

### 3.0 EXISTING CONDITIONS

The study corridor is approximately 15 miles in length and stretches between 0.38 mile west of I-25 and US 85 to the east, excluding the section from 7<sup>th</sup> Street to WCR 19 within the Town of Windsor. The first step in developing an ACP is defining the existing conditions of the corridor. This is done by collecting the following data:

- Properties adjacent to the corridor and those potentially impacted by the ACP
- Location and type of each access point
- Average daily traffic volumes
- Intersection turning movement volumes
- Accident data

From this data, the corridor can be analyzed to determine if any safety and operational issues exist. The following sections provide a discussion on the data collection and analysis procedures.

#### 3.1 PROPERTY INFORMATION

Since the project was being conducted concurrently with the SH 392 Environmental Overview Statement (EOS), property ownership information was shared between the two projects. The data regarding property ownership was provided by Larimer and Weld Counties. The information was used to create the mailing list for the public involvement process (see *Section 6.0, Public Involvement Process*). For this study, direction was provided by CDOT staff to include all property owners involved in the EOS public outreach (including those outside the limits of the ACP). This was done in an effort to ensure continuity in the projects, to ensure all parties received equal information, and to allow the property owners themselves to determine whether or not they had an interest in the ACP. Appendix E contains the property owner information (from the EOS) as well as a parcel boundary map.

#### 3.2 INTERSECTION TYPE AND SPACING

Within the study limits, there are currently 11 signalized intersections, 244 un-signalized intersections, three right-in, right-out access points, and one right-out only access point. The result is a total of 259 access points along the 15-mile stretch of the corridor contained within the limits of this study. All access points can be separated into two categories: public or private. Definitions relating to types of access are covered in Section 1.5 (“Definitions and Abbreviations”; pages 2-8), in the *State Highway Access Code*:

*“Public Way” means a highway, street, or road, open for use by the general public and under the control or jurisdiction of the appropriate local authority of Department and includes private roads open to the public.*

*“Driveway” means an access that is not a public street, road, or highway.*

Based on these definitions, the access points within the study include 34 public ways and 225 driveways. Public ways can be signalized or un-signalized and may be a full-movement intersection or may have movements restricted such is the case with a right-in, right-out intersection. The following is a list of examples of public ways that intersect SH 392:

- Westgate
- Royal Vista
- Weld County Road 13
- 15<sup>th</sup> Street
- 8<sup>th</sup> Street

The remaining access points are considered driveways or private access locations. These include some full movement and some limited access points throughout the corridor. A few of the major private access locations include:

- Entrance to Safeway/King Soopers shopping centers
- Windsor High School staff/visitor entrance
- Church driveways
- Gated farm access

Table 1 summarizes the total existing access points within the study limits based upon the different highway category segments.

**Table 1**  
**Summary of Existing Access Locations by Highway Category Segments**

Section	Category	Signalized Public Ways	Un-signalized Public Ways	Driveways	Total
0.38 mile west of I-25 to 9 <sup>th</sup> Street	NR-A Non-Rural Regional Highway	8	10	35	53
9 <sup>th</sup> Street to SH 257 N	NR-C Non-Rural Arterial	2	1	11	14
SH 257 S to US 85	R-A Rural Highway	1	12	179	192
Totals		11	23	225	259

For the first segment of the study corridor (category NR-A, 4.65 miles in length), based on the access code the spacing between intersecting public ways should be at half mile intervals when no reasonable alternative access to the general street system exists. The existing average spacing between public ways is 0.25 mile (0.01 mile for all access points), which is less than the prescribed spacing in the access code for this segment. Category NR-C does not have spacing requirements per the access code. For the third segment (category R-A, ten miles in length), the

spacing between public ways should be one half mile, the current conditions have a public access every 0.8 mile (0.05 mile for all access points), which is within the prescribed spacing for this segment.

### 3.3 ROADWAY SECTIONS AND ACCESS DESCRIPTIONS

Figure 3, Figure 4, and Figure 5 show the location of all direct access points to the SH 392 corridor within the study limits of this project. Appendix A provides a much closer aerial view of the study corridor with the approximate existing roadway configuration and access locations identified. The corridor travels in the east and west direction within the study limits. The following is a brief description of the existing roadway configuration and access locations within the study limits of the ACP. The descriptions begin with the access located on the west end of the corridor and move east to the eastern limits of the ACP.

#### 3.3.1 From 0.38 mile west of I-25 to Larimer County Road 3

This portion of the SH 392 corridor has one through lane in each direction and is primarily undivided. In the eastbound direction, the speed limit is 40 mph from just west of I-25 to just before LCR 5 where it increases to 45 mph, and shortly after LCR 5 the speed limit increases to 55 and remains at this speed limit through LCR 3. In the westbound direction the speed limit is 55 mph from LCR 3 to just before LCR 5 where it decreases to 45 and remains at this speed limit to one-half mile west of I-25. This section of SH 392 contains the following twelve access points.

- *Access 1:* This access represents the westernmost limits of the study area and is a gated access to the field south of SH 392.
- *Access 2:* This is a gated access to the field south of SH 392.
- *Access 3:* This gated driveway provides access to a private property north of SH 392.
- *Frontage Road (Access 4):* This signalized intersection allows full movements in all directions and is located just west of the southbound I-25 ramps.
- *Southbound I-25 Ramps (Access 5):* This signalized intersection is located less than 200 feet east of the Frontage Road intersection. This intersection provides access to SH 392 for vehicles exiting southbound I-25 and access to southbound I-25 for vehicles traveling on SH 392.
- *Northbound I-25 Ramps (Access 6):* This signalized intersection is located less than 700 feet east of the southbound I-25 ramps. This intersection provides access to vehicles exiting northbound I-25 and access from SH 392 to northbound I-25.
- *Westgate (Access 7):* This signalized intersection is located east of the northbound I-25 ramps and allows full movements in all directions.
- *Royal Vista (Access 8):* This right-in, right-out intersection is located just east of Westgate and provides access to the commercial/retail development south of SH 392.
- *LCR 5 (Access 9):* This signalized intersection allows full movements in all directions.
- *REA Parkway (Access 10):* This full movement T-intersection provides access to the parcels south of SH 392. The south leg is stop controlled.
- *Highland Meadows Parkway (Access 11):* This intersection allows full movements in all directions. Both the north and south legs of this intersection are stop controlled.

- *Highland Hills Drive (Access 12)*: This full movement T-intersection provides access to a housing development south of SH 392. The south leg of the intersection is stop controlled.

### 3.3.2 LCR 3 to WCR 13

This portion of the SH 392 corridor has one through lane in each direction and is undivided. The speed limit is 55 mph in both the eastbound and westbound directions. This section of SH 392 contains the following eight access points.

- *LCR 3 (Access 13)*: The LCR 3 access point is an un-signalized intersection allowing full movements in all directions. The north and south legs are stop controlled.
- *Access 14*: This driveway provides access to a private property south of SH 392.
- *Access 15*: Provides access to the field north of SH 392.
- *Access 16*: Provides access to the field north of SH 392.
- *Access 17*: Provides access to the field/utilities north of SH 392.
- *Access 18*: Provides access to the field south of SH 392.
- *Access 19*: Provides access to the field south of SH 392.
- *Access 20*: Provides access to the field north of SH 392.

### 3.3.3 WCR 13 to 15<sup>th</sup> Street

This portion of the SH 392 corridor has one through lane in each direction. The portion from WCR 13 to 16<sup>th</sup> Street generally is undivided, but does have a raised median from 16<sup>th</sup> Street to 15<sup>th</sup> Street. The eastbound speed limit is 55 mph from WCR 13 to just after 16<sup>th</sup> Street where it decreases to 45 mph. The westbound speed limit is 45 mph from 15<sup>th</sup> Street to just after 16<sup>th</sup> Street where the speed limit increases to 55 mph. This section of SH 392 contains the following sixteen access points.

- *WCR 13 (Access 21)*: This signalized intersection allows full movements in all directions.
- *Access 22*: Provides access to the field north of SH 392.
- *Access 23*: Provides access to the field south of SH 392.
- *Access 24*: Provides access to the field/utilities south of SH 392.
- *Access 25*: This gated driveway provides access to a private residence north of SH 392.
- *Access 26*: This driveway provides access to a retail/private property north of SH 392.
- *Access 27*: Provides access to the field south of SH 392.
- *Access 28*: Provides access to the field south of SH 392.
- *Access 29*: Provides access to the field north of SH 392.
- *Access 30*: Provides access to the field north of SH 392.
- *Access 31*: Provides access to the field south of SH 392.
- *Access 32*: This driveway provides access to a private property south of SH 392.
- *Access 33*: This driveway provides access to a private property south of SH 392.

- *Access 34:* This driveway provides access to a private property south of SH 392.
- *16th Street (Access 35):* This full movement T-intersection provides access to parcels north of SH 392. The north leg is stop controlled.
- *Access 36:* Provides access to shopping centers north and south of SH 392. This intersection allows  $\frac{3}{4}$  movements or left turns into, but not out of, both the north and south legs.

### 3.3.4 15<sup>th</sup> Street to 9<sup>th</sup> Street

This portion of the SH 392 corridor has primarily two through lanes in each direction and is separated by either a raised median or a two-way left-turn lane. The eastbound speed limit is 45 mph from 15<sup>th</sup> Street to just east of 14<sup>th</sup> Street where it decreases to 30 mph. The westbound speed limit is 30 mph from 9<sup>th</sup> Street to just east of 14<sup>th</sup> Street where it increases to 45 mph. This portion of the corridor contains the following seventeen access locations.

- *15th Street (Access 37):* 15th Street is a signalized intersection allowing full movements in all directions. The north and south legs provide access to housing and shopping centers.
- *Access 38:* This right-in, right-out intersection provides access to a shopping center north of SH 392.
- *14th Street (Access 39):* This full movement T-intersection approaches SH 392 from the south. The south leg is stop controlled.
- *13th Street (Access 40):* This T-intersection provides access to shopping and housing developments north of SH 392. The north leg is stop controlled.
- *Access 41:* This driveway is located just east of 13th Street and provides access to a private property south of SH 392.
- *12th Street (Access 42):* This intersection allows full movements in all directions and provides access to the businesses and homes to the north and south of SH 392. The north and south legs are stop controlled.
- *11th Street (Access 43):* This signalized intersection allows full movements in all directions and provides access to the properties north and south of SH 392.
- *Access 44:* This full movement T-intersection provides access to a shopping center south of SH 392. The south leg is stop controlled.
- *Access 45:* This right-out only access allows vehicles to exit the parcel south of SH 392.
- *Access 46:* This full movement T-intersection provides access to the Windsor High School north of SH 392. The north leg is stop controlled.
- *Access 47:* This gated driveway provides access to the parcel south of SH 392.
- *Access 48:* This gated driveway provides access to the parcel south of SH 392.
- *Access 49:* This curb cut (no active driveway or road) is located just west of 10th Street along the north edge of SH 392.
- *10th Street (Access 50):* This full movement T-intersection provides access to homes on the south side of SH 392. The south leg is stop-controlled.
- *Access 51:* This driveway provides access to a private property south of SH 392.

- *Access 52*: This driveway provides access to a business south of SH 392.
- *Access 53*: This driveway provides access to a business south of SH 392.

### 3.3.5 9<sup>th</sup> Street to 7<sup>th</sup> Street/SH 257N

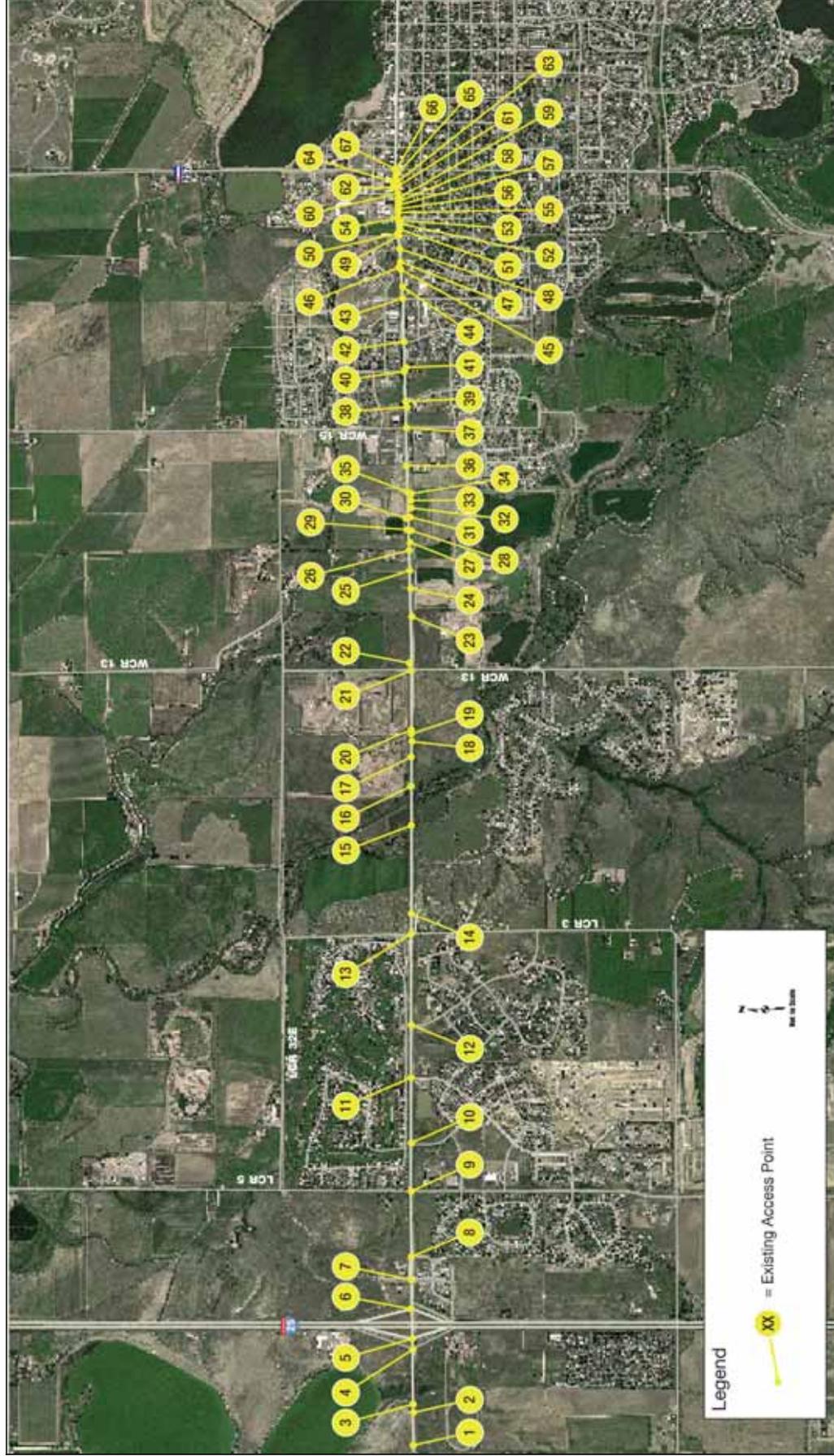
This portion of the SH 392 corridor, from 9<sup>th</sup> Street to 7<sup>th</sup> Street has two through lanes in each direction and is separated by a two-way left turn lane. The speed limit is 30 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following fourteen access locations.

- *9th Street (Access 54)*: This signalized T-intersection provides access to homes south of SH 392.
- *Access 55*: This driveway provides access to a private property south of SH 392.
- *Access 56*: This driveway provides access to a private property south of SH 392.
- *Access 57*: This driveway provides access to a private property south of SH 392.
- *Access 58*: This driveway provides access to a private property south of SH 392.
- *Access 59*: This driveway provides access to a private property south of SH 392.
- *8th Street (Access 60)*: This intersection allows full movements in all directions and provides access to the Windsor Middle School and bus facility to the north and homes to the south. Both the north and south legs are stop controlled.
- *Access 61*: This driveway provides access to a private property south of SH 392.
- *Access 62*: This driveway provides access to business north of SH 392.
- *Access 63*: This driveway provides access to private property south of SH 392.
- *Access 64*: This right-in, right-out driveway provides access to the parcel north of SH 392.
- *Access 65*: This driveway provides access to private property south of SH 392.
- *Access 66*: This driveway provides access to a private property south of SH 392.
- *7th Street/SH 257N (Access 67)*: This signalized intersection allows full movements in all directions and provides access north and south of SH 392. The south leg is designated as 7th Street and the north leg is designated as SH 257N.

### 3.3.6 7<sup>th</sup> Street/SH 257N to WCR 19/SH 257S

This section of the corridor has been omitted from the SH 392 ACP plan.

Figure 3  
Existing Access Points 0.38 miles west of I-25 to 7<sup>th</sup> Street/SH 257N



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### 3.3.7 WCR 19/SH 257S to WCR 21

This portion of the SH 392 corridor, from WCR 19 to WCR 21 has primarily one through lane in each direction with the lanes being undivided. For the most part, the speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 29 access locations.

- *WCR 19/SH 257S (Access 68)*: This signalized intersection allows full movements in all directions. The north leg of the intersection is designated as WCR 19 and the south leg is designated as SH 257S.
- *Access 69*: This driveway provides access to a private property north of SH 392.
- *Access 70*: This driveway provides access to the business south of SH 392.
- *Access 71*: This driveway provides access to the business south of SH 392.
- *Access 72*: Provides access to the field north of SH 392.
- *Access 73*: This driveway provides access to a private property south of SH 392.
- *Access 74*: Provides access to the field north of SH 392.
- *Access 75*: Provides access to the field south of SH 392.
- *Access 76*: Provides access to the field south of SH 392.
- *Access 77*: Provides access to the field north of SH 392.
- *Access 78*: Provides access to the field south of SH 392.
- *Access 79*: Provides access to the field south of SH 392.
- *Access 80*: This driveway provides access to a private property north of SH 392.
- *Access 81*: This driveway provides access to a private property north of SH 392.
- *Access 82*: This driveway provides access to the parcel south of SH 392.
- *Access 83*: This driveway provides access to a private property south of SH 392.
- *Access 84*: Provides access to the field north of SH 392.
- *Access 85*: This driveway provides access to the parcel south of SH 392.
- *Access 86*: This driveway provides access to a private property north of SH 392.
- *Access 87*: This driveway provides access to a private property north of SH 392.
- *Access 88*: Provides access to the field south of SH 392.
- *Access 89*: This driveway provides access to a private property north of SH 392.
- *Access 90*: Provides access to the field south of SH 392.
- *Access 91*: Provides access to the field south of SH 392.
- *Access 92*: This driveway provides access to a private property north of SH 392.
- *Access 93*: This driveway provides access to a private property north of SH 392.
- *Access 94*: Provides access to the field south of SH 392.
- *Access 95*: This driveway provides access to a private property south of SH 392.
- *Access 96*: Provides access to the field north of SH 392.

### 3.3.8 WCR 21 to WCR 23 North

This portion of the SH 392 corridor, from WCR 21 to WCR 23 North has primarily one through lane in each direction with the lanes being undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 18 access locations.

- *WCR 21 (Access 97)*: This full movement T-intersection provides access to homes and fields north of SH 392. The north leg at this intersection is stop-controlled.
- *Access 98*: Provides access to the field north of SH 392.
- *Access 99*: Provides access to the field south of SH 392.
- *Access 100*: This driveway provides utility access north of SH 392.
- *Access 101*: This driveway provides access to a private property north of SH 392.
- *Access 102*: This driveway provides access to a private property south of SH 392.
- *Access 103*: This driveway provides access to private properties north of SH 392.
- *Access 104*: Provides access to the field south of SH 392.
- *Access 105*: This driveway provides access to a private property north of SH 392.
- *Access 106*: Provides access to the field south of SH 392.
- *Access 107*: This driveway provides access to a private property north of SH 392.
- *Access 108*: Provides access to the field south of SH 392.
- *Access 109*: This driveway provides access to a private property south of SH 392.
- *Access 110*: Provides access to the field north of SH 392.
- *WCR 23 South (Access 111)*: This full movement T-intersection provides access to homes and fields south of SH 392. The south leg is stop-controlled.
- *Access 112*: Provides access to the field south of SH 392.
- *Access 113*: Provides access to the field north of SH 392.
- *Access 114*: Provides access to the field north of SH 392.

### 3.3.9 WCR 23 North to WCR 25

This portion of the SH 392 corridor, from WCR 23 North to WCR 25 has primarily one through lane in each direction with lanes being undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 15 access locations.

- *WCR 23 North (Access 115)*: This intersection allows full movements in all directions and provides access to homes and fields north and south of SH 392. The north leg (WCR 23 North) and the south leg (Stagecoach Road) are stop-controlled.
- *Access 116*: This driveway provides access to a private property south of SH 392.
- *Access 117*: This driveway provides access to a private property north of SH 392.
- *Access 118*: Provides access to the field north of SH 392.
- *Access 119*: This driveway provides access to a private property south of SH 392.
- *Access 120*: Provides access to the field/utilities north of SH 392.

- *Access 121*: Provides access to the field north of SH 392.
- *Access 122*: This driveway provides access to a private property south of SH 392.
- *Access 123*: Provides access to the field north of SH 392.
- *Access 124*: Provides access to the field north of SH 392.
- *Access 125*: Provides access to the field north of SH 392.
- *Access 126*: This driveway provides access to a private property north of SH 392.
- *Access 127*: Provides access to the field north of SH 392.
- *Access 128*: Provides access to the field north of SH 392.
- *Access 129*: This driveway provides access to a private property south of SH 392.

### **3.3.10 WCR 25 to WCR 27 North**

This portion of the SH 392 corridor, from WCR 25 to WCR 27 North has primarily one through lane in each direction with lanes being undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 16 access locations.

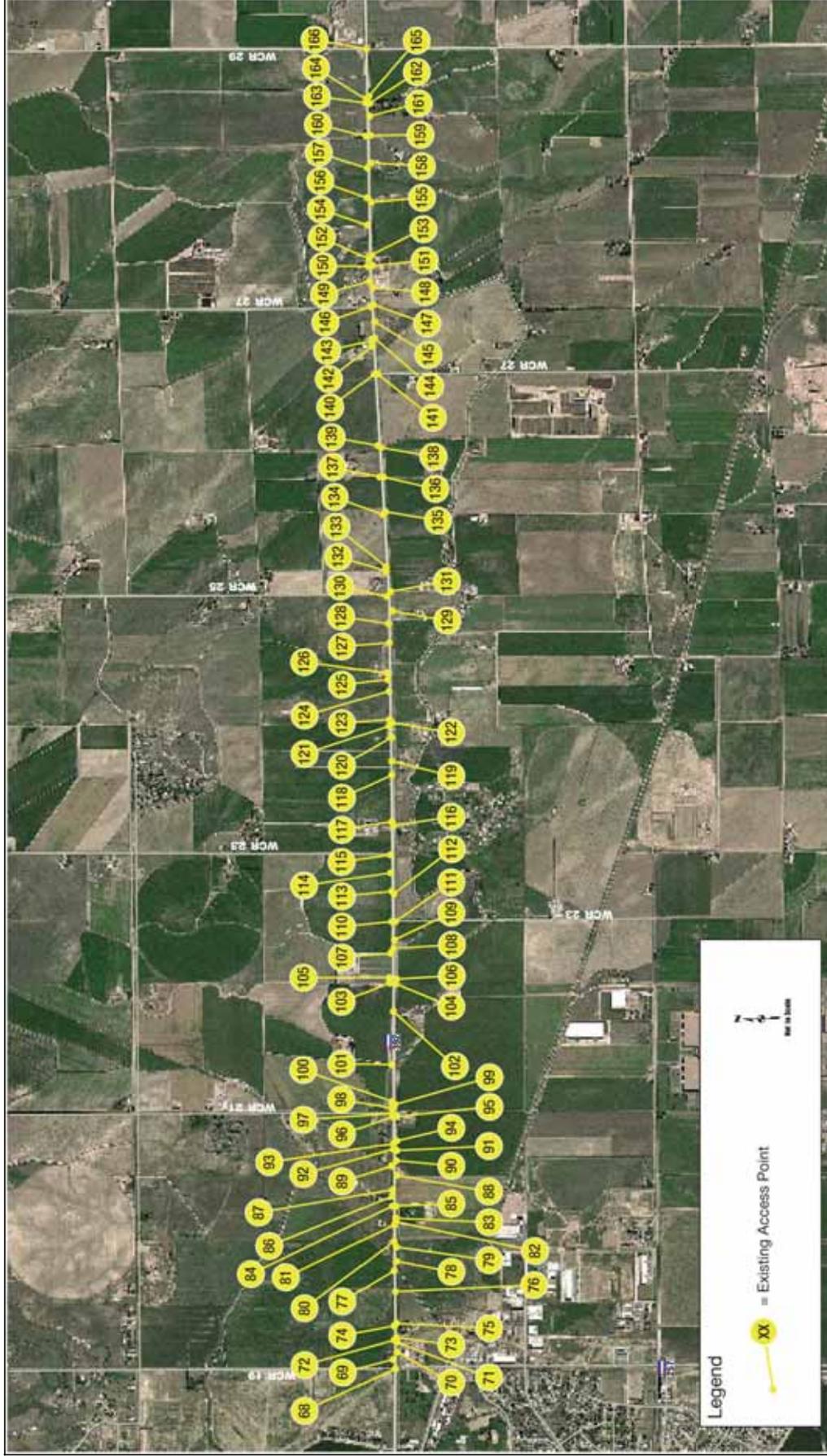
- *WCR 25 (Access 130)*: This full movement T-intersection provides access to homes and fields north of SH 392. The north leg is stop-controlled.
- *Access 131*: This driveway provides access to a private property south of SH 392.
- *Access 132*: Provides access to the field north of SH 392.
- *Access 133*: Provides access to the field/utility location north of SH 392.
- *Access 134*: Provides access to the field north of SH 392.
- *Access 135*: Provides access to the field south of SH 392.
- *Access 136*: This driveway provides access to a property south of SH 392.
- *Access 137*: This driveway provides access to a property north of SH 392.
- *Access 138*: Provides access to the field south of SH 392.
- *Access 139*: Provides access to the field north of SH 392.
- *Access 140*: Provides access to the field north of SH 392.
- *WCR 27 South (Access 141)*: This full movement T-intersection provides access to homes and fields to the south of SH 392. The south leg is stop-controlled.
- *Access 142*: This driveway provides access to a business north of SH 392.
- *Access 143*: This driveway provides access to a private property north of SH 392.
- *Access 144*: Provides access to the field south of SH 392.
- *Access 145*: This driveway provides access to a private property south of SH 392.

### 3.3.11 WCR 27 North to WCR 29

This portion of the SH 392 corridor, from WCR 27 North to WCR 29 has primarily one through lane in each direction with the lanes being undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 20 access locations.

- *WCR 27 North (Access 146)*: This full movement T-intersection provides access to homes and fields north of SH 392. The north leg is stop-controlled.
- *Access 147*: This driveway provides access to a private property south of SH 392.
- *Access 148*: This driveway provides access to a parcel south of SH 392.
- *Access 149*: Provides ditch access north of SH 392.
- *Access 150*: Provides ditch access north of SH 392.
- *Access 151*: Provides ditch access south of SH 392.
- *Access 152*: This driveway provides access to a private property north of SH 392.
- *Access 153*: This driveway provides access to a private property south of SH 392.
- *Access 154*: This driveway provides access to a private property north of SH 392.
- *Access 155*: Provides access to the field south of SH 392.
- *Access 156*: Provides access to the field north of SH 392.
- *Access 157*: Provides access to the field north of SH 392.
- *Access 158*: This driveway provides access to a private property south of SH 392.
- *Access 159*: This driveway provides access to a private property south of SH 392.
- *Access 160*: This driveway provides access to a private property north of SH 392.
- *Access 161*: This driveway provides access to a private property south of SH 392.
- *Access 162*: This driveway provides access to a private property south of SH 392.
- *Access 163*: Provides access to the field north of SH 392.
- *Access 164*: Provides access to the field north of SH 392.
- *Access 165*: Provides access to the field south of SH 392.

Figure 4  
Existing Access Points WCR 19/SH 257S to WCR 29



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### 3.3.12 WCR 29 to WCR 31

This portion of the SH 392 corridor, from WCR 29 to WCR 31 has primarily one through lane in each direction with the lanes undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 14 access locations.

- *WCR 29 (Access 166)*: This un-signalized intersection allows full movements in all directions and provides access to homes and fields to the north and south of SH 392. The north and south legs are stop-controlled.
- *Access 167*: This driveway provides access to a private property north of SH 392.
- *Access 168*: Provides access to the field south of SH 392.
- *Access 169*: This driveway provides access to a private property north of SH 392.
- *Access 170*: This driveway provides access to a private property north of SH 392.
- *Access 171*: This driveway provides access to a private property north of SH 392.
- *Access 172*: This driveway provides access to a private property south of SH 392.
- *Access 173*: Provides field access north of SH 392.
- *Access 174*: Provides access to the field south of SH 392.
- *Access 175*: Provides field access north of SH 392.
- *Access 176*: Provides field access north of SH 392.
- *Access 177*: Provides access to the field south of SH 392.
- *Access 178*: Provides access to the field north of SH 392.
- *Access 179*: Provides access to the field south of SH 392.

### 3.3.13 WCR 31 to WCR 33

This portion of the SH 392 corridor, from WCR 31 to WCR 33 has primarily one through lane in each direction with the lanes undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 15 access locations.

- *WCR 31 (Access 180)*: This un-signalized intersection allows full movements in all directions and provides access to homes and fields to the north and south of SH 392. The north and south legs are stop-controlled.
- *Access 181*: Provides access to the field south of SH 392.
- *Access 182*: Provides access to the field south of SH 392.
- *Access 183*: This driveway provides access to the parcel north of SH 392.
- *Access 184*: Provides access to the field south of SH 392.
- *Access 185*: Provides access to the field north of SH 392.
- *Access 186*: Provides access to the field north of SH 392.
- *Access 187*: This driveway provides access to a private property north of SH 392.
- *Access 188*: This driveway provides access to a private property north of SH 392.
- *Access 189*: This driveway provides access to a private property south of SH 392.
- *Access 190*: Provides access to the field north of SH 392.

- *Access 191*: This driveway provides access to a private property south of SH 392.
- *Access 192*: Provides ditch access north of SH 392.
- *Access 193*: This driveway provides access to a private property south of SH 392.
- *Access 194*: This driveway provides access to a private property north of SH 392.

### 3.3.14 WCR 33 to WCR 35

This portion of the SH 392 corridor, from WCR 33 to WCR 35 has primarily one through lane in each direction with the lanes undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 26 access locations.

- *WCR 33 (Access 195)*: This un-signalized intersection allows full movements in all directions and provides access to homes and fields north and south of SH 392. The north and south legs are stop-controlled.
- *Access 196*: Provides access to the field north of SH 392.
- *Access 197*: This driveway provides access to a private property north of SH 392.
- *Access 198*: This driveway provides access to a private property north of SH 392.
- *Access 199*: Provides access to the field south of SH 392.
- *Access 200*: This driveway provides access to a private property north of SH 392.
- *Access 201*: This driveway provides access to a private property north of SH 392.
- *Access 202*: This driveway provides access to a private property north of SH 392.
- *Access 203*: Provides access to the field south of SH 392.
- *Access 204*: This driveway provides access to a private property north of SH 392.
- *Access 205*: This driveway provides access to a private property north of SH 392.
- *Access 206*: Provides access to the field south of SH 392.
- *Access 207*: This driveway provides access to a private property north of SH 392.
- *Access 208*: This driveway provides access to a private property north of SH 392.
- *Access 209*: Provides access to the field north of SH 392.
- *Access 210*: This driveway provides access to a private property north of SH 392.
- *Access 211*: Provides field/ditch access south of SH 392.
- *Access 212*: Provides field/ditch access north of SH 392.
- *Access 213*: Provides field/ditch access south of SH 392.
- *Access 214*: This driveway provides access to a business north of SH 392.
- *Access 215*: Provides ditch access north of SH 392.
- *Access 216*: Provides ditch access south of SH 392.
- *Access 217*: Provides ditch access north of SH 392.
- *Pikes Peak Drive (Access 218)*: This full movement T-intersection provides access to a housing development north of SH 392. The north leg of the intersection is stop-controlled.
- *Access 219*: This driveway provides access to a private property south of SH 392.

- *Access 220*: Provides field access north of SH 392.

### **3.3.15 WCR 35 to WCR 37**

This portion of the SH 392 corridor, from WCR 35 to WCR 37 has primarily one through lane in each direction with the lanes undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 18 access locations.

- *WCR 35 (Access 221)*: This un-signalized intersection allows full movements in all directions and provides access to homes and fields north and south of SH 392. The north and south legs are stop-controlled.
- *Access 222*: Provides field/well access north of SH 392.
- *Access 223*: Provides field access north of SH 392.
- *Access 224*: Provides field access south of SH 392.
- *Access 225*: Provides field access north of SH 392.
- *Access 226*: Provides field access south of SH 392.
- *Access 227*: Provides field access south of SH 392.
- *Access 228*: This driveway provides access to a private property north of SH 392.
- *Access 229*: This driveway provides access to a private property south of SH 392.
- *Access 230*: This driveway provides access to a private property south of SH 392.
- *Access 231*: Provides field access south of SH 392.
- *Access 232*: Provides ditch access south of SH 392.
- *Access 233*: Provides ditch access north of SH 392.
- *Access 234*: Provides ditch access north of SH 392.
- *Access 235*: Provides ditch access south of SH 392.
- *Access 236*: This driveway provides access to a private property north of SH 392.
- *Access 237*: Provides ditch access north of SH 392.
- *Access 238*: Provides ditch access north of SH 392.

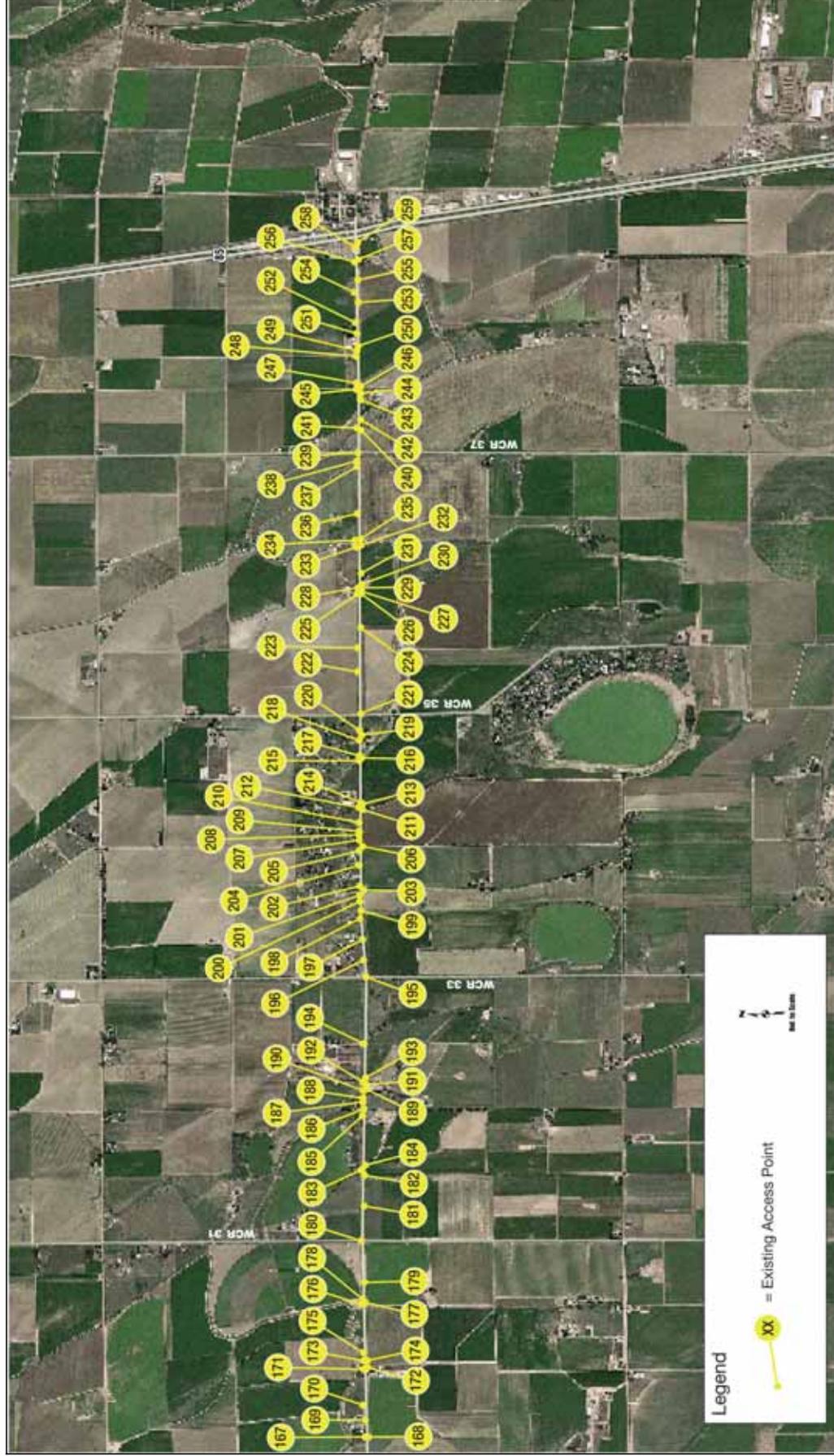
### **3.3.16 WCR 37 North to US 85**

This portion of the SH 392 corridor, from WCR 37 to US 85 has primarily one through lane in each direction with the lanes undivided. The speed limit is 55 mph in both directions for this stretch of SH 392. This portion of the corridor contains the following 21 access locations.

- *WCR 37 (Access 239)*: This un-signalized intersection allows full movements in all directions and provides access to homes and fields north and south of SH 392. The north and south legs are stop-controlled.
- *Access 240*: Provides ditch access south of SH 392.
- *Access 241*: Provides ditch access north of SH 392.
- *Access 242*: This driveway provides access to a private property south of SH 392.
- *Access 243*: This driveway provides access to a private property south of SH 392.
- *Access 244*: Provides utility access south of SH 392.

- *Access 245:* This driveway provides access to a private property north of SH 392.
- *Access 246:* Provides field access south of SH 392.
- *Access 247:* Provides field access north of SH 392.
- *Access 248:* This driveway provides access to a private property north of SH 392.
- *Access 249:* Provides field access north of SH 392.
- *Access 250:* Provides field access south of SH 392.
- *Access 251:* This driveway provides access to a private property north of SH 392.
- *Access 252:* Provides field access north of SH 392.
- *Access 253:* Provides field access south of SH 392.
- *Access 254:* Provides field access north of SH 392.
- *Access 255:* Provides field access south of SH 392.
- *Access 256:* Provides field access north of SH 392.
- *Access 257:* This driveway provides access to a private property south of SH 392.
- *Access 258:* This driveway provides access to a business north of SH 392.
- *Access 259:* This driveway provides access to a private property south of SH 392.

Figure 5  
Existing Access Points WCR 29 to US Highway 85



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### 3.4 EXISTING TRAFFIC VOLUMES

An analysis of the existing traffic conditions was performed during the early stages in the development of the ACP. In order to conduct the analysis, existing traffic volume data was collected from several sources. Most of the existing conditions data was provided by the SH 392 EOS being conducted concurrently by CDOT, which included intersection turning movement counts (TMC), average daily traffic (ADT) data, and accident data. Additional TMC and ADT data necessary to supplement the existing data was collected in November 2005. ADT counts identify the amount of through traffic traveling along the corridor for an entire day. The directional ADTs are shown in Table 2 and detailed data is available in Appendix F.

Table 2 shows the bi-directional (eastbound plus westbound) traffic at numerous locations along the corridor. These values represent a typical weekday traffic level for SH 392. The volumes range from just more than 5,000 vehicles per day (vpd) near the east end of the study corridor to more than 20,000 vpd at the I-25 interchange area. West of I-25 the traffic volumes drop to just over 10,000 vpd while traffic through the Town of Windsor approaches 16,500 vpd.

**Table 2**  
**Existing Average Daily Traffic on SH 392**

Location	ADT (Bi-directional)
West of Frontage Road	10,226
Between I-25 Ramps	17,564
Between WCR 13 and WCR 15	15,759
Between 11 <sup>th</sup> and 10 <sup>th</sup> Streets	16,377
West of SH 257 South	9,665
Between WCR 23 and WCR 25	4,935
Between WCR 35 and WCR 37	5,193

The TMC data provides distribution information for vehicles entering and exiting the corridor at key intersections. This traffic data was input into the Synchro traffic model prepared for this study to determine levels of service. The AM and PM peak hour TMCs are presented in Appendix G.

### 3.5 EXISTING LEVEL OF SERVICE

Traffic operations for each of the signalized and key un-signalized access points were analyzed using the methods described in the *2000 Highway Capacity Manual (HCM)*. According to the 2000 HCM, the overall performance of an intersection is determined based on the level of control delay experienced by motorists at the intersection. Depending on the level of delay that is experienced, each intersection can be scored on a Level of Service (LOS) scale and given a letter grade from 'A' to 'F', with 'A' being the best possible grade for the intersection. For signalized intersections, the delay for each individual turning movement is evaluated, then entire approaches are graded, and finally the intersection as a whole can be given a single LOS. For two-way stop controlled (TWSC) intersections, each minor approach is given a separate LOS and the worst LOS is reported as a single rating for the intersection. Table 3 shows the criteria

for establishing the LOS for the signalized and TWSC intersections within the study area. The results of the LOS analysis for the existing conditions are presented in Figure 6 and Figure 7, with detailed analysis sheets provided in Appendix H.

Based on the results of the analysis, most of the signalized intersections operate at LOS C or better for the peak hours of the day which is considered acceptable with the exception of the Frontage Road and the I-25 SB Ramp intersections which are LOS D or worse. Some of the stop controlled intersections, such as Highland Meadows, Highland Hills, and 14<sup>th</sup> Street, just to name a few, operate at unacceptable LOS (E and F). The reason that these locations operate at a low LOS is primarily due to the left turning vehicles that want to enter the highway at these intersections. The left turning vehicles entering the highway are forced to wait longer to make this movement due to the amount of through traffic on the highway which results in increased delay and lower LOS.

**Table 3**  
**Intersection Level of Service (LOS) Criteria**

LOS	Control Delay per Vehicle (sec/veh)	
	Un-signalized Intersection	Signalized Intersection
A	0-10	≤ 10
B	>10-15	>10-20
C	>15-25	>20-35
D	>25-35	>35-55
E	>35-50	>55-80
F	>50	>80

Arterial LOS is another measure used to determine corridor traffic conditions and is based on the average travel speed experienced along a segment of the corridor. Travel speeds were determined using traffic simulation software called SimTraffic. SH 392 was separated into segments based upon the characteristics of the roadway including spacing between signals, free-flow speeds, and overall roadway geometry using the definitions provided in the *HCM*. For the purposes of this study, SH 392 was separated into the following four segments: Class I Urban Highway from 0.38 mile west of I-25 to LCR 5, a Class I Rural Highway from LCR 5 to WCR 13, a Class III Urban Highway from WCR 13 to 7<sup>th</sup> Street and a Class I Rural Highway from WCR 19 to US 85. Table 4 shows the speed criteria for establishing arterial LOS for the different segments of SH 392 and results of the analysis is presented in Figure 6 and Figure 7. Under existing conditions all segments of SH 392 operate with an arterial LOS of C or better during both the AM and PM peak periods, which is considered acceptable, with the exception of the segments close to the I-25 interchange. During the AM peak arterial LOS D is common in the area between I-25 and WCR 13. In the PM peak, LOS as low as F occurs in the area between LCR 5 and 0.38 miles west of I-25.

**Table 4**  
**Arterial Segment Level of Service (LOS) Criteria**

LOS	Class I Urban Highway	Class III Urban Highway	Class I Rural Highway
	Travel Speed (mph)	Travel Speed (mph)	Travel Speed (mph)
A	>42	>30	>55
B	>34-42	>24-30	>50-55
C	>27-34	>18-24	>45-50
D	>21-27	>14-18	>40-45
E	>16-21	>10-14	>35-40
F	≤ 16	≤ 10	≤ 35

### 3.6 ACCIDENT ANALYSIS

A five-year accident analysis (January 1, 1999 to December 31, 2003) was conducted using accident data provided by CDOT. Accidents were classified in ten categories as follows:

- *Rear End* – This accident occurs when one vehicle strikes the rear of the vehicle in front of it because that vehicle is stopped or slowing down.
- *Broadside* – This type of accident occurs when a vehicle traveling through an intersection in the opposite direction strikes a left turning vehicle at a 90 degree angle.
- *Sideswipe* – This type of accident typically involves the side of one vehicle making contact with the side of another vehicle that is traveling in the same or opposite direction.
- *Fixed Object* – This type of accident occurs when a vehicle travels off the roadway and strikes an object along the roadside.
- *Wild Animal* – This type of accident occurs when a vehicle strikes a wild animal in the roadway.
- *Overtaking Turn* – This type of accident occurs when two adjacent approach vehicles, whose paths are unintended to come in conflict, collide as a result of one or both vehicles over- or under-turning. This type would also include a vehicle initially going straight, but leaving its proper lane of travel and colliding with a stopped or moving vehicle on an adjacent approach road or driveway.
- *Pedestrian* – This type of accident occurs when a vehicle and pedestrian collide in which the collision between the two is the first event and also took place within the roadway.
- *Overtaking* – This type of accident occurs when a vehicle overturns on or off the roadway without first having been involved in some other type of crash.
- *Head-on* – This type of accident occurs when two vehicles, traveling in opposite directions, strike one another front first.
- *Approach Turn* – This type of accident occurs when a vehicle traveling through an intersection in the opposite direction strikes a left turning vehicle.

As part of the accident study, a weighted hazard index (WHI) was computed for the study corridor. The WHI determines if the frequency/severity of accidents on the study corridor is

higher than the statewide average for similar highways. The analysis of the SH 392 corridor indicated that the frequency/severity of accidents on the study corridor is less than the statewide average for similar highways. Although the accident frequency is less than average, if the number of access points increase along with increased traffic volumes, safety on SH 392 is expected to become an issue.

The study concluded that rear-end accidents accounted for the majority of accidents on this corridor, which could be related to several factors including the number of turning vehicles, poor signal timing, and geometric factors at intersections. Table 5 displays the total number and percentage of intersection and non-intersection related accidents for each type of accident that occurred along the corridor between 1999 and 2003. For this study corridor there were a total of 459 accidents during the five-year analysis period. The detailed accident data can be found in Appendix I.

**Table 5**  
**Summary of Accident Data\***

Category	Type	Total Number of Accidents	Percent of Total
Location	At Intersection/Intersection Related	283	62%
	Non-Intersection Related	176	38%
	<b>Total</b>	<b>459</b>	<b>100%</b>
Type	Rear End	180	39%
	Fixed Object	77	17%
	Broadside	66	14%
	Overtaking	32	7%
	Overtaking Turn	12	3%
	Sideswipe	12	3%
	Approach Turn	11	2%
	Wild Animal	11	2%
	Head-on	9	2%
	Other	49	11%
	<b>Total</b>	<b>459</b>	<b>100%</b>

\*For the period of January 1, 1999 to December 31, 2003.

Figure 6  
Existing Intersection and Arterial LOS (0.38 miles west of I-25 to 7<sup>th</sup> Street)

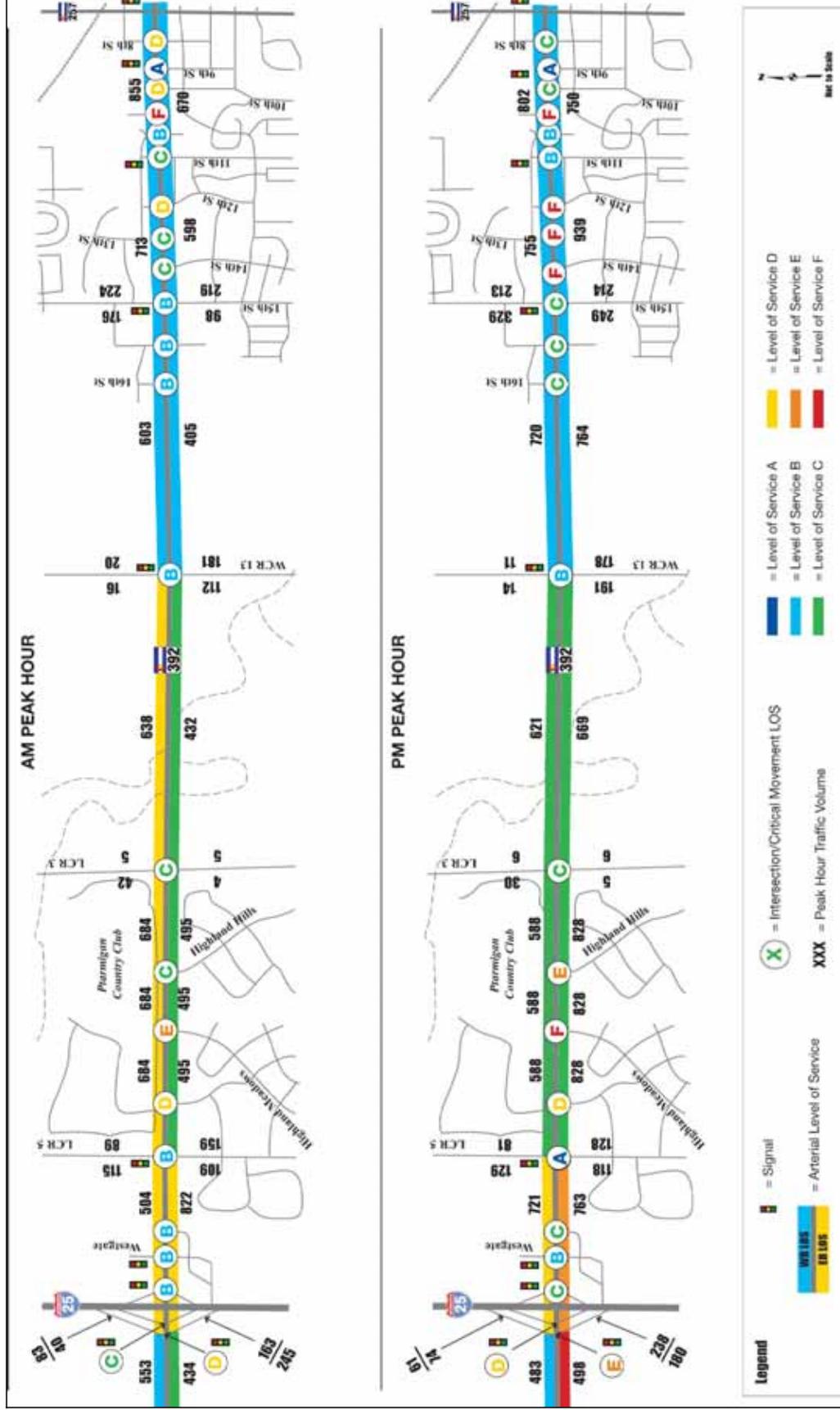


Figure 7  
Existing Intersection and Arterial LOS (WCR 19 to US Highway 85)

