Planning and Transportation Departments; TRIP, PTRC, PART, and NCDOT Rail Division.

Study area: A specific portion of the project area that is being investigated.

Uptown Lexington: The portion of downtown Lexington that includes the central business district, this includes the Uptown Lexington Historic District.

ACRONYMS and INITIALISMS

AADT: Annual Average Daily Traffic

ACHP: Advisory Council on Historic Preservation

AC: Acre

ACM: Asbestos Containing Material

ACS: American Community Survey

ADA: Americans with Disabilities Act of 1990

APE: Area of Potential Effect

BD: Business District

BG: Block Group, a unit of a Census Tract (CT)

BMPs: Best Management Practices

CA: Critical Area (for water)

CAA: Clean Air Act of 1990

CD: Commercial Development

CEQ: Council on Environmental Quality

CFR: Code of Federal Regulations

CO: Carbon Monoxide

COL: City of Lexington

CSX: CSX Railway

CT: Census Tract

CTP: Davidson County Comprehensive Transportation Plan

CWA: Clean Water Act

DC: Davidson County

DCTS: Davidson County Transportation System

DSOA: Definitive Service Outcome Agreement

EA: Environmental Assessment

EDR: Environmental Data Resources

EO: Executive Order

EPA: Environmental Protection Agency

FEMA: Federal Emergency Management Agency

FHBM: Flood Hazard Boundary Maps

FHWA: Federal Highway Administration

FIRM: Flood Insurance Rate Maps

FIS: Flood Insurance Survey

FRA: Federal Railroad Administration

FTA: Federal Transit Administration

GHG: Greenhouse Gases

GIS: Geographic Information Systems

HQW: High Quality Waters

HPT&D: High Point, Thomasville and Denton Railroad Company

HUC: Hydraulic Unit Code

HVAC: Heating, Ventilation, Air Conditioning

IMD: Incident Management Database

JCD: Joint Commercial Development

LAST: Leaking Above-ground Storage Tank

LBP: Lead Based Paint

LHB: Lexington Home Brands, former owner and operator of several of the buildings within the Depot District.

LRC: Lexington Redevelopment Commission

LUST: Leaking Underground Storage Tank

MMTS: Multi-modal Transportation Station

MPH: Miles per hour

MPO: Metropolitan Planning Organization

MSATs: Mobile Source Air Toxins

MUD: Mixed Use District

NCDENR: North Carolina Department of Environment and Natural Resources (now NCDEQ)

NCDEQ: North Carolina Department of Environmental Quality (formerly NCDENR)

NCDOT: North Carolina Department of Transportation

NCDWQ: North Carolina Division of Water Quality (now NCDWR)
NCDWR: North Carolina Division of Water Resources (formerly NCDWQ)
NCRR: North Carolina Railroad Company
NEPA: National Environmental Policy Act
NFIP: National Flood Insurance Program
NHPA: National Historic Preservation Act of 1966
NOx: Ozone Precursors
NRCS: Natural Resource Conservation Service
NRHP: National Register of Historic Places
NS: Norfolk Southern Railway
NWI: National Wetlands Inventory
ORW: Outstanding Resource Waters
PART: Piedmont Authority for Regional Transportation
PM2.5: Inhalable Particulates
PIP: Piedmont Improvement Program
PTCOG: Piedmont Triad Council of Governments (now PTRC)
PTRC: Piedmont Triad Regional Council (formerly PTCOG)
RCRA: Resource Conservation and Recovery Act
RCRA-CESQG: RCRA-Conditionally Exempt Small Quantity Generators
REC: Regional Environmental Concerns
ROW: Right-of-Way
SAP: Station Area Plan
SEHSR: Southeast High Speed Rail
SHPO: State Historic Preservation Office
SIP: State Implementation Plan
STIP: State Transportation Improvement Program
TIGER: Transportation Investment Generating Economic Recovery
TND: Traditional Neighborhood Development
TOD: Transit-Oriented Development

TRIP: Tourism Recreation Investment Partnership for Davidson County Foundation

UD: Uptown District

ULI: Urban Land Institute

USACE: U.S. Army Corps of Engineers

USDA: U.S. Department of Agriculture

USDOT: U.S. Department of Transportation

USFWS: U.S. Fish and Wildlife Service

USGS: U.S. Geological Service

UST: Underground Storage Tank

VC: Volume to Capacity

VMT: Vehicle Miles Traveled

APPENDIX G – Station Alternatives

Appendix G -- Station Alternatives Considered

The City of Lexington (COL), Station Area Plan (SAP) Team¹ and project stakeholders analyzed various alternatives on station location within the Depot District location, size and configuration of platforms, passenger platform access, station layout, and station building programming for the Lexington Multi-Modal Transportation Station (MMTS). This Appendix describes the evaluation of these alternatives and the development of the Build Alternative that is evaluated in this Environmental Assessment (EA). Section 1 describes the overall Station Area Plan (SAP) development; section 2 describes the various alternatives evaluated; and section 3 describes the Build alternative that was carried forward.

The COL and SAP Team evaluated two locations of the Lexington MMTS and platforms, with multiple alternatives for the layout of the track and platforms, and layout of the Lexington MMTS building. Alternative A includes a southern platform orientation, while Alternative B includes a northern platform orientation. Both Alternatives A and B consider a low-level island platform configuration, with a high-level island platform introduced in Alternative B-V.4. A third Alternative C evolved as the “Build Alternative,” which was based on the location of Alternative B, but with a modification to Version B-V.1 with a dual low-level side platform configuration. The alternatives considered are listed below.

- Alternative A: Southern Orientation with Island Platform
 - Alternative A, Version 1 (A-V.1) – Southern Platform Location, Low Level Island Platform, Lexington MMTS at East 5th Avenue
 - Alternative A, Version 2 (A-V.2) - Southern Platform Location, Low Level Island Platform, Lexington MMTS near East 3rd Avenue
- Alternative B: Northern Orientation with Island Platform
 - Alternative B, Version 1 (B-V.1) – Northern Platform Location, Low Level Island Platform, Lexington MMTS at East 3rd Avenue
 - Alternative B, Version 2 (B-V.2) – Northern Platform Location, Low Level Island Platform, Reduced Size Lexington MMPT at East 3rd Avenue
 - Alternative B, Version 3 (B-V.3) – Northern Platform Location, Low Level Island Platform, Reduced Size Lexington MMPT between East 3rd Avenue and East 4th Avenue
 - Alternative B, Version 4 (B-V.4) – Northern Platform Location, High Level Island Platform, Reduced Size Lexington MMPT between East 3rd Avenue and East 4th Avenue
- Alternative C: Northern Orientation with Dual Side Platforms
 - Preferred Alternative – Northern Platform Location, Dual Low Level Side Platforms, Lexington MMTS at East 3rd Avenue

More information on the evaluation of these Alternatives A, B and C is provided in section 2.

¹The SAP Team was established by the COL to provide technical advice to the Consultant Team and LRC throughout the project design process. The SAP Team includes representatives with a wide range of transit and land development expertise from the following agencies: COL Office of Business and Community Development, Public Works/Engineering Department, and Finance Department; Davidson County Planning and Transportation Departments; TRIP, PTRC, PART, and NCDOT Rail Division.

1. Station Area Plan (SAP) Key Components

The Project is defined by a SAP, which was established through the following method:

- the assessment of a previous conceptual engineering prepared by the North Carolina Department of Transportation (NCDOT) Rail Division for passenger platform and track alignment (Preliminary Alternative A and Alternative B), and subsequent conceptual engineering prepared by the COL and project stakeholders supporting the design of alternative options;
- the identification and development of specific SAP key components defining the functional criteria and programming associated with the SAP site, Lexington MMTS building, passenger platform and concourse, track alignment, and primary access streets;
- the recommendation to continue evaluation of SAP location Alternative B as determined through comparative analysis and public input;
- the conceptual engineering and evaluation of track and platform configurations; and,
- the established and ongoing collaboration, consideration, and coordination with all project partners and stakeholders including the COL, Lexington Redevelopment Commission (LRC), SAP Team, Consultant Team, and Railroad Agencies (Federal Railroad Administration (FRA), NCDOT Rail Division, North Carolina Railroad Company (NCR), Norfolk Southern (NS), and Amtrak).

The combined results of these activities established the foundation for SAP Conceptual Design including passenger platform and track conceptual engineering, SAP site conceptual planning, and Lexington MMTS building conceptual design. More detail on these steps is described in section 2 of this Appendix.

SAP schematic design was advanced by organizing each SAP key component within specific SAP sections and established the framework for:

- developing strategies for potential SAP phasing;
- initiating and advancing conceptual master planning for the Depot District;
- completing preliminary engineering for transit infrastructure (passenger platform & associated track alignment); and,
- completing schematic design for transit architecture (Lexington MMTS building & SAP site).

Previous Conceptual Engineering

Prior to the Transportation Investment Generating Economic Recovery (TIGER) Planning Grant awarded to the COL and involvement by the Consultant Team, NCDOT Rail Division prepared conceptual engineering for an island passenger platform and associated track alignment for two alternate locations defined as:

Preliminary Alternative A

Preliminary Alternative B

An island passenger platform was the NCDOT Rail Division’s initial recommendation for the new station, and the Preliminary Options A and B for the track and platforms components reflect this. Accordingly, many of the concept plans developed as part of the initial planning and design for the SAP and the Project include an island platform. Other track and platform options, however, were fully evaluated later in the planning process, and are described below.

Preliminary Assessment & Considerations

The Consultant Team conducted an assessment of Preliminary Alternative A and Alternative B to evaluate attributes of the passenger platform location, platform type and configuration, and track alignment along with an expected Lexington MMTS building location and primary access streets associated with each option.

Preliminary considerations outlined for Preliminary Alternative A and Alternative B included:

- favorable findings of key existing site indicators;
- possible frontage along the Depot District and Lexington Home Brands (LHB) property;
- platform and track justification within existing NCRR right-of-way (ROW);
- existing track geometry (straight and curved sections);
- feasibility of track alignment construction and tie-in location; and
- expected COL and Depot District growth pattern.

SAP Precedent Analysis

While reviewing the NCDOT Rail Division’s Preliminary Options A and B for the location of the island platform and track improvements, the Consultant Team also developed a precedent analysis of SAPs for several comparable stations in North Carolina, and a recently constructed station in Meridian, MS. The existing stations were selected deliberately to provide insight on typical SAP Key Components with respect to their unique composition and characteristics within the context of their city or town. The Consultant Team also used the guidance from the FRA *Station Area Planning for High-Speed and Intercity Passenger Rail* and the *Amtrak Station Program and Planning Guidelines*.

Station	Unique SAP and City Characteristics
Kannapolis, NC	Town Center with New Mega Development (Research Campus)
Salisbury, NC	City Edge with Mix-Use & Incremental Station Expansion
High Point, NC	Center City with Extreme Topography
Greensboro, NC	City Edge with Multi-Modal Hub
Durham, NC	Warehouse District with Adaptive Re-Use

Cary, NC	Town Center with Auto-Dominant Commuter Station
Wilson, NC	Main Street Anchor with Irregular Site
Rocky Mount, NC	Town Park Anchor with Future Phased Development Strategy
Meridian, MS	City Anchor with Mixed-Use Station

Typical SAP Key Components & Program

The Consultant Team determined through the precedent analysis that a typical SAP is composed of twelve Key Components and associated program. These twelve SAP Key Components are listed below, including how they relate the proposed Lexington MMTS. **Figure G-1** illustrates these typical SAP Key Components.

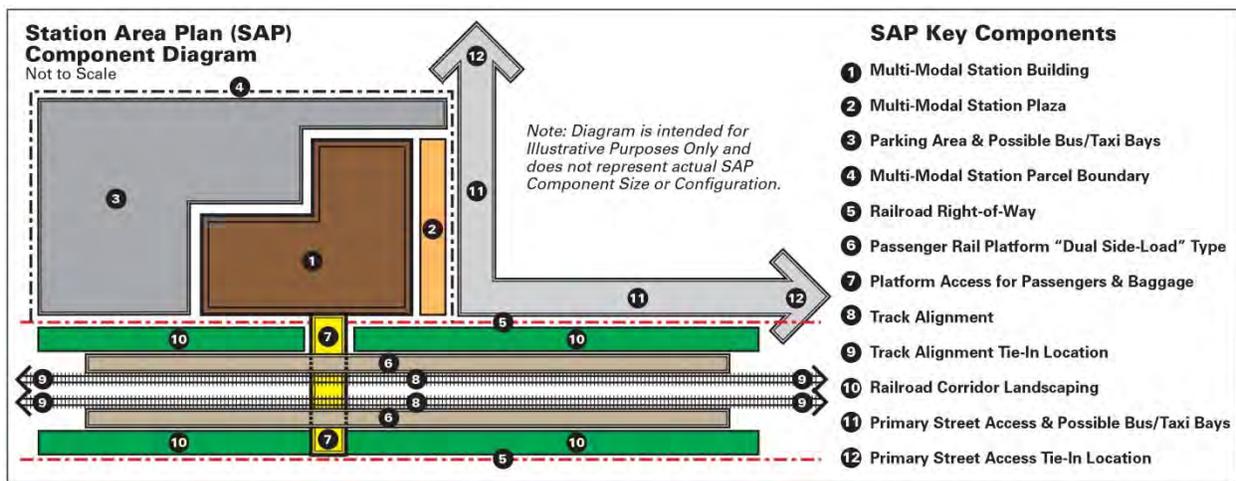


Figure G-1: Station Area Plan Components

1. Lexington MMTS Building

The primary station facility for train passengers and facilitating connections to other transit modes including pedestrian, bicycle, automobile, taxi cab, and bus.

2. Lexington MMTS Plaza

The public open space(s) serving as the transition or threshold between the Inside Lexington MMTS Building and surrounding uses.

3. Parking Area

The primary parking location(s) for station passengers, visitors, and employees.

4. Lexington MMTS Parcel

The site boundary area outside of the rail ROW containing the station facility and associated open space(s) and parking area(s).

5. Railroad ROW

The NCRr corridor providing freight rail service by NS and passenger rail service by Amtrak.

6. Passenger Rail Platform

The train boarding area for passengers and baggage.

7. Platform Access

The connection for passengers and baggage access between the station and the platform.

8. Track Alignment

The repositioning and installation of new tracks as required within the railroad ROW with respect to the passenger platform location along with existing and future freight and high-speed passenger rail traffic.

9. Track Alignment Tie-In

The intersection and transition location of new track alignment and tie-in with existing track alignment.

10. Railroad Corridor Landscaping

The components required, inside and outside of the ROW, to enhance beautification and safety along the railroad corridor near the station.

11. Primary Street Access

The primary streets providing access between the station and the local arterial street network – South Main Street and East Center Street.

12. Primary Street Access Tie-In

The primary street intersections at the local arterial street network – South Main Street and East Center Street.

As these SAP components were developed, evaluated and refined, the COL and consultant team determined the Project limits of construction, as shown in **Figure G-2**.

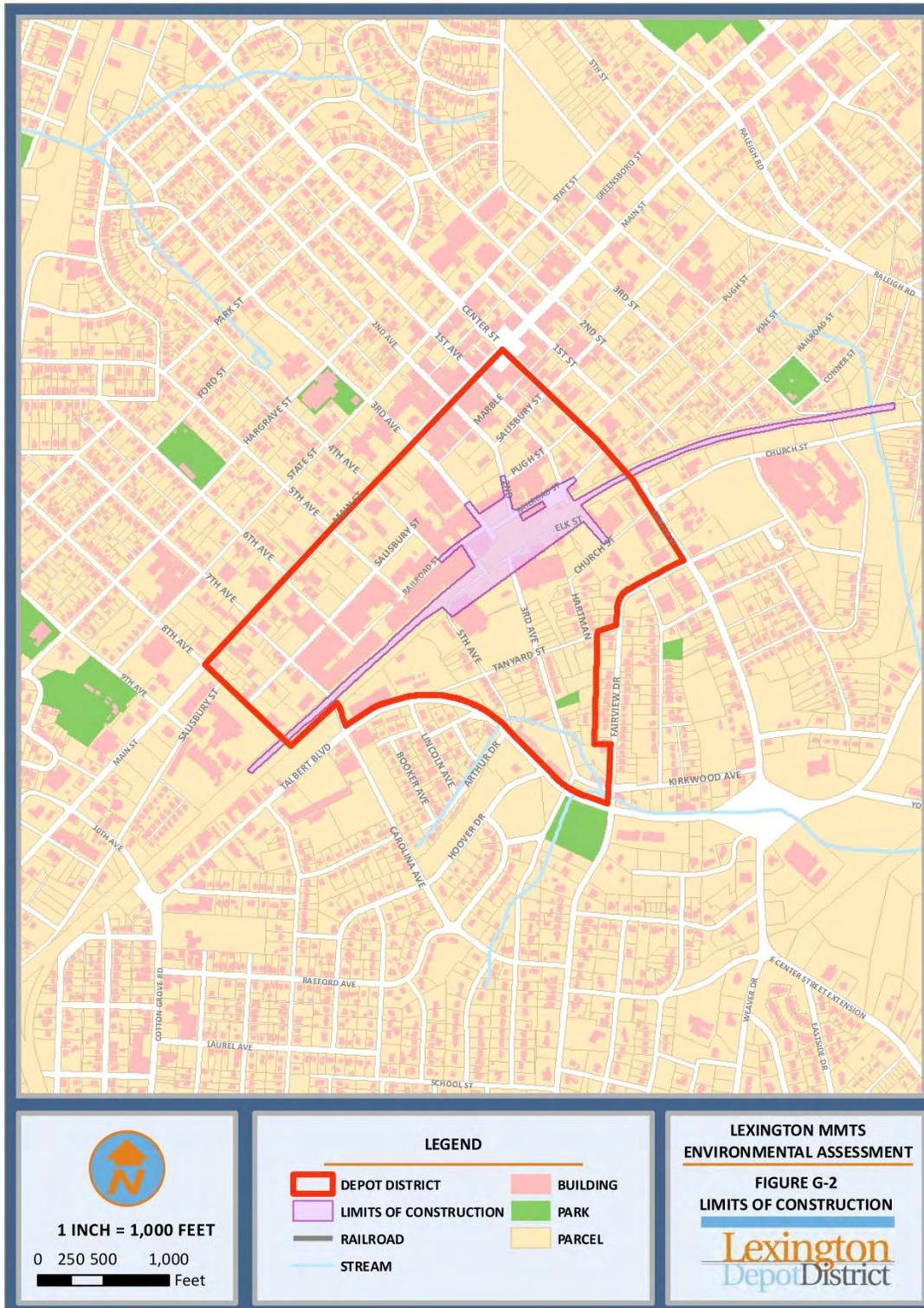


Figure G-2: Limits of Construction

2. Alternatives Considered and Eliminated From Further Analysis

Throughout the planning process, coordination among the Consultant Team (listed in Appendix A), SAP study team, COL staff, NCDOT staff, and the LRC have identified, evaluated, and concluded an ongoing series of decisions affecting the Project. These decisions are described below and include:

- A. Passenger Platform and SAP Site Location;
- B. Passenger Platform Configuration (Type, Size, and Height), and Associated Track Alignment;
- C. Railroad Track and Passenger Platform Phasing;
- D. Passenger Platform Access;
- E. Lexington MMTS Building Location, Size, and Joint Commercial Development JCD Program Strategy; and,
- F. Lexington MMTS Building Programming and Space Planning.

Figure G-3 shows the progression of how the COL evaluated the alternative components, which are detailed below. Text in red describes the alternatives that were selected to move forward.

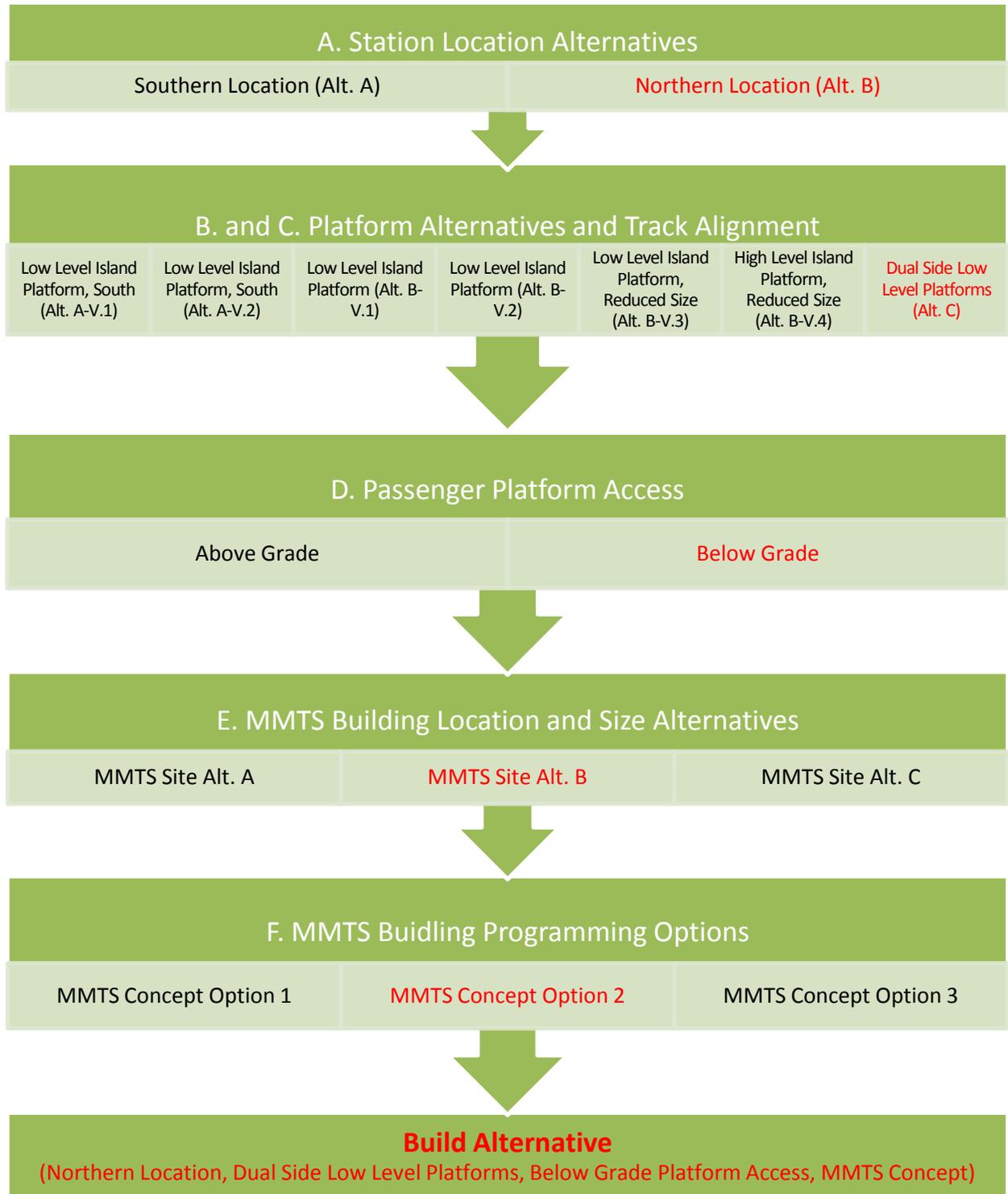


Figure G-3: Evaluation and Development of Alternative Station Components

A. Passenger Platform and SAP Site Location

The COL first evaluated the Passenger Platform and Station Location Preliminary Alternatives A and B that were developed by the NCDOT Rail Division, including how these Preliminary Alternatives A and B would work with the SAP Key Components. **Figure G-4** shows the general location of these two Preliminary Alternatives. The typical SAP Key Components provide a template for the framework and approximate land area required for the SAP. The Consultant Team positioned the SAP template relative to the island platform locations identified in Preliminary Alternative A and Alternative B to facilitate an SAP Location Comparative Analysis. The Consultant Team together with the COL and the SAP Team evaluated the results of this analysis, and shared the results with the community during public workshops and outreach events.

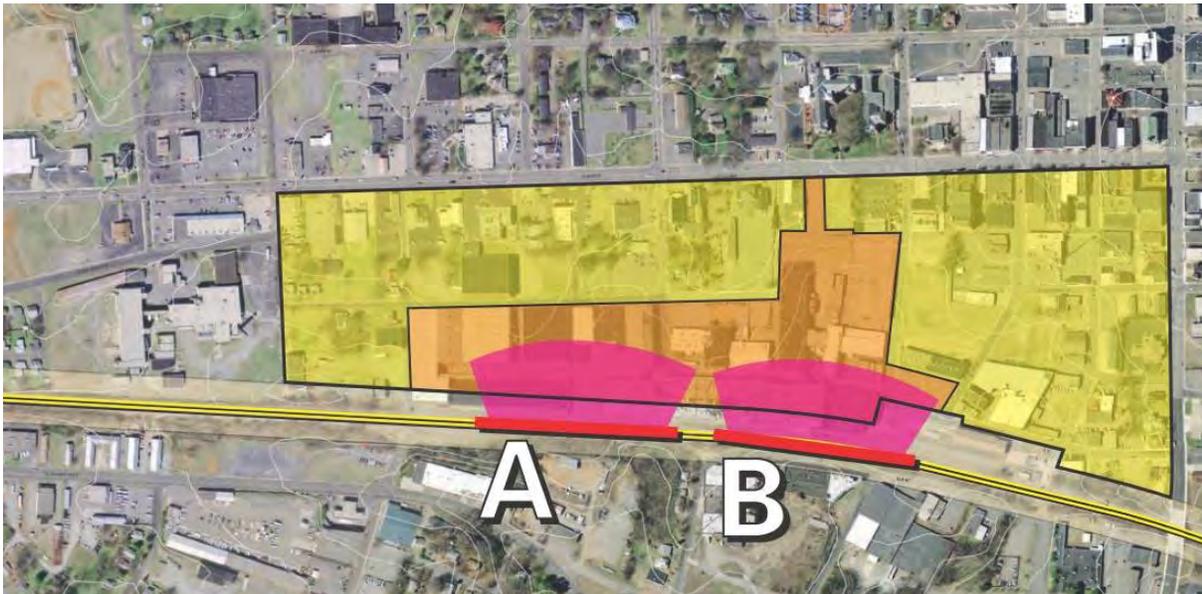


Figure G-4: Station Location Preliminary Alternatives A and B

SAP Location Comparative Analysis

The Consultant Team identified two potential SAP locations (SAP Location Alternative A and Alternative B) corresponding with the passenger island platform locations delineated in Preliminary Alternative A and Alternative B. Accordingly, a Comparative Analysis of SAP Location Alternative A and Alternative B was crafted to facilitate a focused and concurrent evaluation by the Consultant Team together with the COL and SAP Team of the following topics:

- Preliminary Assessment of Preliminary Alternative A and Alternative B design concepts previously developed by NCDOT Rail Division for the island platform and track alignment;
- Preliminary Alternative A and Alternative B general engineering requirements and constraints;
- Typical SAP Key Components, and,
- Existing site attributes within one-quarter mile of each option location.

In addition, the SAP Location Comparative Analysis included the following indicators:

- Topography;
- Street Grid and Infrastructure;
- Access & Connections;
- Walkability / Sidewalks & Intersections;
- Walking Distance & Time;
- Visibility;
- Historic / Cultural Resources;
- Existing LHB Plant Buildings;
- Available 'Open' Land Area;
- Land Ownership and Development Phasing;
- Growth Pattern; and,
- Lexington Traffic Separation Study (TSS).

The SAP Comparative Analysis demonstrated that while both location options contain several overlapping beneficial attributes, SAP Location Alternative B (near East 3rd Avenue) contained a greater number of indicators for TOD potential and success within a quarter mile of the SAP.

LRC Resolution in Support of SAP Location: Alternative B

Together the COL, SAP Team and Consultant Team examined the results of SAP Assessment and Comparative Analysis along with public inputs obtained from community workshops, surveys, and outreach events; and, upon review and discussion through several workshops concluded SAP Location Alternative B facilitated the greatest overall benefit to the local and regional community, maximized potential for redevelopment of the Depot District, and best met the goals for a multimodal SAP and Lexington MMTS facility. Alternative B is also well positioned to take advantage of integration with existing street access and connection and existing utility capacity.

Alternative A is further away from downtown Lexington, and would be further removed from the proposed transit and pedestrian connections in the Depot District. The existing streets providing primary access to Alternative A are only between 21 and 24 feet wide with limited and/or no sidewalks, which hinder necessary multimodal access. Alternative A is also further removed from the available parcels that the COL and LRC have identified for redevelopment. Finally, the Alternative A site could also result in the demolition of a greater number of potentially eligible historic resources.

Accordingly, Alternative B was presented to the LRC as the desired SAP Location, and upon subsequent review and discussion, the LRC strongly endorsed Alternative B as the logical location for passenger rail platform (see Appendix B). Ultimately, the location for Alternative B was adapted as the location of Alternative C and was included in the Build Alternative.

B. Passenger Platform Configuration (Type, Size, and Height), & Associated Track Alignment

Conceptual engineering for the passenger platform and track alignment established basic functional criteria and was advanced to determine how close the passenger platform could be positioned relative to the desired SAP Location Alternative B near the corner of East 3rd Avenue and South Railroad Street.

In collaboration and building upon the initial design concepts developed by NCDOT Rail Division, the Consultant Team advanced conceptual engineering for an island platform and associated track alignments to evaluate general engineering requirements and constraints, and crafted a Comparative

Analysis of the Platform Locations along with Platform Access Diagrams associated with both options relative to the desired SAP Location Alternative B.

In addition, the Consultant Team developed several conceptual passenger platform and track alignment alternatives as required in response to evolving design parameters for platform configuration and functional criteria as outlined below.

General Design and Alignment Options – Island Platform

On May 11, 2012, the Consultant Team met with NCDOT Rail Division to discuss the following general design and alignment options for advancing platform and track engineering for the Project:

1. General Considerations:

- a) NCDOT's principle is to start with the best track design possible, and then design the station improvements accordingly. This principle helps NCDOT meet its overall service goals for the entire Piedmont corridor (Raleigh-Charlotte) and Southeast Corridor (Washington, DC –Charlotte).
- b) Southeast High Speed Rail passenger trains and Amtrak's *Crescent* long distance service will most likely not stop at the Lexington Station. The station will likely be served by existing *Carolinian* and *Piedmont* intercity passenger rail service, which is currently planned to be five round trip trains per day (10 total) by 2017.
- c) This portion of the corridor should accommodate up to two additional main tracks in the future, for a total of four main tracks (capable of carrying both passenger and freight).
- d) Discussion of the desires and goals of the COL for the Depot District and for locating the platform as close as possible to the center of Uptown Lexington is extremely important.

2. Island Platform:

Based on the rules, desires, wants, and design criteria, NCDOT Rail Division determined the island platform was the best option. An island platform facilitates the operating railroad's ability to dispatch passenger trains to either track at any time. Previous discussions between NCCR, NS, and NCDOT resulted in an understanding that one-sided platforms will not be considered in the design process for a number of reasons, including the following:

- a) A one-sided platform complicates operations and limits the flexibility of service because any trains that are stopping at a station must be sure to get on the correct track ahead of time. This requires additional switches, crossovers, and/or sidings, to get the trains on/off the appropriate main line track, which complicates the system, increases the cost (both initially and for maintenance) and further complicates track maintenance. In addition, if passengers are standing on the incorrect platform, further time is lost in train schedule getting passengers to the correct platform location.
- b) Switching from one main line to another can also cause the trains to slow

down significantly well in advance of the switch, which can have a ripple effect, slowing down both freight and passenger operations along the corridor. Future higher speed service is dependent on the implementation of a large program of incremental improvements along the corridor that will add up to a more streamlined service. The introduction of speed reductions/operating restrictions associated with these additional switches and sidings could jeopardize these improvements.

- c) An island platform allows for easier rail maintenance for the tie replacements.
 - d) Cost will increase due to the need for additional switches and/or crossovers, which also complicate track maintenance.
3. Platforms on curves should be avoided whenever possible, since a curved platform increases the gap between the passenger rail car and the platform, and can slow down passenger boarding.
4. Minimum Platform Widths:
- a) 32-feet wide for platforms with a center headhouse for vertical circulation (i.e. elevator shaft/stairway). This is the minimum width at the point of vertical penetration. The width can taper down to 22 feet beyond that.
 - b) 22-feet wide for platforms that are end loaded/accessed. This is the absolute minimum platform width needed for Amtrak luggage cart turn-around.

Other/Miscellaneous Considerations

1. The track plan should meet rail industry standards for higher cant deficiency and super elevation.
2. The track plan should accommodate the recommendations of the recently completed Traffic Separation Study, which includes a possible 7th Street grade separation or a 5th Street tunnel/overpass.
3. This project cost should include at least \$500,000 for new signals (the cost will be estimated by NS). The existing back to back automatic signal might be replaced with a couple of mast arms.
4. The railroad signal near Center Street Bridge will be reconfigured to provide a “leaving signal” north and south of the station platform. The engineer of departing train from station needs to be able to see signal in order to proceed at full speed, northbound and southbound, from station. Moreover, the braking distance for freight will be determined by NS in the development of their signal plan.
5. Preliminary Alternative A would require a temporary track to divert around the construction zone. Preliminary Alternative B track can be built on its final new alignment.
6. Track geometry must be designed to accommodate the Southeast Corridor, Piedmont Improvement Program (PIP) mandated design speeds of 90 mph for passenger rail, and 50 mph for freight rail.
7. The Project must consider future track expansion by NCRR and NS:

- a) a four-track cross-section is expected at full build-out;
- b) timing is currently unknown; however, expect freight rail traffic to steadily increase at relatively rapid pace in the Carolinas per global factors including Panama Canal expansion project and regional factors including port enhancements in Charleston & Savannah along with new intermodal hub project in Charlotte; and,
- c) NCR and NS will not consider any option that does not facilitate a four-track build-out. Existing conditions allow adequate space for the addition of the 3rd and 4th track. Excavation and re-grading beneath the Center Street bridge will still be required for any four-track cross section.

8. Passenger Platform Access and Vertical Circulation:

- a) access for both passengers and baggage must be provided between the station and platform;
- b) passenger and baggage access may be provided above grade via bridge and/or below grade via tunnel – no at-grade crossings are allowed by the operating railroad;
- c) baggage is typically transported by a small vehicle (similar in size to a golf cart), which pulls one or two baggage carts; and,
- d) vertical circulation components for passengers and baggage may include stairs, ramps, elevators, and/or escalators; however, the passenger pathway must be ADA accessible by means of ramps and/or elevators.

9. Existing tunnel/street connection between Railroad Street and Elk Street:

- a) preservation and/or enhancement of tunnel access is desired to maintain and facilitate connectivity between the Depot District and the neighborhood(s) located on the opposite side of the railroad corridor;
- b) improvements to the existing tunnel and/or construction of a new tunnel are expected for any platform location and track alignment option; and,
- c) the owner of the former Elk furniture plant building and associated property has expressed interest in cooperating with the COL in future development plans for the Depot District, provided access is maintained.

Passenger Platform and Track Design and Alignment Options

After reviewing Preliminary Alternatives A and B (as developed by the NCDOT Rail Division), developing the SAP Alternative B Location and the Lexington MMTS Building as the desired option, and reviewing the design considerations provided by the NCDOT Rail Division (described above), the Consultant Team developed additional options to attempt to minimize the distance between the Passenger Platform and the Lexington MMTS Building.

Alternative A (A-V.1 and A-V.2)

NCDOT's Preliminary Alternative A (now called A-V.1) passenger platform would be

approximately 1,000 feet to the south of the SAP Alternative B Location target. Therefore, the Consultant Team developed an Alternate Preliminary Alternative A (A-V.2) which would shift the platform north to reduce passenger access distance from the potential Lexington MMTS Building location.

Alternative B (B-V.1 and B-V.2)

Given the position of the NCDOT’s Preliminary Alternative B (now called B-V.1) passenger platform approximately 100 feet to the south and 75 feet east of the SAP Alternative B Location target, the Consultant Team developed Alternate Preliminary Alternative B (B-V.2) to shift the platform north and west to reduce passenger access distance from the potential Lexington MMTS Building location while minimizing potential impacts along the east side of the NCRR corridor.

Existing constraints common for both options and corresponding alternates include:

- NCRR ROW (200-foot width);
- track alignment (triple curve);
- LHB building encroachments;
- tunnel structure;
- Center Street bridge;
- extreme topography near the tunnel structure and along the east side of the NCRR corridor; and,
- future Lexington TSS project.

In addition, to help evaluate Alternative A and Alternative B, the Consultant Team created SAP Access Diagrams from case studies of other North Carolina Stations (Greensboro, Durham, and Salisbury), and identified SAP metrics including approximate site geometry and specific component sizes, passenger access pathways and travel distances, and station, concourse, and platform position and configuration.

Alternative A-V.1 (original layout per NCDOT-Rail Division). – Figure G-5

A-V.1 General Metrics:

1. Platform length: 700 feet.
2. Platform width: 32 feet.
3. Minimum separation distance along corridor frontage between accessible end of platform and desired station building location: Approximately 575 feet.

A-V.1 Advantages - Geometric and Operational:

1. The track alignment will permit a four-track cross-section under the existing Center Street bridge.
2. The platform width will permit vertical circulation components (such as elevators, stairs, escalators, or ramps) to be located anywhere along passenger platform and maintain adequate accessible clearance for passengers and baggage vehicle between the component and edge of platform.
3. The platform location and track alignment are positioned in the center of the existing ROW and only limited grading is expected in the vicinity of the platform.

A-V.1 Disadvantages - Geometric and Operational:

1. The platform position is considerably remote from the desired Lexington MMTS location. This would limit the line of sight between station and platform, and would require a long horizontal travel distance by passengers (approximately 725 feet).
2. The option would have greater impacts to existing freight and passenger train operations during platform and track construction as the platform is positioned in the center of the existing track alignment.
3. The platform location and track alignment are expected to have greater impact on potential reuse of existing buildings (including Dixie stack) within the City-owned, former LHB property. This could include demolition (in part or whole) of multiple structures on north/west side of corridor.
4. Re-grading is expected under the Center Street bridge for the realignment of the two existing tracks; in addition, excavation and construction of retaining walls will also be necessary for the addition of Tracks 3 and 4 in the future.
5. Platform position is expected to restrict flexibility for proposed future NCDOT corridor underpass project at West 5th Avenue.

Alternative A-V.2 (offset, narrower platform shifted into spirals) – Figure G-6

A-V.2 General Metrics:

1. Platform length: 741 feet (boarding length: 700 feet).
2. Platform width: 24 feet.
3. Re-grading is expected under the bridge for the realignment of the two existing tracks; however, excavation and construction of retaining walls will also be necessary for the addition of Tracks 3 and 4 in the future.
4. Minimum separation distance along corridor frontage between accessible end of platform and desired station building location is approximately 320 feet.

A-V.2 Advantages - Geometric and Operational:

1. The alignment will permit a four-track cross-section under the existing Center Street bridge.
2. The platform location and track alignment are positioned in the center of the existing ROW and only limited grading is expected in the vicinity of the platform.

A-V.2 Disadvantages - Geometric and Operational:

1. Platform position would be somewhat remote from the desired Lexington MMTS location. Similar to Alternative A-V.1, this option would provide limited line of sight between the

- station and platform, and would require a horizontal travel distance by passengers of approximately 470 feet.
2. Platform width would permit vertical circulation components (such as elevators, stairs, escalators, or ramps) to be located on ONLY one or both ends of passenger platform.
 3. Greater impacts to existing freight and passenger train operations during platform and track construction are expected, as the platform would be positioned in the center of the existing track alignment.
 4. The platform location and track alignment are expected to have greater impact on potential reuse of existing buildings (including Dixie stack) within the City-owned, former LHB property, including possible demolition (in part or whole) of multiple structures on north/west side of corridor.
 5. Re-grading is expected under the Center Street bridge for the realignment of the two existing tracks; in addition, excavation and construction of retaining walls will also be necessary for the addition of Tracks 3 and 4 in the future.
 6. Platform position is expected to restrict flexibility for proposed future NCDOT corridor underpass project at West 5th Avenue.

Alternative B-V.1 (original layout per NCDOT-Rail Division). – Figure G-7

B-V.1 General Metrics:

1. Platform length: 700 feet.
2. Platform width: 32 feet.
3. The platform and parallel track alignment within existing ROW is offset toward the south/east side.
 - (a) Centerline of platform is approximately 35 feet from ROW limits.
 - (b) Centerline of Track 1 (southeastern most track) is approximately 14 feet from ROW limits.
4. Minimum separation distance along corridor frontage between accessible end of platform and desired station building location: Zero.

B-V.1 Advantages - Geometric and Operational:

1. The platform position would be directly across from the desired Lexington MMTS location at the intersection of East 3rd Avenue and South Railroad Street. This would provide a direct line of sight between station and platform, and would require a shorter horizontal travel distance by passengers (approximately 210 feet) when compared to Alternative A-V.1 and A-V.2.
2. The platform width will permit vertical circulation components (such as elevators, stairs, escalators, or ramps) to be located anywhere along passenger platform and maintain adequate accessible clearance for passengers and baggage vehicle between the component and edge of platform.
3. The platform location and track alignment are expected to have less impact on potential reuse of existing buildings (including Dixie stack) within the City-owned, former LHB property.
4. Fewer impacts to existing freight and passenger train operations during platform and track construction are expected, as the platform is positioned outside of the existing track alignment.

5. Platform position is expected to preserve flexibility for proposed future NCDOT corridor underpass project at West 5th Avenue.

B-V.1 Disadvantages - Geometric and Operational:

1. The required track curves and alignment on the north side of the platform will permit ONLY a three-track cross-section under the existing Center Street bridge. To accomplish the required four-track alignment, reconstruction of the bridge will be necessary.
2. Re-grading is expected under the Center Street bridge for the realignment of the two existing tracks; in addition, excavation and construction of retaining walls will also be necessary for the addition of Tracks 3 in the future.
3. Significant additional ROW is required.
4. New track alignment is located on extreme topography in the vicinity of the platform; a combination of structural fill and/or retaining walls is expected to construct the platform and adjacent track alignment.
5. The option might require demolition (in part or whole) of multiple structures on the south/east side of corridor.
6. The option would require removal/abandonment or realignment of Elk Street along the south/east frontage of corridor; if Elk Street is not realigned, East 3rd Avenue & East 5th Avenue would dead end at corridor.

Alternative B-V.2 (Narrower platform) – Figure G-8

B-V.2 General Metrics:

1. Platform length: 700 feet.
2. Platform width: 22 feet.
3. The platform and track alignment is offset toward the south/east side of the existing ROW.
 - (a) Centerline of platform is approximately 34 feet from NCRR ROW limits.
 - (b) Centerline of Track 1 (southeastern most track) is approximately 18 feet from NCRR ROW limits.
4. Re-grading is expected under the bridge for the realignment of the two existing tracks; however, excavation and construction of retaining walls will also be necessary for the addition of Tracks 3 and 4 in the future.
5. Minimum separation distance along corridor frontage between accessible end of platform and desired station building location: approximately 200 feet.

B-V.2 Advantages - Geometric and Operational:

1. Platform position would be directly across from the desired Lexington MMTS location at the intersection of East 3rd Avenue and South Railroad Street. This would provide a direct line of sight between the station and platform, and
2. would require shorter horizontal travel distance by passengers (approximately 410 feet) when compared to Alternatives A-V.1 and A-V.2.
3. The track alignment will permit a four-track cross-section under the existing Center Street bridge.
4. The platform location and track alignment are expected to have less impact on potential reuse of existing buildings (including Dixie stack) within the City-owned, former LHB property.

5. Fewer impacts to existing freight and passenger train operations during platform and track construction are expected, as the platform is positioned outside of the existing track alignment.
6. Platform position is expected to preserve flexibility for proposed future NCDOT corridor underpass project at West 5th Avenue.

C. B-V.2 Disadvantages - Geometric and Operational:

1. Platform width will permit vertical circulation components (such as elevators, stairs, escalators, or ramps) to be located on only one or both ends of passenger platform.
2. Significant additional ROW is required.
3. New track alignment is located on extreme topography in the vicinity of the platform; a combination of structural fill and/or retaining walls is expected to construct the platform and adjacent track alignment.
4. The option would require demolition (in part or whole) of multiple structures on the south/east side of corridor.
5. The options would require removal/abandonment or realignment of Elk Street along the south/east frontage of corridor; if Elk Street is not realigned, East 3rd Avenue and East 5th Avenue would dead end at corridor.
6. Re-grading is expected under the Center Street bridge for the realignment of the two existing tracks; in addition, excavation and construction of retaining walls will also be necessary for the addition of Tracks 3 and 4 in the future.

Alternative B Conceptual Engineering

On June 14, 2012, the consultant and the COL met with NCDOT Rail Division in Raleigh to share the evaluation of the four alternatives (A-V.1, A-V.2, B-V.1, B-V.2). NCDOT acknowledged the desired SAP Location Alternative B; and, relative to advancing conceptual engineering for Alternative B-V.2 as the most feasible option, outlined the following platform and track location and geometric considerations:

1. Platform Width:

- (a) A continuous 22-foot wide island platform is too narrow.
- (b) Passenger access approach to a 22-foot wide island platform cannot occur under and parallel along the length of the platform unless a switchback is extended beyond the end.
- (c) Penetration of the island platform for vertical circulation components can only occur on the ends of the platform.
- (d) Although an absolute minimum platform width of 26 feet might be considered; the desired platform width is 32 feet to facilitate penetration for vertical circulation passenger access ramps and/or elevators anywhere along the platform length.

2. Track Alignment:

- (a) Any option must plan for future expansion to permit a four-track cross-section under the existing Center Street bridge.

- (b) NCDOT may allow for the passenger design speed may be reduced from 90 mph to 80 mph to achieve a platform location closer to desired station location while respecting the constraint of the existing Center Street bridge. However, this is not a desired solution.

3. NCRR ROW:

- (a) Alternative B is expected to require additional ROW adjacent to the platform along the south/east side of the corridor. The required ROW line may be required by NCRR to be 100 feet minimum from centerline of closest future track alignment.

(b) No Public open space should be depicted within the NCRR ROW.

- (c) Parking within the NCRR ROW is a concern. For example, the existing surface parking lot in Durham for an adjacent residential project is located within the railroad ROW and is subject to elimination upon potential future track expansion. If short or long term parking within the ROW is desired, the NCDOT recommended that the COL discuss this with NCRR to confirm if such an arrangement is possible.

Alternative B-V.3 [Platform Tapers] – Figure G-9

On June 15, 2012, NCDOT Rail Division advised the COL and Consultant Team they would advance conceptual engineering for another alternate for Alternative B (B-V.3) and summarized the following design parameters to be incorporated:

1. Similar overall platform location and Alternative B.
2. Minimum 700-foot long platform.
3. Vertical circulation at some point along the length of the platform and not at an end – the tunnel would align with the existing Elk Street bridge which is proposed to be replaced as part of the project to include a pedestrian path from east to west sides, plus a pedestrian access to the platform, plus a baggage ramp to the platform.
4. The platform should be 32 feet wide for 400 feet of its length, but up to 150 feet on both ends can taper to as narrow as 22 feet – the canopy would extend the 400 feet full width but would not extend into the tapers.
5. NCDOT Rail Division will develop preliminary track geometry based on this new platform criteria and forward to the Consultant Team within two weeks – the plan will consider the location of two additional tracks through Lexington.
6. The plan will focus on shifting the platform as far north as possible towards Center Street, and as far west as possible so as to minimize right of way impacts on the east side of the right of way.

Subsequently, the Consultant Team advanced engineering and SAP planning based upon the Alternative B-V.3 Concept Plan.

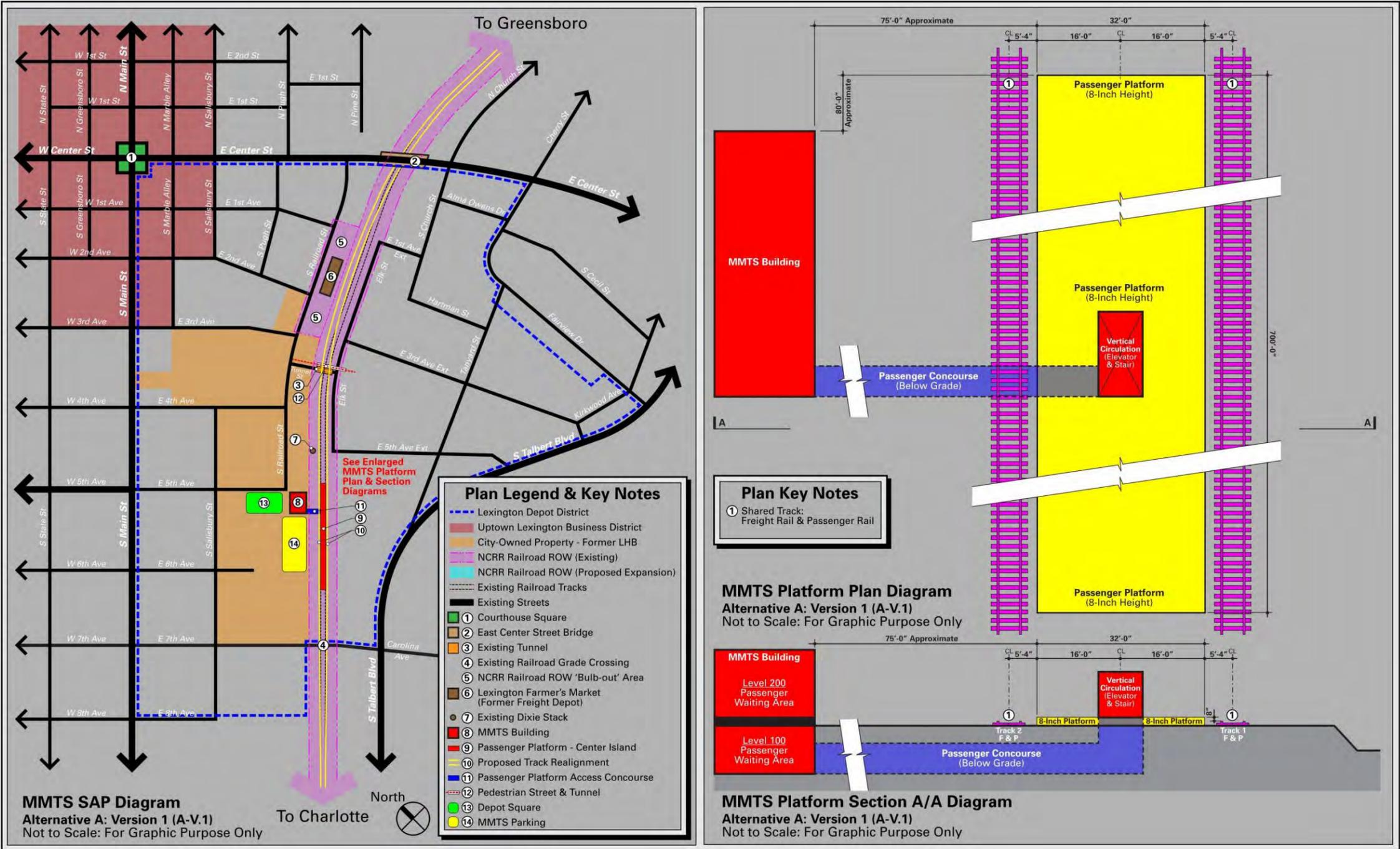


Figure G-5: Alternative A.V-1 – Southern Low-Level Island Platform, MMTS at E. 5th Avenue

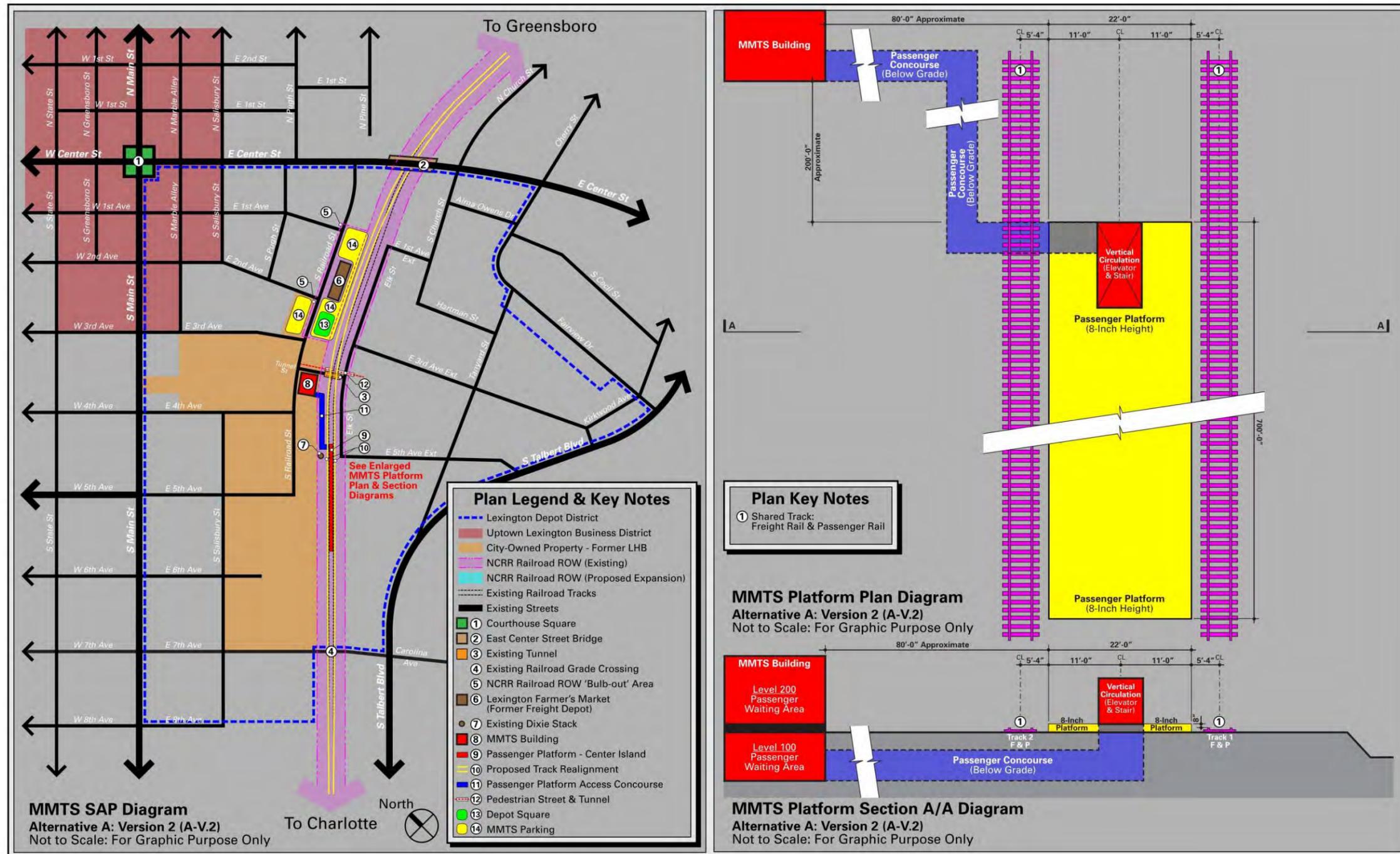


Figure G-6: Alternative A.V-2 – Southern Low-Level Island Platform, MMTS between E. 3rd and 4th Avenues