Appendix D

Base Camp Traffic Impact Study – Eagle County, CO (December, 2020)

MEMORANDUM

DATE: **February 25, 2019**
REVISED ***August 1, 2019***
REVISED ***December 30, 2020***

TO: **Tambi Katieb**

CC: **Shawn Colby**

FROM: **Dan Cokley, PE, PTOE, SGM**

RE: **Traffic Impact Study**
Base Camp – Eagle
Eagle County, CO

This Traffic Impact Study addresses an Eagle County engineering request for a Traffic Impact Study (TIS) for this proposed Campground / RV Park to be located at 3220 Brush Creek Road, Eagle County, CO. The Eagle County Land Use Regulations Section 4-620.G require Traffic Impact Studies for proposed developments that are expected to generate more than four hundred (400) vehicle trips per day. This development will generate less traffic, but we are providing an abbreviated TIS that includes the following scope:

- Existing Roadway Conditions
- Existing Traffic Volumes
- Sight distance analysis
- Trip Generation and anticipated vehicle sizes
- Directional Distribution/Traffic Assignment
- Internal Circulation
- Future Traffic Volumes
- Anticipated non-vehicular traffic routes & connections to the Town of Eagle
- Auxiliary turn lane analysis
- Summary of Findings

This study will provide recommendations for the development of a safe driveway access to Brush Creek Road.

Existing Site and Roadway Conditions
The proposed Base Camp Eagle will be located at 3220 Brush Creek Road, southeast of the Town of Eagle. The site is currently residential / agricultural use and shown shaded in red in the Google Earth image on the following page.

Figure 1. Project Area

Access to the site will be provided using an improved access located slightly south of the existing driveway and aligned with the main driveway for the property across Brush Creek Road (Butter Crunch Farm second driveway). The access is located approximately 2.5 miles southeast of downtown Eagle. No turn lanes or pedestrian facilities exist along Brush Creek Road at the access intersection.

Brush Creek Road is a two-lane asphalt collector roadway, approximately 20-22 feet in width, with 1-2-foot gravel shoulders and a posted speed of 40 mph in the vicinity of the access. Brush Creek Road is classified as a Rural Major Collector per Eagle County Article 4. For the purposes of this study and application of the State Highway Access Code, it is classified as a rural highway, R-B using CDOT Access Category standards.

Recent development applications within the Brush Creek Road corridor have resulted in several associated Traffic Impact Studies, the most recent being Frost Creek TIS by McDowell Engineering, latest revision 1/24/17. This study will use the Frost Creek TIS as a reference for existing and future traffic volumes.

Existing Traffic Volumes

Peak hour traffic volumes (2015) from the Frost Creek TIS were reviewed and estimated near the site access along Brush Creek Road. The peak hour two-way volumes are approximately 70 vph AM, 75 vph PM, and 125 vph Saturday. Those values were obtained by interpolating between the Sylvan Lake Rd and Frost Creek Road intersections with Brush Creek Road, the volumes and the interpolation are provided in the Appendix.

Existing Access Sight Distance

The sight distance was analyzed for the access driveway intersection with Brush Creek Road. The analysis reviewed the access as one-way stop-controlled intersection and was based upon the guidance of AASHTO, A Policy on Geometric Design of Highways and Streets, 2018, 7th Edition, (Ch 9, Intersections). The Policy provides for guidance on decision point and construction of the sight triangle. Using Table 9-7 (Left Turn, Case B1) and Table 9-9 (Right Turn, Case B2), the sight distance requirements for the 40-mph posted speed are 445 ft and 385 ft respectively. The current sight distance is at least 600 feet.

The Policy states that the vertex of the sight triangle (decision point) should be located 14.5 ft from the edge of traveled way, the decision point typically represents the location of the driver's eye (at a height of 3.5 ft) when stopped at a major road intersection. The driver should have the ability to see a 6" high object at the center of the travel lane. The sight triangle is constructed using these parameters, and objects that could obscure the driver's vision should be located outside of this sight triangle. The sight distance in each direction at the access is documented below.

Sight Access looking southeast

Sight Access looking northwest

Trip Generation

The proposed campground development consists of 29 RV sites, 20 tent sites and 4 group tent sites (8 equivalent single tent sites) for a total of 57 camp sites as shown in the conceptual site plan provided below. The dump station shown in the site plan will be available to campground users only.

ITE's *Trip Generation (10th Edition)* provides trip generation rates for a Campground and RV Park facility (ITE Code 416) that have 3-6 associated studies for weekday AM and PM peak hour for locations in Rhode Island, Vermont, and Washington from 1990-2010.

Local and more recent trip generation information, including weekend volumes are more useful and preferred for use in this study. It was determined that McDowell Engineering performed a local Trip Generation study at the KOA Campground in Silt, Colorado, located south and west of I-70 exit 97. The trip generation count was completed in July 2016 and consisted of counting RV's, passenger vehicles and trucks / trailers, the generation rates are provided in Passenger Car Equivalents (PCEs). It is noted that there is no pedestrian connection between the KOA Campground and the Town of Silt, which is located to the north of the I-70 interchange. The

diamond interchange has (2) 12-ft lanes and 1 ft paved shoulders. The raw data for this KOA study is provided as an attachment.

The traffic type and use are similar, consisting of passenger vehicles and recreational vehicles, with trailers for boats, four-wheelers or campers. A vehicle and a trailer combination have a passenger car equivalent (PCE) of 2. The resulting trip generation is shown in the Table below.

TRIP GENERATION TABLE

Base Camp Eagle

			Average	Design Hour Rates						Average	Design Hour Traffic					
	Number	*ITE*	Saturday	AM	AM	PM	PM	SAT	SAT	Saturday	AM	AM	PM	PM	SAT	SAT
Base Camp	of Sites	*Code*	Rate	Entering	Exiting	Entering	Exiting	Entering	Exiting	Traffic	IN	OUT	IN	OUT	IN	OUT
Camp / RV	57	*	2.36	0.14	0.12	0.16	0.09	0.30	0.33	135	8	7	9	5	17	19
								TOTAL TRIPS:		**135**	**8**	**7**	**9**	**5**	**17**	**19**
Directional Distribution				*55%*	*45%*	*64%*	*36%*	*48%*	*52%*							
Average Rate (in PCE's)				*0.26*	*0.26*	*0.25*	*0.25*	*0.63*	*0.63*							
**KOA Camground count 7/20/16 (Silt, CO)*																
SHAC - Vehicles or combination > 20 ft = 2 PCE's																

Trip Distribution and Assignment

The distribution and assignment of site generated trips are based upon the primary access and activities oriented toward Eagle, with the understanding users will maintain significant traffic toward Sylvan Lake and the National Forest for recreation. Existing Saturday directional distribution is approximately 55% (N) / 45% (S) at Brush Creek Road and Sylvan Lake Road near the Town of Eagle, and 40% (N) / 60% (S) at Brush Creek Road and Frost Creek Road. The existing distributions are calculated from the existing traffic volume figure provided as an attachment.

For this analysis, the trip distribution was conservatively split 60% (N) toward Eagle and 40% (S) toward Sylvan Lake. The following Table shows the assignment of traffic PCE's generated during the Design hour.

TRIP DISTRIBUTION TABLE

Base Camp Eagle

Trip Distribution	AM	PM	SAT
To/From Eagle (N)	60%	60%	60%
To/From Sylvan (S	40%	40%	40%
Based primary access and activities toward Eagle			

			Design Hour Traffic PCE's					
			AM		PM		SAT	
Turning	***Movement***		IN	OUT	IN	OUT	IN	OUT
SB	Left	IN	5		5		10	
WB	Right	OUT		4		3		11
WB	Left	OUT		3		2		8
NB	Right	IN	3		4		7	
TOTAL PCE MOVEMENTS:			8	7	9	5	17	19

Internal Circulation
Based upon the Trip Generation volumes, the proposed access can safely operate as a two-way, two-lane access. The development is proposed to provide two-way internal traffic circulation to the restroom and dump station sites. Beyond that, generally to the north, the circulation is defined by one-way loops. Clear signage showing "Do Not Enter", One-Way", Two-Way" will be provided to maintain safety within the sight.

Future Traffic Volumes
Peak hour traffic volumes (2035) from the Frost Creek TIS were reviewed and estimated near the site access along Brush Creek Road. The peak hour two-way volumes are approximately 450 vph AM, 415 vph PM, and 500 vph Saturday. Those values were obtained by interpolating between the Sylvan Lake Rd and Frost Creek Road intersections with Brush Creek Road, the volumes and the interpolation are provided as an attachment.

Anticipated non-vehicular traffic routes & connections to the Town of Eagle
While separate non-vehicular connections to the property do not currently exist, the applicant and Town of Eagle have discussed proximity to both the existing Haymeadow and Wall trail systems.

As discussed with the Planning Commission and Board of Trustees in pre-application meetings held in July 2019, it is the goal of the applicant to promote a "Park Once" guest preference to accessing amenities in Town via alternative means (hiking, biking, etc.) due to the planned connectivity to the campground and minor RV park. To that end, management will actively discourage the use of Brush Creek Road for walking and biking.

Further, the applicant has support for the project by the Haymeadow project team, where a number of future trails are planned and will also serve visitors at Base Camp Eagle.

The applicant will continue working with Town and Haymeadow officials on timing of these connections to coincide with the opening of Base Camp Eagle. The proximity to downtown and Eagle Ranch (< 1mile) will further reduce vehicle trips to and from Eagle. The planned trail connections will provide trip reductions as traffic on Brush Creek Road continues to increase. Because many users are drawn to the Eagle area for mountain and road biking, the opportunity for trip reductions will be in the 5-10% range in the future. Those trip reductions are not considered in this analysis.

Auxiliary Lane Requirements
Auxiliary turn lane requirements for County Road accesses are typically analyzed using the CDOT State Highway Access Code based on the anticipated peak hour volumes, the speed limit and geometry of the highway adjacent to the access, and the classification of the highway. For analysis purposes, the Brush Creek Road speed limit adjacent to the site is 40 mph along an R-B highway. Based on the *State Highway Access Code (SHAC)*,

Auxiliary Lane Requirements
(8) Auxiliary turn lanes shall be installed according to the criteria below.

- *a) A left turn deceleration lane with taper and additional storage length is required for any access with a projected peak hour left ingress turning volume greater than 10 vph.*
- *b) A right turn deceleration lane with taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph.*
- *c) A right turn acceleration lane with taper is required for any access with a projected peak hour right turning volume greater than 50 vph when the posted speed on the highway is*

45 mph or greater and the highway has only one lane for through traffic in the direction of the right turn. A right turn acceleration lane is not required on multi-lane highways of this category.

d) *A left turn acceleration lane with taper may be required if it would be a benefit to the safety and operation of the roadway or as determined by subsection 3.5. A left turn acceleration lane is generally not required where: the posted speed is less than 45 mph, or the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access.*

Based upon the *SHAC* and the trip distribution table provided above, auxiliary turn lanes are not required. The proposed intersection can safely operate as a two-way, two-lane access.

Summary of Findings

Brush Creek Road has a capacity at Level of Service C reportedly up to 7500 vpd without additional improvements. Base Camp Eagle is estimated to generate approximately 72 weekday and 113 Saturday vpd (in PCE's), about 2% of the total roadway capacity.

As a primary access to Brush Creek, Sylvan Lake, and the National Forest; Brush Creek Road experiences its heaviest volumes on summer weekends. Peak hour Saturday two-way volumes as interpolated from the Frost Creek Study are anticipated to increase from 80 vph in 2015 to 450 vph near Base Camp Eagle. Saturday peak hour site-generated volume is estimated at 31 vph.

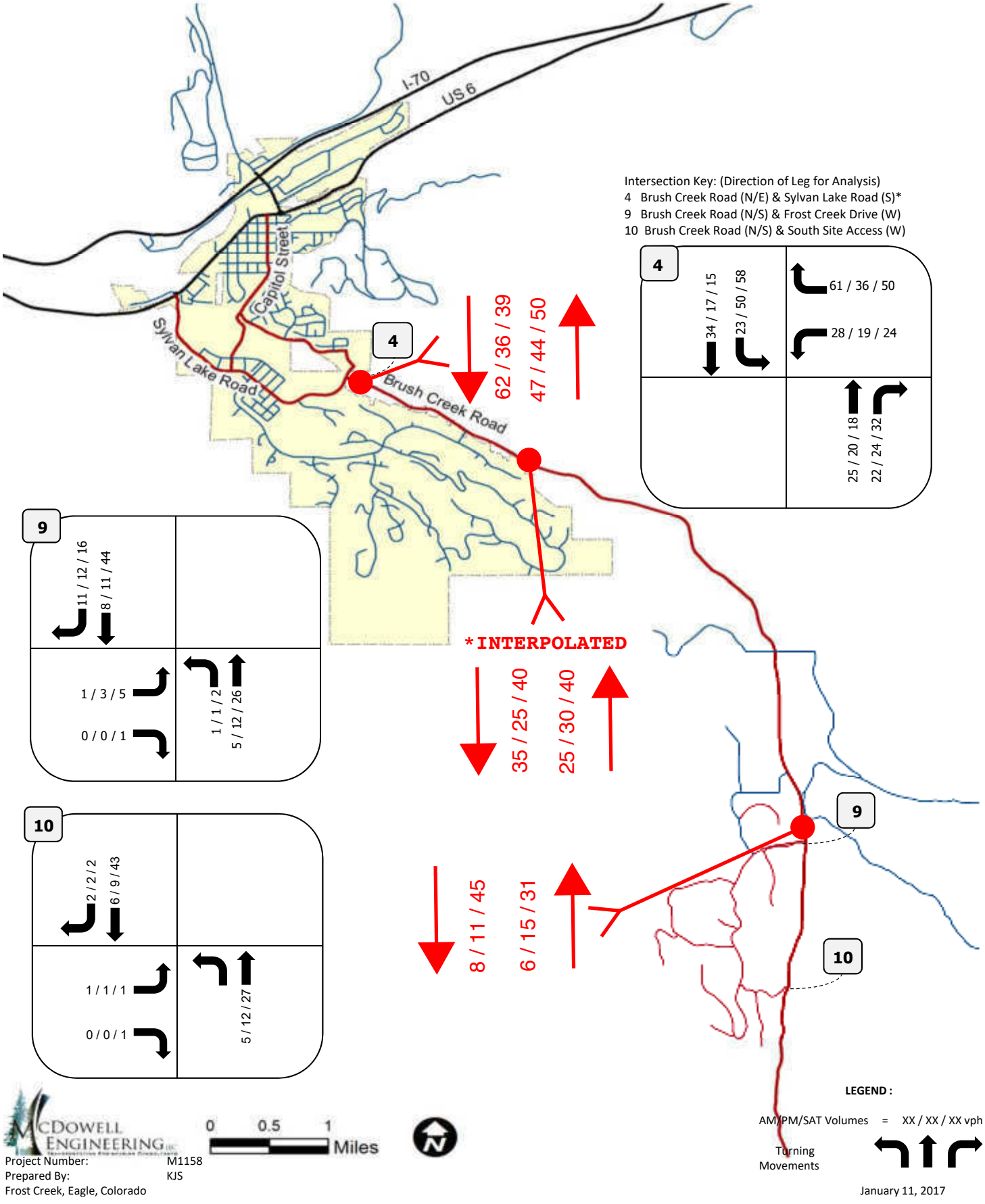
The proposed access driveway has adequate sight distance for entering the roadway and does not require turn lanes based upon the auxiliary lane requirements per the SHAC. The sight distance triangle discussed in this TIS should be implemented as part of the site access design.

Attachments:

- 2015 Traffic Volumes, reference Frost Creek TIS
- 2035 Traffic Volumes, reference Frost Creek TIS
- Comparable Campground Trip Generation Calculations, KOA Silt CO by McDowell Engineering
- Base Camp Eagle – Project Location and Trail Access
- Frost Creek TIS, 1/24/17 by McDowell Engineering

Figure 5: Year 2015 Existing Traffic

INTERPOLATED VALUES AT 3220 BRUSH CREEK ROAD*



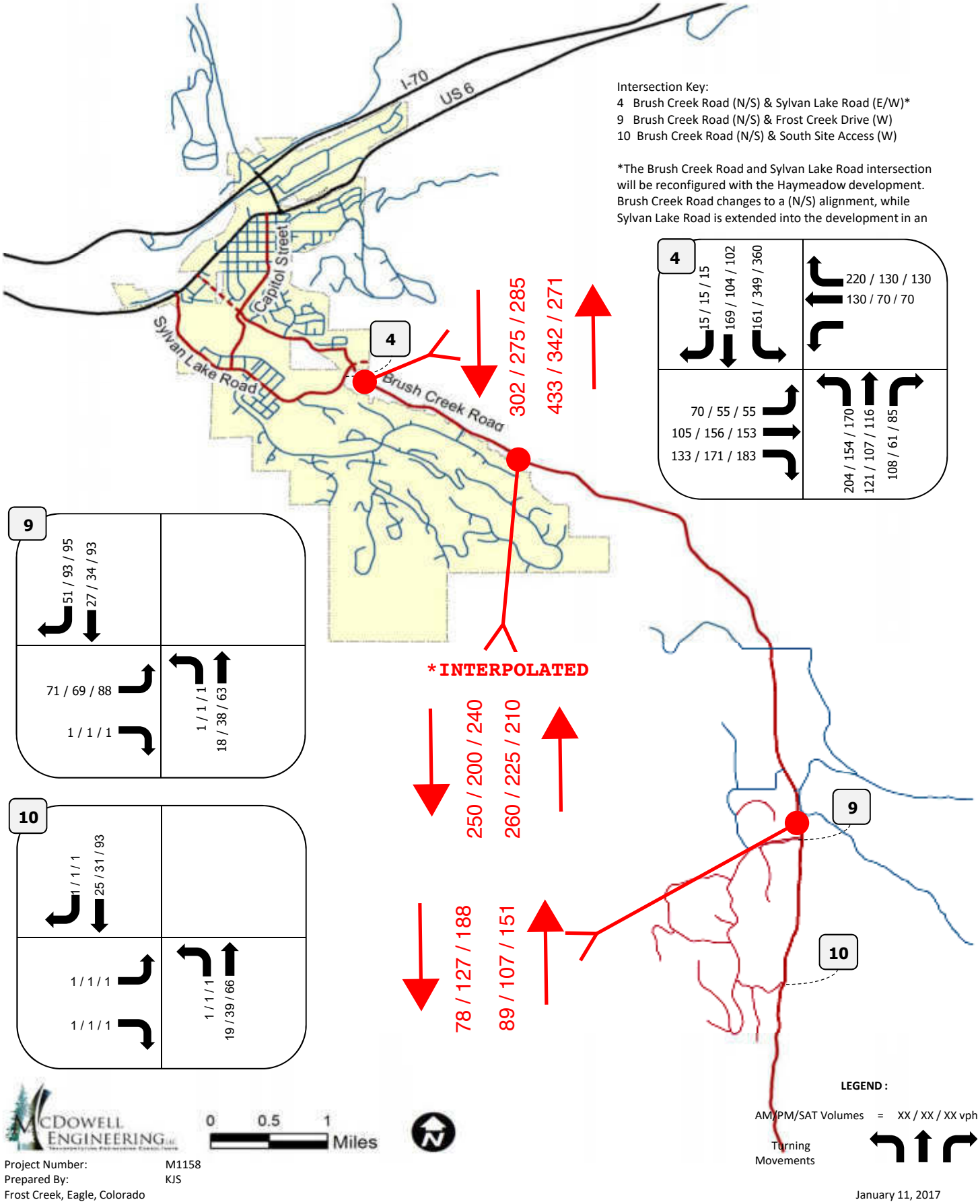
McDOWELL ENGINEERING LLC

Project Number: M1158
Prepared By: KJS
Frost Creek, Eagle, Colorado

January 11, 2017

Figure 7: Year 2035 Background Traffic

***INTERPOLATD VALUES AT 3220 BRUSH CREEK ROAD**



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Project Number: M1158
Prepared By: KJS
Frost Creek, Eagle, Colorado

January 11, 2017

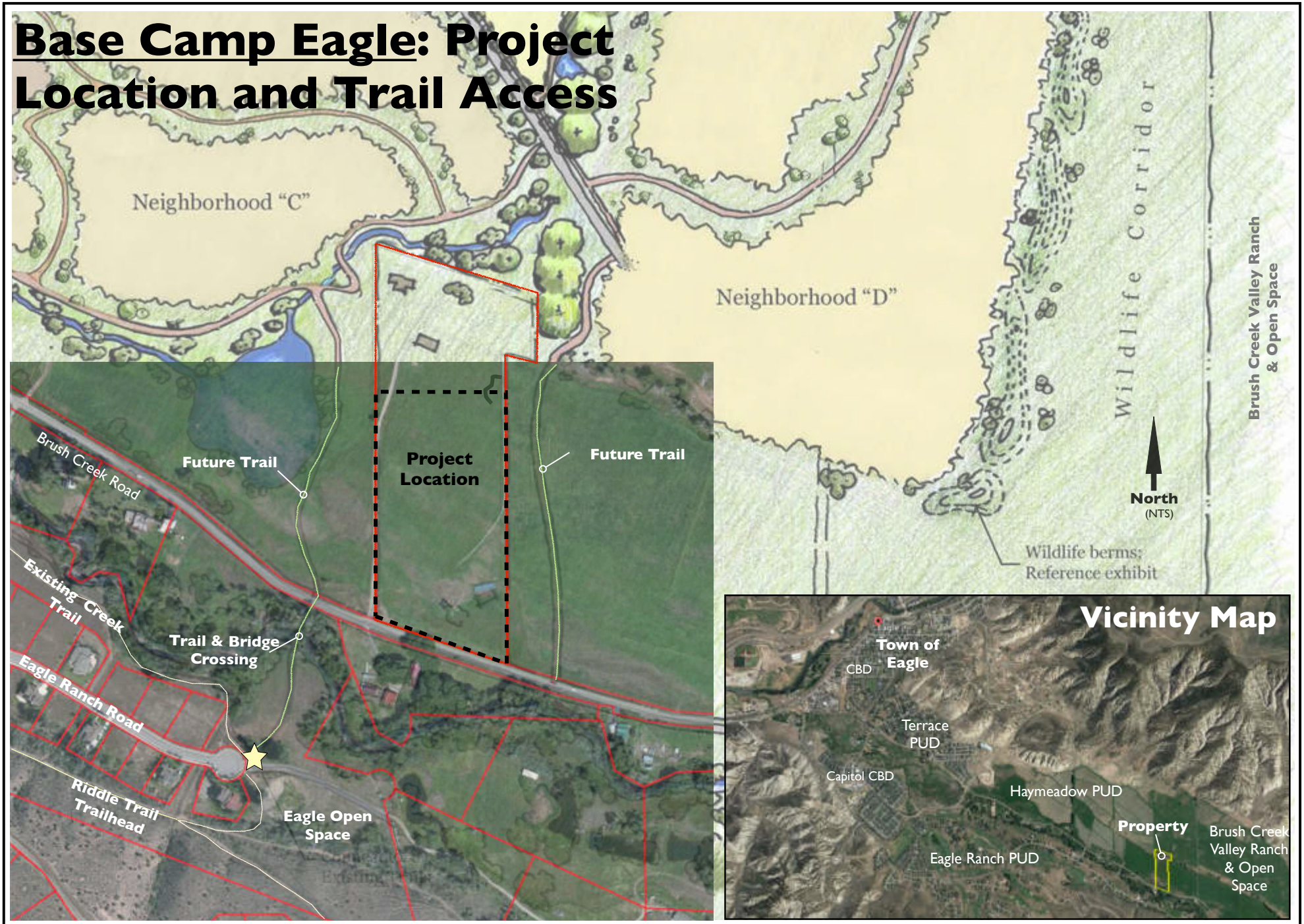
Project Number: M1231
Prepared By: KJS
Date: 7/20/2016
Revised:

Table 1 - Comparable Campground Trip Generation Calculations
KOA Campground
Silt, Colorado
Observed Site-Generated Traffic[1]

			Trip Generation Rates					Average Weekday	Average Saturday	Morning Peak Hour				Evening Peak Hour				Saturday Peak Hour			
										Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
ITE Code	Units		AM Peak Hour	PM Peak Hour	SAT Peak Hour	Average Weekday	Average Saturday	Trips (vpd)	Trips (vpd)	% Trips	Trips	% Trips	Trips	% Trips	Trips	% Trips	Trips	% Trips	Trips	% Trips	Trips
Exising Land Use																					
Campground[2]	73	Units	0.15	0.15	0.37	1.51	2.36	110	172	55%	6	45%	5	64%	7	36%	4	48%	13	52%	14
# Cars/Pickups											2		1		4		0		6		2
# Large Vehicles (Campers or RVs)											4		4		3		4		7		12
Trucks in PCEs[2]											8		8		6		8		14		24
Total PCEs[2] at driveway			0.26	0.25	0.63						10		9		10		8		20		26

[1] Values obtained from *KOA Campground in Silt, CO.*
[2] Passenger Car Equivalents are based upon Section 2.3(4)(e) of the State of Colorado's State Highway Access Code.

Base Camp Eagle: Project Location and Trail Access



Transportation Impact Study

for

Frost Creek
Eagle, Colorado

November 30, 2015
Revised March 25, 2016
Revised January 12, 2017
Revised January 24, 2017

PREPARED FOR:
BCP-ARR, LLC c/o Meriwether Companies
3390 Valmont Road, Suite 1
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PREPARED BY:
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Contact: Kari J. McDowell Schroeder, PE, PTOE
Project Number: M1182

Statement of Engineering Qualifications

Kari J. McDowell Schroeder, PE, PTOE is a Transportation and Traffic Engineer for McDowell Engineering, LLC. Ms. McDowell Schroeder has over twenty years of extensive traffic and transportation engineering experience. She has completed numerous transportation studies and roadway design projects throughout the State of Colorado. Ms. McDowell Schroeder is a licensed Professional Engineer in the State of Colorado and has her certification as a Professional Traffic Operations Engineer from the Institute of Transportation Engineers.

Traffic Impact Study for Frost Creek

Table of Contents

Tables and Figures

1.0 Project Description

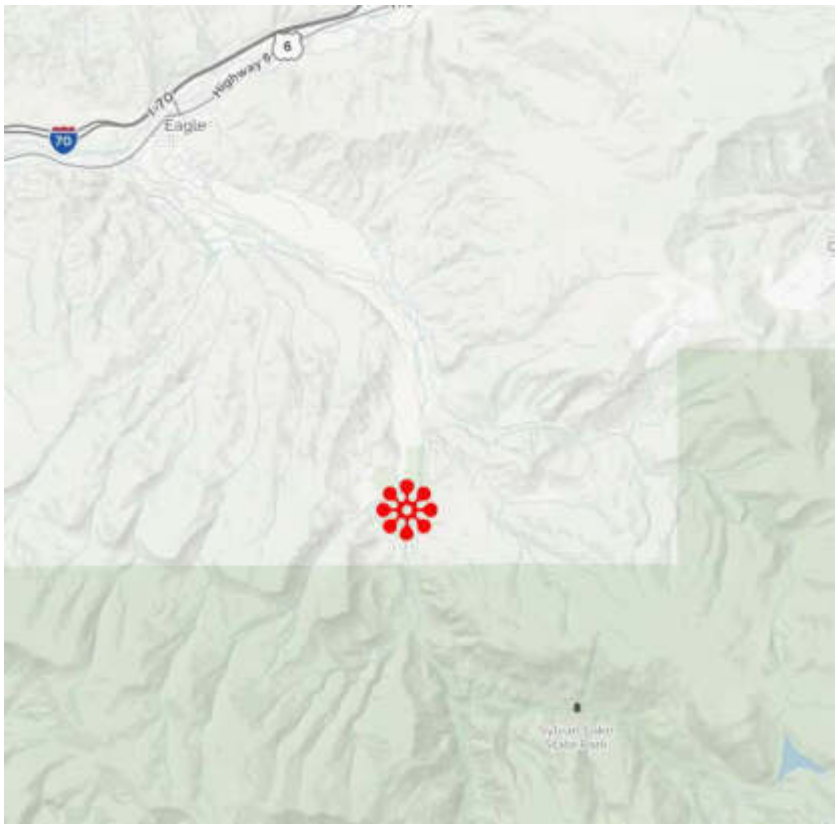
McDowell Engineering has prepared this Transportation Impact Study for the proposed resubdivision of the Frost Creek development. The purpose of this study is to forecast and analyze the impacts of the additional traffic volumes associated with the proposed increase in the number of residential units. Recommendations to mitigate any traffic impacts are also included. The analysis complies with Eagle County and Town of Eagle standards.

The Frost Creek project was originally approved in 2005 under the name of Adam's Rib. This approval included 97 single family homes, 25 accessory dwelling units, a private 18-hole golf course, and private 2,300 square foot recreation center. The original traffic analysis was covered in LSC's 2004 *Adam's Rib Traffic Study*[1].

Membership rates and housing construction remained low through Year 2013. The property was sold to a new ownership group in 2014. As such, Frost Creek is looking to resubdivide in order to meet current market conditions. Frost Creek is proposing 40 additional single family homes and eight additional rental cabins. In addition, this application proposes to remove 25 of the previously approved accessory dwelling units.

Frost Creek is located within unincorporated Eagle County. It is three miles south of the Town of Eagle on Brush Creek Road. Refer to the Area Map in ***Figure 1***.

Figure 1: Area Map



1.1 Project Access

Both accesses to Frost Creek have been constructed and are currently in operation.

The primary Frost Creek access to Brush Creek Road is located on the northeastern side of the property. Frost Creek Drive is located 1,800 feet south of the Bruce Creek/Salt Creek access to Brush Creek Road. There is a guard station at the Frost Creek Drive entrance.

A secondary access at the southeastern end of the site connects with the golf maintenance facility and southern home sites to Brush Creek Road. The internal roadway network connects the two Brush Creek Road accesses. In the event of an emergency, there is a secondary egress from the site available.

The access locations are depicted in the site plan - ***Figure 2***.

1.2 Traffic Study Scope

This traffic study evaluates peak hour traffic operations at the following intersections:

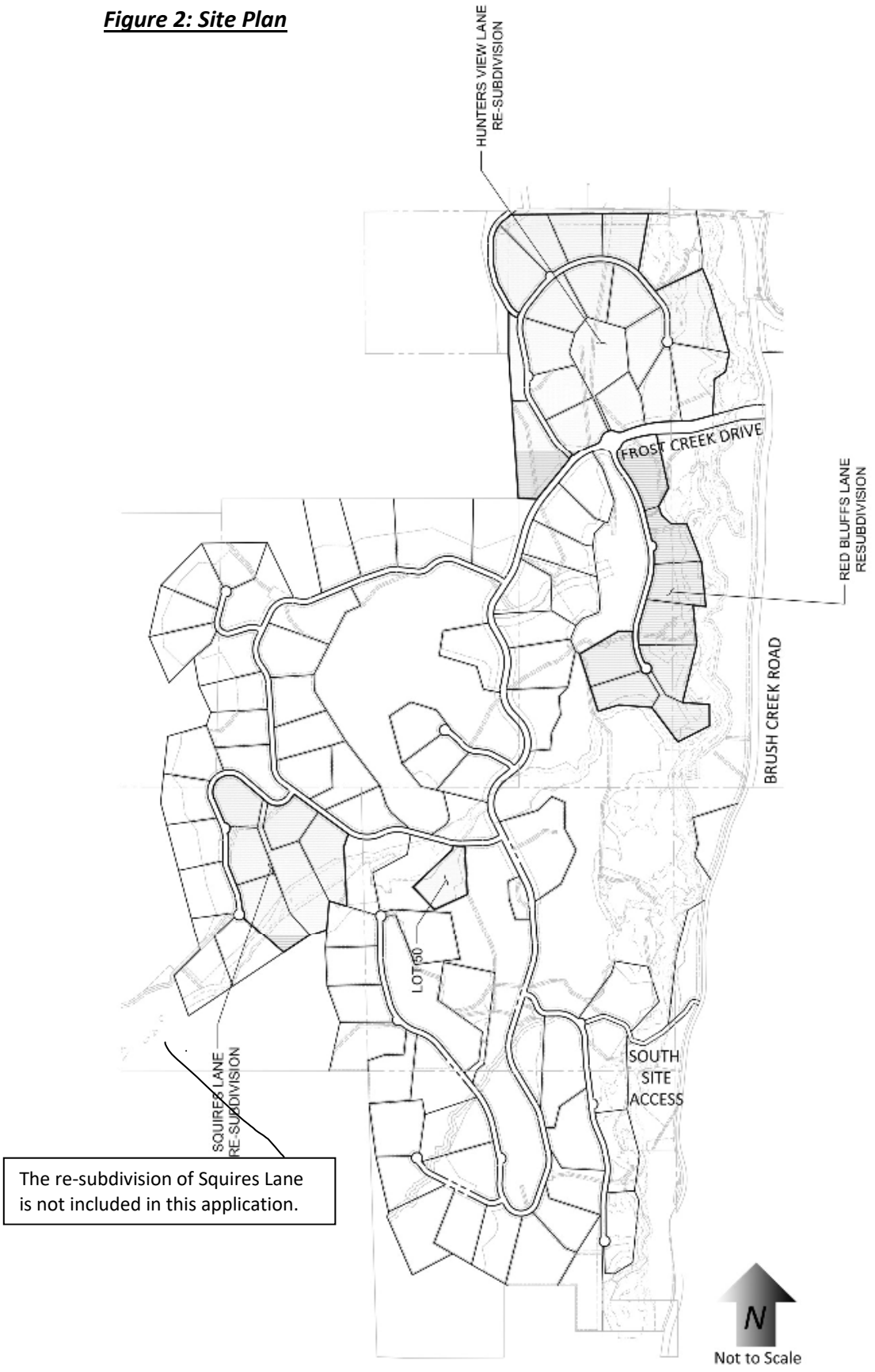
- Brush Creek Road & Sylvan Lake Road
- Brush Creek Road & Frost Creek Drive
- Brush Creek Road & South Site Access

In addition, the study evaluates the capacity and HCM Level of Service of Brush Creek Road between Ouzel Lane and the project site.

- Brush Creek Road south of Ouzel Lane
- Brush Creek Road, 1750 feet south of the water tower
- Brush Creek Road north of Frost Creek Drive
- Brush Creek Road south of Frost Creek Drive

The traffic study scope was requested by Eagle County in January 2017. The Traffic Study Scoping Form can be found in the **Appendix**.

Figure 2: Site Plan



2.0 Existing Conditions

2.1 Description of Existing Transportation System

Brush Creek Road is the primary roadway serving the site. The roadway is currently a paved, two-lane major collector with a posted speed limit of 35mph in the vicinity of the site. Brush Creek Road is the equivalent to the Colorado Department of Transportation (CDOT) access category, R-B, rural highway.

There are plans for a Brush Creek Road extension that will extend Brush Creek Road west of the Capitol Street intersection. This extension will connect through to US 6 (Grand Avenue.) It is proposed to be a paved, two-lane road. The intersection with Capitol Street is currently controlled by an all-way (3-way) stop.

Sylvan Lake Road extends through the Eagle Ranch commercial area, connecting US 6 (Grand Avenue) to Brush Creek Road. In the vicinity of Brush Creek Road, it is a two-lane, paved collector street. The roadway section is wider in the Eagle Ranch commercial area to accommodate on-street parking. The intersection of US 6 is controlled by a roundabout.

Capitol Street extends south from US 6 (Grand Avenue) and downtown Eagle to Sylvan Lake Road. It is a two-lane, paved roadway with on-street parking in the developed areas at both ends. In downtown there are drainage dips that cross the roadway and regulate traffic speed. The intersections at both ends are controlled by stop signs on Capitol Street. Northbound traffic approaching US 6 is limited to a right-out only movement.

Signage restricts trucks from using Capitol Street and directs them to use alternate routes.

US 6 (Grand Avenue) is a two-lane, paved highway though Eagle. It connects to the communities of Gypsum/Dotsero to the west and Edwards/Avon to the east. US 6 is currently a State Highway. It is classified as a NR-B highway, non-rural arterial and access to the roadway is controlled by an Access Management Plan.

However, CDOT and the Town of Eagle are currently in the devolution process for US 6. The roadway is anticipated to be turned over to the Town in July 2016.

2.2 Traffic Data Collection

Traffic data was collected at the following intersections in late September and early October of 2015.

- Brush Creek Road & Sylvan Lake Road
- Brush Creek Road & Frost Creek Drive
- Brush Creek Road & South Site Access

Turning movement counts were collected from 7:00 – 9:00am and 4:00 – 6:00pm on a weekday and from 11:00am – 1:00pm on a Saturday. School was in session.

In addition road tube counts were taken on Brush Creek Road, south of Frost Creek Drive on August 26 – 30, 2015.

There was construction activity on the Brush Creek Bridge, west of the US 6/Sylvan Lake Road roundabout throughout the count period. However, a fully functioning and traffic-controlled temporary bridge was in place. Therefore, the traffic data collected is considered accurate.

There were mountain bike events in the Town of Eagle on two of the Saturdays that were counted. However, similar sporting events occur frequently in the Town, and are considered typical weekend traffic.

It was noted that there were several illegal northbound left turn movements observed at the intersection of US 6 and Capitol Street. This movement was as high as 6vph during the Saturday peak hour. The movement is restricted by a small median island on Capitol Street. However, it is physically possible to make an illegal left turn onto US 6 from this location.

3.0 Future Traffic Projections

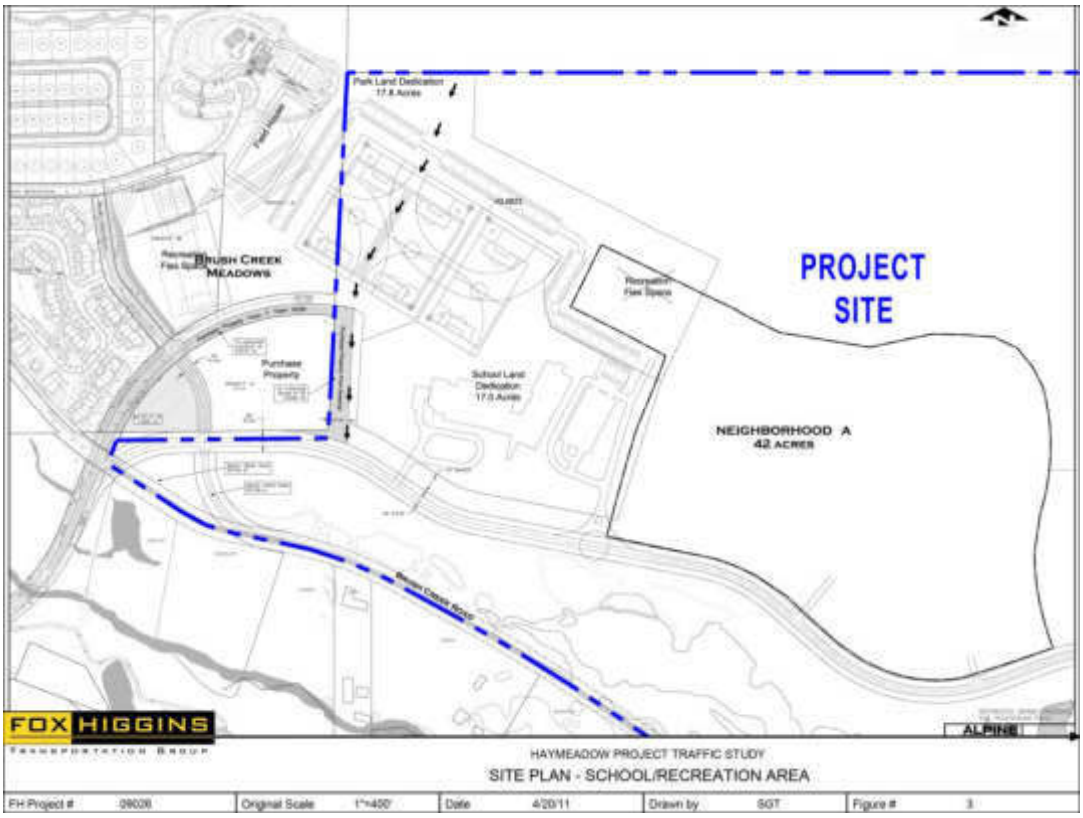
3.1 Background Infrastructure Assumptions

Brush Creek Road Extension: The Town of Eagle has plans to construct the Brush Creek Road extension from Capitol Street to US 6 in the future. This will not be completed by Year 2016, but is anticipated prior to the long range planning Year 2035. An excerpt from the Town of Eagle's *West Eagle Sub Area Plan*[2] is shown in ***Figure 3***. Per the *Haymeadow Traffic Study*[3], the intersections on either end of the Brush Creek Road extension will require a roundabout.

Figure 3: Haymeadow Development's Proposed Brush Creek Road/Sylvan Lake Road

Brush Creek Road and Sylvan Lake Road Improvements: The Haymeadow Development, located on the northeast corner of Brush Creek Road and Sylvan Lake Road is proposing improvements to this intersection as part of their development. The improvements will shift the Brush Creek Road alignment from the current configuration to a north/south orientation. ***Figure 4*** is an excerpt from the *Haymeadow Traffic Study*[3] that depicts the proposed intersection alignment.

Figure 4: Haymeadow Development's Proposed Brush Creek Road/Sylvan Lake Road Alignment



3.2 Background Traffic Growth

The Year 2035 has been selected as the long term planning horizon for this study. Estimates of daily and peak background traffic conditions have been made for the study area.

Traffic Forecasting: Per the County's request, a 3.00% annual growth rate was applied to all traffic on Brush Creek Road. The Year 2035 long range traffic projections also include the buildout of development that has already been approved by the Town of Eagle or Eagle County.

- Eagle Ranch
- Haymeadow
- Adam's Rib – Frost Creek and Salt Creek

The Year 2015 existing traffic volumes can be found in **Figure 5**. Year 2016 and Year 2035 background traffic volumes can be found in **Figure 6** and **Figure 7**, respectively.

Traffic Operations Evaluation: Year 2016 and Year 2035 background traffic were evaluated at all study intersections using the projection information and *Highway Capacity Manual*[7] (*HCM*) analysis procedures. This is described in ***Section 4.5*** of this report.

Figure 5: Year 2015 Existing Traffic

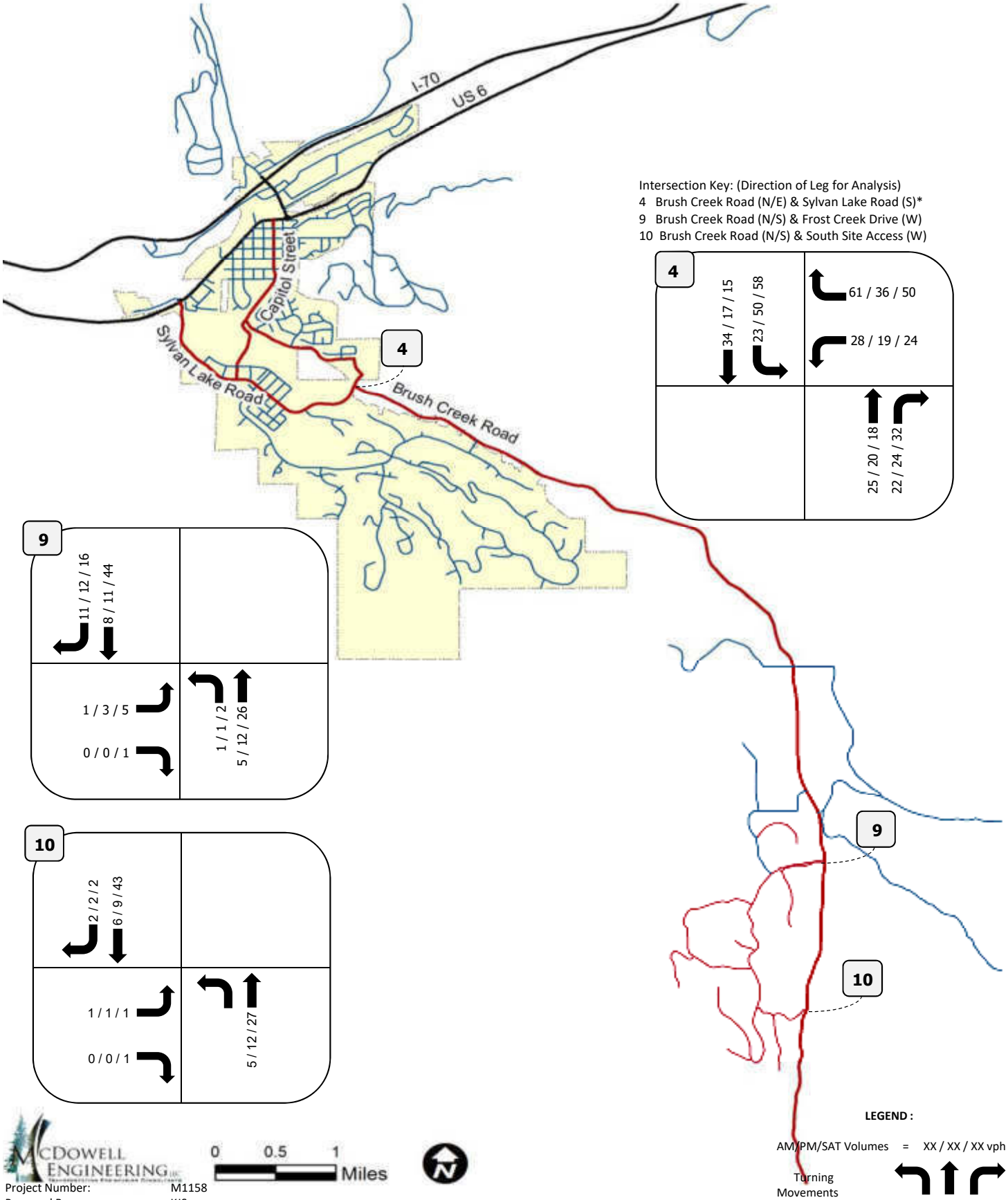


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Figure 6: Year 2016 Background Traffic

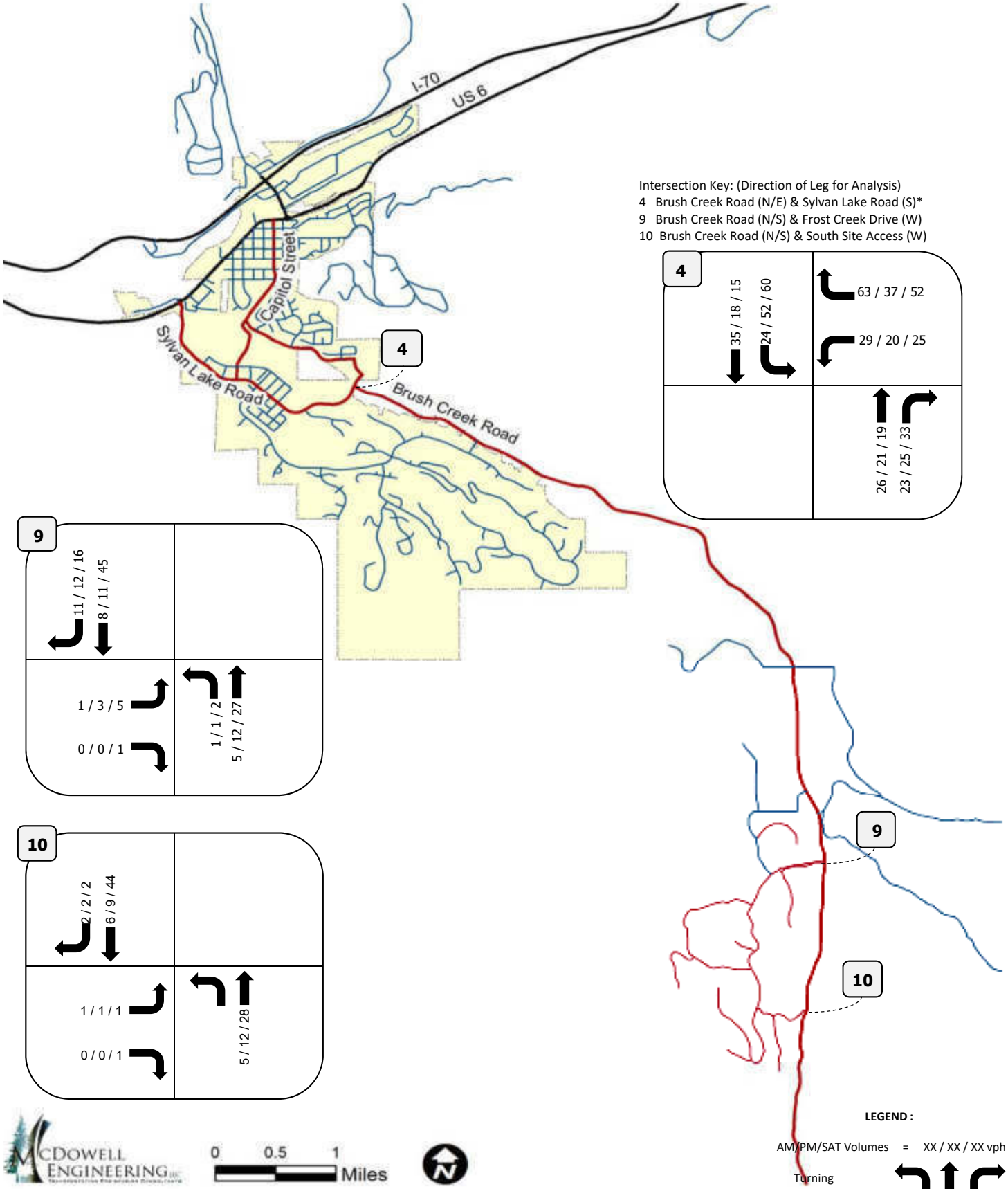

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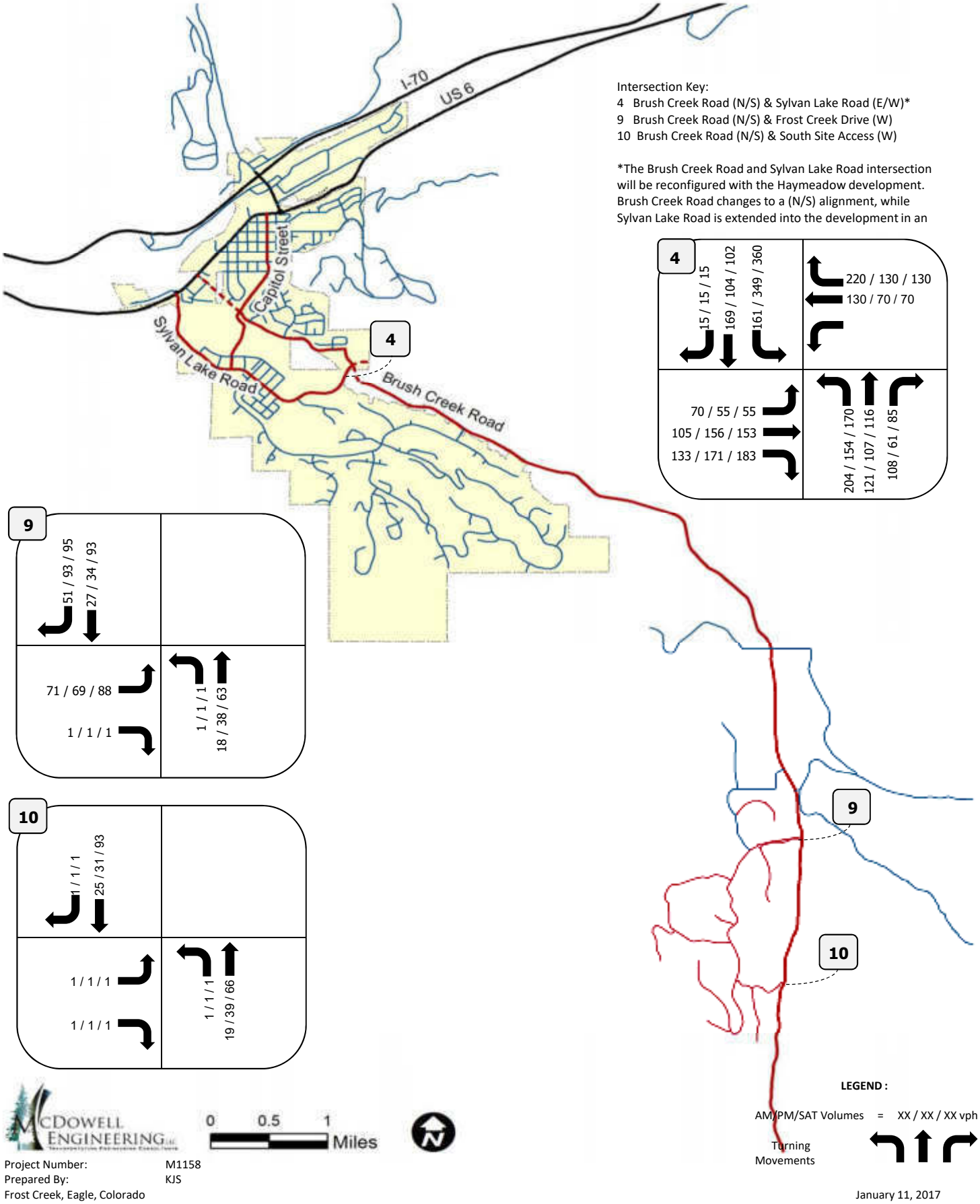
Figure 7: Year 2035 Background Traffic



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4.0 Project Traffic

4.1 Trip Generation For Proposed Land Use

Existing Project Operations Description: The previously approved use for Frost Creek is only partially built out. At the time of the traffic data collection for this project, there were six single family homes, one single family home under construction, 5 cabins, and 116 Frost Creek facility members.

The clubhouse restaurant was open to the public during the Saturday peak hour counts. It should be noted that clubhouse, pro shop, and restaurant are all ancillary uses under the 'golf course' trip generation rates. Therefore, the restaurant traffic does not need to be added singularly to the overall trip generation calculations. This fact is supported by the Observed Trip Comparison in ***Section 4.2***.

Future Project Operations Description: In total, the project is anticipated to have 137 single family homes, 8 cabins, the golf course, and clubhouse.

The applicant is projecting a total of 425 Frost Creek members. This may consist of approximately 150 resident members, and 275 non-resident members. The property is anticipating the employment of 10 full time staff and up to an additional 41 seasonal staff and 16 part time staff.

4.2 Trip Generation For Proposed Land Use

Observed Trip Comparison: The current Frost Creek traffic counts were compared to the anticipated traffic for the existing membership. Using a proportional share of the membership traffic for the golf course and recreation center, the site should expect a Saturday peak of 32 vehicles per hour (vph.)

However, the observed traffic was lower than anticipated for the current level of development. Only 28vph at both site accesses were observed. At the current time, the 13% difference is insignificant. However, with buildout of the project, this could equate to a significant reduction in actual traffic vs. the projected traffic. Therefore, trip generation calculations could be considered conservative analysis for a number of reasons.

- Although the clubhouse restaurant is open to the public, the golf course and recreational facility are private and restricted to members and their guests only. The ITE data does not specify public vs. private golf courses and community recreation facilities.

- Members and guests are utilizing on-site facilities (internal trip reduction) and not leaving the site frequently.

- County staff directed the analysis assume 100% full time residences on site which yields a higher trip generation rate. In actuality, only a portion of the homes are currently and anticipated to be occupied year-round.

Trip Generation Analysis: A trip generation analysis was prepared based upon the 9th Edition of ITE's *Trip Generation Manual*[9]. The Frost Creek analysis assumes no transit, ridesharing, bicycle commuting, or telecommuting mode split adjustment. In addition, no adjustments were taken for internal trip reductions between the residences and golf course or recreation facility.

In addition, the County staff directed the analysis assume 100% full time residences on site. As such, this study provides a conservative estimate for vehicular trip generation.

The applicant is also proposing the addition of 8 cabins that are made available for members to rent. These homes were also analyzed using the multi-family residential trip generation rates.

The trip generation analysis results can be found in **Table 1 – Project Trip Generation**. This table adds the previously approved land uses to the proposed additional 40 homes, 8 cabins, and removal of 25 accessory dwelling units to arrive at a total traffic projection for the entire site.

As presented in **Table 1**, the additional residential lots and cabins created by the proposed resubdivision are anticipated to create an additional 234 vehicle trips during an average weekday. Daily trips could be anticipated to be 300vpd on a weekend. The peak hour traffic could anticipate an additional 20 trips during the morning peak hour, 28 trips during the evening peak hour, and 30 trips during the Saturday peak hour.

4.3 Directional Distribution

Directional trip distribution estimates are used to assign the new site traffic to the existing roadway network. For this study, a detailed estimate of the trip distribution pattern for the Frost Creek development has been prepared as illustrated in ***Figure 8*** for Year 2016 and ***Figure 9*** for Year 2035. The Year 2035 scenario assumes that the Brush Creek Road extension has been constructed from Capitol Street to US 6, as described in ***Section 3.1***.

PROJECT NUMBER: M1182
PREPARED BY: KJS
DATE: 9/20/2015
REVISED: 1/24/2017

Table 1 - Project Trip Generation
(Assumes 100% Full Time Residences)
Frost Creek, Eagle, Colorado
Estimated Project-Generated Traffic[1]

ITE Code	Units		AM Peak Hour Rate[2]	PM Peak Hour Rate[2]	Saturday Peak Hour Rate[4]	Avg. Weekday Rate	Avg. Saturday Rate[4]	Average Weekday Trips (vpd)	Average Saturday[4] Trips (vpd)	Morning Peak Hour Inbound % Trips	Morning Peak Hour Inbound Trips	Morning Peak Hour Outbound % Trips	Morning Peak Hour Outbound Trips	Evening Peak Hour Inbound % Trips	Evening Peak Hour Inbound Trips	Evening Peak Hour Outbound % Trips	Evening Peak Hour Outbound Trips	Saturday Peak Hour[4] Inbound % Trips	Saturday Peak Hour[4] Inbound Trips	Saturday Peak Hour[4] Outbound % Trips	Saturday Peak Hour[4] Outbound Trips
Currently Approved Use:[3]																					
#210 Single Family Home	97	dwelling units			0.93		9.91	928	961		18		54		62		36	54%	49	46%	41
#230 Multi-Family Residential (Accessory Dwelling Units) (5 were converted to ex. cabins)	30	dwelling units			0.47		5.67	176	170		2		11		11		5	54%	8	46%	6
Clubhouse - #495 Community Recreation Center	2.3	ksf[5]			1.07		9.10	53	21		2		1		1		3	54%	1	46%	1
Private Golf Course - #430 Golf Course	18	holes			4.59		40.63	643	731		32		8		22		28	49%	40	51%	42
	127	dwelling units						1,800	1,884		54		74		96		72		98		91
Proposed Additional Use:																					
100% Primary Residences - #210 Single Family Home	40	dwelling units	0.77	1.02	0.93	9.52	9.91	381	396	26%	8	74%	23	64%	26	36%	15	54%	20	46%	17
0% Recreational Second Homes - #260 Recreational Homes	0	dwelling units	0.30	0.31	0.36	3.16	3.07	-	-	49%	0	51%	0	44%	0	56%	0	48%	0	52%	0
Remove all ADUs from previous approval	-25	dwelling units			0.47		5.67	-147	-142		-2		-9		-9		-4		-6		-5
Rental Cabins - #230 Multi-Family Residential	8	dwelling units			0.47		5.67	-	45	49%	0	51%	0	44%	0	56%	0	48%	2	52%	2
	23	dwelling units						234	300		6		14		17		11		16		14
Frost Creek Total	**150**	**dwelling units**						**2,034**	**2,184**		**60**		**88**		**113**		**83**		**114**		**105**
Proposed Percentage (%) Increase	18%							13%	16%		12%		18%		18%		15%		16%		15%
Year 2016 - 10% Residential Buildout & 50% Membership Rate								510	534		19		23		26		26		29		29

[1] Values obtained from *Trip Generation, 9th Edition,* Institute of Transportation Engineers, 2012.

[2] Based upon ITE's *Trip Generation* Rates for Peak Hour of Generator.

[3] Based upon LSC Transportation Consultants' September 30, 2004 *Adam's Rib Ranch Traffic Study* . Included for informational purposes only. '*' denotes data that was not provided in the original 2004 report.

[4] This information was not provided in LSC's 2004 Traffic Study. Therefore, ITE's *Trip Generation Rates* were applied.

[5] ksf = 1,000 square feet

Figure 8: Year 2016 Directional Distribution

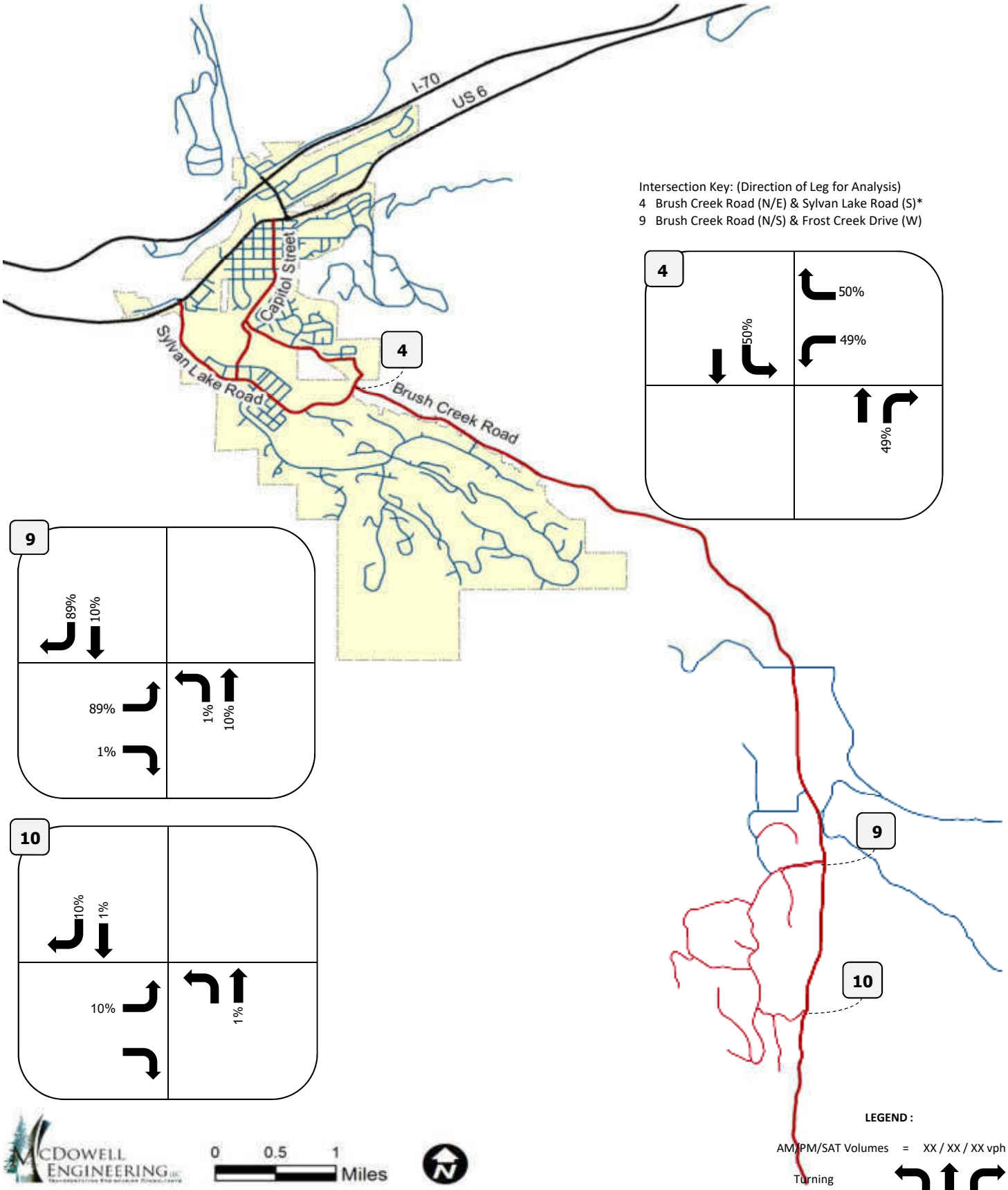

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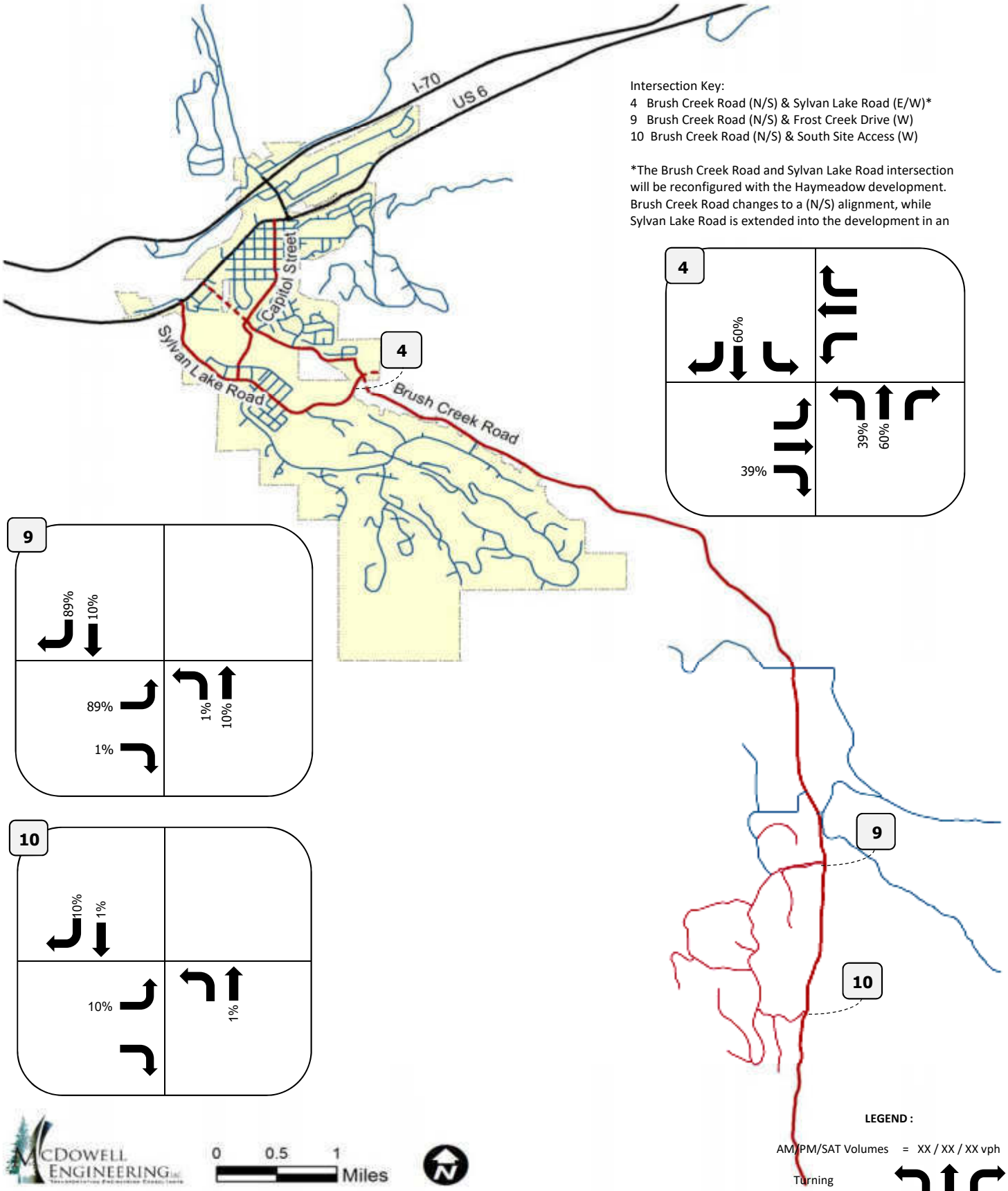
Figure 9: Year 2035 Directional Distribution



Intersection Key:
4 Brush Creek Road (N/S) & Sylvan Lake Road (E/W)*
9 Brush Creek Road (N/S) & Frost Creek Drive (W)
10 Brush Creek Road (N/S) & South Site Access (W)

*The Brush Creek Road and Sylvan Lake Road intersection will be reconfigured with the Haymeadow development. Brush Creek Road changes to a (N/S) alignment, while Sylvan Lake Road is extended into the development in an

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4.4 Traffic Assignment and Total Traffic

When the trip generation expected for this site is applied to the estimated trip distribution, the result is the anticipated assignment of trips on the roadway system.

Figure 10 depicts the Year 2016 vehicle trips on the greater roadway network that are anticipated from the proposed Frost Creek resubdivision. ***Figure 11*** shows the resubdivision's total traffic assignment for Year 2035.

The Year 2016 total traffic is the sum of Year 2016 background traffic **(Figure 6)** with the project-generated traffic **(Figure 10)** and can be seen in **Figure 12**.

Similarly, Year 2035 total traffic is the sum of Year 2035 existing traffic **(Figure 7)** with the project-generated traffic **(Figure 11)** and can be seen in **Figure 13.**

Figure 10: Year 2016 Project-Generated Traffic Assignment

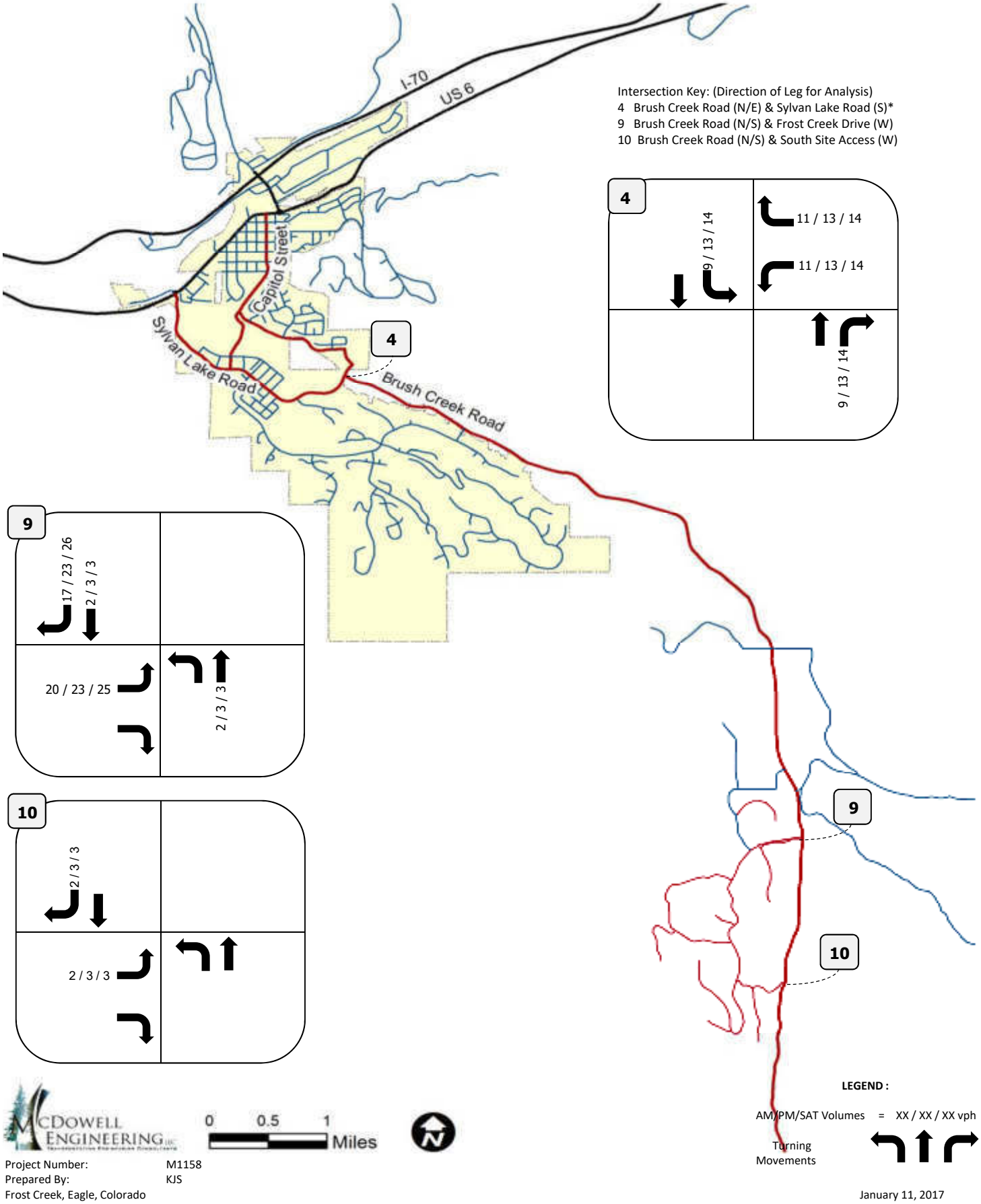

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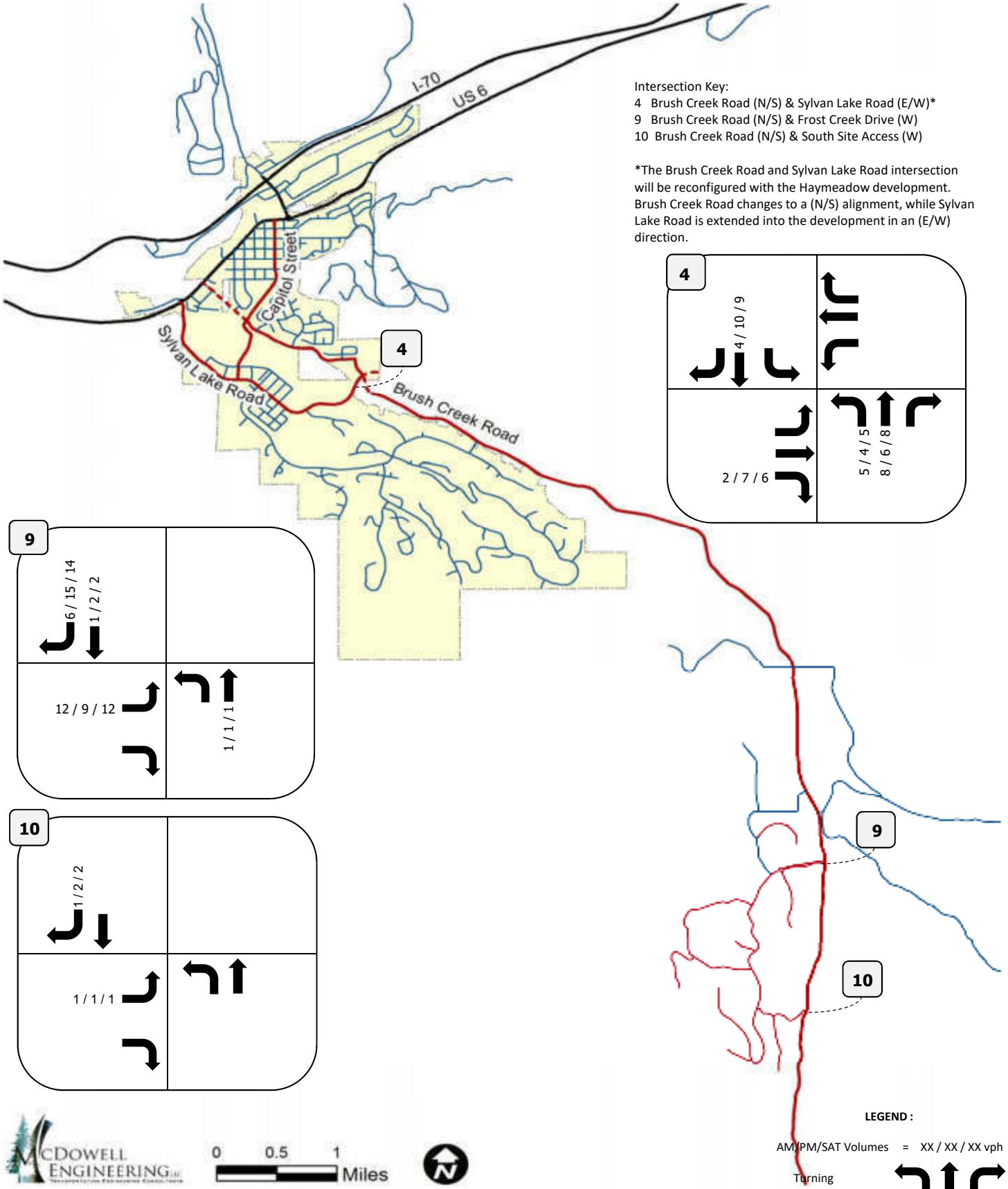
Figure 11: Year 2035 Project-Generated Traffic Assignment



Intersection Key:
4 Brush Creek Road (N/S) & Sylvan Lake Road (E/W)*
9 Brush Creek Road (N/S) & Frost Creek Drive (W)
10 Brush Creek Road (N/S) & South Site Access (W)

*The Brush Creek Road and Sylvan Lake Road intersection will be reconfigured with the Haymeadow development. Brush Creek Road changes to a (N/S) alignment, while Sylvan Lake Road is extended into the development in an (E/W) direction.

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Figure 12: Year 2016 Total Traffic

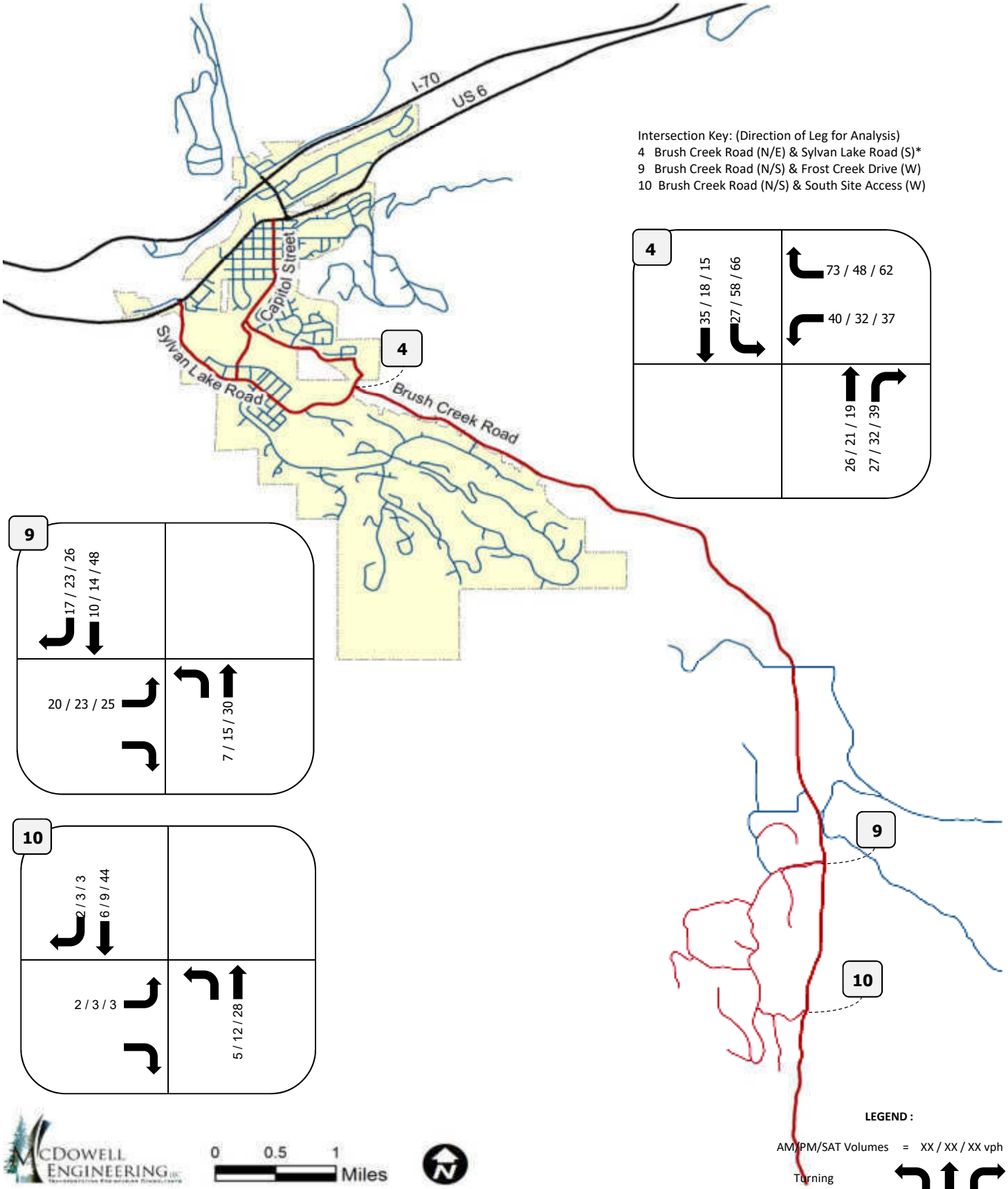

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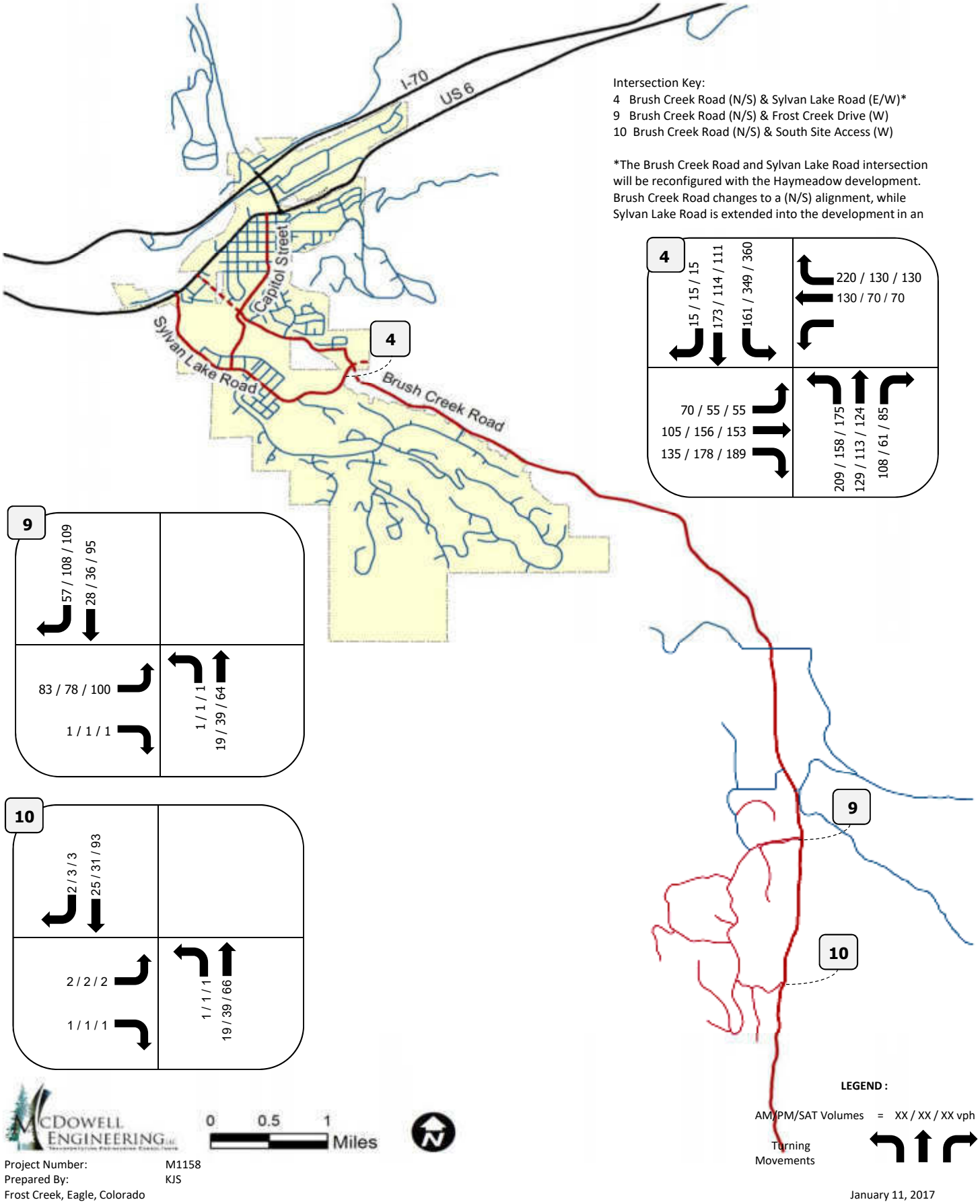
Figure 13: Year 2035 Total Traffic



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4.5 Intersection Operations and HCM Analysis

Intersection Level of Service: Using *Highway Capacity Manual 2010*[7] (HCM) methodology, Synchro Version 8 software was used to determine the delay and Level-of-Service (LOS) at the stop-controlled intersections. Similarly, Rodel Roundabout Analysis Software was used to model the HCM roundabout capacity.

A table summarizing the Total Traffic Level of Service for each intersection analyzed can be foundp25 in ***Table 2***.

Table 2: Intersection HCM Level of Service

				Existing Traffic			Background Traffic						Total Traffic					
				Year 2015			Year 2016			Year 2035			Year 2016			Year 2035		
				Level of Service			Level of Service			Level of Service			Level of Service			Level of Service		
Intersection		Traffic Control	Approach	(Delay in Seconds)			(Delay in Seconds)			(Delay in Seconds)			(Delay in Seconds)			(Delay in Seconds)		
#	Name			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
4	Brush Creek/Sylvan Lake	WB Stop	WB	A (9.1)	A (9.1)	A (9.2)	A (9.2)	A (9.1)	A (9.3)				A (9.3)	A (9.3)	A (9.5)			
			NB	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)				A (0)	A (0)	A (0)			
			SB	A (3)	A (5.5)	A (5.9)	A (3)	A (5.5)	A (5.9)				A (3.2)	A (5.7)	A (6.1)			
		NB/SB Stop	EB							F (2372)	F (291.1)	F (1565)				F (2360)	F (320.7)	F (1561)
			WB							E (45.2)	E (41.4)	F (52.4)				E (49.4)	E (44.8)	F (57.6)
			NB							A (3.8)	A (3.7)	A (3.6)				A (3.8)	A (3.7)	A (3.6)
			SB							A (3.9)	A (6.1)	A (6.3)				A (3.9)	A (6.0)	A (6.2)
9	Brush Creek/ Frost Creek	EB Stop	EB	A (8.6)	A (8.7)	A (8.9)							A (8.7)	A (8.7)	A (9)	A (9.1)	A (9.3)	B (10.1)
			NB	A (1.2)	A (0.6)	A (0.5)							A (1)	A (0.5)	A (0.5)	A (0.4)	A (0.2)	A (0.1)
			SB	A (0)	A (0)	A (0)							A (0)	A (0)	A (0)	A (0)	A (0)	A (0)
10	Brush Creek/South Access	EB Stop	EB	A (8.6)	A (8.6)	A (8.7)							A (8.6)	A (8.8)	A (8.8)	A (8.6)	A (8.7)	A (9.2)
			NB	A (0)	A (0)	A (0)							A (0)	A (0)	A (0)	A (0.3)	A (0.2)	A (0.1)
			SB	A (0)	A (0)	A (0)							A (0)	A (0)	A (0)	A (0)	A (0)	A (0)

Brush Creek Road & Sylvan Lake Road: The intersection is anticipated to be re-aligned and constructed as a roundabout with the Haymeadow Development. The intersection was analyzed as an east-west, stop-controlled intersection. Side street traffic is anticipated to have excessive queues with this configuration. Therefore, this intersection should be constructed as a roundabout. With these improvements, this intersection is anticipated to operate at a Level of Service A through Year 2035.

Brush Creek Road & Frost Creek Drive: The intersection is currently operating at an acceptable LOS A. It is expected to continue to operate at an acceptable Level of Service through Year 2035.

The 95th percentile queue is not anticipated to exceed one vehicle at the site egress through Year 2035.

Brush Creek Road & South Site Access: The intersection is currently operating at an acceptable LOS A. It is expected to continue to operate at an acceptable Level of Service through Year 2035.

The 95th percentile queue is not anticipated to exceed one vehicle at the site egress through Year 2035.

4.6 Roadway Segment Operations and HCM Analysis

Intersection Level of Service: Using *Highway Capacity Manual 2010*[7] (HCM), the current and forecasted roadway segment Levels of Service were determined for multiple scenarios. This methodology uses numerous inputs such as the roadway width, shoulder width, speeds, terrain, traffic volumes, percentage of heavy vehicles, ability to pass others, amount of traffic peaks, and access spacing to determine the anticipated percent of time spent following a vehicle. The Level of Service for roadway segments is based upon this factor, the percent of time spent following another vehicle.

The analysis segments were based upon data collection locations and areas of change in roadway characteristics such as geometry or volumes. **Figure 14** depicts the general location of each Brush Creek Road segment, as numbered below.

1. Brush Creek Road south of Ouzel Lane
2. Brush Creek Road, 1750 feet South of the Water Tower
3. Brush Creek Road north of Frost Creek Drive
4. Brush Creek Road south of Frost Creek Drive

Figure 14: Brush Creek Road Segment Analysis

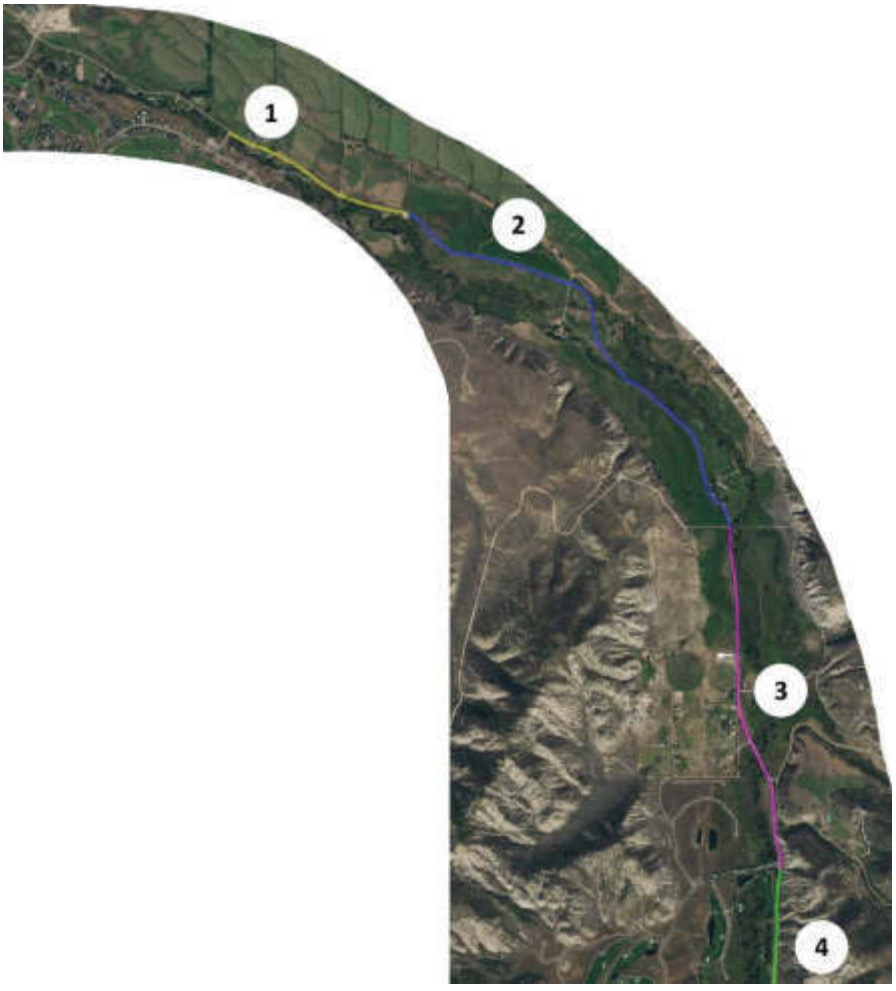

Table 3 summarizes the traffic volumes, forecasts, and Levels of Service for each roadway segment. Eagle County's requirement for a roadway segment is a Level of Service C or better.

Brush Creek Road south of Ouzel Lane: The segment of Brush Creek Road south of Ouzel Lane is currently operating at a Level of Service A. With the three percent forecasted annual growth (and impacts of previously approved development projects in the area) this segment of Brush Creek Road is anticipated to operate at a Level of Service B through Year 2035 with or without the addition of Frost Creek's proposed resubdivision.

Brush Creek Road, 1750 feet south of the water tower: The segment of Brush Creek Road south of the water tower is currently operating at a Level of Service A. With the three percent forecasted annual growth (and impacts of previously approved development projects in the area) this segment of Brush Creek Road is anticipated to operate at a Level of Service B through Year 2035 with or without the addition of Frost Creek's proposed resubdivision.

Brush Creek Road north of Frost Creek Drive: The segment of Brush Creek Road north of Frost Creek drive is currently operating at a Level of Service A. With the three percent forecasted annual growth (and impacts of previously approved development projects in the area) this segment of Brush Creek Road is anticipated to operate at a Level of Service A through Year 2035 with or without the addition of Frost Creek's proposed resubdivision.

Brush Creek Road south of Frost Creek Drive: The segment of Brush Creek Road north of Frost Creek drive is currently operating at a Level of Service A. With the three percent forecasted annual growth (and impacts of previously approved development projects in the area) this segment of Brush Creek Road is anticipated to operate at a Level of Service A through Year 2035 with or without the addition of Frost Creek's proposed resubdivision.

Capacity and Buildout of Brush Creek Road: Previous analysis was performed using the Town of Eagle's buildout projections for the Brush Creek Road corridor. At full buildout, Brush Creek Road is anticipated to operate at a Level of Service C or better to approximately Hardscrabble Road. Near the Frost Creek development, Brush Creek Road is anticipated to operate at a Level of Service B or better.

The existing Brush Creek Road (from Ouzel Lane to Sylvan Lake State Park) is capable of adequately handling future traffic volumes through the Town's Year 2055 buildout growth model.

Percentage Impact to Brush Creek Road: Based upon Eagle County's Level of Service C requirement for roadway segments, Brush Creek Road is capable of handling 7,200 – 7,500 vpd without any additional improvements, such as shoulder widening, etc.

With the conservative assumption of 100% full time residents, the proposed Frost Creek PUD amendment represents 3.2% of Brush Creek Road's total roadway

capacity. The proposed amendment is approximately 5.2% of the total projected Year 2035 Brush Creek Road traffic south of Ouzel Lane. North of Frost Creek Drive, the proposed amendment is approximately 6.7% of the total projected Year 2035 Brush Creek Road traffic.

Table 3: Brush Creek Road Daily Traffic Projections & HCM Level of Service

1/24/2017

McDowell Engineering

	Existing Traffic[1] 2015	Existing Traffic[1] 2016	Year 2016 Background Traffic[2] 2016	Frost Creek (Proposed Resubdivision)[3] 2016	Year 2016 Total Traffic[4] 2016	*Subtotal Year 2035 Background Traffic[2] 2035*	*Eagle Ranch[5]*	*Haymeadow[5]*	*Frost Creek (Previously Approved Adam's Rib)[5]*	Year 2035 Background Traffic[6] 2035	Frost Creek (Proposed Resubdivision)[3] 2035	Year 2035 Total Traffic[7] 2035	Buildout Condition Brush Creek Road[8] 2055	Brush Creek Road Segment Capacity - LOS C/D Threshold (Assumes no improvements.)
South of Ouzel Lane														
Northbound Design Hour Volume (vph)		69	69	10	79	*121*	*7*	*8*	*71*	207	10	217	337	360
Southbound Design Hour Volume (vph)		61	61	17	78	*107*	*4*	*8*	*95*	214	17	231	337	360
Average Daily Traffic (vpd)		1317	1317	232	1549	*2309*	*105*	*75*	*1782*	4271	232	4503	6747	**7200**
HCM Segment Level of Service		**A**	-	-	-	-	-	-	-	**B**	-	**B**	**C**	**C/D Threshold**
1750 feet South of Water Tower														
Northbound Design Hour Volume (vph)		64	64	10	74	*112*	*7*	*8*	*71*	198	10	208	332	375
Southbound Design Hour Volume (vph)		75	75	17	92	*132*	*4*	*8*	*95*	239	17	256	332	375
Average Daily Traffic (vpd)		1288	1288	232	1520	*2259*	*105*	*75*	*1782*	4221	232	4453	6647	**7500**
HCM Segment Level of Service		**A**	-	-	-	-	-	-	-	**B**	-	**B**	**C**	**C/D Threshold**
North of Frost Creek Drive														
Northbound Design Hour Volume (vph)	31		32	10	42	*56*	*7*	*8*	*71*	142	10	152	225	362
Southbound Design Hour Volume (vph)	60		62	17	79	*108*	*4*	*8*	*95*	215	17	232	225	362
Average Daily Traffic (vpd)	705		726	232	958	*1273*	*105*	*75*	*1782*	3235	232	3467	4496	**7240**
HCM Segment Level of Service	**A**		-	-	-	-	-	-	-	**A**	-	**A**	**B**	**C/D Threshold**
South of Frost Creek														
Northbound Design Hour Volume (vph)	27		28	1	29	*49*	*7*	*8*	*1*	65	1	66	55	360
Southbound Design Hour Volume (vph)	44		45	1	46	*79*	*4*	*8*	*1*	92	1	93	55	360
Average Daily Traffic (vpd)	481		495	2	497	*869*	*105*	*75*	*18*	1067	2	1069	1104	**7200**
HCM Segment Level of Service	**A**		-	-	-	-	-	-	-	**A**	-	**A**	**A**	**C/D Threshold**

[1]Existing traffic data: June 2016 south of Ouzel Lane, June 2016 south of Water Tower, August 26, 2015 south of Frost Creek Drive AADT is an average of Aug. 27 - 30, 2015

[2]Year 2015 or 2016 existing traffic + 3.0% annual growth rate

[3]This conservatively assumes that all homes in the proposed application are constructed immediately.

[4]Year 2016 background traffic + Frost Creek Proposed Resubdivision

[5]From respective traffic studies for Eagle Ranch, Haymeadow, and Adams Rib. Adam's Rib = 1,800vpd. 1% to south = 18vpd. 99% to north = 1,782vpd.

[6]Subtotal Year 2035 background traffic + approved developments

[7]Year 2035 background traffic + Frost Creek Proposed Resubdivision

[8]Buildout projections are based upon the Town of Eagle's water/traffic model. Assumes 10% dhv and 50/50 directional split.

[9]Brush Creek Road's capacity is based upon Eagle County's HCM Level of Service C/D threshold requirement for a segment of road. Assumes no widening or improvements to existing conditions.

3.00% Annual Growth Rate on Brush Creek Road

4.1 Brush Creek Road Crash Data

Brush Creek Road is historically safer than a typical average 2-lane rural, mountainous highway. Based upon the State's official crash data for the corridor, Brush Creek Road has had eight crashes in the past five years over a 10-mile stretch of roadway. This equates to a crash rate that is below the State's 20th percentile rate. In comparison to equivalent roadways in the State, Brush Creek Road has a low potential for crash reduction.[2] The crash data and State's crash rate data are included in the **Appendix**.

From the State's crash data:

- 1 accident was snow/weather related
- 1 accident was alcohol related
- 1 accident was from a wild animal
- 2 accidents were from the driver being preoccupied or inexperienced
- 3 accidents involved speeding

4.2 Brush Creek Road Speed Data

As part of the traffic data collection for this project, we recorded traffic speeds on Brush Creek Road. The 85th percentile speeds (an industry standard speed metric) are 10-15mph over the posted speed limit. Widening Brush Creek Road will increase traffic speeds on the roadway. Widening to 12' lanes with 6' shoulders can be anticipated to increase speeds by 3.4mph. Widening to 12' lanes with 2' shoulder can be anticipated to increase speeds by 2.1mph.[3]

4.3 State Highway Access Impacts

Section 2.6(3) of the *State Highway Access Code* (*Access Code*) requires a new access permit when there is a land use change and/or the driveway volume is anticipated to increase by more than twenty percent. The addition of 30 trips per hour to the greater roadway network does not trigger the need for a State Highway Access Permit. Refer to **Table 4**.

Table 4: US 6 Percentage of Impact from Proposed Frost Creek Amendment

Intersection	Frost Creek Peak Hour Traffic Assignment to Intersection	Year 2035 Background Traffic Volume or State Highway Access Permit Volume*	Percentage Impact to Leg
US 6 & Eby Creek Road (South Leg)	0vph	242vph	0%
US 6 & Capitol Street (South Leg)	3vph	266vph	1.1%
US 6 & Sylvan Lake Road /Violet Lane (South Leg)	9vph	205vph 1,340vph*	4.4% 0.7%*
US 6 & Future Brush Creek Road Extension (South Leg)	11vph	702vph	1.6%

4.4 Brush Creek Road Extension

Eagle County requested a summary of the project impacts to Eagle's roadway network if the Brush Creek Road Extension is not constructed by Year 2035.

The previous November 2015 and March 2016 studies assumed that 35% of site-generated traffic would use the Brush Creek Road extension once it was constructed. If this traffic could only use Capitol Street to Sylvan Lake Road to access greater Eagle and US 6, 21vph would be redistributed. The original studies assumed that without the Brush Creek Road extension, the traffic was split 50/50 between Sylvan Lake Road and Brush Creek Road. An additional 10vph on Capitol Street or Sylvan Lake Road will not alter the outcome of the previous study.

4.5 Brush Creek Road Turn Lane Analysis

Eagle County refers to the *State Highway Access Code*[10] to provide regulation for auxiliary lanes. Brush Creek Road has an equivalent CDOT classification of an R-B, rural highway. With a posted speed limit of 35mph, right turn deceleration lanes are required when the peak hour turning volume exceeds 25vph. A left turn deceleration lane is required when the peak hour turning volume exceeds 10vph.

The project has previously constructed a southbound right deceleration lane for Frost Creek Drive. The turn lane totals 310 feet in length. At a posted 35mph, the existing lane can accommodate up to 190vph making the southbound right turning movement into Frost Creek Drive. At buildout, the project is anticipated to have 99vph during the Saturday peak hour making this turn. Therefore, no modifications to the existing southbound right turn lane are required.

No other access turning volumes meet the requirements for constructing turn lanes at the site accesses.

4.6 Access Design Criteria

The existing access points appear to have been constructed per Eagle County's *Eagle County Land Use Regulations*[11] (*ECLUR*) Section 4-620.j Geometric Standards.

4.7 Sight Distance

The proposed primary Frost Creek site access locations have adequate sight distance in both directions that well exceed the 595' requirement in Table 4-2 of the *Access Code*.

4.8 Internal Circulation and Travel Speeds

The 95th percentile queue at the site egress is not expected to exceed one vehicle (25 feet) through the project buildout.

The internal Frost Creek roadway system is narrow at 20 to 24-feet. There are sufficient horizontal and vertical curves in the roadway system that will require drivers to maintain 25mph residential speeds.

5.0 Recommendations and Conclusions

McDowell Engineering has prepared this Transportation Impact Study for the proposed resubdivision of the Frost Creek development. The purpose of this study is to forecast and analyze the impacts of the additional traffic volumes associated with the proposed increase in the number of residential units. The Frost Creek project was originally approved in 2005 under the name of Adam's Rib. This approval included 97 single family homes, 25 accessory dwelling units, a private 18-hole golf course, and private 2,300 recreation center. The original traffic analysis was covered in LSC's 2004 *Adam's Rib Traffic Study*[1].

Trip Generation: With the proposed resubdivision, the applicant is proposing 40 additional single family homes and 8 cabins. The cabins will be available for members or their guests to rent. In addition, the applicant is proposing to remove 25 accessory dwelling units that were originally approved in 2004. The additional residential lots and cabins created by the proposed resubdivision will create an additional 234 vehicle trips on an average weekday, including 30 trips during the Saturday peak hour.

Eagle County requested that this project was analyzed with the assumption that all residents live in their home year-round. This yields a very conservative analysis as this area/demographic is typically 78% second homes.

Data Collection: Traffic data was collected in late September and early October of 2015. The observed traffic at the Frost Creek site accesses was lower than anticipated for the current level of development.

Background Traffic Projections: Per the County's request, a 3.00% annual growth rate was applied to all traffic on Brush Creek Road. The Year 2035 long range traffic projections also include the buildout of development that has already been approved by the Town of Eagle or Eagle County. These are Eagle Ranch, Haymeadow, and Adam's Rib – Frost Creek and Salt Creek.

Background Infrastructure Improvements: The Town of Eagle has plans to construct the Brush Creek Road extension from Capitol Street to US 6 in the future. In addition, the Haymeadow Development is proposing improvements to the Brush Creek Road and Sylvan Lake Road intersection as part of their development. The improvements will shift the Brush Creek Road alignment from the current configuration to a north/south orientation. These infrastructure improvements have been modelled in the Year 2035 analysis.

Necessary Infrastructure Improvements: The existing Frost Creek Drive access has a southbound right turn deceleration lane that is 310 feet in length. This turn lane is adequate to accommodate the full buildout of the proposed Frost Creek development. No additional off-site roadway improvements are required. The timing of Frost Creek's final buildout does not affect these recommendations.

Brush Creek Road is currently operating at Level of Service A. With the three percent forecasted annual growth (and impacts of previously approved development projects in the area) the lower (northern) segments of Brush Creek Road are anticipated to operate at a Level of Service B through Year 2035 with or without the addition of Frost Creek's proposed resubdivision. Near the Frost Creek development, Brush Creek Road is anticipated to operate at a Level of Service A through Year 2035 with or without the addition of Frost Creek's proposed resubdivision.

Previous analysis was performed using the Town of Eagle's buildout projections for the Brush Creek Road corridor. At full buildout, Brush Creek Road is anticipated to operate at a Level of Service C or better to approximately Hardscrabble Road. Near the Frost Creek development, Brush Creek Road is anticipated to operate at a Level of Service B or better.

The existing Brush Creek Road (from Ouzel Lane to Sylvan Lake State Park) is capable of adequately handling future traffic volumes through the Town's Year 2055 buildout growth model.

Based upon Eagle County's Level of Service C requirement for roadway segments, Brush Creek Road is capable of handling 7,200 – 7,500 vpd without any additional improvements, such as shoulder widening, etc.

The proposed Frost Creek PUD amendment represents 3.2% of Brush Creek Road's total roadway capacity.

Summary: The proposed Frost Creek development is anticipated to be successfully accommodated into the greater Eagle County and Town of Eagle roadway network with the above recommendations.

The findings of this study, using the County's traffic analysis methodology, confirm the findings of the original November 2015 and March 2016 reports. The conclusions of the analysis have not changed.

6.0 Appendix

Reference Documents

1. *Adam's Rib Traffic Study*. LSC Transportation Consultants, September 2004.
2. *West Eagle Sub Area Plan.* Town of Eagle, September 2011.
3. *Haymeadow Traffic Impact Study*. Fox Tuttle Transportation Group, August 2013.
4. *I-70 Eagle Interchange Upgrade Feasibility Study*. PBS&J, April 2009.
5. OTIS Traffic Data. Colorado Department of Transportation. http://apps.coloradodot.info/dataaccess/
6. *Projected Brush Creek Growth Model.* Town of Eagle, Updated November 2015.
7. *Highway Capacity Manual.* Transportation Research Board, 2010.
8. *The Social and Economic Effect of Second Homes.* Northwest Colorado Council of Governments, June 2004.
9. *Trip Generation, 9th Edition.* Institute of Transportation Engineers, 2012.
10. *State Highway Access Code.* State of Colorado, 2002.
11. *Eagle County Land Use Regulations.* Eagle County, 2012.

Included Documents

1. Traffic Study Scoping Correspondence with Eagle County and the Town of Eagle
2. Traffic Counts
3. CDOT OTIS Traffic Data
4. Excerpts from Referenced Reports for Background Traffic
5. Brush Creek Road Crash Data
6. HCM Reports
    a. Intersections:
        i. Brush Creek Road & Sylvan Lake Road
        ii. Brush Creek Road & Frost Creek Drive
        iii. Brush Creek Road & South Site Access
    b. Roadway Segments:
        i. Brush Creek Road south of Ouzel Lane
        ii. Brush Creek Road, 1750 feet south of the water tower
        iii. Brush Creek Road north of Frost Creek Drive
        iv. Brush Creek Road south of Frost Creek Drive

Appendix E

Dalton Ranch West Traffic Impact Study (July, 2022)

Dalton Ranch West
Traffic Impact Study

373 CR 252 Durango, CO
Parcel # 559715200057
La Plata County, CO

July 29th, 2022

Prepared by:
Short Elliott Hendrickson, Inc.
934 Main Ave. Unit C
Durango, CO 81301

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LIST OF APPENDICES

1. EXECUTIVE SUMMARY

The purpose of this Traffic Impact Study is to evaluate the traffic generated by the proposed development of the Dalton Ranch West Development Project on Trimble Lane. The development project is located within La Plata County approximately 1,400 feet east of the US 550/Trimble Lane (CR 252) intersection. The project is situated on 19.76 acres of vacant land, which was formerly the property of the US Forest Service and was used for livestock grazing and staging of emergency response teams.

a. DEVELOPMENT LAND USE DESCRIPTIONS

The proposed project will include the development of Single Family Homes on the property, with a total of 51 residential lots. The proposed land use corresponds to the ITE Code 210, Single-Family Detached Housing.

b. PREVIOUS STUDIES

This traffic study references the Trimble Crossing Traffic Impact Study dated June 10th, 2004, which was used to design and construct the existing US 550 and CR 252 signal and auxiliary lanes. It also accounts for the proposed development of 29 RV Motorcoach sites on the adjacent Willow Springs property, which is currently being routed through the La Plata County Land Use and Development process via their Planning Department.

c. PRINCIPAL FINDINGS

- A left turn deceleration lane is warranted at the West Dalton Ranch access onto CR 252.
- No additional turn lane storage is warranted.
- Dalton Ranch West will account for 3.55% of the total capacity provided by the Trimble Lane/US 550 signalized intersection; therefore, the conclusion of this Study is that an Amendment to the CDOT Access Permit is not necessary. However, combined with the 1.07% of total capacity utilized by Willow Springs for a total of 4.66%; the Developer has included an Access Permit submission.
- Per the requirements of the Trimble Crossing Fair Share Reimbursement Agreement, the Developer will be required to provide $56,394.00 to cover the generated traffic of the proposed development.

2. INTRODUCTION

The purpose of this Traffic Study is to evaluate the traffic impacts to Trimble Lane at the proposed project access locations. Additionally, this Study will determine the project's financial obligations as described in the La Plata County Board of County Commissioners staff report for project number 2010-0120 Trimble Crossing Fair Share Reimbursement Agreement. The proposed project is located approximately 1,400 feet east of the intersection of Trimble Lane (CR 252) and US 550. The objectives include the following:

- Estimate traffic generation.
- Evaluation of auxiliary lane requirements.
- Impacts to stacking and CR 252 and US 550
- Fair Share Reimbursement.

Road improvements and a signalized intersection at Trimble Lane and US 550 were constructed as a part of the 2007 Trimble Crossing development. The Trimble Crossing Traffic Impact Study dated June

10th, 2004 was the original analysis and planning document that served as the basis for the infrastructure as it exists today.

a. SITE AND STUDY AREA

This Traffic Study was prepared for the proposed Dalton Ranch West subdivision on Trimble Lane (CR 252). The proposed development plan will cover approximately 19.76 acres. This Traffic Study focuses on the proposed access location. This Traffic Study also estimates the total percentage of traffic introduction at the previously improved intersection of Trimble Lane (CR 252) and US 550.

The project location map and a preliminary site plan exhibit has been included in **Appendix A**.

b. DEVELOPMENT LAND USE DESCRIPTIONS

Table 1 shows an itemized list of proposed land uses for the project.

Table 1: Dalton Ranch West Land Use Descriptions

LAND USE	ITE LAND USE CODE	ITE CODE	UNITS	QUANTITY
Single Family Homes	Single-Family Detached Housing	210	Units	51

The land use of the proposed development can be used with transportation engineering analyses to estimate the projected traffic volumes that will be generated by the Dalton Ranch West. Note: the office and pavilion associated with the project are for internal use only and will generate no additional traffic.

c. EXISTING ROADWAY

Trimble Lane (CR 252)

Trimble Lane is a 35-mph county road that has been improved to a three-lane section with turn pockets to serve the existing Trimble Crossing prior to this project. Approximately 1275-ft east of the US 550 Trimble Lane intersection, the road tapers down from a three-lane section to a two-lane roadway beginning just west of the Trimble Crossing and Willow Springs west property line, which is roughly 625' west of the proposed Dalton Ranch West access point. Trimble Lane/CR 252 continues east where it serves Dalton Ranch and crosses the Animas River and ties into County Road 250.

Sight Distance Requirements are as follows:

Left turn from stop onto CR 252 (AASHTO, Table 9-6) = 390' (35mph)
Right turn from stop onto CR 252 (AASHTO, Table 9-8) = 335' (35mph)

Measured Sight Distance

- Primary Access looking west = 1300'
- Primary Access looking east = 600'

Therefore, each access has sufficient sight distance along CR 252 (Trimble Lane)

Accesses along CR 252 include the following:

1. Trimble Crossing A = 420' East of US 550
2. Trimble Crossing B = 230' East of Trimble Crossing A
3. Willow Springs = 290' East of Trimble Crossing B

These intersections were previously approved by CDOT and La Plata County, when the Trimble Crossing TIS was completed in 2007 and as a part of Access Permit 506073. The CDOT Access Code provides for one (1) access per parcel for a Rural Highways. Willow Springs and Dalton Ranch West will each have one main access onto CR 252 that will be evenly spaced between adjacent property access points. Willow Springs and Dalton Ranch West will each also have an Emergency access to adjacent properties to allow for connectivity between Trimble Crossing and Willow Springs, plus Dalton Ranch West and North Dalton Ranch.

With the current R-B Designation and 35 mph speed limit, CR 252 would yield standard deceleration lanes of 310' + Storage. SEH would recommend that the County continue to monitor the roadway as properties developing in the area to complete speed studies to determine if a reduction in the speed limit would be warranted. If it is found that the 85th percentile of speed along the roadway is 25 mph, the decel lengths would be 180' + Storage, or 30 mph, the decel lengths would be 250' + Storage.

3. TRIP GENERATION AND PEAK HOUR VOLUMES

Trip generation represents the amount of traffic generated by a development. A trip is defined as a one-way vehicle movement with either the origin or destination within the proposed development. The Trip Generation Manual, also known as the ITE Manual, written by the Institute of Transportation Engineers (ITE), 10th Edition (2020), was used to estimate the projected traffic volume by the proposed development. The land use types from the ITE that were used for determining the appropriate trip generation rates, vehicular rates, and directional distributions are shown in Table 2.

Table 2: Land Use Descriptions and Trip Generation Rates

ITE LAND USE	TRIPS PER UNIT			PEAK HOUR			
				AM		PM	
	UNITS	AM	PM	IN	OUT	IN	OUT
Single-Family Detached Housing	SITE	0.76	1.00	26%	74%	64%	36%

Table 3 shows the individual traffic produced by the proposed development based on the listed criteria and values from table 2. It includes the following: the ITE Land Use, the corresponding number of units, and the traffic volumes entering "IN" and exiting "OUT" for the AM Peak Hour, PM Peak Hour, and Daily. The full printout of the ITE trip generation has been provided as **Appendix C**.

Table 3: Project Traffic Volumes

ITE LAND USE	TOTAL TRIPS			PEAK HOUR TRIP DISTRIBUTION			
				AM		PM	
	QUANT	AM	PM	IN	OUT	IN	OUT
Single-Family Detached Housing	51	39	51	10	29	33	18

One purpose of this Traffic Study is to study the additional traffic generated by the project in the study area and to determine if improvements to the existing infrastructure are needed. To do this, it is necessary to analyze the performance of the access points during the time of day when there is the most congestion and traffic in the area. The "peak hour" volume is the morning or afternoon 60-minute period that has the highest density of traffic. CDOT requires that the peak hour volumes be analyzed to determine auxiliary lane requirements as well as turn lane storage lengths.

4. TRIP DISTRIBUTION AND TRIP ASSIGNMENT

Trip distributions and estimated peak hour trips from the Trimble Crossing Traffic Impact Study were used as the baseline for estimated peak hour traffic assignments. Trips generated by Dalton Ranch West project as outlined in section 4 were added to these values at US 550 to determine if additional turn lane storage length was necessary.

. The following assumptions were made:

- Trimble Crossing development will eventually reach "full-buildout" and generate the full amount of traffic estimated in the Trimble Crossing Traffic Impact Study
- 90% of the Dalton Ranch West generated traffic will access the development via the intersection of US 550 and CR 252 (Trimble Lane) to/from the West.
- 10% of the Dalton Ranch West generate traffic will access the develop via CR 252 (Trimble Lane) to/from the East.

An exhibit illustrating the AM and PM vehicle directional volumes to/from Dalton Ranch West is shown in **Figure 1 on Page 6.**

5. AUXILLARY LANES

The State of Colorado State Highway Access Code, (Volume 2, March 2002) was used to determine the requirement of auxiliary lanes at the proposed access points.

According to the CDOT State Highway Access Code, the following criteria require the construction of auxiliary lanes for a 35mph Rural Highway (R-B):

- Left turn deceleration lane: 10 vehicles/hour
- Right turn deceleration lane: 50 vehicles/hour

Table 4 shows the storage length requirements provided by the Access Code.

Table 4: Storage Length Requirements (CDOT State Highway Access Code, Table 4-8)

Turning Vehicles Per Peak Hour	below 30	30	60	100	200	300
Required Lane Length in Feet	25	40	50	100	200	300

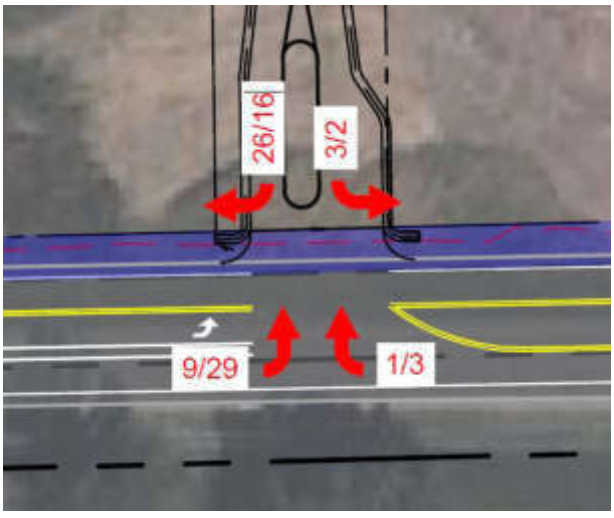
Table 5 shows the left turns for the proposed main access point. As shown in the table, the anticipated number of peak hour left turns will trigger the requirement for an auxiliary left turn lane from Trimble Lane (CR 252) into the Dalton Ranch West subdivision.

This auxiliary lane will be constructed as apart of the Dalton Ranch West project and will meet La Plata County and CDOT design standards and specifications.

Table 5: Left turn lane requirements under existing and proposed conditions at project entrances.

Dalton Ranch West - Auxilary Lane Warrants			
Movement	**Period**		**ADDT'L TURN LANE REQUIREMENTS?**
	AM	**PM**	
Left Turns	9	29	Yes - Left Decel
Right Turns	1	3	No

Figure 1. Dalton Ranch West Turning Movements



6. US 550/TRIMBLE LANE INTERSECTION IMPACT ANALYSIS

The following has been extracted from the State Highway Access Code section 2.3.5.a-b:

"When the land use will generate a DHV of 100 vehicles or more, or when considered necessary or desirable by the issuing authority or Department for exceptional reasons, the applicant shall provide a traffic impact study. The scope of the study shall be commensurate with the scale and scope of probable operational and safety impacts to the general street system. (b) When a traffic impact study is required, the study shall be completed and sealed by a Colorado registered professional engineer. Selected items from the following list may be excluded if not applicable to the situation and exclusion is specifically authorized by the issuing authority. The contents and extent of a traffic impact study depend on the location and size of the proposed development and the conditions prevailing in the surrounding area. Larger developments proposed in congested areas obviously require more extensive traffic analysis, whereas smaller sites may only require a minimal analysis of traffic on site and at immediately adjacent intersections. In determining how large a study area to include, a general guideline is to carry the analysis out at least as far as those areas where newly generated site traffic represents 5 percent or more of roadway's peak hour capacity. **Where site generated traffic will be less than 5 percent of the roadway capacity, the intersections adjacent to the site should, at a minimum, be analyzed.** The study area boundaries may also be influenced by impacts other than pure capacity relationships such as neighborhood short cuts, traffic noise and hours of operation."

Table 6: Dalton Ranch West Intersection Impact Analysis

DALTON RANCH WEST INTERSECTION IMPACT ANALYSIS		
Intersection Total Capacity	ADT	13538
Existing Traffic - 2018 counts with 3% growth	ADT	3140
Remaining Intersection Capacity (1)	ADT	10700
Willow Springs Trip Generate (ITE)	ADT	145
Dalton Ranch West Trip Generation (ITE)	ADT	482
Remaining Intersection Capacity (2)	ADT	9771
Dalton Ranch West % of Intersection Capacity	%	3.56%

Per Table 7 – below, the proposed Dalton Ranch West will generate roughly 3.5% of the existing capacity at US 550 and CR 252. Per the Willow Springs RV Park report, they will generate 1.07% of the existing capacity at US 550 and CR 252.

Table 7: Comparison of Dalton Ranch West Traffic vs. 2019 CDOT Counts

Comparision of Exisitng (2019) US 550 & CR 252 Total Traffic vs.Dalton Ranch West Projection					
14-Aug-19				Dalton Ranch West Projection	Percentage
Wednesday	8:00am to 9:00am	880	VPH	22	2.50%
Wednesday	12:00pm to 1:00pm	1024	VPH	NA	
Wednesday	4:15pm to 5:15pm	1133	VPH	29	2.56%
15-Aug-19					
Thursday	8:00am to 9:00am	931	VPH	22	2.36%
Thursday	12:00pm to 1:00pm	1066	VPH	NA	
Thursday	4:15pm to 5:15pm	1226	VPH	29	2.37%

See Appendix D for CDOT Peak Hour Data

SEH also counted left turns from CR 252 onto US 550 at the request of CDOT to determine if there would be a stacking issue with associated with the existing left turn lane from CR 252 onto US 550. The existing turn lane is roughly 140' from the stop bar behind the RR crossing to the end of the full width section. This length is adequate for up to 7 passenger vehicles. It should be noted that additional storage is available in front of the RR tracks, which was observed to be used by drivers. However, that will not be considered within this analysis.

SEH analyzed 373 signal Cycles during AM and PM Peak hours on June 2nd (Weds), June 3rd (Thurs) and June 4th (Fri) of 2021. During that time, no more than 5 vehicles queued in the CR 252 turn lane, which occurred only 8 times or 2.14% of the time. Similarly, 4 vehicles queued in the CR 252 turn lane 12 times or 3.22% of the time. Over two thirds of the cycles observed had 0 or 1 left turns onto US 550 from CR 252, leaving the remaining 25% (approximately) of cycles with 2 or 3 left turns. See Table 8.

Table 8. Left turn Analysis of CR 252

CR 252 Left Turn Analysis, June 2nd - 4th 2021				
Queued Vehicles	Number	Percentage	% Less than Vehicles	
0	90	24.13%	24.13%	Zero
1	163	43.70%	67.83%	1 or Less
2	70	18.77%	86.60%	2 or Less
3	30	8.04%	94.64%	3 or Less
4	12	3.22%	97.86%	4 or Less
5	8	2.14%	100.00%	5 or less
Total Cycles	373			

Per Table 3. Dalton Ranch West will generate 16 out bound trips per hour from the 51 SF homes, which will result in 16 x 90% = 14 Westbound AM Peak hour trips to the Signal.

Given the existing turn lane has a capacity for 7 vehicles to queue, which is not currently occurring, and the Dalton Ranch West Development will generate a left (assuming all Dalton Ranch West traffic would turn south, which will not be the case) roughly every 4.5 minutes, or 2.14 cycles with a 120 second signal cycle length. It can reasonably be assumed, that the potential left turns generated by the Dalton Ranch will utilize the left turn pocket and begin to increase the vehicles stacking at the intersection.

In table 9, the total number of cycles 373 was divided by 6 to account for a Willow Springs RV trip arriving every 12 minutes or every 6th cycle. It would be expected based on Table 8 that 24.13% of

the time there would be no traffic in the left turn lane when an additional Willow Springs vehicle arrived at the signal, 43.70% there would be one vehicle queued, and so on.

Updating the table to include the Willow Springs turns, yields roughly similar expected percentages where there are limited left turns. For Example, 93.30% of the time, there will be fewer than 3 left turns, with is down slightly from 94.64% of the time without the development.

Table 9. Left turn Analysis of CR 252 with Willow Springs RV included

CR 252 Left Turn Analysis, with Willow Springs RV included				
Queued Vehicles	**Number**	**Percentage**	**% Less than Vehicles**	
0	75	20.12%	20.12%	Zero
1	151	40.45%	60.56%	1 or Less
2	85	22.91%	83.48%	2 or Less
3	37	9.83%	93.30%	3 or Less
4	15	4.02%	97.32%	4 or Less
5	9	2.32%	99.64%	5 or less
6	1	0.27%	100.00%	6 or less
Total Cycles	373			

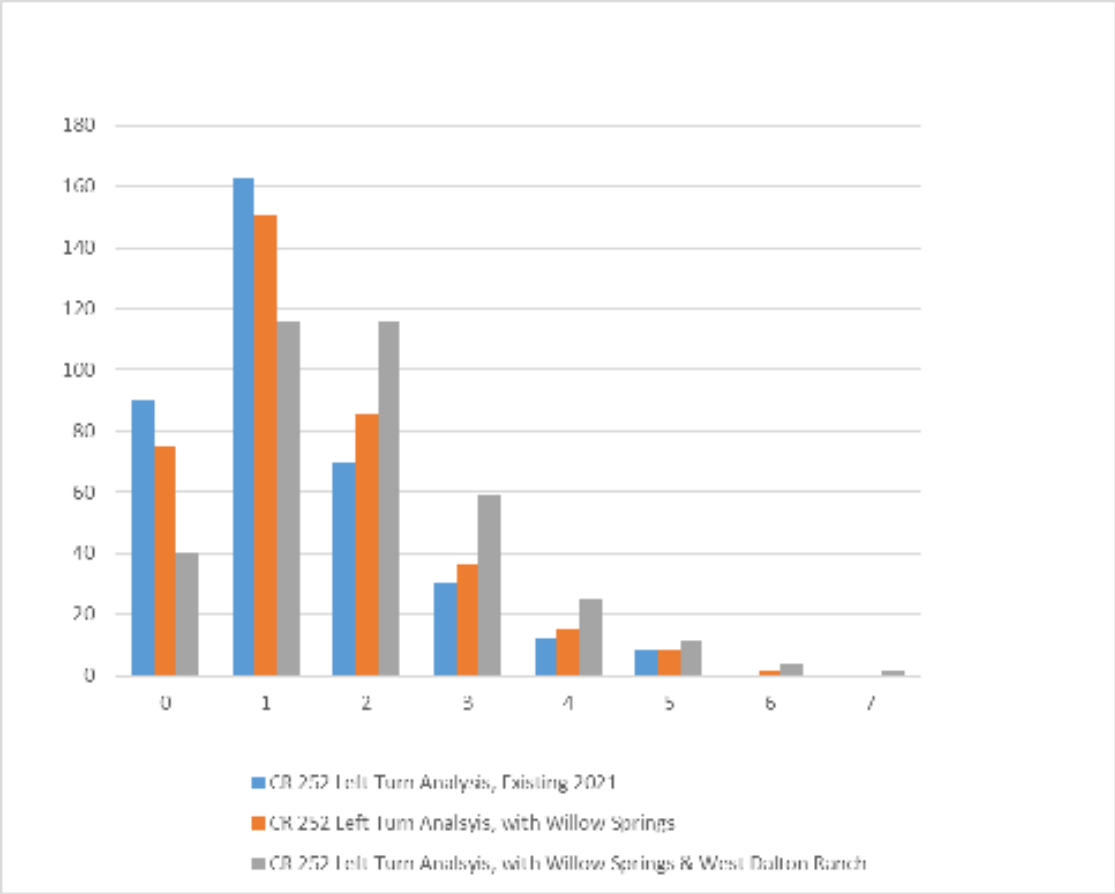
In table 10, the total number of cycles 373 was divided by 2.15 to account for a Dalton Ranch West trip arriving every 4.5 minutes or every 2.15 cycles. It would be expected based on Table 9 that 20.13% of the time there would be no traffic in the left turn lane when an additional Dalton Ranch West vehicle arrived at the signal, 40.45%% there would be one vehicle queued, and so on.

Table 10. Left turn Analysis of CR 252 with Willow Springs RV and Dalton Ranch West Traffic included

CR 252 Left Turn Analsyis, with Willow Springs & West Dalton Ranch				
Queed Vehicles	**Number**	**Percentage**	**% Less than Vehicles**	
0	40	10.76%	10.76%	Zero
1	116	30.98%	41.74%	1 or Less
2	116	31.07%	72.81%	2 or Less
3	59	15.92%	88.73%	3 or Less
4	25	6.72%	95.45%	4 or Less
5	12	3.11%	98.56%	5 or Less
6	4	1.08%	99.64%	6 or Less
7	1	0.36%	100.00%	7 or Less
Total Cycles	**373**	**100.00%**		

Updating the table to include the Willow Springs and West Dalton Ranch turns, yields roughly similar expected percentages where there are limited left turns. For Example, 88.73% of the time, there will be fewer than 3 left turns, with is down slightly from 94.64% of the time without the development.

Chart 1. Shift in Left Turn stacking due to Willow Springs RV Park and Dalton Ranch West Project



In summary, the CR 252 left turn lane will remain generally free of any type of congestion or overuse, as indicated by our analysis. Rarely, if ever will there be 5, 6, 7 or more vehicles expected to stack in the existing CR 252 (Trimble Lane) left turn pocket and vehicles above that number would not have a detrimental impact to CDOT's facilities.

SEH also utilized CDOT's 2019 Counts to project 2022 and 2042 traffic, plus Willow Springs, plus Dalton Ranch West project traffic. Per CDOT's OTIS system, the ADT in 2022 will be roughly 9100, which is expected to grow to 9900 in 2042, or roughly 10%. This translates to roughly 0.50% growth per year, which was used to project future AM/PM counts.

Table 71: AM Peak Hour Calculations

Summary of Traffic Counts (AM)												
	CR 203			CR 252			US 550					
Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2019 Counts (CDOT)	9	18	55	71	12	49	24	296	88	40	213	5
2022 Counts (0.50% Growth)	9	18	56	72	12	50	24	300	89	41	216	5
Willow Springs	0	0	0	17	0	12	0	0	5	3	0	0
Dalton Ranch West	0	0	0	16	0	10	0	0	5	4	0	0
2022 Existing and Projects	**9**	**18**	**56**	**105**	**12**	**72**	**24**	**300**	**99**	**48**	**216**	**5**
2042 Growth (0.50% Growth)	10	20	62	80	13	55	27	332	99	45	239	6
2042 Existing and Projects	**10**	**20**	**62**	**113**	**13**	**77**	**27**	**332**	**109**	**52**	**239**	**6**

Table 82: PM Peak Hour Calculations

Summary of Traffic Counts (PM)												
	CR 203			CR 252			US 550					
Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2019 Counts (CDOT)	4	21	42	88	25	52	73	268	129	60	386	12
2022 Counts (0.50% Growth)	4	23	46	96	27	57	80	292	141	65	421	13
Willow Springs	0	0	0	11	0	7	0	0	17	12	0	0
Dalton Ranch West	0	0	0	16	0	10	0	0	17	12	0	0
2022 Existing and Projects	**4**	**23**	**46**	**123**	**27**	**74**	**80**	**292**	**175**	**89**	**421**	**13**
2042 Growth (0.50% Growth)	5	25	51	106	30	63	88	323	155	72	465	14
2042 Existing and Projects	**5**	**25**	**51**	**133**	**30**	**80**	**88**	**323**	**189**	**96**	**465**	**14**

The intersection as whole is functioning at a Level of Service (LOS) of B, according to the 2022 counts and the 2042 projected counts, in both the am peak period and the pm peak period. With the increase in traffic due to the facilities and the predicted growth of the area this intersection should not be impacted. See Appendix G for Synchro Reports.

7. ACCIDENT DATA

CDOT Traffic Data indicates that there were three (3) accidents reported between 12/31/2008 and 12/31/2018. One on the accidents involved Property Damage Only, while the other two injured 5 individuals. No fatalities were reported during the 15-year data period.

By type of accident, there were two (2) reported rear-ends and one (1) reported sideswipe. In two (2) of the incidents, the driver was pre-occupied and one (1) had no apparent contributing factor. None of the accidents involved a westbound vehicle, or the CR 252 leg of the intersection.

From 2004 the AADT of roughly 9,300 vehicles on US 550 has grown to roughly 10,000 AADT in 2019. This indicates that the US 550/CR 252 intersection has likely had roughly 9,500 vehicles/day utilize the intersection. Multiplying 9,500 AADT by 365 days x 15 years yields over 52,000,000 vehicles during that time. Dividing that 52,000,000 vehicles by the 3 reported accidents yields an accident roughly every 17,000,000 vehicles or every 5 years.

In summary accident data for the US 550/CR 252 intersection does not indicate a safety issue or apparent geometric deficiency.

See Appendix D for CDOT Accident Data.

8. ESAL CALCULATIONS

Trautner's 12/23/2021 Geotechnical Report made recommendations for various road sections. Per the design drawings the road section will be 4-inches of Asphalt on, 4-inches of Class 6, on 8-inches of Class 2; which will support 100,000 ESALs based on the Geotechnical Report. The projected ESALs of roughly 44,000 is shown on Table 12 below.

Table 92: AM Peak Hour Calculations

Dalton Ranch West - Internal Roads ESAL Summary						
Vehicle Type	ADT	Percentage	Type	ESAL Factor	20-Year ESALS	ESALs/Drive Lane
Passenger Vehicles/Day	467	97	Passenger Vehicles	0.0003	1,023	511
Trucks/Day	14	3	Three Axle Truck	0.85	86,870	43,435
					Total ESALs	**43,946**

9. US 550/TRIMBLE LANE INTERSECTION FAIR SHARE REIMBURSEMENT OBLIGATIONS

This project is subject to the fair share reimbursement of the US 550 at Trimble Lane intersection improvements constructed as a part of the 2007 Trimble Crossing development. A La Plata County Board of County Commissioners staff report outlines the agreements enacted for this requirement. In summary, Trimble Crossing, LLC paid for the signal improvements necessary for development to occur in the study area. The Trimble Crossing Fair Share Reimbursement Agreement was created to allow for future development to pay back this initial investment as development occurs, adding to the traffic at the intersection. A unit price per generated daily trip was created as the framework of this development by dividing the construction costs of the intersection by the estimated total capacity of the intersection as described in the Trimble Crossing Traffic Impact Study. Table 10 displays the fair share reimbursement cost per ADT as well as Dalton Ranch West's reimbursement obligation.

Table 13: Dalton Ranch West Intersection Impact Analysis and Fair Share Reimbursement Obligations

DALTON RANCH WEST INTERSECTION IMPACT ANALYSIS AND FAIR SHARE REIMBURSEMENT OBLIGATIONS		
US 550/Trimble Lane Intersection Total Cost	US Dollars	$ 1,583,769.00
Intersection Total Capacity	ADT	13,538
Fair Share Reimbursement Cost Per ADT	US Dollars	$ 117.00
Dalton Ranch West Trip Generation (ITE)	ADT	482
Dalton Ranch West Reimbursement Obligation	US Dollars	$ 56,394.00

10. CONCLUSIONS & RECOMMENDATIONS

In conclusion, the ITE Trip Generation Manual was used to estimate the traffic created by the Dalton Ranch West project. The project will generate a total ADT of 482 trips, with ten (10) trips are expected to enter the development with twenty nine (29) trips exiting the development in the AM peak hour. Thirty two (32) trips are expected to enter the development and nineteen (19) trips are expected to exit the development in the PM peak hour.

The turning volumes expected from this development (9/29) left turns into the development in the (am/pm) peak hours will trigger a left turn auxiliary lane, which the developer is proposing to construct.

Per our analysis ad findings, the project does not warrant the construction of additional auxiliary lanes or improvement/re-striping of the CR 252 left turn lane storage already provided on Trimble Lane (CR 252).

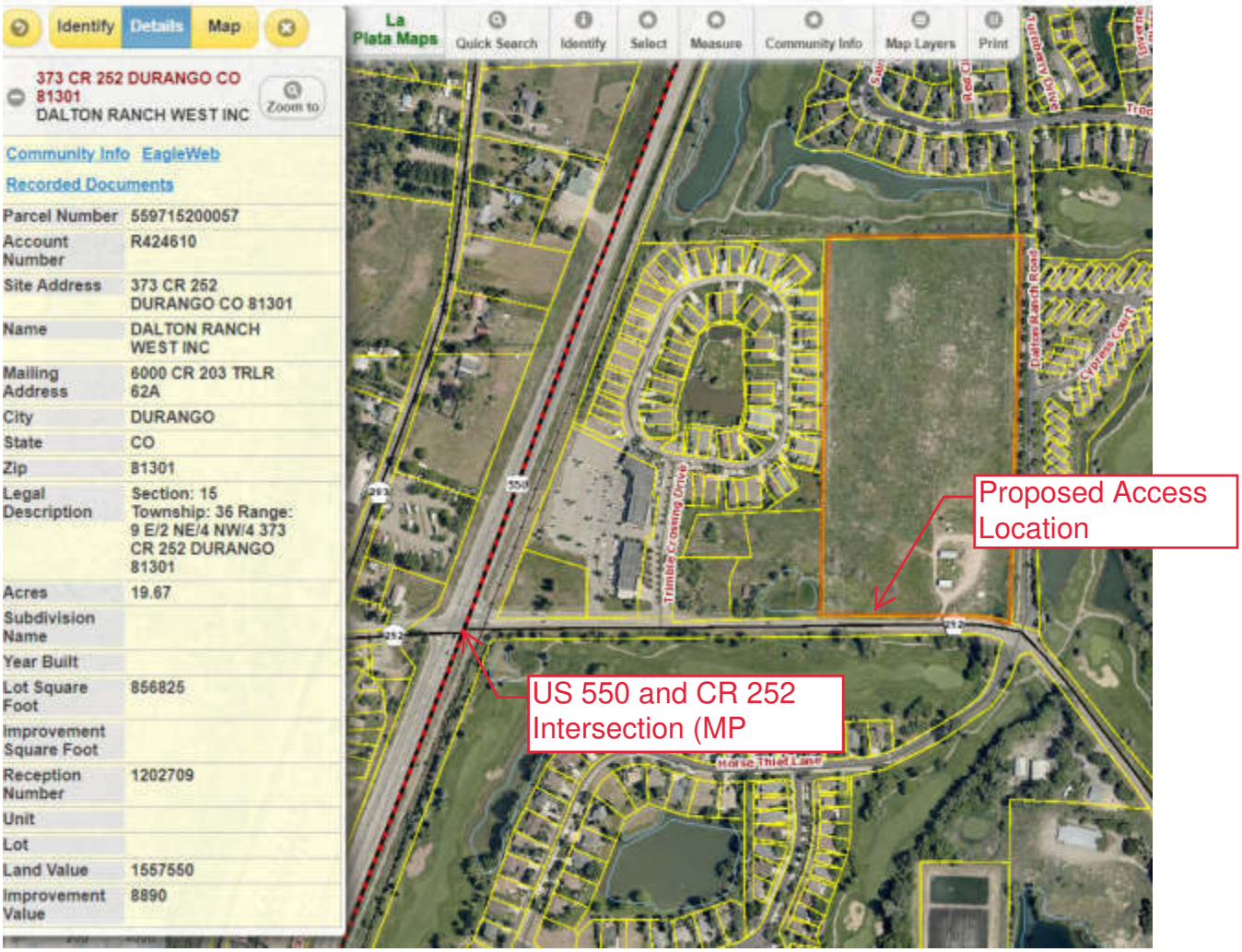
The project traffic is expected to produce traffic at the signalized intersection of US 550 at Trimble Lane equivalent to 3.56% the intersection's total capacity. No significant delay at the intersection would be experienced with the inclusion of this project with 9,771 ADT remaining as the intersection's design capacity.

Because this project is subject the terms outlined in the Trimble Crossing Fair Share Reimbursement agreement, $117.00 per generated daily trip are to be applied to this development. At 145 ADT, this project will be required to contribute $56,394.00 towards the reimbursement agreement.

APPENDIX A:

Proximity Map & Site Plan

Dalton Ranch West Property Map



NOTES:
1. PROPOSED UTILITIES SHOWN ARE CONCEPTUAL, WITH POTENTIAL FOR CHANGE, AND NOT FOR CONSTRUCTION.
2. DRAINAGE ARROW

LOT DENSITY

- 51 PROPOSED SF HOMES
- 2.6 UNITS/ ACRE

PLAN
100 50 25 0 50

CIMARRON GOLF PARTNERS LLC
PARCEL # 559715101008

ENCLAVE AT DALTON RANCH ASSN
PARCEL # 559715107041
(RESIDENTIAL)

CIMARRON GOLF PARTNERS LLC
PARCEL # 559715101008

WALKWAY WITH 20 FT. CLEAR AREA DESIGNED FOR 60,000 VEHICLES, HOA MAINTAINED, AND CLEARED OF SNOW.

MOUNTABLE CURB

Dalton Ranch Road

CENTER LINE OF EXISTING DITCH

END EOP & EOG IMPROVEMENTS

S 00°25'13" W 1291.04'

OPEN SPACE

EXISTING DALTON POND

LOT 17 14,198 SF 0.33 ACRES
LOT 18 14,234 SF 0.33 ACRES
LOT 19 14,115 SF 0.32 ACRES
LOT 16 14,416 SF 0.33 ACRES
LOT 20 11,890 SF 0.27 ACRES
LOT 15 13,314 SF 0.31 ACRES
LOT 21 11,994 SF 0.28 ACRES
LOT 14 13,613 SF 0.31 ACRES
LOT 22 12,002 SF 0.28 ACRES
LOT 13 15,151 SF 0.35 ACRES
LOT 12 14,685 SF 0.34 ACRES
LOT 11 15,087 SF 0.35 ACRES
LOT 10 11,995 SF 0.28 ACRES
LOT 27 13,362 SF 0.31 ACRES
LOT 26 10,793 SF 0.25 ACRES
LOT 25 10,762 SF 0.25 ACRES
LOT 24 10,736 SF 0.25 ACRES
LOT 23 10,990 SF 0.25 ACRES
LOT 9 11,370 SF 0.26 ACRES
LOT 8 10,015 SF 0.23 ACRES
LOT 7 10,112 SF 0.23 ACRES
LOT 6 10,189 SF 0.23 ACRES
LOT 5 10,280 SF 0.24 ACRES
LOT 4 10,978 SF 0.25 ACRES
LOT 3 10,457 SF 0.24 ACRES
LOT 2 10,543 SF 0.24 ACRES
LOT 1 10,629 SF 0.24 ACRES
LOT 28 9,851 SF 0.23 ACRES
LOT 29 9,681 SF 0.22 ACRES
LOT 30 9,643 SF 0.22 ACRES
LOT 31 9,713 SF 0.22 ACRES
LOT 32 9,737 SF 0.22 ACRES
LOT 33 9,757 SF 0.22 ACRES
LOT 34 9,603 SF 0.22 ACRES
LOT 35 10,591 SF 0.24 ACRES
LOT 36 11,865 SF 0.27 ACRES
LOT 37 12,067 SF 0.28 ACRES
LOT 43 9,639 SF 0.22 ACRES
LOT 42 10,222 SF 0.23 ACRES
LOT 41 10,227 SF 0.23 ACRES
LOT 40 10,231 SF 0.23 ACRES
LOT 39 10,235 SF 0.23 ACRES
LOT 38 10,157 SF 0.23 ACRES
LOT 44 10,604 SF 0.24 ACRES
LOT 45 11,082 SF 0.25 ACRES
LOT 46 10,913 SF 0.25 ACRES
LOT 47 10,750 SF 0.25 ACRES
LOT 48 10,587 SF 0.24 ACRES
LOT 49 10,424 SF 0.24 ACRES
LOT 50 10,261 SF 0.24 ACRES
LOT 51 10,098 SF 0.23 ACRES

OPEN SPACE

MAINTAIN EXISTING VEGITATION

S 88°42'46" W 649.05'

PROPOSED DETENTION POND

PROPOSED 10' CRUSHER FINES PATH

10' ROW DEDICATION

MAINTAIN EXISTING VEGITATION

252

CIMARRON GOLF PARTNERS LLC
PARCEL # 559715302097

CIMARRON GOLF PARTNERS LLC
PARCEL # 559710308002

N 88°30'48" E 657.78'

BOUNDARY (TYPICAL)

TIE INTO EXISTING GRAVEL AND PAVEMENT

EDGE OF PAVEMENT

EDGE OF GRAVEL

PROPOSED DETENTION POND

BFE = 6575

BFE = 6574

BFE = 6573

PROPOSED EARTHEN BERM AND 6' OPAQUE PRIVACY FENCE ALONG ENTIRETY OF PROPOSED LOTS AND SUBJECT TO FLOODPLANE STANDARDS IF APPLICAPLE

OPEN SPACE

N 00°02'33" E 1320.42'

TRIMBLE CROSSINGS HOA
PARCEL # 559715208070
(RESIDENTIAL)

Trimble Crossing Drive

EXISTING TRIMBLE CROSSINGS RETENTION POND

EXISTING TRIMBLE HOT SPRINGS EFFLUENT POND

WILLOW SPRINGS LLC
PARCEL # 559715200084
(NEIGHBORHOOD COMMERCIAL)

COCNEPTUAL

CALL 811 TWO WORKING DAYS BEFORE YOU DIG

DISCIPLINE
OWNER: ERIC FLORA
APPLICANT: NANCY DOSDALL
SURVEYOR: DZC SURVEYING
ARCHITECT: N/A
ENGINEER: STEVE WINTERS

DALTON RANCH WEST
SKETCH PLAN
51 SINGLE FAMILY LOTS

Short Elliott Hendrickson, Inc.
934 Main Avenue, Unit C
Durango, Colorado 81301
Phone: (970) 385-4546
Fax: (970) 385-4502

Drawn: SW
Drafted: MK
Checked: SW

Date of Submittal
11/17/2021

1 OF 1

File Name: R:\Current Projects\Land Projects 3\Willow Crossing RV Park (USE X DRIVE)\ACAD\Exhibits\DWGIE phase - concept_FINAL.10.26 Plotted: 11/17/2021 1:09 PM Plot Style: SEH.STB Plotted By: MATT KLEINERT

APPENDIX B:

Trimble Crossing Fair Share Reimbursement Agreement – LPC Staff Report

LA PLATA COUNTY BOARD OF COUNTY COMMISSIONERS
DECEMBER 21, 2010 – 10:00 AM
LA PLATA COUNTY COURTHOUSE
COMMISSIONERS' MEETING ROOM

STAFF REPORT
PROJECT NAME: TRIMBLE CROSSING FAIR SHARE REIMBURSEMENT AGREEMENT AMENDMENT #1
PROJECT NUMBER: 2010-0120

Project action requires the presence of the applicant or formally designated agent.

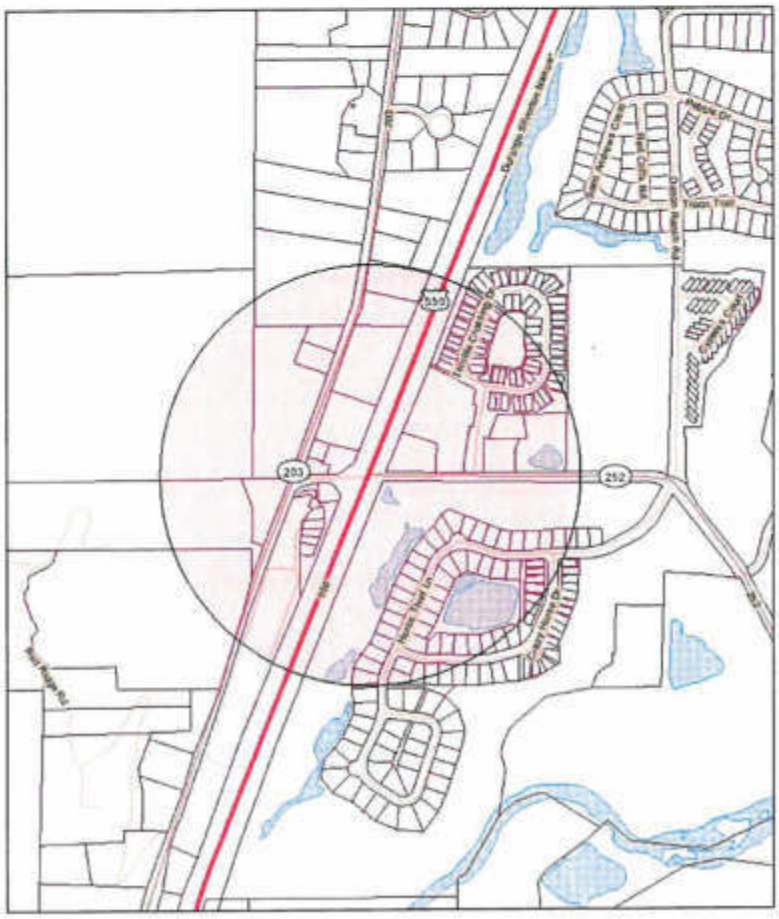
I. APPLICANT

Trimble Crossing LLC
700 Main Avenue, Suite G
Durango, CO 81301

AGENT
Mel Goodman
700 Main Avenue, Suite G
Durango, CO 81301

II. PROJECT LOCATION

The improvements constructed as part of the Trimble Crossing Development and subject to the reimbursement agreement are the intersection improvements and traffic signals located at Trimble Lane and US HWY 550 in Section 15, Township 36 North, Range 9 West.



III. PROJECT DESCRIPTION

Trimble Crossing LLC is desirous of extending the duration of an existing fair share reimbursement agreement, Project 2008-0085, from the previous maximum allowed by code of 10 years to the current maximum allowed by code of 15 years per LPLUC 82-99(1)e.

The Trimble Crossing Fair Share Reimbursement Agreement, project 2008-0085, provides the ability of the developer of Trimble Crossing to recover a portion of the cost associated with the construction of improvements required as part of the Trimble Crossing SUP, project 2003-0315, and Trimble Crossing Subdivision, project 2004-0248. The improvements were specifically to the intersection of Trimble Lane (CR 252) and US HWY 550 and included a railroad crossing, turn lanes, and signalization. It should be noted the improvements were designed for a 20 year estimated traffic projection and are estimated to be valid until December 31, 2026.

The Trimble Crossing Fair Share Reimbursement Agreement and associated Final Cost Recovery Statement, approved by the BOCC on April 22, 2008, identified potentially benefitted property owners, permitted the maximum duration of the agreement as allowed by code, 10 years, and established the amount of reimbursement per average daily trip ($117) for new developments identified on the benefitted property owners list. Since then, LPLUC Sec 82-99(e)(1) has been amended, Resolution 2010-23, to allow up to 15 years for the duration of a fair share reimbursement obligation. The applicant is not proposing any other modifications to the agreement aside from the 10 to 15 year extension, from a date of April 22, 2018 to April 22, 2023.

IV. ADJACENT LAND OWNER NOTIFICATION AND RESPONSE

Potentially benefitted property owners, as identified during the review and approval of the original Trimble Crossing Fair Share Reimbursement Agreement, project 2008-0085, were notified of the proposed amendment. To date, one comment has been received from those landowners notified and is attached for your review. No neighborhood compatibility meeting was held

V. AGENCY COMMENTS

Agencies were sent request for comment approximately two business days from the date of submittal, September 28, 2010.

1. **La Plata County Attorney**
   Although no formal comments are included for review, staff and the applicant have worked closely with the County Attorney's Office.

2. **La Plata County Finance Department**
   Declined comment.

3. **La Plata County Planning Engineering Division**
   Dated December 21, 2010
   "Project Understanding
   Trimble Crossing installed numerous road improvements at the intersection of State Hwy 550 and CR 252 including a traffic signal and railroad crossing gates. The improvements created excess capacity at the intersection that adjoining properties could benefit from when they redevelop. A fair share reimbursement agreement was approved in 2008 under project number 2008-0085 that requires future developers to payback Trimble Crossing. Under La Plata Code, at that time, only a 10-year agreement was allowed. Since that time, our code has changed which allows developers a 15-year payback agreement. The developer is seeking an amendment to his fairshare agreement to extend to 15-years and the developer's traffic study supports the extension to the year 2023. We would support the extension.

After consideration by the BoCC and prior to recording the Recovery Statement

1. All exhibits are recorded with the recovery statement or cross-referenced on the recovery statement. The recovery statement shall include the original developer's mailing address. LPLUC 82-99 (d) (7)

2. Recording of cost recovery statement. As soon as practicable after the board's issuance of its final determination, the original developer shall prepare and submit to the county clerk and recorder for recording a notice of fair share reimbursement in the chain of title for each benefitted property in the form provided by the director. Recording of the notice of fair share reimbursement is merely a statement that a unique government land use regulation may apply to a property; said notice is not a lien or any other type of encumbrance on the chain of title for said property. Such notice shall include the original developer's mailing address and specify it is valid only for a period of time as approved by the board. LPLUC 82-99 (d) (7)"

Dated October 29, 2010

*"**Project Understanding***

Trimble Crossing installed numerous road improvements at the intersection of State Hwy 550 and CR 252 including a traffic signal and railroad crossing gates. The improvements created excess capacity at the intersection that adjoining properties could benefit from when they redevelop. A fair share reimbursement agreement was approved in 2008 under project number 2008-0085 that requires future developers to payback Trimble Crossing. Under La Plata Code, at that time, only a 10-year agreement was allowed. Since that time, our code has changed which allows developers a 15-year payback agreement. The developer is seeking an amendment to his fairshare agreement to extend to 15-years and the developer's traffic study supports the extension to the year 2023. We would support the extension.

Prior to PC Consideration

A signed and stamped letter from Russell Engineering stating the exact date for the traffic study's 20-year projection. (Was it December 31, 2023 or January 1, 2023 or another date?).

Prior to BoCC Consideration

We would recommend the following:

- *A referral be sent to our county attorney to draft the amendment, review the submitted recovery statement and possibly standardize the recovery statement for all developers.*

We would recommend the recovery statements include:

- *Location of project*
- *Project numbers and dates for the actual development and fair share reimbursement hearings*
- *Expiration dates and justifications for the expiration date (in this case it would be 2023 year as referenced in the 2004 Russell Traffic Study)*
- *A copy of the La Plata Code regarding Fair Share Reimbursements should be attached to the recovery statement (this would help future developers and county staff to know the exact code and requirements. Codes do change and having the exactly one to follow would be helpful.).*

After consideration by the BoCC and prior to recording the Recovery Statement

All exhibits are recorded with the statement or cross-referenced by the recovery statement."

4. **La Plata County Public Works Department**
   Although no formal comments are included for review, the Planning Engineering Division's comments incorporate any concerns/comments from Public Works.

V. PLANNING COMMISSION RECOMMENDATION

The Planning Commission reviewed the project on December 9, 2010 and unanimously voted to forward a recommendation of approval to the BOCC the based on 2 findings and 3 conditions. The applicant has addressed any conditions required prior to review by the BOCC. Please refer to the attached draft minutes from the December 9, 2010 meeting for details. The vote was:

Wayne Buck:	Yes	Michelina Ceglia:	Yes	Wanda Cason:	Yes
Travis Craig:	Yes	David Black:	Yes		

VI. DEPARTMENT RECOMMENDATION

The Board of County Commissioners may vote to continue the project, approve the project with or without conditions, or deny the project.

The Planning Department recommends that Project No 2010-0120 Trimble Crossing Fair Share Reimbursement Agreement Amendment #1, be APPROVED based on the following Findings and Conditions:

Findings:

1. The intersection improvements were designed and built for a 20 year traffic projection and is estimated to be valid until December 31, 2026 (Trimble Crossing Traffic Study, Russell Engineering, dated June 10, 2004).
2. The request for the duration of a fair share reimbursement obligation for 15 years to a date of April 22, 2023 is consistent with LPLUC 82-99(e)(1).

Conditions:

1. No more than 30 days after approval by the BOCC, the Final Cost Recovery Statement and associated exhibits, developed in conjunction with the applicant and staff, shall be signed by the developer and a copy provided to the County Planning Department.
2. No more than 30 days after approval by the BOCC, the developer shall prepare and submit to the County Clerk and Recorder for recording a revised notice of fair share reimbursement in the chain of title for each benefitted property in the form provided by the director. Recording of the notice of fair share reimbursement is merely a statement that a unique government land use regulation may apply to a property; said notice is not a lien or any other type of encumbrance on the chain of title for said property. Such notice shall include the original developer's mailing address and specify it is valid only for a period of time as approved by the board (LPLUC 82-99(d)(7))

ATTACHMENTS

- Draft PC Minutes dated December 9, 2010
- Narrative
- Final Cost Recovery Statement as approved by the BOCC on April 22, 2008
- Draft Final Cost Recovery Statement dated January 4, 2011
- Draft Notice to Benefitted Property Owners
- Affected Property Owner Correspondence
- Location Map

END OF DEPARTMENT REPORT

Trimble Crossing Development, LLC
Cost Recovery Statement
January 4, 2011

Trimble Crossing Development, LLC submits this Cost Recovery Statement pursuant to the La Plata County Land Use Code Section 82-99, **as Amended by Resolution 2010-23 on April 20, 2010**, in support of the Fair Share Reimbursement agreement for utilization of improvements created by Trimble Crossing Development, LLC, and states as follows:

1. The improvements are located at the intersection of Highway 550 North and Trimble Lane in Durango, Colorado, constructed under project number 2008-0085, and are generally described as the traffic control signal, railroad crossing controls, and highway intersection improvements, all as specified by the Colorado Department of Transportation. ("Improvements")
2. On April 22, 2008 in Project Number 2008-0085, the La Plata County Board of County Commissioners approved a reimbursement agreement under Code Section 82-99 that established the following:
   a. the approved total cost for the Improvements is $1,583,769.00. The Board further accepted the finding that the total traffic capacity for the Improvements is 13,538 vehicle trips per day and that the Original Developer, Trimble Crossing Development, LLC will generate a maximum of 2,838 vehicle trips per day which leaves a net capacity of 10,700 vehicle trips per day.
   b. The vehicle trips per day have a reimbursement cost of $117.00 per trip ($1,538,769.00/13,538) to be paid by "Subsequent Developers" of "Benefitted Properties" as those terms are defined in the Code.
   c. The period of reimbursement by Subsequent Developers is ten years beginning April 22, 2008
3. On April 20, 2010, the La Plata County Land Use Code Section 82-99 was amended by Resolution 3010-23, a copy of said Resolution and Amended Code Section being attached hereto as Exhibit "A" The Amendment establishes the maximum period of reimbursement for improvements at fifteen years.
4. The Improvements have been certified by Russell Engineering, Inc. to have been designed and built to accommodate a 20 year projection of growth as required by the Colorado Department of Transportation and the Board of County Commissioners has accepted this finding.
5. Pursuant to order of the Board of Commissioners on January 4, 2011, the period of reimbursement for the Improvements created by Trimble Crossing Development, LLC was established at fifteen years commencing April 22, 2008 and expiring April 21, 2023.
6. A Notice, in the form attached hereto as Exhibit"B", to Benefitted Property Owners, as determined by the La Plata County Board of County Commissioners on April 22, 2008, shall be recorded with the La Plata County Clerk.

Trimble Crossing Development, LLC

Melvyn J. Goodman, attorney in fact

Notice to Benefitted Property Owners

This property is designated as a Benefitted Property under the Order of the La Plata County Board of Commissioners dated January 4, 2011 in Project Number 2010-0120 and is subject to potential reimbursement to the Original Developer for a proportionate portion of the costs of construction of the intersection Improvements at the intersection of Highway 550 North and Trimble Lane, Durango, Colorado.

This Notice applies **only** if this property is subdivided or commercially developed after April 22, 2008 and before April 21, 2023. The details of the potential reimbursement are described in the Cost Recovery Statement dated January 4, 2011 which is attached (without exhibits). Exhibits to the Cost Recovery Statement are available from the La Plata County Community Development Department, 1060 E. 2nd Avenue, Durango, Colorado 81301

Trimble Crossing Development, LLC, Original Developer

Melvyn J. Goodman, Attorney in Fact

Trimble Crossing Development. LLC
Project #2008-0085

Application for Amendment #1 to Final Cost Recovery Statement
Under La Plat County Land Use Code Section 82-99
Fair Share Reimbursement For Improvements

Narrative

Trimble Crossing Development, LLC hereby applies for Amendment #1 to the Final Cost Recovery Statement approved by the La Plata County Board of Commissioners on April 22, 2008 in the above referenced Project Number 2008-0085. The Application for Amendment is predicated on the following:

1. The improvements completed by Trimble Crossing Development, LLC consist of the work defined in the Development Improvement Agreement with La Plata County dated April 7, 2007, and is generally described as the traffic control signal and highway 550 North intersection improvements at the intersection of Highway 550 North and Trimble Lane, Durango, Colorado. The specific improvements and the costs associated with such improvements are described in the Final Cost Recovery Statement approved April 22, 2008, a copy of which is attached.

2. A location map identifying the location of the improvements in La Plata County is attached to this Narrative.

3. This Application for Amendment #1 to the Final Cost Recovery Statement does not seek any amendment to the costs and expenses previously submitted and approved by the Board of County Commissioners on April 22, 2008, and does not seek any adjustment to the Average Daily Trip cost of $117.00 as established therein.

4. Project #2008-0085 was processed under the La Plata County Code Section 82-99 which, at the date of approval of the Final Cost Recovery Statement, April 22, 2008, permitted a maximum ten (10) year "Duration of Fair Share Reimbursement Obligation".

5. The La Plata County Code Section 82-99 was amended, April 22, 2010 and the duration of fair share reimbursement obligation as specified in 82-99(e)(1) states, "A secondary developer's obligation to reimburse an original developer for a fair share of the costs of the installed improvement shall exist for a period of time determined by the board, but in no event greater than fifteen years beginning on the date of completion of the relevant improvement" This Application seeks to adjust the period of reimbursement from ten years to fifteen years from the date of completion of the improvements.

6. The improvements were constructed in compliance with the State of Colorado, State Highway Access Code, which required that the improvements be adequate for traffic estimated at the 20th year projections. Attached to this Application for Amendment of the Final Cost Recovery statement is the Certification of Russell Engineering, Inc., of Durango. Colorado that the improvements were constructed in accordance with the Colorado

Department of Transportation requirements. This Certification confirms that the intersection improvements have a minimum of a 20 year useful life.

7. The improvements as constructed and certified exceed the maximum fifteen year period of reimbursement as permitted under the revised code section.

Accordingly, Trimble Crossing Development, LLC hereby seeks this Amendment #1 to the Final Cost Recovery Statement to require any secondary developer of benefitted property to reimburse fair share costs for any development occurring within fifteen years of the completion of the improvements which were completed and approved on April 22, 2008.

Trimble Crossing Development, LLC
By Melvyn J. Goodman, Attorney in Fact
700 Main Avenue
Suite G
Durango, Colorado 81301

APPENDIX C:
ITE Trip Generation Printout

Development Name:	**Dalton Ranch West**	**Development Access:**	**Trimble Lane**
Date Received:		**Highway Access:**	**Hwy 550 (EX)**
Date Reviewed:		**County Road:**	**CR 252 (R-B)**
Engineer:	**Steve Winters**		

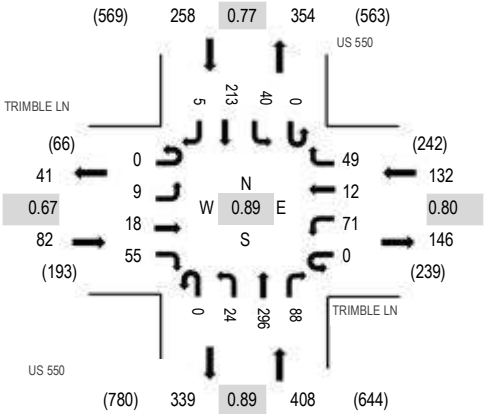
Appendix C				**TRIP RATES AND VOLUMES**																		
Development Type	**Land Use Code**	**# Of Units**	**KSF**	**Weekday**			**AM Peak Hour of Adj Traffic 7AM and 9AM**			**PM Peak Hour of Adj Traffic 4 PM and 6PM**			**Weekday AM Peak Hour of Generator**			**Weekday PM Peak Hour of Generator**			**Saturday**			**Saturday Peak Hour of Generator**		
				*	**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**
Single-Family Detached Housing	210	51		9.44	50%	50%	0.74	25%	75%	0.99	63%	37%	0.76	26%	74%	1.00	64%	36%	9.54	50%	50%	0.93	54%	46%
					241	241		9	28		32	19		10	29		33	18		243	243		26	22
					In	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**		**In**	**Out**
			Trip Volumes		**241**	**241**		**9**	**28**		**32**	**19**		**10**	**29**		**33**	**18**		**243**	**243**		**26**	**22**
			Total ADT			**481**																		

APPENDIX D:
2019 Counts and 2008 to 2018 Accident Data

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

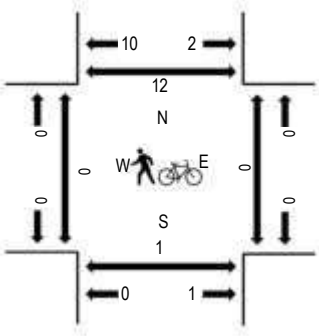
Location: 22 US 550 & TRIMBLE LN AM
Date: Wednesday, August 14, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



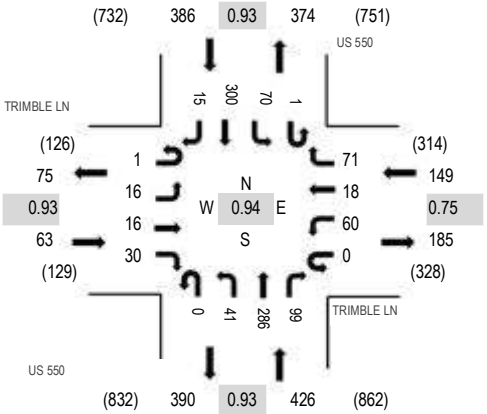
Traffic Counts

Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	4	14	0	12	0	7	0	7	32	4	0	6	50	0	136	768	0	0	0	1
7:15 AM	0	0	3	16	0	20	1	7	0	1	35	12	0	10	61	0	166	824	0	0	0	0
7:30 AM	0	6	5	33	0	23	3	7	0	3	52	14	0	7	96	1	250	865	0	0	0	0
7:45 AM	0	4	4	22	0	21	2	7	0	7	52	17	0	7	73	0	216	850	0	0	0	0
8:00 AM	0	2	5	13	0	22	6	6	0	4	51	19	0	7	55	2	192	880	0	0	0	1
8:15 AM	0	2	5	17	0	16	1	9	0	5	80	22	0	7	42	1	207		0	0	0	0
8:30 AM	0	2	2	12	0	13	2	16	0	6	76	30	0	13	62	1	235		0	0	0	0
8:45 AM	0	3	6	13	0	20	3	18	0	9	89	17	0	13	54	1	246		0	0	0	0
Count Total	0	19	34	140	0	147	18	77	0	42	467	135	0	70	493	6	1,648		0	0	0	2
Peak Hour	0	9	18	55	0	71	12	49	0	24	296	88	0	40	213	5	880		0	0	0	1

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

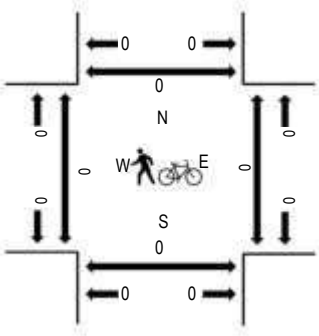
Location: 22 US 550 & TRIMBLE LN Noon
Date: Wednesday, August 14, 2019
Peak Hour: 12:00 PM - 01:00 PM
Peak 15-Minutes: 12:45 PM - 01:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



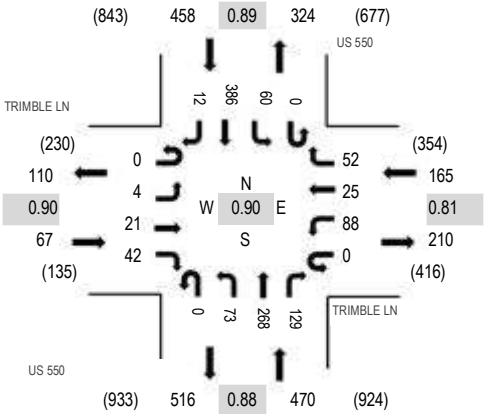
Traffic Counts

Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
11:00 AM	0	2	4	8	0	20	5	12	0	7	89	20	0	8	75	4	254	1,013	0	0	0	0
11:15 AM	0	2	6	9	0	21	4	9	0	7	91	19	0	7	88	2	265	1,009	0	0	0	0
11:30 AM	0	0	4	12	0	34	2	20	0	11	65	24	0	12	83	2	269	986	0	0	0	0
11:45 AM	0	0	5	14	0	23	3	12	0	4	75	24	0	10	55	0	225	977	0	0	0	0
12:00 PM	1	1	10	7	0	11	5	18	0	8	74	13	0	18	79	5	250	1,024	0	0	0	0
12:15 PM	0	5	2	8	0	15	4	22	0	8	62	31	0	17	63	5	242		0	0	0	0
12:30 PM	0	4	2	12	0	18	4	15	0	11	68	22	0	12	88	4	260		0	0	0	0
12:45 PM	0	6	2	3	0	16	5	16	0	14	82	33	1	23	70	1	272		0	0	0	0
Count Total	1	20	35	73	0	158	32	124	0	70	606	186	1	107	601	23	2,037		0	0	0	0
Peak Hour	1	16	16	30	0	60	18	71	0	41	286	99	1	70	300	15	1,024		0	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

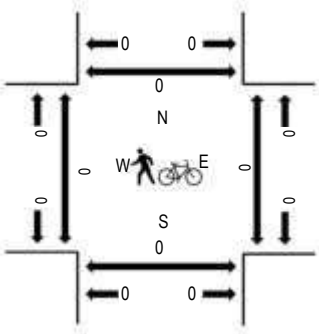
Location: 22 US 550 & TRIMBLE LN PM
Date: Wednesday, August 14, 2019
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



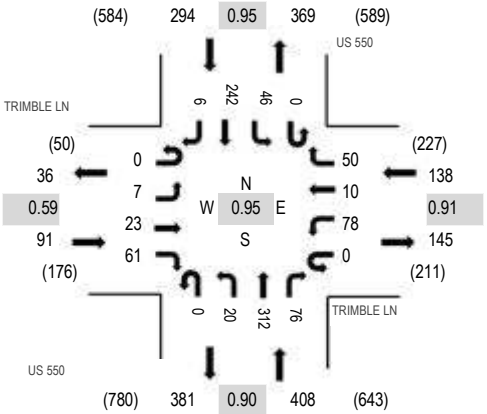
Traffic Counts

Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	2	5	6	0	21	3	12	0	16	67	33	0	19	109	1	294	1,160	0	0	0	0
4:15 PM	0	1	6	9	0	31	9	14	0	25	67	37	0	18	104	3	324	1,133	0	0	0	0
4:30 PM	0	1	4	12	0	19	7	15	0	16	66	33	0	12	98	3	286	1,099	0	0	0	0
4:45 PM	0	0	6	15	0	17	6	11	0	16	68	26	0	11	75	5	256	1,095	0	0	0	0
5:00 PM	0	0	8	10	0	21	8	17	0	15	59	22	0	13	89	5	267	1,096	0	0	0	0
5:15 PM	0	1	3	12	0	22	10	12	0	19	72	39	0	23	70	7	290		0	0	0	0
5:30 PM	0	0	11	10	0	13	10	18	0	17	85	32	0	11	72	3	282		0	0	0	0
5:45 PM	0	1	7	5	0	20	11	27	0	13	61	20	0	17	73	2	257		0	0	0	1
Count Total	0	6	50	79	0	164	64	126	0	137	545	242	0	124	690	29	2,256		0	0	0	1
Peak Hour	0	4	21	42	0	88	25	52	0	73	268	129	0	60	386	12	1,160		0	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

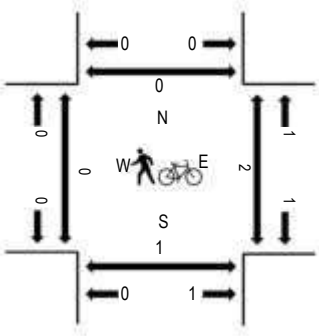
Location: 22 US 550 & TRIMBLE LN AM
Date: Thursday, August 15, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

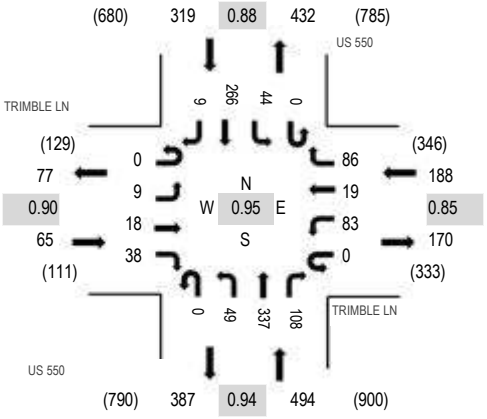
Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	0	11	0	9	0	2	0	2	33	7	0	3	55	1	124	699	0	0	0	0
7:15 AM	0	1	4	18	0	19	1	7	0	1	35	8	0	3	74	0	171	794	0	0	0	0
7:30 AM	0	5	2	22	0	16	0	6	0	1	60	6	0	8	73	0	199	858	0	0	0	1
7:45 AM	0	1	3	17	0	20	1	8	0	7	61	14	0	8	65	0	205	891	0	0	0	0
8:00 AM	0	0	3	11	0	21	4	9	0	5	68	21	0	12	63	2	219	931	0	0	0	0
8:15 AM	0	1	4	13	0	22	2	8	0	4	87	22	0	10	61	1	235		0	0	0	0
8:30 AM	0	5	9	25	0	19	1	14	0	5	73	13	0	12	54	2	232		0	0	0	0
8:45 AM	0	1	7	12	0	16	3	19	0	6	84	20	0	12	64	1	245		0	0	0	0
Count Total	0	15	32	129	0	142	12	73	0	31	501	111	0	68	509	7	1,630		0	0	0	1
Peak Hour	0	7	23	61	0	78	10	50	0	20	312	76	0	46	242	6	931		0	0	0	0

All Traffic Data Services Inc.

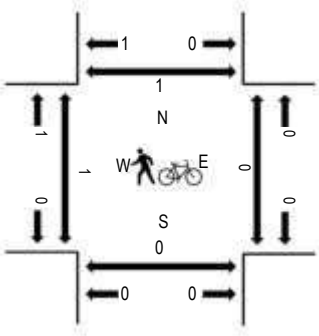
(303) 216-2439
www.alltrafficdata.net

Location: 22 US 550 & TRIMBLE LN Noon
Date: Thursday, August 15, 2019
Peak Hour: 12:00 PM - 01:00 PM
Peak 15-Minutes: 12:15 PM - 12:30 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

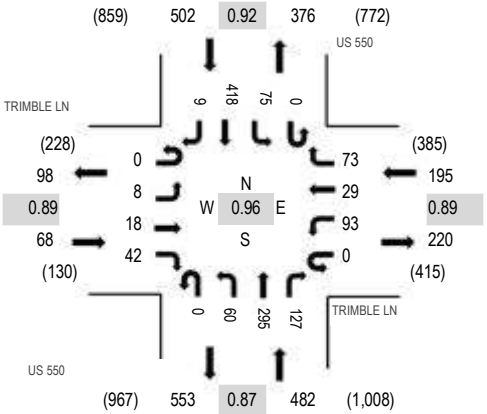
Traffic Counts

Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
11:00 AM	0	1	1	5	0	14	3	12	0	8	70	21	0	12	69	2	218	971	0	0	0	0
11:15 AM	0	0	10	2	0	23	3	18	0	7	83	21	0	24	77	2	270	1,013	0	0	0	0
11:30 AM	0	2	2	10	0	24	2	16	0	11	66	27	0	15	64	2	241	1,023	0	0	0	0
11:45 AM	0	3	3	7	0	24	5	14	0	4	68	20	0	7	84	3	242	1,061	0	0	0	0
12:00 PM	0	2	5	8	0	16	5	18	0	15	100	17	0	13	58	3	260	1,066	0	0	0	0
12:15 PM	0	2	7	9	0	27	4	24	0	4	80	28	0	13	79	3	280		0	0	0	0
12:30 PM	0	1	2	11	0	15	5	27	0	14	85	29	0	9	78	3	279		0	0	0	0
12:45 PM	0	4	4	10	0	25	5	17	0	16	72	34	0	9	51	0	247		1	0	0	1
Count Total	0	15	34	62	0	168	32	146	0	79	624	197	0	102	560	18	2,037		1	0	0	1
Peak Hour	0	9	18	38	0	83	19	86	0	49	337	108	0	44	266	9	1,066		1	0	0	1

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

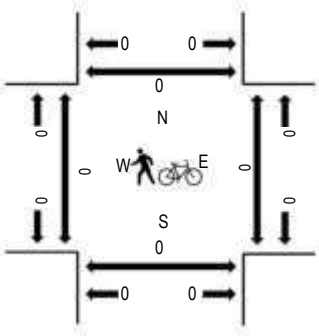
Location: 22 US 550 & TRIMBLE LN PM
Date: Thursday, August 15, 2019
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



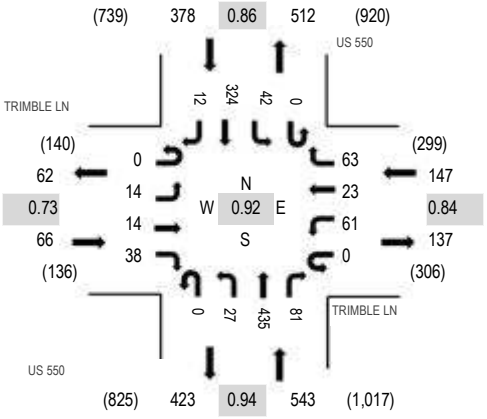
Traffic Counts

Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	3	3	12	0	33	2	12	0	16	70	28	0	19	111	2	311	1,247	0	0	0	0
4:15 PM	0	2	1	6	0	21	14	22	0	14	78	30	0	19	115	3	325	1,226	0	0	0	0
4:30 PM	0	1	6	13	0	22	8	19	0	18	85	36	0	21	91	2	322	1,206	0	0	0	0
4:45 PM	0	2	8	11	0	17	5	20	0	12	62	33	0	16	101	2	289	1,138	0	0	0	0
5:00 PM	0	1	2	12	0	28	8	22	0	22	73	28	0	18	69	7	290	1,135	0	0	0	0
5:15 PM	0	2	6	11	0	18	7	23	0	21	70	36	0	11	96	4	305		0	0	0	0
5:30 PM	0	2	5	8	0	16	10	15	0	10	84	31	0	10	61	2	254		0	0	0	0
5:45 PM	0	1	2	10	0	20	7	16	0	32	87	32	0	14	65	0	286		0	0	0	0
Count Total	0	14	33	83	0	175	61	149	0	145	609	254	0	128	709	22	2,382		0	0	0	0
Peak Hour	0	8	18	42	0	93	29	73	0	60	295	127	0	75	418	9	1,247		0	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

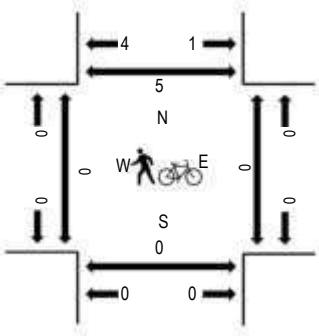
Location: 22 US 550 & TRIMBLE LN Noon
Date: Saturday, August 17, 2019
Peak Hour: 11:00 AM - 12:00 PM
Peak 15-Minutes: 11:15 AM - 11:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	TRIMBLE LN Eastbound				TRIMBLE LN Westbound				US 550 Northbound				US 550 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
11:00 AM	0	3	2	9	0	11	3	22	0	5	125	10	0	6	68	4	268	1,134	0	0	0	0
11:15 AM	0	4	4	10	0	30	6	11	0	8	107	30	0	15	83	1	309	1,114	0	0	0	0
11:30 AM	0	3	4	8	0	14	7	14	0	7	103	20	0	12	99	3	294	1,098	0	0	0	0
11:45 AM	0	4	4	11	0	6	7	16	0	7	100	21	0	9	74	4	263	1,036	0	0	0	0
12:00 PM	0	2	4	7	0	15	8	14	0	12	69	26	0	12	77	2	248	1,057	0	0	0	0
12:15 PM	0	3	6	16	0	12	7	23	0	15	92	28	0	17	73	1	293		0	0	0	0
12:30 PM	0	1	5	10	0	10	9	9	0	13	78	18	0	11	68	0	232		0	0	0	1
12:45 PM	0	3	6	7	0	21	5	19	0	5	95	23	0	13	86	1	284		0	0	0	1
Count Total	0	23	35	78	0	119	52	128	0	72	769	176	0	95	628	16	2,191		0	0	0	2
Peak Hour	0	14	14	38	0	61	23	63	0	27	435	81	0	42	324	12	1,134		0	0	0	0

Colorado Department of Transportation
DiExSys™ Roadway Safety Systems
Detailed Summary of Crashes Report

11/13/2019

Job #: 20191113100529

Location: Accident History for TRIMBLE **From:** 12/31/2008 **To:** 12/31/2018

Severity

PDO:	1	
INJ:	2	5 :Injured
FAT:	0	0 :Killed
Total:	**3**	

Number of Vehicles

One Vehicle:	0
Two Vehicles:	2
Three or More:	1
Unknown:	0
Total:	**3**

Location

On Road:	3
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Unknown:	0
Total:	**3**

Lighting Conditions

Daylight:	3
Dawn or Dusk:	0
Dark - Lighted:	0
Dark - Unlighted:	0
Unknown:	0
Total:	**3**

Weather Conditions

None:	3
Rain:	0
Snow/Sleet/Hail:	0
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
Total:	**3**

Crash Rates

PDO:	N/A *	* MVMT
INJ:	N/A *	** 100 MVMT
FAT:	N/A **	**Total:** **N/A** *

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non Collision:	0	Column/Pier:	0
Pedestrians:	0	Culvert/Headwall:	0
Broadside:	0	Embankment:	0
Head On:	0	Curb:	0
Rear End:	2	Delineator Post:	0
Sideswipe (Same):	1	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	0	Large Boulders or Rocks:	0
Overtaking Turn:	0	Barricade:	0
Parked Motor Vehicle:	0	Wall/Building:	0
Railway Vehicle:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maintenance Equipment:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Objects:	0
Guard Rail:	0	Unknown:	0
Cable Rail:	0	**Total:**	**3**
Concrete Barrier:	0		

Mainline/Ramps/Frontage Roads

Mainline:	3
Crossroad (A):	0

Frontage/Ramp Intersections

M:	0	N:	0	O:	0	P:	0

Ramps

B:	0	F:	0	J:	0
C:	0	G:	0	K:	0
D:	0	H:	0	T:	0
E:	0	I:	0		

Left Frontage Rd (L):	0
Rt Frontage Rd (R):	0
HOV Lanes (V):	0
Unknown:	0
Total:	**3**

Road Description

At Intersection:	1
At Driveway Access:	0
Intersection Related:	2
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
Total:	**3**

Road Conditions

Dry:	3
Wet:	0
Muddy:	0
Snowy:	0
Icy:	0
Slushy:	0
Foreign Material:	0
With Road Treatment:	0
Dry w/Icy Road Treatment:	0
Wet w/Icy Road Treatment:	0
Snowy w/Icy Road Treatment:	0
Icy w/Icy Road Treatment:	0
Slushy w/Icy Road Treatment:	0
Unknown:	0
Total:	**3**

Colorado Department of Transportation
DiExSys™ Roadway Safety Systems
Detailed Summary of Crashes Report

Job #: 20191113100529

Location: Accident History for TRIMBLE **From:** 12/31/2008 **To:** 12/31/2018

Vehicle Type	Veh 1	Veh 2	Veh 3
Passenger Car/Van:	1	2	1
Passenger Car/Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	0	0	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	1	0	0
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Bus > 15 People:	0	0	0
School Bus < 15 People:	0	0	0
Non School Bus < 15 People:	0	0	0
Motorhome:	0	0	0
Motorcycle:	1	1	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run - Unknown:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
Total:	**3**	**3**	**1**

Vehicle Movement	Veh 1	Veh 2	Veh 3
Going Straight:	2	0	0
Slowing:	0	1	0
Stopped in Traffic:	0	1	1
Making Right Turn:	0	0	0
Making Left Turn:	0	1	0
Making U-Turn:	0	0	0
Passing:	1	0	0
Backing:	0	0	0
Enter/Leave Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	0	0	0
Avoiding Object/Veh in Road:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
Total:	**3**	**3**	**1**

Contributing Factor	Veh 1	Veh 2	Veh 3
No Apparent Contributing Factor:	1	3	1
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	0	0	0
Driver Inexperience:	0	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	2	0	0
Driver Unfamilar with Area:	0	0	0
Driver Emotionally Upset:	0	0	0
Evading Law Enforcement Officier:	0	0	0
Physical Disability:	0	0	0
Unknown:	0	0	0
Total:	**3**	**3**	**1**

Direction	Veh 1	Veh 2	Veh 3
North:	1	1	0
Northeast:	0	0	0
East:	1	1	1
Southeast:	0	0	0
South:	1	1	0
Southwest:	0	0	0
West:	0	0	0
Northwest:	0	0	0
Unknown:	0	0	0
Total:	**3**	**3**	**1**

Condition of Driver	Veh 1	Veh 2	Veh 3
No Impairment Suspected:	3	3	1
Alcohol Involved:	0	0	0
RX, Medication, or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Pedestrian not Observed:	0	0	0
Unknown:	0	0	0
Total:	**3**	**3**	**1**

APPENDIX E:
Trimble Crossing TIS - 2004

TRIMBLE CROSSING:
TRAFFIC IMPACT STUDY

Russell Engineering, Inc.

Resubmitted:
June 10, 2004

Prepared By:
Russell Engineering
1022 ½ Main Avenue
Durango, CO 81301
Phone: 970. 385. 4546

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EXECUTIVE SUMMARY

The purpose of this traffic study is to evaluate the Trimble Crossing mixed development from a traffic circulation standpoint. The development project is located within La Plata County. Study objectives include documentation of existing & growth traffic conditions, and an evaluation of traffic conditions projected with the site development.

Site & Study Area

Russell Engineering, Inc. has prepared this Traffic Study for the proposed Trimble Crossing. The proposed development plan covers approximately 21 acres located on the northeast corner of the intersection of County Road 252(Trimble Lane) and Highway 550.

Development Land Use Descriptions

The development will consist of approximately 20.5 acres and 64 multi-family residential units. The land will be divided up into commercial retail, a restaurant, a general office, and a gas station.

Principal Findings

- A traffic signal for the intersection of CR 252 & US 550 is warranted according to the 2003 Intersection Analysis and Prioritization Study CDOT Region 5 for the existing traffic volumes without the development traffic.
- Future road improvements will improve the LOS at the intersection, however, a traffic signal will still be warranted.

I. Introduction

The purpose of this traffic study is to evaluate the Trimble crossing development from a traffic circulation standpoint. The development project is located within La Plata County. Study objectives include documentation of existing & growth traffic conditions and an evaluation of traffic conditions projected with the site development.

A. Site & Study Area

Russell Engineering, Inc. has prepared this Traffic Study for the proposed Trimble Crossing mixed development. The proposed development plan covers approximately 21 acres located on the northeast corner of the intersection of County Road 252(Trimble Lane) and Highway 550. The project is north of Durango, east of Trimble Hot Springs, and adjacent to Dalton Ranch golf course. U.S. Highway 550 and the Durango & Silverton Narrow Gauge Railroad parallel the western boundary of the property. The project is located in a tract of Section 15, Township 36N, Range 9W. The proposed project will combine approximately 20.5 acres with a smaller tract of 0.5 acres. The traffic analysis study area is outlined in Exhibit A1.

The traffic study focuses on the following intersections:

Commercial Entrance (new access) & County Road 252 (CR 240)
Residential Entrance (new access) & County Road 252 (CR 240)
US Highway 550 & CR 252 (Trimble Lane)

B. Development Land Use Descriptions

Shown below is an itemized list of the proposed land uses, phasing and densities:

Phase I

Zone 2	4.56 acres
Proposed Multi-Family Residential	19 units
Zone 3	10.67 acres
Proposed Multi-Family Residential	45 units

Phase II

Zone 1	5.23 acres
Proposed Commercial	33250 sq. ft
Proposed Quality Restaurant	4750 sq. ft
Proposed General Office	6675 sq. ft
Proposed Commercial Pad Site (Service Station)	6 fuel pumps

A site map of Trimble Crossing is shown on Exhibit A2.

The proposed development will create additional traffic at the intersection of CR 252 and HWY 550. The area of proposed development can be used with transportation engineering analysis to estimate the projected traffic volumes that will be generated by the Trimble Crossing development.

C. Existing Roadway

Currently on US Highway 550 there exist left and right turn deceleration lanes and right and left turn acceleration lanes for traffic traveling southbound. For traffic traveling northbound there are right turn acceleration and deceleration lanes. CR 252 exists without exclusive turning lanes. The Colorado Department of Transportation (CDOT) has awarded a construction contract to improve the intersection of US Highway 550 and CR 252 with the addition of left and right acceleration and deceleration lanes by the summer of 2004. Currently there are stop signs for vehicles entering onto US Highway 550 from CR 252 while CR 240 traffic flows freely.

II. Project Trip Generation and Design Hour Volumes

Trip generation represents the amount of traffic generated by a development. A trip is defined as a one-way vehicle movement with either the origin or destination within the proposed development. The Trip Generation Manual, also known as the ITE Manual, written by the Institute of Transportation Engineers (ITE), 6th Edition (1997), was used to estimate the projected traffic volume by the proposed development. The ITE Manual provides rates of vehicle trips per day or hour for each ITE Land Use Code based on

criteria such as number of units, acreage, 1,000 square feet of Gross Floor Area (GFA) or Gross Leasable Area (GLA). The rates consist of vehicle trips per day (VPD) or vehicle trips per hour (VPH) per unit of the criteria listed above. Rates are generally provided for the Average Daily Traffic (ADT), as well as the AM and PM Peak Hour Traffic for each Land Use Code. The AM and PM Peak Hour Traffic Rates represent times of one hour between 7 and 9 a.m. and one hour between 4 and 6 p.m. on a weekday, during the peak hour of adjacent traffic. The land use descriptions and the ITE Land Use Codes used for determining the appropriate trip generation rates are shown in Tables 1 & 2.

Table 1 Land Use Descriptions and ITE Land Use Codes

Proposed Land Uses and Densities			
Land Use Description	**ITE Land Use (Code)**	**Proposed Size or # of Units**	**Units**
Multi-Family Residential	Residential Condominium/ Townhouse(# 230)	64	dwelling units
Office	General Office Building (# 710)	6675	sq. ft
Commercial	Shopping Center (# 820)	33250	sq. ft
Restaurant	Quality Restaurant (# 831)	4750	sq. ft
Gas Station	Gasoline Service Station with Convenience Market (# 845)	6	fuel pumps

The ITE Land Use Code corresponding to the Multi-Family Residential is *Residential Condominium / Townhouse* (#230). The Land Use Code was the closet corresponding code based on the number of dwelling units.

The ITE Land Use Code corresponding to the Office is *General Office Building* (#710). The Land Use Code was the closet corresponding code based on the average 1000 sq. feet gross leasable area (GLA).

The ITE Land Use Code corresponding to the Commercial is *Shopping Center* (#820).

The ITE Land Use Code corresponding to the Restaurant is *Quality Restaurant* (#831). The Land Use Code was the closet corresponding code based on the average 1000 sq. feet gross leasable area (GLA).

The ITE Land Use Code corresponding to the Gas Station is *Service Station/with Convenience Store* (#845). The Land Use Code in this case represents its trip generation rates dependent on the number of fuel pumps.

In addition to the land use-specific rates, directional distributions are also given by the ITE Manual. During an average day, the total directional distribution of vehicle trips per day is generally 50% "entering" & 50% "exiting". This equal directional distribution corresponds to vehicles arriving for the use of the proposed development, and then leaving, such that each vehicle that enters also exits. However, during AM and PM Peak Hours of the day, the distribution is generally not an equal split and varies according to the proposed type of land use and corresponding ITE Land Use Codes. In the AM Peak Hour, the majority of vehicles will be leaving home to go to work; during the PM Peak Hour the majority will be arriving home from work. Table 5 depicts the use of the ITE Manual land use-specific vehicular rates and directional distributions used to estimate the anticipated traffic volumes generated by the proposed development of Trimble Crossing.

Table 2 Trip Generation Rates (ITE Manual, 1997)

ITE Land Use (Code)	Trip per Hour per Unit						Peak Hour					
							AM		PM		Daily	
	UNITS	AM	AM RED.	PM	PM RED.	Daily	IN (%)	OUT (%)	IN (%)	OUT (%)	IN (%)	OUT (%)
Res. Condo/ Townhouse(# 230)	DU	0.44	0.43	0.54	0.50	5.86	17	83	67	33	50	50
General Office Building (# 710)	SF	1.56	1.53	1.49	1.37	11.01	88	12	17	83	50	50
Shopping Center (# 820)	SF	1.03	1.01	3.74	3.44	42.92	61	39	48	52	50	50
Quality Restaurant (# 831)	SF	5.57	5.46	9.02	8.30	89.95	82	18	62	38	50	50
Gasoline Service Station with Convenience Market (# 845)	FP	10.56	10.35	13.57	12.48	162.78	50	50	50	50	50	50

Assumptions:

- Internal Trip Reductions according to State of Colorado, State Highway Access Code, 2.3.4 (B) for mixed use developments, internal trip reductions will not exceed 2 and 8 percent for the AM and PM Peak Hour.

Table 3 shows the individual traffic produced by the proposed development based on the listed criteria. It includes the following: the ITE Land Use Code, the corresponding number of units, and the traffic volumes entering "IN" and exiting "OUT" for the AM Peak Hour, PM Peak Hour, and Daily.

Table 3 Project Traffic Volumes

Summary of Trip Generation Calculation								
LAND USE CODE	# UNITS	AM PEAK HOUR		PM PEAK HOUR		DAILY		
		IN	OUT	IN	OUT	IN	OUT	ADT
# 230	64	5	23	21	11	188	188	376
# 710	6.675	9	1	2	8	37	37	74
# 820	33.250	20	13	55	59	714	714	1428
# 831	4.750	21	5	24	15	214	214	428
# 845	6	31	31	37	37	488	488	976
		86	73	139	130	1641	1641	3282

The proposed development is projected to generate 3282 ADT with 159 vehicles "entering" and "exiting" during the AM Peak Hour and 269 vehicles "entering" and "exiting" during the PM Peak Hour.

III. Trip Distribution

The trip distributions are based on site location, location of employment and recreational opportunities, and the proximity to the regional highway system. A figure illustrating the directional splits is shown in Exhibit B.

Assumptions:

- Turning movements recorded by CDOT in the year 2002 (See appendix A-2003 Intersection Analysis and Prioritization study for CR 252 & HWY 550) were used to predict future turning movements of project traffic.
- Residential traffic uses the East Entrance; 10% to and from the East and 90% to and from the West.
- All other traffic uses the West Entrance; 10% to and from the East and 90% to and from the West.
- Total westbound traffic is distributed based on existing AM and PM Peak Hour Turn Movement distributions.(See exhibit F-Existing Turning Movements)

	TRIMBLE WESTBOUND			
TIME	RIGHT	THRU	LEFT	TOTALS
8:45-9:45 AM	27%	4%	69%	100%
4:45-5:45 PM	22%	15%	63%	100%

- The distribution of the inbound traffic eastbound on CR 252 (southbound left, eastbound through, and northbound right) was used to model the splits for the eastbound project traffic. (See exhibit F-Existing Turning Movements)

	TRIMBLE EASTBOUND			
TIME	RIGHT	THRU	LEFT	TOTALS
8:45-9:45 AM	72%	10%	18%	100%
4:45-5:45 PM	78%	3%	19%	100%

- The Daily "IN" and "OUT" trip distributions for the westbound traffic used the total existing Turn Movements from the times of 7-10 am, 11-2 pm, and 3-6 pm given by CDOT. (See exhibit F-Existing Turning Movements)

	TRIMBLE WESTBOUND			
TIME	RIGHT	THRU	LEFT	TOTALS
TOTAL DAILY	162	85	552	799
TOTAL %	20%	11%	69%	100%

IV. Trip Assignment

The traffic impact analysis represents the percent generated trips at each driveway. The directional splits were applied to the developed traffic volumes to determine the following trip assignments shown in table 4. Traffic AM & PM splits for westbound traffic were determined using the existing AM & PM turning movements for westbound traffic. The Daily splits for westbound traffic were determined using the percentages for the total traffic accounted for between the hours of 7-10 am, 11-2 pm, and 3-6 pm given by CDOT. (See exhibit F-Existing Turning Movements)

Table 4 Percent Generated Trip

PROJECT TRAFFIC AT INTERSECTIONS							
	AM PEAK HOUR		PM PEAK HOUR		DAILY		TOTAL
	IN	OUT	IN	OUT	IN	OUT	ADTS
WEST ENTRANCE TRAFFIC	81	50	118	119	1453	1453	2906
10% To / From East	8	5	12	12	145	145	290
90% To / From West	73	45	106	107	1308	1308	2616
EAST ENTRANCE TRAFFIC	5	23	21	11	188	188	376
10% To / From East	0	2	2	1	19	19	38
90% To / From West	5	21	19	10	169	169	338
WESTBOUND "OUT"/EASTBOUND "IN" TRAFFIC	78	66	125	117	1477	1477	2954
NORTHBOUND	56	18	97	25	295	295	590
THROUGH	8	3	4	18	163	163	326
SOUTHBOUND	14	45	24	74	1019	1019	2038

Exhibit C represents the AM & PM Peak Hour traffic assignments. Exhibit D represents the Average Daily Trip assignment.

V. Existing & Projected Traffic Volumes

A. Existing Daily, AM & PM Peak Hour Traffic Volumes

Existing counts must be prorated to the anticipated build out year of 2006. The existing ADT was taken from the CDOT traffic database and the La Plata County traffic database. Both sources supplied ADT information up to the year 2003. The existing counts were prorated from the year 2003 to 2006 using a 3-yr growth factor derived from the 20-yr growth factor obtained from CDOT. Table 5 shows the existing daily traffic volumes for CR 252 and HWY 550 for the year 2006 and exhibit E represents the volumes in diagram form. See Exhibit H for further detail and sources of the ADT.

Table 5 Existing Daily Traffic Volumes (ADT)

ROAD	LOCATION	2006 ADT COUNT
CR 252	EAST OF HWY 550	2645
CR 252	WEST OF CR 250	1444
US 550	NORTH TRIMBLE	8317
US 550	SOUTH TRIMBLE	9331

Existing AM & PM Peak Hour traffic turn movements at the intersection of US HWY 550 & CR 252 were recorded by CDOT on August 20th, 2002. Turn movements were recorded from 7:00 am to 6:00 pm at 15 minute intervals. The AM Peak Hour was established by CDOT as the time interval from 8:45 am to 9:45 am. The PM Peak Hour was established by CDOT as the time interval from 4:45 pm to 5:45 pm. The Peak Hour turning movements were prorated from the year 2002 to the estimated build out year of 2006, deriving a 4-yr growth factor derived from the 20-yr growth factor obtained from CDOT. Sources for the 20-yr growth factor are cited in exhibit H. The 2006 Existing peak hour volumes were then adjusted from August to the peak month of July using a

seasonal factor of 1.14. The recorded turn movements are attached in appendix A and shown in spreadsheet format in Exhibit F. Illustrations of the peak hour turn movements are shown in Exhibit G.

B. Projected Daily, AM & PM Peak Hour Traffic Volumes

Table 6 below represents the Projected Total Daily Traffic Volumes. The Project ADT was found using the trip generation manual. The existing ADT are the same as listed above in table 5. The Project Daily Traffic Volumes were taken from table 4 using existing traffic distributions. Exhibit H shows the Project & Existing Average Daily trips in spreadsheet format while Exhibit I represents the ADT in diagram form.

Table 6 Projected Daily Traffic Volumes

ROAD	LOCATION	2006 PROJECT ADT	2006 EXISTING ADT	2006 EXISTING & PROJECT ADT
CR 252	EAST OF HWY 550	2954	2645	5599
CR 252	WEST OF CR 250	328	1444	1772
US 550	NORTH TRIMBLE	590	8317	8907
US 550	SOUTH TRIMBLE	2038	9331	11369

The projected AM and PM Peak Hour traffic volumes include the existing traffic volumes plus the generated development traffic. Exhibit K illustrates the peak hour traffic volumes while Exhibit J represents the projected traffic volumes in spreadsheet format.

C. Future Projected "Background" Daily, AM & PM Traffic Volumes (Not including Project Traffic)

Future projected "Background" traffic volumes listed in Table 7, represent the traffic volumes already using the roadway system without the proposed development traffic 20 years into the future from the built out year of 2006 to 2026. The growth factors used were determined from the Colorado Department of Transportation Region 5 Traffic and Safety 2003 Intersection Analysis and Prioritization Study for US Highway 550 & CR 252 (CR 252) and the CDOT traffic database (HWY 550). Exhibit H shows the traffic volumes in spreadsheet format and Exhibit L illustrates the "background" traffic volumes.

Table 7 Future Projected "Background" Daily Traffic Volumes

ROAD	LOCATION	2006 EXISTING ADT	2026 GROWTH ADT
CR 252	EAST OF HWY 550	2645	3862
CR 252	WEST OF CR 250	1444	2108
US 550	NORTH TRIMBLE	8317	12392
US 550	SOUTH TRIMBLE	9331	13623

The AM and PM traffic volumes for the year 2026 projected "background" traffic are shown in spreadsheet format in Exhibit J and illustrated in Exhibit M.

D. Total Projected Daily, AM & PM Peak Hour Traffic Volumes for Horizon Study Year (20 years in future)

To assess future conditions, the project generated traffic and the area wide growth through a 20-year study period from year 2006 to 2026 is analyzed. The growth factors used were determined from the Colorado Department of Transportation Region 5 Traffic and Safety 2003 Intersection Analysis and Prioritization Study for US Highway 550 & CR 252 (CR 252) and the CDOT traffic database (HWY 550). Total projected daily traffic volumes represent the growth & project traffic volumes. Table 8 below shows the average daily trips for growth & project traffic.

Table 8 Total Projected Daily Traffic Volumes

ROAD	LOCATION	2026 FUTURE "BACKGROUND" ADT	2026 GROWTH & PROJECT ADT
CR 252	EAST OF HWY 550	3862	6816
CR 252	WEST OF CR 250	2108	2436
US 550	NORTH TRIMBLE	12392	12982
US 550	SOUTH TRIMBLE	13623	15661

Exhibit H represents the traffic volumes in spreadsheet format while Exhibit N illustrates the total projected daily traffic volumes.

Total projected AM & PM Peak Hour traffic volumes represent the growth & project traffic volumes. Exhibit J represents the traffic volumes in spreadsheet format while Exhibit O illustrates the total projected traffic volumes.

VI. Capacity and Level of Service (LOS) Analysis

The 2000 Highway Capacity Manual (HCM) (Transportation Research Board special Report 209) is the current technical guide to the evaluation of traffic operations. The HCM defines Level of Service (LOS) as a qualitative measurement used to characterize operational conditions of roadways using six designations (LOS A through LOS F). The criteria covered in the definition of LOS include speed and travel time, comfort/convenience, traffic interruptions, and freedom to maneuver. The LOS definition also states that it is the user's perception of the operational conditions within the traffic stream that dictates the ranges of qualitative measures included in each LOS designation.

The intersection of the traffic study has been evaluated using MCTRANS HCS 2000 software. Appendix B contains the HCM calculations. The LOS for the intersection analyzed at different stages is shown below in table 9.

Table 9 LOS Classifications

DIFFERENT STAGES OF THE INTERSECTION	LEVEL OF SERVICE			
	AM PEAK HOUR		PM PEAK HOUR	
	WESTBOUND	EASTBOUND	WESTBOUND	EASTBOUND
EXISTING	C	B	F	C
EXISTING & PROJECT	E	C	F	C
GROWTH	F	D	F	F
GROWTH & PROJECT	F	E	F	F

VII. Traffic Signal Analysis

A traffic study was recently performed by CDOT in 2003 analyzing the traffic signal warrants at the intersection of CR 252 & HWY 550, therefore there is no need to perform a traffic signal analysis (See appendix A). According to this study, Warrant 9 (Four Hour Volumes) is satisfied based on existing traffic volumes and therefore warrants a traffic signal. Based on growth traffic volumes alone, Warrant 11 (Peak Hour Volume) and Warrant 9 are satisfied and therefore warrant a traffic signal. A LOS analysis was preformed using McTrans HCS200 on the signalized intersection based on the project and area wide growth over a 20 year period. The results are shown in Table 10 and the calculations can be found in Appendix B. A total cycle length of 67 seconds was assumed; full east and west bound movement for18 seconds on CR 252, full north and southbound movement for 38 seconds on HWY 550 and a protected left turn movement for 11 seconds for southbound traffic on HWY 550. The Growth & Project traffic volumes for the PM Peak hour were analyzed to give the worst case scenario.

Table 10 LOS Classifications

DIFFERENT STAGES OF THE INTERSECTION	LEVEL OF SERVICE			
	EASTBOUND	WESTBOUND	NORTHBOUND	SOUTHBOUND
GROWTH & PROJECT	C	C	B	A

VIII. Storage Requirements

The storage requirements for the turning lanes on CR 252 & HWY 550 have been determined using the State Highway Access Code

Turn Lanes on Highway 550:

Highway 550 is classified as an Expressway, Major Bypass (E-X) per State Highway Access Category Assignment Schedule, May 16th 2002. Methods for determining the deceleration lane lengths are referred to in the State of Colorado, State Highway Access Code, Volume 2, Code of Colorado Regulations 601-1, March 2002. The PM Peak Hour volume was used to account for the largest turning movements including the site-generated traffic and 20-year growth traffic.

The right and left turn deceleration lane and the right turn acceleration lane lengths on Highway 550 per CDOT improvement plans, do not meet the existing condition requirement for category E-X. The posted speed limit at the intersection is currently 55 mph therefore, according to table 4-6 the deceleration length alone should be 600 ft without the taper length and the acceleration lane length should be 960 ft without the taper length. The taper ratio is 18.5:1 over a 12 ft distance yielding a required additional deceleration lane length of 222 ft. The storage length for the southbound left turn deceleration lane must be increased from 40 to 50 ft because of the peak hour volume increase from 31 to 69 due to project & 20-yr growth conditions. As for the acceleration lane, an acceleration length of 960 ft is required with the addition of 222 ft for the taper length. The required lengths needed for each lane are shown in a table below:

55 MPH POSTED SPEED LIMIT	SOUTHBOUND LEFT TURN DECEL. LANE	NORTHBOUND RIGHT TURN DECEL. LANE	NORTHBOUND RIGHT TURN ACCEL. LANE
DECEL. LENGTH	600	600	0
ACCEL. LENGTH	0	0	960
TAPER RATIO: 18.5:1	222	222	222
STORAGE (TABLE 4-6, ACCESS CODE)	50	0	0
TOTAL LENGTH	872	822	1182

With the installation of a signal at the intersection and the recent auxiliary lane improvements, it is our opinion that the 600 ft deceleration length for the turning lanes called out per CDOT plans will be adequate to serve the project & 20-year growth traffic conditions.

Turn Lanes on County Road 252:

The left turn lane lengths on CR 252 were determined based on the table 4-8 (Access Code). The table below lists the required and proposed storages.

LEFT TURN DECELERATION LANES ON CR 252			
	WEST ENTRANCE	EAST ENTRANCE	WESTBOUND LEFT TURN
VOL/HR	106	19	100
REQUIRED STORAGE	100	25	100
PROPOSED STORAGE	100	150	141

The storage length for the left turn deceleration lane for traffic headed westbound has been increased from 137 ft to 141 ft since the previously submitted report (see attached site plan).

IX. Accident Data

The Colorado Department of Transportation traffic accident records (see Appendix C) for the period from December 31, 1996 to December 31, 2001 for the intersection of US Highway 550 and County Road 252 from mile marker 30.13 to mile marker 30.53 indicates a total of 18 accidents occurring. There were no fatal accidents, 13 with injuries, and 11 resulted in property damage. The proposed improvements to be complete this summer will also greatly improve the safety of the intersection.

X. Future Road Improvements

As of the spring of 2004, major road improvements will be done to the intersection of CR 252 & US 550 including the addition of acceleration and deceleration lanes. The following additions will be made:

- US 550 Northbound: left turn and right turn acceleration and deceleration lanes
- US 550 Southbound: left turn and right turn acceleration and deceleration lanes

However, the traffic signal will still be warranted even after the improvements are made.

XI. County Road Classifications

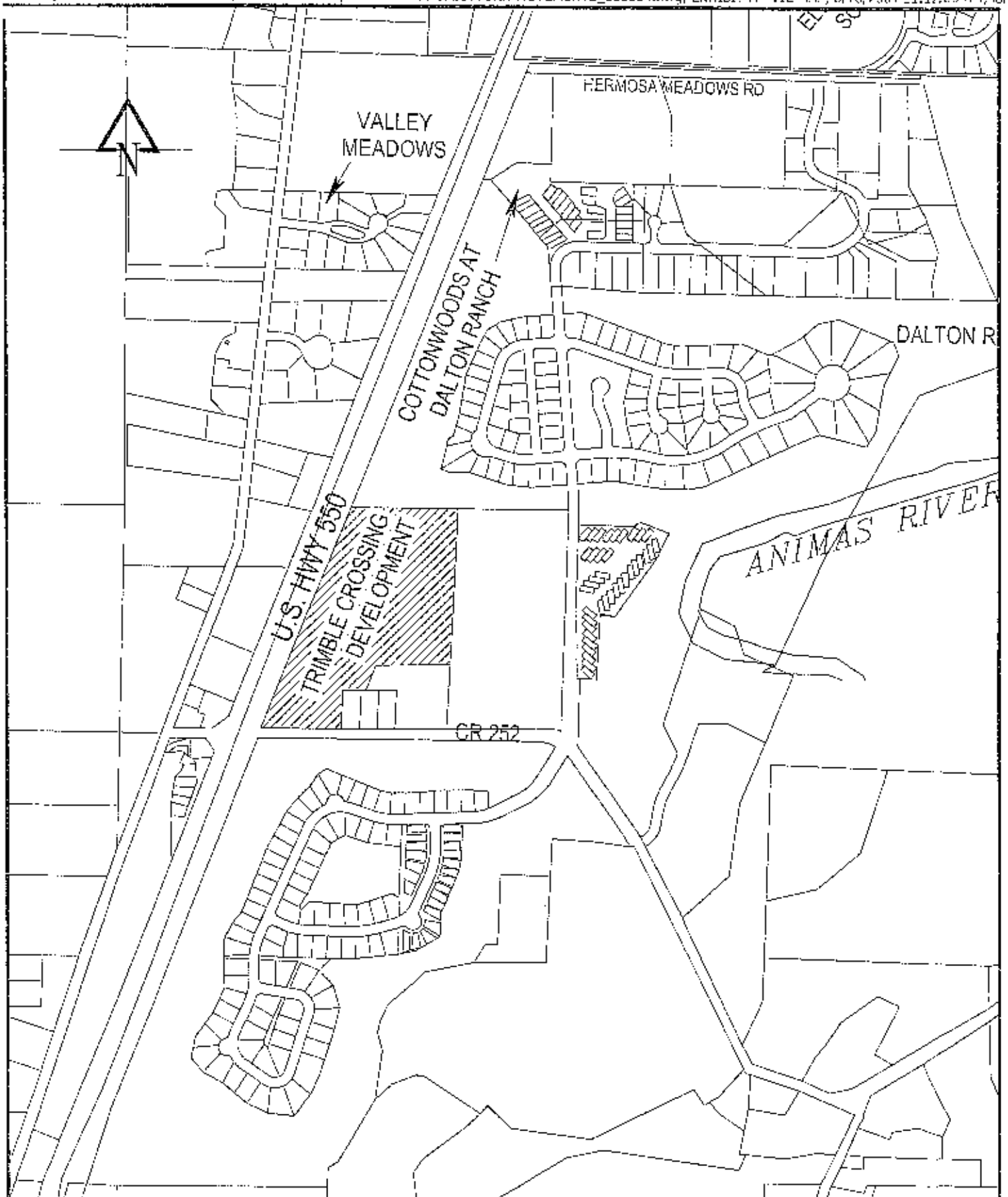
LaPlata County Code, Development Standards and Specifications, Division 3, Roads and Bridges classifies county roads based on ADT, design speed, ROW width, surface width, shoulder width, and maximum grade. Table 11 below states the classification of CR 252 & US 550.

Table 11 Classification of County Roads

DIFFERENT STAGES	US HWY 550				TRIMBLE (CR 252)			
	NORTH TRIMBLE		SOUTH TRIMBLE		EAST HWY 550		WEST CR 250	
	ADT	TYPE	ADT	TYPE	ADT	TYPE	ADT	TYPE
EXISTING	7834	MAJOR ARTERIAL	8816	MAJOR ARTERIAL	2645	MINOR ARTERIAL	1444	MINOR COLLECTOR
GROWTH	12392	MAJOR ARTERIAL	13623	MAJOR ARTERIAL	3862	MINOR ARTERIAL	2108	MAJOR COLLECTOR
EXISTING & PROJECT	8907	MAJOR ARTERIAL	11369	MAJOR ARTERIAL	5599	MAJOR ARTERIAL	1772	MAJOR COLLECTOR
GROWTH & PROJECT	12982	MAJOR ARTERIAL	15661	MAJOR ARTERIAL	6818	MAJOR ARTERIAL	2436	MAJOR COLLECTOR

XI. Summary, Conclusions, and Recommendations

A traffic signal for the intersection of CR 252 & US 550 is warranted according to the 2003 Intersection Analysis and Prioritization Study for the existing traffic volumes not including the development traffic. The LOS reports show that the growth traffic volumes alone, not including the project traffic, will decrease the LOS all traffic. Future road improvements will increase the LOS at the intersection, however, a traffic signal will still be warranted. Additional improvements will need to be made to the CDOT improvements. The classification of CR 252 at the intersection will change from a minor arterial to become a major arterial based on project & 20-yr growth traffic volumes alone.



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REVISIONS:		

TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT A1
VICINITY MAP

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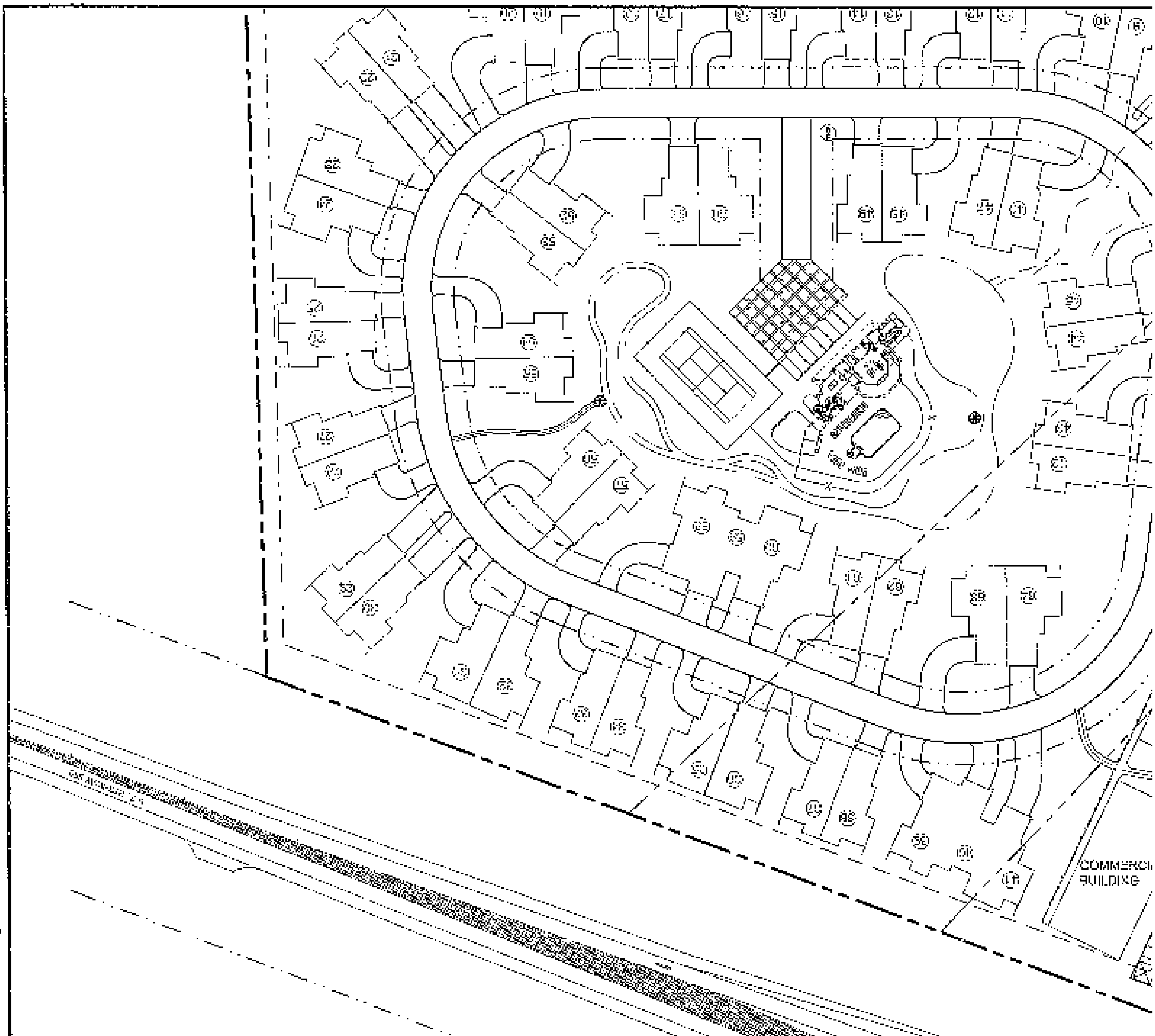

<u>SITE DATA TABULATION - NOV. 14, 2003</u>

ZONE 1 - GENERAL COMMERCIAL — 5.23 ACRES
- COMMERCIAL PAD SITE - 53,850 SF (BLDG. & PARKING)
- COMMERCIAL - 33,700 SF (BLDG.)
- OFFICE - 6,675 SF

ZONE 2 - NEIGHBORHOOD COMMERCIAL — 4.56 ACRES
- COMMERCIAL - 4300 SF (BLDG.)
- CLUBHOUSE AND SALES OFFICE - 4000 SF
- TOWNHOUSE - 14 DU

ZONE 3 - MULTIFAMILY RESIDENTIAL — 10.07 ACRES
- TOWNHOUSE - 51 DU
  - 10.07 ACRES LESS 20 % OPEN SPACE = 8.53 ACRES
  - NET DENSITY: 51 DU/8.53 AC = 5.98 DU/AC

<u>COMMERCIAL PARKING SUMMARY</u>
- COMMERCIAL BLDG. TOTAL* - 38,000SF
  - 12.5% RESTAURANT - 4,750 SF @1/100= 47.5 SPACES
  - 87.5% RETAIL - 33,250 SF @1/200 = 166.25 SPACES
  - OFFICE - 6,675 SF @ 1/300 = 22.25 SPACES
  - TOTAL PARKING REQUIRED = 236 SPACES

*PAD SITE WILL INCLUDE PARKING TO MEET BUILDING USE REQUIREMENTS
*SEVEN <u>ADDITIONAL</u> PARKING SPACES PROVIDED IN GENERAL COMMERCIAL ZONE FOR SALES OFFICE IN NEIGHBORHOOD COMMERCIAL ZONE

TRIMBLE CROSSING
EXISTING & PROPOSED PROJECT
AM AND PM PEAK HOUR DIRECTIONAL SPLITS

Proposed Turn Movements at the intersection of US 550 and CR 252 (Trimble Lane) follow the same pattern as the existing turn movements that were recorded.

27%/20% represents AM/PM Peak Hour Distributions

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TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT B
PROJECT AM & PM SPLITS

SCALE: N.T.S.
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ACAD FILE:
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REVISIONS:

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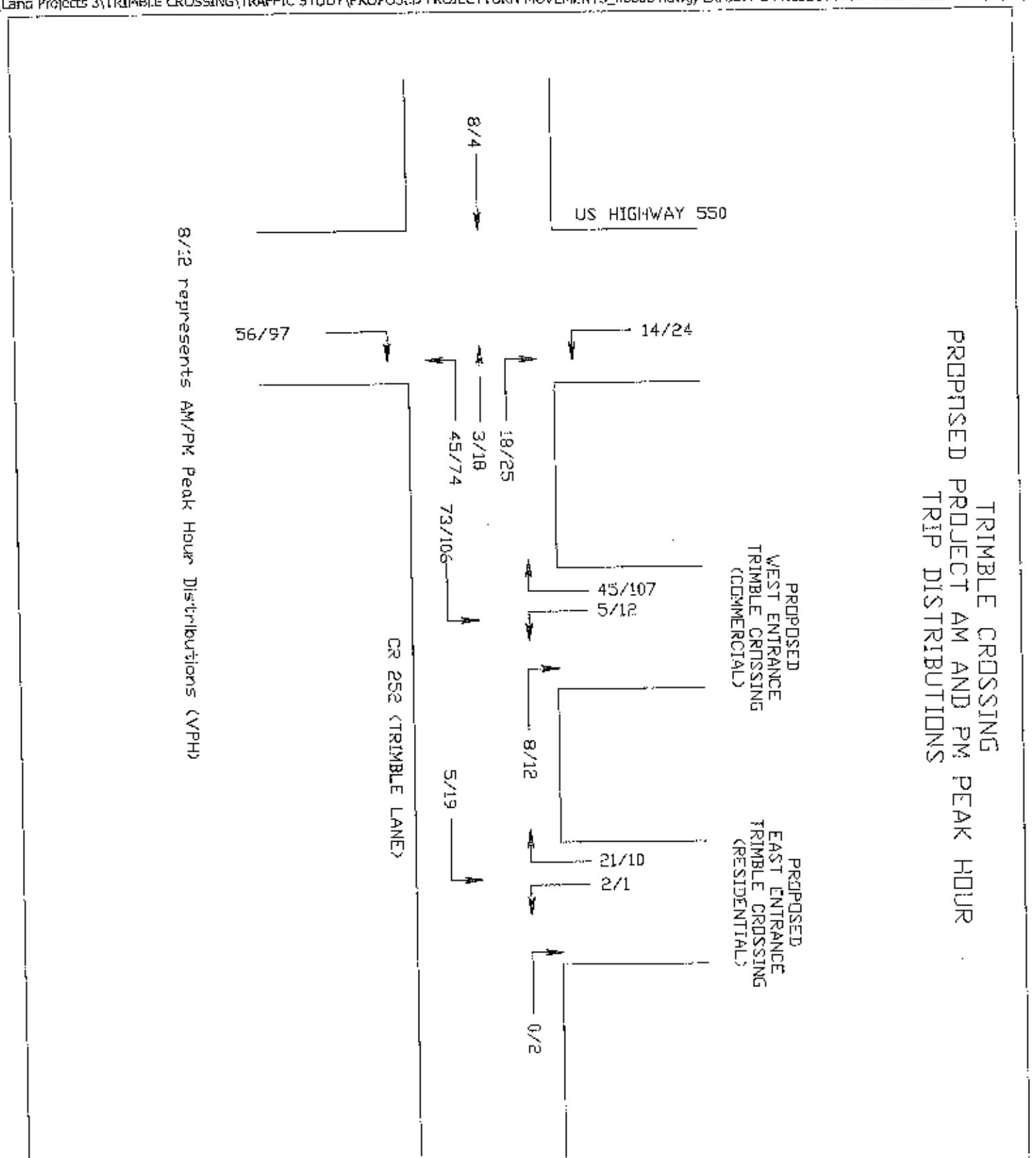

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REVISIONS:		

TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT C
PROJECT AM & PM DISTRIBUTIONS

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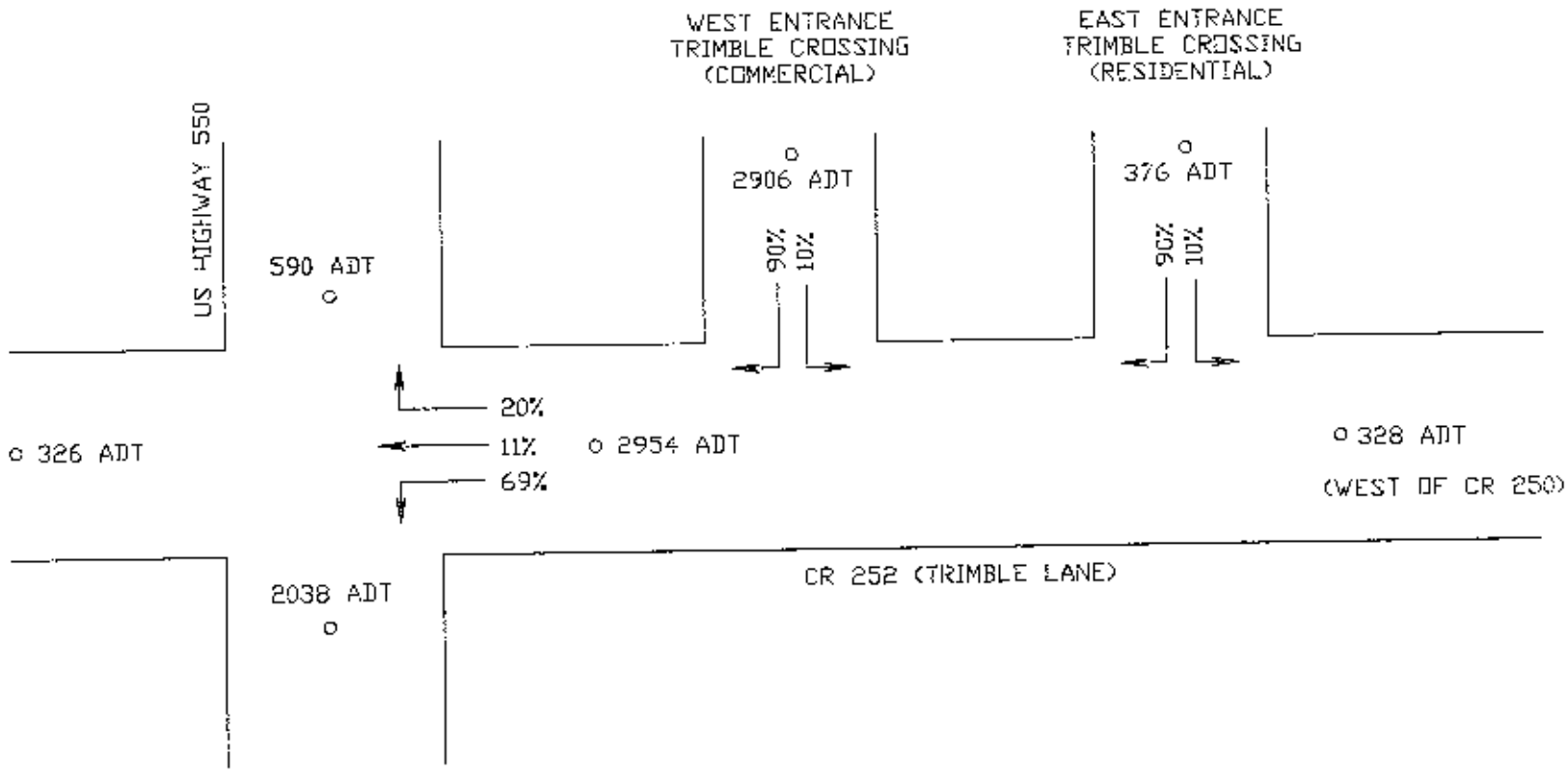
TRIMBLE CROSSING
PROJECT AVERAGE DAILY TRIPS
(ADT)



Proposed Turn Movements at the intersections the proposed entrances & CR 252 (Trimble Lane) follow an assumed pattern based on location of business/commercial,schools, & places of interest. Turn movements at the intersection of US 550 & CR 252 are assumed to follow a similar pattern to the existing turn movements. Detailed calculations of the project generated ADTs & their directional splits are shown in exhibit F-Existing Turning Movements The distributions for the ADTs at the entrances take on the same 90%/10% split as the AM & PM peak hour movements.

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TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT D
PROJECT ADT

SCALE: N.T.S. | DRAWN BY: JM | DATE: 2-2-04
ACAD FILE: | CHECKED:
REVISIONS:

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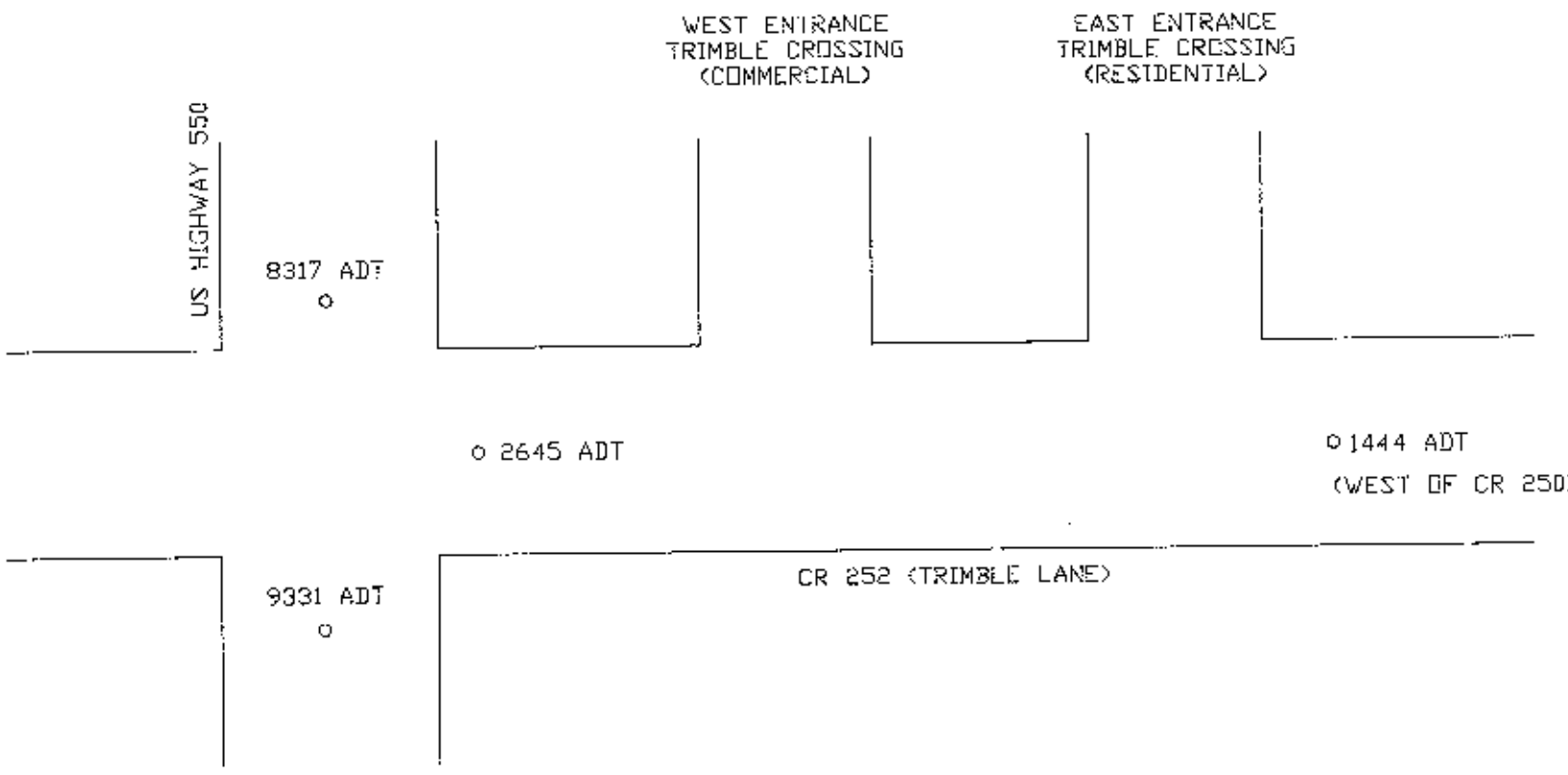
TRIMBLE CROSSING
2006 EXISTING TOTAL DAILY TRAFFIC VOLUMES (ADT)



-2645 REPRESENTS EXISTING ADT

Existing ADT has been prorated to the build out year of 2006.

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TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT E
EXISTING ADT

SCALE: N.T.S. | DRAWN BY: LM | DATE: 6.8.06
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REVISIONS:

EXHIBIT F - EXISTING TURNING MOVEMENTS

LOCATION: US 550 & TRIMBLE LANE

TIME	US 550 SOUTHBOUND				TRIMBLE WESTBOUND				US 550 NORTHBOUND				TRIMBLE EASTBOUND			
	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS
(1) SEASONAL FACTOR	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
(2) PRORATE TO 2006	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
6:45-9:45 AM	3	284	12	301	22	3	57	82	56	229	24	288	26	5	7	43
2006 AM EXISTING	4	362	17	383	27	4	70	101	68	257	30	355	34	10	9	53
(1) SEASONAL FACTOR	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
(2) PRORATE TO 2006	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
4:45-5:45 PM	7	526	25	558	20	14	56	89	104	289	70	473	27	4	6	37
2006 PM EXISTING	9	401	31	441	25	17	73	115	128	368	86	582	33	5	7	46

(1) SEASONAL FACTOR VIA COMMUNICATION WITH CDOT, MELINDA FOR EMAIL, 8/3/04 "TRAFFIC IMPACT STUDY COMMENTS"
(2) PRORATE TO 2006 CDOT TRAFFIC DATABASE, FOR HWY 550, DERIVED FROM 20-YR GROWTH FACTOR (4-yr growth factor = 1.0284 ~ 1.03)

PERCENTAGES

TIME	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS
6:45-9:45 AM	1%	94%	5%	100%	27%	4%	69%	100%	19%	73%	8%	100%	65%	19%	16%	100%
4:45-5:45 PM	2%	91%	7%	100%	22%	15%	63%	100%	22%	62%	15%	100%	73%	11%	16%	100%

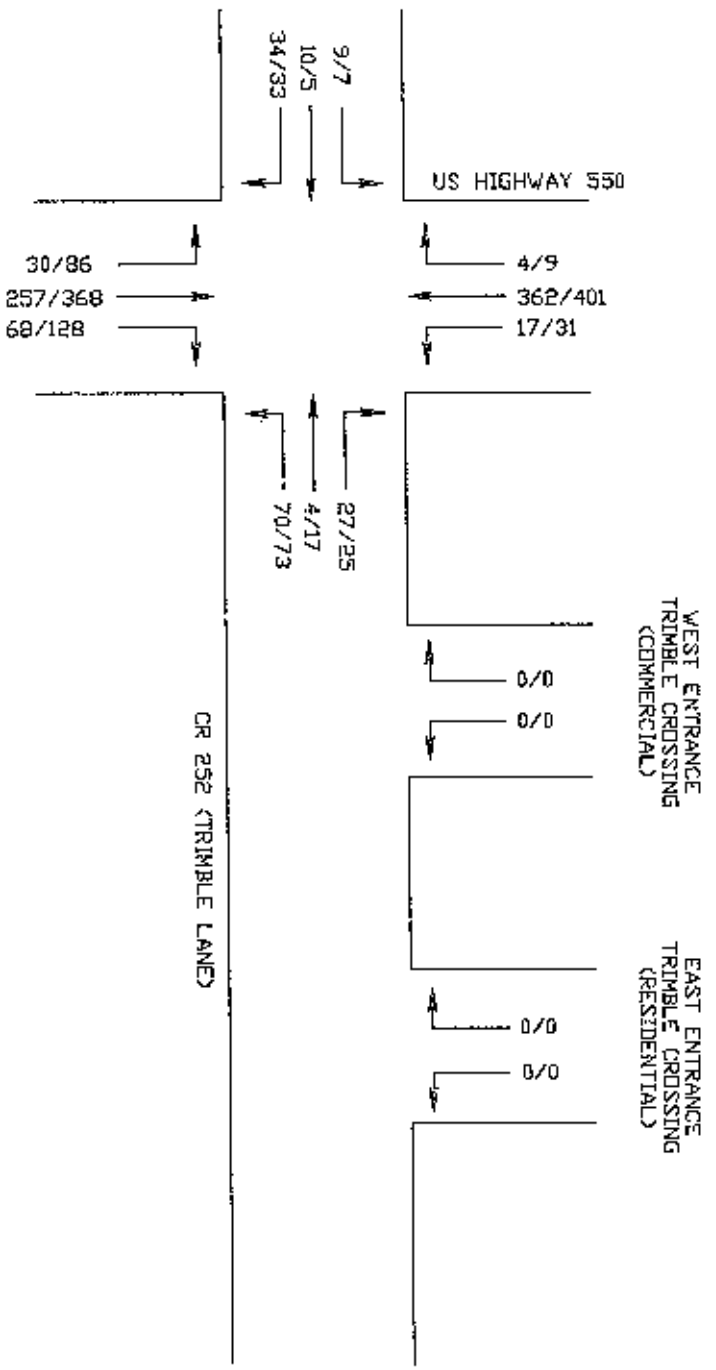
EASTBOUND	NORTH BOUND RIGHT	EAST BOUND THRU	SOUTH BOUND LEFT	TOTALS
AM	68	10	17	95
PM	128	5	31	164
	PERCENTAGES			
AM	72%	10%	18%	100%
PM	78%	3%	19%	100%

*DISTRIBUTIONS BETWEEN TRAFFIC HEADED EASTBOUND ON CR 252

GRAND TOTALS (CDOT 2005 INTERSECTION ANALYSIS STUDY)

TIME	US 550 SOUTHBOUND				TRIMBLE WESTBOUND				US 550 NORTHBOUND				TRIMBLE EASTBOUND			
	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS	RIGHT	THRU	LEFT	TOTALS
DAILY (7-9:45 PM)	19	717	46	778	42	13	179	237	145	570	71	786	80	15	10	124
% TOTAL	2%	92%	6%	100%	20%	5%	75%	100%	18%	73%	9%	100%	73%	13%	8%	100%
DAILY (11-1:45 PM)	24	667	68	759	50	29	191	270	194	580	91	865	89	15	12	126
% TOTAL	3%	88%	9%	100%	20%	11%	69%	100%	20%	70%	10%	100%	74%	14%	10%	100%
DAILY (3-5:45 PM)	33	874	65	972	61	43	160	267	222	798	131	1169	75	31	19	125
% TOTAL	3%	90%	7%	100%	23%	16%	61%	100%	19%	68%	13%	100%	60%	25%	15%	100%
TOTAL DAILY	76	2258	179	2507	162	85	552	799	561	2048	313	2920	268	65	43	374
% TOTAL	3%	90%	7%	100%	20%	11%	69%	100%	19%	70%	11%	100%	71%	17%	12%	100%

TRIMBLE CROSSING
2006 EXISTING AM AND PM PEAK HOUR TURNING MOVEMENT VOLUMES



4/17 represents Existing AM/PM Peak Hour Turn Movements (VPH)

Existing volumes have been prorated and seasonally adjusted from Aug 2003 to July 2006 (anticipated build out year). The original existing turn movements and the growth & seasonal factors are shown in exhibit F-Existing Turn Movements.

SCALE: N.T.S	DRAWN BY: LM	DATE: 6-8-04
ACAD FILE:		CHECKED:
REVISIONS:		

TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT G
EXISTING AM & PM MOVEMENTS

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Civil Engineering Services
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EXHIBIT H - EXISTING , GROWTH, & PROJECT ADT COUNTS

ROAD	LOCATION	2000 START/STOP DATE	2000 ADT COUNT	2001 START/STOP DATE	2001 ADT COUNT	2002 START/STOP DATE	2002 ADT COUNT	2003 START/STOP DATE	2003 ADT COUNT	(1) 2006 ADT	(2) 20 YR GROWTH FACTOR	2026 ADT	PROJECT ADT	EXISTING & PROJECT 2006 ADT	GROWTH & PROJECT 2026 ADT
CR 252	EAST OF HWY 550	7/13 - 7/17	2522	10/04-10/09	2112			7/21/2003	2496	2845	1.46	3992	2654	5599	6816
CR 252	WEST OF CR 250	7/13 - 7/17	1563	10/04-10/09	1015			7/21/2003	1564	1444	1.46	2108	328	1772	2436
US 550	NORTH TRIMBLE					2002	8584		7634	8317	1.49	12392	990	9307	12307
US 550	SOUTH TRIMBLE					2002	8612		8816	9931	1.45	13025	2533	11300	15551

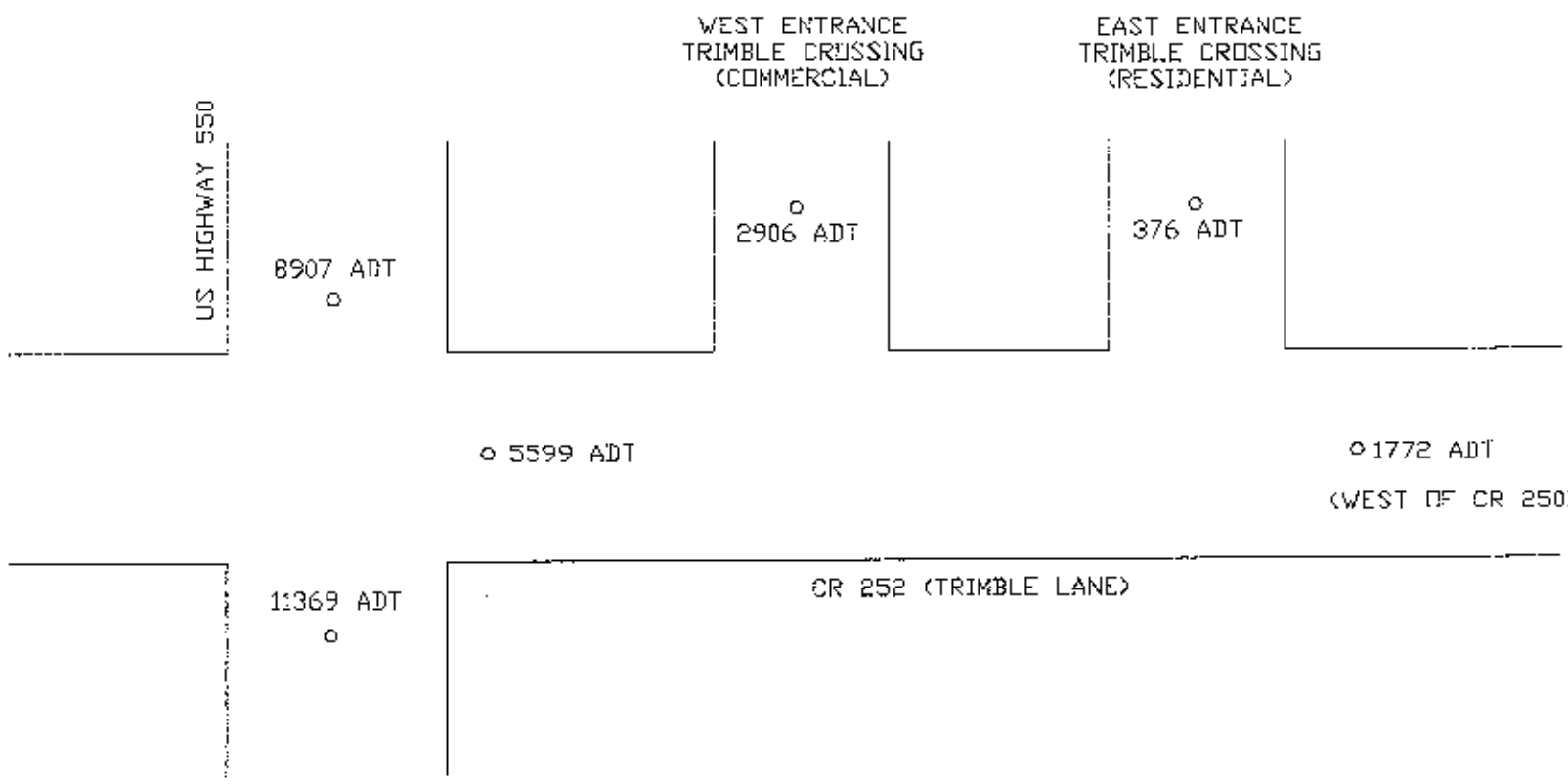
ADTS FOR HWY 550 CAME FROM THE CDOT WEBPAGE UNDER THE STATS & DATA UNDER THE TRAFFIC COUNTS
ADTS FOR CR 252 CAME FROM LA PLATA COUNTY ADT COUNTS FOR 2000 THROUGH 2004

(1). 2006 ADT COUNTS WERE PRORATED USING A GROWTH FACTOR DERIVED FROM THE 20 YEAR GROWTH FACTOR

(2). 20 YR GROWTH FACTORS USED FOR CR 252 WERE DERIVED FROM THE 20 YEAR GROWTH FACTORS THAT WERE USED BY CDOT FOR THE CDOT REGION 5 INTERSECTION STUDY
20 YR GROWTH FACTORS FOR HWY 550 CAME FROM THE CDOT WEBPAGE USING THE FUTURE TRAFFIC VOLUME CALCULATOR (SEE APPENDIX D FOR FUTURE CALCULATOR PRINTOUT)

W:\Land Projects 3\TRIMBLE CROSSING\TRAFFIC STUDY\PROPOSED PROJECT\TURN MOVEMENTS_060804.dwg, EXHIBIT I - PROJECT & EXISTING ADT, 6/8/2004 10:

TRIMBLE CROSSING
2006 PROJECT & EXISTING
DAILY TRAFFIC VOLUMES (ADT)



-The Project & Existing ADTs represent the sum of the existing ADTs and the project generated ADTs.

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TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT I
EXISTING & PROJECT ADT

SCALE: N.T.S. | DRAWN BY: LM | DATE: 6.8.04
ACAD FILE: | CHECKED:
REVISIONS:

EXHIBIT J - GROWTH TRAFFIC DISTRIBUTIONS

AM PEAK HOUR

INTERSECTION OF US 550 & TRIMBLE LANE

	US 550 SOUTHBOUND				TRIMBLE WESTBOUND				US 550 NORTHBOUND				TRIMBLE EASTBOUND			
	RIGHT	THRU	LEFT	TOTAL	RIGHT	THRU	LEFT	TOTAL	RIGHT	THRU	LEFT	TOTAL	RIGHT	THRU	LEFT	TOTAL
PROJECT	0	0	14	14	18	3	45	66	56	0	0	56	0	8	0	8
*GROWTH FACTOR	1.46	1.46	1.46		1.46	1.46	1.46		1.49	1.49	1.49		1.45	1.45	1.45	
EXISTING	4	362	17	383	27	4	70	101	68	257	30	355	34	10	9	53
EXISTING & PROJECT	4	362	31	397	45	7	115	167	124	257	30	411	34	18	9	61
GROWTH	6	529	25	560	39	6	102	147	101	383	45	529	49	15	13	77
GROWTH & PROJECT	**6**	**529**	**39**	**574**	**57**	**9**	**147**	**213**	**157**	**383**	**45**	**585**	**49**	**23**	**13**	**85**

PM PEAK HOUR

INTERSECTION OF US 550 & TRIMBLE LANE

	US 550 SOUTHBOUND				TRIMBLE WESTBOUND				US 550 NORTHBOUND				TRIMBLE EASTBOUND			
	RIGHT	THRU	LEFT	TOTAL	RIGHT	THRU	LEFT	TOTAL	RIGHT	THRU	LEFT	TOTAL	RIGHT	THRU	LEFT	TOTAL
PROJECT	0	0	24	24	25	18	74	117	97	0	0	97	0	4	0	4
GROWTH FACTOR	1.46	1.46	1.46		1.46	1.46	1.46		1.49	1.49	1.49		1.45	1.45	1.45	
EXISTING	9	401	31	441	25	17	73	115	128	368	86	582	33	5	7	46
EXISTING & PROJECT	9	401	55	465	50	35	147	232	225	368	86	679	33	9	7	50
GROWTH	13	585	45	643	37	25	107	169	191	548	128	867	48	7	10	65
GROWTH & PROJECT	**13**	**585**	**69**	**667**	**62**	**43**	**181**	**286**	**288**	**548**	**128**	**964**	**48**	**11**	**10**	**69**

Assumptions:

Existing Traffic = existing counts

Growth = Existing * Growth factor

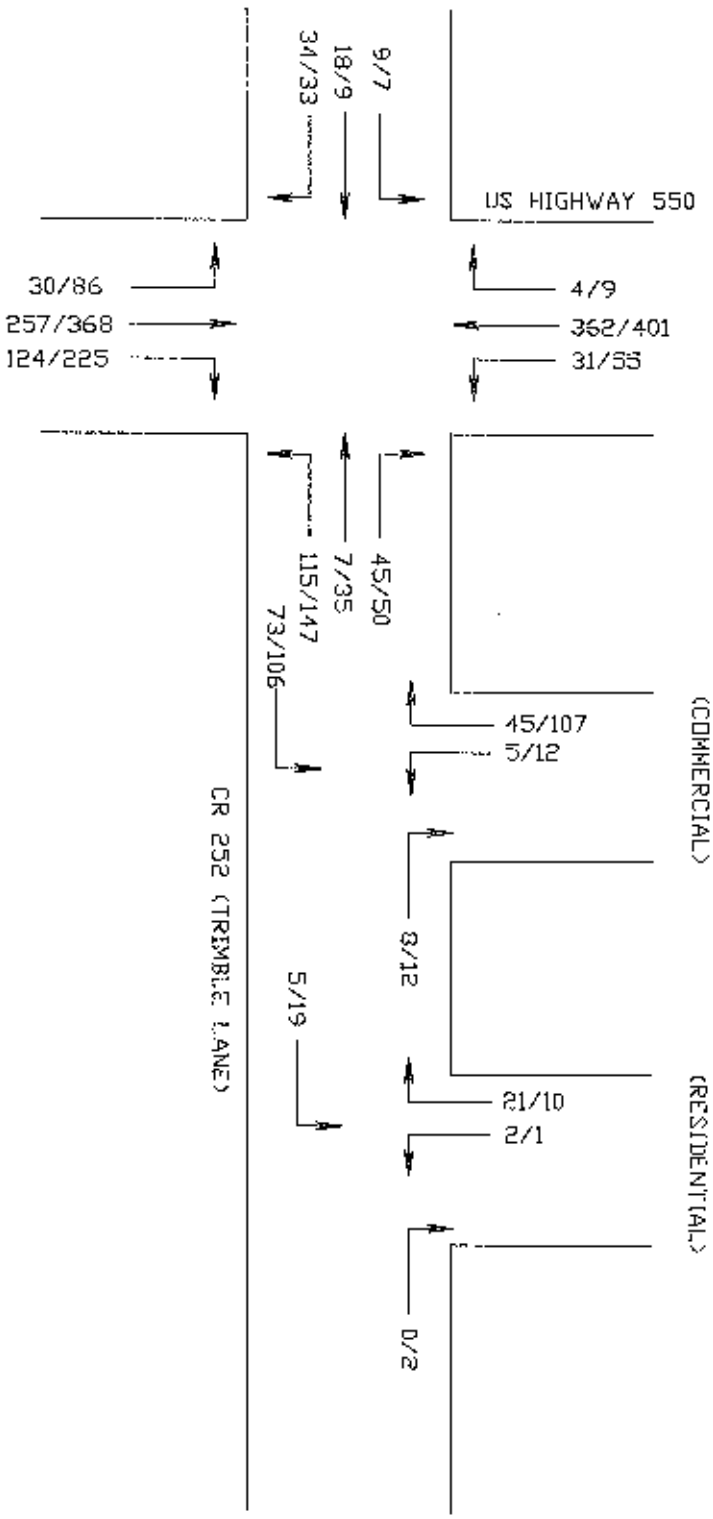
Project Traffic = trip generated traffic

* 20-Year Growth factor for Trimble Lane (CR 252), reference CDOT REGION 5 TRAFFIC AND SAFETY

20 YR GROWTH FACTORS FOR HWY 550 CAME FROM THE CDOT WEBPAGE USING

THE FUTURE TRAFFIC VOLUME CALCULATOR (SEE APPENDIX D FOR FUTURE CALCULATOR PRINTOUT)

TRIMBLE CROSSING
PROJECT & EXISTING AM AND PM PEAK HOUR TRIP DISTRIBUTIONS



Proposed Turn Movements at the intersection of US 550 and CR 252 (Trimble Lane) follow the same pattern as the existing turn movements that were recorded. The turning movements at the proposed entrances have been determined based on the location of business/commercial, school, and places of interest.

7/35 represents AM/PM Peak Hour Distributions (VPH)

SCALE: N.T.S.	DRAWN BY: LV	DATE: 8-6-04
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REVISIONS:		

TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT K
EXISTING & PROJECT AM & PM

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TRIMBLE CROSSING
2026 GROWTH DAILY
TRAFFIC VOLUMES (ADT)

US HIGHWAY 550

12392 ADT

WEST ENTRANCE
TRIMBLE CROSSING
(COMMERCIAL)

3862 ADT

EAST ENTRANCE
TRIMBLE CROSSING
(RESIDENTIAL)

2108 ADT

(WEST OF CR 250)

13623 ADT

CR 252 (TRIMBLE LANE)

Calculations for determining the growth daily volumes are shown in exhibit H.

SCALE: N.T.S.	DRAWN BY: I.V.	DATE: 6-8-04
ACAD FILE:		CHECKED:
REVISIONS:		

TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT L
GROWTH ADT

Russell Engineering, Inc.
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Fax: (970) 385-4502

N:\Land Projects 3\TRIMBLE CROSSING\TRAFFIC STUDY\PROPOSED PROJECTTURN MOVEMENTS_060804.dwg, EXHIBIT M GROWTH AM PM PEAK, 6/8/2004 10:20:

TRIMBLE CROSSING
2026 GROWTH AM AND PM
PEAK HOUR TURNING MOVEMENT VOLUMES

The Growth AM & PM Peak Hour Turning Movements were determined based on a 20 year growth factor and were added to the project generated traffic. Detailed calculations are shown in the exhibit J-Growth Traffic Distributions

6/25 represents AM/PM Peak Hour Distributions

SCALE: N.T.S.	DRAWN BY: LM	DATE: 6-6-04
ACAD FILE:		CHECKED:
REVISIONS: REVISED THE NORTHBOUND TURNING MOVEMENTS TO MATCH EXHIBIT J- GROWTH AND TRAFFIC DISTRIBUTIONS		

TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT M
GROWTH AM & PM MOVEMENTS

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Durango, Colorado 81301
Phone: (970) 385-4546
Fax: (970) 385-4502

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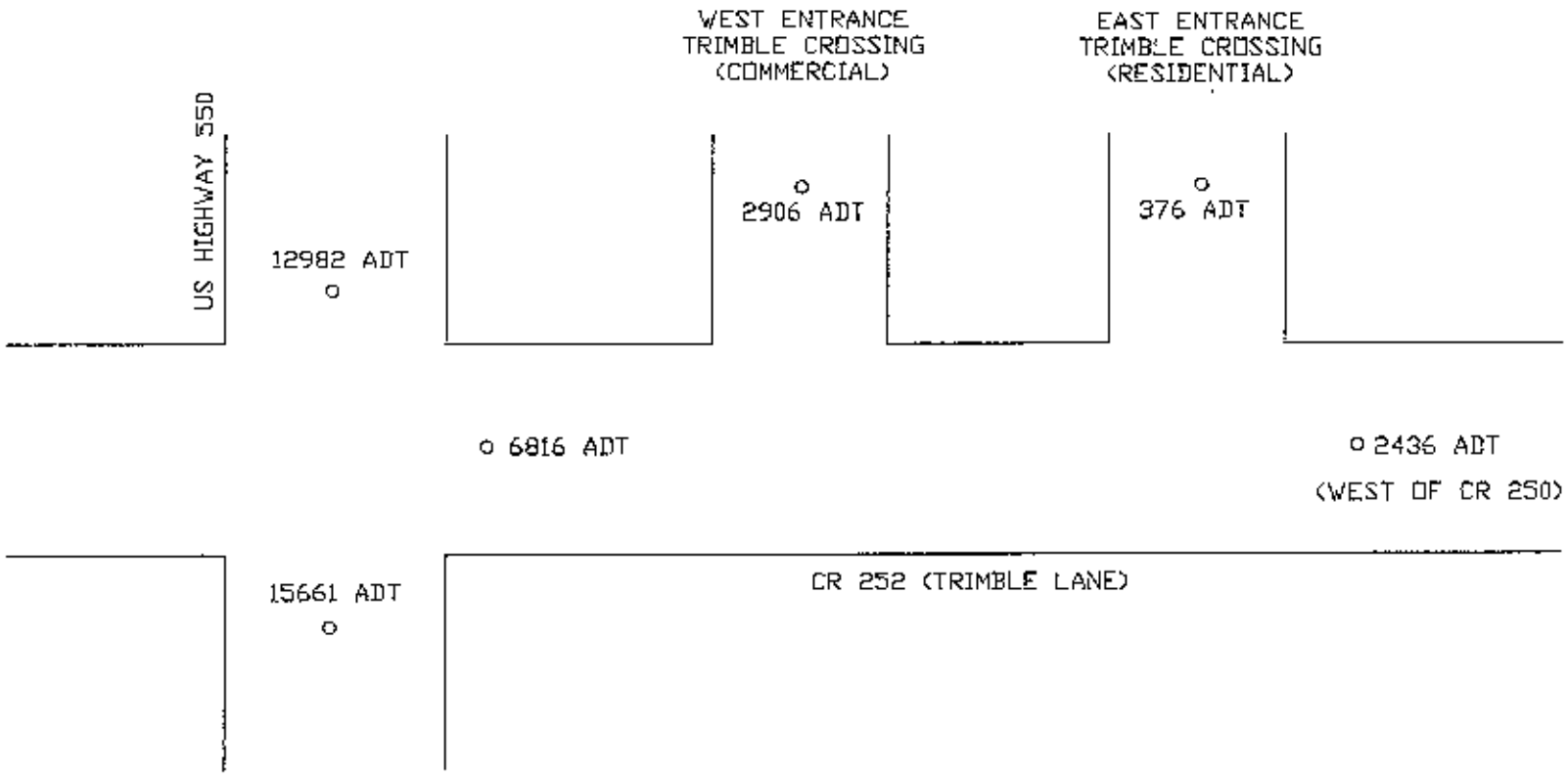
TRIMBLE CROSSING
2026 PROJECT & GROWTH
DAILY TRAFFIC VOLUMES (ADT)



-Project & growth ADT volumes were determined by summing the project & growth ADT volumes.

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TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT N
PROJECT & GROWTH ADT

SCALE: N.T.S. | DRAWN BY: LM | DATE: 6-8-04
ACAD FILE: | CHECKED:
REVISIONS:

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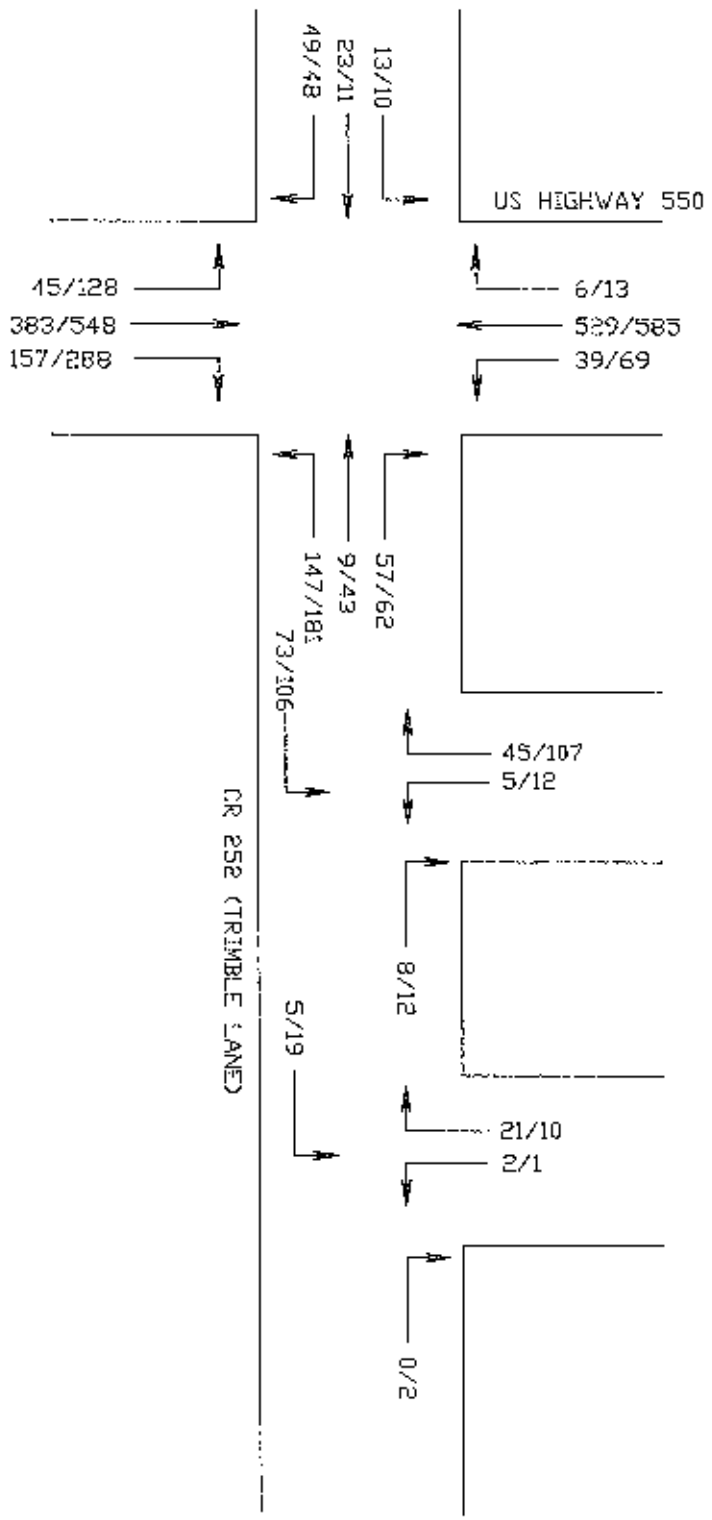
TRIMBLE CROSSING
2026 PROJECT & GROWTH AM AND PM
PEAK HOUR TURNING MOVEMENT VOLUMES



Project & growth AM and PM Peak Hour Turning movements were added together.
(see exhibit J-Growth Traffic Distributions

17/8 represents project & growth AM/PM Peak Hour Distributions

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TRIMBLE CROSSING
TRAFFIC IMPACT STUDY

EXHIBIT O
PROJECT & GROWTH AM & PM

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