

Appendix 5A – Land Use Summary

Summary of Land Use in the Corridor

The southeast corridor has a variety of land use patterns from dense to uninhabited, and a large spectrum of uses from single family residential to office, retail, and industrial. The densest areas of the corridor are the ends – downtown Nashville and downtown Murfreesboro. Other developed areas along the corridor include Thompson Lane, Antioch, LaVergne, and Smyrna. While most of the corridor is currently developed, a portion between Smyrna and Murfreesboro is undeveloped. However, current growth and development projections for the region suggest development will occur in this area in the future.

Land use was assessed for the three detailed alternatives selected for Phase II Screening Analysis: I-24 BRT, CSX Commuter Rail, and Old Nashville/Murfreesboro BRT (see Section 5.3). Parcels influenced by potential transit were assessed based on ¼, ½, and 1 mile radii around each proposed stop. Because BRT typically has stops spaced closer together and can attract shorter distance travelers, land use was assessed at ¼ mile radius of proposed stops. Commuter Rail stops are typically spaced at longer distances and incorporate parking and other features for long-distance travelers. Therefore, Commuter Rail land use was assessed with a 1-mile radius around each proposed stop.

Downtown Nashville

See Figure A5.1-1 for land use in the downtown Nashville area

Alternative A: I-24 BRT:

Starting with a proposed stop in downtown Nashville, the I-24 BRT alignment would serve a variety of dense uses including clustered office, government/institutional and medical uses. The next two proposed stops on the corridor, Wharf Avenue and Fesslers Lane, are surrounded by larger commercial and industrial uses. Finally, as the corridor leaves the downtown area the proposed stop at Thompson Lane is surrounded almost entirely by single family residential use.

Alternative B: CSX Commuter Rail:

In downtown Nashville the CSX Commuter Rail alignment would serve a dense cluster of office, government/institutional and medical uses. The next proposed stop, Thompson Lane, contains mostly single-family residential parcels within a 1-mile radius of the stop. The area also includes some industrial uses abutting next to the CSX line itself.

Alternative C: Old Nashville/Murfreesboro BRT:

Just like the other two alternatives, Old Nashville/Murfreesboro BRT serves the dense cluster of office, government, and institutional uses in downtown Nashville. Just south of downtown this alignment serves several apartment developments. Following Old Nashville Highway out of downtown, this alignment mostly serves commercial parcels within ¼ mile of stops at 2nd Avenue S, Hermitage Avenue, Lester Avenue/Trevecca Nazarene University, Elm Hill Pike, and Murfreesboro Road. Figure A5.1-1 shows the cluster of commercial parcels for each stop along the Old Nashville/Murfreesboro BRT alignment. There are also instances where this corridor serves industrial uses. As the Old Nashville/Murfreesboro BRT corridor moves southeast, stops at Thompson Lane, Glengarry Drive, and McGavock Pike serve primarily single family residential development.

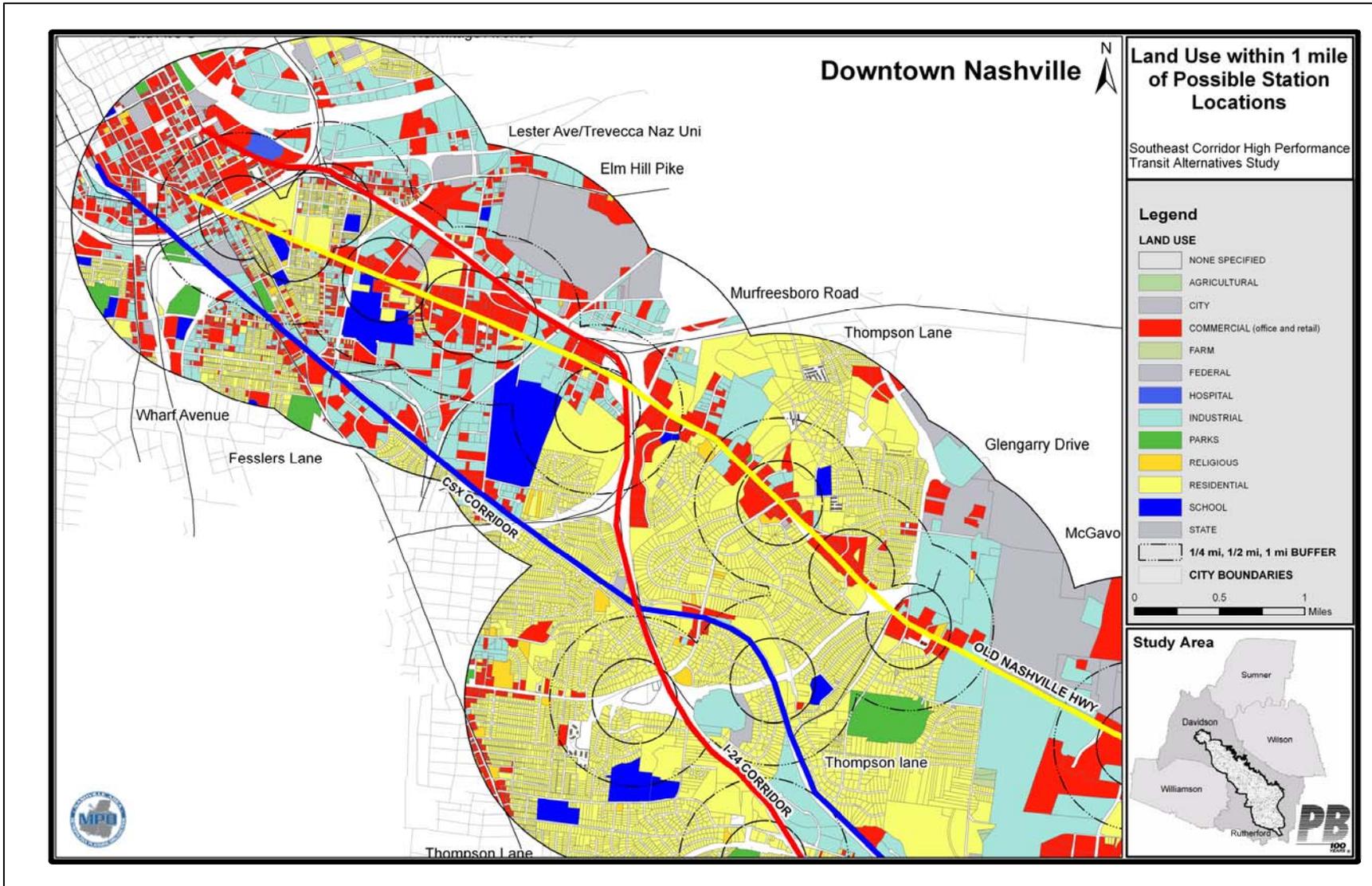


Figure 5A-1 Land use in the vicinity of downtown Nashville

Thompson Lane

See Figure A5.1-2 for land use in the Thompson Lane area

Alternative A: I-24 BRT:

Figure A5.1-2 shows two proposed stops for this corridor: Antioch Pike and Harding Place. Each of these stops is dominated by residential use, mostly single family with some larger apartment complexes included. There is also some commercial development within ¼ mile of the Harding Place stop.

Alternative B: CSX Commuter Rail:

There is a single stop proposed for the CSX corridor, located where Harding Place crosses over the CSX line. Within 1 mile of this proposed stop is a mixture of industrial use (closer to the rail line) and retail and residential uses oriented to the close-by I-24 interchange. The residential development in the area includes both single-family parcels as well as large apartment complexes.

Alternative C: Old Nashville/Murfreesboro BRT:

There is a single stop proposed for this alignment where Murfreesboro Pike intersects Donelson Pike, immediately south of the Nashville International Airport. Within ¼ mile of this stop is mostly commercial use south of Murfreesboro Pike and industrial/airport use north of Murfreesboro Pike.

Antioch

See Figure A5.1-3 for land use in the Antioch area

Alternative A: I-24 BRT:

There are two proposed stops along the I-24 corridor: Haywood Lane and Hickory Hollow/Bell Road. The development within ¼ mile of the Haywood Lane stop is entirely suburban residential, with apartment complexes closer to I-24 and single family homes to the south and west of the proposed stop. The land use along the Hickory Hollow/Bell Road stop is mostly dominated by commercial use. This stop also has residential development in the form of several apartment complexes.

Alternative B: CSX Commuter Rail:

There are no planned stops for the CSX alignment in this vicinity.

Alternative C: Old Nashville/Murfreesboro BRT:

Figure A5.1-3 shows three proposed stops along the Old Nashville/Murfreesboro corridor: Una Antioch Pike, Bell Road, and Mt. View Road. For the most part the corridor is lined with suburban development in this area, with commercial development fronting the corridor and residential development behind it. The residential development is mostly apartment complexes and a small number of single family houses. Mt. View Road is an exception to this development pattern, as it currently has a rural development pattern and is surrounded by agricultural and farm uses.

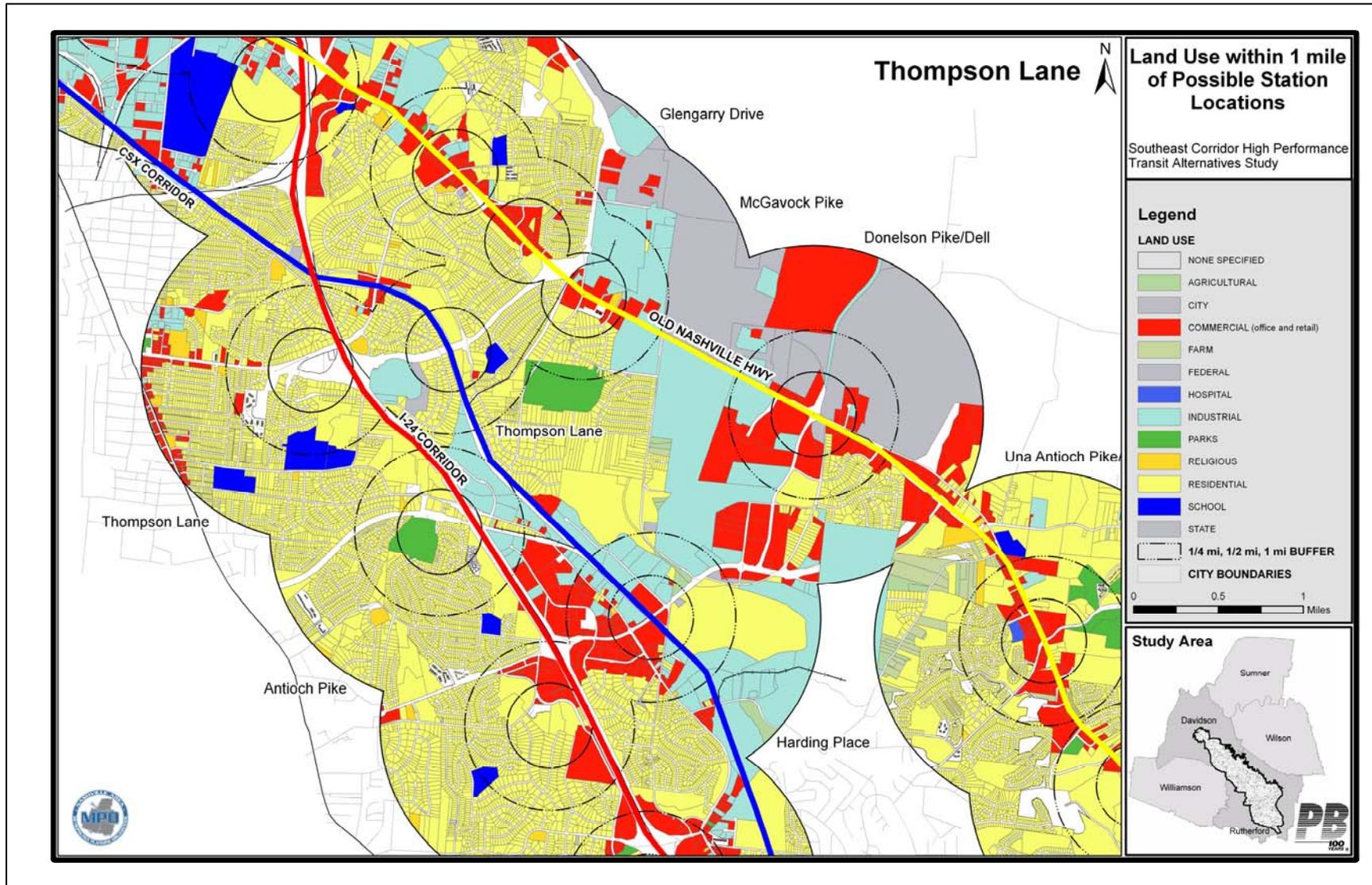


Figure 5A-2 Land use in the vicinity of Thompson Lane

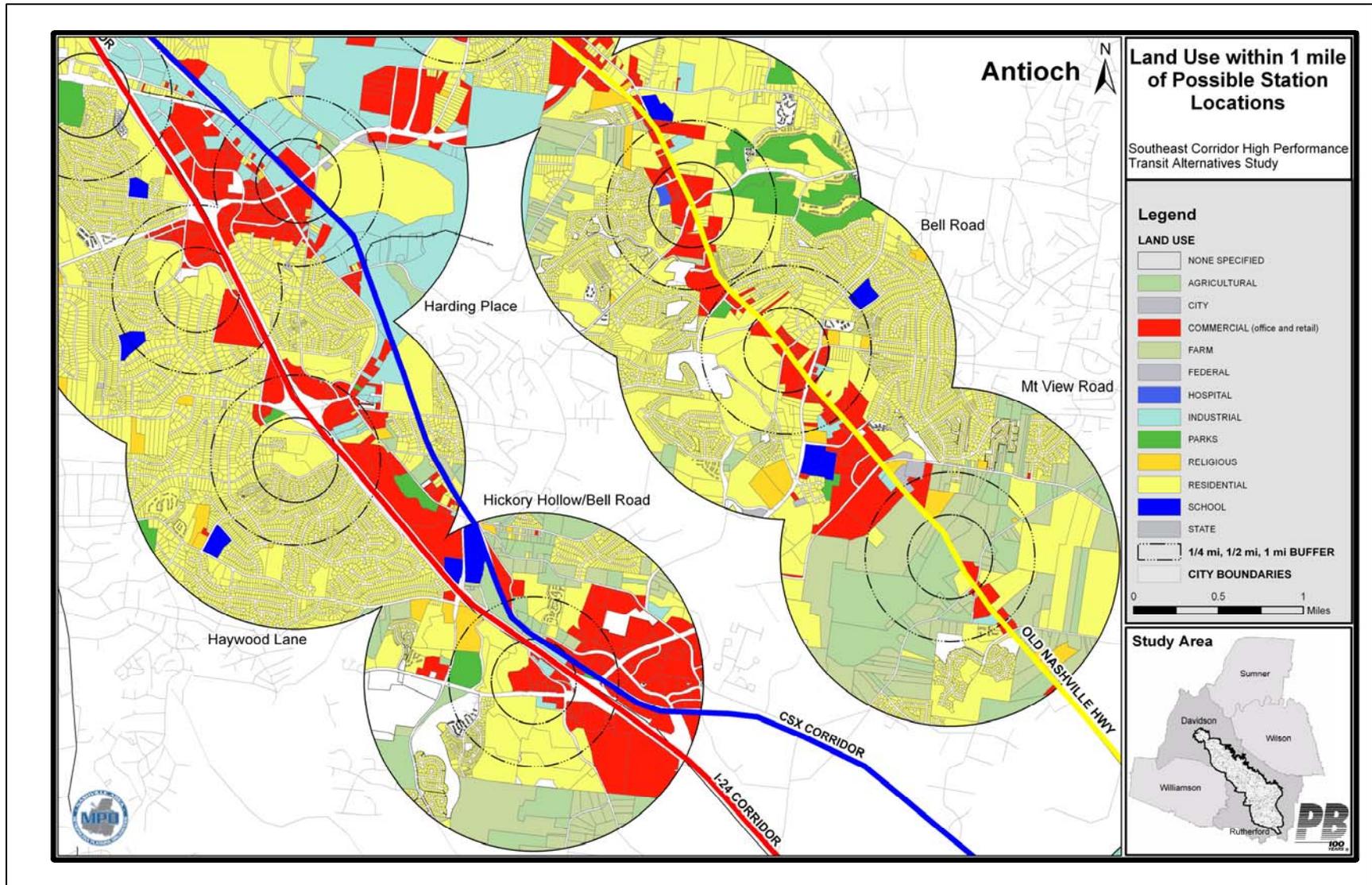


Figure 5A-3 Land use in the vicinity of Antioch

La Vergne

See Figure A5.1-4 for land use in the La Vergne area

Alternative A: I-24 BRT:

According to Figure A5.1-4, there are three proposed stops along the corridor in the vicinity of La Vergne: Old Hickory/Hobson Pike, La Vergne/Waldron Road, and Smyrna/Sam Ridley. The character of land use in the corridor is considerably suburban. There is mostly commercial development clustered within ¼ mile of each proposed stop, with the development oriented towards interchanges with I-24. Outside of the interchanges is mostly agricultural and farmland, with a small amount of residential development. The one exception to this pattern is the La Vergne stop, which has industrial development north of I-24.

Alternative B: CSX Commuter Rail:

There are two proposed stops along the CSX corridor: Waldron Road/La Vergne and Downtown Smyrna/Sam Ridley Parkway. Within 1 mile of the Waldron Road/La Vergne stop is a combination of industrial, commercial, and residential development, with industrial the dominant land use. The Downtown Smyrna/Sam Ridley Parkway stop also has industrial, commercial, and residential use. The stop also has the Smyrna Airport located north of the CSX corridor in the vicinity of the stop.

Alternative C: Old Nashville/Murfreesboro BRT:

There are two proposed stops in the Old Nashville/Murfreesboro corridor: Waldron Road and Smyrna/Sam Ridley. Within ¼ mile of the Waldron Road stop is predominantly commercial development, with some residential apartment development. The Smyrna/Sam Ridley stop has commercial development within ¼ mile of the proposed stop.

Smyrna

Please see Figure A5.1-5 for land use in the vicinity of Smyrna

Alternative A: I-24 BRT:

According to Figure A5.1-5, there is one proposed stop for the I-24 corridor at Nissan Boulevard. Within ¼ mile of the proposed stop is agricultural and commercial development. There is also some industrial development oriented near the I-24 interchange.

Alternative B: CSX Commuter Rail:

There are no planned stops for the CSX alignment within this corridor

Alternative C: Old Nashville/Murfreesboro BRT:

There is a single stop planned for the Old Nashville/Murfreesboro corridor at Nissan Boulevard. Within ¼ mile of this stop is rural agricultural, religious use, and vacant land that has residential development potential in the future. Beyond the ¼ mile radius is a large amount of single-family residential development. The Nissan Plant is located approximately 1.3 miles from this proposed stop.

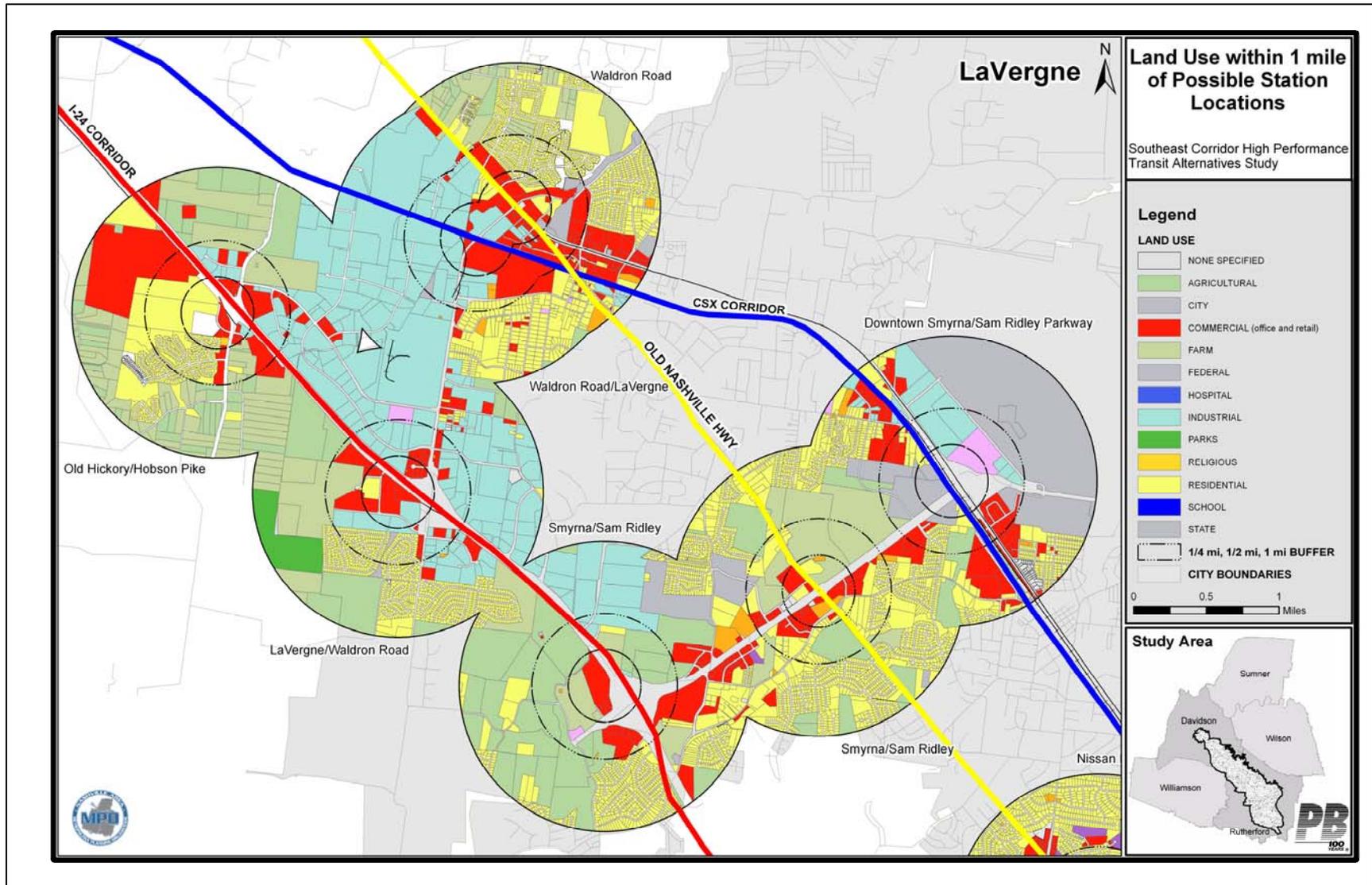


Figure 5A-4 Land use in the vicinity of La Vergne

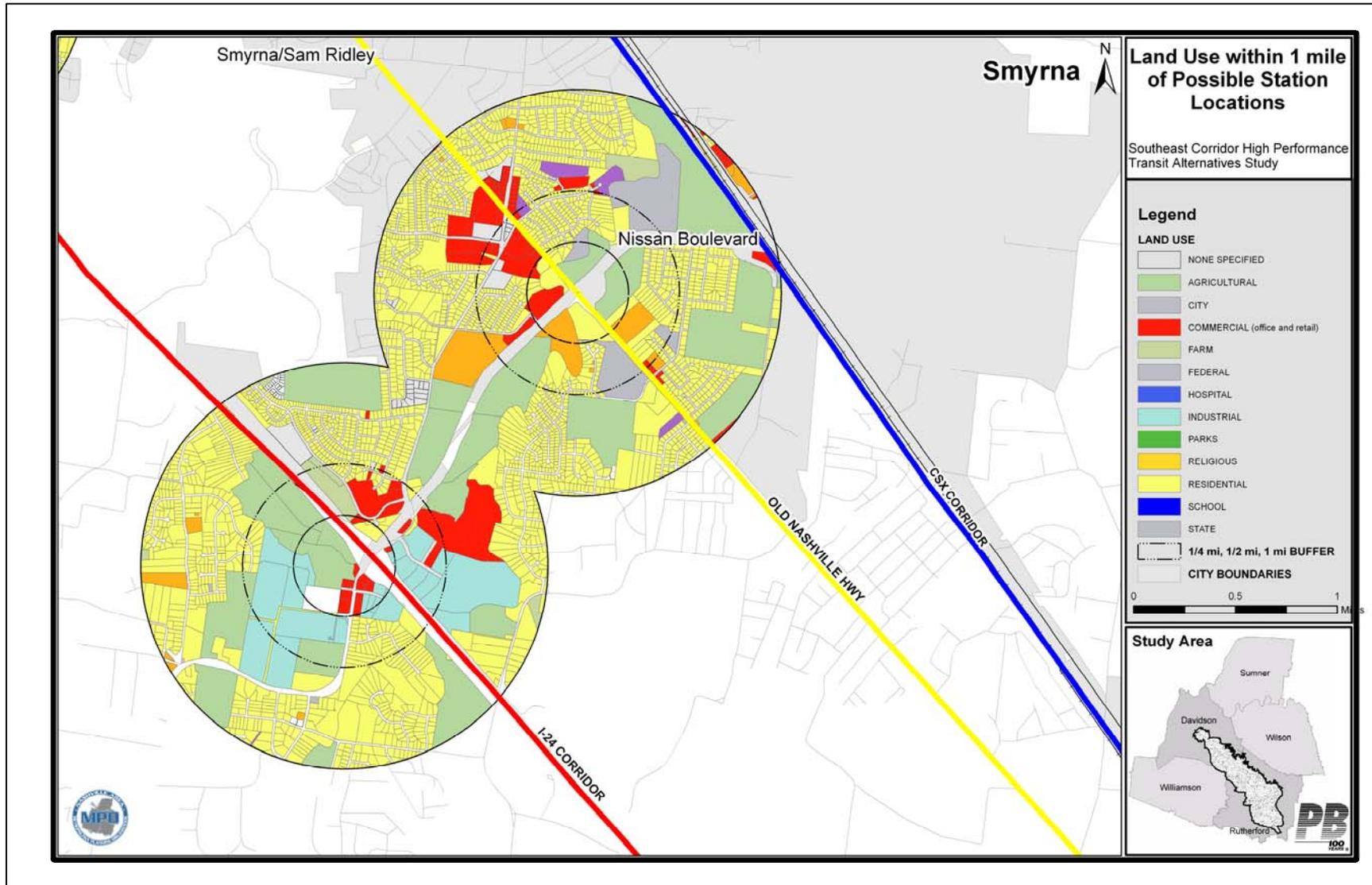


Figure 5A-5 Land use in the vicinity of Smyrna

Rutherford County

Please see Figure A5.1-6 for land use in the vicinity of Rutherford County between Smyrna and Murfreesboro

Alternative A: I-24 BRT:

There is one planned stop on the I-24 corridor in Rutherford County between Smyrna and Murfreesboro, located at Manson Pike. Within ¼ mile of this stop is mostly agricultural land with some single family residential development outside of the ¼ mile radius of the stop.

Alternative B: CSX Commuter Rail:

There is one planned stop on the CSX corridor, located at SR 840. Within a 1-mile radius of this stop is mostly rural agricultural land, with a small amount of residential and commercial development. There is also some existing single-family residential development located to the southwest of the stop.

Alternative C: Old Nashville/Murfreesboro BRT:

There is one planned stop on the Old Nashville/Murfreesboro BRT alignment located at Hord Road. Within ¼ mile of this stop is entirely rural agricultural land. Beyond ¼ mile of the proposed stop is more of the same rural agricultural development, with some single family residential development located to the southwest of the proposed stop.

Murfreesboro

Please see Figure A5.1-7 for land use in the vicinity of Murfreesboro

Alternative A: I-24 BRT:

According to Figure A5.1-7, there is one planned stop for the I-24 BRT corridor, located at SR 99/New Salem Road. The development close to this stop is mostly suburban in nature. Within ¼ mile of this proposed stop is a combination of commercial, residential apartments, and agricultural development.

Alternative B: CSX Commuter Rail:

There is one proposed Commuter Rail stop near downtown Murfreesboro. The development pattern in downtown Murfreesboro is very dense. Within a 1-mile radius of this proposed stop there are commercial, residential, industrial and institutional land uses.

Alternative C: Old Nashville/Murfreesboro BRT:

There are two proposed stops in the Old Nashville/Murfreesboro corridor within the Murfreesboro area: Downtown Murfreesboro and I-24/US 231. The Downtown Murfreesboro stop is located in densely built-up downtown, with a mixture of commercial and governmental uses within ¼ mile of the proposed stop. Within ¼ mile of the I-24/US 231 stop is mostly commercial development. While there is more commercial and some single family residential development within a 1-mile radius, the area surrounding this proposed stop also has a significant portion of undeveloped agricultural land.

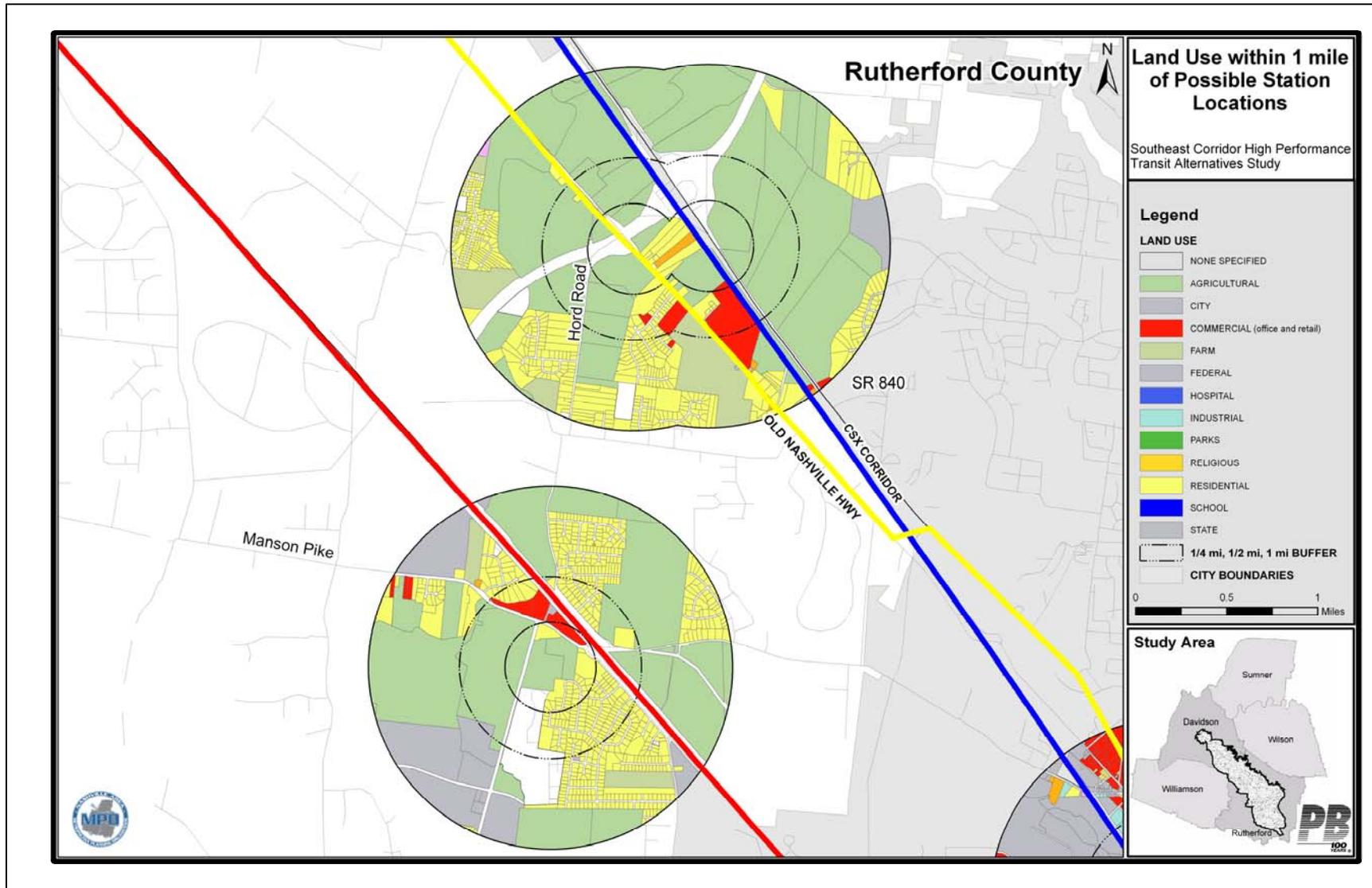


Figure 5A-6 Land use in the vicinity of Rutherford County between Smyrna and Murfreesboro

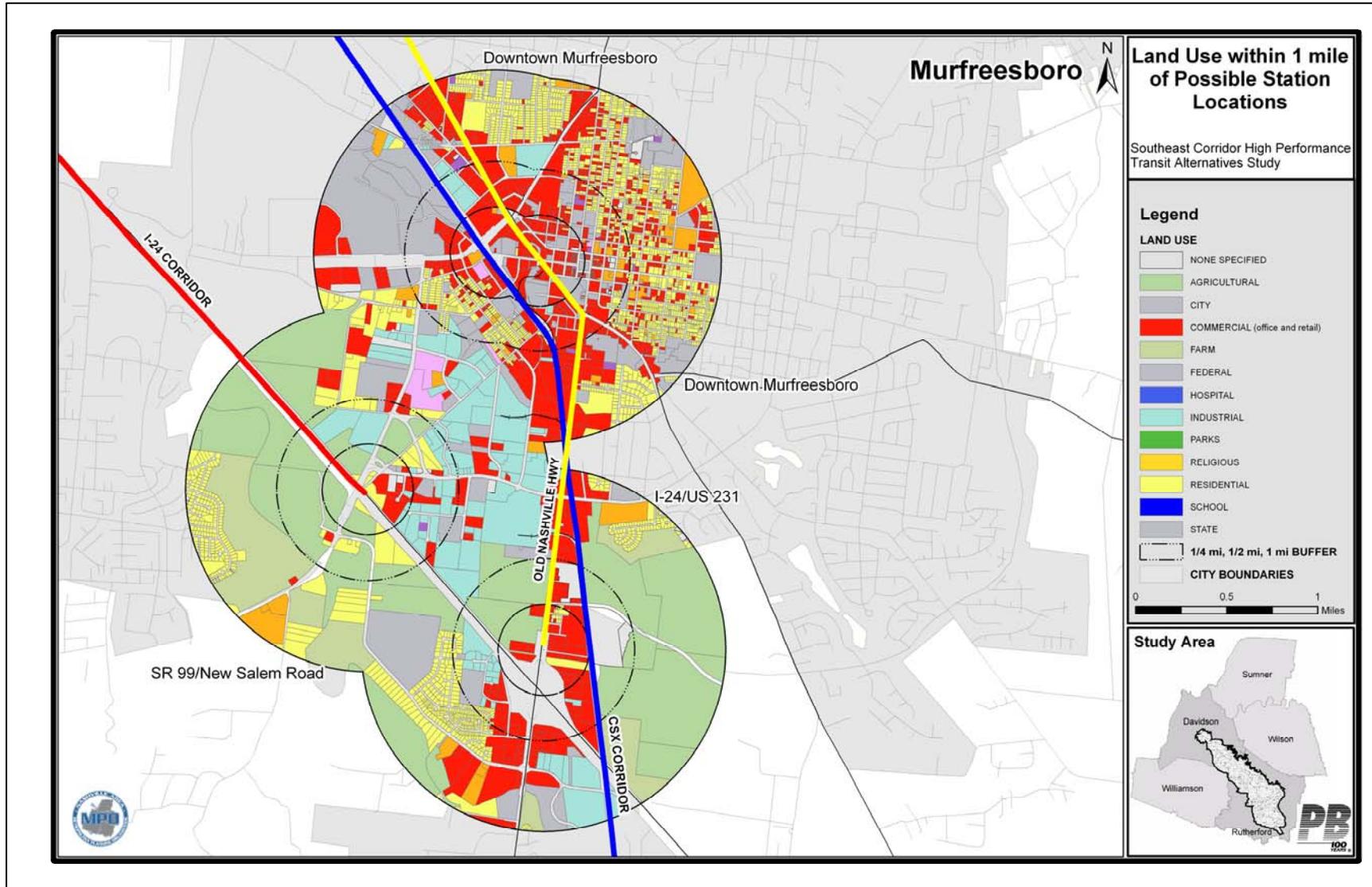


Figure 5A-7 Land use in the vicinity of Murfreesboro

***Appendix 5B – Environmental Inventory
Technical Memo***

Environmental Inventory Technical Memo

For the

Southeast Corridor High Capacity Transit Study Davidson and Rutherford Counties, Tennessee

Prepared for:

Nashville Area Metropolitan Planning Organization (MPO)
in cooperation with the
Federal Transit Administration (FTA)

Prepared by:



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Under Contract to:

Parsons Brinkerhoff Quade and Douglas

May 2005

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7. Environmental Justice - Northwest.....	Attached
8. Environmental Justice - Central	Attached
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10. Davidson County Soils	Attached
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1. Introduction

The Nashville Area Metropolitan Planning Organization (MPO), in cooperation with the Federal Transit Administration (FTA), is undertaking a High Capacity Transit Study for an area identified as the Southeast Corridor (Corridor), located between the Cities of Nashville and Murfreesboro, Tennessee. Three potential alignments for the corridor have been identified as providing transportation utility. The purpose of this Environmental Inventory Technical Memo is to analyze whether the use of these three corridors would pose environmental challenges.

To assess environmental issues, the location of environmental resources within the alignments and the laws and regulations that protect those resources were identified. Based on whether a resource is present, the potential future studies or permitting issues required to fully develop and analyze alternatives are identified. The information gathered for this study is based entirely on readily available published information, and while generalized, will assist in the development of alignment options that avoid or minimize impact to environmental resources.

The following environmental resource areas are discussed in this report:

- People and communities, including environmental justice populations;
- Parks and community facilities;
- Cultural and historic resources;
- Air quality;
- Noise;
- Hazardous Materials;
- Soils;
- Water resources, including surface and groundwater, wetlands, and floodplains; and
- Habitats, including sensitive habitats, wildlife refuges, and approximate locations of rare, threatened and endangered species habitats.

STUDY AREA DESCRIPTION

For purposes of developing the environmental inventory, the study area is assumed to be 2,000 feet-wide corridor centered on each of the three alignments. All three alignments are located within Davidson and Rutherford Counties, Tennessee, as shown on the Environmental Conditions Maps, and begin in downtown Nashville, Tennessee (Davidson County) and extend southeast to southern Murfreesboro, Tennessee (Rutherford County). Each alignment passes through the cities of Smyrna and LaVergne. The alignments are described as follows:

I-24 corridor - This alignment generally follows I-24 for its entire length between Nashville and Murfreesboro.

CSX corridor - This alignment generally follows an existing CSX railroad line between Nashville and Murfreesboro.

Murfreesboro Road corridor - This alignment generally follows U.S. Highway 41 and Old Nashville Highway southeast to the vicinity of Thompson Lane, then continues on Broad Street southeast to Route 231, ending in the vicinity of S. Rutherford Boulevard.

2. People and Communities

Overview

Communities in close proximity to proposed highway, rail lines, and other types of transportation facilities may bear the brunt of adverse impacts. Early identification of community characteristics will help to plan the transit improvement in a manner that minimizes impacts and can assist in developing public involvement approaches that allow meaningful input into the transportation planning process.

As defined by the United States Department of Transportation Order on Environmental Justice (USDOT Order), persons who are African-American, Hispanic, Asian, or Native American are considered minority. Persons whose income falls below the Health and Human Services Poverty Level are considered low-income. Minority populations are any readily identifiable groups of minority persons who live in geographic proximity. Likewise, low-income populations are any readily identifiable group of low-income persons who live in geographic proximity and geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity. Both minority and low-income populations are protected by the USDOT Order and the governing Executive Order 12898.

Laws/Regulations

Title VI of the 1964 Civil Rights Act: Decrees that federal funds may not be expended in a manner that discriminates on the basis of race, creed, sex, or age.

Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations: Requires federal agencies to consider environmental justice issues in their decision-making to ensure that their programs, policies, and activities do not have a disproportionate high and adverse effect on minority or low-income populations. The Executive Order is supportive of Title VI, but is a policy, not a law. The USDOT Order provides guidance on addressing environmental justice in the context of transportation planning.

Data Sources

- 2000 US Census Data: <http://factfinder.census.gov>
- Council on Environmental Quality:
<http://www.whitehouse.gov/CEQ>

Study Area Resources

All U.S. Census 2000 census block groups that touch the boundaries for each alignment were included in this study. The total population of the block groups is 199,388; approximately two-thirds of the total study area population lives in the Davidson County portion of the study area. The average income of the residents is \$42,244, and just over 10% of the population lives below poverty status.

The USDOT Order calls for identification of concentrations of environmental justice populations. However, the USDOT Order does not specify a method to identify minority or low-income populations.

The Council on Environmental Quality provides guidance on identifying environmental justice populations. It states that minority populations should be identified where the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis, which is determined on a project-specific basis. Low-income populations should be considered where a group of individuals living below the federal poverty status live in geographic proximity to one another. No specific criteria for identifying low-income population are given; the determination of criteria is project-specific. For the purpose of this preliminary screening study, any block group where the population exceeds 50% minority or where the percent of persons in poverty was double the study area average of 10.5% is identified as potentially containing an environmental justice population.

In the study area, 25 census block groups have a percent minority population that is more than 50%. These block groups occur in the cities of LaVergne and Smyrna, the area of Rutherford County between Smyrna and Murfreesboro, and in a small downtown area near the northern limit of the alignments. There are also small, scattered block groups with over 50% minority throughout the counties. The five block groups with the highest concentrations of minority populations are:

- Census Tract 147, Block Group 2 in Davidson County
- Census Tract 147, Block Group 3 in Davidson County
- Census Tract 403.02, Block Group 1 in Rutherford County
- Census Tract 147, Block Group 1 in Davidson County
- Census Tract 403.01, Block Group 2 in Rutherford County

The percent minority population in each of these block groups exceeds 90%. Note that one additional block group, Census Tract 404.01, Block Group 2 in Rutherford County also exceeds 90%.

The 26 block groups identified as potentially containing concentrations of low-income persons were located in the relatively rural area between Smyrna and Murfreesboro and in downtown Nashville near the northern limit of all three alignments. The five block groups with the highest percentages of persons in poverty are:

- Census Tract 403.02, Block Group 1 in Rutherford County
- Census Tract 147, Block Group 2 in Davidson County
- Census Tract 157, Block Group 1 in Davidson County
- Census Tract 147, Block Group 1 in Davidson County
- Census Tract 147, Block Group 3 in Davidson County

- The population in each of these block groups exceeded 50 percent persons in poverty.

Maps/Tables

- Table 1 – General Demographics
- Table 2 – Environmental Justice Population Areas

Future Studies/Issues

Future planning efforts must be conducted in a manner that complies with Title VI and is consistent with the principles of Executive Order 12898; key environmental justice issues would include:

- Consideration of equitable distribution of transit benefits amongst all communities served by the light rail system;
- Re-evaluation of demographics in the area; and
- Design of any public involvement or outreach programs to ensure full and fair participation of all populations.

TABLE 1 GENERAL DEMOGRAPHICS	
Population	199,388
Racial Distribution	
White	70.1%
African American or Black	18.5%
American Indian of Native Alaskan	0.3%
Asian	2.4%
Native Hawaiian or Other Pacific Islander	0.1%
Hispanic	6.5%
Other	2.2%
Total minority	29.9%
Median Household Income	\$42,244
Poverty Status	10.5%

Source: US Census 2000.

TABLE 2 ENVIRONMENTAL JUSTICE SCREENING RESULTS				
County	Census Tract	Block Group	Minority Population Greater than 50%	Percent Persons in Poverty Greater than 21%
Davidson	147	2	✓	✓
Davidson	147	3	✓	✓
Davidson	147	1	✓	✓
Davidson	191.14	1	✓	✓
Davidson	157	1	✓	✓
Davidson	159	3		✓
Davidson	158.01	2		✓
Davidson	158.02	1		✓
Davidson	174.01	1		✓
Davidson	174.01	2		✓

TABLE 2 ENVIRONMENTAL JUSTICE SCREENING RESULTS				
County	Census Tract	Block Group	Minority Population Greater than 50%	Percent Persons in Poverty Greater than 21%
Rutherford	430.02	1	✓	✓
Rutherford	403.01	2	✓	✓
Rutherford	404.01	2	✓	✓
Rutherford	403.02	4	✓	✓
Rutherford	408.04	3	✓	✓
Rutherford	408.03	2	✓	
Rutherford	404.01	1	✓	✓
Rutherford	413	1	✓	
Rutherford	417	2	✓	✓
Rutherford	417	3	✓	
Rutherford	409	1	✓	
Rutherford	404.04	2	✓	✓
Rutherford	403.02	3	✓	✓
Rutherford	408.03	1	✓	
Rutherford	412	2	✓	✓
Rutherford	403.02	2	✓	
Rutherford	402	1	✓	
Rutherford	409	2	✓	
Rutherford	401	2	✓	✓
Rutherford	417	1	✓	✓
Rutherford	416	2		✓
Rutherford	401	1		✓
Rutherford	418	1		✓
Rutherford	416	5		✓

Source: Census 2000

Note: Threshold for Percent Persons in Poverty is double the study area average of 10.5%

3. Parks and Community Facilities

Overview Parks and community facilities are present in the study area and serve both a local and regional population.

Laws/Regulations **Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303(c)):** Allows for publicly owned parks or recreation areas, wildlife or waterfowl refuges, or significant historic sites to be used for transportation purposes only if there is no feasible and prudent alternative to the use of land and the action includes all possible planning to minimize harm resulting from such use.

Data Sources

- Rand McNally Nashville/Hendersonville/Murfreesboro Street Guide (2005)
- Environmental Systems Research Institute (ESRI)

Study Area Resources

Cemeteries, schools, churches, local parks, and types of community facilities such as Nashville International Airport, are present throughout the study area. Concentrations of community facilities occur in downtown Nashville.

Maps/Tables

- Environmental Conditions Maps
- Table 3 – Community Facilities

Future Studies/Issues

Publicly-owned parks within the study area are protected under Section 4(f). For a project to receive USDOT funds, it must be demonstrated that all efforts to avoid use of parks has been taken, and that no prudent or feasible alternative exists.

TABLE 3 COMMUNITY FACILITIES			
RESOURCE	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Airports			
Nashville International Airport			✓
Smyrna Airport			✓
Cemeteries			
Baugh Cemetery	✓		
Benevolent Cemetery	✓	✓	✓
Calvary Cemetery	✓	✓	
City Cemetery			✓
Clark Cemetery			✓
Davis Cemetery	✓		
Hartman Cemetery	✓		
Mason Cemetery	✓		
Mount Olivet Cemetery	✓		
Mt. Ararat Cemetery	✓	✓	✓
Mullins Cemetery			✓
Murrell Cemetery			✓
National Cemetery		✓	
Reinhardt Cemetery			✓
Roselawn Memorial Garden		✓	
Sanford Cemetery	✓		
Seminary Cemetery		✓	
Washington Cemetery	✓		
Whitsett Cemetery	✓	✓	
Schools			
Antioch Middle School	✓	✓	
Cameron Middle School			✓
Draughons Junior College	✓		✓
Evangelical Temple Christian Academy	✓		
Howard School	✓	✓	
McFadden Elementary School		✓	
Mountain View Elementary School			✓
Napier Elementary School	✓		

**TABLE 3
COMMUNITY FACILITIES**

RESOURCE	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Nashville School of the Arts		◀	
Smyrna West Elementary School			◀
Stewartsbord Elementary School			◀
Tennessee School for the Blind	◀		
Trevecca Nazarene University	◀	◀	
Una Elementary School			◀
Woodbine Christian Academy		◀	
Churches			
Abiding Faith Lutheran Church			◀
All Saint's Episcopal Community Church		◀	
Arlington Church			◀
Brandon View Baptist Church			◀
Calvary Baptist Church		◀	
Christiana Church of Christ			◀
Claiborne Street Baptist Church		◀	
Cornerstone United Methodist Church			◀
Eastwood Church of the Prophecy		◀	
Ebenezer AME Church	◀		
Elders Chapel United Methodist Church		◀	
Fairfield Missionary Baptist Church	◀		
First Baptist Church			◀
First Baptist Church of LaVergne			◀
Florence Baptist Church		◀	
Florence Church of Christ			◀
Glencliff United Methodist Church	◀		
Glenwood Baptist Church			◀
Good Samaritan Baptist Church		◀	
Green Street Church of Christ	◀		
Hamilton Church			◀
Hart Street Church of Christ		◀	
Highland Heights Church of Christ		◀	
Holy Trinity Episcopal Church			◀
House of Faith Outreach Ministries		◀	
Humphrey Street United Methodist Church		◀	
Jesus Only Tabernacle		◀	
LaVergne Church of Christ			◀
Lindsley Avenue Church of Christ			◀
Little Mount Zion Baptist Church			◀
Love Freewill Baptist Church			◀
Meads Chapel		◀	
Messiah Baptist Church			◀
Mill Creek Church		◀	
Miracle Baptist Church		◀	◀
Morning Star Missionary Baptist Church		◀	
Mount Ararat Baptist Church			◀
Mount Lebanon Baptist Church		◀	
Mount View Church	◀		
Mount Zion Missionary Baptist Church		◀	

TABLE 3 COMMUNITY FACILITIES			
RESOURCE	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Murfreesboro Christian Church			◀
New Life Community Church			◀
Old Nashville Highway Church of Christ			◀
Pentecostal Church Nueva Vida	◀		
Phillips Chapel African Methodist Episcopal Church	◀		
Pioneer Church of God			◀
Prayer Temple Church of God in Christ		◀	
Providence Baptist Church			◀
Rural Hill Church			◀
Rural Hill Church of Christ			◀
Rutherford County Baptist Church		◀	
Saint James AME Church		◀	
Saint Luke's Catholic Church			◀
Saint Luke's Primitive Baptist Church	◀		
Saint Mark's Episcopal Church			◀
Saint Patrick's Catholic Church		◀	
Saint Paul's Church			◀
Seay Hubbard United Methodist Church			◀
Smyrna Assembly of God Church			◀
Smyrna Church of Christ		◀	
Smyrna Church of the Nazarene		◀	
Smyrna First United Methodist Church		◀	
South Gate Baptist Church			◀
South Nashville Church of God			◀
Southside Church of Christ		◀	
Spirit of Life Church			◀
Stone's River Community Church			◀
The Father's House	◀		
Trinity African Methodist Episcopal Church		◀	
Una Baptist Church			◀
Una Church of Christ			◀
Vultee Church of Christ			◀
Wat Buddharam Buddhist Temple			◀
Watson Chapel			◀
Woodbine Baptist Church		◀	
Woodbine Freewill Baptist Church		◀	
Parks and Recreational Areas			
Dudley Park		◀	
Fort Negley Park		◀	
Gregory Mill Recreation Area		◀	
LaVergne Park			◀
Napier Park	◀		◀
Old Fort Park		◀	
Paragon Mills Park	◀		
Riverfront Park	◀		
South Park	◀		
Stone's River Greenway Trail		◀	◀
Hospitals			

TABLE 3 COMMUNITY FACILITIES			
RESOURCE	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Central State Hospital		◀	
Metropolitan Nashville General Hospital		◀	
Smyrna Hospital	◀	◀	
Stonecrest Medical Center	◀	◀	
Points of Interest			
Cannonsburgh Village		◀	◀
Children's Museum		◀	
Country Music Hall of Fame	◀		
Cumberland Science Museum		◀	
Deberry Correctional Institute		◀	
First Center for the Visual Arts		◀	
Fort Nashborough	◀		
Fort Negley		◀	
Fortress Rosecrans		◀	
Greyhound Station		◀	
Indian Hills Golf Course		◀	
LaVergne Public Library			◀
Linebaugh Public Library			◀
Mary & Charles W. Pruitt Branch Library	◀		◀
Murfreesboro Fairgrounds		◀	◀
Murfreesboro Greyhound Station			◀
Murfreesboro Outlet Malls	◀		
Nashville Convention Center	◀		
Nashville Symphony	◀		
Nissan Motor Manufacturing Cooperation USA		◀	
Riverfront Station	◀		
Ryman Auditorium	◀		
Starwood Amphitheater			◀
Stones River Country Club		◀	◀
Stones River Country Club		◀	◀
Stones River National Battlefield		◀	◀
Tennessee Central Railway Museum	◀		
Tennessee State Fairgrounds	◀		
The Coliseum	◀		

4. Land Use

Overview

Land use indicates which areas may be sensitive to the environmental effects of transit projects.

Laws/Regulations None.

Data Sources	<ul style="list-style-type: none"> • Subarea 9 Master Plan Update (1997) • Gateway Partnership Plan (1999) • Southeast Community Plan (2004) • Antioch-Priest Lake Community Plan (2003) • Rutherford County Planning Department
Study Area Resources	Land use in the alignment areas includes residential, commercial, transportation, and open space areas. For the purposes of this preliminary study, the location of residential areas is highlighted on the Environmental Conditions Map as these indicate locations where community and noise issues may be of future concern.
Maps/Tables	<ul style="list-style-type: none"> • Environmental Conditions Maps (show residential areas only).
Future Studies/Issues	As the alternatives are refined and analyzed in more detail, local land-use planning issues would require input and coordination with the many jurisdictions present in the study area.

5. Cultural and Historic Resources

Overview	Cultural and historic resources are protected under several Federal laws. Early identification of resources facilitates avoidance and minimization of impacts as alignment options are refined.
Laws/Regulations	<p>Section 106 of the National Historic Preservation Act of 1966: Requires federal agencies to consider the effects of all of their undertakings on historic properties that are listed or determined eligible for the National Register of Historic Places.</p> <p>Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303(c): See discussion under Parks and Community Facilities, Section 3.</p> <p>Archaeological and Historic Preservation Act of 1974 (AHPA): The AHPA imposes requirements in addition to Section 106 on an agency if a project affects historic properties with archaeological value.</p> <p>Archaeological Resources Protection Act of 1979 (ARPA): If federal or Indian lands are involved, ARPA prohibits unauthorized excavation on those lands, establishes standards for permissible excavation, prescribes civil and criminal penalties, requires agencies to identify archaeological sites, and encourages cooperation between federal agencies and private individuals.</p> <p>American Indian Religious Freedom Act of 1978 (AIRFA): AIRFA promotes consultation with Indian religious practitioners on impacts to properties of traditional religious and cultural importance</p>

to an Indian tribe or Native Hawaiian organization.

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA):

For activities on federal lands, NAGPRA requires consultation with "appropriate" Indian tribes (including Alaska Native villages) or Native Hawaiian organizations prior to the intentional excavation, or removal after inadvertent discovery, of several kinds of cultural items, including human remains and objects of cultural patrimony.

Data Sources

- Site Files and Inventory Maps, Tennessee Division of Archaeology
- Site Files and Inventory Maps, Tennessee Historical Commission
- Nashville Metro Historical Commission, Inventory of Local Historic Sites

Study Area Resources

To identify resources on or eligible for the NRHP past studies and local inventories conducted by the Tennessee Historical Commission (THC), the Nashville Metropolitan Historical Commission (MHC), and the Tennessee Department of the Environment and Conservation, Division of Archaeology (DofA) were reviewed. Although only small portions of the study area have been systematically surveyed, a number of historic districts, structures, sites, and archaeological sites on or eligible for the NRHP are known to exist within the alignment corridors, as shown in Tables 4, 5, and 6.

Of the 24 archaeological sites within the three alignment study areas, six have been assessed for eligibility and/or listed on the National Register of Historic Places (NRHP), according to the archaeological site files at the Division of Archaeology. Two sites are not eligible for the NRHP and four archaeological sites are listed on the NRHP. The listed sites are associated with structures that are also listed on the NRHP (such as the Jenkins House and the Primitive Baptist Church). Nineteen of the archaeological sites identified in the study area have not been assessed for eligibility to the NRHP. All three corridors contain approximately equal numbers of historical and archaeological resources.

Maps/Tables

- Table 4 – National Register Listed Historic Sites
- Table 5 – Potential National Register Eligible Historic Sites
- Table 6 – Archaeological Sites

Future Studies/Issues

Preliminary research indicates that the study area may include numerous sites that have yet to be identified as eligible for the NRHP. For example, architectural surveys (such as a 1986 survey conducted by the MHC) resulted in the identification of over 100 structures greater than 50 years old in the Study Area, primarily along Old Murfreesboro Pike. Few of these structures have been assessed for National Register eligibility. Future studies would require additional research and would likely entail Section 106 and Section 4(f) coordination during project development.

TABLE 4 NATIONAL REGISTER LISTED HISTORIC SITES			
National Register Listed Historic Sites	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Cummins Station		✓	
Ellis Garage Service Station			✓
Elm Street United Methodist Church			✓
Fort Negley		✓	
Fortress Rosecrans		✓	
Geddes Engine Company No. 6	✓		✓
Hays-Kiser House		✓	
Holy Trinity Church		✓	✓
Hubbard House			✓
Jenkins House	✓		
Lindsey Avenue Church of Christ			✓
Litterer Laboratory	✓		✓
Nashville Children's Museum	✓		
Nashville City Cemetery		✓	✓
Nashville Union Station		✓	
Primitive Baptist Church			✓
Rutherford County Courthouse			✓
Rutledge Hill District	✓		
St. Patrick's Catholic Church		✓	
Stones River National Battle Field		✓	✓

Source: Tennessee Historical Commission, Map Files

TABLE 5 POTENTIAL NATIONAL REGISTER ELIGIBLE HISTORIC SITES			
Potential National Register Eligible Historic Sites	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Buchanan Tavern			✓
Merritt House		✓	
Mill Creek Cemetery	✓	✓	
Mount Ararat Cemetery	✓		✓
Mount Olivet Cemetery	✓		
Second Avenue South Historic Area	✓		
Trevecca Nazarene College			✓
Trolley Barns at Rolling Mill Hill	✓		

Source: Nashville Metro Historic Commission

TABLE 6 ARCHAEOLOGICAL SITES					
Name	Number	National Register Eligibility Status	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Rain's Station	40DV114	Not assessed		✓	
	1 40RD239	Not assessed		✓	✓
Blockhouse A	40RD190	Not assessed			✓
Blockhouse No. 4 - Hurricane	40RD188	Not assessed		✓	
Blockhouse No. 6 - Stewart	40RD189	Not assessed		✓	
Elm Street Methodist Church	40DV376	Listed			✓
HH-H1	40DV501	Not assessed	✓		
Historic Stone Carving on Stones River	40RD184	Not assessed		✓	✓
Hord House "The Brick Hospital"	40RD181	Not assessed			✓
Jenkins House	40RD226	Listed	✓		
Literary Department Building	40DV371	Listed	✓		
Mill Creek Baptist Church and Cemetery	40DV491	Not assessed	✓	✓	
Mill Creek Trestle Post 2	40DV394	Not assessed		✓	
NTF-07	40DV580	Not assessed			✓
Primitive Baptist Church	40DV378	Listed			✓
Ryan Site	40RD77	Not eligible			✓
Ryman House Site	40DV167	Not assessed	✓		
Stones River Battlefield	40RD177	Not assessed			✓
Unnamed	40DV402	Not assessed			✓
Unnamed	40DV540	Not assessed		✓	
Unnamed	40RD179	Not assessed		✓	
Unnamed	40RD194	Not assessed		✓	
Unnamed	40RD21	Not eligible			✓
Unnamed	40RD68	Not assessed			✓

Source: Tennessee Department of Environment and Conservation, Division of Archaeology, Archaeological Site Maps and Files

6. Air Quality

Overview

Air quality is an important health issue in the United States. Transportation projects such as the Southeast Corridor High Capacity Transit project have the potential to affect the overall air quality in the region.

Laws/Regulations

Federal Clean Air Act and Revisions: The Federal Clean Air Act (CAA) sets the National Ambient Air Quality Standards (NAAQS). This regulation establishes a national permits program and an enforcement program to help states ensure compliance with the Act. If a region does not meet the NAAQS its regional council/association of governments is required to develop a State Implementation Plan (SIP) to demonstrate how it will meet these standards. The SIP includes a long-range forecast of all activities that contribute to air emissions, including transportation activities. New transportation projects for any region with a SIP must undergo a transportation conformity evaluation, which is a way to ensure that federal funding and approval are given only to those transportation activities that are consistent with air quality goals. It ensures that these transportation activities do not worsen air quality or interfere with the "purpose" of the SIP, which is to meet the NAAQS. Meeting the NAAQS often requires emissions reductions from mobile sources, such as cars, buses, trucks, and trains. According to the CAA, transportation plans, programs, and projects cannot:

- Create new NAAQS violations;
- Increase the frequency or severity of existing NAAQS violations; or
- Delay attainment of the NAAQS.

Data Sources

- US EPA Green Book
- Federal Highway Administration (FHWA), in cooperation with the Federal Transit Administration (FTA) and the Environmental Protection Agency (EPA), 2001 *Transportation Conformity Reference Guide* posted at http://www.fhwa.dot.gov/environment/conformity/ref_guid/sectiona.htm#whatconf.

Study Area Resources	The Nashville MPO region, which includes Davidson and Rutherford counties, does not meet NAAQS and is designated as a “non-attainment area” for the 8-hr ozone standard by the US EPA. The Nashville MPO monitors air quality throughout the area. Two monitoring stations are located within the study area: Trevecca Nazarene College and Wright Middle School. However, these stations do not monitor for ozone, the pollutant of concern. To determine recent air quality in the study area, data was obtained from the Tennessee Department of Environment and Conservation (TDEC). The monitoring sites closest to the study area that monitor ozone are located at East Nashville Health Center and Percy Priest Dam, which are both in Davidson county. Data indicated that the eight-hour ozone standard was violated at Percy Priest Dam twice in 2001, three times in 2000, and fifteen times in 1999. The eight-hour ozone standard was violated nine times in 1999 at the East Nashville Health Center, but has not violated thereafter.
Maps/Tables	None
Future Studies/Issues	This project is not currently included in the Nashville MPO Transportation Improvement Program, a key input to the SIP. Should the project proceed to additional levels of study, a transportation conformity analysis would be required. Demonstrating conformity for transit projects is unlikely to pose problems as transit projects generally improve or minimize growth in automobile travel, a major source of air emissions. However, new transit construction is not exempt from transportation conformity analysis, and therefore it must be shown that the proposed project would be in conformance with the SIP.

7. Noise

Overview	High levels of noise can adversely affect facilities or resources that are “sensitive noise receptors,” such as schools, churches, libraries, hospitals, historic sites, and residential areas, for example. Transportation projects may increase noise in some areas to levels that are considered harmful to human health and well-being.
Laws/Regulations	Noise Control Act of 1972: Initial legislation that allowed US EPA to identify noise exposure standards and coordinate activities of other federal agencies to achieve these standards.
Data Sources	<ul style="list-style-type: none"> • FTA Transit Noise and Vibration Impact Assessment Manual • GIS mapping for Rutherford and Davidson counties

Study Area Resources	FTA identifies noise-sensitive land use categories and determines the appropriate noise impact criteria for each of the land use categories. In the study area, noise-sensitive land uses include residential areas, areas with churches, parks, and golf courses, and historic sites. Residential areas of varying size and density occur throughout the study area, but urbanized areas around Nashville and Murfreesboro contain extensive residential areas. Noise sensitive receptors are most predominant in the CSX and Murfreesboro Pike corridors. Other noise sensitive land uses are identified in Sections 3 and 4.
Maps/Tables	<ul style="list-style-type: none"> • Environmental Conditions Maps • Tables 3 through 6, above.
Future Studies/Issues	FTA's general guidance on noise for light rail systems indicates that areas within 100 feet of the centerline should be screened for noise sensitive land uses. No permit programs address noise impacts, but to obtain approval of a project using Federal funds, noise and mitigation must be thoroughly explored.

8. Hazardous Materials

Overview	Properties where hazardous materials are generated or stored may be contaminated. If contained and stable, there is low risk of a release that would adversely affect human health and safety. However, construction projects have the potential to disturb hazardous sites, thus increasing risk of a release.
Laws/Regulations	<p>Comprehensive Environmental Response and Liability Act (CERCLA) Innocent Landowner Defense: Provides protection for a landowner of contaminated property, including those listed on the National Priority List (NPL), if he or she demonstrates that they:</p> <ul style="list-style-type: none"> • Cooperated and gave access to the property to those conducting response actions; • Complied with appropriate land use restrictions; • Did not impede the effectiveness of any institutional controls; • Took all reasonable steps to stop any continuing release or harm to the environment, and; • Conducted all appropriate inquiry into the previous ownership and uses of the property in accordance with generally accepted practices and the federal standards for environmental site assessments to be established in regulations adopted by the US EPA. <p>Resource Conservation and Recovery Act: Gives EPA the authority to control hazardous materials generation, transportation, treatment, storage, and disposal. The Resource Conservation and Recovery Act Information System (RCRIS) is an inventory of sites</p>

that manage hazardous materials.

Data Sources

- USEPA’s Enviromapper website:
http://www.epa.gov/enviro/html/em/index.html.
- USEPA’s Envirofacts Data Warehouse:
http://www.epa.gov/enviro/.

Study Area Resources

Based on review of RCRIS, CERCLIS, and NPL data, two CERCLIS sites and 39 RCRIS facilities are located within the study area corridors. All three corridors contain approximately equal numbers of facilities.

Maps/Tables

Environmental Conditions Maps
Table 7 – CERCLIS Facilities
Table 8 – RCRIS Facilities

Future Studies/Issues

Future studies would include detailed investigations to determine potential for a hazardous material site.

TABLE 7 CERCLIS Facilities						
Facility	Address	County	Current Status	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Rosebank Dump	Rosebank Drive, Murfreesboro	Rutherford	Landfill operated until 1964, groundwater contamination noted onsite.		✓	✓
TVA Nashville Garage	730 Lebanon Road, Nashville	Davidson	No information available.	✓		

Source: Envirofacts 2005.

TABLE 8 RCRIS FACILITIES						
Facility	Address	Handler Type	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor	
EZ Packaging Graphics	1160 Park Avenue, Murfreesboro	Large-quantity generator		✓		
OMC Murfreesboro	880 Butler Road, Murfreesboro	Large-quantity generator		✓		
Clopay Plastic Products	Harding Industrial Drive, Nashville	Large-quantity generator		✓		
Metropolitan Development and Housing Agency	1501 Murfreesboro Road, Nashville	Large-quantity generator			✓	

**TABLE 8
RCRIS FACILITIES**

Facility	Address	Handler Type	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Nashville Wire Products, Inc.	Driftwood Avenue, Nashville	Large-quantity generator	✓		
US General Services Administration	Broadway, Nashville	Large-quantity generator		✓	
United Power Services, Inc.	Fesslers Parkway, Nashville	Large-quantity generator	✓		
Alexander Ford Lincoln Mercury, Inc.	1550 NW Broad Street, Murfreesboro	Small-quantity generator			✓
Courier Printing Company, Inc.	1 Courier Place, Smyrna	Small-quantity generator	✓		
General Electric Industrial Systems, Inc.	2150 Northwest Broad Street, Murfreesboro	Small-quantity generator			✓
Heritage Olds-Cadillac	2250 Northwest Broad Street, Murfreesboro	Small-quantity generator			✓
Smyrna Land Company, Ltd.	Highway 41 and Sam Ridley Parkway, Smyrna	Small-quantity generator		✓	
Trico Products Corporation of Tennessee	8100 Tridon Drive, Smyrna	Small-quantity generator	✓		
Univar USA, Inc.	912 Dashiell Street, Murfreesboro	Small-quantity generator		✓	
Clean Harbors Antioch, LLC	1640 Antioch Pike, Antioch	Small-quantity generator/ Treatment-Storage-Disposal (TSD) facility		✓	
Commercial Laminations, Inc.	Murfreesboro Road, Antioch	Small-quantity generator			✓
Commercial Painting, Inc.	Herron Drive, Nashville	Small-quantity generator		✓	
Harcros Chemicals, Inc.	Poplar Lane, Nashville	Small-quantity generator	✓		
MAACO Auto Painting and Body Works	Hickory Hollow Parkway, Antioch	Small-quantity generator	✓	✓	
Metalworking Products	Teledyne Place, LaVergne	Small-quantity generator		✓	
Mike Nacarato GMC	Polk Avenue, Nashville	Small-quantity generator			✓
Mr. C's Cleaners	Murfreesboro Road, Nashville	Small-quantity generator			✓
Roadway Express, Inc.	Franklin Limestone Road, Antioch	Small-quantity generator		✓	
The Sherwin Williams Company #2242	Drexel Street, Nashville	Small-quantity generator		✓	
VW of Nashville	Murfreesboro Road, Nashville	Small-quantity generator	✓		✓
York International Corporation	Linbar Drive, Suite 301, Nashville	Small-quantity generator	✓		
York International Corporation	Linbar Drive, Suite 306, Nashville	Small-quantity generator	✓		

Source: Envirofacts 2005.

Notes: Small-quantity generators produce between 100 and 1,000 kilograms of Hazardous Materials each month, which is hauled offsite by a certified hauler. Large-quantity generators produce over 1,000 kilograms of Hazardous Materials each month, which is hauled offsite by a certified hauler. Treatment-storage-disposal (TSD) facilities treat, store, or dispose of waste on-site.

9. Soils

Overview Soil characteristics influence habitat, water resources, and land use. For example, certain soil types are optimal for agriculture, while other soil types pose challenges for construction.

Laws/Regulations **Farmland Protection Policy Act of 1981 (FPPA):** Identifies the nation's farmland as a unique and valuable resource warranting protection from unnecessary and irretrievable conversion to non-agricultural use. The FPPA authorizes the United States Department of Agriculture (USDA) to review any federal action that would use prime, unique, or other special agricultural lands (not already converted to urban or water storage uses) to ensure that all measures have been taken to avoid or minimize use of these lands. The Natural Resources Conservation Service (NRCS) established the physical, chemical, and use criteria for prime and unique farmland soils.

Data Sources

- Soil Survey for Davidson County, Tennessee
- Soil Survey for Rutherford County, Tennessee

Study Area Resources

The study area is associated with several general soil series and associations. In Davidson County, most of the soils in the study area formed in material weathered from the underlying limestone bedrock. Near downtown Nashville, the alignments pass through soils in the Maury-Urban Land-Armour and the Stiversville-Hampshire-Urban Land series. As the alignments move southeast towards Rutherford County, they began to pass through soils in the Talbott-Rock Outcrop series. In Rutherford County, the soils formed relative to the location of ridges, hills, and floodplains. The general soil associations in the LaVergne and Smyrna areas are Rock Outcrop-Talbot-Barfield and Bradyville-Lomond-Talbot, respectively. As the alignments move towards Murfreesboro, the soil associations are varied between Rock Outcrop-Talbot-Barfield and Bradyville-Lomond-Talbot and two more soil associations: Lomond-Cumberland and Roellen-Tupelo-Capshaw.

Soils that are characterized as prime farmland exist within the study area and currently support agricultural practices. Also, soils that pose constructability challenges exist in the study area. Table 9 indicates which soil series are considered prime farmland or have limitations for construction.

Maps/Tables

- Table 9- Soil Properties.
- Rutherford County Soil Map.
- Davidson County Soil Map.

Future Studies/Issues

If Prime Farmland soils are being used for agricultural purposes, coordination with the Natural Resources Conservation Service will be necessary if the soils would be impacted.

TABLE 9 SOIL PROPERTIES		
Soil Series	Prime Farmland*	Degree of Limitation for Construction
Davidson County		
Armour silt loam, 2 to 5 percent slopes (AmB)	Yes	Moderate: low strength
Armour silt loam, 5 to 12 percent slopes (AmC)	No	Moderate: slope, low strength
Armour silt loam, 5 to 15 percent slopes, severely eroded (AmC3)	No	Moderate: slope, low strength
Arrington silt loam (Ar)	No	Severe: floods
Barfield-Rock outcrop complex, 5 to 20 percent slopes (BbD)	Yes	Severe: depth to rock, shrink-swell
Barfield-Rock outcrop complex, 20 to 35 percent slopes (BbE)	No	Severe: slope, depth to rock, shrink-swell
Baxter cherty silt loam, 3 to 12 percent slopes (BcC)	No	Severe: low strength
Baxter cherty silt loam, 12 to 20 percent slopes (BcD)	No	Severe: slope, low strength
Beason silt loam (Be)	Yes	Severe: floods
Bodine cherty silt loam, 5 to 20 percent slopes (BoD)	No	Moderate: slope
Bodine-Sulphura complex, 20 to 50 percent slopes (BsE)	No	Severe: slope
Bradyville silt loam, 2 to 5 percent slopes (BvB)	Yes	Severe: low strength
Byler silt loam, 2 to 5 percent slopes (ByB)	Yes	Moderate: Low strength
Capshaw silt loam, 2 to 5 percent slopes (CaB)	Yes	Severe: low strength
Dellrose cherty silt loam, 12 to 20 percent slopes (DeD)	No	Severe: slope
Dellrose cherty silt loam, 20 to 40 percent slopes (DeE)	No	Severe: slope
Dickerson silt loam, 1 to 4 percent slopes (DkB)	Yes	Moderate: low strength
Egam silty clay loam (Eg)	Yes	Severe: floods, low strength
Gladville flaggy silty clay loam, 5 to 15 percent slopes (GdC)	No	Severe: depth to rock
Hampshire silt loam (HmC)	No	Severe: low strength
Hampshire silt loam, 12 to 20 percent slopes (HmD)	No	Severe: slope, low strength
Humphreys cherty silt loam, 1 to 4 percent slopes (HuB)	Yes	Moderate: low strength
Lindell silt loam (Ld)	Yes	Severe: floods
Lindell-Urban land complex (Ln)	No	Severe: floods
Lomond silt loam, 2 to 5 percent slopes (LoB)	Yes	Moderate: low strength

TABLE 9 SOIL PROPERTIES		
Soil Series	Prime Farmland*	Degree of Limitation for Construction
Maury silt loam, 2 to 7 percent slopes (MaB)	Yes	Moderate: low strength
Maury silt loam, 7 to 20 percent slopes (MaC)	No	Moderate: slope, low strength
Maury-Urban land complex, 2 to 7 percent slopes (McB)	No	Moderate: low strength
Mimosa silt loam, 2 to 12 percent slopes (MmC)	No	Severe: low strength
Mimosa silt loam, 12 to 25 percent slopes (MmD)	No	Severe: slope, low strength
Mimosa silty clay, 12 to 25 percent slopes, severely eroded (MoE3)	No	Severe: slope, low strength
Mimosa-Rock outcrop complex, 5 to 20 percent slopes (MrD)	No	Severe: low strength
Mimosa-Rock outcrop complex, 20 to 35 percent slopes (MrE)	No	Severe: slope, low strength
Mimosa-Urban land complex, 5 to 25 percent slopes (MsD)	No	Severe: slope, low strength
Mountview silt loam, 3 to 10 percent slopes (MvC)	Yes	Moderate: low strength
Newark silt loam (Ne)	Yes	Severe: floods, frost action, wetness
Ocana cherty silt loam (Oc)	Yes	Moderate: floods
Pits (Pt)	No	
Rock outcrop-Talbot complex, 5 to 15 percent slopes (RtC)	No	Severe: low strength
Sequatchie fine sandy loam (Se)	Yes	Moderate: low strength
Stemley cherty silt loam, 3 to 12 percent slopes (SmC)	Yes	Moderate: low strength
Stiversville loam, 3 to 12 percent slopes (StC)	Yes	Moderate: low strength
Stiversville loam, 12 to 25 percent slopes (StD)	No	Severe: slope
Stiversville-Urban land complex, 3 to 25 percent slopes (SvD)	No	Moderate: slope, low strength
Taft silt loam (Ta)	No	Severe: wetness
Talbot silt loam, 2 to 10 percent slopes (TbC)	Yes	Severe low strength
Talbot clay, 5 to 15 percent slopes, severely eroded (TcC3)	No	Severe: low strength
Talbot-Rock outcrop complex, 5 to 15 percent slopes (TrC)	No	Severe: low strength
Talbot-Urban land complex, 3 to 12 percent slopes (TuC)	No	Severe: low strength
Wolftever silt loam (Wo)	Yes	Severe: floods
Rutherford County		
Armour silt loam, 0 to 2 percent slopes (AmA)	Yes	Moderate: low strength
Armour silt loam, 2 to 5 percent slopes (AmB)	Yes	Moderate: low strength

**TABLE 9
SOIL PROPERTIES**

Soil Series	Prime Farmland*	Degree of Limitation for Construction
Armour silt loam, 5 to 12 percent slopes (AmC)	No	Moderate: low strength
Arrington silt loam (Ar)	Yes	Severe: flooding
Ashwood silty clay loam, 5 to 12 percent slopes (AsC)	No	Severe: low strength; shrink-swell
Barfield silty clay loam, 1 to 8 percent slopes (BaC)	No	Severe: depth to rock
Bradyville silt loam, 0 to 2 percent slopes (BrA)	Yes	Severe: low strength
Bradyville silt loam, 2 to 5 percent slopes (BrB)	Yes	Severe: low strength
Bradyville silt loam, 5 to 12 percent slopes, eroded (BrC2)	No	Severe: low strength
Bradyville silty clay loam, 2 to 5 percent slopes, severely eroded (BsB3)	No	Severe: low strength
Bradyville silty clay loam, 5 to 12 percent slopes, severely eroded (BsC3)	No	Severe: low strength
Bradyville-Rock outcrop, 0 to 2 percent slopes (BtA)	No	Severe: depth to rock; low strength
Bradyville-Rock outcrop, 2 to 12 percent slopes (BtC)	No	Severe: depth to rock; low strength
Bradyville-Urban land complex (Bu)	No	Severe: low strength
Byler silt loam, 2 to 5 percent slopes (ByB)	Yes	Moderate: low strength
Capshaw silt loam, 2 to 5 percent slopes (CpB)	Yes	Severe: low strength
Cumberland silt loam, 0 to 2 percent slopes (CuA)	Yes	Moderate: low strength
Cumberland silt loam, 2 to 5 percent slopes (CuB)	Yes	Moderate: low strength
Cumberland silt loam, 5 to 12 percent slopes, eroded (CuC2)	No	Moderate: low strength
Cumberland silty clay loam, 5 to 12 percent slopes, severely eroded (CvC3)	No	Moderate: low strength
Dellrose cherty silt loam, 5 to 12 percent slopes (DeC)	Yes	Moderate: slope
Dilton-Rock outcrop complex (Df)	No	Severe: flooding; wetness; low strength
Eagleville silty clay loam (Ea)	Yes	Severe: flooding; wetness
Egam silt loam (Eg)	Yes	Severe: flooding; low strength
Gladeville-Rock outcrop-Talbott association, rollin (GRC)	No	Severe: depth to rock
Gullied land (Gu)	No	Too variable for interpretation
Hampshire silt loam, 2 to 5 percent slopes (HaB)	No	Moderate: low strength
Hampshire silt loam, 5 to 12	Yes	Moderate: low strength

**TABLE 9
SOIL PROPERTIES**

Soil Series	Prime Farmland*	Degree of Limitation for Construction
percent slopes, eroded (HaC2)		
Hampshire silt loam, 12 to 20 percent slopes, eroded (HaD2)	No	Moderate: slope; low strength
Hampshire silty clay loam, 5 to 12 percent slopes, severely eroded (HbC3)	No	Moderate: low strength
Hampshire silty clay loam, 12 to 20 percent slopes, severely eroded (HbD3)	No	Moderate: slope; low strength
Harpeth silt loam, 0 to 2 percent slopes (HcA)	Yes	Moderate: low strength
Harpeth silt loam, 2 to 5 percent slopes (HcB)	Yes	Moderate: low strength
Hillwood gravelly silt loam, 2 to 12 percent slopes (HgC)	No	Slight
Inman flaggy silt loam, 5 to 12 percent slopes (ImC)	No	Severe: low strength
Lomond silt loam, 0 to 2 percent slopes (LoA)	Yes	Moderate: low strength
Lomond silt loam, 2 to 5 percent slopes (LoB)	Yes	Moderate: low strength
Lynnville silt loam (Ly)	Yes	Severe: flooding
Mimosa-Rock outcrop complex, 5 to 20 percent slopes (MrD)	No	Severe: rock outcrop; low strength; slope; shrink-swell
Mimosa-Rock outcrop complex, 20 to 40 percent slopes (MrE)	No	Severe: rock outcrop; low strength; slope; shrink-swell
Nesbitt silt loam, 0 to 2 percent slopes (NeA)	Yes	Moderate: low strength
Nesbitt silt loam, 2 to 5 percent slopes (NeB)	Yes	Moderate: low strength
Pits and Dumps (Pd)	No	Too variable for interpretation
Sandhill channery loam, 12 to 20 percent slopes (SaD)	No	Moderate: slope
Stiversville silt loam, 2 to 5 percent slopes (StB)	Yes	Moderate: low strength
Stiversville silt loam, 5 to 12 percent slopes (StC)	No	Moderate: low strength
Stiversville silt loam, 12 to 20 percent slopes (StD)	No	Moderate: slope
Stiversville silt loam, 20 to 40 percent slopes (StE)	No	Severe: slope
Talbott silt loam, 0 to 2 percent slopes (TaA)	No	Severe: low strength; shrink-swell
Talbott silt loam, 2 to 5 percent slopes, eroded (TaB2)	No	Severe: low strength; shrink-swell
Talbott silt loam, 5 to 12 percent slopes, eroded (TaC2)	No	Severe: low strength; shrink-swell; slope
Talbott silty loam, 2 to 5 percent slopes, severely eroded (TbB3)	No	Severe: low strength; shrink-swell
Talbott silty loam, 5 to 12 percent slopes, severely eroded (TbC3)	No	Severe: low strength; shrink-swell; slope

TABLE 9 SOIL PROPERTIES		
Soil Series	Prime Farmland*	Degree of Limitation for Construction
Talbot-Barfield-Rock outcrop complex, 2 to 12 percent slopes (TrC)	No	Severe: depth to rock; low strength; shrink-swell
Woodmont silt loam (Wo)	No	Moderate; wetness; low strength

*Corridor-specific data not available

10. Water Resources

Overview Surface water resources include streams, floodplains, and wetlands; groundwater resources include shallow groundwater and deep aquifers. Surface and groundwater may be affected by temporary construction activities and permanent changes to the landforms within the system.

Laws/Regulations **Clean Water Act (CWA):** Forms the foundation for the federal government's authority to regulate use of water resources.

Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101): Requires the Tennessee Department of Environment and Conservation, Division of Water Pollution Control to analyze and report on water quality throughout the State of Tennessee. This analysis includes biological community surveys and identification of contaminant levels in sediment and fish. This act also outlines the requirements for obtaining National Pollutant Discharge Elimination System (NPDES) permits for discharges to waterways and Aquatic Resource Alteration permits for any alteration of state waters and wetlands that may not require a federal permit.

Federal Wild and Scenic Rivers Act: Identifies the rivers of the United States, or portions of them and their related land areas that possess outstanding scenic, geologic, ecologic, historic, recreational, agricultural, fish, wildlife, cultural, and other similar resource values.

Laws/Regulations **Tennessee Scenic Rivers Act (TCA 11-13-101):** Identifies the rivers and streams classified by the State of Tennessee as State Scenic Rivers. The goals of the Scenic Rivers Program are to preserve valuable river segments in their free flowing natural or scenic conditions and to protect their water quality.

Data Sources

- Federal Clean Water Act.
- Federal Wild and Scenic Rivers Act.
- Tennessee Water Quality Control Act of 1977.
- Tennessee Scenic Rivers Act.
- United States Geological Survey (USGS).
- National Wetland Inventory (NWI) Map for Antioch, Dillton, LaVergne, Nashville East, Nashville West, Murfreesboro, Smyrna, and Walterhill.
- Q3 Flood Data for Rutherford County and Davidson County, Tennessee.
- Ground Water Atlas of the United States: Illinois, Indiana, Kentucky, Ohio, Tennessee; HA 730-K.

Study Area Resources

The study area lies within the Lower Cumberland River Watershed, which includes streams, lakes, significant wetland areas, and floodplains, and which ultimately drains to the Ohio River. Multiple water resources exist within the study area, as shown in the Environmental Conditions Maps, and include wetlands and streams as mapped by the U.S. Fish and Wildlife Service's National Wetland Inventory (NWI). The Environmental Conditions Maps illustrate floodplains within the study area as mapped by the Federal Emergency Management Agency (FEMA).

Streams: There are numerous streams and tributaries that flow within and through the study area. The study area lies within the watersheds of two main rivers, the Lower Cumberland River in the northwest portion of the corridor, and the West Fork Stones River in the southeast portion of the corridor. Two major tributaries of the Lower Cumberland River are within the study area, Browns Creek and the Upper and Lower portions of Mill Creek.

NWI streams (and thus floodplains) are present in all three alignments, but are most prevalent in the Northeast and Southwest portions of the alignments. All three corridors cross roughly equal numbers of streams and floodplains.

The Tennessee Department of Environment and Conservation classifies the uses of the streams within the Cumberland River Basin. The portion of the Cumberland River that receives drainage from many of the streams within the study area was designated for uses supporting domestic water supply (DWS), industrial water supply (IWS), fish and aquatic life (FAL, excluding trout), recreation (REC), livestock watering and wildlife (LWW), irrigation (IRR), and navigation (NAV). Mill Creek was designated for use as FAL (excluding trout), REC, LWW, IRR, and a portion of it is used as IWS. West Fork and Middle Fork Stones River were designated for uses supporting DWS, IWS, FAL (excluding trout), REC, LWW, and IRR. Hurricane Creek, Stewart Creek, Harts Branch, Overall Creek, and Lytle Creek were designated for use as supporting FAL (excluding trout), REC, LWW, and IRR.

Wetlands: The NWI Maps for Antioch, Dillton, LaVergne,

Nashville East, Nashville West, Murfreesboro, Smyrna, and Walterhill, Tennessee indicate the presence of many non-tidal wetlands throughout the study area corridor. The majority of these wetlands are palustrine open water (POW) wetlands. They are predominantly man-made and created for agricultural purposes. The remaining wetlands are designated as palustrine emergent (PEM), palustrine forested (PFO), and palustrine scrub/shrub (PSS); these wetlands generally occur along floodplains of the various streams that flow through the study area. The Nashville area has the lowest density of wetlands within the study area. In relative terms, NWI wetlands are most prevalent in the I-24 corridor and least prevalent in the Murfreesboro Pike corridor.

Floodplains: Portions of the 100-year floodplains of Cumberland River, Brown's Creek, Mill Creek, Seven Mile Creek, Sorghum Branch, Whittimore Branch, Collins Creek, East and West Branch Hurricane Creek, Finch Branch, Harts Branch, Rock Springs Branch, Olive Branch, Stewart Creek, Overall Creek, West Fork Stones River, Lytle Creek, and Middle Fork Stones River are present within the study area. See also the discussion in Streams, above.

Trout Streams: No streams in the study area support trout populations.

Wild and Scenic Rivers: There are no Federal Wild and Scenic Rivers within the study area. The nearest Federal Wild and Scenic River is the Obed River in eastern Tennessee. There are no state scenic rivers within the study area. The nearest state scenic river is the Harpeth River in western Davidson County.

Groundwater Resources: The study area is underlain by Ordovician aquifers of the Interior Low Plateaus aquifer system. The Ordovician aquifers are generally composed of carbonate rocks, which include limestone with some dolomite, interlayered with confining units of shale and shaly limestone.

Groundwater in these aquifers generally moves from upland recharge areas to low-lying discharge areas along streams. Groundwater quality in these areas is often characterized by high turbidity because solution features such as sinkholes and enlarged fractures allow precipitation to recharge to the aquifers rapidly, with little filtration. Although sinkholes and large fractures may be common in the limestone bedrock that underlies most of the region, the Soil Surveys of Davidson and Rutherford Counties, Tennessee do not identify Karst features in any of the soil series within the study area corridor.

Maps/Tables

- Environmental Conditions Maps

Future Studies/Issues

Impacts to “waters of the U.S.” or floodplains in the study area would require a Department of the Army permit from the US Army Corps of Engineers (USACE). For a permit to be issued, the project sponsor must demonstrate all measures to avoid and minimize impacts to the resource, including its buffer. All water resources in the project area must be delineated and the USACE must conduct a jurisdictional determination to determine if the resource is regulated at the Federal level.

If the waterway or wetland is not considered jurisdictional by USACE, an Aquatic Resource Alteration permit may be required by the State of Tennessee.

11. Habitats

Overview

Natural areas provide both habitat and water quality functions, while sensitive species habitats are afforded legal protections. Major construction projects can cause temporary and permanent adverse effects on habitats. In addition, developed areas, such as the Nashville region have limited natural resources; therefore, habitat loss may have significant effects.

Laws/Regulations

Federal Rare, Threatened, and Endangered Species Act: Section 7 of the Endangered Species Act, as amended, requires each Federal agency to ensure that “any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee.”

Natural Areas Preservation Act (TCA 11-14-101): Established the Natural Areas Program, which oversees the protection of the 66 designated Natural Areas within the State of Tennessee. These areas exhibit significant natural, historical, cultural, or recreational uses. The Natural Areas Program develops voluntary agreements with public and private landowners to protect ecologically important sites and to provide long-term protection for rare, threatened, and endangered (RTE) species.

Rare Plant Protection and Conservation Act of 1985: Assigns the Tennessee Department of Environment and Conservation, Division of Natural Heritage the responsibility of developing a state list of endangered, threatened, and special concern plants, conducting investigations on their status and conservation needs, and conducting educational programs regarding rare plant conservation.

Data Sources

- United States Fish and Wildlife Service (USFWS).
- Tennessee Wildlife Resources Agency.
- Tennessee Division of Natural Heritage.

Study Area Resources

Forested Areas: Forests are located throughout the study area, but are most extensive in the central portion of the corridors, between the urban areas of Nashville and Murfreesboro. The forests types vary from deciduous to evergreen with most areas being a mixture of both. The densest areas of forest intersect the corridor in the general areas of Bell Road, TN Route 266, and Hobson Pike.

Natural Areas: One Natural Area occurs within the study area. The Stones River Cedar Glade and Barrens is an 185-acre natural area designated in 2003. It lies within the Stones River National Battlefield in Rutherford County and is located near the Stones River National Battlefield visitor center on Old Nashville Pike approximately 3 miles northwest of Murfreesboro. The National Park Service recognized the importance of the unique cedar glade ecosystem found here, which now protects the recovery of two federally-endangered plant species, Pyne’s ground plum (*Astragalus bibullatus*) and Tennessee purple coneflower (*Echinacea tennesseensis*).

RTE Species and their Habitats: Several state and federally listed RTE species have been identified by the Tennessee Division of Natural Heritage and the US Fish and Wildlife Service within the general vicinity of the study area. A complete list of species is provided in Table 8. Generally, the RTE locations are clustered in the central and southeast portions of the corridors, but are most prevalent in the Murfreesboro Pike and CSX corridors.

Maps/Tables

- Environmental Conditions Maps.
- Table 10 – Rare, Threatened, and Endangered Species

Future Studies/Issues

If the proposed alignments would impact known RTE habitats, coordination with the Tennessee Division of Natural Heritage would be necessary.

Species	Type	State Status	Federal Status	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Glade-cress (<i>Leavenworthia exigua</i> var. <i>exigua</i>)	Plant	SSC	--	✓	✓	✓
Glade cleft phlox (<i>Phlox bifida</i> ssp. <i>Stellaria</i>)	Plant	T	--		✓	✓
Water stitchwort (<i>Stellaria fontinalis</i>)	Plant	T	--	✓	✓	

Table 10 – Rare, Threatened, and Endangered Species						
Species	Type	State Status	Federal Status	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Nashville crayfish (<i>Orconectes shoupi</i>)	Crustacean	E	LE	✓	✓	✓
Glade onion (<i>Allium stellatum</i>)	Plant	E	--		✓	✓
Pope's sand-parsley (<i>Ammoselinum popei</i>)	Plant	T	--	✓		
Limestone blue star (<i>Amsonia tabernaemontana</i> var. <i>gattingeri</i>)	Plant	SSC	--		✓	✓
Carolina anemone (<i>Anemone caroliniana</i>)	Plant	E	--			✓
Tennessee milk-vetch (<i>Astragalus tennesseensis</i>)	Plant	SSC	--	✓	✓	✓
White prairie clover (<i>Dalea candida</i>)	Plant	SSC	--		✓	
Leafy prairie clover (<i>Dalea foliosa</i>)	Plant	E	LE			✓
Tennessee coneflower (<i>Echinacea tennesseensis</i>)	Plant	E	LE		✓	✓
Duck river bladderpod (<i>Lesquerella densipila</i>)	Plant	T	--		✓	✓
Missouri primrose (<i>Oenothera macrocarpa</i>)	Plant	T	--		✓	
Yellow sunnybell (<i>Schoenolirion croceum</i>)	Plant	T	--	✓	✓	✓
Southern prairie-dock (<i>Silphium pinnatifidum</i>)	Plant	T	--		✓	
Bedrock shiner (<i>Notropis rupestris</i>)	Fish	INM	--		✓	✓
Western hairy rockcress (<i>Arabis hirsuta</i>)	Plant	T	--	✓		
Flat-stemmed spike rush (<i>Eleocharis compressa</i>)	Plant	SSC	--		✓	✓
Sessile water-speedwell (<i>Veronica catenata</i>)	Plant	E	--			✓
Harelip sucker (<i>Lagochila lacera</i>)	Fish	INM	--		✓	✓
Stones river bladderpod (<i>Lesquerella stonensis</i>)	Plant	E	--		✓	✓
Limestone fameflower (<i>Talinum calcaricum</i>)	Plant	SSC	--	✓	✓	✓
Blackfoot quillwort (<i>Isoetes melanopoda</i>)	Plant	E	--			✓

Table 10 – Rare, Threatened, and Endangered Species

Species	Type	State Status	Federal Status	I-24 Corridor	CSX Corridor	Murfreesboro Pike Corridor
Gray bat (<i>Myotis grisescens</i>)	Mammal	--	E	NA	NA	NA
Tan riffleshell (<i>Epioblasma florentina walkeri</i>)	Crustacean	--	E	NA	NA	NA
Yellow blossom pearlymussel (<i>Epioblasma florentina florentina</i>)	Crustacean	--	E	NA	NA	NA
Eggert's sunflower (<i>Helianthus eggertii</i>)	Plant	--	T	NA	NA	NA
Price's potato-bean (<i>Apios priceana</i>)	Plant	--	T	NA	NA	NA
Pyne's ground-plum (<i>Astragalus bibullatus</i>)	Plant	--	E	NA	NA	NA
Source: Tennessee Department of Environment and Conservation, 2005. US Fish and Wildlife Service, 2005. Key: SSC = Species of Special Concern INM = Species in Need of Management E = Endangered LE = Listed Endangered T = Threatened -- = No listing NA = Not Available						

12. References

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- United States Fish and Wildlife Service. 1985. *National Wetlands Inventory Map for Murfreesboro, Tennessee*. Washington, DC.

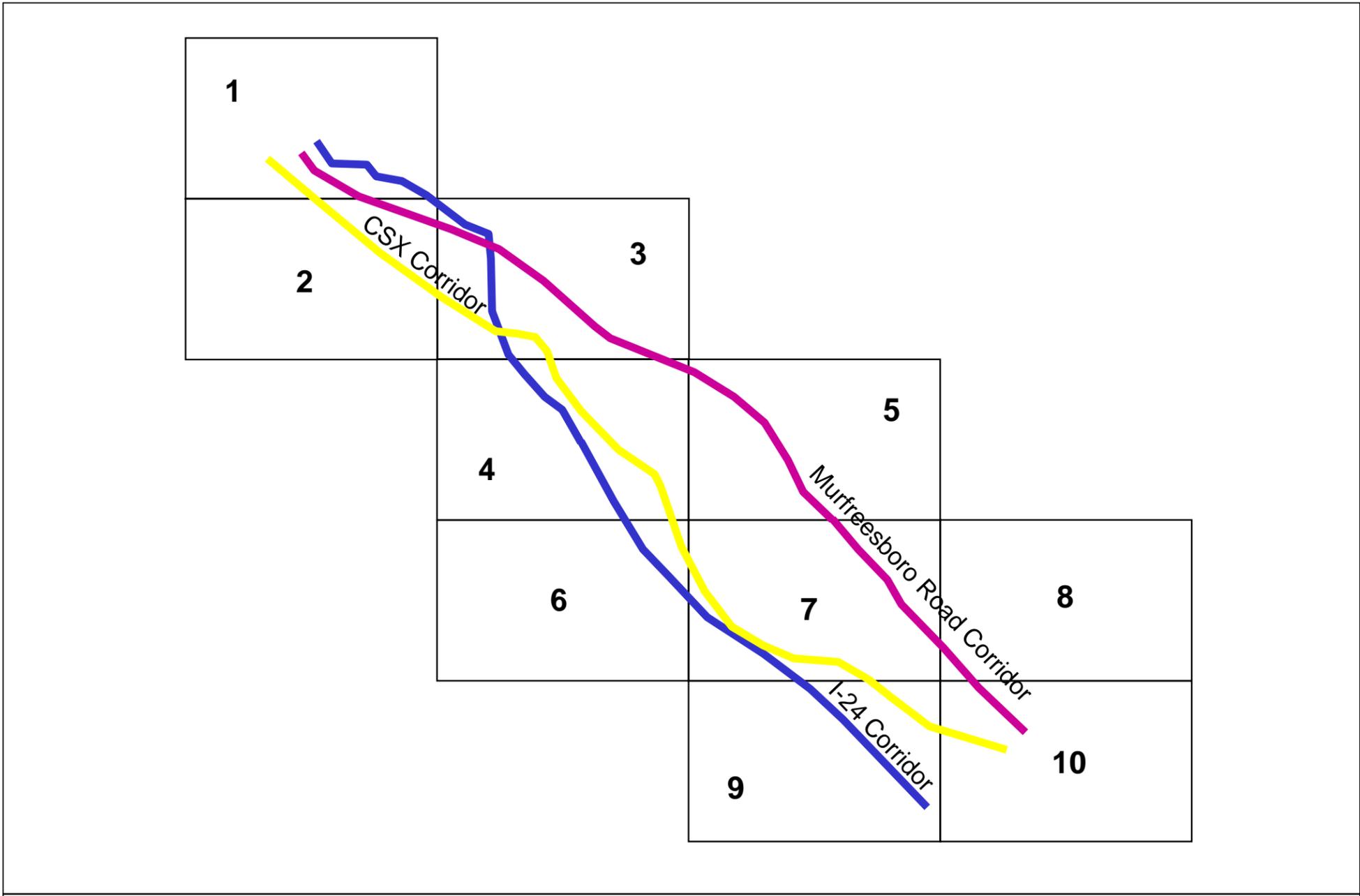
United States Fish and Wildlife Service. 1985. *National Wetlands Inventory Map for Nashville East, Tennessee*. Washington, DC.

United States Fish and Wildlife Service. 1985. *National Wetlands Inventory Map for Nashville West, Tennessee*. Washington, DC.

United States Fish and Wildlife Service. 1985. *National Wetlands Inventory Map for Walterhill, Tennessee*. Washington, DC.

United States Fish and Wildlife Service. 2005. Personal correspondence from Lee A. Barclay, Field Supervisor to Jennifer Bird, Environmental Scientist, Straughan Environmental Services, Inc.

APPENDIX A
AGENCY CORRESPONDENCE



Nashville SE Corridor Study
 Davidson County Soils Map
 Index Sheet
 May 2005





Nashville SE Corridor Study
 Davidson County Soils Map
 Map 1 of 10
 May 2005

Alternatives

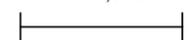
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- I-24 Corridor
- Murfreesboro Road Corridor

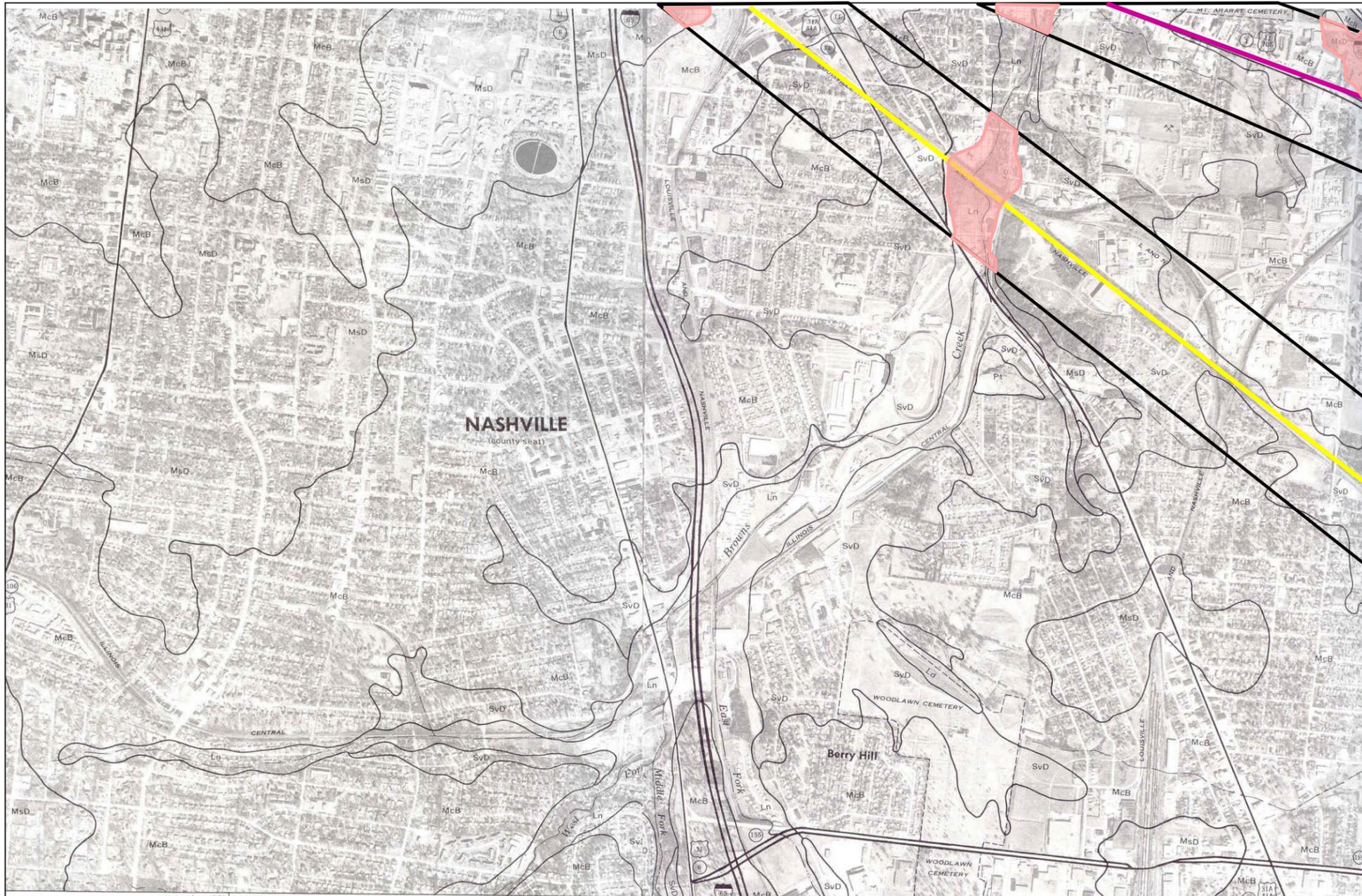
Soil Types

- Severe Limitation for Construction
- Prime Farmland
- Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet





Nashville SE Corridor Study
 Davidson County Soils Map
 Map 2 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet






Nashville SE Corridor Study
 Davidson County Soils Map
 Map 3 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

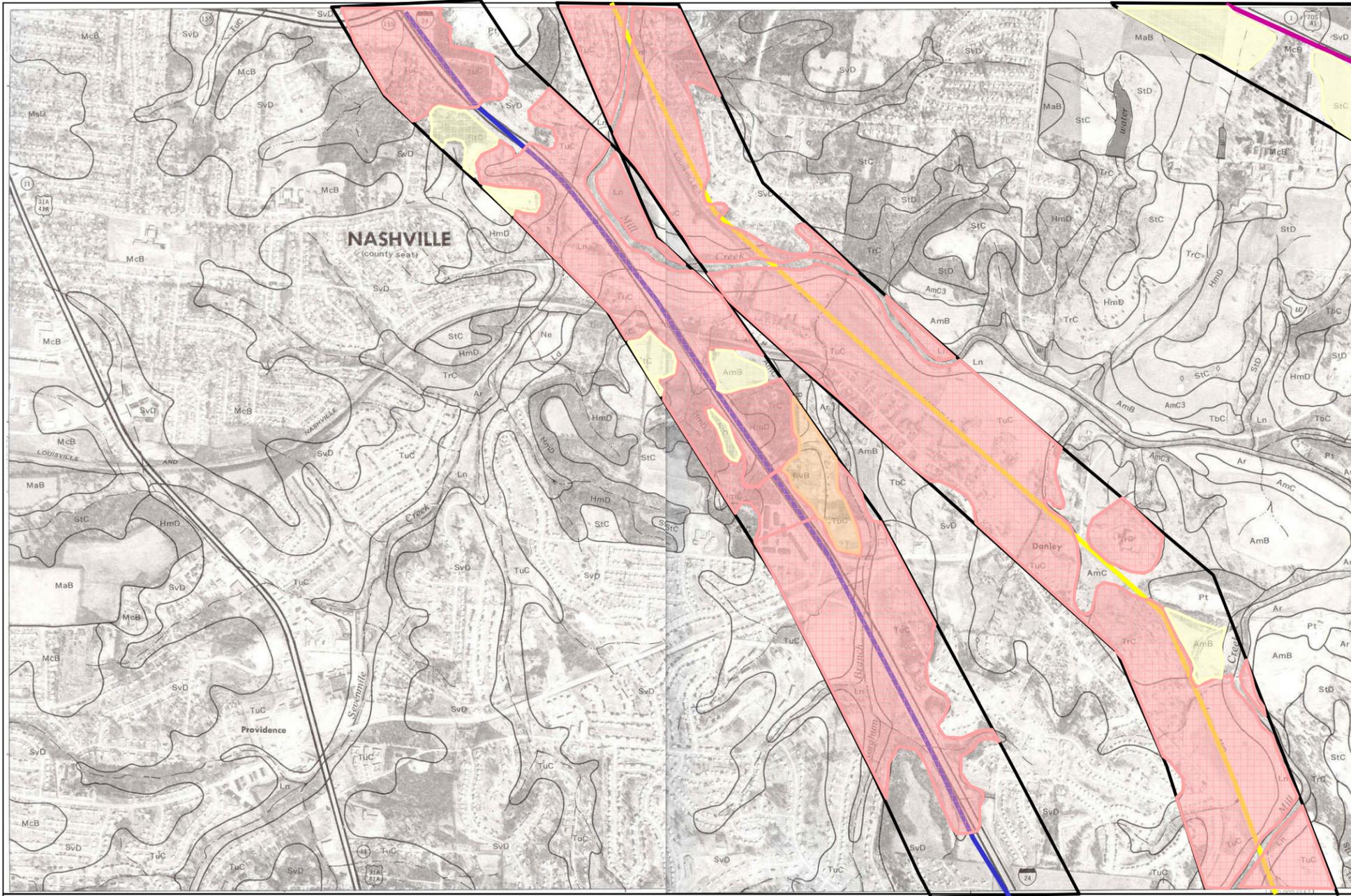
Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet



Nashville SE Corridor Study
 Davidson County Soils Map
 Map 4 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

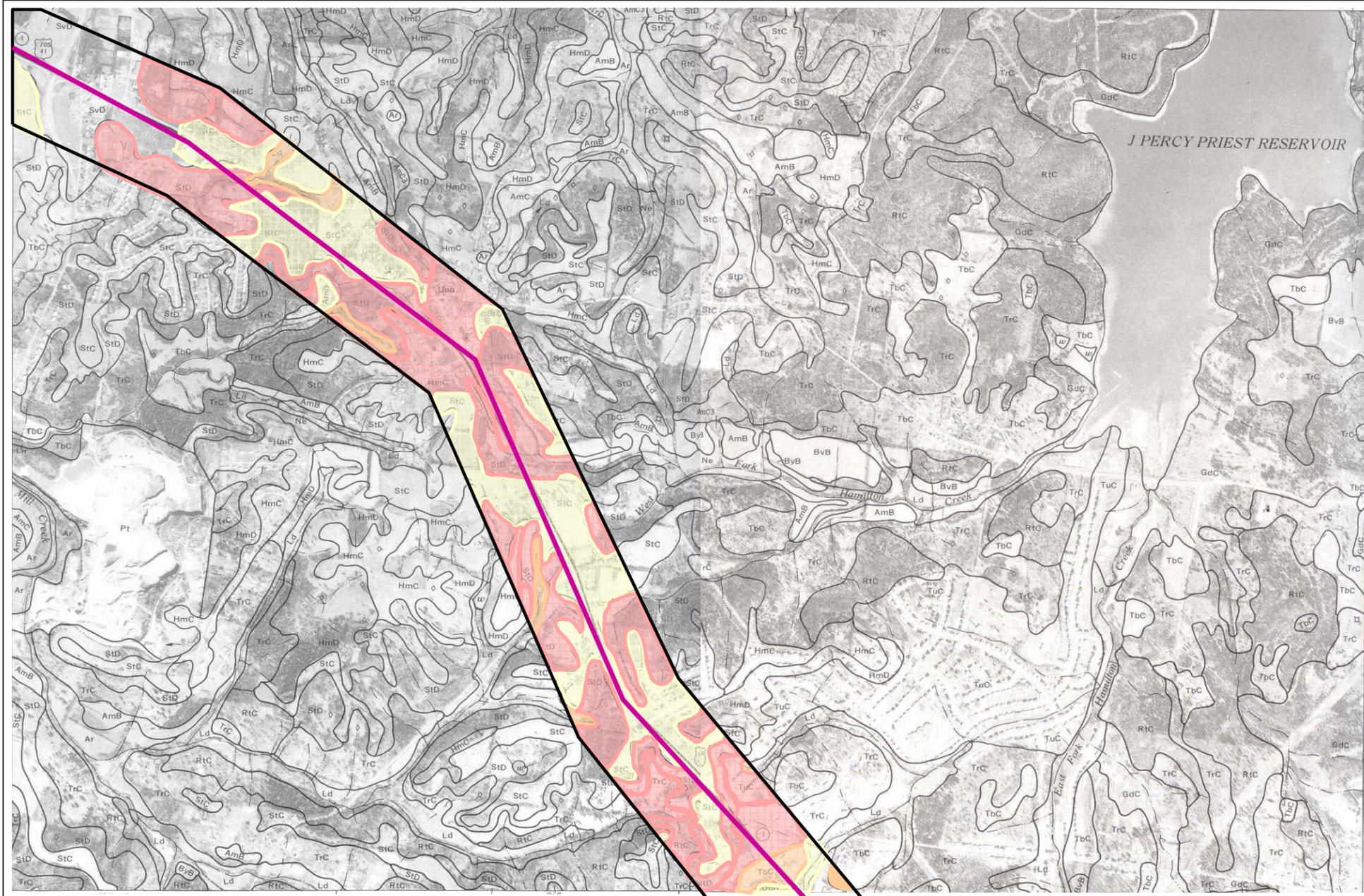
Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet



Nashville SE Corridor Study
 Davidson County Soils Map
 Map 5 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

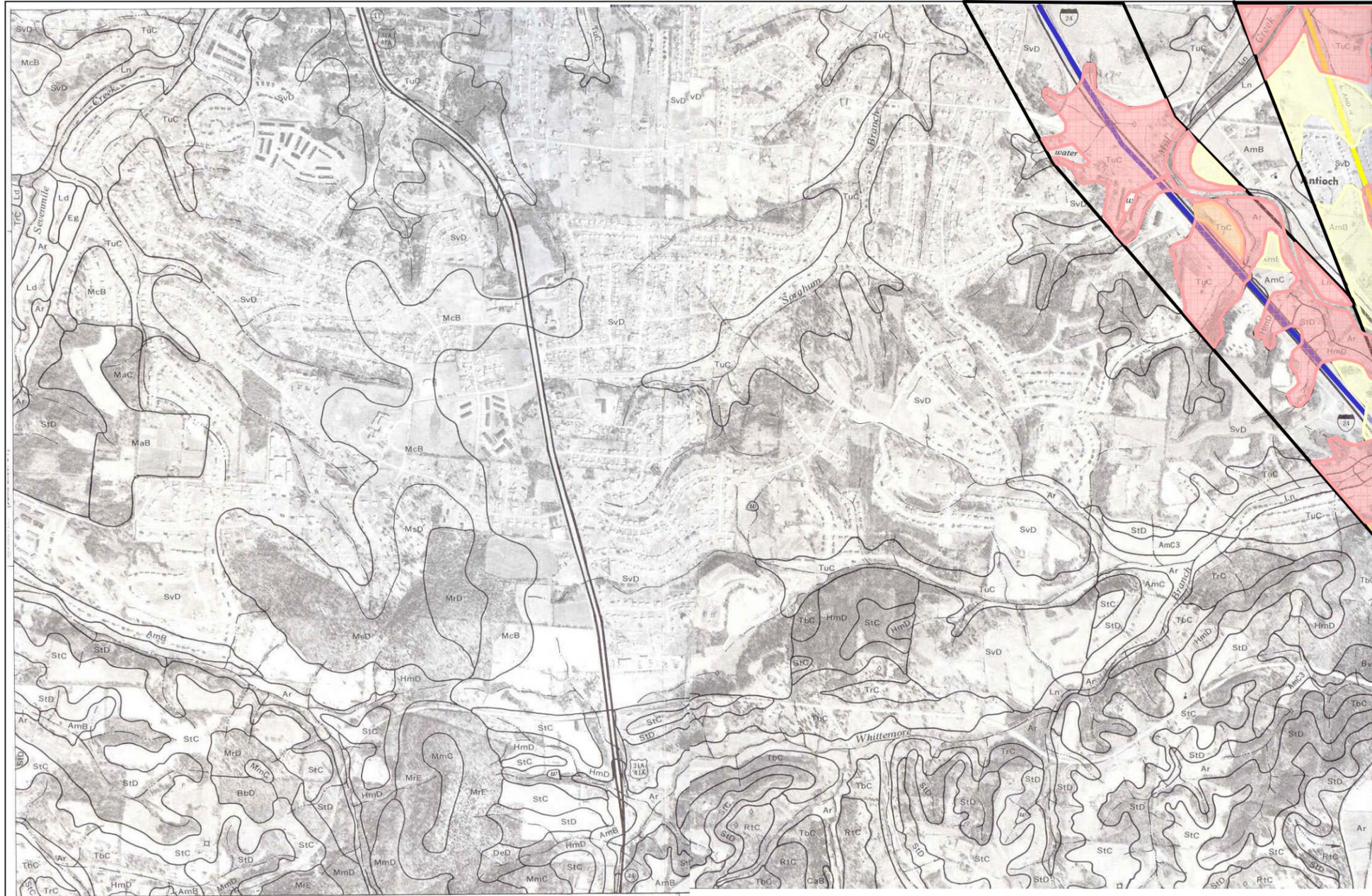
Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet



Nashville SE Corridor Study
 Davidson County Soils Map
 Map 6 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

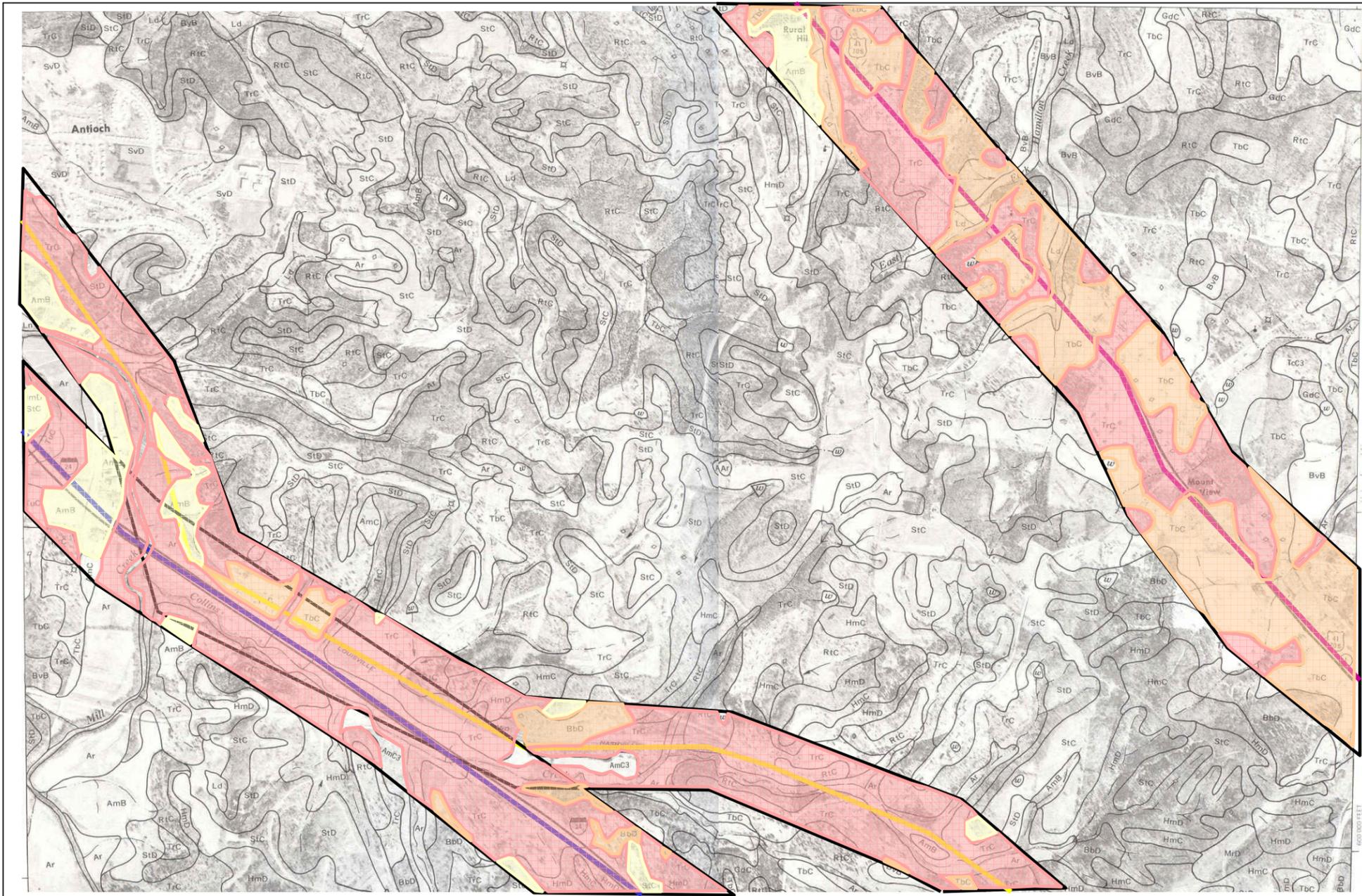
Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet





Nashville SE Corridor Study
 Davidson County Soils Map
 Map 7 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet






Nashville SE Corridor Study
 Davidson County Soils Map
 Map 8 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

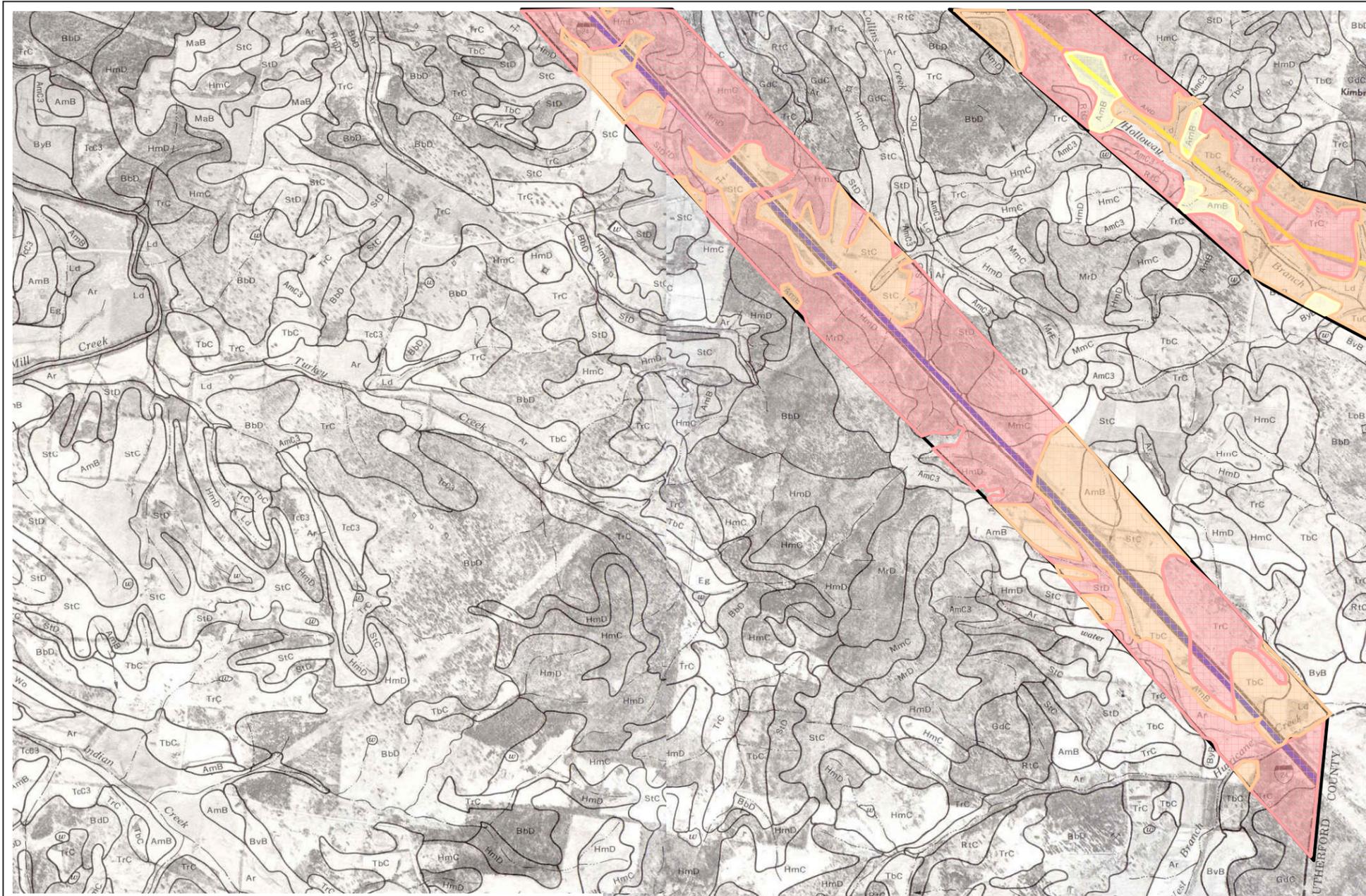
Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet



Nashville SE Corridor Study
 Davidson County Soils Map
 Map 9 of 10
 May 2005

Alternatives

-  CSX Corridor
-  I-24 Corridor
-  Murfreesboro Road Corridor

Soil Types

-  Severe Limitation for Construction
-  Prime Farmland
-  Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet



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Nashville SE Corridor Study
 Davidson County Soils Map
 Map 10 of 10
 May 2005

Alternatives

- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

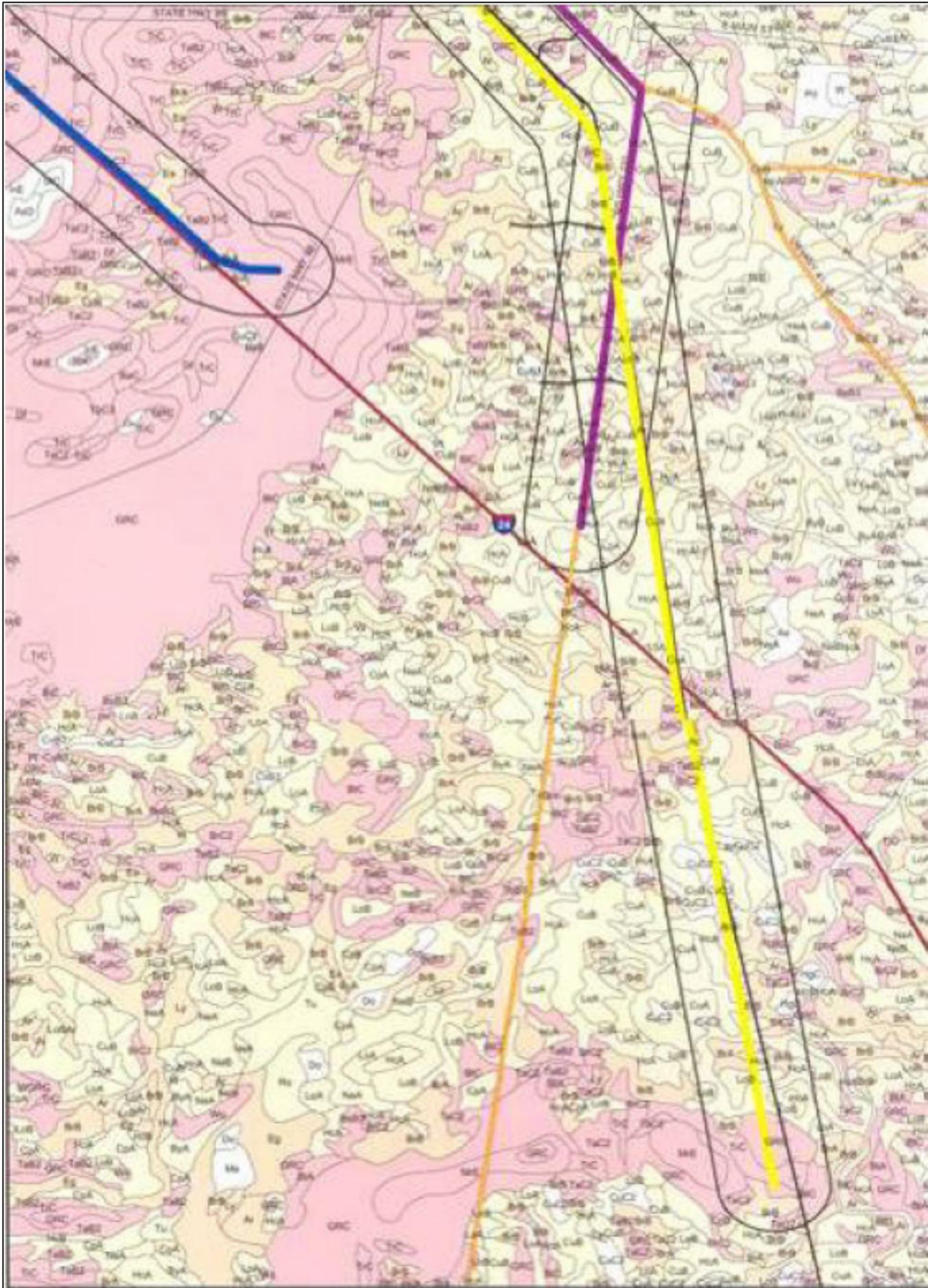
Soil Types

- Severe Limitation for Construction
- Prime Farmland
- Severe Limitation for Construction and Prime Farmland

Approximate Scale:

1 inch = 1,650 feet





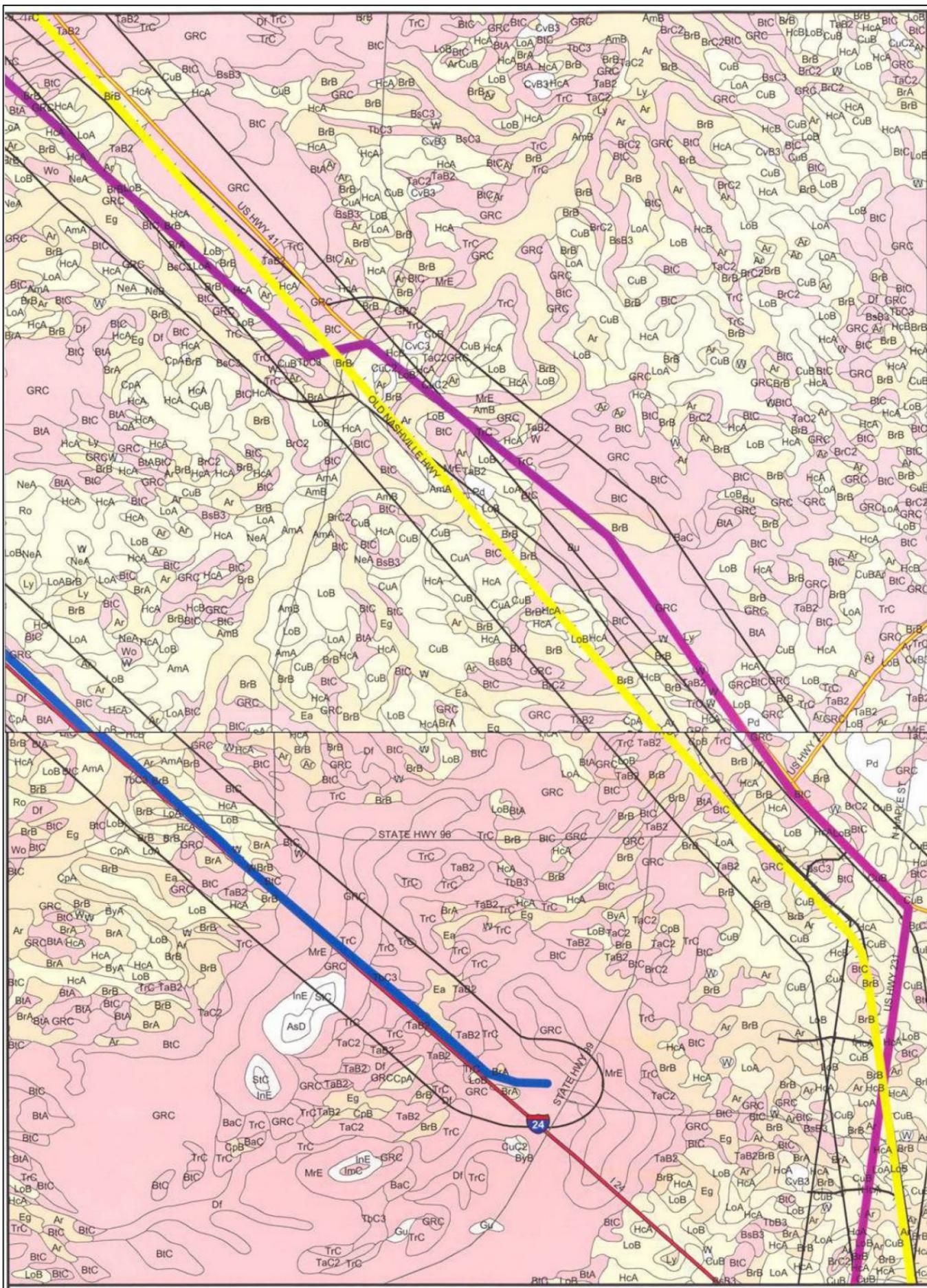
Nashville SE Corridor Study
 Rutherford County Soils Map
 Map 1 of 4
 May 2005

- Possible Alternatives**
- Cox Corridor
 - Rutherford Road Corridor
 - Cox Corridor
- Study Area
- Railroad
- Airport
- Minor Road

- Soil Properties**
- Prime Farmland
 - Severe Limitation for Construction
 - Prime Farmland and Severe Limitation for Construction

1 inch equals 2,000 Feet
 0 1,000 2,000 4,000 Feet





Nashville SE Corridor Study
 Rutherford County Soils Map
 Map 2 of 4
 May 2005

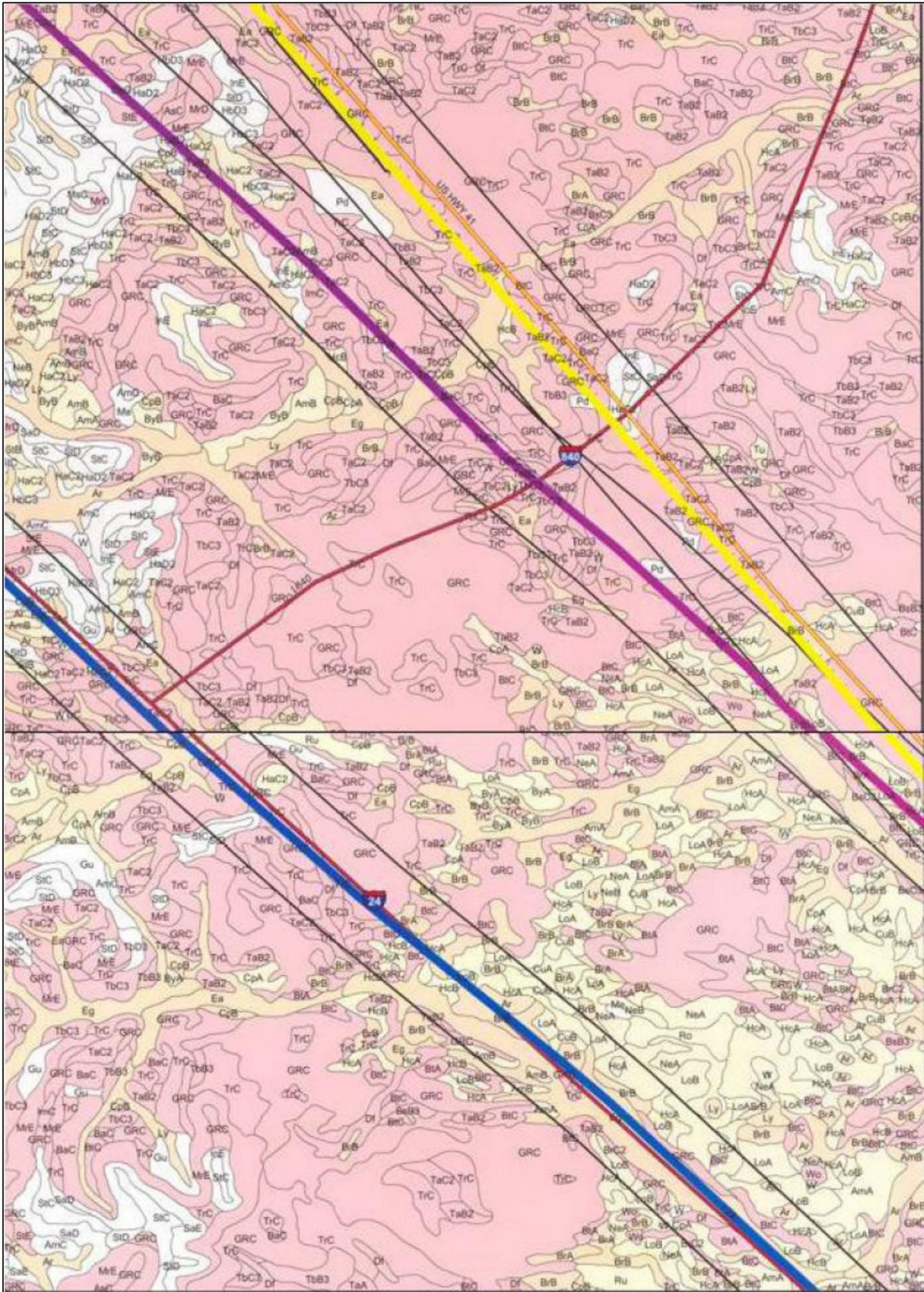
- Possible Alternatives**
- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor
- Study Area**
- Study Area
 - Railroad
 - Airport
 - Minor Road

- Soil Properties**
- Prime Farmland
 - Severe Limitation for Construction
 - Prime Farmland and Severe Limitation for Construction

1 Inch equals 2,000 Feet
 0 1,000 2,000 4,000 Feet



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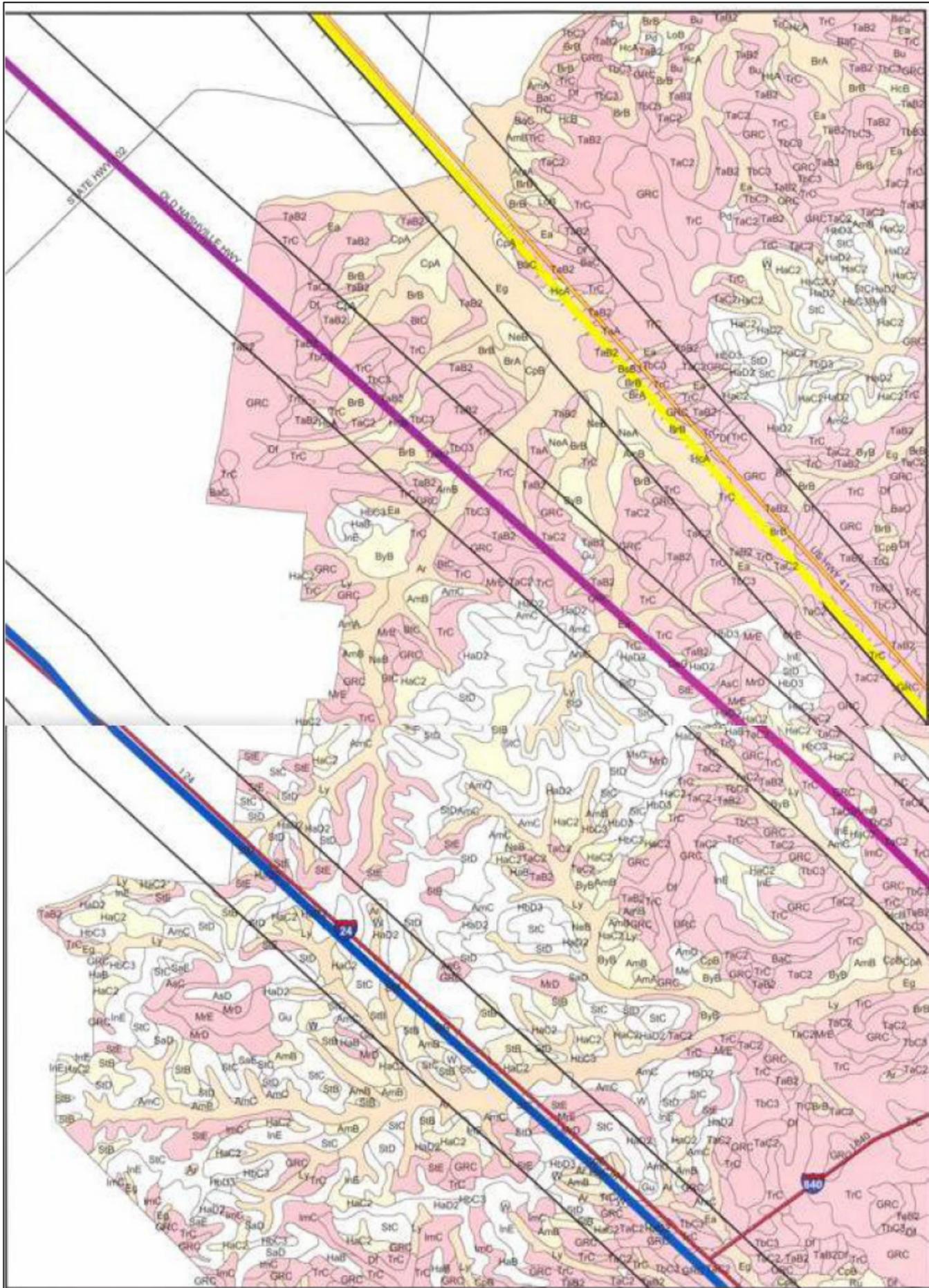
Nashville SE Corridor Study
 Rutherford County Soils Map
 Map 3 of 4
 May 2005

- Possible Alternatives**
- █ CSX Corridor
 - █ I-24 Corridor
 - █ Murfreesboro Road Corridor
- Study Area
- Railroad
- Airport
- Minor Road

- Soil Properties**
- Prime Farmland
 - Severe Limitation for Construction
 - Prime Farmland and Severe Limitation for Construction

1 Inch equals 2,000 Feet
 0 1,000 2,000 4,000 Feet





Nashville SE Corridor Study
 Rutherford County Soils Map
 Map 4 of 4
 May 2005

Possible Alternatives

- █ CSX Corridor
- █ I-24 Corridor
- █ Murfreesboro Road Corridor

- Study Area
- Railroad
- Airport
- Minor Road

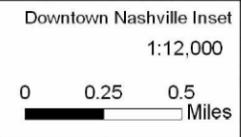
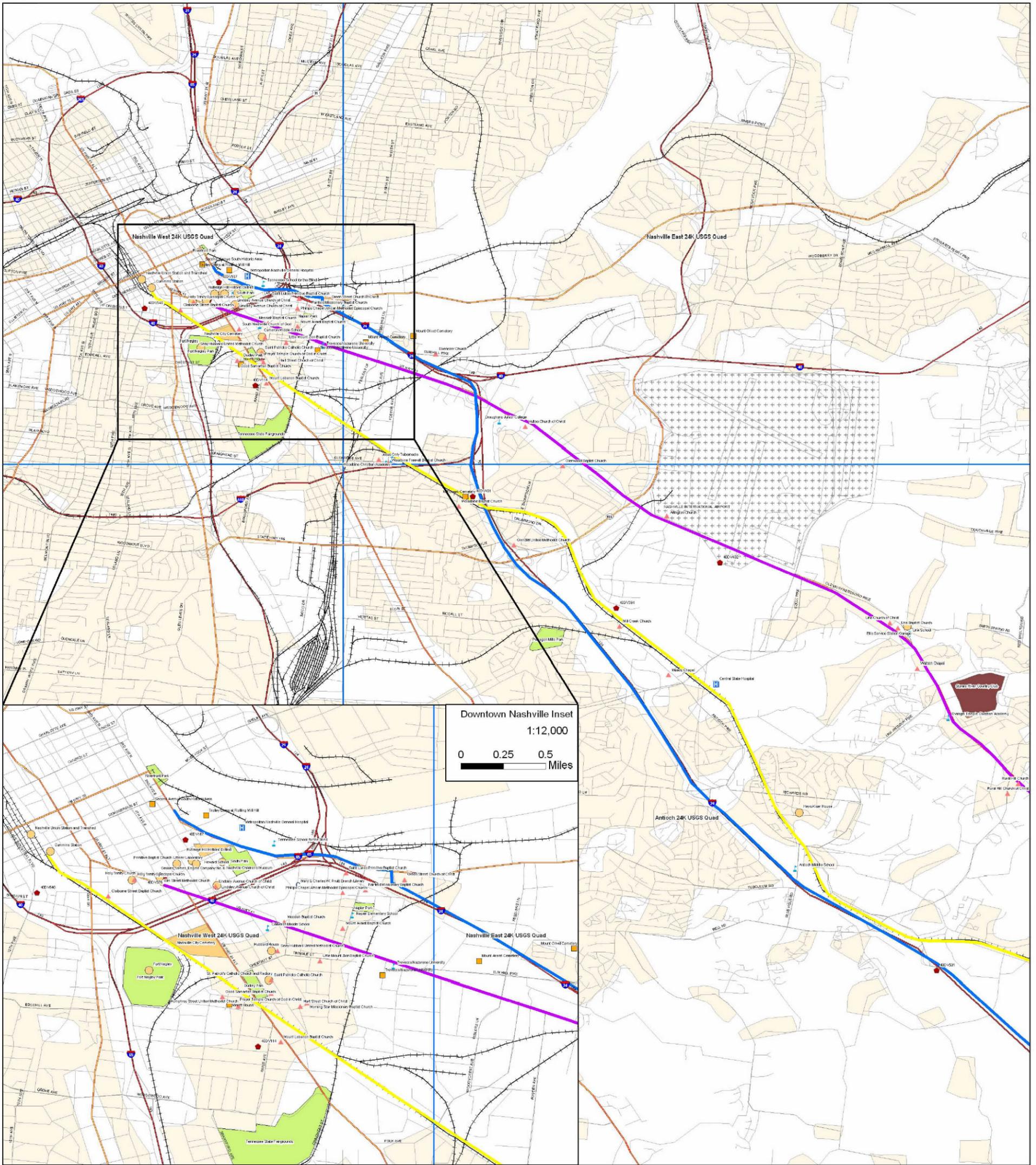
Soil Properties

- Prime Farmland
- Severe Limitation for Construction
- Prime Farmland and Severe Limitation for Construction

1 Inch equals 2,000 Feet



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**Nashville SE Corridor Study
Human Resources Map
Northwest
May 2005**

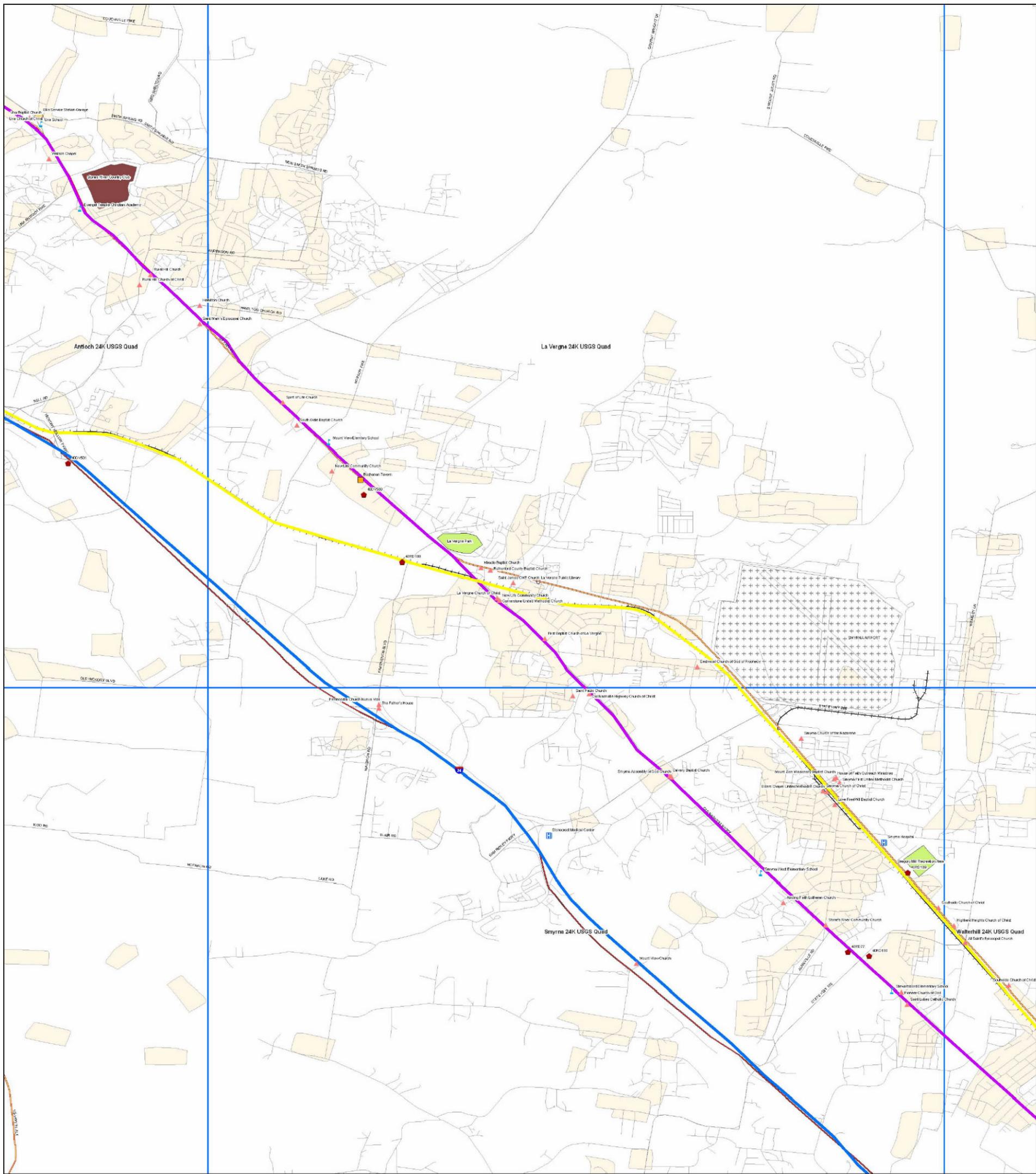
- | | | |
|---|--|---|
| <ul style="list-style-type: none"> ++++ Railroad ++++ Airport --- Minor Road USGS 1:24K Quadrangle Boundary | <p>Possible Alternatives</p> <ul style="list-style-type: none"> CSX Corridor I-24 Corridor Murfreesboro Road Corridor <p>Study Area</p> <ul style="list-style-type: none"> CSX Corridor I-24 Corridor Murfreesboro Road Corridor | <ul style="list-style-type: none"> National Register Area Golf Course Residential Area State or Local Park National Park |
|---|--|---|

- | |
|--|
| <ul style="list-style-type: none"> Church Library School Hospital National Register Site Potential National Register Site Hazardous Waste Site Archaeological Site |
|--|



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Nashville SE Corridor Study
Human Resources Map
Central
May 2005

- ++++ Railroad
- ++++ Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

Possible Alternatives

- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor
- Study Area
- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor

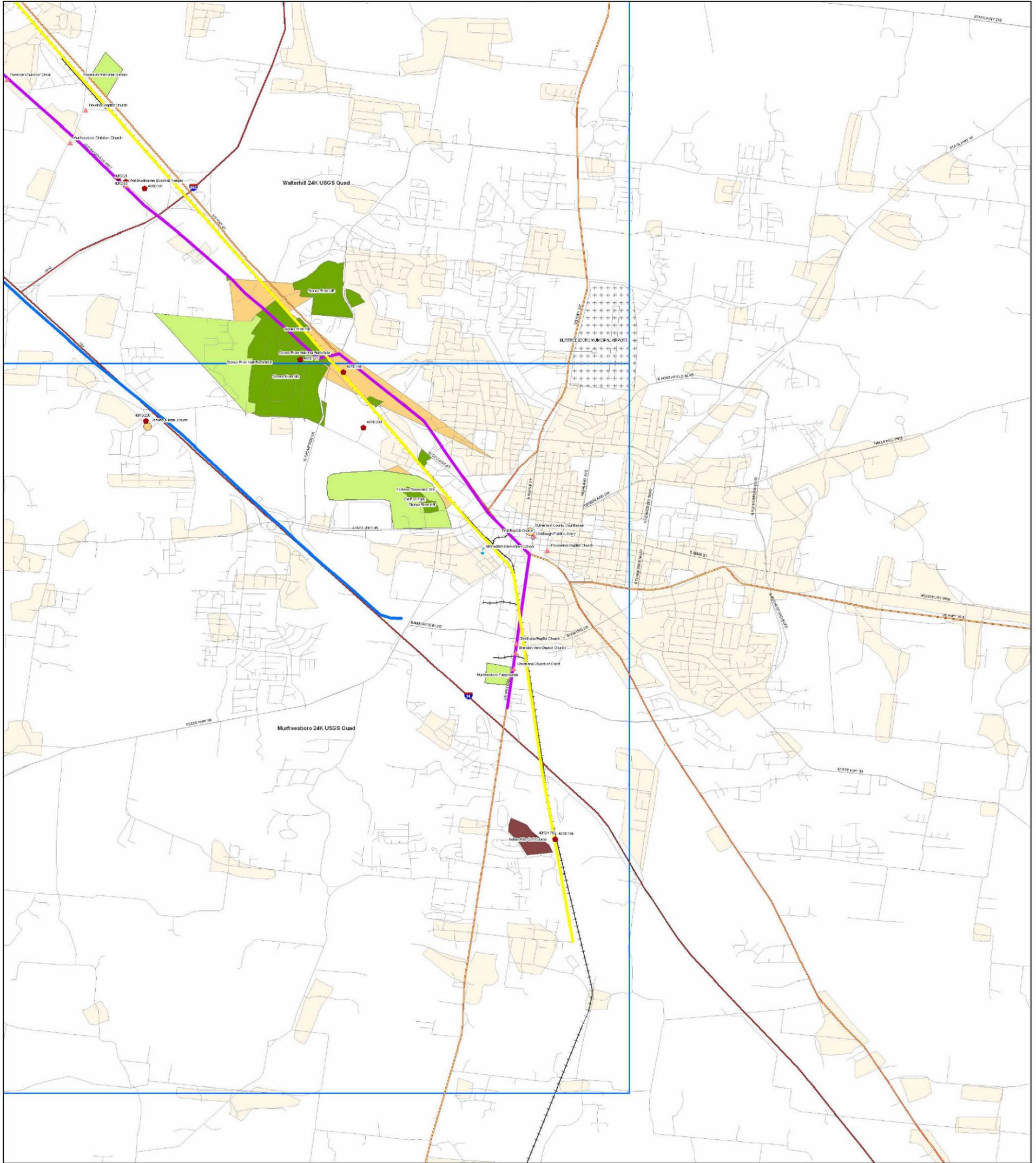
- National Register Area
- Golf Course
- Residential Area
- State or Local Park
- National Park

- Church
- Library
- School
- Hospital
- National Register Site
- Potential National Register Site
- Hazardous Waste Site
- Archaeological Site



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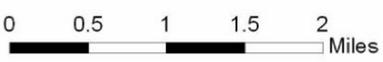
**Nashville SE Corridor Study
Human Resources Map
Central
May 2005**

- ++++ Railroad
- ++++ Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

- Possible Alternatives**
- CSK Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor
- Study Area**
- CSK Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor

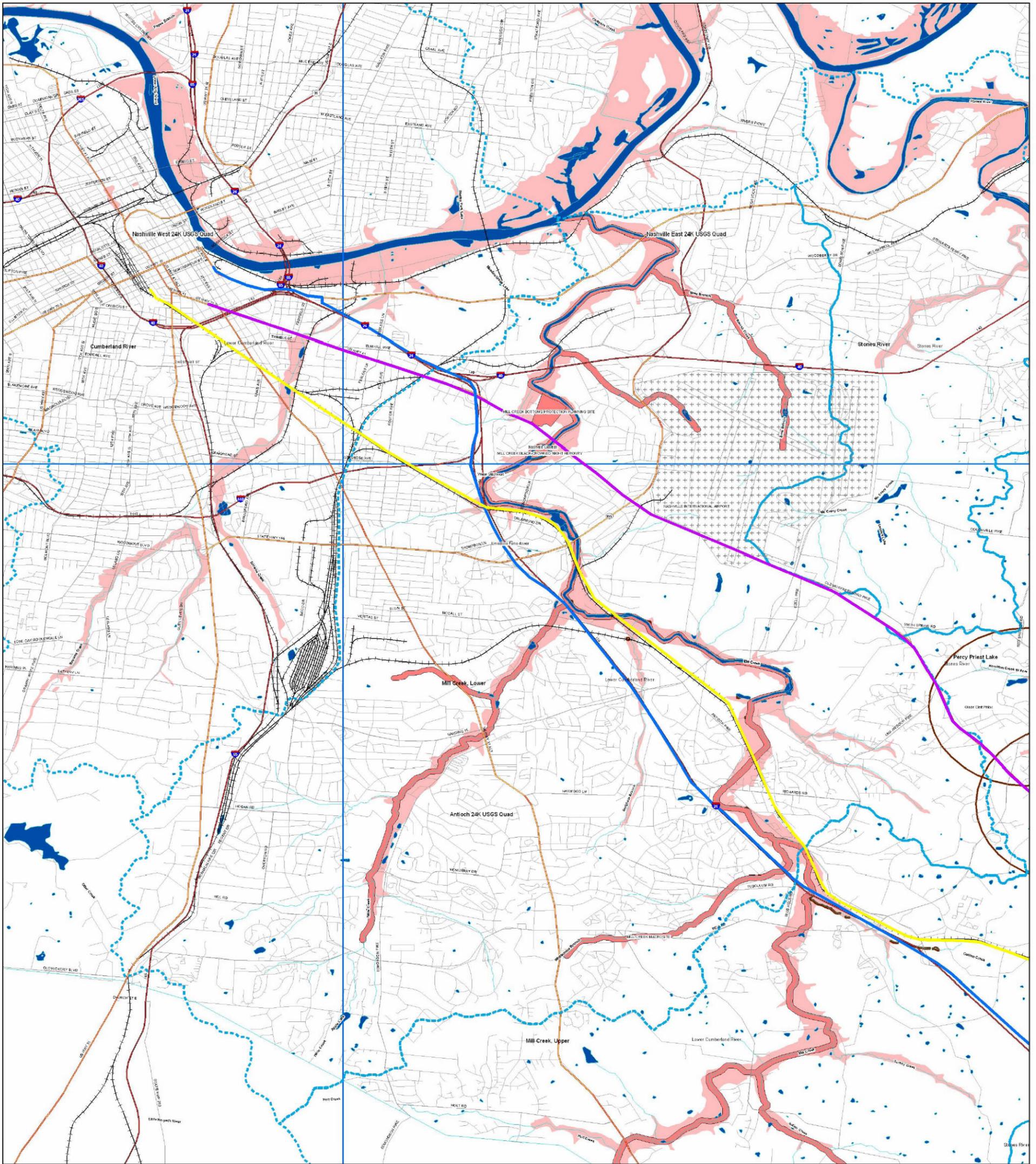
- National Register Area
- Golf Course
- Residential Area
- State or Local Park
- National Park

- Church
- Library
- School
- Hospital
- National Register Site
- Potential National Register Site
- Hazardous Waste Site
- Archaeological Site



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Nashville SE Corridor Study
 Natural Resources Map
 Northwest
 April 2005

- Railroad
- Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

Possible Alternatives

- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

Study Area

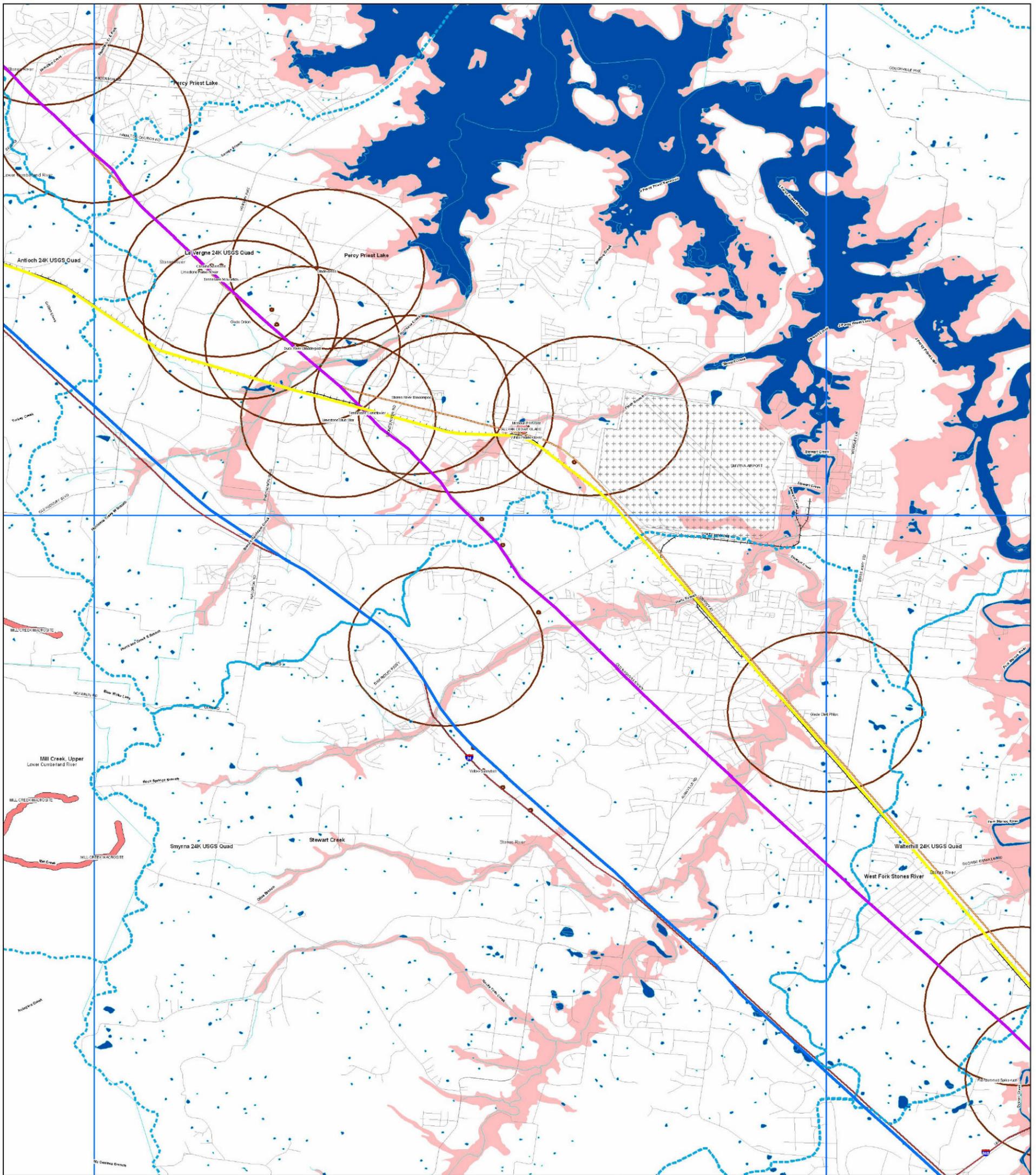
- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

- NRM Wetlands
- NRM Streams
- 100-year Floodplain
- Rare, Threatened, or Endangered Species Location
- Ecologically Sensitive Areas
- Watershed Boundary



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Nashville SE Corridor Study
 Natural Resources Map
 Northwest
 April 2005

- ++++ Railroad
- ++++ Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

Possible Alternatives

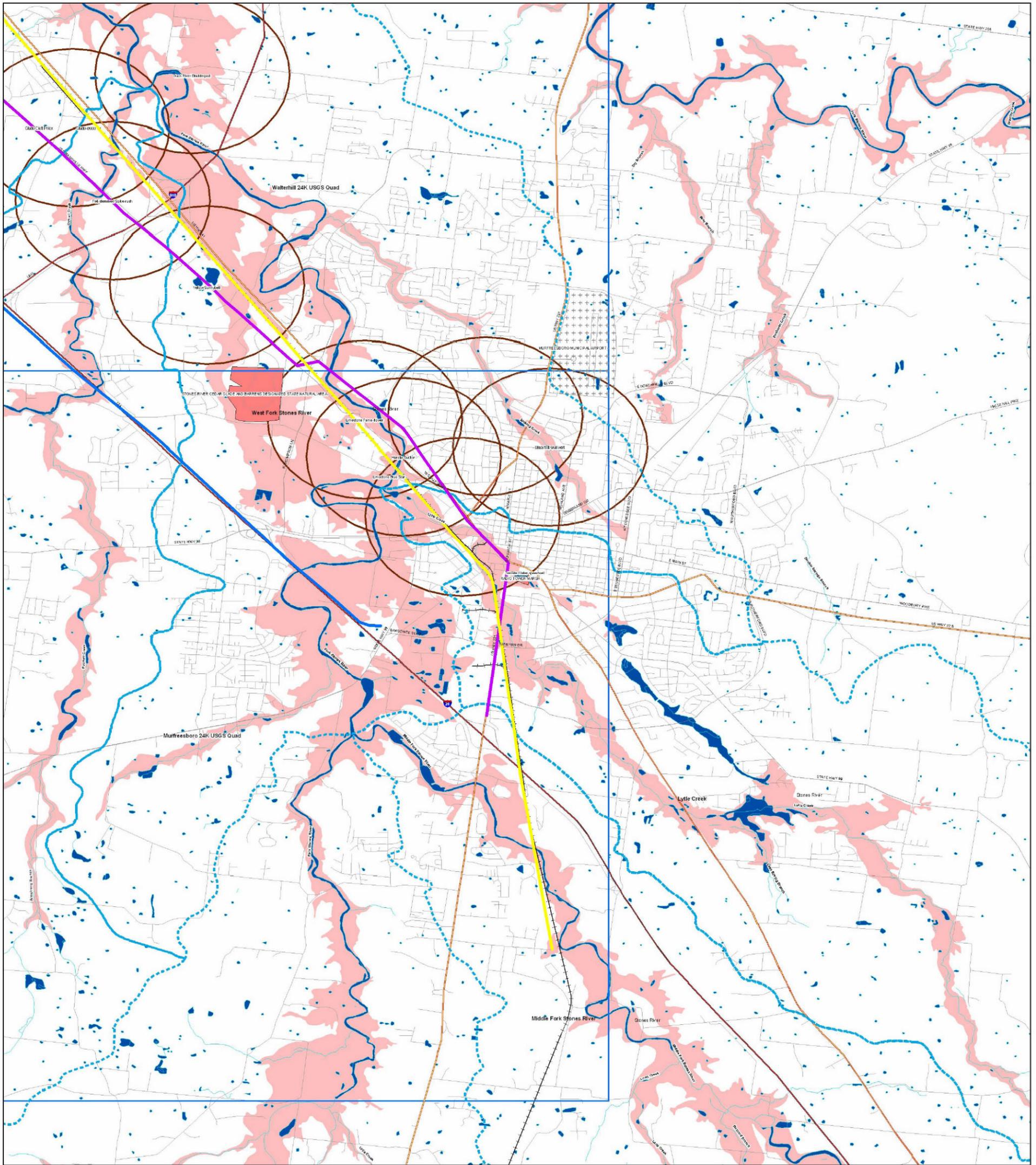
- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor
- Study Area**
- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor

- NW Wetlands
- NW Streams
- 100-year Floodplain
- Rare, Threatened, or Endangered Species Location
- Ecologically Sensitive Areas
- Watershed Boundary



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Nashville SE Corridor Study
 Natural Resources Map
 Northwest
 April 2005

- ++++ Railroad
- ++++ Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

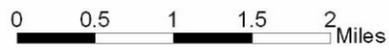
Possible Alternatives

- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

Study Area

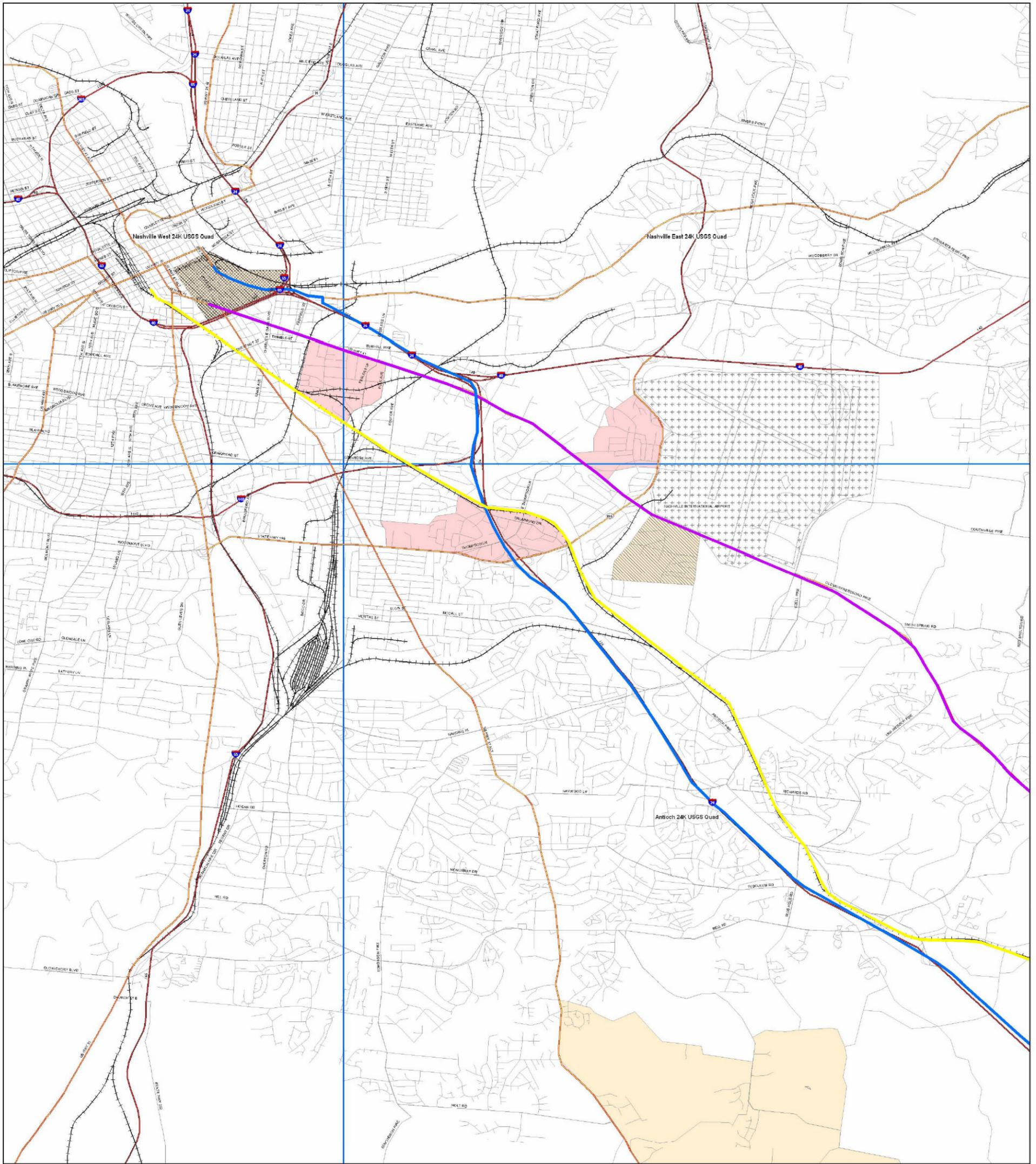
- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

- NMI Wetlands
- NMI Streams
- 100-year Floodplain
- Rare, Threatened, or Endangered Species Location
- Ecologically Sensitive Areas
- Watershed Boundary



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**Nashville SE Corridor Study
Environmental Justice Map
Northwest
May 2005**

- Railroad
- Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

- Possible Alternatives**
- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor
- Study Area**
- CSX Corridor
 - I-24 Corridor
 - Murfreesboro Road Corridor

Environmental Justice Areas

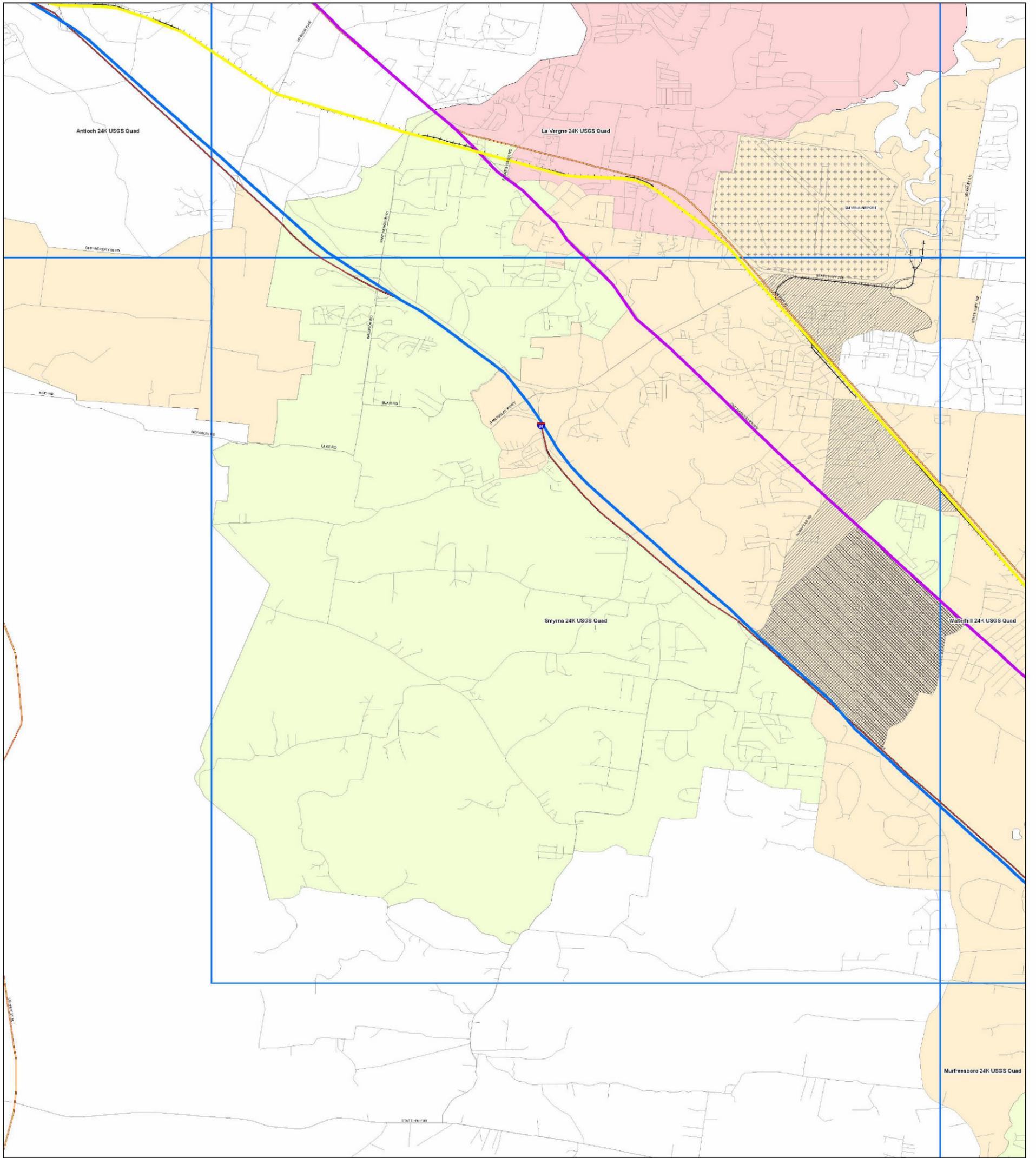
- Percent Persons in Poverty Greater than 21%
- Minority Population Greater than 50%
- Percent Persons in Poverty Greater than 21% and Minority Population Greater than 50%
- Percent Persons in Poverty Greater than 50%
- Minority Population Greater than 90%
- Percent Persons in Poverty Greater than 50% and Minority Population Greater than 90%



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**Nashville SE Corridor Study
Environmental Justice Map
Northwest
May 2005**

- ++++ Railroad
- ++++ Airport
- Minor Road
- USGS 1:24K Quadrangle Boundary

Possible Alternatives

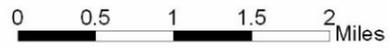
- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

Study Area

- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

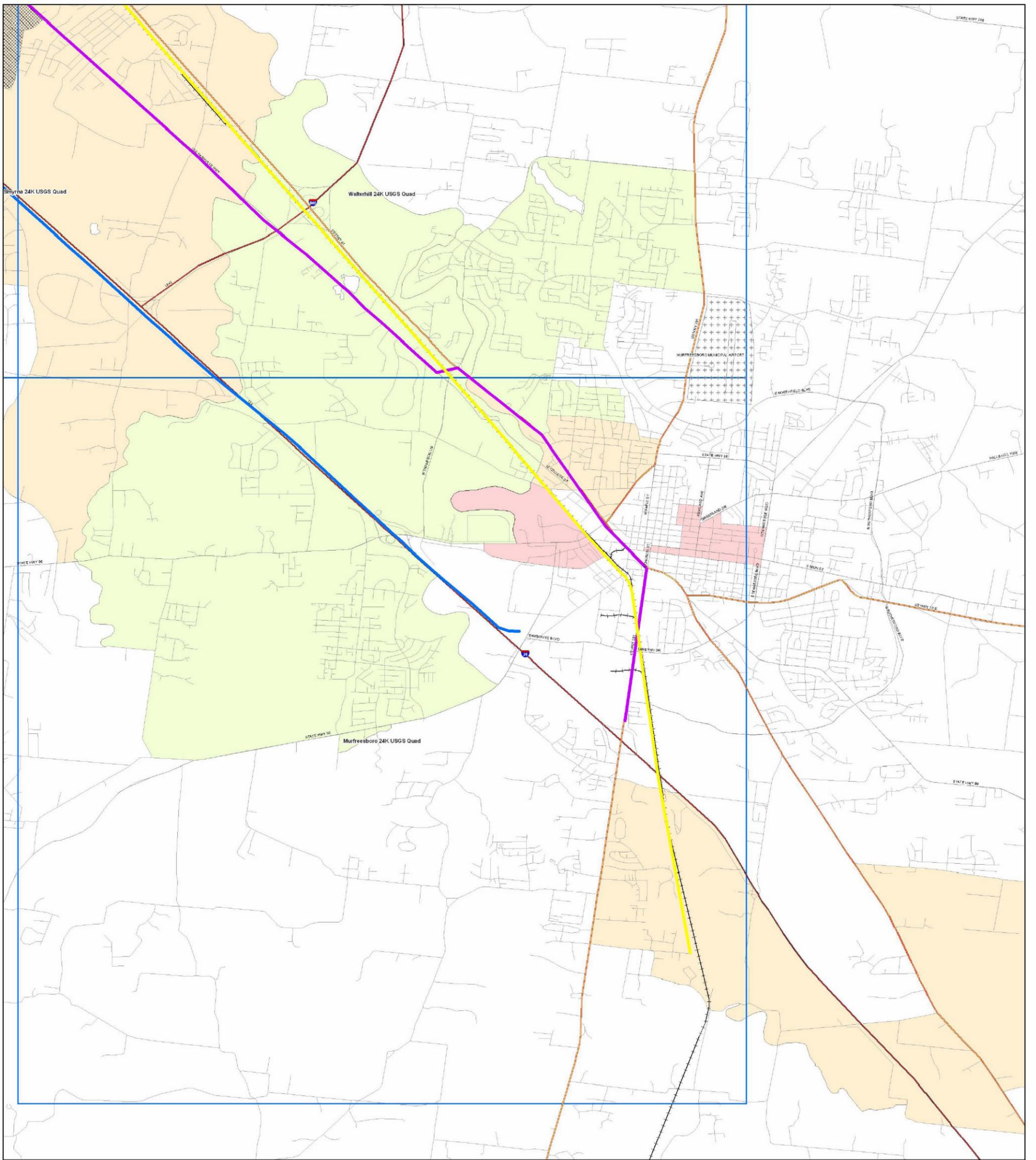
Environmental Justice Areas

- Percent Persons in Poverty Greater than 21%
- Minority Population Greater than 50%
- Percent Persons in Poverty Greater than 21% and Minority Population Greater than 50%
- Percent Persons in Poverty Greater than 50%
- Minority Population Greater than 90%
- Percent Persons in Poverty Greater than 50% and Minority Population Greater than 90%



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Environmental Justice Map
Northwest
May 2005**

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Possible Alternatives

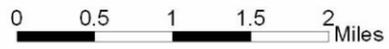
- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

Study Area

- CSX Corridor
- I-24 Corridor
- Murfreesboro Road Corridor

Environmental Justice Areas

- Percent Persons in Poverty Greater than 21%
- Minority Population Greater than 50%
- Percent Persons in Poverty Greater than 21% and Minority Population Greater than 50%
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- Percent Persons in Poverty Greater than 50% and Minority Population Greater than 90%



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