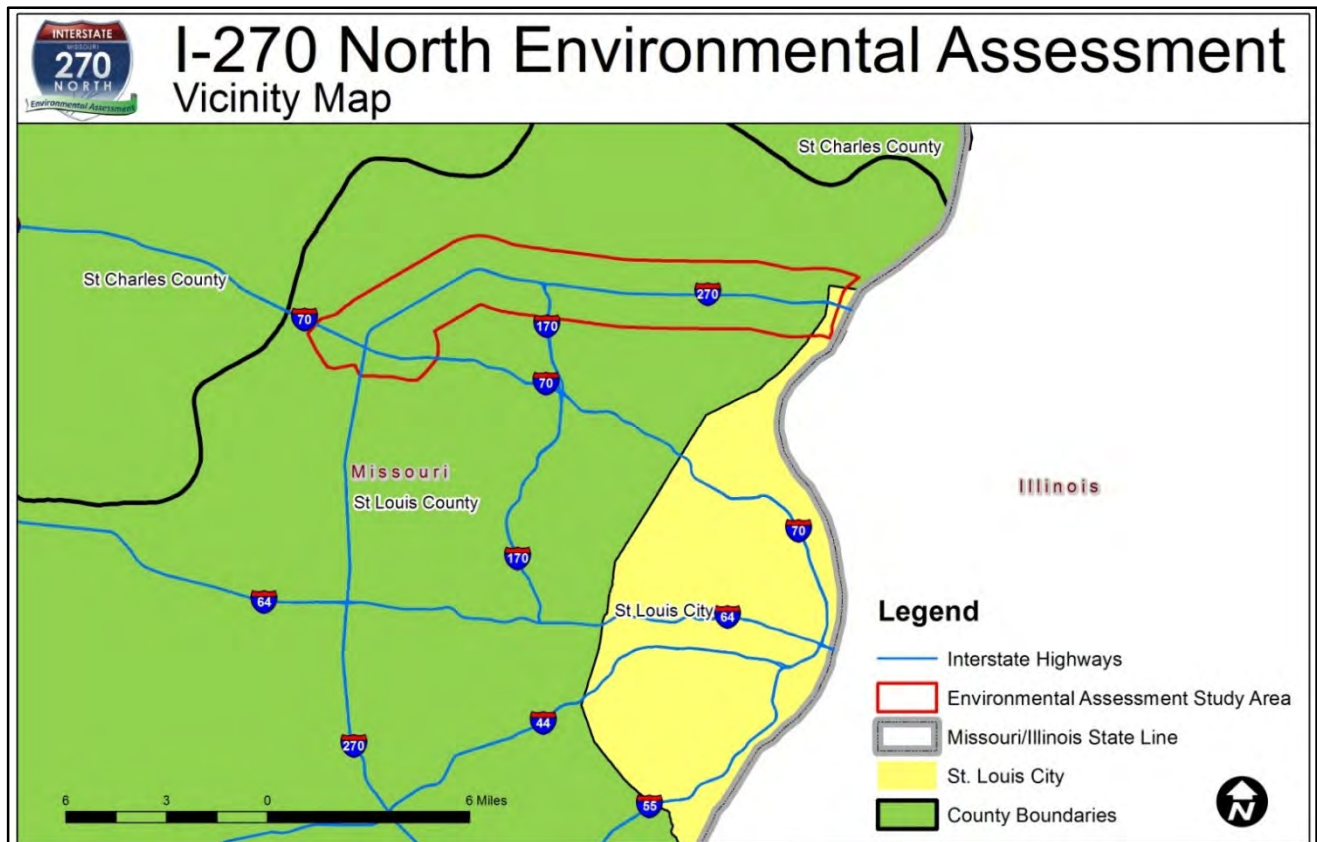


1 Executive Summary

2 Proposed Action

3 The Interstate 270 (I-270) North Environmental Assessment (EA) is a transportation study to investigate
4 and identify improvements to I-270, from the I-70/I-270 interchange in Bridgeton, Missouri, to the
5 Mississippi River/Chain of Rocks Bridge, between Missouri and Illinois. **Figure S-1** depicts the vicinity of
6 the study area for the I-270 North EA.



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8
9 **Figure S-1. Vicinity Map**

10 The study's Preferred Alternative includes many elements, consistent with the performance measures as
11 identified in **Table 3-5**. A complete listing of the reconfiguration of the corridor is available in
12 **Section 3.3.7**. The major elements of the Preferred Alternative are summarized below.

13 ***In Area 1: I-70 to McDonnell Boulevard***

- 14 • Add continuous auxiliary lanes between St. Charles Rock Road and MO 370, northbound (NB) and
15 southbound (SB)
- 16 • Reconstruct the St. Charles Rock Road interchange as an improved interchange within the identified
17 footprint
- 18 • Add SB auxiliary lane through the MO 370 interchange; maintain existing number of lanes NB
- 19 • Improve connections between northbound I-270, MO 370 and Missouri Bottom Road
- 20 • Reconstruct the McDonnell Boulevard interchange as an improved interchange within the identified
21 footprint

In Area 2: McDonnell Boulevard to Hanley/Graham Road

- 2 • Add continuous auxiliary lanes between McDonnell Boulevard and Lindbergh Boulevard
- 4 • Reconstruct the Lindbergh Boulevard interchange as an improved interchange within the identified footprint
- 6 • Separate I-270 and Lindbergh Boulevard interchange traffic from Taylor/Lynn Haven
- 8 • Add basic lane EB and WB on I-270; east of Lindbergh Boulevard to Route 367
- 10 • Add auxiliary lane on eastbound I-270 from Lindbergh Boulevard to I-170
- 12 • Maintain/improve two-way Dunn Road and Pershall Road, mainly in existing location

In Area 3: Hanley/Graham Road to Old Halls Ferry Road

- 14 • Add basic lane EB and WB on I-270
- 16 • Reconstruct Dunn Road and Pershall Road within the identified footprint, improving mobility and maintaining access. This includes conversion to a one way outer road system with turn-around connections where needed.
- 18 • Reconstruct the interchanges between Hanley and New Halls Ferry as improved interchanges within the identified footprint
- 20 • Construct as many as overpass turnarounds connecting Dunn Road and Pershall Road as necessary to achieve established level of service (LOS), mainline weaves, Vehicle Hours of Delay, and Average Speed performance measures identified in **Table 3-5**.
- 22 • Add auxiliary lane(s) EB and WB on I-270 between interchanges

In Area 4: Old Halls Ferry Road to Chain of Rocks Bridge

- 26 • Maintain/improve Dunn Road and Pershall Road, mainly in their existing locations and configurations
- 28 • Add basic lane EB and WB I-270 from Old Halls Ferry to MO 367
- 29 • Reconstruct the MO 367 interchange as an improved interchange within the identified footprint
- 30 • Add auxiliary lane EB and WB I-270 from MO 367 to Bellefontaine Road
- 31 • Reconstruct the Bellefontaine Road interchange as an improved interchange within the identified footprint
- 33 • Relocate Dunn Road to the north at Bellefontaine Road
- 34 • Maintain number of existing basic lanes from Bellefontaine Road to the Lilac Avenue interchange
- 35 • Reconstruct the Lilac Avenue interchange as an improved interchange within the identified footprint
- 36 • Add basic lane EB and WB on I-270 from the Lilac Avenue interchange to Chain of Rocks Bridge
- 37 • Reconstruct the Riverview Drive interchange as an improved interchange within the identified footprint

**Preferred Alternative**

Reasonable Alternative 1, with variation 1a, between West Florissant Avenue and New Halls Ferry Road is the Preferred Alternative.

The Preferred Alternative conforms to Missouri Department of Transportation's (MoDOT's) Engineering Policy Guide (EPG), satisfies the study's Purpose and Need, and fulfills the study's desired operational characteristics/performance measures. It also minimizes impacts to the human and natural environment.

1 All study exhibits are contained in **Appendix A**¹.
 2 The Preferred Alternative as presented in this I-270 North EA is composed of alternative configurations
 3 that meet a set of minimum performance measures agreed upon prior to the development of study
 4 alternatives. The performance measures are broken out into corridor-wide measures, as well as
 5 location-specific operational measures that are met by the Preferred Alternative, and would be required
 6 of any alternate configuration proposals. The Preferred Alternative is depicted on **Figure S-2**. MoDOT
 7 intends to take full advantage of savings that may be realized through alternative project delivery
 8 options.

9 Purpose and Need

10 The term “Purpose and Need” refers to the transportation-related problems that a study is intended to
 11 address. The generation and evaluation of alternatives are conducted to develop the most appropriate
 12 solution to the identified problems. Ultimately, the identification of a Preferred Alternative will be
 13 based, in part, on how well it satisfies the study’s Purpose and Need.

14 In its very broadest sense, the purpose and need of the I-270 North EA can be defined as follows:

- 15 The need to address the aging infrastructure along I-270
- 16 The need to improve mobility and operations within the I-270 corridor
- 17 The need to achieve accessibility consistent with the designated uses of I-270
- 18 The need to improve safety within the I-270 corridor

19 The specific transportation problems that affect the I-270 North EA study area are detailed in the
 20 summary of the Purpose and Need Statement in **Section 2**.

21 Reasonable Alternatives Considered

22 Based on evaluation and coordination, a series of Reasonable Alternatives were developed. These
 23 configurations conform to the study’s design standards, satisfy the study’s Purpose and Need, and fulfill
 24 the study’s desired operational characteristics and performance measures. These configurations
 25 represent changes to the I-270 corridor that will result in acceptable future conditions. The selection of
 26 a Preferred Alternative was based on the differential impacts, costs, and operations that they represent.

27 The Reasonable Alternatives are shown in **Appendices A and C**. The configurations are numbered and
 28 organized into four map areas. The configurations are interchangeable. The Reasonable Alternatives are
 29 described as follows:

30 Reasonable Alternative #1

31 **Map Area #1: I-70 to McDonnell Boulevard**

32 The existing numbers of I-270 lanes is maintained, with auxiliary lanes added to accommodate the
 33 operation of I-270. At St. Charles Rock Road, a diverging diamond interchange will replace the diamond
 34 interchange. At McDonnell Boulevard, a diverging diamond interchange will replace the existing
 35 diamond interchange.

36 **Map Area #2: McDonnell Boulevard to Hanley/Graham Road**

¹ Exhibit 1 depicts natural resources (including floodplains and National Wetland Inventory).
 Exhibit 2 depicts human resources (including Endangered Species Act screening sites and noise study areas).
 Exhibit 3 depicts community resources (including land uses and important community landmarks).
 Exhibit 4 depicts the footprint and impacts associated with Reasonable Alternative 1/1a (Preferred Alternative).
 Exhibit 5 depicts the footprint and impacts associated with Reasonable Alternative 2/2a.
 Exhibit 6 depicts the detailed lane work and transportation improvements associated with the Preferred Alternative.

1 The only alternative at the existing cloverleaf Lindbergh Boulevard interchange is a partial cloverleaf
2 configuration. It will add an additional lane on I-270, east of Lindbergh Boulevard. It will remove the
3 WB-to-SB loop ramp at Lindbergh Boulevard with a direct connection to the north. Dunn Road will be
4 extended through (under) the interchange. An auxiliary lane will be added (EB) between Lindbergh
5 Boulevard and I-170.

6 **Map Area #3: Hanley/Graham Road to Old Halls Ferry Road**

7 The focus of Reasonable Alternative 1 is converting the outer road system (Dunn Road and Pershall
8 Road) from a two-way system to a one-way system. There are two different variations under
9 consideration (1 and 1a). An additional through lane on I-270 in each direction will be constructed. The
10 interchange ramps within this area will be consolidated into a split diamond configuration. Variation 1
11 will extend the split diamond configuration from West Florissant Avenue to Old Halls Ferry Road.
12 Variation 1a will limit the split diamond to between West Florissant Avenue to New Halls Ferry Road. To
13 minimize out-of-direction travel on the one-way system, two EB-to-WB U-turn lanes will be added at
14 New Florissant Road and West Florissant Avenue. An additional U-turn lane for both EB to WB and WB
15 to EB located between Elizabeth Avenue and West Florissant Avenue (nearest Knollway Drive) has two
16 options. Auxiliary lanes will be added as needed.

17 **Map Area #4: East of Old Halls Ferry Road to Chain of Rocks Bridge**

18 The only alternative at the existing cloverleaf MO 367 interchange is a partial cloverleaf configuration. It
19 will eliminate two loop ramps, using a fly-over ramp for the EB-to- NB movement and diamond exit
20 ramp from WB I-270 to NB and SB MO 367. At the Bellefontaine Road interchange, the existing diamond
21 interchange will be reconfigured. The slip ramps will be removed and Dunn Road relocated. At the Lilac
22 Avenue interchange, the existing diamond configuration will be modified. Most noticeably, the ramps
23 will be moved closer to I-270. At the Riverview Road interchange, the existing diamond configuration
24 will be modified.

25 Reasonable Alternative #2

26 **Map Area #1: I-70 to McDonnell Boulevard**

27 The existing numbers of I-270 lanes is maintained with auxiliary lanes added to accommodate the
28 operation of I-270. At St. Charles Rock Road, the existing diamond interchange will be reconstructed
29 with added lanes. At McDonnell Boulevard, a partial cloverleaf interchange will replace the existing
30 diamond interchange. New one-way connector roads will be constructed between Missouri Bottom and
31 McDonnell Boulevard.

32 **Map Area #2: McDonnell Boulevard to Hanley/Graham Road**

33 The only alternative at the existing cloverleaf Lindbergh Boulevard interchange is a partial cloverleaf
34 configuration. It will add an additional lane on I-270, east of Lindbergh Boulevard. It will remove the WB-
35 to-SB loop ramp at Lindbergh Boulevard with a direct connection to the north. Dunn Road will be
36 extended through (under) the interchange. An auxiliary lane will be added (EB) between Lindbergh
37 Boulevard and I-170.

38 **Map Area #3: Hanley/Graham Road to Old Halls Ferry Road**

39 The focus of Reasonable Alternative 2 is retaining the existing two-way Dunn and Pershall Roads. An
40 additional through lane in each direction on I-270 will be constructed. The interchange ramps will also
41 be consolidated into split diamond configurations. Variation 2a will extend the split diamond
42 configuration from West Florissant Avenue to Old Halls Ferry Road. Variation 2 will limit the split
43 diamond to between West Florissant Avenue to New Halls Ferry Road (the opposite of Reasonable
44 Alternative 1). The two-way configuration of Dunn and Pershall Roads will be retained, although some
45 sections of both roads would be relocated. An overpass at Lafayette Street will be added. The New
46 Florissant Road and Washington Street/Elizabeth Avenue interchange and the West Florissant Avenue

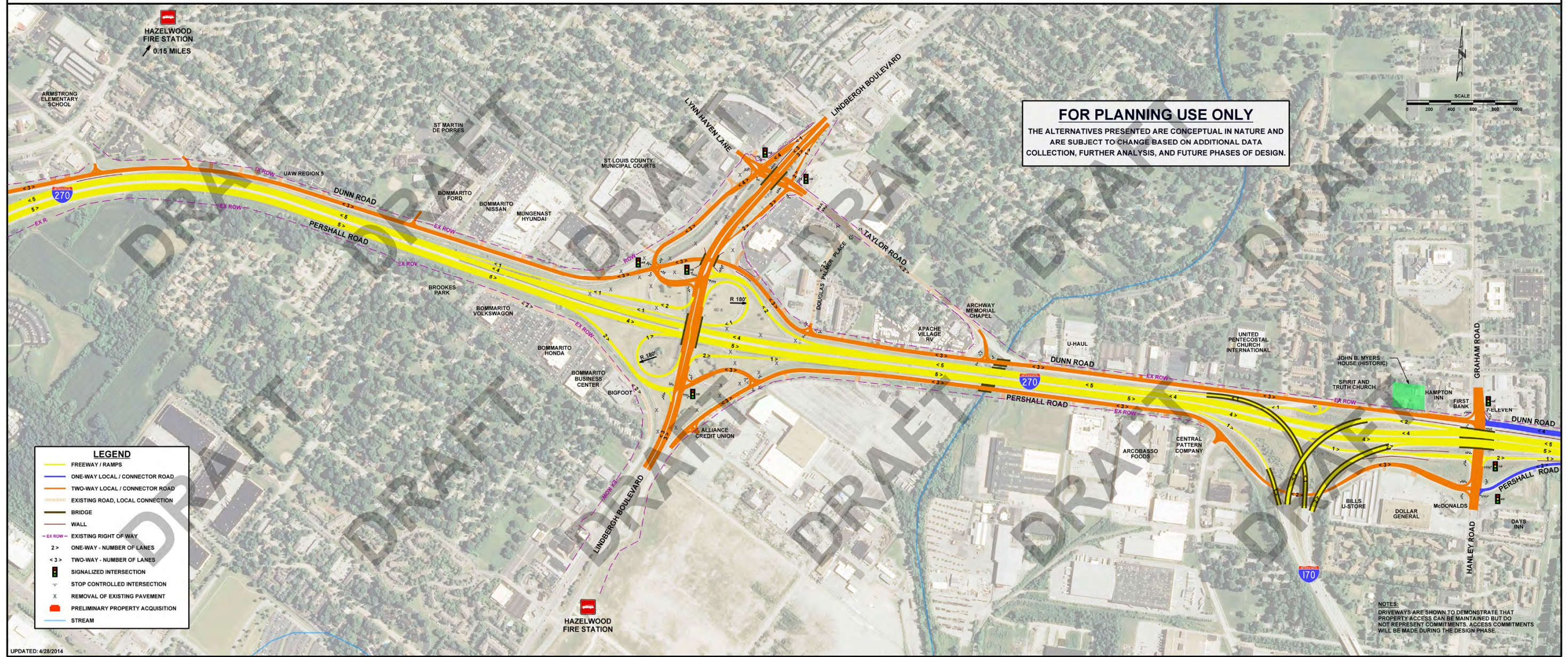
- 1 and the Halls Ferry interchange essentially operate as two diamond interchanges. Auxiliary lanes will be
- 2 added as needed.
- 3

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MAP AREA 2 - PREFERRED ALTERNATIVE East of McDonnell Boulevard to Hanley Road / Graham Road



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Figure S-2. I-270 North Environmental Assessment Preferred Alternative

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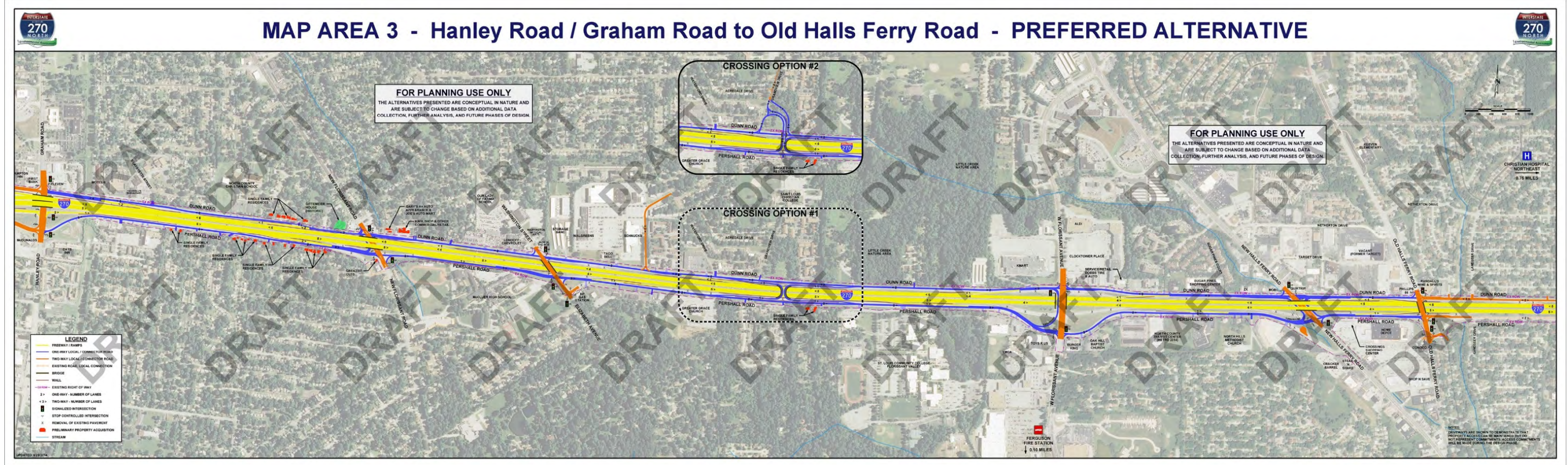
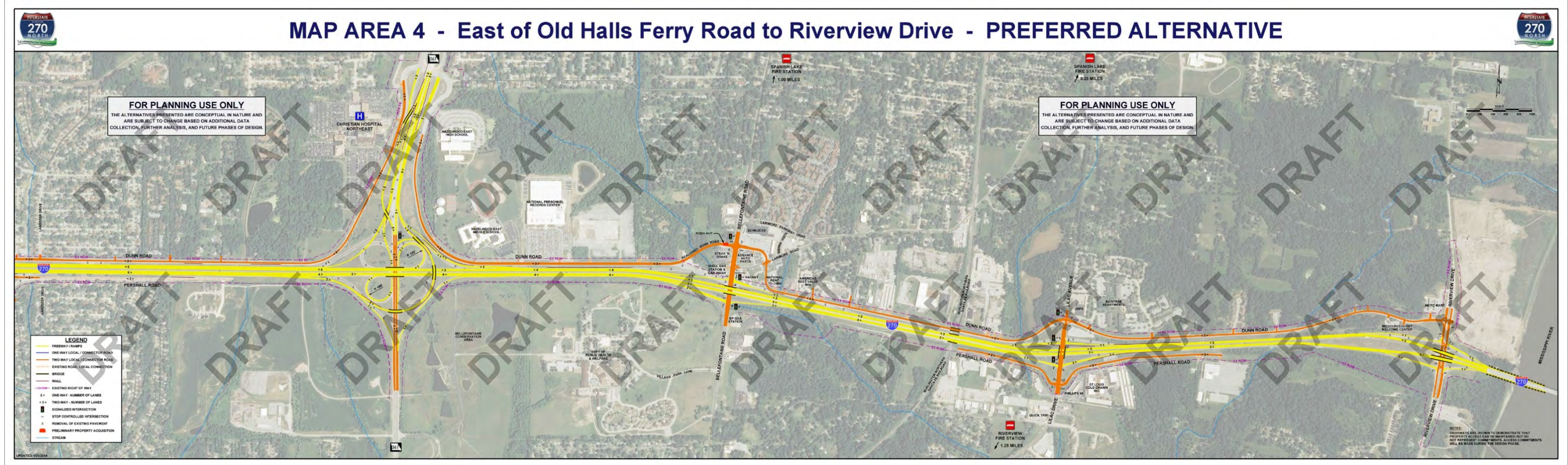


Figure S-2. I-270 North Environmental Assessment Preferred Alternative

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Figure S-2. I-270 North Environmental Assessment Preferred Alternative

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1 **Map Area #4: East of Old Halls Ferry Road to Chain of**
 2 **Rocks Bridge**

3 The only alternative at the existing cloverleaf MO 367
 4 interchange is a partial cloverleaf configuration. It will eliminate
 5 two loop ramps, using a fly-over ramp for the EB-to-NB
 6 movement and diamond exit ramp from WB I-270 to NB and SB
 7 MO 367. At the Bellefontaine Road interchange, the existing
 8 diamond interchange will be converted into a partial cloverleaf
 9 interchange. At the Lilac Avenue interchange, the existing
 10 diamond interchange will be converted into a partial cloverleaf
 11 interchange. At the Riverview Road interchange, the existing
 12 diamond configuration will be converted into a partial cloverleaf
 13 interchange.

14 **Summary of Impacts**

15 The process that led to the identification of the Preferred
 16 Alternative included evaluating impacts. The impact analysis was
 17 multi-faceted, encompassing numerous elements, such as right-
 18 of-way requirements, environmental impacts, socio-economic
 19 consequences, disruptions to important cultural resources,
 20 community impacts, building relocations, safety, and other
 21 engineering considerations along with an examination of the
 22 compatibility with local transportation priorities.

23 Impacts associated with the Preferred Alternative include the
 24 acquisition of land and structures, stream and floodplain
 25 crossings, alterations to the bike/pedestrian environment, noise impacts, and work in proximity to several
 26 neighborhoods. **Tables 3-2** through **3-4**, in **Section 3**, present a summary of the impacts associated with the
 27 Reasonable Alternatives. In general, the impacts associated with the Reasonable Alternatives are very
 28 similar. **Table S-1** presents an impact summary for the Preferred Alternative.

29 Based on the evaluation of impacts, a Preferred Alternative emerged. The Preferred Alternative conforms to
 30 the criteria contained within the MoDOT EPG, the study's Purpose and Need, and the study's desired
 31 operational characteristics/performance measures. It also minimizes impacts to the human and natural
 32 environment. **Section 4** presents data regarding the natural and human resources associated with the study
 33 area and present study-related impacts for the Reasonable Alternatives and the Preferred Alternative.

34 **Environmental Commitments**

35 If approved, during the design and implementation of the Preferred Alternative, MoDOT is committed to
 36 obtaining necessary permits and performing other actions that would minimize and mitigate the impacts of
 37 the study on the environment.

38 Those commitments are listed in **Section 5**.



**Performance
Measures**

The development and evaluation of alternatives depicted in this I-270 North EA are based on their ability to satisfy the operational characteristics and performance measures that underlie the study's Purpose and Need. The impacts of the alternatives are based on the configurations that emerged by using the engineering standards/design criteria established in the MoDOT EPG.

Because of the corridor size and complexity, MoDOT intends to investigate all available project delivery options, including design-build and/or phased delivery. Alternative project delivery options are intended to identify cost and time saving technologies. MoDOT intends to take full advantage of these savings while remaining consistent with the study's established operational characteristics, performance measures, and Purpose and Need.

1 Public Involvement/Agency
2 Coordination

3 The public involvement techniques used for this study included
4 newsletters, a website, news media releases, formal and
5 informal meetings, and other general coordination. The agency
6 coordination process included multiple collaboration points
7 where study updates were provided and input requested.
8 **Section 6** discusses the public involvement and agency
9 coordination activities that have been conducted. Public
10 involvement efforts will continue throughout the duration of
11 the study.



**Project Coordination in
2016**

In early 2015, the I-270 North EA was suspended as part of a funding shortfall. The study was restarted in mid-2016. Overall, the basic nature of the study is unchanged from the suspension including alternatives, construction methods, and techniques. Some techniques, such as cost estimating and crash evaluations, have evolved. As necessary, those have been updated. New information, such as the updated long-range transportation plan (Connected2045), were also incorporated into the analysis. As necessary, impact analyses were also updated based on new or revised regulations. Public involvement and stakeholder coordination was restarted and is [documented here](#)

Table S-1. Environmental Impact Summary for the Preferred Alternative
I-270 North Environmental Assessment

DESCRIPTION	PRELIMINARY STRUCTURE ACQUISITION ESTIMATES	PRELIMINARY PROPERTY ACQUISITION ESTIMATES	PARKS AND RECREATION IMPACTS	ENVIRONMENTAL JUSTICE IMPACTS	WATERWAY IMPACTS	BIKE/PED IMPACTS	KEY TRAFFIC PATTERN IMPACTS
SAINT CHARLES ROCK ROAD							
Improved Interchange (Alternative 1)	None	Less than 1 acre	No property acquisition from Carrollton Disc Park; operational impacts are not expected	Diverging diamond interchanges can limit some transit bus and emergency medical services operations.	Nearly identical Cowmire Creek Crossings	Depending on design, diverging diamond interchanges can require pedestrians to cross free-flowing traffic	<ul style="list-style-type: none"> Synchronized signals reduce delay Reduced number of conflict points
MCDONNELL BOULEVARD							
Improved Interchange (Alternative 1)	None	Less than 1 acre	None	Diverging diamond interchanges can limit some transit bus and emergency medical services operations.	None	Depending on design, diverging diamond interchanges can require pedestrians to cross free-flowing traffic	<ul style="list-style-type: none"> Synchronized signals reduce delay Reduced number of conflict points
LINDBERGH BOULEVARD							
Improved Interchange (Alternative 1)	None	± 4 acres	No property acquisition from Brookes Park, but trees within right-of-way may be removed	Improved interchange will benefit local users.	None	Direct Dunn Road connection through Lindbergh Boulevard interchange should improve bike/pedestrian operations	<ul style="list-style-type: none"> Improved connection between WB 270 and NB Lindbergh Boulevard Improved connection for SB Lindbergh Boulevard and WB I-270 Eliminating loop ramp reduces conflicts Continuous Dunn Road under Lindbergh Boulevard
HANLEY ROAD/GRAHAM ROAD							
Improved Interchange with One-Way Dunn/Pershall Roads (Alternative 1)	Two single-family residences at Pershall Road and Brackleigh Lane	Less than 2 acres	No expected impacts to the Myers House	Metropolitan Saint Louis Transit Agency (Metro Transit) estimates that one-way outer roads will increase their operating expenses.	None	One-way outer roads tend to benefit pedestrians (because of fewer conflict points). One-way outer roads tend to result in out-of-direction travel by bicyclists, thus creating more conflicts with automobiles	<ul style="list-style-type: none"> Dunn and Pershall Roads operate as one-way outer roads Access to/from I-270 via slip ramps
NEW FLORISSANT ROAD TO WASHINGTON STREET/ELIZABETH AVENUE							
Improved Interchange with One-Way Dunn/Pershall Roads (Alternative 1)	<ul style="list-style-type: none"> Twenty-one single-family residences: six at Santa Cruz Drive, and fifteen between DuBourg Lane and Jean Drive Plaza Duchesne: Kwik Mart and five others and Gary's A+ Auto/ Joe's Auto Mart Creative Cuts: Pershall/Jean 	± 13 acres	None	One-way operation at New Florissant Road and Washington Street is primarily within the existing corridor. Important exceptions include the creation of a connection between Dunn Road and Waterford, behind the Grandview Plaza Shopping Center and the possible mid-block crossover at Grandview Drive.	Limited culvert extensions for Fountain Creek	One-way outer roads tend to benefit pedestrians (because of fewer conflict points). One-way outer roads tend to result in out-of-direction travel by bicyclists creating more conflicts with automobiles	<ul style="list-style-type: none"> Dunn and Pershall Roads operate as one-way outer roads Access to/from I-270 via slip ramps

Table S-1. Environmental Impact Summary for the Preferred Alternative
I-270 North Environmental Assessment

DESCRIPTION	PRELIMINARY STRUCTURE ACQUISITION ESTIMATES	PRELIMINARY PROPERTY ACQUISITION ESTIMATES	PARKS AND RECREATION IMPACTS	ENVIRONMENTAL JUSTICE IMPACTS	WATERWAY IMPACTS	BIKE/PED IMPACTS	KEY TRAFFIC PATTERN IMPACTS
WEST FLORISSANT AVENUE TO OLD HALLS FERRY ROAD							
Improved Interchange from West Florissant Avenue to New Halls Ferry Road with One-Way Dunn/Pershall (Alternative 1a)	None	± 6 acres	Little Creek Nature Area: Acquisition limited to narrow linear strip along Dunn Road. Driveway will be improved as necessary	Metro Transit estimates that one-way outer roads will increase their operating expenses. Additional turnarounds provided from WB Dunn Road to EB Pershall Road between Washington Street /Elizabeth Avenue and from EB Florissant Avenue and from EB Pershall Road to WB Dunn Road at New Halls Ferry Road.	All alternatives have limited culvert extensions of existing culverts within Maline Creek tributaries at New Halls Ferry Road and Old Halls Ferry Road. These alternatives have no other impacts	One-way outer roads tend to benefit pedestrians (because of fewer conflict points). One-way outer roads tend to result in out-of-direction travel by bicyclists, thus creating more conflicts with automobiles	<ul style="list-style-type: none"> Dunn and Pershall Roads operate as one-way outer roads Access to/from I-270 via slip ramps No direct ramps from WB I-270 to Old Halls Ferry Road
MO 367							
Improved Interchange (Alternative 1)	None	± 1 acres	No direct impacts to Bellefontaine Conservation Area	-	Limited culvert extensions of existing culverts for Maline Creek tributaries	-	<ul style="list-style-type: none"> Provides free flow movement from EB I-270 to MO 367 Ramps on SB MO 367 to transition from freeway to arterial Removes two loop ramps, thus improving safety and operations
BELLEFONTAINE ROAD							
Improved Interchange (Alternative 1)	Pizza Hut restaurant	± 8 acres	None	-	New crossing of Watkins Creek for relocated Dunn Road and replacement of existing culverts elsewhere	-	<ul style="list-style-type: none"> Removes slip ramps Relocates Dunn Road
LILAC AVENUE							
Improved Interchange (Alternative 1)	None	None	None	-	None	-	<ul style="list-style-type: none"> Moves WB I-270 ramps closer to the freeway to avoid relocating Dunn Road
RIVERVIEW DRIVE							
Improved Interchange with Two-Way Dunn Road (Alternative 1)	None	None	No impact to Dundee Park or Watkins Estate	-	Limited culvert extensions of existing culverts within Watkins Creek	-	<ul style="list-style-type: none"> Will require extension of ramps to the east when the bridge is replaced

