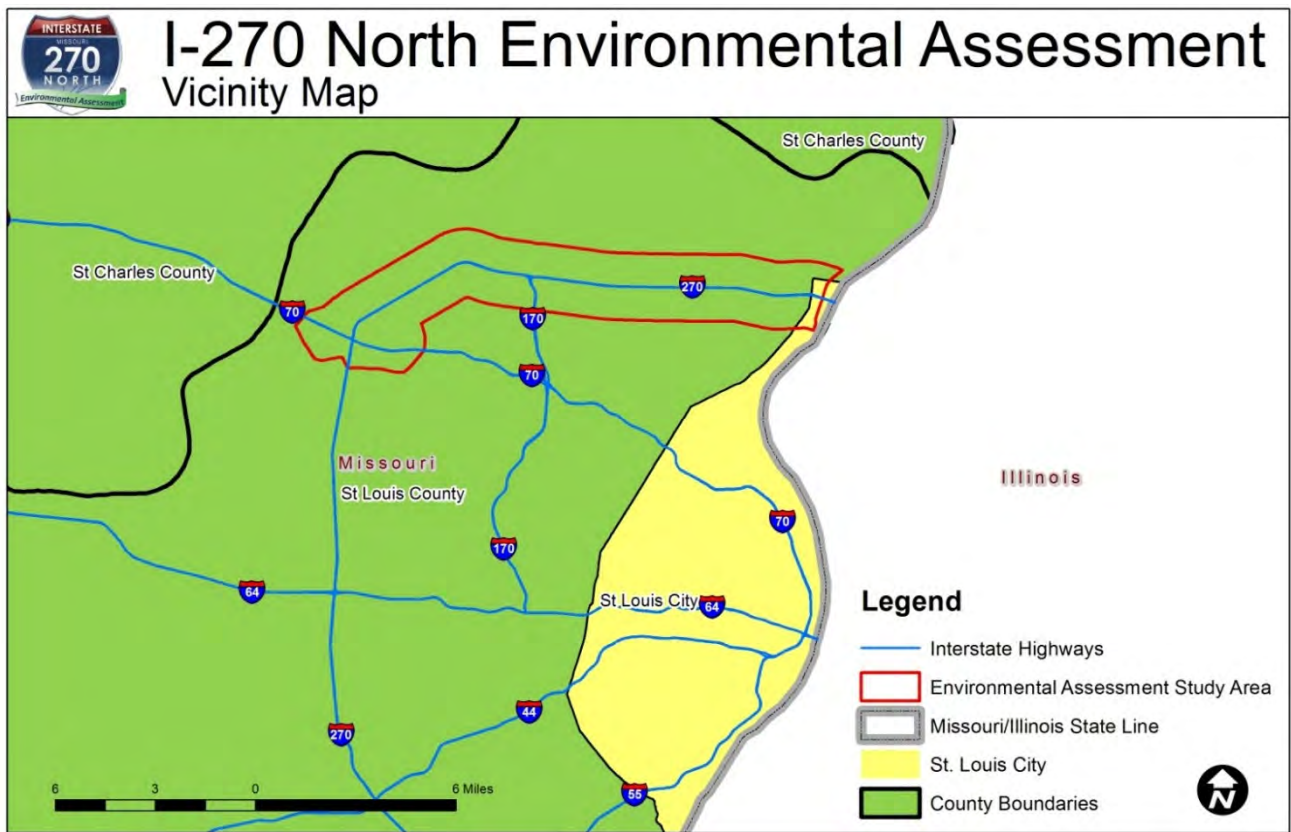


# 2 Introduction and Study Overview

## 3 1.1 Study Overview

4 The Missouri Department of Transportation (MoDOT), in cooperation with the Federal Highway  
5 Administration (FHWA), is preparing a Location Study and National Environmental Policy Act (NEPA)  
6 investigation for a portion of Interstate 270 (I-270) in northern Saint Louis County, Missouri. This study will  
7 be referred to as the I-270 North Environmental Assessment (EA). The I-270 North EA is a transportation  
8 study that will investigate and identify improvements to allow I-270 to fulfill its role as a major interstate  
9 artery within the area’s transportation system. The study area starts at the I-70/I-270 interchange in  
10 Bridgeton and continues east along I-270 to the Mississippi River/Chain of Rocks Bridge. **Figure 1-1** depicts  
11 the vicinity of the study area for the I-270 North EA.



12  
13 Figure 1-1. I-270 Vicinity Map

## 14 1.2 Study Background

15 The I-270 North EA is the result of previous investigations. In 2005, the Board of Directors of the region’s  
16 Metropolitan Planning Organization, the East-West Gateway Council of Governments (EWG), adopted  
17 *Legacy 2030*, the long-range transportation plan for the Missouri-Illinois (Metropolitan Saint Louis) region.  
18 The plan recommended a planning study of the I-270 corridor in north Saint Louis County. *Legacy 2030*  
19 recognized increasing traffic volumes and crashes, aging and outdated infrastructure, increasing need for  
20 public transportation service, and the growing and important role that I-270 plays in the movement of goods  
21 and commuters.

1 In October 2012, MoDOT, in cooperation with EWG, completed a planning study of I-270 in North Saint Louis  
 2 County. Known as the *I-270 North Corridor Study (NCS)*, this work examined the problems of the I-270  
 3 corridor and identified possible strategies to address those problems. The NCS identified a forecasted  
 4 increase in traffic of approximately 20 to 25 percent by the year 2040. The NCS concluded that both near-  
 5 and long-term improvements were worthy of further analysis and consideration. The near-term concepts  
 6 included the addition of an auxiliary lane on eastbound (EB) I-270 between U.S. Route 67/Lindbergh  
 7 Boulevard (Lindbergh) and I-170, restriping westbound (WB) I-270 at Lindbergh to improve lane  
 8 configuration, and modifications along McDonnell. The long-term concepts included widening I-270, a  
 9 reconfigured two-way outer road system, a new one-way outer road system, and interchange  
 10 reconfigurations at the Lindbergh and Missouri Route (MO) 367 interchanges. These concepts were  
 11 intended to be carried forward for a more detailed environmental evaluation under the NEPA process. The  
 12 NCS study serves as the foundation for the I-270 North EA.

13 The updated long-range transportation plan, *Connected2045*, was approved on June 24, 2015, by the EWG  
 14 Board of Directors. All elements of the Preferred Alternative are included in the long-range plan and are  
 15 included in the region's air quality conformity analysis.

16 The projects are intended to be developed in phases as summarized in **Table 1-1**.

**Table 1-1. I-270 Projects in the Long Range Plan**

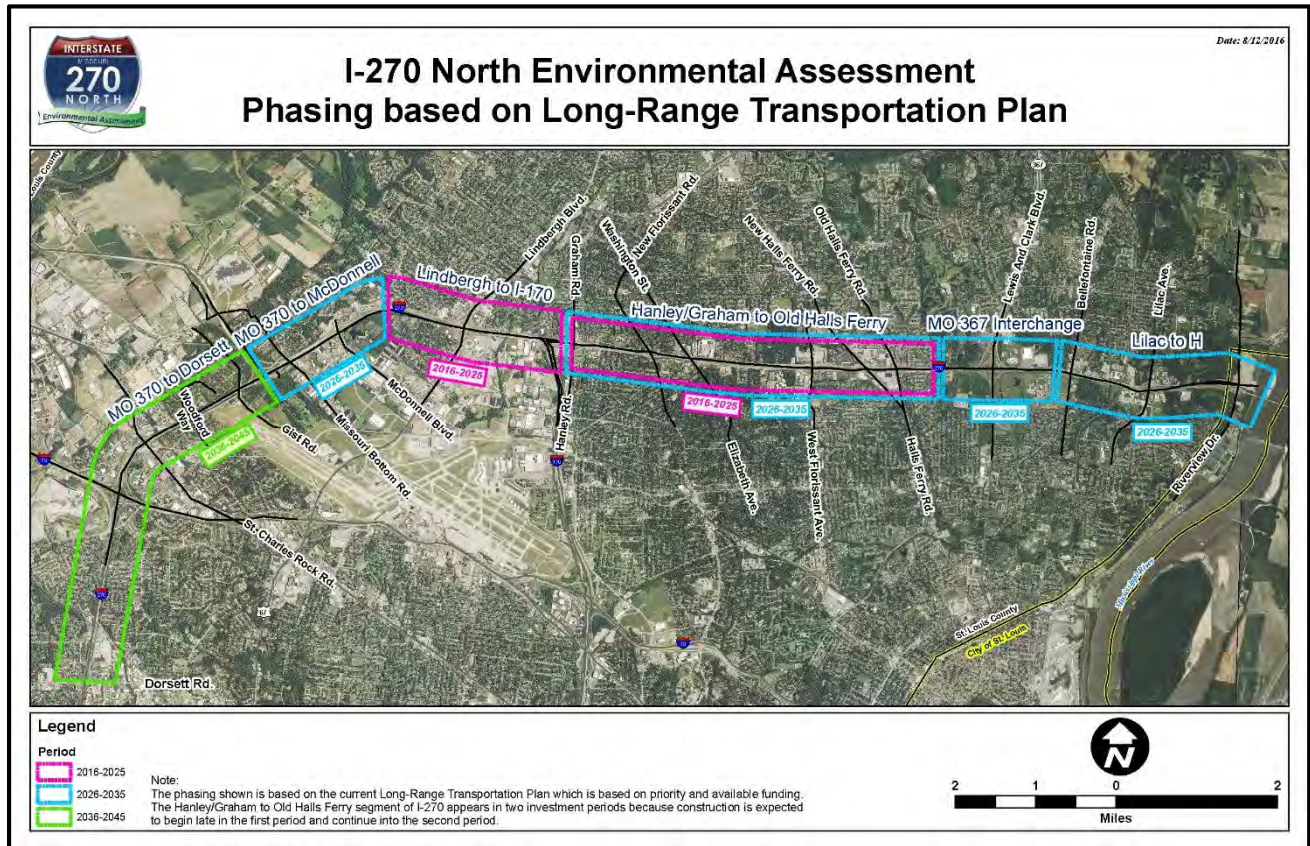
Project #	Location	Year of Expenditure Costs*	Period
2045019	I-170 To Lindbergh Boulevard (from east of McDonnell Blvd. to west of Hanley/Graham Rd.)	\$93,000,000	2016-2025
2045018	Old Hall Ferry Road to Hanley/Graham Road (from east of Old Halls Ferry Rd. to west of Hanley/Graham Rd.)	\$289,000,000	2016-2025
2045022	MO 367 Interchange (from east of Old Halls Ferry Rd. to east of Bellefontaine Rd.)	\$107,000,000	2026-2035
2045020	Riverview Road to Lilac Avenue (from east of Bellefontaine Rd. to east of Riverview Dr.)	\$163,000,000	2026-2035
2045021	McDonnell Boulevard to MO 370 (from east of McDonnell Blvd. to west of MO 370)	\$86,000,000	2026-2035
2045023	Dorsett Road to MO 370 (from west of MO 370 to east of Dorsett Rd.)	\$211,000,000	2036-2045

\* Assumes 3% inflation per year

17 The first phase will be implemented as MoDOT Project J6I3020B that is included in the 2017 – 2021  
 18 Statewide Transportation Improvement Program and in East-West Gateway's 2017-2020 Transportation  
 19 Improvement Program. As part of the improvements identified in this study, Project J6I3020B will include  
 20 elements consistent with the Preferred Alternative and will have independent utility (e.g. is a single and  
 21 complete project that could be constructed absent the construction of other projects in the project area).

22 In early 2015, the I-270 North EA was suspended as part of a funding shortfall. Restarted in mid-2016.  
 23 Overall, the study's findings are unchanged from the time of its suspension, including alternatives,  
 24 construction methods, and techniques. Some techniques, such as cost estimating and crash evaluations,  
 25 have evolved. As necessary, those have been updated. New information, such as the updated long-range  
 26 transportation plan (*Connected2045*), were also incorporated into the analysis. As necessary, impact  
 27 analyses were also updated based on new or revised regulations. Public involvement and stakeholder  
 28 coordination was restarted and documented. **Figure 1-2** depicts project implementation phasing based on

- 1 the region's long-range transportation plan priority and fiscal capacity. Fiscal capacity refers to the region's  
2 projected estimate of funding likely to be available over the next 30 years or so.



3  
4 **Figure 1-2. I-270 North Environmental Assessment Phasing Map**

### 5 1.3 Study Area Description

6 The study area for the I-270 North EA includes the entire portion of I-270 between the I-70/I-270  
7 interchange and the Chain of Rocks Bridge—a total distance of roughly 16 miles. For initial data collection  
8 purposes, the study width is roughly 1 mile beyond the interstate roadway elements limits. **Figure 1-2**  
9 depicts the expanded study area. As part of the study, a utility resources review was conducted for those  
10 areas most likely to be affected by an improved I-270. The study area for the utility resources review is also  
11 shown on **Figure 1-3**.

12 The study area for the I-270 North EA is within the northern portion of Saint Louis County. Known as North  
13 County, it encompasses numerous municipalities and unincorporated areas and the northern city limits of  
14 Saint Louis. Specifically, the study area encompasses portions of the following municipalities:

- Bellefontaine Neighbors
- Dellwood
- City of Saint Louis
- Berkeley
- Glasgow Village
- Unincorporated Saint Louis County
- Champ
- Ferguson
- Spanish Lake
- Black Jack
- Florissant
- Castle Point
- Bridgeton
- Hazelwood
- Calverton Park
- Maryland Heights

15 According to tax map data, almost half of the land surrounding this portion of I-270 is residential, almost  
16 entirely single-family homes. Occupancy rates are high. Roughly two-thirds of the homes are owner-  
17 occupied. About half of the residents are minorities. The balance of the land surrounding this portion of

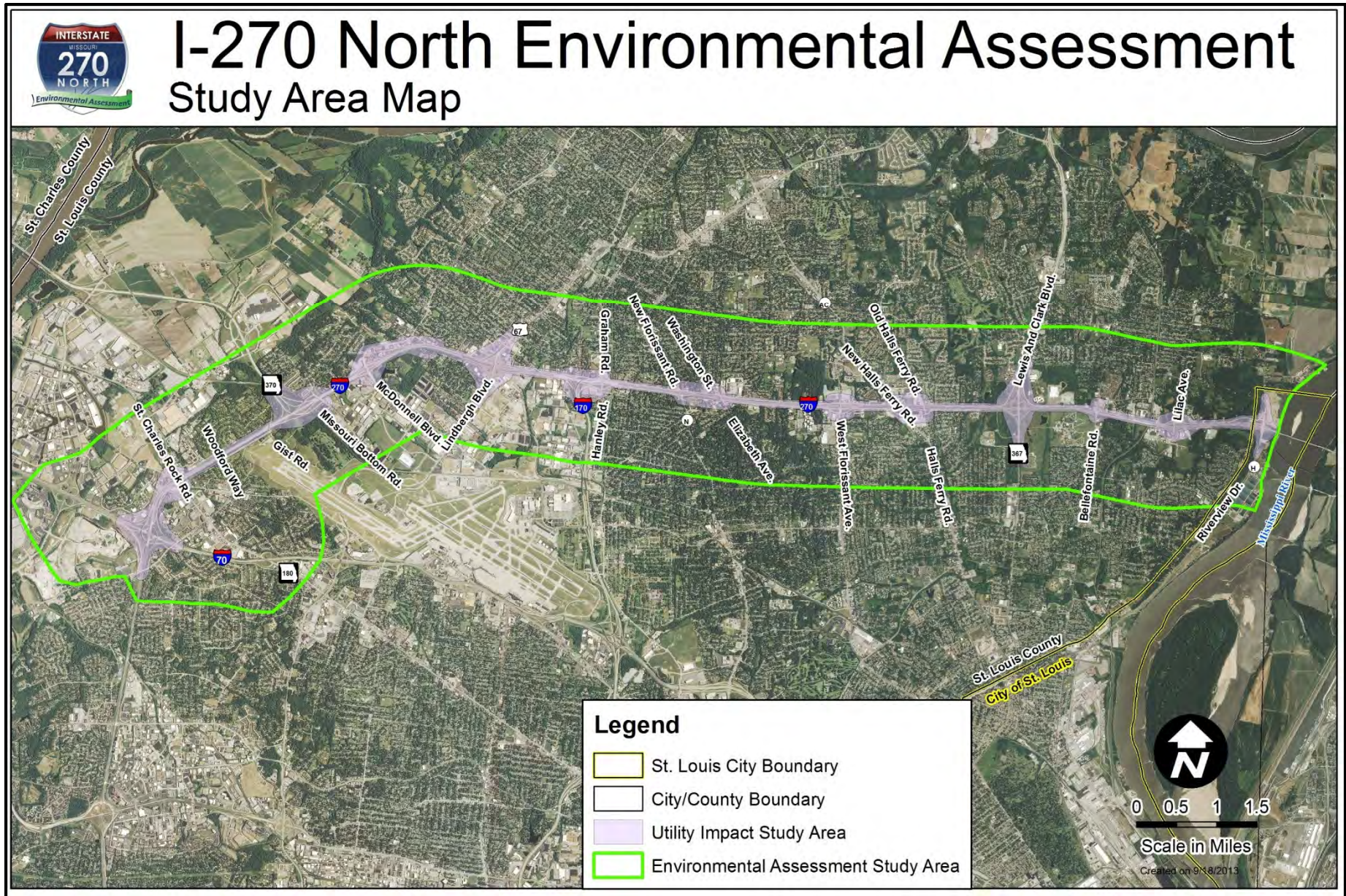
1 I-270 is equally distributed amongst industrial, commercial, institutional, agricultural/vacant, and  
2 transportation uses.

3 The residential neighborhoods vary widely throughout North County. From historic century homes to  
4 condominiums, many different housing options are available. The new housing market is also expanding into  
5 the available vacant lands. The socioeconomic status and demographic profiles of the study area is also  
6 quite varied. Of particular concern are the potential Environmental Justice (EJ) populations that may be  
7 affected. The NCS identified areas with high poverty rates and high percentage of elderly, persons with  
8 disabilities, and a sizable minority population, as well as a high percentage of zero-vehicle households. At  
9 the same time, North County is home to many of Saint Louis' largest corporations and employers, including  
10 Lambert Saint Louis International Airport, which employs more than 11,000 people. Other major regional  
11 employers include Boeing, Emerson, World Wide Technology, GKN, and Mallinckrodt Pharmaceuticals.

12 Healthcare is a leading-edge industry in the study area. North County has two award-winning hospitals. The  
13 Christian Hospital Northeast is a 485-bed facility offering the full range of healthcare services and an array of  
14 medical and surgical specialties and employs more than 2,500 people. It is located in the northwestern  
15 quadrant of the I-270/MO 367 interchange. The SSM DePaul Health Center (northeast quadrant of the  
16 I-270/I-70 interchange) is a 450-bed, full-service acute care hospital.

17 Relative to transportation, North County is centrally located. It is minutes from major employment centers  
18 in downtown Saint Louis, Saint Charles County, West Saint Louis County, and downtown Clayton. Earth City  
19 Business Park is located in North County. North County is also served by air, water, and rail. North County is  
20 home to Lambert International Airport. The MetroLink light rail service provides rapid access from North  
21 County to downtown Saint Louis and to western Illinois. The Bi-State bus system also serves North County,  
22 with many routes connecting to MetroLink stations. The ability to access public transportation is essential to  
23 those living along the corridor. In 2015, Metropolitan Saint Louis Transit Agency (Metro Transit) opened a  
24 new Transit Center and bus garage in North County (Pershall Road between West Florissant Avenue and  
25 New Halls Ferry Road). The Missouri and Mississippi rivers border North County, offering the option of barge  
26 transportation to area commerce. Norfolk Southern, Union Pacific, and Terminal Railroad Association of St.  
27 Louis railroads also serve the region.

28 North County is home to eight accredited public school districts. Major public schools adjacent to I-270  
29 include the following: McCluer High School (between New Florissant Road and Washington/Elizabeth Road),  
30 Hazelwood East Middle School and High School (northeast quadrant of the I-270/MO 367 interchange) and  
31 Garrett Elementary School (between Missouri Bottom Road and McDonnell Boulevard). The Florissant-  
32 Ferguson School District operates an outdoor education facility, known as the Little Creek Nature Center  
33 (between Washington/Elizabeth Road and West Florissant Avenue). Private schools adjacent to I-270 include  
34 the North County Christian School (Between Graham/Hanley Road and New Florissant Road). North County  
35 also has excellent colleges, universities, and technical schools. One of the four campuses of the Saint Louis  
36 Community College system, Saint Louis Community College at Florissant Valley, offers a wide range of  
37 educational opportunities. The campus is located at 3400 Pershall Road. Saint Louis Christian College is a  
38 private 4-year undergraduate Bible college located at 1360 Grandview Drive in Florissant.



1  
2

Figure 1-3. I-270 North Environmental Assessment Study Area

## 1 1.4 Configuration of I-270

2 This subsection summarizes the major elements of I-270 within the study area.

### 3 1.4.1 Mainline Corridor

4 According to the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on*  
 5 *Geometric Design of Highways and Streets*, "designation of the basic number of lanes is fundamental to  
 6 establishing the number and arrangement of lanes on a freeway. Consistency should be maintained in the  
 7 number of lanes provided along any route of arterial character. Thus, the basic number of lanes is defined  
 8 as a minimum number of lanes designated and maintained over a substantial length of a route, irrespective  
 9 of changes in traffic volume and lane-balance needs." The number of basic lanes through the I-270 North  
 10 EA study area are defined in **Table 1-2**.

Table 1-2. Basic Lane Configuration along I-270 (from west to east)

From	To	Distance (miles)	Number of Basic Lanes WB	Number of Basic Lanes EB	Total Number of Basic Lanes
West of I-70	East of St. Charles Rock Road	1.6	3	4	7
East of St. Charles Rock Road	West of Lindbergh Boulevard	4.0	4	4	8
West of Lindbergh Boulevard	West of Lilac Avenue	8.6	3	3	6
West of Lilac Avenue	Chain of Rocks Bridge	1.8	2	2	4

11 AASHTO's *A Policy on Geometric Design of Highways and Streets* defines an auxiliary lane as "the portion of  
 12 the roadway adjoining the through lanes for speed change, turning, storage for turning, weaving, truck  
 13 climbing, and other purposes that supplement through-traffic movement." The I-270 mainline has  
 14 intermittent auxiliary lanes throughout the study area. Existing mainline and auxiliary lanes are 12 feet wide,  
 15 which satisfies MoDOT's lane width criteria per Engineering Policy Guide (EPG) 231.3. Auxiliary lanes are  
 16 used to balance the traffic load and maintain a more uniform LOS on the highway.

17 The majority of I-270 consists of a 12-foot median with paved shoulders and a concrete jersey-type barrier  
 18 separating the EB and WB lanes. Most outside shoulders are 10 feet wide, which satisfies MoDOT's  
 19 preference of 10-foot shoulders on major roadways per EPG 231.4. The majority of the inside shoulders are  
 20 5 feet wide, which does not meet the 10-foot preference. One exception is within the I-170 interchange  
 21 where the inside shoulders are 12 feet in width.

### 22 1.4.2 Crossroads and Pedestrian Facilities

23 There are numerous crossroads of I-270. **Table 1-3** summarizes each crossroad, including its functional  
 24 classification, within the study area.

25 By and large, pedestrian facilities within the corridor are limited and disjointed. There are no sidewalks along  
 26 MO 180/St. Charles Rock Road, McDonnell Boulevard, Lindbergh Boulevard, North Hanley Road/Graham  
 27 Road, New Florissant Road, MO 367, Lilac Avenue, and Route H/Riverview (Riverview). Most of these roads  
 28 have shoulders that are used by pedestrians. Disconnected sections of sidewalks exist along the remaining  
 29 arterials. Most existing pedestrian facilities along these roadways do not meet Americans with Disabilities  
 30 Act (ADA) standards.

**Table 1-3. Major Crossroads (from West to East)**

Crossroad	Crossroad/Interchange Type	Functional Classification
I-70	System Interchange	Interstate
St. Charles Rock Road	Service Interchange	Principal Arterial
Woodford Way Drive	Overpass	Minor Arterial
Gist Road	Overpass	Urban Collector
MO 370	System Interchange	Freeway
Missouri Bottom Road	Partial Interchange	Urban Collector
McDonnell Boulevard	Service Interchange	Principal Arterial
Lindbergh Boulevard	Service Interchange	Principal Arterial
I-170	System Interchange	Interstate
Hanley/Graham Road	Service Interchange	Principal Arterial
South Lafayette Street	Pedestrian Overpass	-
New Florissant Road	Service Interchange	Minor Arterial
McCluer High School	Pedestrian Overpass	Scheduled for Removal
Washington/Elizabeth Road	Service Interchange	North – Minor Arterial South – Urban Collector
West Florissant Avenue	Service Interchange	Principal Arterial
New Halls Ferry Road	Service Interchange	Principal Arterial
Old Halls Ferry Road	Service Interchange	Minor Arterial
MO 367	Service Interchange	North – Freeway South – Principal Arterial
Bellefontaine Road	Service Interchange	Minor Arterial
Lilac Avenue	Service Interchange	Urban Collector
Riverview Drive	Service Interchange	North – Principal Arterial South – Urban Collector

### 1 1.4.3 Interchanges

- 2 Within the 16-mile study area, there are 19 interchanges. MoDOT's Access Management Guidelines
- 3 recommend a spacing of 2 to 3 miles between interchanges on major roadways in urban areas; currently, no
- 4 interchange spacing in the corridor meets these guidelines. These interchanges are described in **Table 1-4**.

**Table 1-4. I-270 Study Area Interchange Descriptions**

<b>Interchange</b>	<b>Description</b>
I-70/I-270 Interchange	Fully directional interstate to interstate (0.8 mile to St. Charles Rock Road interchange)
St. Charles Rock Road Interchange	Diamond interchange (1.7 miles to MO 370 interchange)
MO 370 Interchange	Fully directional interstate-to-interstate-type interchange (0.4 mile to Missouri Bottom)
Missouri Bottom Interchange	Partial diamond interchange (0.7 mile to McDonnell interchange)
McDonnell Interchange	Traditional full diamond (1.7 miles to Lindbergh interchange)
Lindbergh Interchange	Modified cloverleaf with WB collector-distributor (C-D) to separate weaving traffic from mainline I-270 (1.1 miles to I-170 interchange)
Lindbergh Interchange at Lynn Haven Lane/Taylor	Diamond interchange (0.3 mile from I-270 at Lindbergh interchange)
I-170 Interchange	Fully directional interstate-to-interstate (0.2 mile to Hanley/Graham Road interchange)
Hanley/Graham Road Interchange	Crossover slip ramps to Dunn Road for WB, diamond ramps for EB (1.0 mile to New Florissant interchange)
New Florissant Interchange	Crossover slip ramps to Dunn Road for WB, diamond ramps for EB (0.5 mile to Washington/Elizabeth interchange)
Washington/Elizabeth Interchange	Crossover slip ramps to Dunn Road for WB exit, no WB entrance, diamond ramps for EB (1.5 miles to West Florissant interchange)
West Florissant Interchange	Crossover slip ramps to Dunn Road for WB, diamond ramps for EB New Halls Ferry (0.7 mile to New Halls Ferry interchange)
New Halls Ferry Interchange	Crossover slip ramps to Dunn Road for WB, split-diamond interchange with Old Halls Ferry for EB (0.3 mile to Old Halls Ferry interchange)
Old Halls Ferry Interchange	Crossover slip ramps to Dunn Road for WB exit, no WB entrance, split-diamond interchange with New Halls Ferry for EB exit (1.2 miles to MO 367 interchange)
MO 367 Interchange	Traditional cloverleaf (1.0 mile to Bellefontaine)
MO 367 Interchange at Dunn	Partial diamond Interchange south of Dunn Road with slip ramps north of Dunn Road (0.6 mile of I-270)
Bellefontaine Interchange	Crossover slip ramps to Dunn Road for WB, diamond ramps for EB Bellefontaine (1.0 mile to Lilac interchange)
Lilac Interchange	Traditional full diamond (1.2 miles to Riverview Drive interchange)
Riverview Drive Interchange	Traditional full diamond

#### 1 1.4.4 Outer Road System

2 An important feature of the I-270 corridor is the outer road system that helps connect local roadways  
3 to I-270.

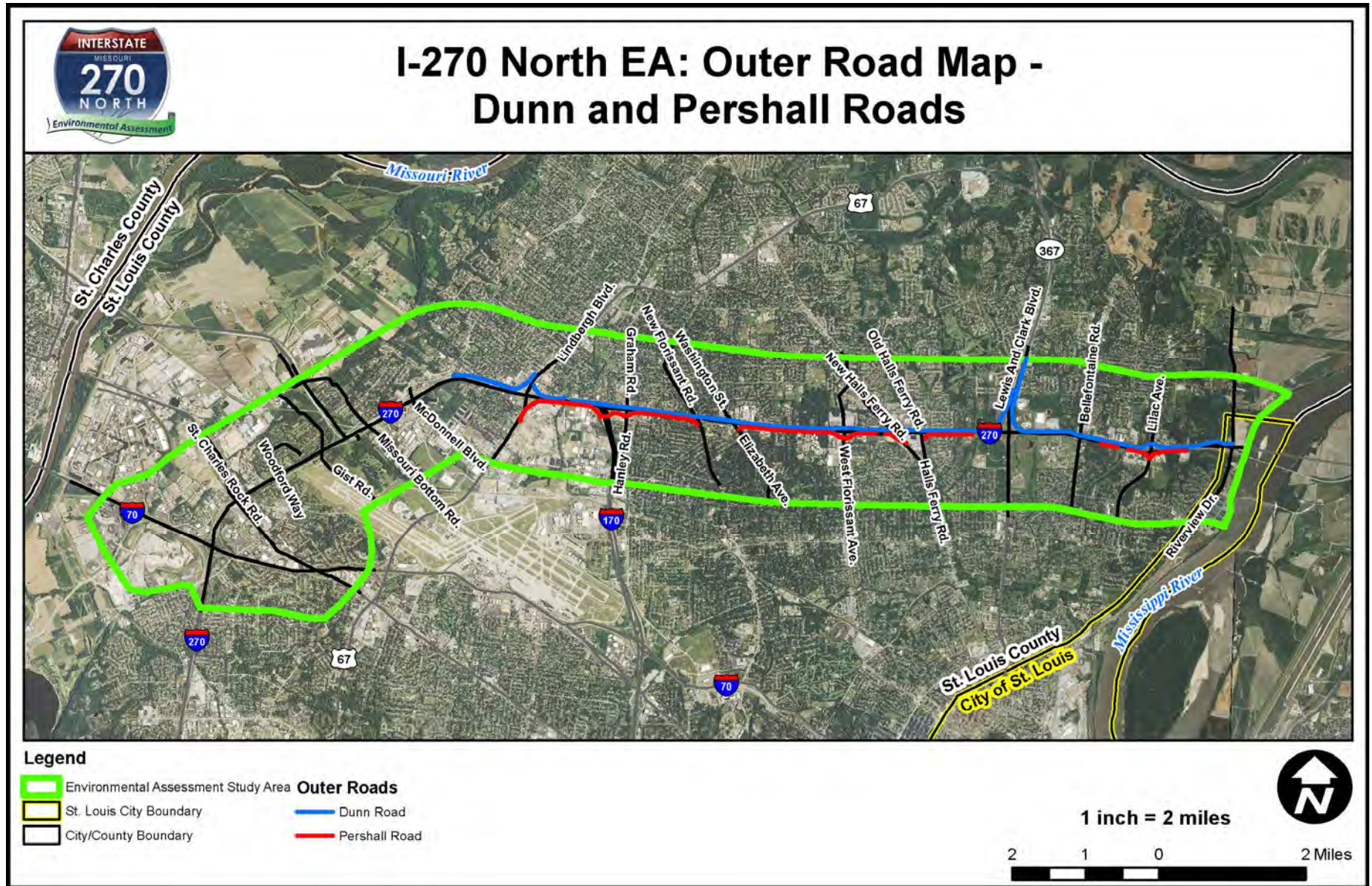
4 The northern outer road is a largely continuous two-way road known as Dunn Road. It generally parallels  
5 I-270 from McDonnell to Riverview Drive. The total length of Dunn Road adjacent to I-270 is 12.3 miles,  
6 covering roughly 80 percent of the study area. Dunn Road consists of one 12-foot lane in each direction of  
7 travel, with turn bays at intersections. The lanes at intersections are often less than 12 feet wide. Dunn Road  
8 provides access to private and commercial properties, including Christian Hospital Northeast and Hazelwood



1 East High School. A number of the signalized at-grade intersections along Dunn Road do not adhere to  
2 MoDOT's Access Management Guidelines.

3 Most existing pedestrian facilities throughout the I-270 corridor do not meet ADA standards. Sidewalks  
4 consist of a number of discontinuous segments. In areas with no sidewalks, the shoulders are used by  
5 pedestrians. In other non-sidewalk locations, pedestrian use is evident by the existence of "cow paths" that  
6 have formed when pedestrians repeatedly travel through vegetated properties. Additionally, the majority of  
7 the sidewalks are set back from the edge of shoulder, and provide no connection between the sidewalks and  
8 shoulders. Therefore, at these locations, the shoulders must accommodate bus stops.

9 The southern outer road is a relatively non-continuous two-way road known as Pershall Road. It generally  
10 parallels I-270 between Lindbergh and Riverview Drive. The total length of Pershall Road is roughly 6.7 miles  
11 (44 percent of the study area). Pershall Road consists of one 12-foot lane in each direction with turn bays at  
12 various intersections. There is a one-way segment between New Halls Ferry and Old Halls Ferry Road. The  
13 two-way portions of the south outer road provide access to a number of private, commercial, and  
14 institutional properties such as Saint Louis Community College – Florissant Valley. All entrances and public  
15 street connections to the south outer road are on the south side of the street. No direct access points are  
16 located between I-270 and the southern outer road. There is no sidewalk along either the north or south  
17 side of the south outer road. The shoulders are used by pedestrians to walk along the road and to access bus  
18 stops. In contrast to Dunn Road, slip ramps are not used to provide access to/from I-270. **Figure 1-4** shows  
19 the location of the outer roads.



1  
2

Figure 1-4. Outer Road System – Dunn Road and Pershall Road

