SECTION 2

Purpose and Need

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

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

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

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

**Major Element #1 – Deteriorating Infrastructure along I-270**
The I-270 North corridor is among the oldest freeways in the Saint Louis area. Although portions of the corridor have been reconstructed or widened, much of the corridor’s infrastructure has outlived or is nearing its usable life.

**Major Element #2 – Deteriorating Operation of the I-270 Freeway**
Many segments of I-270 throughout the study corridor have existing and future LOS that are below MoDOT’s desired operating level.

**Major Element #3 – Inconsistent Interchange Operations**
Nineteen interchanges are located on I-70 within the 16-mile study area. Many challenges that travelers experience are the result of the tight spacing of interchanges and the numerous, and the closely spaced weaving sections that result. Specific transportation problems identified include the following:

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

**Major Element #4 – Inconsistent Operations along the Outer Road System**
Dunn Road and Pershall Road serve as north and south outer roads, respectively, to the I-270 mainline throughout most of the study area. These outer roads are used to distribute and collect traffic between local streets and freeway interchanges. The slip ramps to and from I-270 and Dunn Road create confusion for drivers and negatively affect operations on the outer road and I-270. In addition, several
gaps exist in Pershall Road at key locations, which limits the effectiveness of the outer road system to
function as a collector and distributor of traffic between the freeway and local streets.

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

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

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

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

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

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

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

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

- Unavailable movements
- Conflicting movements
- Physical constraints

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

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

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