

## CHAPTER 1 INTRODUCTION

### 1.1 INTRODUCTION

This is the decision document associated with the C-470 Corridor Revised Environmental Assessment (EA) that was approved in July 2015 by the Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA) for a Proposed Action to construct tolled express lanes on Colorado State Highway 470 (C-470) between Kipling Parkway and Interstate 25 (I-25), in the southern portion of the Denver metropolitan area.

Per FHWA guidance, the Revised EA replaces a 2006 approved EA for the same corridor, for a similar but not identical Preferred Alternative also including tolled express lanes. Due to lack of funding and other factors, the project did not advance to a decision document, final design or construction following the 2006 EA.

### Environmental Requirements

An EA is a document that describes a project's purpose and need, considers alternatives, and examines the social, economic and environmental consequences of alternatives to address the project need, in accordance with the National Environmental Policy Act (NEPA) of 1969.

NEPA applies to actions that would use Federal funds or require Federal approval. NEPA applies to the C-470 Corridor because the proposed improvements would be funded in part by FHWA dollars. Also, C-470 connects to two U.S. highways, I-25 and US 85. Additionally, between Wadsworth Boulevard and US 85 (South Santa Fe Drive), C-470 is located on a property easement granted by the U.S.

Army Corps of Engineers (USACE). USACE is a Cooperating Agency but not a signatory party for the Revised EA.

### Location

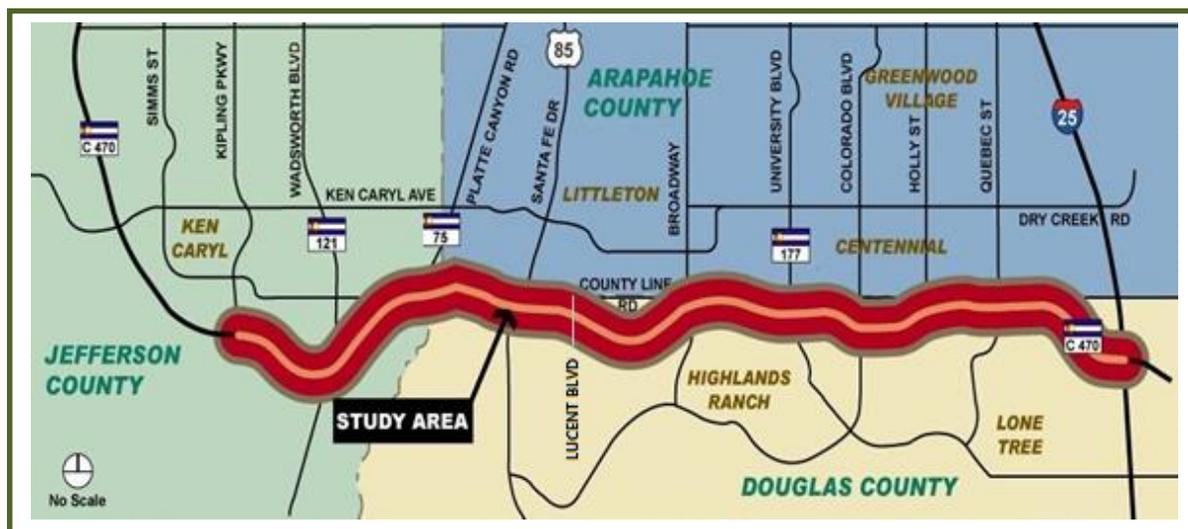
C-470 is a 26-mile freeway beginning at I-70 west of Denver (milepost 0) and looping around the southwestern quadrant of the metro area to end at its junction with north-south I-25. E-470, a private toll highway, proceeds eastward from I-25 and turns northward toward Denver International Airport. This Revised EA addresses the eastern half of C-470, from Kipling Parkway to I-25, a distance of 13.75 miles, as seen in the yellow-highlighted portion of **Figure 1-1**.

**Figure 1-2** shows that the C-470 project area spans portions of three counties, Jefferson, Douglas and Arapahoe.

**Figure 1-1  
Project Location**



**Figure 1-2  
C-470 Corridor Project Area**



## 1.2 PURPOSE AND NEED

The FHWA and CDOT have identified a need for transportation improvements to C-470 between Kipling Parkway and I-25. The purpose of this project is to provide congestion relief, decrease travel delay, and improve corridor reliability. The FHWA and CDOT seek to select an implementable transportation alternative that provides reliable and consistent travel times and commuting travel choices to accommodate an expected increase in the intensity and duration of congestion forecasted for the design year of 2035.

The need for this project is based on congestion, delay, and reliability. Additional considerations included implementation and safety. Specific need-based statements for the C-470 Corridor from Kipling Parkway to I-25 are highlighted here.

### Congestion

The Denver Regional Council of Governments (DRCOG), which is the federally designated transportation planning agency for the region, has identified C-470 as a “key congested area” on the regional transportation system (DRCOG, 2013). Traffic volumes on C-470 range from 61,000

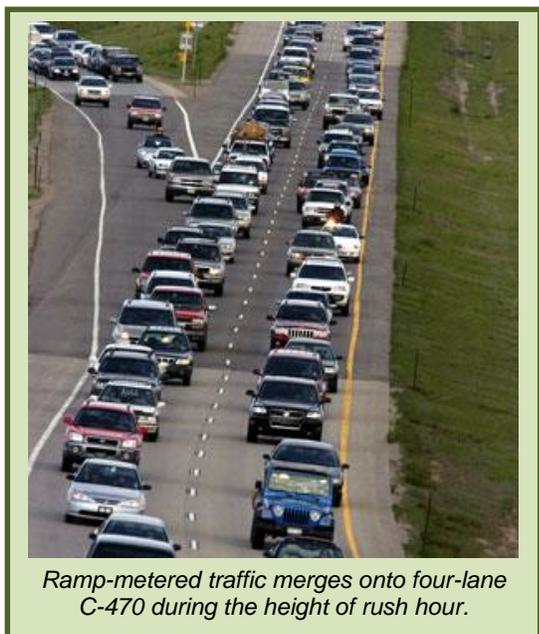
vehicles per day (vpd) near Kipling Parkway to 106,000 vpd near Yosemite Street. Volumes of 80,000 or more vehicles per day for the four-lane freeway (two lanes each direction), are a general indicator of peak period congestion, and are found from Lucent Boulevard east to I-25. The eastern portion of the C-470 project area is congested today and has been for a number of years.

By 2035, projected volumes with the No-Action Alternative are predicted to range from 93,000 vpd to 161,000 vpd, so all 13.75 miles from Kipling Parkway to I-25 will be congested. Compared to existing traffic volumes, these predicted volumes reflect approximately a 50 percent increase, attributed to ongoing local and regional growth.

### Delay

Travel time sampling in 2013 found an average evening peak period travel speed westbound on C-470 (i.e., the homeward commute from downtown Denver to the suburban residential areas) to be 24 miles per hour, which is well below the posted speed limit of 65 miles per hour.

DRCOG estimates that travel delay for all 26 miles of C-470 will increase from 6,650 hours (2006 baseline) of vehicle delay daily to 41,940 daily hours of delay by 2035. The easternmost portion of C-470 from Kipling Parkway to I-25 accounts for at least half of these totals. The increased delay would result from the fact that C-470 is congested today and the predicted additional travel demand will cause the morning and evening peak periods to lengthen in duration, providing slower travel speeds for more hours of the day.



### Reliability

On a heavily congested freeway, any minor incident can cause long traffic backups. Currently, motorists cannot reliably predict how long it will take them to travel on C-470 during peak periods.

DRCOG's regional metric for travel time reliability is the ratio of travel time during peak periods to free flow travel times. On this scale, C-470 at a ratio of 1.44 rates worse than the regional average of 1.27, and DRCOG predicts the ratio will more than double, to 2.93, by the year 2035.

### Other Considerations

In addition to addressing traffic-related needs, it is appropriate to consider safety and to ensure that any proposed action would be financially feasible.

The C-470 Proposed Action described in **Chapter 2** of this Decision Document was not developed to address specific safety issues, but improving traffic flow is expected to reduce the prevalence of rear-end collisions, which are the most common crash type on C-470 and are closely associated with traffic congestion. Also, the Proposed Action includes major reconstruction of the highway, providing an opportunity to bring various roadway aspects up to current design standards.

A proposed action would only meet the Purpose and Need discussed above if it were financially feasible. The Proposed Action described in **Chapter 2** is estimated to cost approximately \$385 million, the majority of which would come from toll generation.

The discussion above is an abbreviated summary of the project's purpose and need. Additional details are available in Chapter 1 of the Revised EA.