

# NORTH STL COUNTY COMMUNITY CONNECTOR



## NORTH AND SOUTH COUNTY EXTENSION PRELIMINARY SCREENING ANALYSIS TECHNICAL MEMO

**FINAL**

July 2023



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PM: Kristen Lueken

Principal: Jennifer Obertino

### **Originator:**

Danny Arnold

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Task Lead: Renee Ducker	February 2023
Project Manager: Kristen Lueken	July 2023
Client Project Manager: Stephanie Leon Streeter	<b>July 2023</b>



## Contents

1.0	Introduction.....	1
	Project Overview .....	1
2.0	Methodology.....	3
3.0	Results .....	6
	Land Use and Development.....	6
	Existing Land Use Conditions .....	6
	Demographics .....	10
	Population Density .....	10
	Employment Density .....	14
	Disadvantaged Populations.....	18
	Justice40 Initiative Disadvantaged Communities .....	18
	Opportunity Zones .....	20
	Population Below Poverty Level .....	22
	Zero-Vehicle Households.....	24
	Minority Population .....	26
	Housing Overview .....	28
	Housing Unit Density .....	28
	Affordable Housing .....	30
	Travel Patterns .....	32
	Work Commute Mode.....	32
	Transit Network.....	36
	Major Employment Centers .....	39
	Educational Institutions.....	39
4.0	Summary .....	42



## List of Figures

Figure 1-1: North County and South County Study Areas .....	2
Figure 2-1: North County Study Area.....	4
Figure 2-2: South County Study Area .....	5
Figure 3-1: North County Study Area Existing Land Use, 2021 .....	8
Figure 3-2: South County Study Area Existing Land Use, 2021 .....	9
Figure 3-3: North County Study Area Population Density (2020) .....	12
Figure 3-4: South County Study Area Population Density (2020) .....	12
Figure 3-5: North County Study Area Population Density Change (2020-2045) .....	13
Figure 3-6: South County Study Area Population Density Change (2020-2045) .....	13
Figure 3-7: North County Study Area Employment Density (2020) .....	16
Figure 3-8: South County Study Area Employment Density (2020) .....	16
Figure 3-9: North County Study Area Employment Density Change (2020-2045) .....	17
Figure 3-10: South County Study Area Employment Density Change (2020-2045) .....	17
Figure 3-11: North County Study Area Justice40 Disadvantaged Communities .....	19
Figure 3-12: South County Study Area Justice40 Disadvantaged Communities .....	19
Figure 3-13: North County Study Area Opportunity Zones .....	21
Figure 3-14: South County Study Area Opportunity Zones .....	21
Figure 3-15: North County Study Area Population Below the Poverty Level.....	23
Figure 3-16: South County Study Area Population Below the Poverty Level .....	23
Figure 3-17: North County Study Area Zero-Vehicle Households .....	25
Figure 3-18: South County Study Area Zero-Vehicle Households .....	25
Figure 3-19: North County Study Area Minority Population .....	27
Figure 3-20: South County Study Area Minority Population .....	27
Figure 3-21: North County Study Area Housing Unit Density .....	29
Figure 3-22: South County Study Area Housing Unit Density .....	29
Figure 3-23: North County Study Area Affordable Housing .....	31





Figure 3-24: South County Study Area Affordable Housing .....	31
Figure 3-25: North County Study Area Walking Mode Share .....	34
Figure 3-26: South County Study Area Walking Mode Share .....	34
Figure 3-27: North County Study Area Transit Mode Share .....	35
Figure 3-28: South County Study Area Transit Mode Share .....	35
Figure 3-29: North County Study Area Transit Network .....	37
Figure 3-30: South County Study Area Transit Network.....	37
Figure 3-31: North County Study Area Daily Transit Boardings .....	38
Figure 3-32: South County Study Area Daily Transit Boardings.....	38
Figure 3-33: North County Study Area Major Employment Centers.....	40
Figure 3-34: South County Study Area Major Employment Centers .....	40
Figure 3-35: North County Study Area Educational Institutions .....	41
Figure 3-36: South County Study Area Educational Institutions.....	41



## List of Tables

Table 2-1: St. Louis County Extension Study Areas Land Area .....	3
Table 3-1: Existing Land Use for North County and South County Study Areas, 2021 .....	7
Table 3-2: Population (2020 & 2045) .....	10
Table 3-3: Employment (2020 & 2045) .....	14
Table 3-4: Justice40 Disadvantaged Communities .....	18
Table 3-5: Opportunity Zones .....	20
Table 3-6: Low-Income Population .....	22
Table 3-7: Zero-Vehicle Households .....	24
Table 3-8: Minority Population .....	26
Table 3-9: Housing Unit Density .....	28
Table 3-10: Affordable Housing .....	30
Table 3-11: Work Commute Mode .....	33
Table 4-12: Summary.....	43



## 1.0 Introduction

### Project Overview

In 2017, East-West Gateway Council of Governments led the Northside-Southside MetroLink Conceptual Design Study (Northside-Southside Study) with support from the City of St. Louis and St. Louis County. In 2018, the East-West Gateway Council of Governments (EWGCOG) adopted a locally preferred alternative (LPA) for the Northside-Southside light rail (LRT) corridor between Jefferson Avenue at Chippewa Street to the south and Natural Bridge Avenue at Grand Boulevard to the north. This LPA built upon previous studies in 2000 and 2008 indicating a need for high-capacity transit service in this corridor.

The City of St. Louis' proposed Jefferson Avenue Alignment Alternative (**Figure 1-1**) would follow the 2018 LPA from the northern terminus at Grand Boulevard south along Natural Bridge Avenue and Parnell Street to Cass Avenue. From there the project would continue south on Jefferson Avenue serving new and planned developments on the west side of Downtown St. Louis and interfacing with a proposed new MetroLink Station near Ewing Yard. South of Chouteau Avenue, the alignment would resume along the 2018 LPA traveling south on Jefferson Avenue to Chippewa Street.

St. Louis County is evaluating potential extensions to the proposed Northside-Southside Jefferson Avenue Alignment Light Rail Alternative to the north or south of the Jefferson Avenue Alignment Alternative's proposed termini.

The following evaluation compares key indicators for potential extensions of the Northside-Southside Jefferson Avenue Alignment to the north or south into North St. Louis County or South St. Louis County as shown in **Figure 1-1**. The purpose of this memo is to compare transit-supportive characteristics of each study area and the county as a whole to establish which parts of the County could best support a high-capacity transit investment. A more detailed study of individual alignment alternatives will follow this screening analysis.

This map illustrates the proposed Jefferson Alignment and MetroLink extension study areas in St. Louis. The map is divided into two main sections: the North County Extension Study Area and the South County Extension Study Area. The Jefferson Alignment is shown as a solid orange line, with future city extensions indicated by dashed orange lines. Potential city extensions are shown as dotted orange lines. The map also displays existing MetroLink lines: the Blue & Red Line (thick blue line), the Blue Line (thin blue line), and the Red Line (thin red line). The City of St. Louis is outlined in black. Major highways (Interstates 270, 170, 64, 44, 55, and 255) and local streets are labeled. The Mississippi River is shown on the right side of the map. A legend in the bottom left corner defines the symbols used. A scale bar and north arrow are located in the bottom right corner.

**Legend**

- Jefferson Alignment Station
- Jefferson Alignment
- Future City Extension
- Potential City Extension
- City of St. Louis

**MetroLink**

- Blue & Red Line
- Blue Line
- Red Line

**North County Extension Study Area**

**South County Extension Study Area**

**St. Louis City**

**St. Louis County**

**Missouri**

**Illinois**

**MetroLink To IL**

**Scale:** 0 1 2 Miles

Final | North and South County Preliminary Screening Analysis | July 2023 | 2



## 2.0 Methodology

The following section describes the methodology and assumptions used to conduct the preliminary screening analysis of potential light rail extensions to North County and/or South County. The Study Area considered for North County (North County Study Area) is shown in **Figure 2-1** and is defined as the area encompassed by a roughly half mile buffer around Halls Ferry Road to the East, I-270 to the north, South Florissant Road and Natural Bridge Road to the West, and Goodfellow Boulevard to the east (see **Figure 2-1**). The Study Area for a potential extension in South County (South County Study Area) is defined as the half-mile buffer around the area bounded by the Mississippi River to the east, the St. Louis County line to the north, I-55 to the west, and I-255 to the south (see **Figure 2-2**). As shown in **Table 2-1**, The North County Study Area contains approximately 23.4 square miles (sq. mi.), and the South County Study Area contains 14.9 sq. mi.

**Table 2-1: St. Louis County Extension Study Areas Land Area**

	North County Study Area	South County Study Area	St. Louis City	St. Louis County
Land Area (sq. mi.)	23.4	14.9	62.1	508.7

Source: AECOM

A review of key planning metrics including land use, demographics, employment as well as an overview of key housing, economic, and travel patterns was conducted for the North County and South County Study Areas. To provide regional context, each Study Area metric was compared to the corresponding value for St. Louis County and City of St. Louis, as applicable.

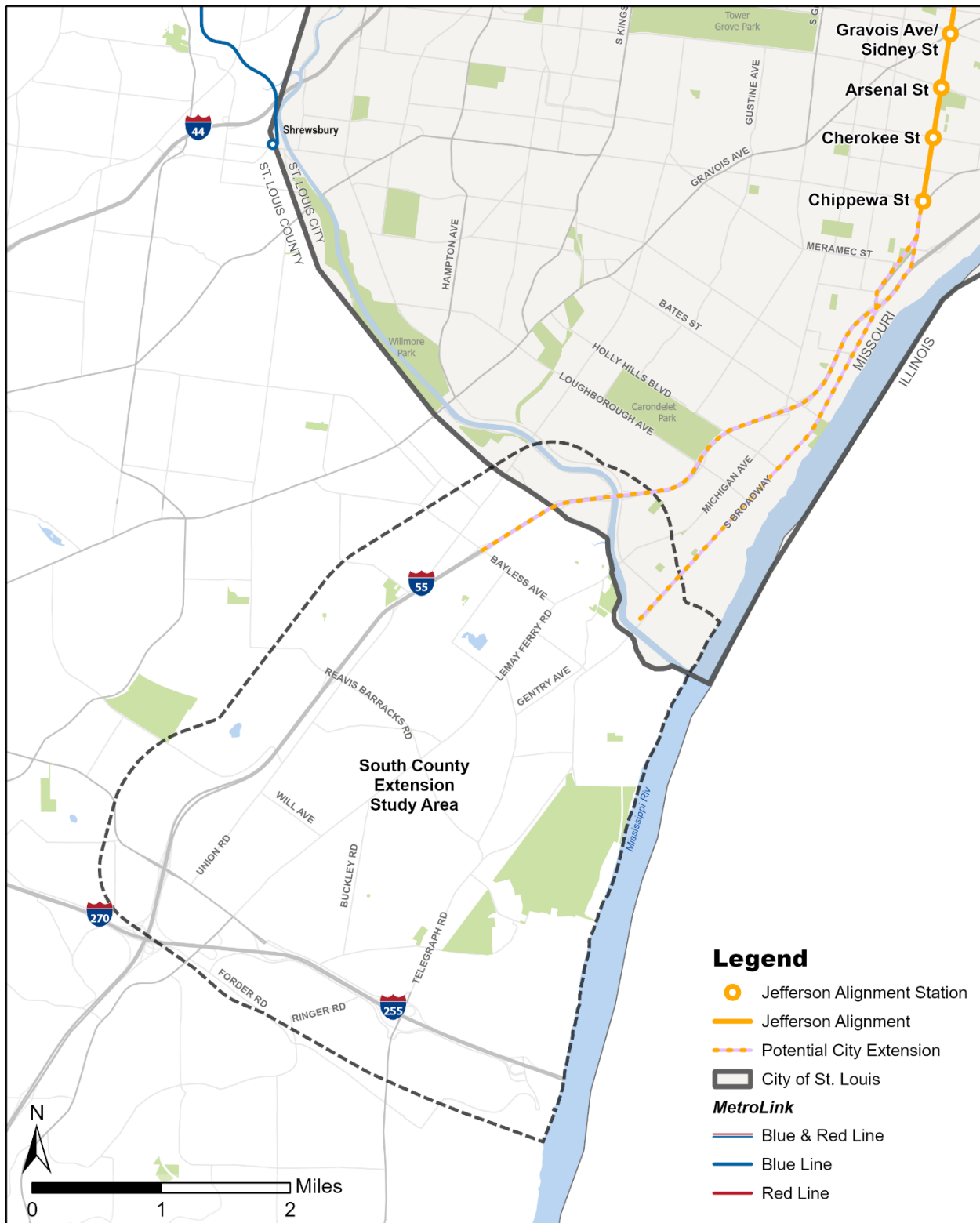
Data sources include 2016-2020 American Community Survey (ACS) Census Tract estimates, regional population and employment forecasts summarized to traffic analysis zones (TAZs), as well as data from local stakeholders and agencies. For block groups or TAZs that partially fall within the Corridor, planning metrics were scaled according to the share of the zone's land area within the Study Areas consistent with the FTA's Capital Investment Grants (CIG) program methodology. For example, if 90% of a tract's land area fell within a Study Area, 90% of the tract's population would be included as population within the Study Area. This methodology assumes an even distribution of data within the geographic unit of analysis.

Figure 2-1: North County Study Area



Source: AECOM, April 2023

**Figure 2-2: South County Study Area**



Source: AECOM, April 2023





## 3.0 Results

The following section describes the results of the preliminary screening analysis of potential light rail extensions to North County and/or South County. Key areas of analysis include land use and development, demographics, disadvantaged populations, housing, and travel patterns. Typically, high-capacity transit investment is best supported by:

- Areas of higher density zoning and development patterns,
- Historically Disadvantaged communities, including those with low household income, those without access to a vehicle, and minority communities,
- Areas with established bus transit use, and
- Legally-binding affordable housing availability.

## Land Use and Development

### Existing Land Use Conditions

St. Louis County divides county land use into nine different categories. In general, land use is categorized into commercial, residential, industrial/utility, institutional, parks, recreation, and vacant/agriculture. Residential land uses are divided into three sub-categories: single family, duplex/townhouse, and multi-family. Due to the similarities in how parks and recreation parcels are used, parks and recreation categories have been combined into a single category. Institutional land uses include cemeteries.

The distribution of existing land uses within the North County and South County Study Areas and St. Louis County overall is depicted in **Table 3-1**. The distribution of existing land uses within the North County and South County Study Areas are mapped in **Figure 3-1** and **Figure 3-2**, respectively. In relationship to the data sources, the land use categorizations in St. Louis County differ from those in the City of St. Louis. Therefore, only land uses in St. Louis County were analyzed for consistency although each Study Area overlaps with small portions of the City of St. Louis.

### North County Study Area

The North County Study Area is primarily comprised of residential land uses (63.9%) with single family residences making up 59.2% of all land uses in the North County Study Area. The share of residential land uses is significantly higher in the North County Study Area compared to both the South County Study Area and St. Louis County (see **Table 3-1**). In particular, the North County Study Area contains a higher share of multi-family residential land uses (4.0%) compared to the South County Study Area (2.7%). Multi-family residential land uses typically are more supportive of transit compared to single family residential land uses. Industrial/utility (2.0%) represent the smallest share of land uses in the North County Study Area. Commercial and industrial/utility land uses are concentrated along major roads and highways within the North County Study Area, including Dunn Road and Pershall Road parallel to I-270, West Florissant Avenue, Ferguson Avenue, South Florissant Road, Halls Ferry Road, and Natural Bridge Road. Overall, the North County Study Area contains a significantly smaller share of vacant/agriculture parcels (10.1%) compared to St. Louis County (24.0%), but a larger share than the South County study area. These vacant/agriculture parcels are often located along existing commercial corridors.





## South County Study Area

The South County Study Area is primarily comprised of residential land uses (50.9%) with single family residences making up 47.4% of all land uses in the South County Study Area. The share of residential land uses is comparable to that of St. Louis County, but it is significantly lower to that of the North County Study Area. Industrial/utility (5.8%) represent the smallest share of land uses in the South County Study Area. The shares of commercial (10.7%) and industrial/utility land uses in the South County Study Area are higher than those in the North County Study Area. Commercial land uses are concentrated in the southwest portion of the South County Study Area to the north of the I-55/I-270/I-255 interchange. Commercial and industrial/utility land uses radiate northeast from this area along Lemay Ferry Road and the western side of I-55. Another concentration of commercial and industrial/utility land uses is located in the area between I-55 and Lemay Ferry Road from the south to the north of the South County Study Area. Vacant/agriculture and institutional land uses are also located in this area in the vicinity of Reavis Barracks Road. A concentration of open space is located along the Mississippi River consisting of Jefferson Barracks Park and Jefferson Barracks National Cemetery.

**Table 3-1: Existing Land Use for North County and South County Study Areas, 2021**

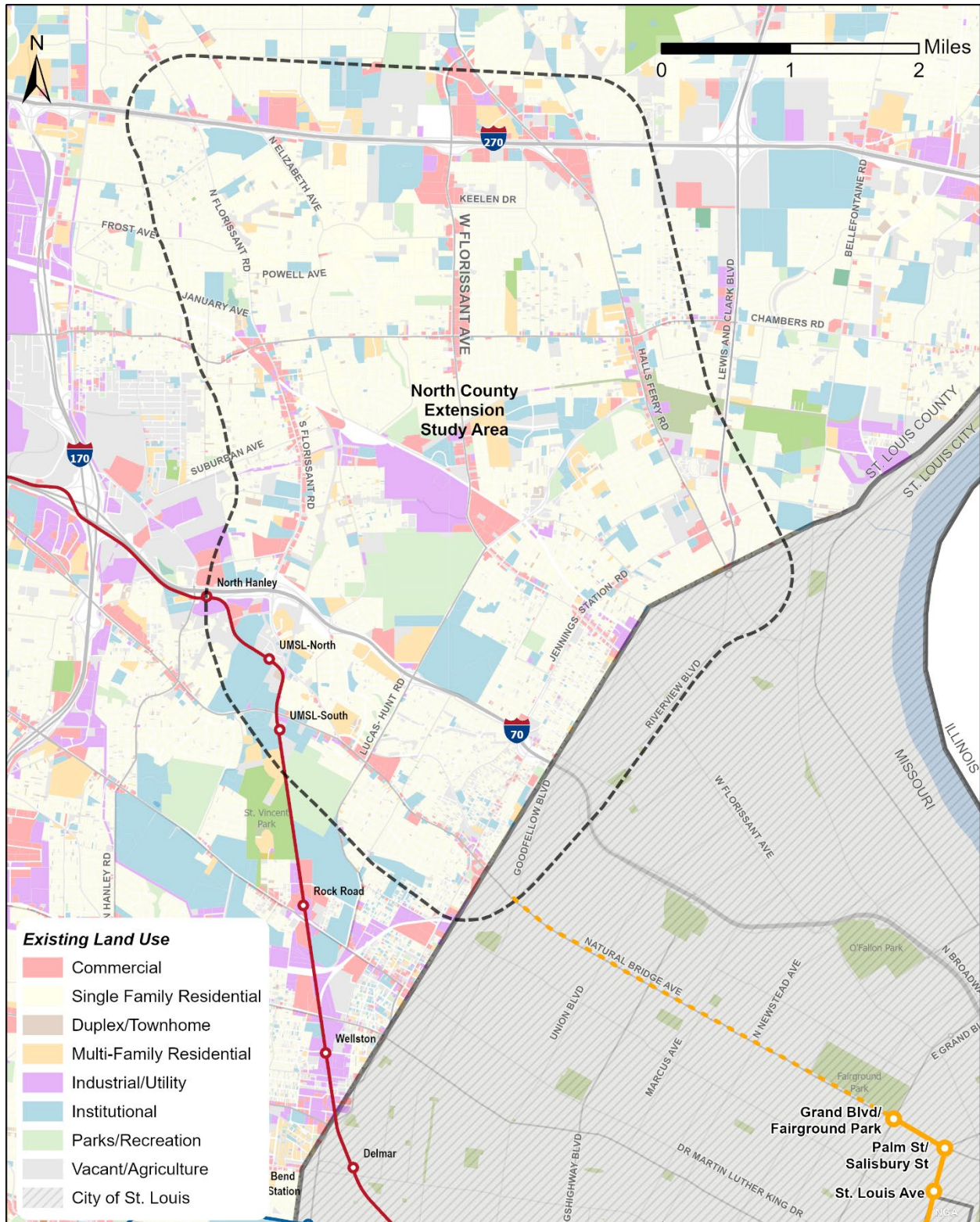
	North County Study Area	South County Study Area	St. Louis County
<b>Commercial</b>	7.1%	10.7%	7.4%
<b>Single Family Residential</b>	59.2%	47.4%	44.5%
<b>Duplex/Townhouse Residential</b>	0.7%	0.8%	1.3%
<b>Multi-Family Residential</b>	4.0%	2.7%	2.3%
<b>Industrial/Utility</b>	2.0%	5.8%	6.0%
<b>Institutional</b>	12.0%	15.3%	5.7%
<b>Parks/Recreation</b>	4.9%	9.0%	8.8%
<b>Vacant/Agriculture</b>	10.1%	8.3%	24.0%

Source: Saint Louis County GIS Service Center, St. Louis County, October 1, 2021

# NORTH STL COUNTY COMMUNITY CONNECTOR



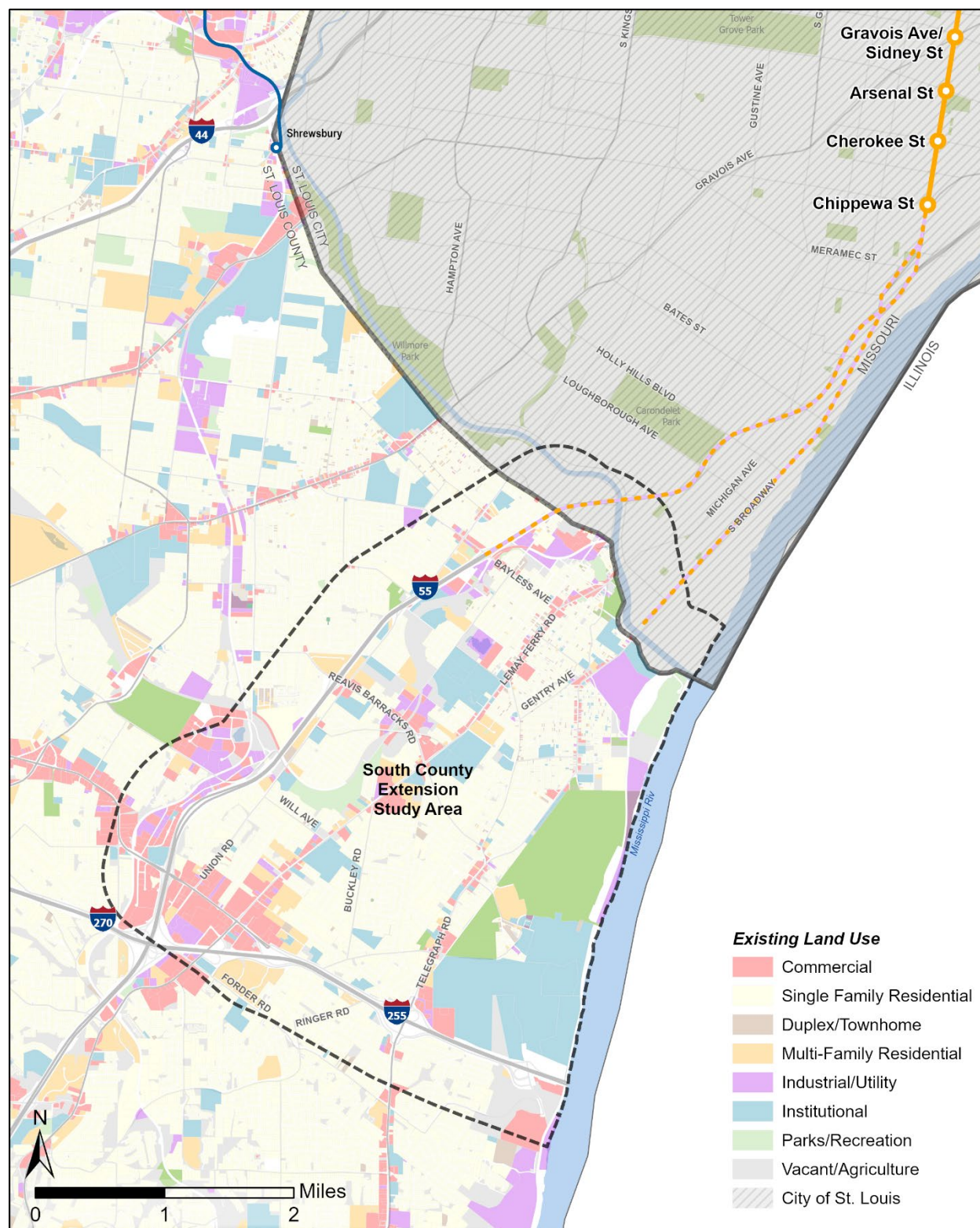
Figure 3-1: North County Study Area Existing Land Use, 2021



Source: Saint Louis County GIS Service Center, St. Louis County, October 1, 2021, AECOM, April 2023



**Figure 3-2: South County Study Area Existing Land Use, 2021**



Source: Saint Louis County GIS Service Center, St. Louis County, October 1, 2021, AECOM, April 2023



## Demographics

Demographic and land use patterns in the St. Louis region reflect larger national trends where urban neighborhoods contend with legacies of disinvestment and suburban areas absorb much of the region's economic and population growth. As largely suburban areas with high shares of residential land uses, the North County and South County Study Areas exemplify this national trend. However, the growth of employment opportunities in the City of St. Louis and St. Louis County and the successful revitalization of urban neighborhoods in the City of St. Louis creates opportunities for sustainable and equitable commuting opportunities within the St. Louis region.

This section will examine current demographic conditions within the North County and South County Study Areas and compare those to the City of St. Louis and St. Louis County as a baseline to understand the unique character of each Study Area and potential riders. This section will also evaluate current conditions against future projections. The EWGCOG's current long-range plans include projections to the horizon year 2045. For the purposes of this analysis, 2045 will also be used to evaluate future conditions.

## Population Density

As highlighted below in **Table 3-2**, the North County and South County Study Areas are expected to experience minor population loss, a trend following losses experienced by St. Louis County and the City of St. Louis. However, losses in the North County Study Area (-1.4%) are projected to be proportionally greater than those of the South County Study Area (-0.6%). In addition, losses in the North County Study Area are projected to be proportionally greater than those of St. Louis County (-0.7%) but comparable to those of the City of St. Louis (-1.5%). Losses in the South County Study Area are projected to be proportionally less than those of both St. Louis County and the City of St. Louis. Although overall losses are projected to be greater in the North County Study Area, population density is also an important factor in the success of public transit. Higher densities of residents within walking distance of or near a transit corridor increases potential ridership. Increasing the density of riders strengthens the system.

**Table 3-2: Population (2020 & 2045)**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Total Population (2020)</b>	96,300	54,700	314,400	1,004,500
<b>Total Population (2045)</b>	95,000	54,400	309,600	997,500
<b>Change in Population (2020-2045)</b>	<b>-1,300 (-1.4%)</b>	<b>-300 (-0.6%)</b>	<b>-4,800 (-1.5%)</b>	<b>-7,000 (-0.7%)</b>
<b>Population Density (2020) People/sq. mi.</b>	4,120	3,670	5,060	1,980
<b>Population Density (2045) People/sq. mi.</b>	4,070	3,660	4,980	1,960
<b>Change in Population Density (2020-2045)</b>	<b>50 (-1.2%)</b>	<b>10 (-0.3%)</b>	<b>-80 (-1.6%)</b>	<b>20 (-1.0%)</b>

Source: EWGCOG TAZ Data

Note: Total population values are rounded to the nearest 100. Densities are rounded to the nearest 10. Percentages are rounded to the nearest 0.1%.



## Population Density 2020

### *North County Study Area*

The North County Study Area currently includes approximately 96,300 residents, which represents approximately 9.6% of the St. Louis County population. The current North County Study Area population density is approximately 4,120 people per sq. mi. (people/sq. mi.), which is more than double that of St. Louis County (1,980 people/sq. mi.). **Figure 3-3** depicts 2020 population density distributions within the North County Study Area. The areas of highest population density are concentrated in the southeast near the City of St. Louis boundary. Moving northwest, the central and eastern sections of the North County Study Area also contain areas of high population density.

### *South County Study Area*

The South County Study Area currently includes approximately 54,700 residents, which represents approximately 5.4% of the St. Louis County population. The current South County Study Area population density is approximately 3,670 people/sq. mi., which is significantly higher than that of St. Louis County (1,980 people/sq. mi.). The total population and population density are significantly lower compared to the North County Study Area. **Figure 3-4** depicts 2020 population density distributions within the South County Study Area. Population density is distributed evenly throughout the South County Study with fewer residents located in the vicinity of parks, recreation, and institutional open space areas along the Mississippi River. The areas of highest population density are concentrated in the northeast near the City of St. Louis boundary.

## Population Density 2045

Population loss has been an overall trend for St. Louis in the decades since 1950. Between 2020 and 2045, EWGCOG projections indicate a 0.7%% decline in population across St. Louis County. Some of this population loss could occur in the North County and South County Study Areas. None of the population loss is expected to exceed 1,000 people/sq. mi. Population density losses could be greater in the North County Study Area (-1.2%) compared to the South County Study Area (-0.3%). As shown in **Figure 3-5**, slight population density decline in the North County Study Area could occur in the neighborhoods in the southwest to the south of I-70 and in the vicinity of the Chambers Road/West Florissant Avenue intersection. As shown in **Figure 3-6**, slight population density decline in the South County Study Area could occur in the neighborhoods to the northeast and adjacent to the City of St. Louis and in the southwest along Lemay Ferry Road. It is important to note that regional population estimates do not currently account for the potential stabilizing or growth-inducing effects of the LRT in the North County or South County Study Areas.

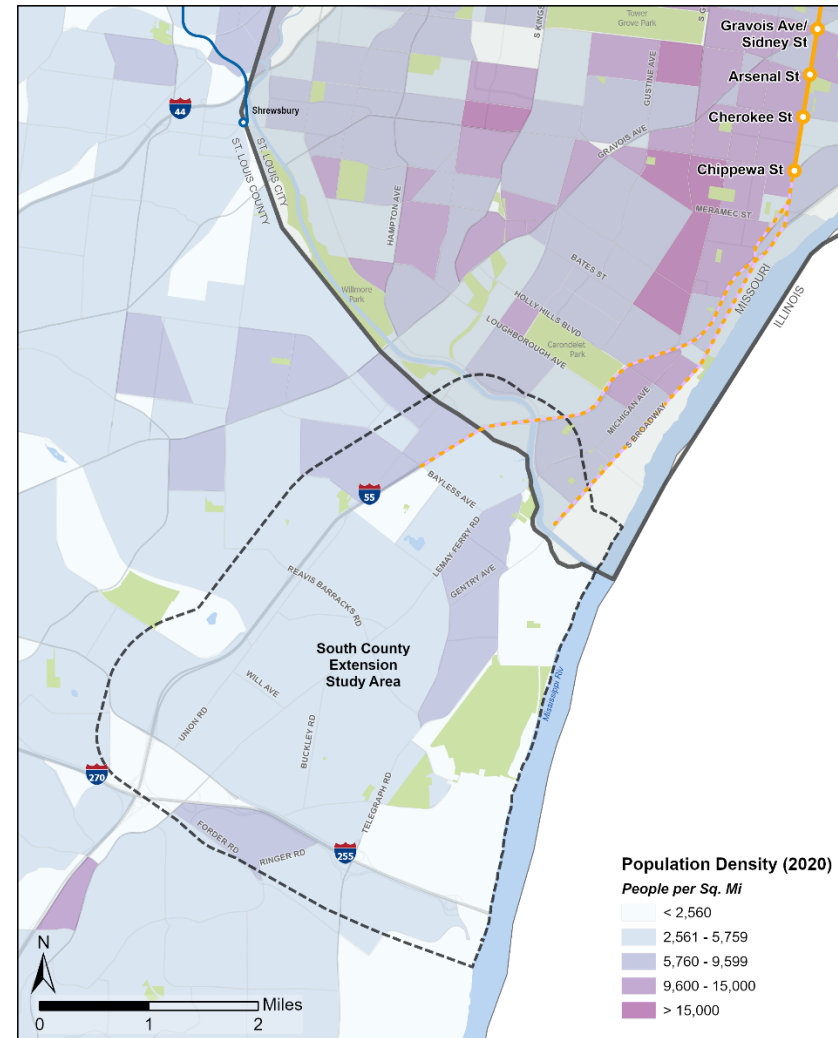


**Figure 3-3: North County Study Area Population Density (2020)**



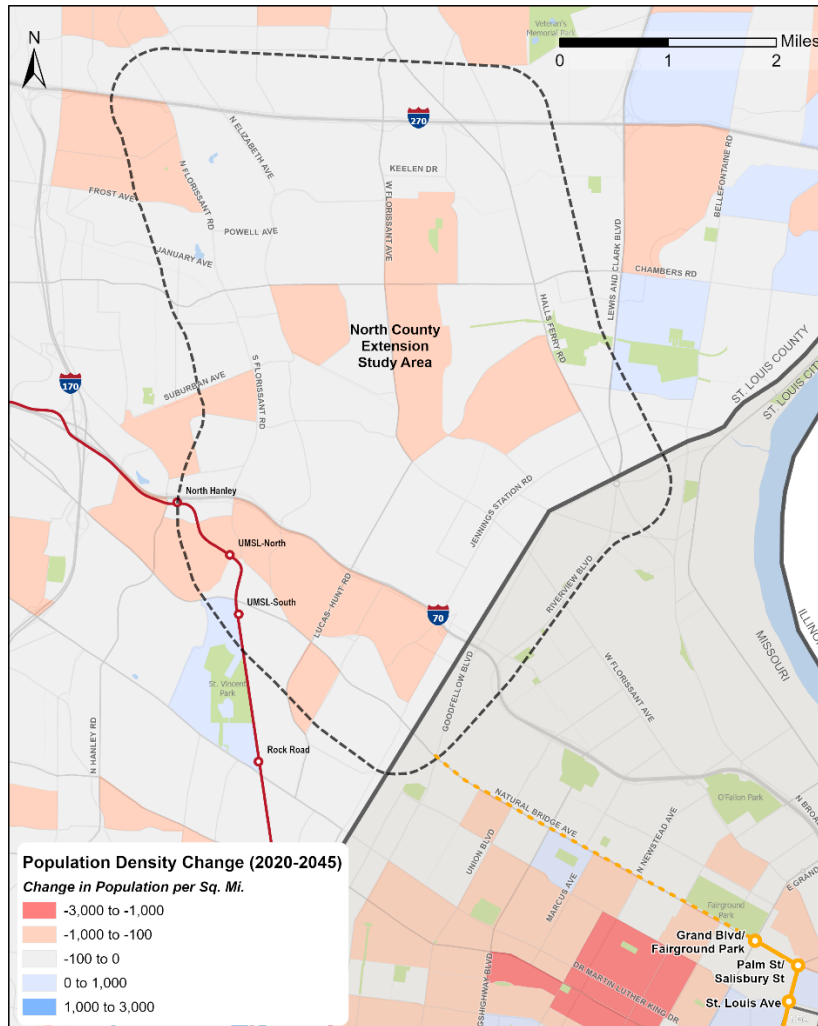
Source: EWGCOG TAZ Data, AECOM, April 2023

**Figure 3-4: South County Study Area Population Density (2020)**



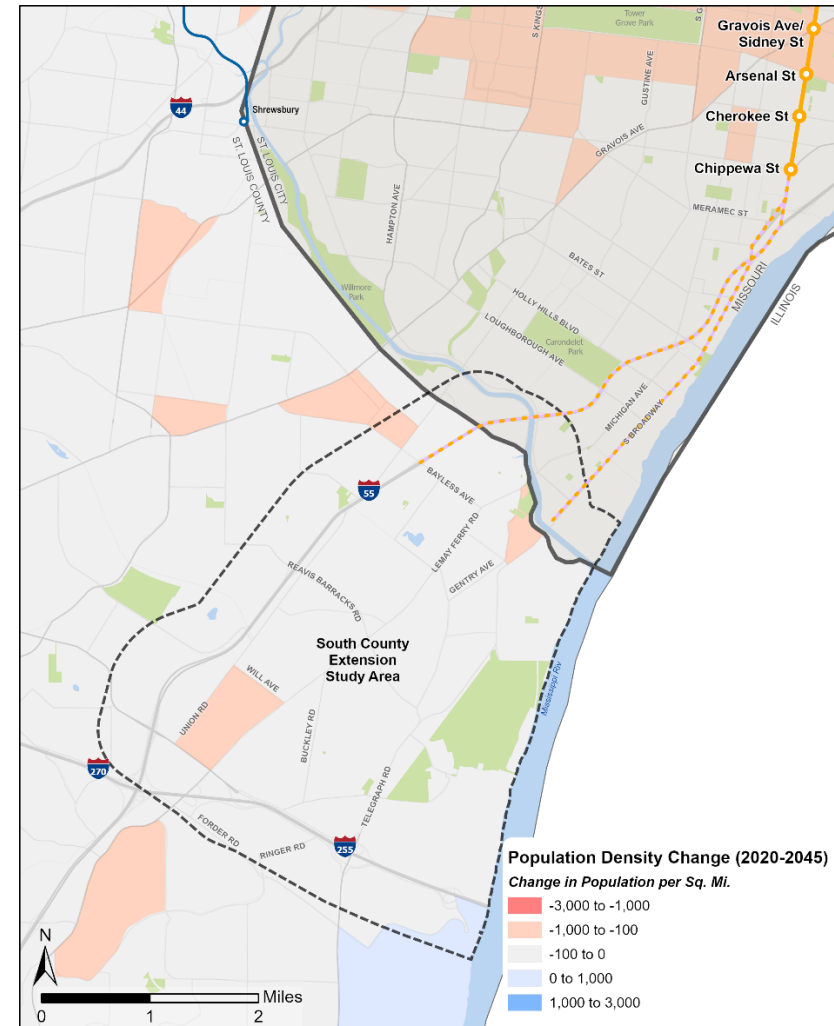
# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-5: North County Study Area Population Density Change (2020-2045)**



Source: EWGCOG TAZ Data, AECOM, April 2023

**Figure 3-6: South County Study Area Population Density Change (2020-2045)**



# NORTH STL COUNTY COMMUNITY CONNECTOR

## Employment Density

**Table 3-3** includes the number of total jobs and employment densities in 2020 and 2045, as well as the projected changes in these metrics between 2020 and 2045. In concurrence with the existing EWGCOG's long range planning efforts, 2045 has been selected as the horizon year to evaluate changes in employment density. As discussed in the population density section, employment density likewise has an important role in the success of transit systems. Placing more jobs within reach of public transit has a positive effect on ridership as more people have the option of choosing transit to reach their destinations.

**Table 3-3: Employment (2020 & 2045)**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Total Jobs (2020)</b>	41,200	29,600	285,100	788,700
<b>Total Jobs (2045)</b>	41,300	29,700	299,900	805,900
<b>Change in Jobs (2020-2045)</b>	<b>100 (+0.2%)</b>	<b>100 (+0.3%)</b>	<b>14,800 (+5.2%)</b>	<b>17,200 (+2.2%)</b>
<b>Employment Density (2020)</b> <i>Jobs/sq. mi.</i>	1,760	1,980	4,580	1,550
<b>Employment Density (2045)</b> <i>Jobs/sq. mi.</i>	1,770	1,990	4,820	1,580
<b>Change in Employment Density (2020-2045)</b>	<b>10 (+0.6%)</b>	<b>10 (+0.5%)</b>	<b>240 (+5.2%)</b>	<b>30 (+1.9%)</b>

Source: EWGCOG TAZ Data

Note: Total population values are rounded to the nearest 100. Densities are rounded to the nearest 10. Percentages are rounded to the nearest 0.1%.

## Employment Density 2020

### North County Study Area

The North County Study Area currently contains approximately 41,200 jobs, which is significantly higher than the South County Study Area. This represents approximately 5.2% of the total employment in St. Louis County. Employment density in the North County Study Area (1,760 jobs/sq. mi.) is greater than that of St. Louis County (1,550 jobs/sq. mi.). As shown in **Figure 3-7**, employment density in the North County Study Area is highest in the western section along the existing MetroLink line.

### South County Study Area

The South County Study Area currently contains approximately 29,600 jobs. This represents approximately 3.8% of the total employment in St. Louis County. Employment density in the South County Study Area (1,980 jobs/sq. mi.) is greater than that of St. Louis County (1,550 jobs/sq. mi.) and much greater than that of the North County Study Area. As shown in **Figure 3-8**, employment density is evenly distributed in the South County Study Area with the highest concentration of jobs located in the southwestern section to the south of South Lindbergh Boulevard and I-255.



### Employment Density 2045

Employment projections for 2045 estimate slight employment growth within the North County and South County Study Areas. Employment density growth could be nearly identical in the North County and South County Study Areas, as both study areas could gain approximately 100 jobs. The North County Study Area employment density could grow by approximately 0.6%, and the South County Study Area employment density could grow by approximately 0.5%. However, both the North County and South County Study Areas' employment density growth would fall short of that of St. Louis County (1.9%).

As shown in **Figure 3-9**, employment density in the North County Study Area is projected to grow in the northern, eastern, and central sections of the Study Area. **Figure 3-10** illustrates that employment density in the South County Study Area is projected to grow in the eastern and western sections of the Study Area.

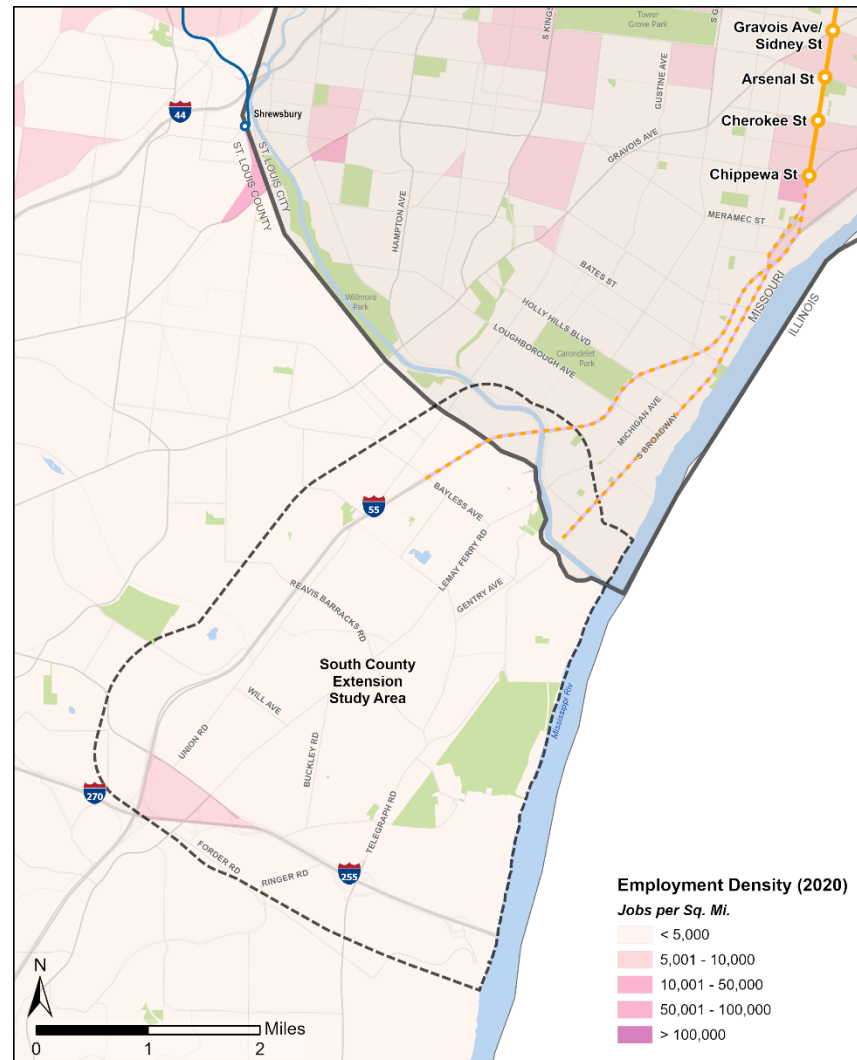
Public transit within either the North County and South County Study Areas would connect future job growth and employment density with opportunities in the City of St. Louis. As shown in **Table 3-3**, employment opportunities in the City of St. Louis could grow by 5.2%.

# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-7: North County Study Area Employment Density (2020)**



**Figure 3-8: South County Study Area Employment Density (2020)**



Source: EWGCOG TAZ Data, AECOM, April 2023

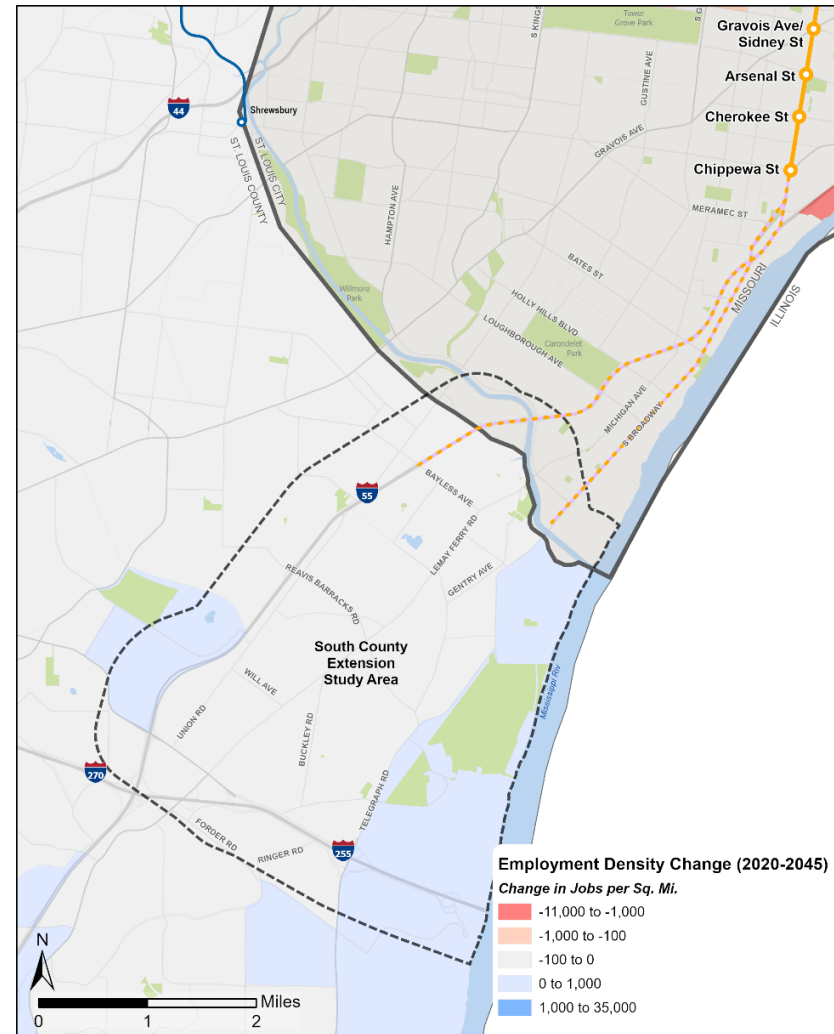
# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-9: North County Study Area Employment Density Change (2020-2045)**



Source: EWGCOG TAZ Data, AECOM, April 2023

**Figure 3-10: South County Study Area Employment Density Change (2020-2045)**





## Disadvantaged Populations

Disadvantaged populations are those that are underserved and underrepresented or have otherwise historically borne a disproportionate share of negative impacts associated with major transportation projects. These communities can include, but are not limited to, low-income and minority populations as well as zero-car households. These populations often depend upon public transit to access employment, education, and essential services and it is critically important that transportation projects such as the North County or South County Extensions maximize benefits to these communities while mitigating potential negative impacts.

## Justice40 Initiative Disadvantaged Communities

The Justice40 Initiative was created in 2021 as part of the Biden-Harris Administration's Executive Order 14008 and has made it a goal that 40% of the overall benefits of certain Federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution. As part of Justice40, the White House Council on Environmental Quality (CEQ) created the Climate and Economic Justice Screening Tool (CEJST), a geospatial mapping tool to identify disadvantaged communities according to census tracts. **Table 3-5** outlines the share of census tracts classified as disadvantaged communities in the North County and South County Study Areas relative to St. Louis County and the City of St. Louis. In addition, **Figure 3-11** and **Figure 3-12** depict disadvantaged communities in the North County Study Area and South County Study Area, respectively.

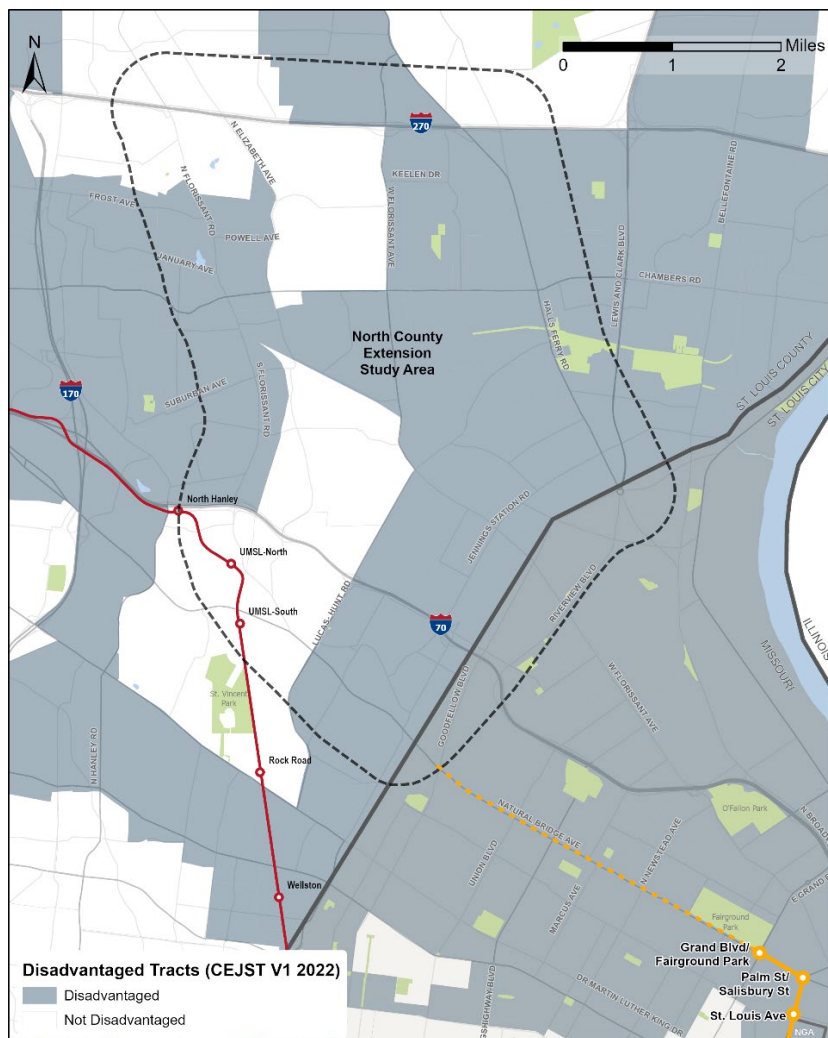
Approximately 68.9% of the land area within the North County Study Area is classified as disadvantaged communities, which is significantly higher than that of the South County Study Area (18.6%) and St. Louis County overall (11.9%). The percentage of the North County Study Area that is a disadvantaged community is 3.7 times greater than that of the South County Study Area. As shown in **Figure 3-11**, disadvantaged communities in the North County Study Area are distributed throughout the Study Area, particularly in the eastern, central, and western sections. By comparison, disadvantaged communities in the South County Study Area are fewer and concentrated in the southeastern section of the Study Area north of I-255 (see **Figure 3-12**).

**Table 3-4: Justice40 Disadvantaged Communities**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
% Disadvantaged Communities	68.9%	18.6%	55.3%	11.9%

# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-11: North County Study Area Justice40 Disadvantaged Communities**



Source: Climate and Economic Justice Screening Tool V1, AECOM, April 2023

**Figure 3-12: South County Study Area Justice40 Disadvantaged Communities**





## Opportunity Zones

Opportunity Zones are federally certified census tracts where new investments, under certain conditions, may be eligible for preferential tax treatment. This economic development tool is designed to promote economic growth in low-income communities by incentivizing investors through tax benefits. Opportunity Zones in either the North County or South County Study Areas provide incentive for economic growth along a future high-capacity transit line. **Table 3-5** outlines the share of land area classified as an Opportunity Zones in the North County and South County Study Areas relative to St. Louis County and the City of St. Louis. In addition, **Figure 3-13** and **Figure 3-14** depict Opportunity Zones in the North County Study Area and South County Study Area, respectively.

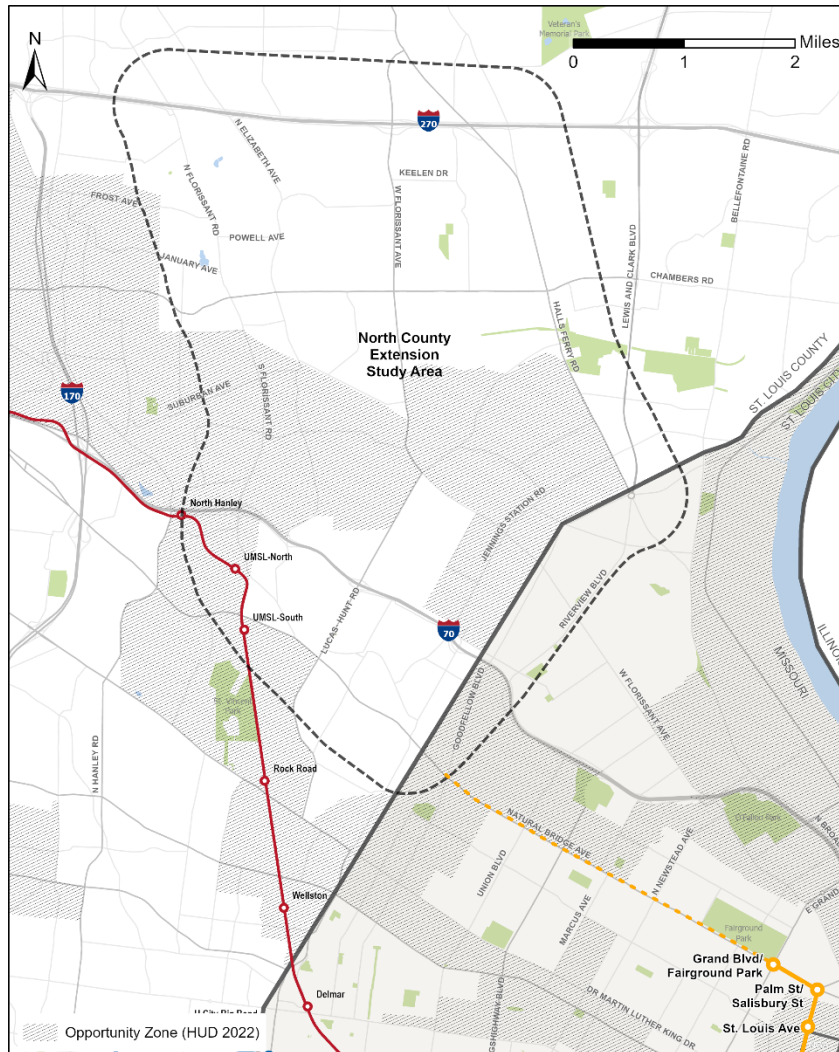
Approximately 30.8% of the land area within the North County Study Area is classified as an Opportunity Zone, which is significantly higher than that of the South County Study Area (10.9%) and St. Louis County overall (5.2%). The North County Study Area contains approximately three times as much Opportunity Zone coverage compared to the South County Study Area. As shown in **Figure 3-13**, Opportunity Zones in the North County Study Area are concentrated in the southern and western sections of the Study Area. By comparison, Opportunity Zones in the South County Study Area are fewer and concentrated in the northeastern section of the Study Area bordering the City of St. Louis (see **Figure 3-14**).

**Table 3-5: Opportunity Zones**

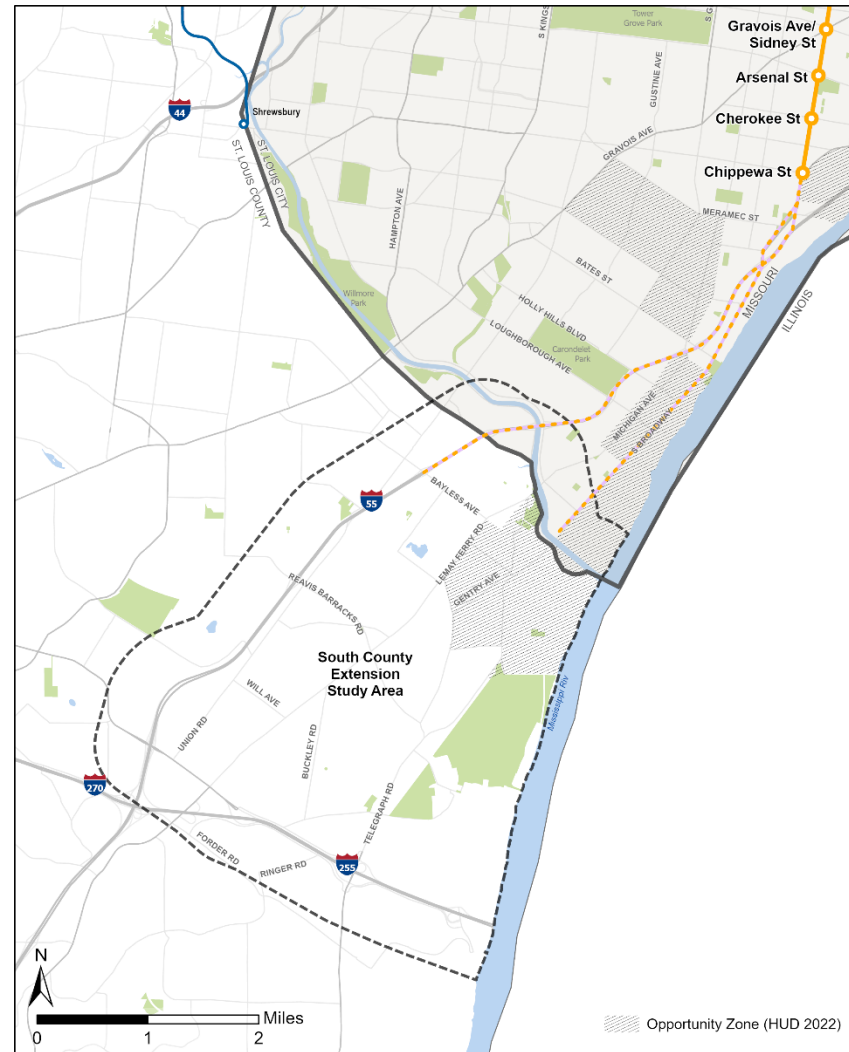
	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
% Opportunity Zone	30.8%	10.9%	37.0%	5.2%



**Figure 3-13: North County Study Area Opportunity Zones**



**Figure 3-14: South County Study Area Opportunity Zones**



Source: Housing and Urban Development 2022 Opportunity Zones, AECOM, April 2023



## Population Below Poverty Level

Public transit is an essential lifeline for residents, mitigating households' transportation cost burden. As shown in **Table 3-6**, 21.8% of the North County Study Area residents live below the poverty threshold, which is significantly higher than the South County Study Area (11.3%). The percent of North County Study Area residents living below the poverty threshold is also significantly higher than St. Louis County (9.3%). The percentage of the North County Study Area with population below the poverty level is approximately two times greater than that of the South County Study Area. Poverty thresholds are dollar amounts used to determine poverty status. These thresholds vary by household size and age of family members.

As shown in **Figure 3-15**, residents living below the poverty threshold in the North County Study Area are distributed across the Study Area. However, concentrations are located in the eastern section of the Study Area along the Halls Ferry Road corridor, in the southeast section along the Jennings Station Road corridor, in the central section along the West Florissant Avenue Corridor, and in the western section to the west of South Florissant Road. Comparatively, residents living below the poverty threshold in the South County Study Area are concentrated in the northeastern section of the Study Area bordering the City of St. Louis (see **Figure 3-16**). Concentrations in the South County Study Area are also located along the major roadway corridors: I-55, Lemay Ferry Road, and South Lindbergh Boulevard and I-255.

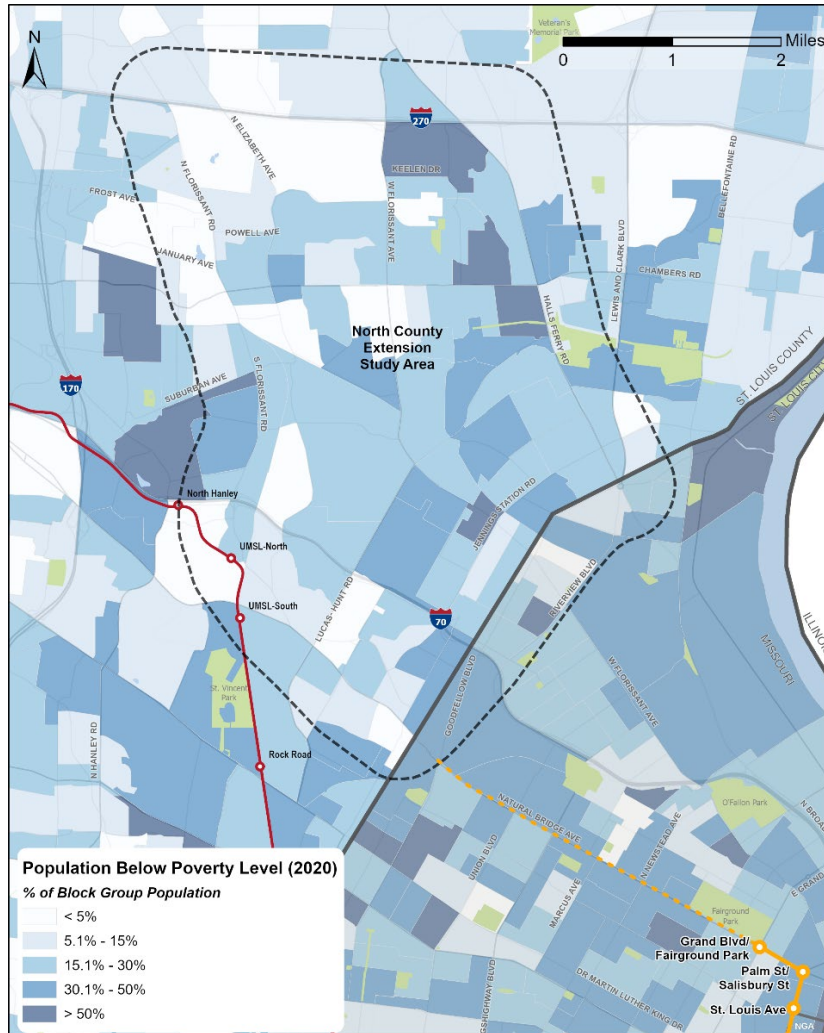
**Table 3-6: Low-Income Population**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Population Below the Poverty Line</b>	21.8%	11.3%	20.4%	9.3%

Source: 2016-2020 ACS 5 Year Estimates, Table B17021

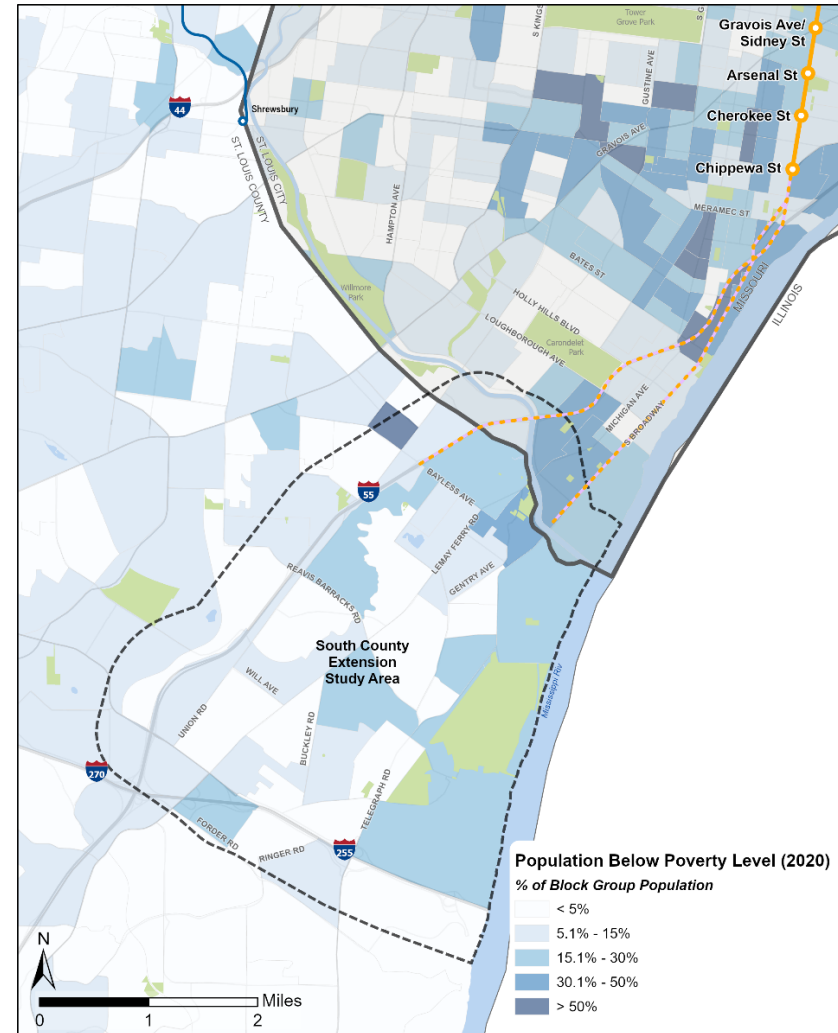


**Figure 3-15: North County Study Area Population Below the Poverty Level**



Source: 2016-2020 ACS 5 Year Estimates, Table B17021, AECOM, April 2023

**Figure 3-16: South County Study Area Population Below the Poverty Level**





## Zero-Vehicle Households

Transportation cost burdens are often significant for low-income households, and many do not have private automobiles available to access employment or essential services. **Table 3-7** shows the rates of household zero-vehicle ownership within the North County and South County Study Areas compared to St. Louis County and the City of St. Louis. Approximately 15.2% of the households in the North County Study Area do not have vehicles available, which is significantly higher than the South County Study Area (7.2%) and St. Louis County (6.2%). The percentage of the North County Study Area that do not have vehicles available is approximately two times greater than that of the South County Study Area. The rate of households that do not have vehicles in the North County Study Area is slightly lower but comparable with St. Louis City (18.7%). As shown in **Figure 3-17**, households that do not have vehicles in the North County Study Area are concentrated in the southeastern and eastern sections of the Study Area, particularly to the west of Halls Ferry Road and along Lucas Hunt Road.

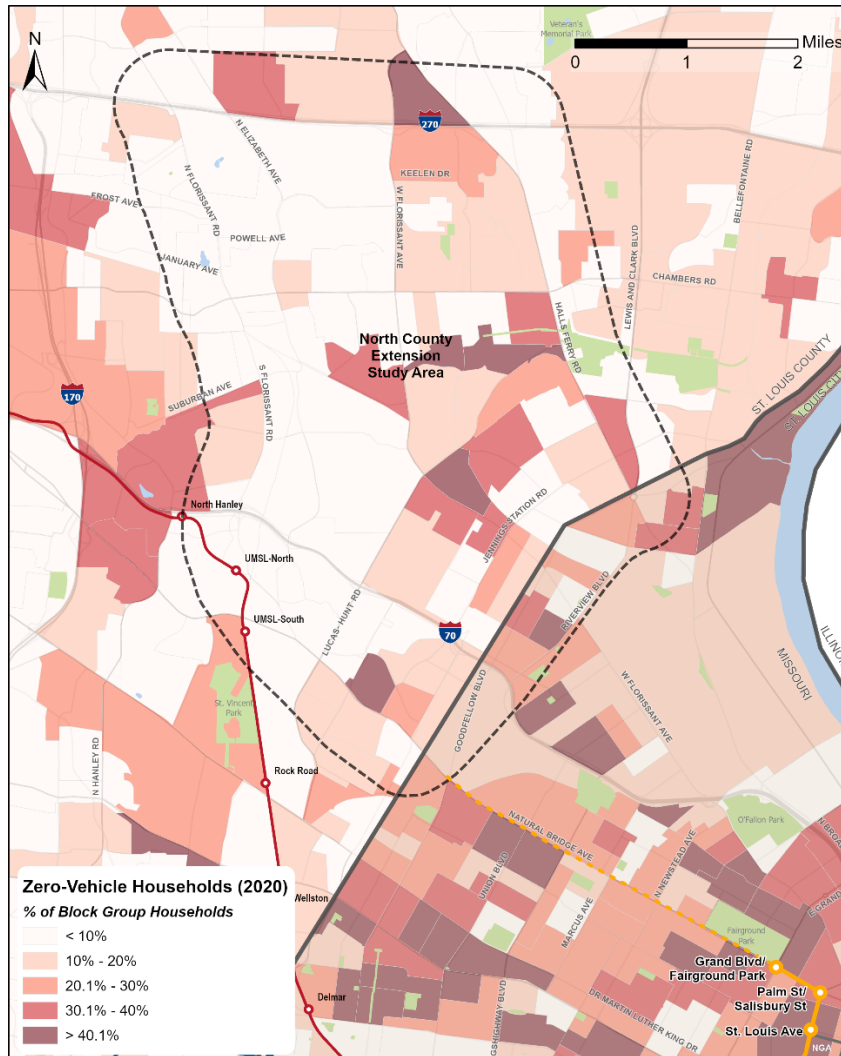
Within the South County Study Area, approximately 7.2% of the households do not have access to vehicles available, which is slightly higher than St. Louis County. However, this rate is significantly lower than that of the North County Study Area. As shown in **Figure 3-18**, these households that do not have vehicles are distributed throughout the South County Study Area with a small concentration in the southwestern section of the Study Area.

**Table 3-7: Zero-Vehicle Households**

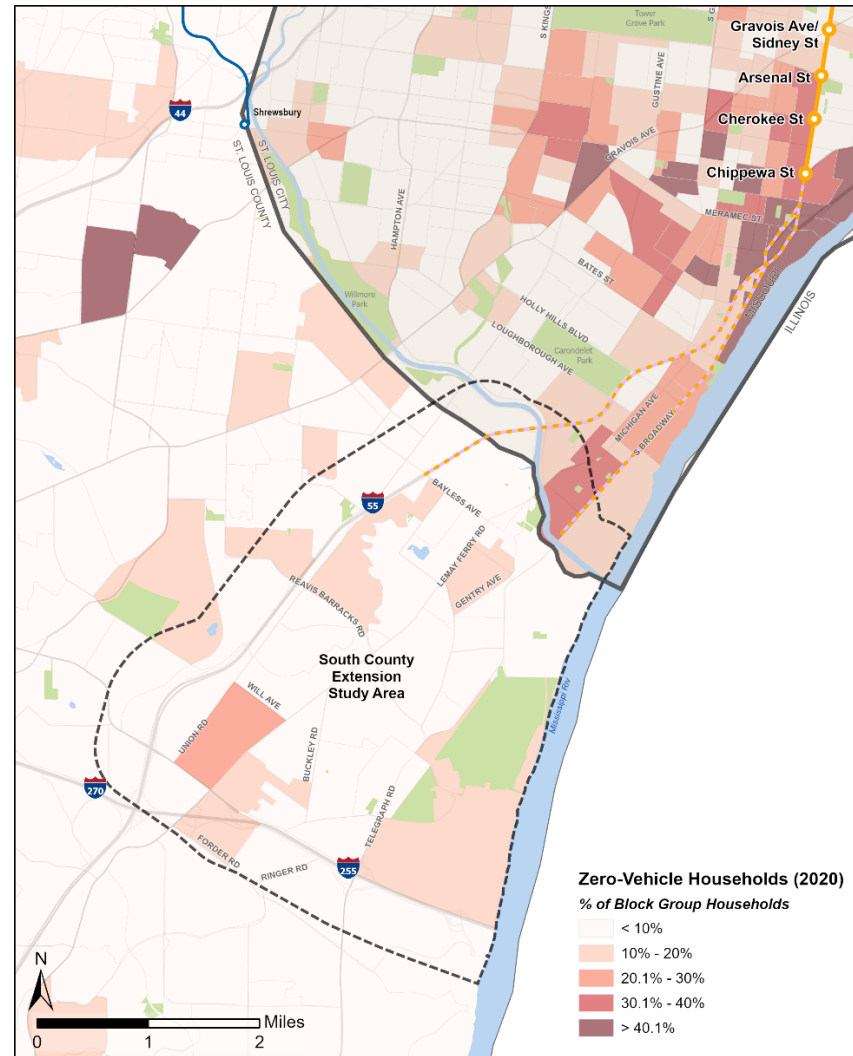
	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
% Zero-Vehicle Households	15.2%	7.2%	18.7%	6.2%

Source: 2016-2020 ACS 5 Year Estimates, Table B25044

**Figure 3-17: North County Study Area Zero-Vehicle Households**



**Figure 3-18: South County Study Area Zero-Vehicle Households**



Source: 2016-2020 ACS 5 Year Estimates, Table B25044, AECOM, April 2023



## Minority Population

For this analysis, minority has been defined as a person that identifies as a race or ethnicity other than non-Hispanic, White. As shown in **Table 3-8**, approximately 35.2% of the St. Louis County population are minority residents, which is significantly lower than the City of St. Louis (56.1%).

Approximately 87.4% of the residents in the North County Study Area are defined as a minority population, which is significantly higher than St. Louis County and the South County Study Area (14.2%). The percentage of minority population in the North County Study Area is over six times greater than that of the South County Study Area. As shown in **Figure 3-19**, high concentrations of minority populations are distributed evenly across the North County Study Area.

Approximately 14.2% of the residents in the South County Study Area are defined as a minority population, which is significantly lower than St. Louis County and the North County Study Area. As shown in **Figure 3-20**, the distribution of minority populations is uneven throughout the Study Area.

**Table 3-8: Minority Population**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Minority Population*</b>	87.4%	14.2%	56.1%	35.2%

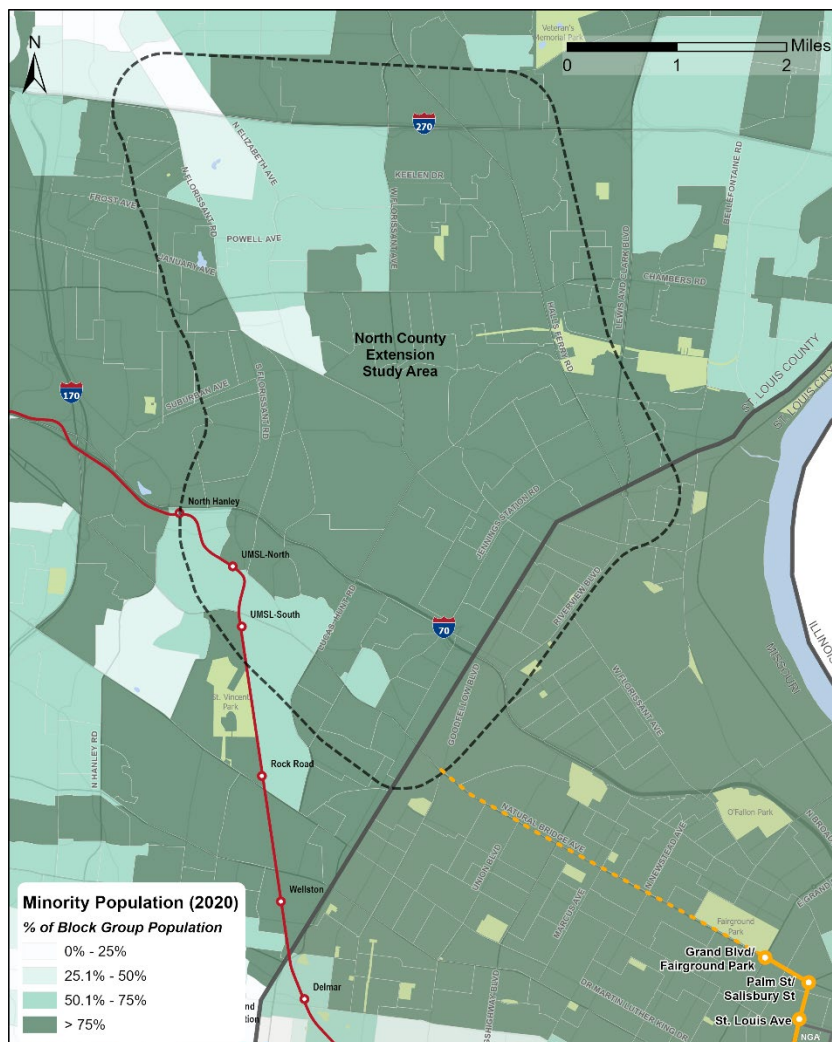
Source: 2016-2020 ACS 5 Year Estimates, Table B19013

\* Minority population includes all races that are non-white as well as Hispanic populations that identify as white

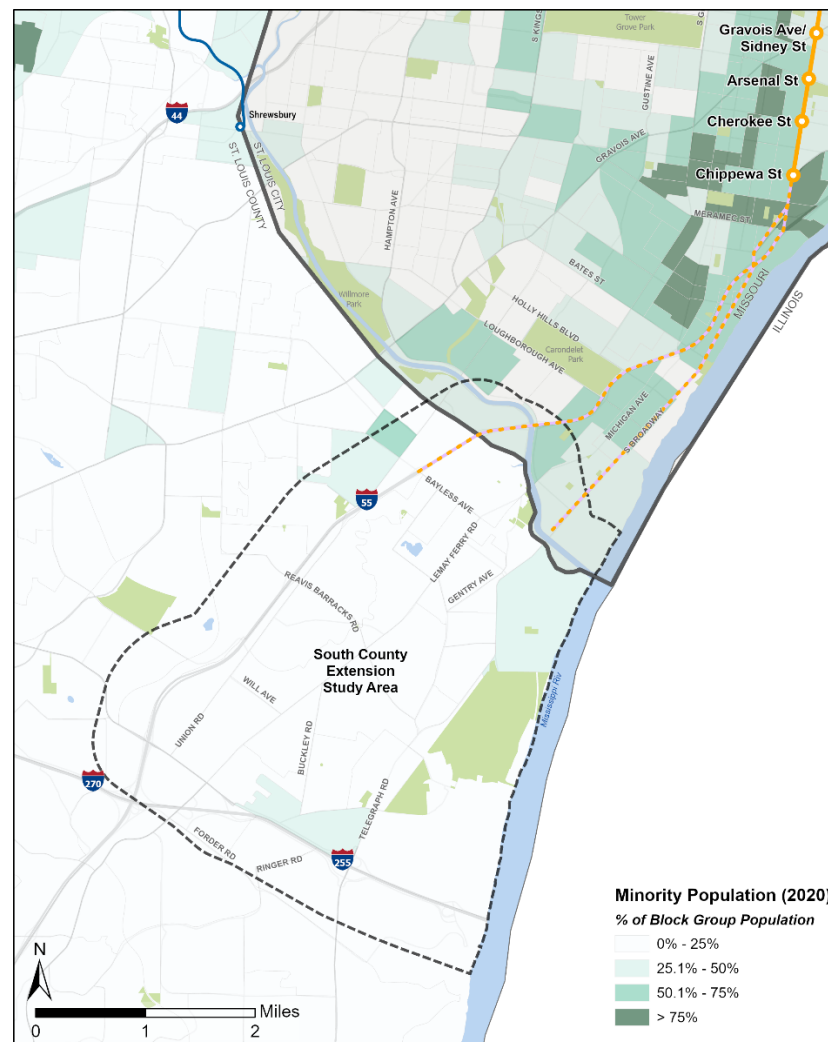


# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-19: North County Study Area Minority Population**



**Figure 3-20: South County Study Area Minority Population**



Source: 2016-2020 ACS 5 Year Estimates, Table B19013, AECOM, April 2023

\* Minority population includes all races that are non-white as well as Hispanic populations that identify as white



## Housing Overview

This section will summarize housing density and affordable housing within the North County and South County Study Areas. Just as population density impacts public transit ridership, housing density can influence ridership. Additionally, housing along transit routes facilitates residents' mobility and can reduce household costs.

## Housing Unit Density

**Table 3-9** shows the housing densities of the North County and South County Study Areas are significantly higher than St. Louis County (870 units/sq. mi.). The North County Study Area contains the highest total housing units (48,700 units) and housing density (2,080 units/sq. mi.). As shown in **Figure 3-21**, the highest concentrations of housing units are in the southeastern section of the Study Area bordering the City of St. Louis. Housing units are distributed throughout the remaining Study Area with smaller concentrations in the central section of the Study Area, to the west of Lucas Hunt Road, and in the northern and northwestern edges of the Study Area.

The South County Study Area has significantly fewer housing units (24,000 units) and a lesser housing unit density (1,610 units/sq. mi.) compared to the North County Study Area. As shown in **Figure 3-22**, housing units are dispersed throughout the South County Study Area with small concentrations in the northeastern section of the Study Area in the vicinity of Lemay Ferry Road and Gentry Avenue and in the southwestern section along the I-255 corridor.

**Table 3-9: Housing Unit Density**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Total Housing Units</b>	48,700	24,000	178,000	441,600
<b>Housing Unit Density</b> <i>Units/sq. mi.</i>	2,080	1,610	2,850	870

Source: 2016-2020 ACS 5 Year Estimates, Table B25001

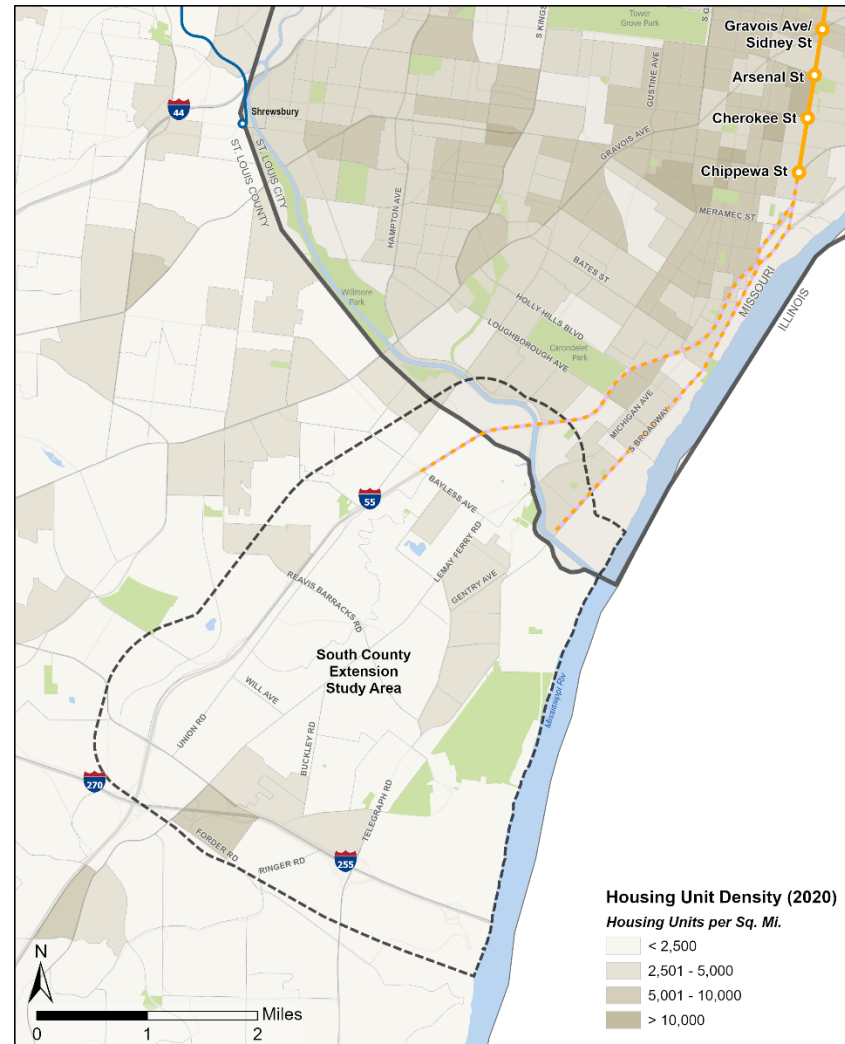
Note: Total population values are rounded to the nearest 100. Densities are rounded to the nearest 10.

**Figure 3-21: North County Study Area Housing Unit Density**



Source: 2016-2020 ACS 5 Year Estimates, Table B25001, AECOM, April 2023

**Figure 3-22: South County Study Area Housing Unit Density**





## Affordable Housing

Based on data from the National Housing Preservation Database (NHPD), 4.1% of total housing units within the North County Study Area and 4.2% within the South County Study Area are legally binding affordability restricted housing units compared to the 2.0% affordable housing unit average across St. Louis County (see **Table 3-10**). In addition, the North County Study Area contains a higher affordable housing density (90 units/sq. mi.) compared to the South County Study Area (70 units/sq. mi.). However, the North County and South County Study Areas contain lower shares of affordable housing units compared to the City of St. Louis (9.0%).

As shown in **Figure 3-23**, the highest concentrations of affordable housing units in the North County Study Area are located in the southeastern and eastern sections of the Study Area. As shown in **Figure 3-24**, the highest concentrations of affordable housing units in the South County Study Area are located in the southwestern section of the Study Area.

Housing and transportation are often significant burdens for households and are typically considered together when evaluating affordability. Connecting affordable housing with low-cost public transit options can relieve budget pressure for households and expand their opportunities to access greater employment and educational opportunities.

**Table 3-10: Affordable Housing**

	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Total Housing Units</b>	48,700	24,000	178,000	441,600
<b>Affordable Housing Units</b>	2,000	1,000	15,900	8,900
<b>Affordable Housing Density</b> <i>Units/sq. mi.</i>	90	70	260	20
<b>% Affordable Housing Units</b>	4.1%	4.2%	9.0%	2.0%

Source: 2021 National Housing Preservation Database & 2016-2020 ACS 5 Year Estimates, Table B25001

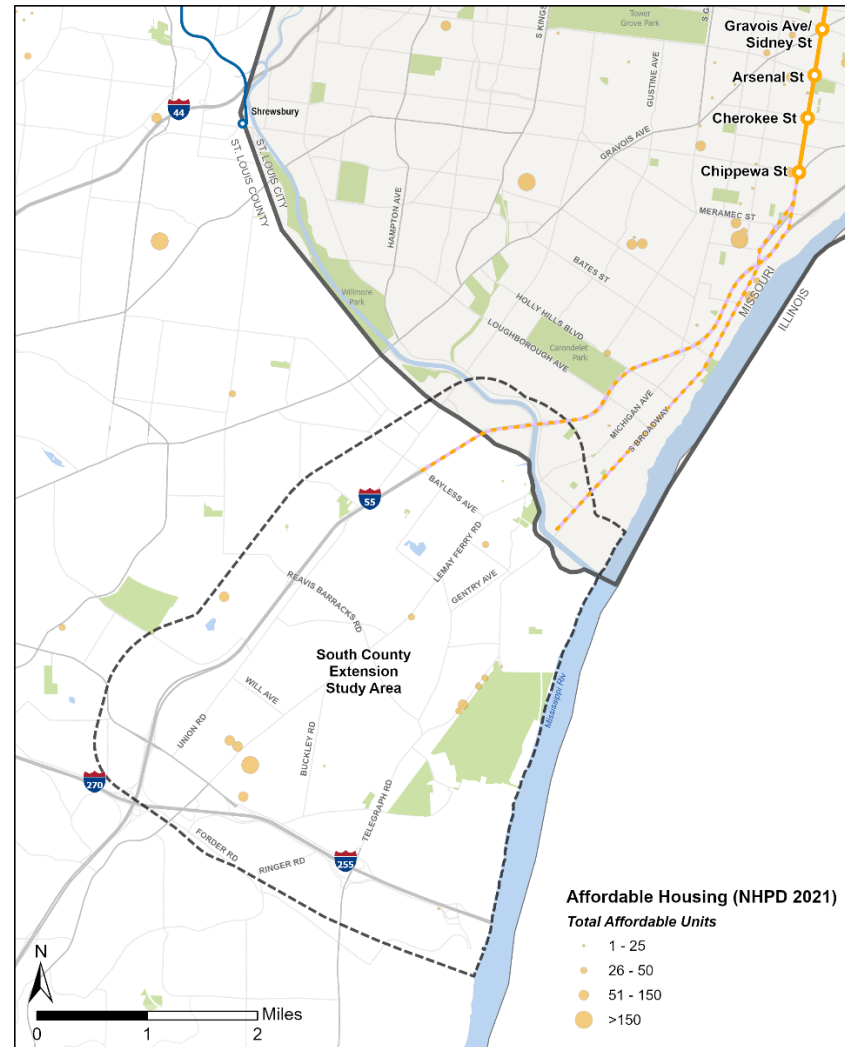
Note: Housing unit values are rounded to the nearest 100. Densities are rounded to the nearest 10. Percentages are rounded to the nearest 0.1%.



**Figure 3-23: North County Study Area Affordable Housing**



**Figure 3-24: South County Study Area Affordable Housing**



Source: National Housing Preservation Database, 2021, AECOM, April 2023



## Travel Patterns

The North County or South County Extension would expand St. Louis' MetroLink and transit network into St. Louis County, interacting with other routes of the public transit system and the larger multi-modal transportation network. This section will describe the methods St. Louis County residents use to commute, transit network connections, and major employment and educational destinations. Existing commute mode share can provide insight into how and where light rail may be used in the North County or South County Study Areas. Metro transit, including MetroLink and MetroBus, is a crucial component of overall commute to work mode share. Overall, 84% of all Metro transit users commute to work via transit.<sup>1</sup>

## Work Commute Mode

Travel to work is often the primary measure of travel pattern analysis as it is considered a regular non-discretionary activity that is concentrated into morning and afternoon peak periods. This analysis examines 2016-2020 five-year American Community Survey (ACS) census tract-level commute mode estimates for the North County and South County Study Areas as well as St. Louis County and the City of St. Louis. **Table 3-11** summarizes the principal mode of travel residents use to get to work.

Small portions of commuters walk to work in the North County Study Area (1.4%) and South County Study Area (0.7%), which is similar to the portion of commuters who walk to work in St. Louis County (1.3%). These small portions of commuters walking to work in the North County and South County Study Areas indicates a lack of access to jobs within a walkable distance. As shown in **Figure 3-25**, the highest concentrations of commuters walking to work in the North County Study Area are in the southwestern and southeastern sections of the Study Area near the University of Missouri St. Louis campus and St. Louis Job Corps/Federal Center, respectively. Although the portion of commuters walking to work is much lower compared to the North County Study Area and St. Louis County, the highest concentration of commuters walking to work in the South County Study Area are in the southeastern section of the Study Area near the Department of Veterans Affairs Medical Center (see **Figure 3-26**).

As shown in **Table 3-11**, "Drove Alone" is the dominant commuting mode across the North County and South County Study Areas, St. Louis County, and the City of St. Louis. However, the share of workers 16 years and over commuting by transit is significantly higher in the North County Study Area (6.6%) than the South County Study Area (1.7%). The percentage of the North County Study Area population using transit is nearly four times greater than that of the South County Study Area. As shown in **Figure 3-27**, commuters using transit are distributed throughout the North County Study Area with high concentrations in the eastern half of the Study Area and the western section along Chambers Road. As shown in **Figure 3-28**, commuters using transit are evenly distributed throughout the South County Study Area with small concentrations in the eastern section of the Study Area along the Mississippi River. Although the percentage of workers using transit in the North County Study Area is relatively low (6.6%), it is greater

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<sup>1</sup> Metro, *System Profile*, <https://www.metrostlouis.org/metro-transit-system-profile/>. Accessed on February 27, 2023.



than the United States national average (5.0%) and the average for all metro areas in the United States (5.6%).<sup>2</sup>

**Table 3-11: Work Commute Mode**

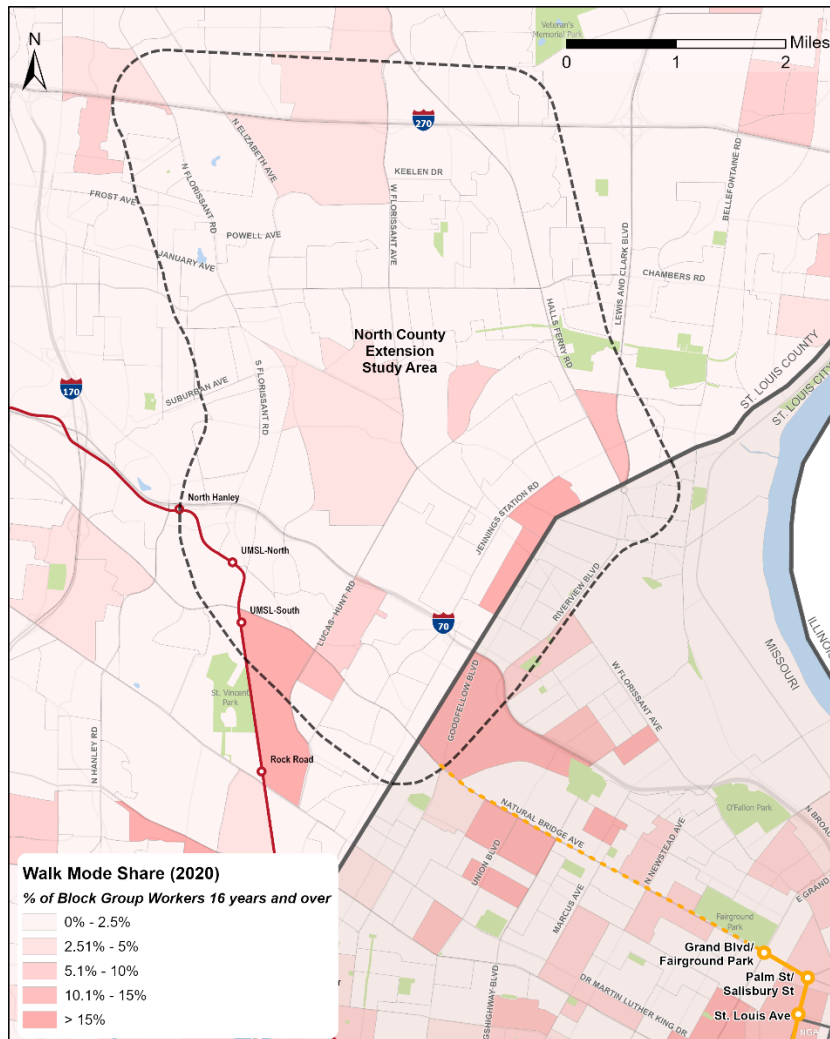
	North County Study Area	South County Study Area	City of St. Louis	St. Louis County
<b>Drove Alone</b>	79.0%	82.6%	71.0%	80.8%
<b>Transit</b>	6.6%	1.7%	7.3%	2.0%
<b>Carpooled</b>	7.4%	10.5%	7.5%	6.6%
<b>Work From Home</b>	3.5%	3.5%	7.6%	8.3%
<b>Walk</b>	1.4%	0.7%	4.6%	1.3%
<b>Bike</b>	0.0%	0.0%	0.9%	0.2%
<b>Taxi</b>	0.4%	0.0%	0.3%	0.1%
<b>Motorcycle</b>	0.0%	0.1%	0.1%	0.1%
<b>Other</b>	1.8%	0.9%	0.7%	0.7%

Source: 2016-2020 ACS 5 Year Estimates, Table B08301

<sup>2</sup> Burrows, Michael, Charlynn Burd, and Brian McKenzie, *Commuting by Public Transportation in the United States: 2019*, April 2021, <https://www.census.gov/content/dam/Census/library/publications/2021/acs/acs-48.pdf>. Accessed on February 24, 2023.

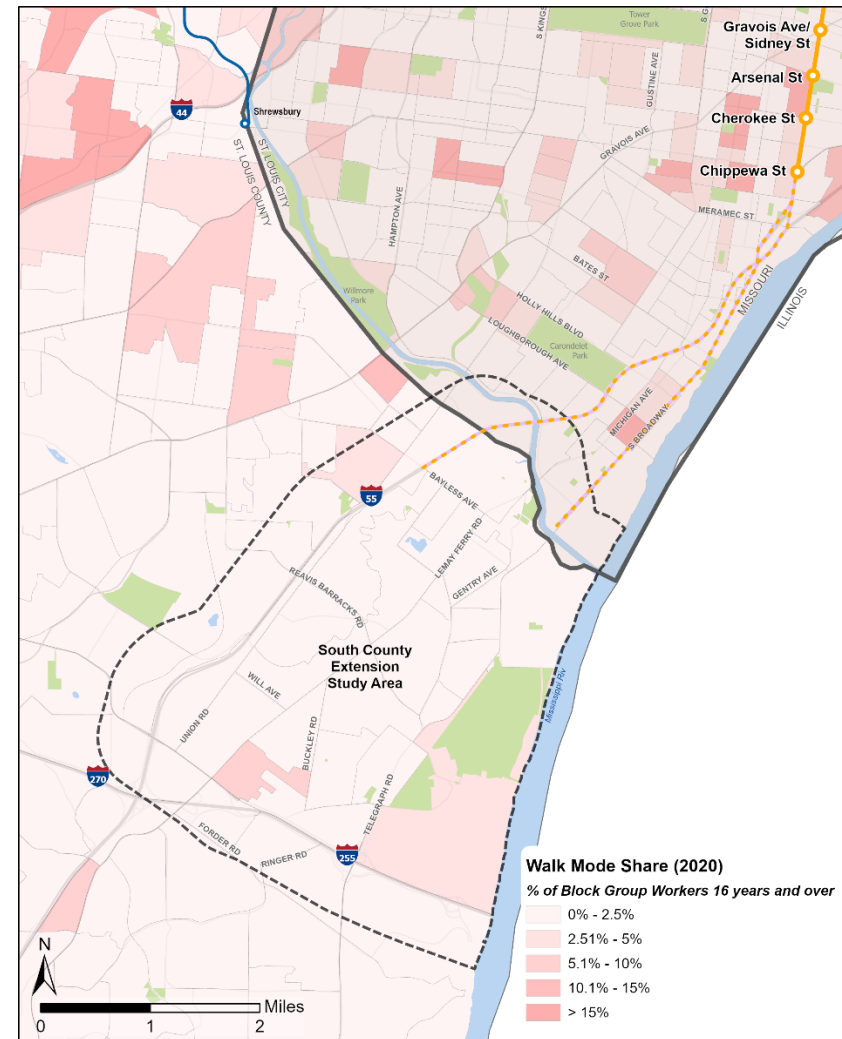
# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-25: North County Study Area Walking Mode Share**



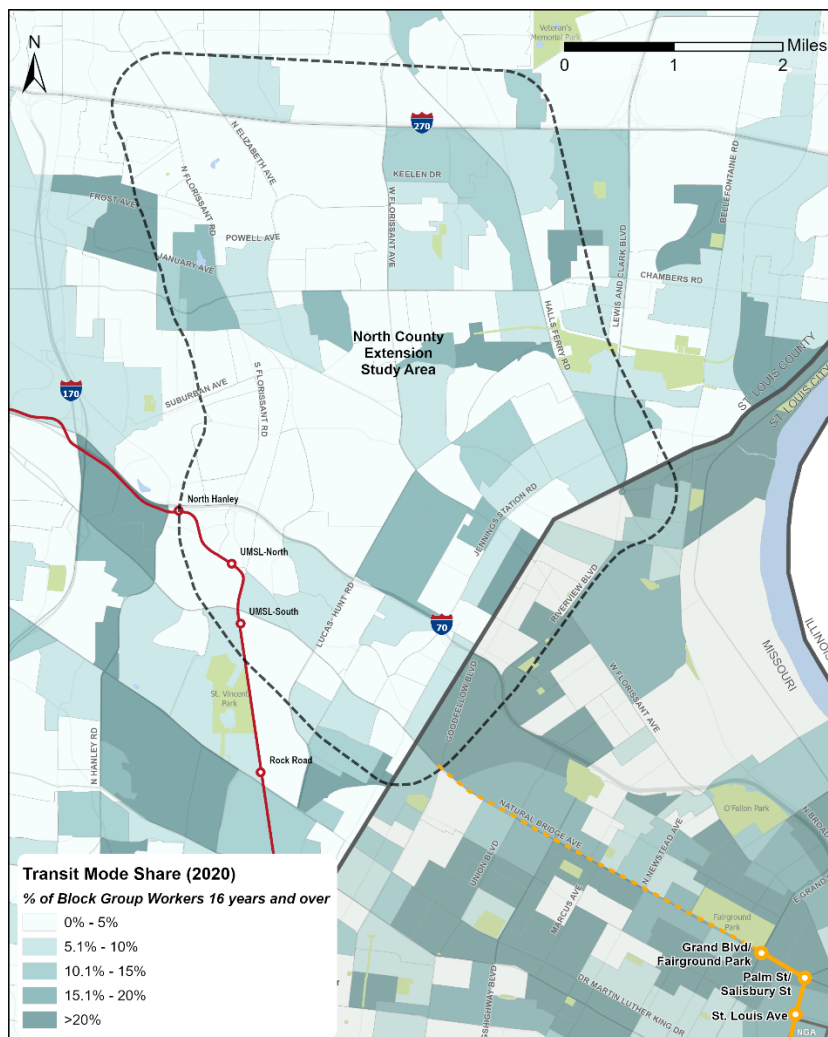
Source: 2016-2020 ACS 5 Year Estimates, Table B08301, AECOM, April 2023

**Figure 3-26: South County Study Area Walking Mode Share**



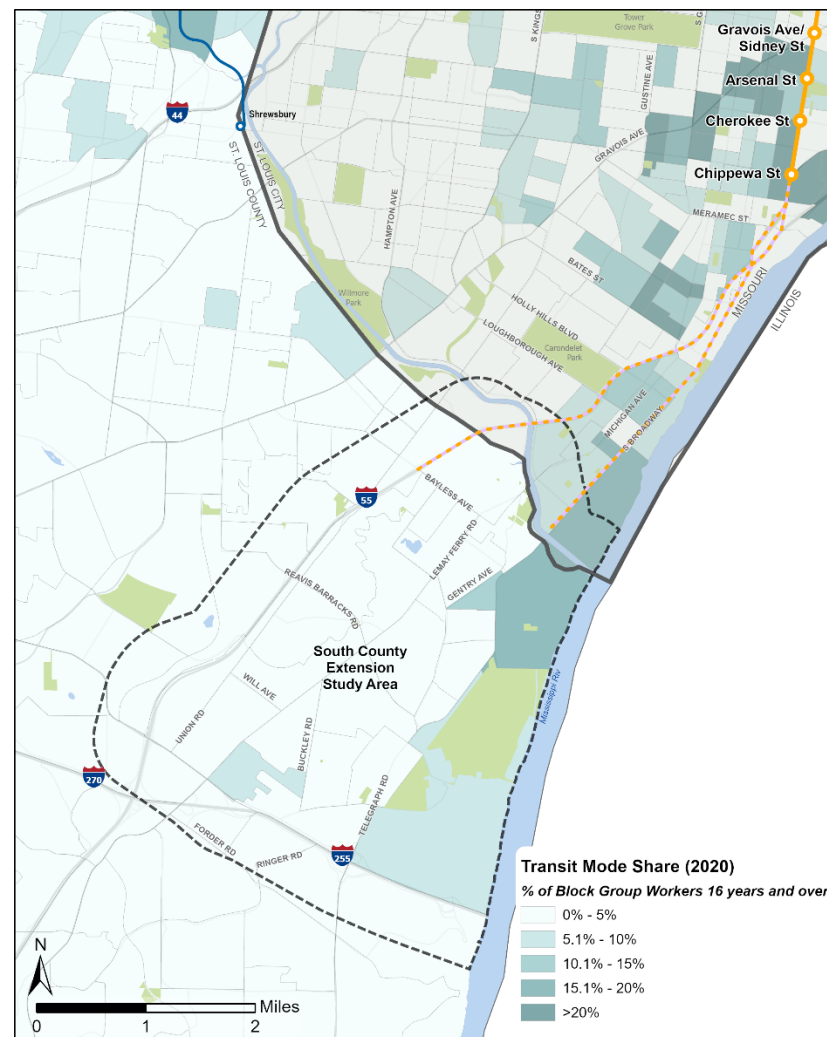
# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-27: North County Study Area Transit Mode Share**



Source: 2016-2020 ACS 5 Year Estimates, Table B08301, AECOM, April 2023

**Figure 3-28: South County Study Area Transit Mode Share**





## Transit Network

The proposed North County Extension and South County Extension would connect to and expand the existing transit network in St. Louis County and the City of St. Louis. **Figure 3-29** plots existing MetroBus routes in the North County Study Area. There are 17 MetroBus routes currently operating in the North County Study Area with routes 4, 41, 74, and 90 providing potential connections to the proposed Northside-Southside Jefferson alignment in the vicinity of Natural Bridge Road. **Figure 3-30** plots existing MetroBus routes in the South County Study Area. There are three MetroBus routes currently operating in the South County Study Area with routes 9 and 16 providing potential connections to the proposed Northside-Southside Jefferson alignment in the vicinity of I-55 and South Broadway.

In addition to containing a higher quantity of MetroBus routes, the North County Study Area has significantly higher daily transit boardings compared to the South County Study Area. **Figure 3-31** and **Figure 3-32** contrasts daily transit boardings in the North County and South County Study Areas, respectively.



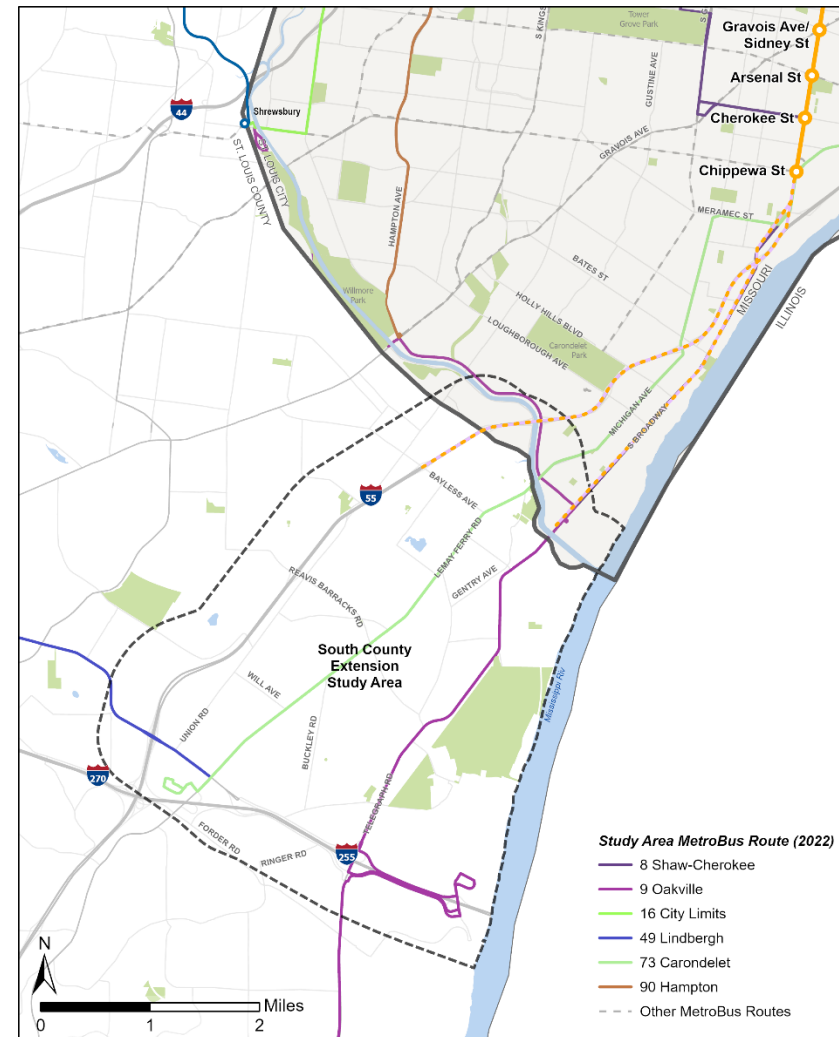
# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-29: North County Study Area Transit Network**



Source: St. Louis Metro ArcGIS Portal, May 2022, AECOM, April 2023

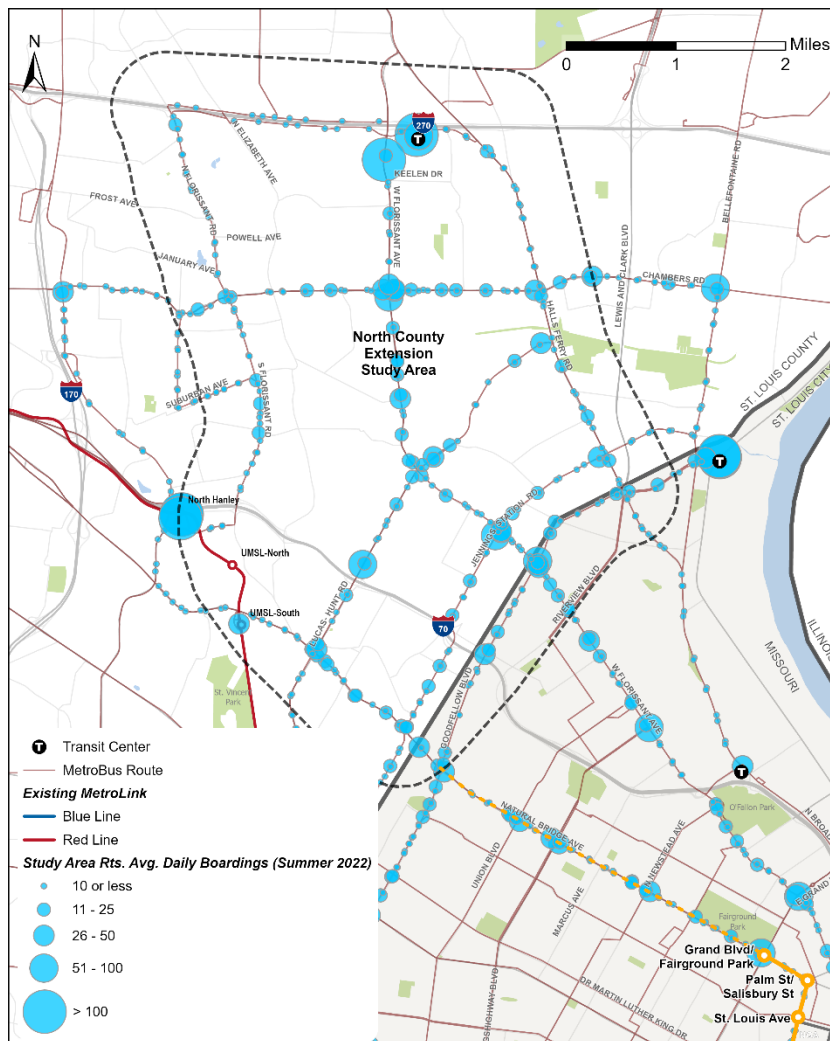
**Figure 3-30: South County Study Area Transit Network**





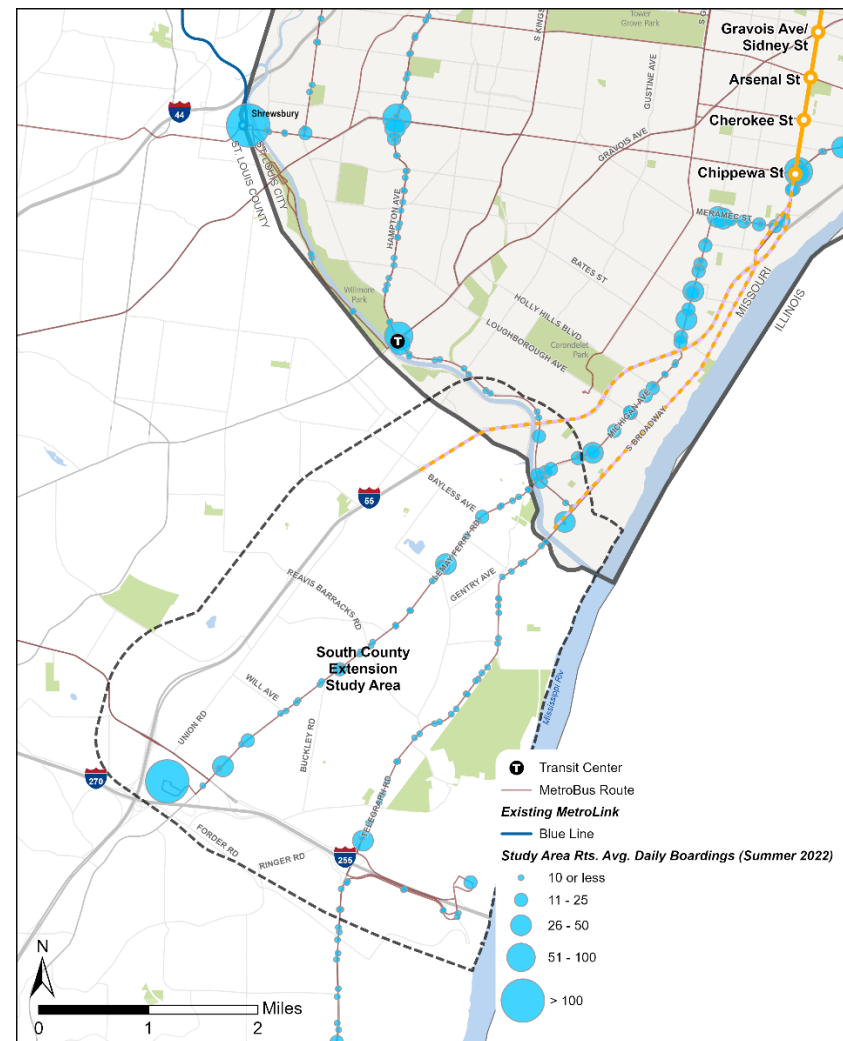
# NORTH STL COUNTY COMMUNITY CONNECTOR

**Figure 3-31: North County Study Area Daily Transit Boardings**



Source: Metro Summer 2022 Average Daily Boardings, AECOM, April 2023

**Figure 3-32: South County Study Area Daily Transit Boardings**





## Major Employment Centers

As discussed above, home-based work trips can offer valuable insight for transportation planning efforts. **Figure 3-33** and **Figure 3-34** show major employment centers in the North County and South County Study Areas, respectively. In the vicinity of the southern section of the North County Study Area there are numerous employment centers along the Natural Bridge Avenue and North Hanley Road corridors, including the Union Seventy Center, Goodfellow Federal Center, North Oaks Plaza, University of Missouri-St. Louis, Amazon, SKF, Pepsi, and Schnucks Distribution. Existing MetroLink access is available in this area in the vicinity of the University of Missouri-St. Louis. Other concentrations of employment centers are in the northern section of the North County Study Area along the I-270 corridor and north of the intersection of Lucas-Hunt Road and W Florissant Avenue where the Emerson Electric world headquarters and Buzz Westfall Plaza on the Boulevard are located.

There are fewer employment centers in the South County Study Area compared to the North County Study Area. Prominent employment centers dispersed throughout the South County Study Area include Lemay Plant near the City of St. Louis, Marshall Plaza, and the St. Louis VA Medical Center in the southeastern section of the Study Area.

## Educational Institutions

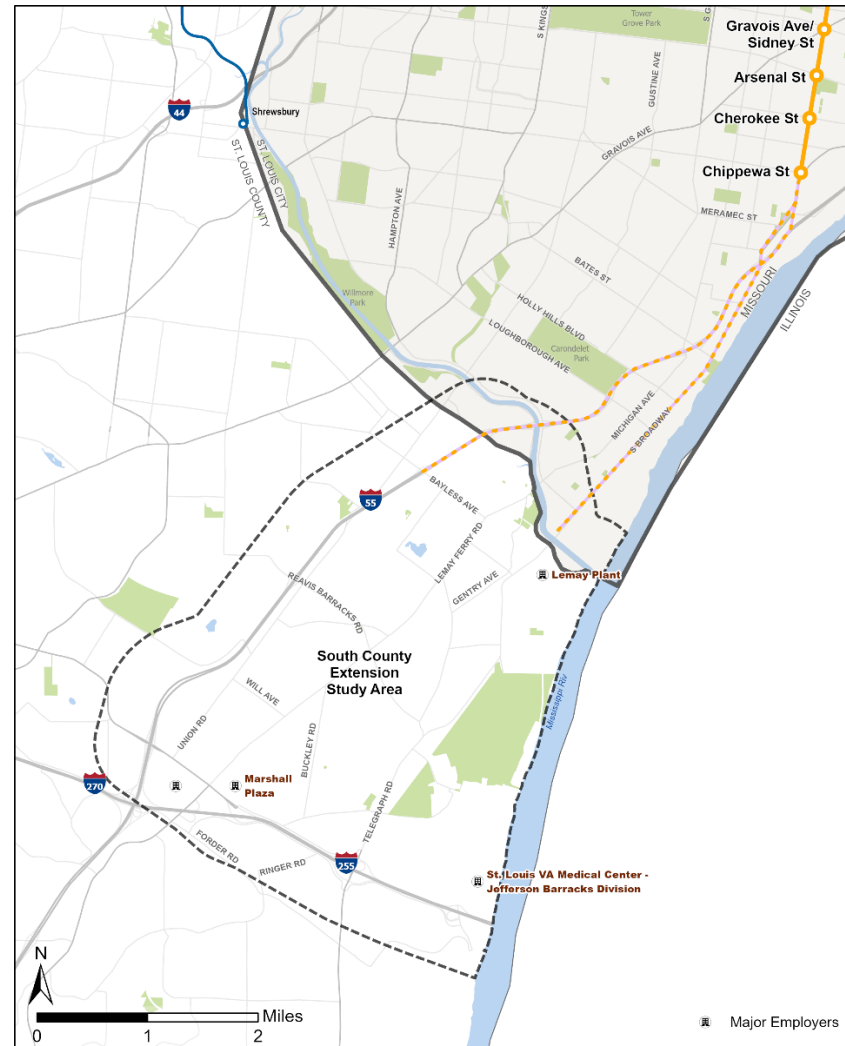
In addition to work trips, many people also take trips for educational purposes, and there are many educational institutions in the North County and South County Study Areas. As shown in **Figure 3-35**, there are three institutions of higher education in the North County Study Area: the University of Missouri-St. Louis, SLCC-Florissant Valley, and St. Louis Christian College. In addition, there are numerous high schools throughout the Study Area. As discussed above, there is existing MetroLink access to the University of Missouri-St. Louis. As shown in **Figure 3-36**, there are no institutions of higher education in the South County Study Area, but there are three high schools.

Figure 3-33: North County Study Area Major Employment Centers



Source: AECOM, April 2023

Figure 3-34: South County Study Area Major Employment Centers



**Figure 3-36: South County Study Area Educational Institutions**



Final | North and South County Preliminary Screening Analysis | August 2023 | 41



## 4.0 Summary

This analysis has reviewed and compared the areas within which the proposed Northside-Southside LRT Alignment could be extended into North or South St. Louis County. This high-level screening assessment has summarized key land use, demographic, disadvantaged populations, housing, and travel metrics of the North County and South County Study Areas.

Land use in the North County and South County Study Areas was described in the **Land Use and Development** section. The North County Study Area has a greater share of residential land uses compared to the South County Study Area. Single family residential are the largest type of the residential land uses, which indicates that neighborhoods in both Study Areas have suburban characteristics. Although both Study Areas have apparent commercial and industrial/utility corridors, the South County Study Area has greater shares of commercial and industrial/utility land uses overall compared to the North County Study Area.

Demographic information about residents in the North County and South County Study Areas is provided in the **Demographics** section. Both Study Areas are projected to experience population loss between 2020 and 2045 with the North County Study Area experiencing slightly higher losses compared to the South County Study Area. However, the total population and population density in the North County Study Area currently are and will continue to be significantly higher than the South County Study Area. Both Study Areas are projected to experience similar but slight employment growth between 2020 and 2045. While the North County Study Area has a higher total of jobs compared to the South County Study Area, the latter has a slightly higher employment density (see **Table 4-1**).

The **Disadvantaged Populations** section addresses concerns related to equity for residents in the North County and South County Study Areas and establishes the clearest contrasts between the Study Areas. In key metrics, such as disadvantaged communities, Opportunity Zones, population below the poverty level, zero-vehicle households, and percent minority population, the North County Study Area has significantly higher populations compared to the South County Study Area. Notably, the North County Study Area has minority population of 87.4% compared to 14.2% in the South County Study Area (see **Table 4-1**).

As discussed in the **Housing** section, the North County Study Area has a much higher total number of housing units compared to the South County Study Area. While the North County Study Area also has a higher housing density and affordable housing density compared to the South County Study Area, both Study Areas have similar shares of affordable housing units in St. Louis County (see **Table 4-1**).

The **Travel Patterns** section describes the existing transportation characteristics of the Study Areas, including commuting patterns, transit access, and key employment and educational trip generators. Commuters driving alone make up the greatest shares of commuting trips in both Study Areas. However, the North County Study Area has significantly higher percentage of commuters using transit compared to the South County Study Area. In addition, the North County Study Area contains a greater number of employment centers and educational institutions. These trends are associated with the greater number of existing MetroBus routes circulating in the North County Study Area and the existing MetroLink line in the western section of the Study Area. These routes provide key connecting service in this area and maximize the transit networks connectivity.





**Table 4-1: Summary**

	North County Study Area	South County Study Area
<b>Population Density</b> <i>People/sq. mi.</i>	4,120	3,670
<b>Employment Density</b> <i>Jobs/sq. mi.</i>	1,760	1,980
<b>Justice40 Initiative Disadvantaged Communities</b>	68.9%	18.6%
<b>Opportunity Zones</b>	30.8%	10.9%
<b>Population Below Poverty Level</b>	21.8%	11.3%
<b>Zero-Vehicle Households</b>	15.2%	7.2%
<b>Minority Population</b>	87.4%	14.2%
<b>Housing Unit Density</b> <i>Units/sq. mi.</i>	2,080	1,610
<b>Affordable Housing Density</b> <i>Units/sq. mi.</i>	90	70
<b>Transit Mode Share</b>	6.6%	1.7%

Based on this comparative evaluation of the North County and South County Study Areas, it is recommended that extension alternatives for the North County Study Area be advanced for a more detailed analysis. The findings of this North and South County Preliminary Screening Analysis also support the project needs outlined in the Purpose and Need Report. The project needs are defined as follows:

- Pair Transportation Investment with Disadvantaged Areas
- More Transportation Options for People Who Need it Most

The North County Study Area contains a higher share of multi-family residential land uses (4.0%) that typically are more supportive of transit compared to the South County Study Area (2.7%). The North County Study Area has a higher population (96,300 people) and population density (4,120 people/sq. mi.) compared to the South County Study Area (54,700 people and 3,670 sq. mi., respectively), and neighborhoods with higher population densities typically are more supportive of transit. In addition, the North County Study Area has a significantly higher number of jobs (41,200 jobs) compared to the South County Study Area (29,600 jobs).

The North County Extension would more equitably invest in historically underserved communities as indicated in the following six demographic analyses. First, the percentage of the North County Study Area that is a disadvantaged community is 3.7 times greater than that of the South County Study Area. Second, the North County Study Area contains 2.8 times as much Opportunity Zone coverage compared to the South County Study Area. Third, the percentage of the North County Study Area with population below the poverty level is 1.9 times greater than that of the South County Study Area. Fourth, the percentage of the North County Study Area that do not have vehicles available is 2.1 times greater than that of the South County Study Area. Fifth, the percentage of minority population in the North County Study Area is 6.2 times greater than that of the South County Study Area. Sixth, the percentage of the North County Study Area using transit is 3.9 times greater than that of the South County Study Area.