

## 1.0 INTRODUCTION

Recent and continued growth in along Interstate (I) 25, State Highway (SH) 392, and within the local communities that make up the North Front Range, has resulted in an increase in traffic on the SH 392 corridor. Traffic volumes in the area are expected to at least double in the next 20 years. Without changes to the corridor, this increase in traffic volumes will result in increased delay, higher levels of congestion, and an increase in the severity and number of accidents. The Colorado Department of Transportation (CDOT) has identified the need for an Access Control Plan (ACP) on this corridor to minimize the occurrence of these conditions.

Development and implementation of the ACP will provide a binding document guiding the agencies decisions regarding the future access conditions of SH 392. The *State Highway Access Code* (State of Colorado, Volume 2, Code of Colorado Regulations 601-1, March 2002) requirements were followed in preparing this plan. The ACP will provide CDOT and the participating local agencies with roadway access plans for the study corridor in an effort to bring the corridor into conformance with its assigned access category. The ACP is also intended to achieve balance between the planning objectives for CDOT and the participating local agencies, as well as support the current and future functional purposes of the corridor. In addition, the ACP evaluates existing and proposed access points along the corridor and makes recommendations for appropriate modifications. This report contains the purpose, objectives, and process of the ACP. Some examples of discussion topics are listed below.

- General Access Requirements
- Existing Conditions
- Projected Conditions for the Year 2030
- Access Control Techniques
- Public Involvement Process
- ACP Recommendations
- Next Steps

### 1.1 STUDY LOCATION

This ACP evaluated the portion of the SH 392 corridor located between I-25 and United States Highway (US) 85, excluding the section from 7<sup>th</sup> Street to Weld County Road (WCR) 19 within the Town of Windsor. In addition, the first 0.38 miles of Larimer County Road (LCR) 32 just west of I-25 (soon to become SH 392) was also included within the study limits. In terms of mile points the limits of the project are from the I-25 West Frontage Road (mile point 0.00) west to mile point 0.38, between the I-25 West Frontage Road (mile point 0.00) to 7<sup>th</sup> Street (mile point 4.45), and from WCR 19 (mile point 5.43) to US 85 (mile point 15.43). Altogether, the total study limits encompass approximately 15 miles of roadway. The study area is shown in Figure 1.

### 1.2 PURPOSE

The purpose of the ACP is to identify the location, type, and design of access points within the study limits in order to provide reasonable access to adjacent properties while maintaining safe and efficient traffic flow on SH 392.

### 1.3 OBJECTIVES

Proper application of an ACP will allow traffic to move more efficiently and safely along SH 392 by controlling the design, location, and frequency of access points and by better utilizing the secondary roadway network to reduce future strain on the roadway. The objectives of the SH 392 ACP are to:

- Improve traffic flow
- Reduce traffic conflicts
- Improve traffic safety
- Provide appropriate access to adjacent properties

Traffic volumes on the SH 392 corridor are projected to increase over the next several years. Projections from CDOT indicate that traffic volumes will at least double during the next 20 years. Without better access control, the number of conflicts and the amount of delay will continue to increase until severe congestion exists on the highway for many hours of the day. Proper control of the frequency, number, and location of access points on the corridor can lead to a reduction in:

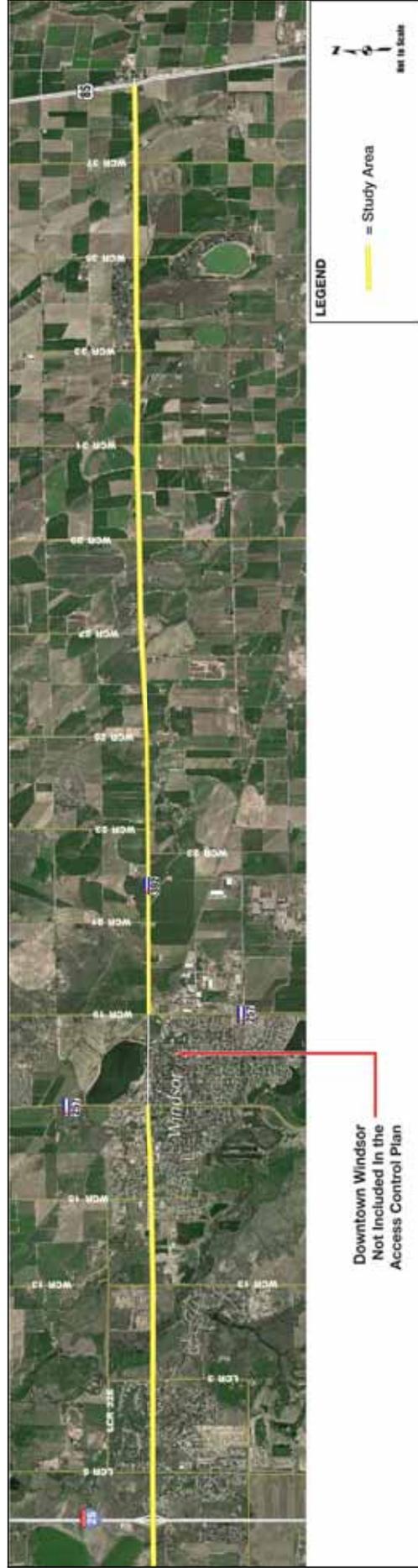
- The number and severity of accidents that occur
- The delay experienced by motorists
- The level of congestion on SH 392 and the strain on the surrounding roads
- The number of consumers conducting business elsewhere

There are a couple of ways to reduce the number and severity of accidents that occur. Accidents generally occur at the locations where two vehicles conflict with each other. A potential conflict occurs each time vehicles turning left or right at an access point cross paths with other roadway users. If the number of conflict points increases, which is what occurs if additional access points are allowed, then the number of accidents on SH 392 will also increase. Conversely, if the number of conflict points is reduced, the number of accidents should decrease creating a safer roadway.

Secondly, some of the most severe accidents typically involve left turn movements from an approach street onto SH 392 at un-signalized intersections where the turn is made without the protection of a green arrow. With an ACP plan, most of the left turn movements can be redirected to the signalized locations where, under the protection of a traffic signal, the vehicles can either turn left or make a U-turn to reach their desired destination. Another option is to prohibit left turns onto SH 392 from the approach streets, but still allow left turns onto the approach street from SH 392 (also known as a  $\frac{3}{4}$  movement intersection). Both of these options have the potential to reduce the number of severe accidents involving left turning vehicles and thus improve the overall safety for motorists on the corridor.

In order to reduce congestion and delay along the corridor, it is important to control the number of access points along SH 392 as traffic increases. By doing this, vehicles will not have to slow or stop to turn into or to allow vehicles to enter the roadway from as many access points. This will result in a decrease in the amount of delay and congestion on the roadway.

Figure 1  
Study Area



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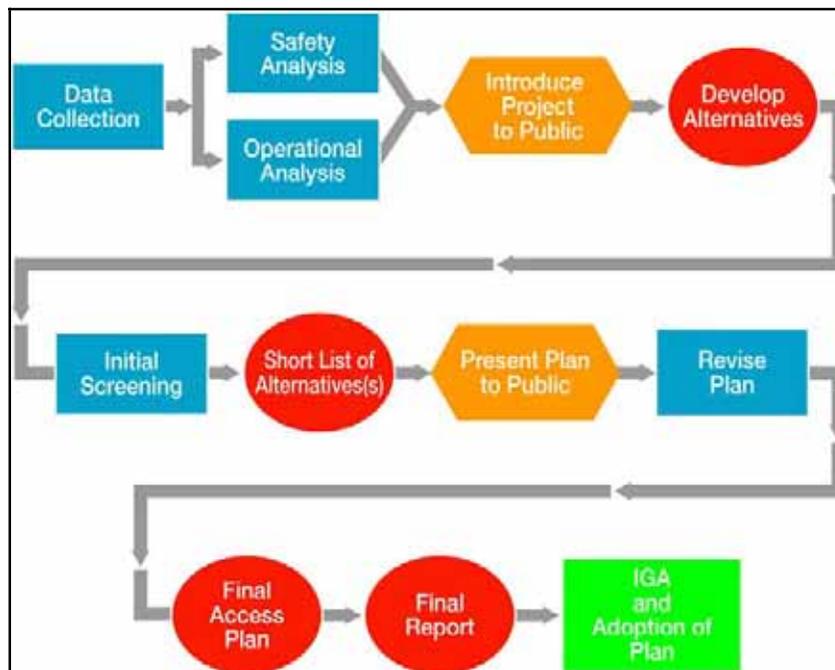
Finally, by reducing the friction along the corridor through reducing the number of access points, SH 392 will not become strained by congestion and delay. Motorists will be able to experience acceptable travel times and less congestion, maintaining return-service for local businesses.

In summary, the proper application of an ACP will allow traffic to move more efficiently and safely along SH 392 by controlling the design, location, and frequency of access points and by better utilizing the secondary roadway network to reduce future strain on the roadway.

#### 1.4 ACCESS CONTROL PLAN PROCESS

The process that was followed in developing the SH 392 ACP is summarized in Figure 2. The process began with the data collection phase; all access locations were identified, accident data and traffic volumes were collected, and copies of traffic studies for planned developments along the corridor were gathered. Once the data was collected, safety and operational analyses were completed. At this time, an initial public presentation was conducted to introduce the project and the concept of access management to the public. After the initial open house and based on results of the previously completed analyses, and the requirements of the *State Highway Access Code*, preliminary ACP alternatives were created. The project team evaluated the alternatives to create a short list of alternative(s) and presented the preliminary alternative(s) to the public at a second public presentation. Comments were received and the ACP was revised to reflect a preferred alternative. Due to the success of the second public presentation and the lack of comments requiring significant change, subsequent public presentations were determined not to be necessary for this study. Documentation of the process followed and the recommended ACP for SH 392 are contained within this final report, which also signifies the start of the plan adoption process.

**Figure 2**  
**Access Control Plan Process**



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