

2 Purpose and Need

3 The term “Purpose and Need” refers to the transportation-related problems that a study is intended to
4 address. The generation and evaluation of alternatives are conducted to develop the most appropriate
5 solution to the identified problems. Ultimately, the identification of a preferred alternative will be
6 based, in part, on how well it satisfies the study’s Purpose and Need.

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

- 8 • The need to maintain the aging infrastructure along I-270
- 9 • The need to improve mobility and operations within the I-270 corridor
- 10 • The need to achieve accessibility consistent with the designated uses of I-270
- 11 • The need to improve safety within the I-270 corridor

12 These broad concepts can be defined through the specific
13 transportation problems that affect the I-270 North EA study
14 area. These problems are summarized below and relate to
15 one or more of the basic needs listed above. These
16 transportation problems are listed in no particular order, but
17 are often interrelated. These will be discussed below within
18 the framework of the following nine major elements.

19 **Major Element #1 – Deteriorating Infrastructure along I-270**

20 The I-270 North corridor is among the oldest freeways in the
21 Saint Louis area. Although portions of the corridor have been
22 reconstructed or widened, much of the corridor’s
23 infrastructure has outlived or is nearing its usable life.

24 **Major Element #2 – Deteriorating Operation of the I-270 25 Freeway**

26 Many segments of I-270 throughout the study corridor have
27 existing and future LOS that are below MoDOT’s desired
28 operating level.

29 **Major Element #3 – Inconsistent Interchange Operations**

30 Nineteen interchanges are located on I-70 within the 16-mile
31 study area. Many challenges that travelers experience are
32 the result of the tight spacing of interchanges and the
33 numerous, and the closely spaced weaving sections that
34 result. Specific transportation problems identified include
35 the following:

- 36 • Weaving operations within the I-270 interchanges are difficult
- 37 • Substandard operations along the crossroads of I-270
- 38 • Low operating speeds within some of the interchange movements

39 **Major Element #4 – Inconsistent Operations along the Outer Road System**

40 Dunn Road and Pershall Road serve as north and south outer roads, respectively, to the I-270 mainline
41 throughout most of the study area. These outer roads are used to distribute and collect traffic between
42 local streets and freeway interchanges. The slip ramps to and from I-270 and Dunn Road create
43 confusion for drivers and negatively affect operations on the outer road and I-270. In addition, several



The specific transportation problems that affect the I-270 North EA study area include the following:

1. Deteriorating Infrastructure along I-270
2. Deteriorating Operation of I-270
3. Inconsistent Interchange Operations
4. Inconsistent Operations along the Outer Road System
5. System Creates Safety Conflicts
6. Non-motorized Travel within Study Area is Difficult
7. Need to Accommodate Operations between Transit and Highway Users
8. Difficult Pathways to Important Destinations
9. Increasingly Inefficient Goods Movement

1 gaps exist in Pershall Road at key locations, which limits the effectiveness of the outer road system to
2 function as a collector and distributor of traffic between the freeway and local streets.

3 **Major Element #5 – System Creates Safety Conflicts**

4 According to crash data from MoDOT's Traffic Management System for the period between 2010 and
5 2014, 9,784 crashes occurred within the study area. This translates to approximately five crashes per
6 day and one fatality every 2 months. While this is an oversimplification (because crashes are random
7 events that do not happen at regular frequencies), the numbers nevertheless paint a picture of the
8 frequency of crashes within the study area.

9 **Major Element #6 – Non-motorized Travel within Study Area is Difficult**

10 I-270 creates a substantial barrier to non-motorized movements. Most existing pedestrian facilities
11 within the study area do not meet current ADA standards, such as curb ramps, and much of the existing
12 sidewalks are discontinuous along the crossroads and outer roads or simply do not exist. As a result, the
13 study area lacks connectivity along and across the I-270 corridor for bikes and pedestrians.

14 **Major Element #7 – Need to Accommodate Operations between Transit and Highway Users**

15 Transit operations in North County are substantial. Metro Transit, the Saint Louis region's main transit
16 agency, reports that during a typical month, roughly 20 percent of MetroBus boardings in Missouri occur
17 on routes that primarily serve North Saint Louis County. Access to transit and the ability for transit to
18 move efficiently through this corridor is very important to residents and businesses. Metro currently
19 operates 14 routes dedicated to the North County service area and a new MetroBus Transit Center on
20 Pershall Road opened in summer 2015. As transit is an important mode of travel in North County, close
21 coordination with Metro Transit on their operations and future plans will add to the effectiveness of
22 overall travel in this corridor.

23 **Major Element #8 – Difficult Pathways to Important Destinations**

24 Urban environments pose challenges for motorists. This element examines the difficulties that are
25 known to exist. Specifically, those difficulties are those that affect sustainable development and the
26 ability to access opportunity. Specific transportation problems identified include the following:

- 27 • Unavailable movements
- 28 • Conflicting movements
- 29 • Physical constraints

30 **Major Element #9 – Increasingly Inefficient Goods Movement**

31 Much of the interstate, intrastate, and local freight movement in the Saint Louis region occurs along the
32 I-70, MO 370, and I-270 corridor in North Saint Louis. Freight traffic is an important component in the
33 local and regional economy. According to the NCS, approximately 17 percent of the roughly 90,000 to
34 141,000 vehicles that use I-270 daily are trucks; roughly 40 percent of the trucks are destined for local
35 addresses in the Saint Louis region. Key challenges facing commercial truck drivers in the Saint Louis
36 region include congestion, truck restrictions, access/connectivity, crashes, railroad grade crossings, and
37 lack of parking.

38 The complete Purpose and Need Statement is contained in **Appendix B**.

