LEVEL III TRAFFIC IMPACT STUDY

SOCIETY TURN PARCEL

Prepared by

SGM

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TABLE OF CONTENTS

List of Tables

LIST OF FIGURES

LIST OF APPENDICES

1.0 Executive Summary

SGM completed this Level III Traffic Impact Study to describe the traffic impacts and proposed mitigation for the proposed development of the Society Turn Parcel owned by Genesee Properties, Inc. near Telluride, Colorado. This study was prepared in accordance with section 2.3(5) of the State Highway Access Code and consistent with the requirements of Sections 5-502 of the San Miguel County Land Use Code (SMCLUC) and performs analysis to provide design parameters for a safe access with satisfactory operation for the development and continued acceptable operation of existing SH 145 and the adjacent existing intersections.

The study concludes that the development can be implemented, and the highway system will continue to operate at an acceptable Level of Service when considering the growth in background traffic over a 20-year planning horizon plus the proposed project traffic volumes. In order to provide a safe and acceptably operating access road to SH 145, auxiliary turn lanes will mitigate the trips generated by the development and will be required as part of the construction and completed per the State Highway Access Code.

2.0 Introduction

This study is prepared as a CDOT Level III Traffic Impact Study and provides an estimate for design hour traffic generation for the Society Turn Parcel (STP) development in San Miguel County, Colorado. The purpose of this traffic impact study is to document the existing traffic conditions in the vicinity of the site, provide the trip generation and trip distribution of the proposed development, project traffic volumes to the 20-year planning horizon (2042), and to analyze the proposed access and nearby intersections for operational impacts to SH 145. Access to the site will be provided from the permitted and historical access location for the Genesee property on the south side of SH 145, near the existing access used by the Genesee Ranch and access by San Miguel Power Authority (SMPA) and Source Gas.

This study will assess the operational measures of effectiveness (MOE's) including Level of Service (LOS), Delay, and 95th percentile queue as well as discuss auxiliary lane warrants on SH 145 at the proposed access. The study includes discussion of improvements that may be needed to provide for a safe and acceptably operating project intersection.

The project area is shown in Figure 1.

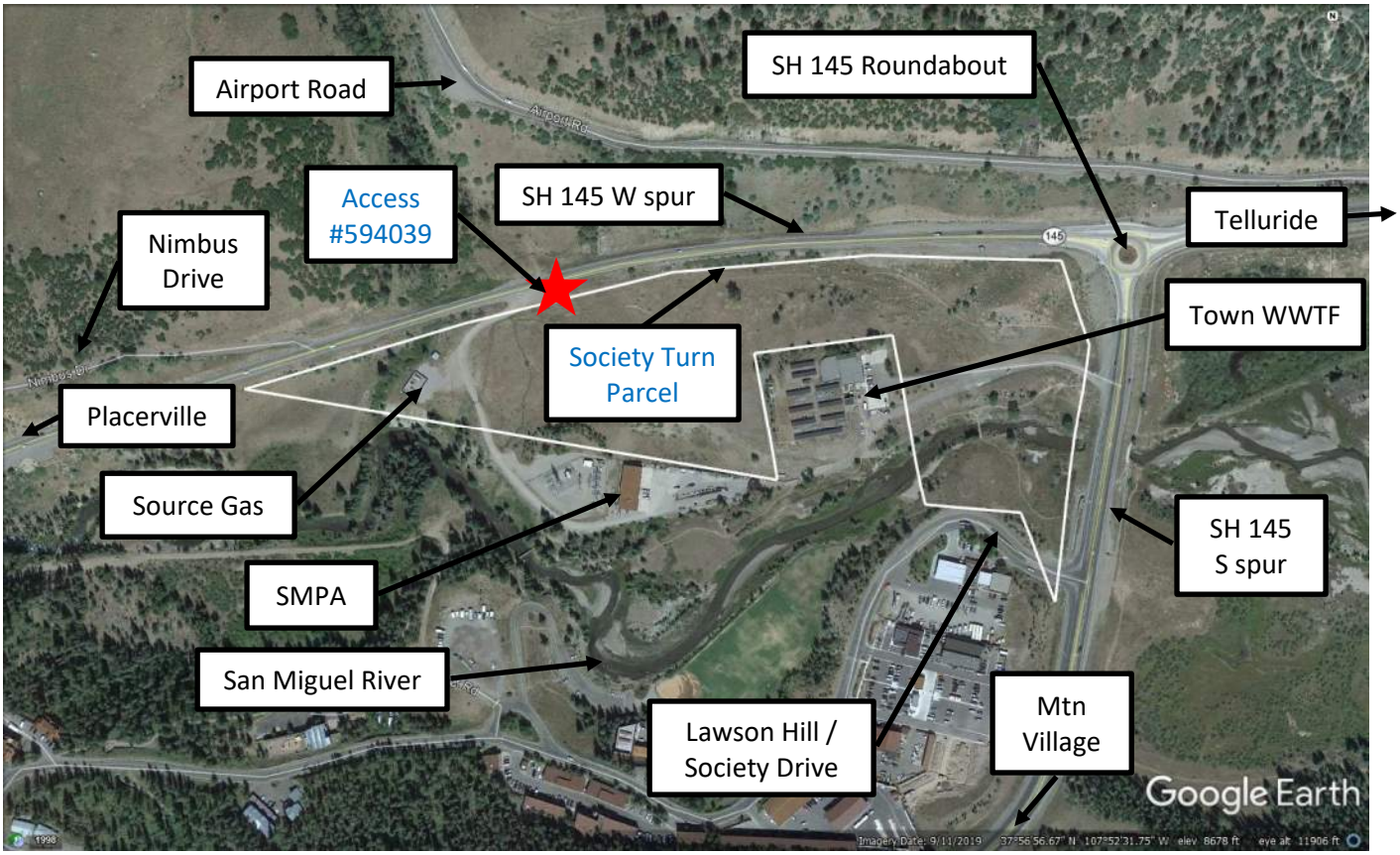


Figure 1 - Vicinity Map

2.1 Project Description

The proposed STP development is shown in a Site Plan is provided in Figure 2, and in Appendix A.

Based on the Site Plan from DOWL and CCY Architects (June 2020), the proposed development of the Society Turn Parcel will consist of a land use mix comprised of the following and summarized in Table 1.

a) Employee Housing mitigation
b) Hotel / Lodging
c) Medical Center
d) Office Park
e) Retail

TABLE 1 - PROPOSED DEVELOPMENT LAND USE

Use	Amount	Units
Employee Housing	88	Units
Hotel	150	Rooms
Medical Center	40,000	sf
Office Park	111,075	sf
Retail	9,659	sf

2.2 Location

The development parcel is located at the southwest quadrant of the roundabout intersection of the SH 145 south and west spurs. The Town of Telluride is approximately 3 miles to the east of the roundabout. The existing parcel currently contains two access points.

- On the SH 145 west spur, an existing historic access to the Genesee property currently used by SMPA and Source Gas at Mile 71.773 left under Access Permit #594039 dated 4/8/1994. This is an existing SMPA substation and Source Gas facility.
- On the SH 145 south spur, an existing access used by the Town of Telluride to access the Regional Treatment Facility at Mile 71.41 left

The proposed development access (STP Road A) is planned to be constructed near Mile 71.75 left on SH 145A west spur. This access will incorporate the SMPA and Source Gas uses and continue to provide access to these sites. The existing Town of Telluride access will remain in its current configuration and use.

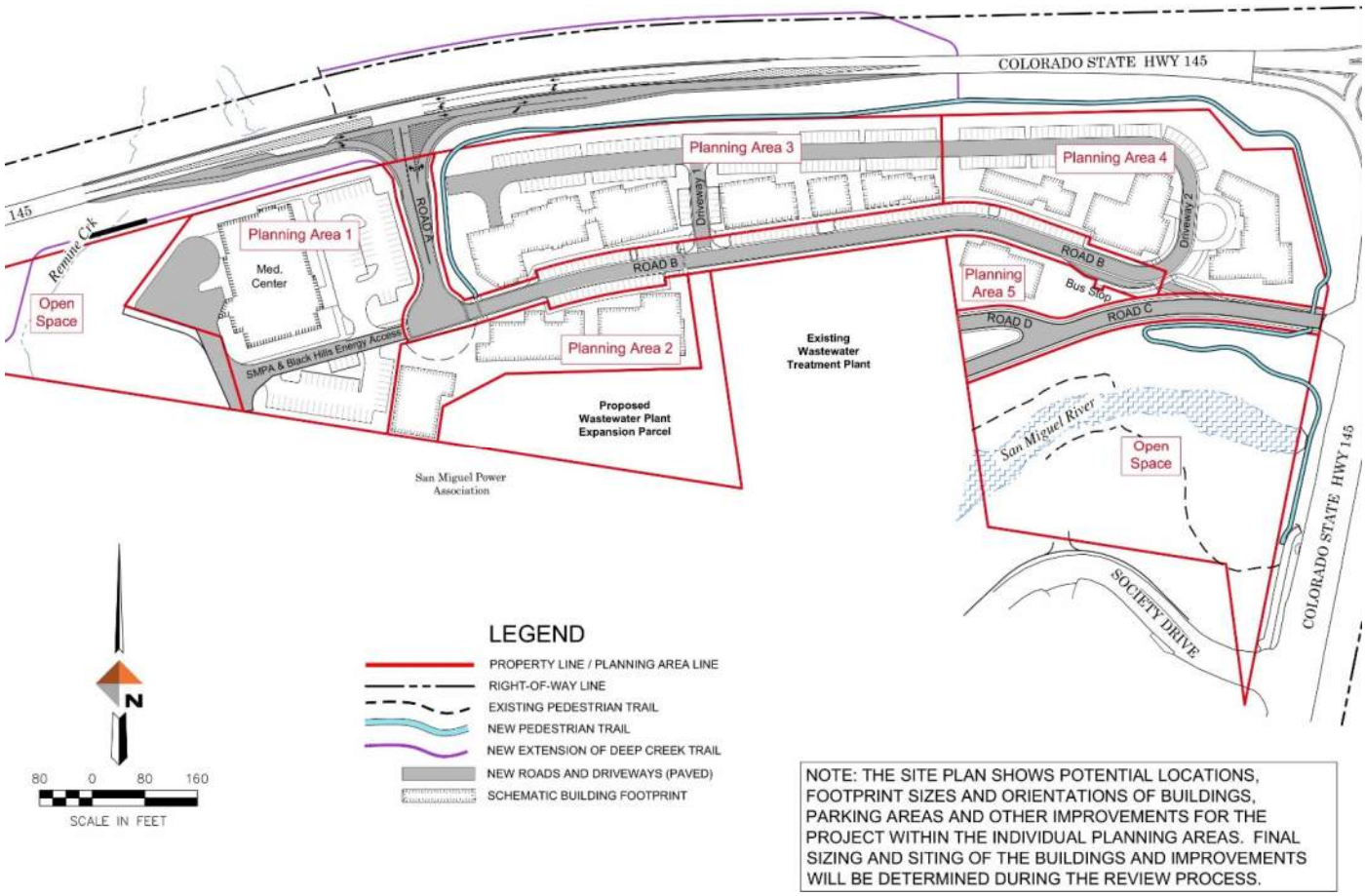


Figure 2 – Conceptual Site Plan

3.0 Methodology and Assumptions

This traffic impact study has been prepared in accordance with section 2.3(5) of the State Highway Access Code (Code) and the methodology and assumptions have been vetted with the CDOT Region 5 access manager and traffic engineer. The assumptions will provide a conservative analysis for the purposes of assessing traffic impacts resulting from buildout of the proposed development. Discussions with and concurrence from CDOT regarding methodology are documented in Appendix C.

The proposed STP Road A and the adjacent SH 145 roundabout in the project area are analyzed using HCM 2010 (unsignalized) and HCM 6th Edition (roundabout) methodology. Intersection analysis was performed using the Synchro 11 analysis package to estimate the capacity of the intersections. The MOE's that are compared for this study include LOS, delay and 95th percentile queue length. The MOE's will be reported for each analysis scenario to determine if the current intersections operate adequately. The queue length reported is based upon the average of ten 60-minute Simtraffic modeling runs.

The traffic modeling output is contained in Appendix D.

Baseline Traffic
Existing traffic data for SH 145 was obtained from the traffic counts by SGM obtained March 3-5, 2020. The counts were compared to CDOT OTIS website DHV and July 2018 count data from CDOT short-term stations #104699 and station #104700. The July 2018 count station values were factored to July 2020 using CDOT factor. The analysis in Table 2 below shows the data comparison for the AM and PM design hour.

TABLE 2 - BASELINE TRAFFIC ANALYSIS

	SGM	CDOT			SGM	CDOT	
AM Design Hour	March 2020	Station factored 2020	**SGM / CDOT**	**PM Design Hour**	March 2020	Station factored 2020	**SGM / CDOT**
Total W spur	661	573	115%	**Total W spur**	610	687	89%
Total S spur	794	794	100%	**Total S spur**	816	849	96%
RAB DHV	1147	1120	102%	**RAB DHV**	1142	1213	94%

Peak hour factors (PHF), heavy vehicle percentages, directional distribution and other inputs are based upon the March traffic data. The PHF used for the new STP Road A intersection matches the Society Drive PHF's since they are similar mixed-use developments and the intersections have similar 2042 DHV's (AM & PM between 1115-1188 vph).

The heavy vehicle percentage used in the modeling is conservatively input as 4%. The actual volumes were counted as 2-3%. Single-unit trucks accounted for 85-90% of the heavy vehicle volume, while multi-unit trucks accounted for the remaining 10-15%.

Based on the comparison, a seasonal adjustment factor of 1.0 will be used for the March / July time period.

March 2020 counts, and the complete data for the comparison to CDOT OTIS information are provided in Appendix E.

Analysis Years
Operational analysis of baseline traffic (2022), 20-year background traffic (2042) and 20-year total (background + project) traffic (2042) was performed. Baseline traffic volumes at study intersections are factored by CDOT's 20-year factor provided on the OTIS website for these segments of SH 145 to calculate 2042 Background traffic volumes:

- South spur Station #104699: 20-year factor of 1.13
- West spur Station #104700: 20-year factor of 1.21

Development Land Use Rates and Distribution
The development analysis of the STP was completed using trip generation rates from the ITE Trip Generation Manual, 10th Edition. The land use type and units provided in Table 1 were input into the ITE web-based Trip Generation Manual in conjunction with the design hour distribution from the same source resulting in the design hour trip generation rates shown in Table 3.

TABLE 3 - DESIGN HOUR TRIP GENERATION RATE BY LAND USE

				Design Hour Rates					
	Variable	ITE	Weekday	AM	AM	AM	PM	PM	PM
Land Use	units / ksf	Code	Rate	Rate	Entering	Exiting	Rate	Entering	Exiting
Multi-Family (Low-rise)	88	220	7.09	0.48	0.11	0.37	0.60	0.38	0.22
Hotel	150	310	8.45	0.46	0.27	0.19	0.58	0.29	0.28
Medical Center	40	610	10.72	0.89	0.61	0.28	0.97	0.31	0.66
Office Park	111.075	750	13.23	2.01	1.79	0.22	1.76	0.26	1.49
Retail	9.659	820	37.75	5.45	3.38	2.07	9.98	4.79	5.19

The design hour distributions for the corresponding land uses are as shown in Table 4.

TABLE 4 - DESIGN HOUR DISTRIBUTION BY LAND USE

				Weekday Design Hour Distribution*			
Land Use	**ITE Code**	**Trip Generation Method**		AM IN	AM OUT	PM IN	PM OUT
Multi-Family (Low-rise)	220	Fitted Curve	Peak Hour adjacent Street	23%	77%	63%	37%
Hotel	310	Fitted Curve	Peak Hour adjacent Street	59%	41%	51%	49%
Medical Center	610	Ave Rate	Peak Hour adjacent Street	68%	32%	32%	68%
Office Park	750	Fitted Curve	Peak Hour of Generator	89%	11%	15%	85%
Retail	820	Ave / Fitted R	Peak Hour adjacent Street	62%	38%	48%	52%
**ITE Ttrip Generation Manual, 10th Edition*							

The trip generation time period and calculation methods are noted in Table 4. The period and calculation methods use the peak hour of adjacent street period and fitted curve calculation with the exceptions and justification provided below:

- Medical Center
  - The size of the proposed use is well below size of the facilities in the available data set (lower end 70-100 ksf). The average rate was used based partly on documentation provided by the staff of the existing medical center which will be relocated from Telluride to the STP. That letter is provided in Appendix F.
- Office Park
  - Defined by the ITE Trip Generation Manual, *an office park is usually a suburban subdivision or planned unit development containing general office buildings and support services, such as banks, restaurants, and service stations, arranged in a park- or campus-like atmosphere.* This campus is planned to include business, government office, medical, and dental office space. Businesses will be complementary in nature to the overall development and may include food/beverage (brewery, distillery, coffee roaster, bakery…); local services (copy/package, laundry, dry cleaning…); construction trades, and arts and crafts. Individual commercial uses will generally not exceed 8,000 sf.
  - The peak hour of the generator period is used;
    - Peak hour of generator generally coincides with the peak hour of the adjacent street.
    - Peak hour of generator (22 data sets) vs peak hour of adjacent street (3 data sets) has significantly more data available.
- Retail
  - The AM data set contains 1/3 of the studies as compared to the PM data set.

- The size of the proposed use is at the lower end of the AM data set (9 ksf – 1510 ksf).
- Because the average and fitted curves have a vast difference in volume, an average rate was calculated using the lower end of the AM data set (9 ksf – 40 ksf), that fits well between the ITE rate calculations. A graph of the data used, and the average rate is provided in Appendix G.

Trip Reductions

Internal Capture

As with any mixed-use development, a portion of the trips generated by a land use will be attracted to another on-site land use as influenced by proximity, and therefore will not impact the site access to SH 145. For instance, a portion of the customers at retail stores can be expected to consist of occupants of the residential housing units who may simply walk to/from the store. Developments with a relatively even balance of land uses tend to generate more internal trips than do developments that are principally of one type of land use. The ITE Trip Generation Handbook, 3rd Edition, using NCHRP Report 684 – Enhancing Internal Trip Capture Estimation for Mixed Use Developments methodology is used to estimate the internal capture of a mixed- use development. That methodology resulted in the reductions shown in Table 4. The NCHRP spreadsheet is proved in Appendix H.

Multi-modal

Multi-modal trips could consist of walking, biking, car-pooling and transit options. The development site near the roundabout separating the east-west and north-south legs of SH 145 provide a mid-valley location that is convenient for all transportation modes.

The Telluride valley is known for hiking and biking, along with that comes increased percentages of valley residents who use those modes of transportation for commuting and other that trips typically would have been taken with vehicles. The typical US average walking and biking distance for a commute or other trip is 0.25 miles and 3 miles, respectively. With more prevalent use of alternative transportation in the region, it would be reasonable to assume those distances are increased in the area. The Town of Telluride is within the average biking distance at just over 3 miles. An existing paved shared-use trail extends from Telluride to the Genesee property. The Lawson Hill area is within 0.5 miles, allowing for relatively simple walking or biking trips between developments via an existing bridge crossing of the river. These alternative modes will reduce daily and peak hour vehicle trips; however, this study will not specifically consider pedestrian and bicycling reductions for this analysis. The project will extend the existing paved shared use trail through the property and also provide a connection to the Lawson Hill to the south. The paved commuter trail will connect to internal uses including the Medical Center to the existing regional system.

The San Miguel Authority for Regional Transportation (SMART) is the existing regional

Figure 3 – SMART Service Map

transportation system that serves Telluride and the corridor to Lawson Hill, Norwood, Mountain Village, and Rico.
The STP development will be located at the center of the existing SMART service map. Public transportation from the Town of Mountain Village and the Town of Telluride to this site is regionally subsidized and free of charge to all riders which tends to increase ridership from those communities. This location is ideal to serve the developing site using existing routes and service levels. SMART is expected to serve the relocated Medical Center as the first built component of the development. It is anticipated that as the mixed-use development consisting of medical center, affordable housing, office park, and retail uses that are constructed over a 15-20-year period, the SMART service will grow organically to serve the developed area as needed.

A school bus stop will be provided within the site and school bus service is anticipated to serve he entire project.

Given the nature of the valley and use of public transportation and other modes, this study includes a conservatively selected multi-modal trip reduction rate of 5% for the STP development applied to all external trips. This is comparable to recent traffic studies in the area as well as rates used for similar projects in other mountain communities with similar transit systems (Aspen, Crested Butte, Steamboat).

Pass-By
Pass-by trips represent vehicles that are already in the SH 145 corridor prior to the development of the site and can be expected either to make intermediate stops on the way from an origin to a primary trip destination or to substitute a trip to the proposed development for an existing trip to a more remote location. Pass-by trips are drawn from the passing traffic stream and are included in the site driveway movements but are not included in the through-volumes passing the site access point on SH 145.

Pass-by percentages for various specific land uses are available in the ITE Trip Generation

Handbook. As depicted in the handbook, the total project-generated trips may be reduced by utilizing pass-by percentages for applicable land uses. For instance, ITE identifies a reduction of 34 percent from the primary trips for a retail center and 43 percent for a restaurant. Since the restaurant use is included in the Office Park land use designation, a reduction is not taken for that use. The 34% pass-by reduction is applied to the retail trips generated during the PM peak hour.

A pass-by trip reduction is also be applied to the Medical Center use. The existing Medical Center (~10,000 sf) located in the Town of Telluride will be relocated to the Society Turn Parcel. Therefore, existing employees and users whose trips originate west or south of the site, will be diverted to the new facility. This percentage was determined from a survey of the existing Medical Center current employees and users and is estimated at 33%. A letter from the Medical Center documenting the percentage is provided in Appendix F.

The trip reductions used in this study are summarized in Table 4.5

TABLE 5 - TRIP REDUCTION FACTORS

	Internal Capture Rates				Multi-	Pass-By
Land Use	AM IN	AM OUT	PM IN	PM OUT	**Modal**	
Multi-Family (Low-rise)	0%	4%	50%	30%	5%	
Hotel	0%	8%	4%	2%	5%	
Medical Center					5%	33%
Office Park	6%	28%	10%	5%	5%	
Retail	33%	29%	16%	30%	5%	34%

3.1 Intersection Capacity Analysis

Weekday AM and PM level of service estimates were prepared in accordance with the Highway Capacity Manual (Transportation Research Board, 2010). For unsignalized intersections, the Highway Capacity Manual defines level of service and delay in terms of seconds of stopped delay per vehicle, which is based on the number of acceptable gaps in the conflicting traffic stream. In general, the traffic movements analyzed are those controlled by stop signs or yield signs, and the left turn movements from the uncontrolled major street. The following table represents the level of service criteria for unsignalized intersections:

TABLE 6 - LEVEL OF SERVICE (LOS) CRITERIA

Unsignalized Intersections

Level of Service	Delay (seconds)
A	< 10.0
B	10.1 to 15
C	15.1 to 25
D	25.1 to 35
E	35.1 to 50
F	> 50.0

Source: Highway Capacity Manual, 2010

The "overall" intersection level of service at an unsignalized intersection corresponds with the average delay experienced on the minor street approaches and the uncontrolled major street movements. The unconflicted major street through movements are considered to have no delay. Because the majority of the intersection movements are major street movements

with no delay, the overall intersection results in a LOS with less delay than the minor street approaches and conflicting major street movements (left turns) actually experience.

In general, CDOT considers the overall intersection operation of LOS "D" or better acceptable during the peak hours. The goal is to also provide a similar LOS for each controlled intersection movement and/or approach. Although it is common in mountain corridor commuter areas for side-street approaches along principal arterials to operate with longer delays during a portion of the design hour, when the majority of the traffic using the mainline has free-flow conditions.

The MOE analysis by movement provides an overview of all intersection approach and conflicting movements and provides a more realistic picture of operations by controlled movement or approach as experienced and perceived by users. The MOE's also provide a valuable reference point for comparison of LOS, Delay and Queue between scenarios.

4.0 Baseline Traffic Conditions

4.1 Existing Roadways and Intersections

The scope of the study area consists of the following roadways and intersections.

SH 145 is the principal arterial that serves the Telluride corridor. The segment of SH 145 within the study area is classified as an R-A, Regional Highway by the State Highway Access Category Assignment Schedule and extends from Naturita south to Cortez. The project is located at the southwest quadrant on the SH 145 roundabout. SH 145 is commonly referred to as the west spur, south spur and east (Town) spur at the roundabout.

The SH 145 west spur in the vicinity of the access location consists of two 12-foot wide travel lanes without paved shoulder. The nearest existing access locations to the proposed STP access are Nimbus Drive (750 ft west) and the SH 145 roundabout (1500 ft east). A vicinity map is provided in Figure 4 showing area roads and posted speed limits in mph in both directions in the vicinity of the site. The red stars indicate the location of intersections studied. Additional highway geometric information downloaded from OTIS is provided in Appendix I.

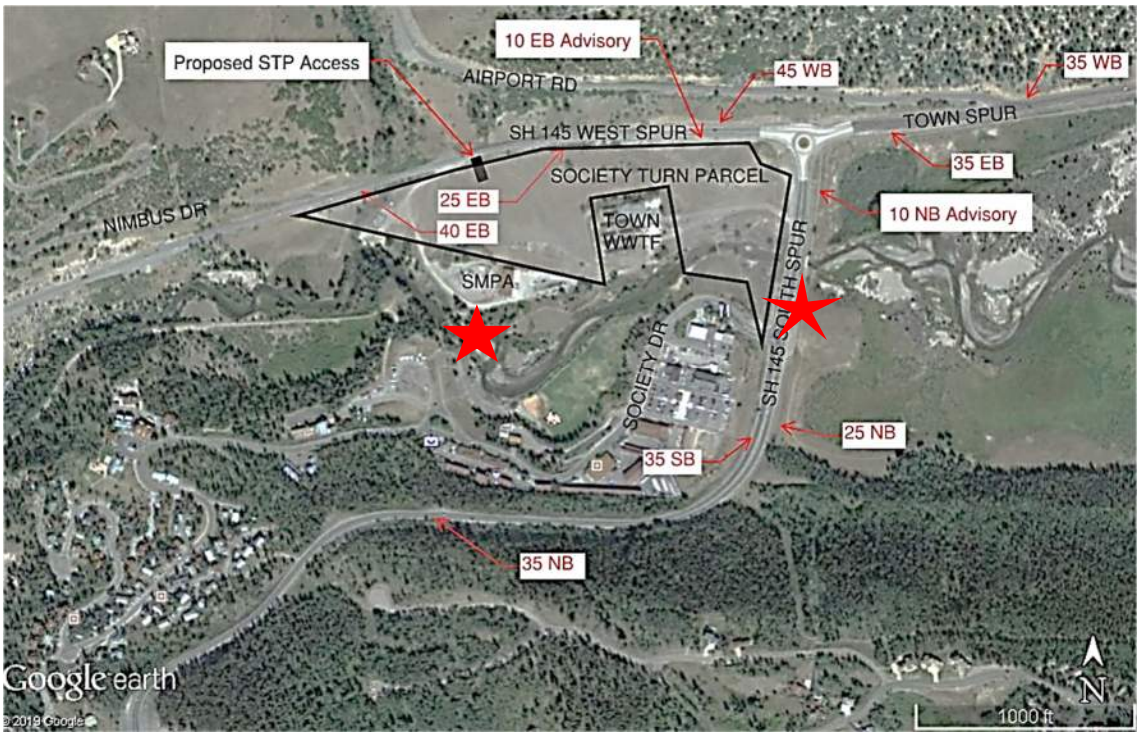


Figure 4 – Roadway vicinity map and speed limits (mph)

SH 145 Roundabout is a one-lane roundabout designed and constructed by CDOT; construction plans are dated 2012. The roundabout is designed as a one-lane with a westbound bypass lane for traffic leaving Telluride and travelling west. The 2032 DHV is shown as 1589 on the construction plans.

4.2 Baseline Traffic Volumes (2022)

Existing traffic data for SH 145 was obtained from traffic counts performed by SGM from March 3-5, 2020, prior to local shutdown attributable to COVID-19. Peak hour factors, heavy vehicle percentages, directional distribution and other inputs are based upon the March traffic data. Directional distribution for the baseline traffic is shown in Figure 5. This directional distribution is used for distribution of the development generated traffic volumes.

Figure 5 – Baseline Traffic Directional Distribution

The 3-day average peak hour data at the SH 145 roundabout is summarized below:

- AM peak hour 7:30 to 8:30; DHV at SH 145 roundabout is 1146
- PM peak hour 4:30 to 5:30; DHV at SH 145 roundabout is 1141
- AM PHF 0.83; PM PHF 0.95
- AM PHF influenced by morning school rush during 15-20-minute period

March 2020 traffic volumes and data analysis are provided in Appendix E.

4.3 Baseline Intersection Capacity Analysis

Using the baseline traffic volumes shown in Figure 7 and 8 in Appendix B, the capacity analysis was modeled in Synchro to estimate level of service and delay for each intersection.

Table 6 shows the overall results of the capacity analysis for the existing intersections in the study area. The study intersections operate at an overall LOS A and operate acceptably under baseline conditions.

The MOE's; LOS, delay (seconds) and 95th percentile queue lengths (feet) by approach movement are also presented in Table 7 and provide a reference point of 2022 Baseline traffic conditions to understand the effect of growth unrelated to the proposed development provided in the 2042 Background traffic volumes. All intersection approach movements operate at LOS C or better.

TABLE 7 - BASELINE INTERSECTION OVERALL LOS AND MOE BY MOVEMENT SUMMARY

			2022 BASELINE TRAFFIC				
			Overall LOS	*Overall Delay*	LOS	Delay	95th Q
Approach Movement							
Exist / STP	NB Left	AM	*A*	*0*			
		PM	*A*	*0*	B	12	-
	NB Right	AM					
		PM			B	12	-
	WB Left	AM					
		PM			A	7.6	-
SH 145	NB	AM	*A*	*9.9*	B	10.4	99
		PM	*A*	*5.3*	A	7.4	109
	WB Left	AM			A	6.3	-
		PM			A	3.4	-
	EB	AM			B	12.2	167
		PM			A	5.3	67

1 – Delay expressed as average delay per vehicle in seconds/vehicle

Queuing is reported for each approach movement at the study intersections to provide another indication of intersection performance. A queue length of 20 ft represents a single vehicle. Since the SH 145 intersections are adequately spaced from the controlled roundabout and meet SHAC requirements, queuing will not affect upstream mainline intersections in the baseline condition.

5.0 Background Traffic (2042)

The baseline SH 145 traffic volumes were used as a basis to develop the 20-year (2042) background traffic volumes. The 2022 Baseline volumes were adjusted with the 20-year growth factor of 1.13 for the traffic oriented with the south spur and a factor of 1.21 for the traffic oriented with the west spur.

5.1 Background Intersection Capacity Analysis

Using the 2042 Background traffic volumes, the capacity analysis was modeled in Synchro to determine level of service and delay for the access. The background traffic volumes are provided in Figures 9 and 10 in Appendix B.

Table 8 shows the overall results of the capacity analysis for the existing intersections in the study area. The study intersections operate at an overall LOS B or better and operate acceptably under background conditions.

TABLE 8 - BACKGROUND INTERSECTION OVERALL LOS AND MOE BY MOVEMENT SUMMARY

			2042 BACKGROUND TRAFFIC				
			Overall LOS	*Overall Delay*	LOS	Delay	95th Q
Approach Movement							
Exist / STP	NB Left	AM	*A*	*0*			
		PM	*A*	*0*	B	13.2	-
	NB Right	AM					
		PM			B	13.2	-
	WB Left	AM					
		PM			A	7.7	-
SH 145	NB	AM	*B*	*14.5*	B	13.8	108
		PM	*A*	*5.9*	A	8.4	130
	WB Left	AM			A	4.6	-
		PM			A	7	23
	EB	AM			C	19.2	509
		PM			A	5.9	73

1 – Delay expressed as average delay per vehicle in seconds/vehicle

MOE analysis is also presented in Table 8 and provides an overview of intersection approach movements for 2042 Background traffic conditions for comparison to 2022 Baseline traffic conditions to understand the effect of background traffic volumes. The study intersection approach movements operate at LOS B or better.

Overall, the approach movement queue lengths increase an average of 33% from baseline to background volumes, above the average of the growth factor used for the west and south spurs. That percentage is driven by the EB movement where the queue length increased three times.

6.0 Total Traffic (2042)

6.1 Project Trip Generation and Assignment

ITE's Trip Generation Manual (10th Edition) was used to provide trip generation rates and directional distribution for the proposed mixed-use development as described in 3.0 Methodology. The resulting trip generation is shown in Table 9. The table shows internal access design hour volume following the application of trip reductions also described in Section 3.0.

TABLE 9 - INTERNAL ACCESS TRIP GENERATION

Land Use	Variable units / ksf	ITE Code	AM IN	AM OUT	PM IN	PM OUT
Multi-Family (Low-rise)	88	220	10	30	16	13
Hotel	150	310	39	25	40	39
Medical Center	40	610	23	10	11	25
Office Park	111.075	750	178	17	25	150
Retail	9.659	820	21	13	37	33
			270	**96**	**129**	**260**

The assignment of traffic at the proposed STP Road A access is shown in Figure 6 below for the AM and PM design hour.

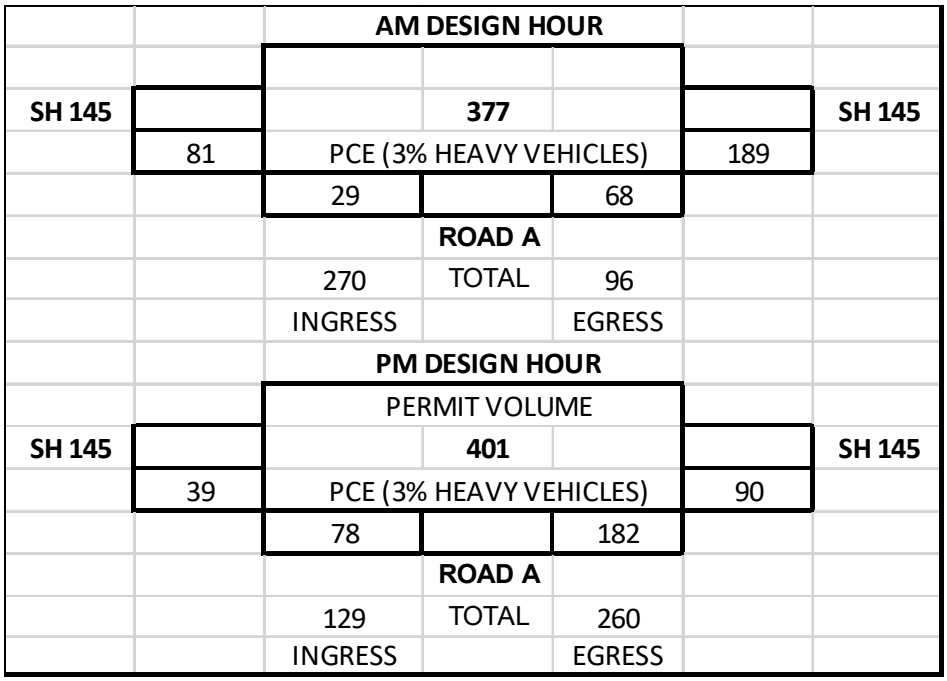


Figure 6 – Road A Trip Assignment

A full calculation of trip reductions and directional distribution is provided in the Appendix K.

6.2 Total 2042 Traffic Volumes

The 2042 Total traffic volumes are the sum of the 2042 Background traffic volumes (Figure 9 & 10) plus the proposed site-generated access volumes (Figure 6).

Total traffic volumes are shown in Figures 11 and 12 in Appendix B for the study intersections as shown in the Synchro output.

6.3 Total Intersection Capacity Analysis

Table 10 shows the overall results of the capacity analysis for the existing intersections and proposed STP access Road A. The previously analyzed existing intersections, and the proposed STP Road A intersection, operate at an overall LOS C or better.

TABLE 10 - TOTAL INTERSECTION OVERALL LOS AND MOE BY MOVEMENT SUMMARY

			2042 TOTAL TRAFFIC				
			Overall LOS	*Overall Delay*	LOS	Delay	95th Q
Approach Movement							
Exist / STP	NB Left	AM	*A*	*3.7*	E	40.6	61
		PM	*A*	*4.1*	C	24.4	75
	NB Right	AM			C	15.7	20
		PM			B	10.5	12
	WB Left	AM			B	11.2	139
		PM			A	7.9	48
SH 145	NB	AM	*C*	*18.4*	C	20.3	148
		PM	*A*	*7.3*	B	10.9	166
	WB Left	AM			A	5.1	-
		PM			A	7.4	24
	EB	AM			D	25.1	1036
		PM			A	8.3	115

1 – Delay expressed as average delay per vehicle in seconds/vehicle

MOE analysis is also presented in Table 10 and provides an overview of intersection approach movements for 2042 Total traffic conditions to understand the effect of project traffic volumes in addition to the 2042 Background traffic. All intersection approach movements operate at LOS C or better except for the STP Road A NB left (AM) and SH 145 EB (AM).

The STP NB approach in whole is LOS C with a delay of 23.1 s.

The SH 145 EB approach to the roundabout intersection crossed the defined LOS C (25 s) to LOS D (25.1 s) threshold by 0.1 s.

Overall, the approach movement queue lengths increase an average of 30% from background to total volumes. Again, that percentage is driven by the EB movement where the queue length doubled.

STP Road A NB left turn is LOS E during the AM design hour. While the proposed egress volumes are relatively low (29 DHV), the combined conflicting volumes of EB through and WB left movements limit the available gaps, causing the modeled 40 second delays. This a relatively common occurrence for side street accesses onto state highway corridors during AM and PM design hours in resort communities where heavy AM and PM directional volumes exist. For both the AM and PM NB left, the 95th percentile queue is approximately 3 vehicles. The overall STP Road A intersection operating at LOS A and the NB approach (Rt and Lt) operating at LOS C (AM) and LOS B (PM) are acceptable.

The combined baseline, background and total LOS and MOE tables are provided in the Appendix J as a combined table for comparison purposes.

6.4 State Highway Access Permit Evaluation

An access permit will be required for the development of the Society Turn Parcel. The existing access permit for the existing northwest access location as described in section 2.2 is provided in Appendix L.

The access permit DHV is calculated based upon the volumes shown in Figure 6. Using a heavy vehicle percentage of 3%, and an assumption of 2 passenger car equivalents (PCE's) for those heavy vehicles results in a PM DHV of 401 PCE's for the purpose of a permit volume.

The existing easterly access currently used by the Regional WWTF will be limited to that current use and emergency access for the project. The emergency access to the Genesee property is a condition of the County Land Use Code and will be gated at all times.

6.5 Total Traffic Auxiliary Turn Lane Analysis

Auxiliary turn lane requirements for access to Colorado State Highways are based on the projected DHVs, the speed limit and geometry of the highway adjacent to the access, and the classification of the highway. For design purposes, the speed limit of the highway adjacent to the project is 45 mph westbound and 40 mph eastbound to a location 300 ft east of the proposed access, where the eastbound speed changes to 25 mph.

Based on the State Highway Access Code (Code) for a R-A highway; Auxiliary turn lanes shall be installed according to the criteria below:

- A left turn deceleration lane with taper and storage length is required for any access with a projected peak hour left ingress turning volume greater than 10 vph. The taper length will be included within the required deceleration length.
    - *WB left volume 189 vph – Lane warranted*
- A right turn deceleration lane and taper length is required for any access with a projected peak hour right ingress turning volume greater than 25 vph. The taper length will be included within the required deceleration length.
    - *EB right volume 81 vph – Lane warranted*
- A right turn acceleration lane and taper length 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 greater than 40 mph. The taper length will be included within the required acceleration length.
    - *The lane is not warranted since the speed limit is 40 mph at the access. However, due to the volume (183 vph) and for increased safety and access level of service, it is recommended that the lane be constructed.*
- A left turn acceleration lane may be required if it would be a benefit to the safety and operation of the roadway or for specifically identified and documented safety and operation reasons a left turn acceleration lane may be required when unique location factors such as; highway speed and traffic density, access volume, the volume of commercial trucks, the influence of nearby access, existing highway auxiliary lanes close to the access, nearby traffic control devices, available stopping sight distance, and where other topographic and highway design factors exist that determine the need.

- NB Left Turn Acceleration lane is NOT warranted based on the following conditions:
  - The AM and PM DHV's of 29 and 79 respectively, can safely access the highway with adequate gaps in traffic. The lower volume DHV in the AM period has an average delay on the order of 40 seconds, the low volume results in a queue of about three vehicles. The higher volume DHV in the PM period has an average delay on the order of 25 seconds, the higher volume results in a similar queue length. The access shall provide a two-lane NB approach, to accommodate both left and right turning movements, increasing the approach to a LOS C (AM) and LOS B (PM). The overall intersection operation is at a LOS A for the AM and PM peak periods.
  - The posted WB speed limit is 45 mph
  - The heavy vehicle percentage is anticipated to be on the order or 2-3%, with 10-15% of those multi-unit trucks. The resultant PM design hour volume is 2-3 single-unit trucks, the multi-unit truck rate is 1-2 per week during the design hour.
  - An entering sight distance of 765 ft (or 585 ft SU) can be provided for multi-unit trucks entering the highway.
  - A left turn acceleration lane is generally not required where; the posted speed is less than 45 mph

TABLE 11 - AUXILIARY LANE REQUIREMENTS

Auxiliary Lane (11 ft width)	Standard Code Design Length + Storage (taper) (ft)	DHV (vph)	Posted Speed (mph)	Storage (ft)	95th % Q (ft)
EB Right Turn Decel[2]	370 (132)	81	40	n/a	n/a
EB Right Turn Accel[2]	380 (132)	183	40	n/a	(20) [NB]
WB Left Turn Decel [1]	435 + 100(148.5)	189	45	100	135

[1] – 45 mph Posted Speed
[2] – 40 mph Posted Speed

The State Access Code gives the following design parameters for redirect tapers:

- The easterly EB redirect taper is located within a 25-mph speed zone and should have a taper rate of 15:1
- The westerly EB redirect taper is located within a 40-mph speed zone and should have a taper rate of 30:1

6.6 Sight Distance and Access Conditions

The proposed access will be controlled by a stop sign on the approach to SH 145. This approach lies within a relatively flat curve section of the highway. Development of the access will require clear sight triangles at the proposed access. The highway provides adequate entering sight distance for a multi-unit truck, the design vehicle for this access. With sight distance in excess of 765 feet at 45 mph WB posted speed. The intersection will be designed to provide the same. Google earth street view images are provided below.

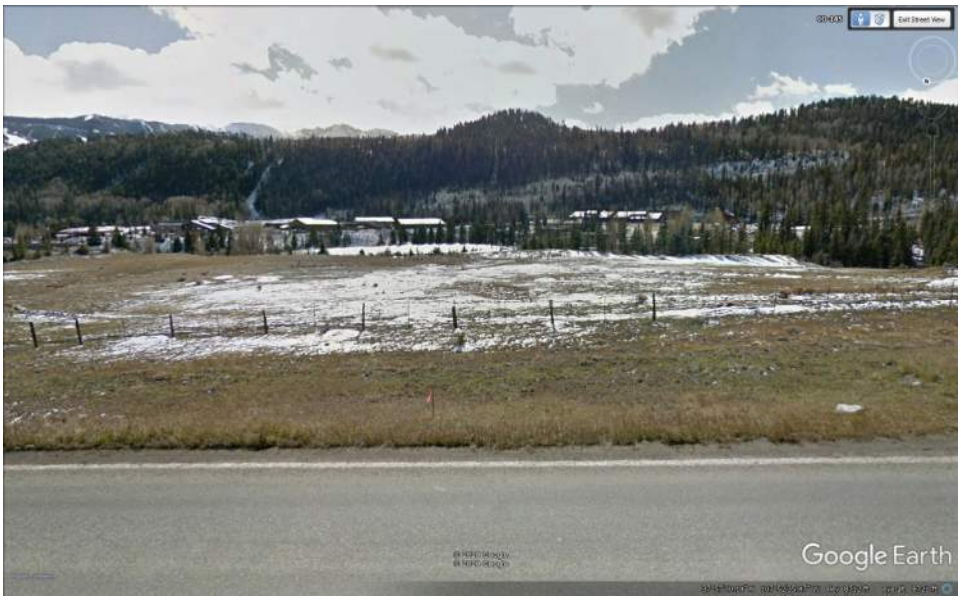


Figure 13 – Proposed Access Location

Figure 14 – Proposed Access Looking West

Figure 15 – Proposed Access Looking East

The STP Road A access should be designed as three lanes. The egress providing a two lane exit for a minimum distance of 100 ft. The right turn should be channelized to allow a right-turn on yield and efficient entry into the EB right turn acceleration lane. The ingress will be a single lane.

7.0 Conclusions and Proposed Mitigation Measures

7.1 Summary of Conclusions

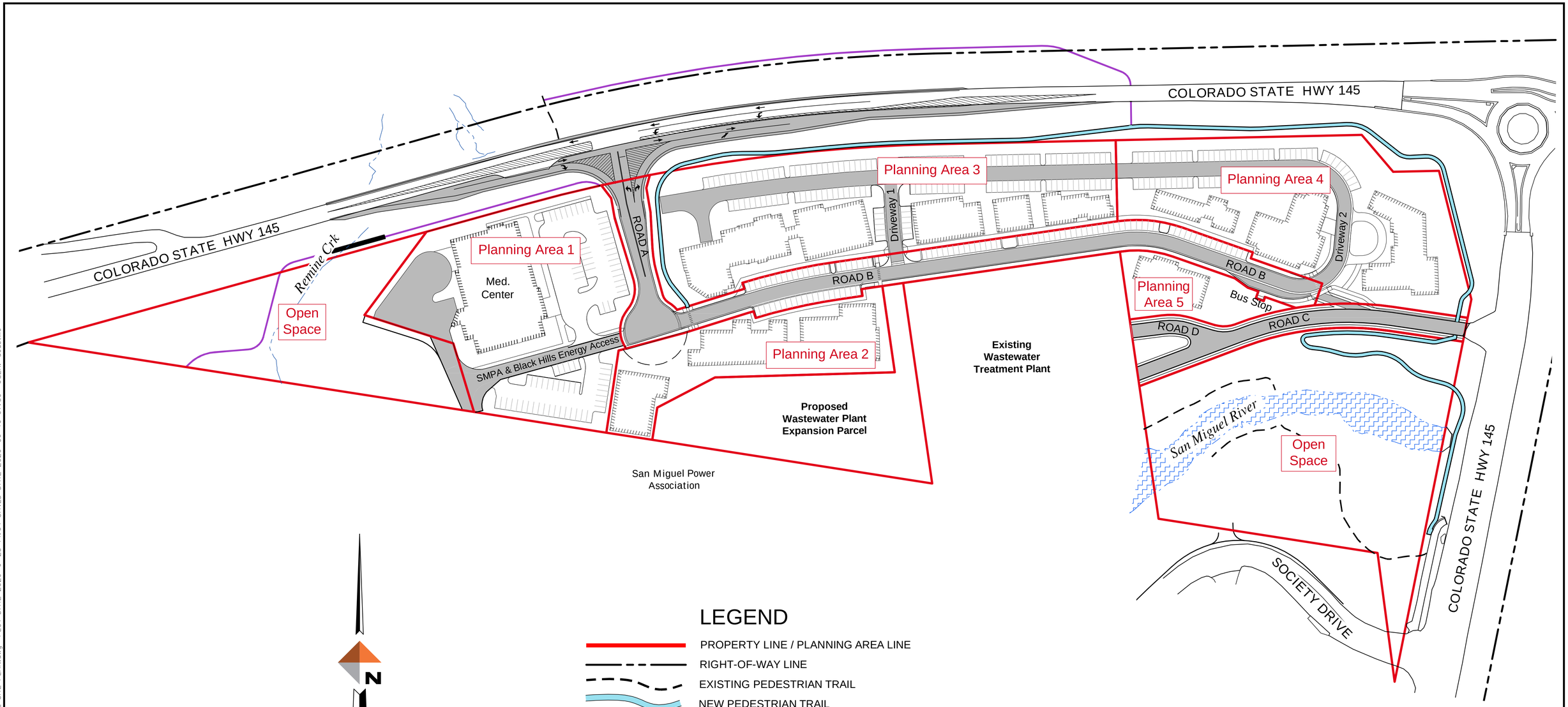
- The existing roadway network and adjacent intersections operate at an acceptable LOS in the total traffic scenario.
- The proposed access operates at an acceptable LOS in the total traffic scenario.
- A new access permit is required. The new permit volume is calculated to be a DHV of 401 in passenger car equivalents.

7.2 Proposed Mitigation Measures

- The STP Road A access intersection requires the following auxiliary turn lanes
  - WB left turn deceleration lane with storage length
  - EB right turn deceleration lane
  - EB right turn acceleration lane
- The STP Road A access intersection can provide acceptable sight distance, design sight triangles must be developed and maintained as clear zone with the development of this access to accommodate passenger vehicles, single-unit and multi-unit trucks.
- The STP Road A access shall provide a two-lane egress (minimum 100 ft) to avoid internal blocking of the NB right turn egress lane by potential NB left turn queuing
- The STP Road A access shall provide NB right turn channelization to maximize efficient operation of the NB right turn lane and EB acceleration lane.

Appendix A

Illustrative Site Plan



LEGEND

- PROPERTY LINE / PLANNING AREA LINE
- RIGHT-OF-WAY LINE
- EXISTING PEDESTRIAN TRAIL
- NEW PEDESTRIAN TRAIL
- NEW EXTENSION OF DEEP CREEK TRAIL
- NEW ROADS AND DRIVEWAYS (PAVED)
- SCHEMATIC BUILDING FOOTPRINT

NOTE: THE SITE PLAN SHOWS POTENTIAL LOCATIONS, FOOTPRINT SIZES AND ORIENTATIONS OF BUILDINGS, PARKING AREAS AND OTHER IMPROVEMENTS FOR THE PROJECT WITHIN THE INDIVIDUAL PLANNING AREAS. FINAL SIZING AND SITING OF THE BUILDINGS AND IMPROVEMENTS WILL BE DETERMINED DURING THE REVIEW PROCESS.

DATE: 06-23-2020

DOWL
WWW.DOWL.COM
222 South Park Avenue
Montrose, Colorado 81401
970-249-6828

GENESEE PROPERTIES, INC.

SOCIETY TURN PARCEL
CONCEPTUAL SITE PLAN

Appendix B

Traffic Volume Figures 7-12

FIGURE 7

BASELINE 2022 AM PEAK VOLUMES

SOCIETY TURN PARCEL

FIGURE 8

BASELINE 2022 PM PEAK VOLUMES

SOCIETY TURN PARCEL

FIGURE 9

BACKGROUND 2042 AM PEAK VOLUMES

SOCIETY TURN PARCEL

FIGURE 10

BACKGROUND 2042 PM PEAK VOLUMES

SOCIETY TURN PARCEL

FIGURE 11

TOTAL 2042 AM PEAK VOLUMES

SOCIETY TURN PARCEL

FIGURE 12

TOTAL 2042 PM PEAK VOLUMES

SOCIETY TURN PARCEL

Appendix C

Methodology / Assumptions (Correspondence with CDOT)

MEMORANDUM

DATE: August 19, 2019
Revised October 9, 2019

TO: Jo Heinlein, CDOT Region 5 Access Manager

FROM: Dan Cokley, PE, PTOE

RE: Society Turn Level III Traffic Analysis Methodology Proposal

---

This memo documents the initial methodology and assumptions that SGM intends to use for the Level 3 traffic analysis for the "Society Turn Parcel" proposed development located at the southwest quadrant of the intersection of east-west and north-south legs of SH 145 in San Miguel County. The proposed Mixed-Use development would consist of Residential, Retail, Restaurant, Lodging, Office, Industrial, and Medical Center and Office components.

The goal of this memo is to gain CDOT's acceptance of the data intended for use in the analysis, assumptions proposed for the analysis (directional distribution, trip reduction factors, etc.) and the overall approach to the access process for this land use application for San Miguel County.

We are also requesting any existing traffic count data CDOT has available for the immediate area (not of OTIS website) and a design current report, modeling and construction plans for the roundabout on SH 145.

Modeling will be performed using he guidelines of the CDOT Traffic Analysis and Forecasting Guidelines_v01.072018.

Study Intersections
This Level 3 study will provide and future-year operational analysis of the intersections of the SH 145 roundabout, SH 145 & Nimbus Drive, permit SH 145 & Society Drive and the proposed project intersection. The need for auxiliary lanes will be analyzed per the State Highway Access Code (SHAC). SH 145 is classified as R-A Regional Highway through the project area with a posted speed of 35 to 45 mph.

Baseline Traffic
SGM will collect current traffic volumes at the above referenced intersections. If CDOT does not have adequate existing traffic counts at the Roundabout, SGM will collect current traffic volumes at that location also.

Analysis Years
Operational analysis of "Opening Day" traffic (2020), 20-year background traffic (2040) and 20-year total traffic (2040) will be completed. Baseline traffic volumes at study intersections will be factored by CDOT's 20-year factor provided on the OTIS website for this section of SH 145.
(Station #104699: 20-year factor of 1.13, with 5.4% trucks, and 7500 ADT 2018; s/o spur)
(Station #104700: 20-year factor of 1.21, with 5.2% trucks, and 6600 ADT 2018; w/o spur)

Development Land Use Rates
Full buildout of Society Turn Parcel using trip generation rates from the ITE Trip Generation Manual, 10th Edition results in the raw daily and peak hour trip generation as provided below.

				Design Hour Rates					
	Number	ITE	Weekday	AM	AM	AM	PM	PM	PM
Land Use	of Units	Code	Rate	Rate	Entering	Exiting	Rate	Entering	Exiting
Retail	9.63	820	37.75	0.94	0.58	0.36	3.81	1.83	1.98
Restaurant	9.72	932	112.18	9.94	5.47	4.47	9.77	6.06	3.71
Office	35.86	710	10.67	1.67	1.44	0.23	1.20	0.19	1.01
Industrial (Flex)	45	130	3.37	0.40	0.32	0.08	0.40	0.08	0.32
Medical Center	40	610	10.72	0.89	0.61	0.28	0.97	0.31	0.66
Medical Offices	19.31	720	34.8	2.78	2.17	0.61	3.46	0.97	2.49
Lodging	150	310	12.23	0.62	0.36	0.26	0.73	0.36	0.37
Residential	87	220	7.32	0.46	0.11	0.35	0.56	0.35	0.21

					Weekday Design Hour Distribution				
ITE Ttrip Generation Manual, 10th Edition					AM IN	AM OUT		PM IN	PM OUT
Retail	820	AM ~3x Ave Rate; PM Fitted Curve. ~3x Av			62%	38%		48%	52%
Restaurant	931	Ave Rate			55%	45%		62%	38%
Office	710	Fitted Curve			86%	14%		16%	84%
Industrial (Flex)	130	Ave Rate			81%	19%		21%	79%
Medical Center	610	Ave Rate			68%	32%		32%	68%
Medical Offices	720	Ave Rate			78%	22%		28%	72%
Lodging	310	Ave Rate			58%	42%		49%	51%
Residential	220	Ave Rate			23%	77%		63%	37%

The land use type, units, and ITE Land Use codes and distribution are noted the Tables above.

Trip Reductions

Internal Capture

As with any mixed-use development, a portion of the trips generated by a land use will be attracted to another on-site land use as influenced by proximity, and therefore will not impact the site access to SH 145. For instance, a portion of the customers at retail stores can be expected to consist occupants of the residential housing units, who may simply walk to/from the store. Developments with a relatively even balance of land uses tend to generate more internal trips than do developments that are preponderantly of one type of land use. The ITE Trip Generation Handbook, 3rd Edition, using NCHRP Report 684 – Enhancing Internal Trip Capture Estimation for Mixed Use Developments methodology in order to estimate the internal capture of a mixed-use development. That methodology resulted in the reductions presented below.

	Internal Capture Rates			
Land Use	AM IN	AM OUT	PM IN	PM OUT
Retail	20%	67%	48%	38%
Restaurant	6%	18%	24%	52%
Office	20%	5%	16%	1%
Industrial (Flex)				
Medical Center				
Medical Offices				
Lodging	2%	13%	7%	5%
Residential	0%	6%	6%	22%

Those reductions would be applied to the trip generation results shown above for the Retail, Restaurant, Office, Lodging and Residential uses that are able to be applied using the methodology. The Industrial and Medical uses would be excluded from the internal capture reduction.

Multi-modal

Multi-modal trips could consist of walking, biking and transit options. The development site near the roundabout separating the east-west and north-south legs of SH 145 provide a mid-valley location that is convenient for all transportation modes.

The Telluride valley is known for hiking and biking, along with that comes increased percentages of valley residents who use those modes of transportation for commuting and other trips typically taken with vehicles. The typical US average walking and biking distance for a commute or other trip is 0.25 miles and 3 miles, respectively. With more prevalent use of alternative transportation in the region, it would be reasonable to assume those distances are increased in the area. The Town of Telluride is within the average biking distance at just over 3 miles. The Lawson Hill area is within 0.5 miles, allowing for relatively simple walking or biking trips. These alternative modes will reduce daily and peak hour vehicle trips; however, we will not consider pedestrian and bicycling reductions for this analysis.

The regional government operates free bus service between Town and Lawson Hill. This route will have the ability to service the Society Turn Parcel. We have used a trip reduction rate of about 5% for developments in the SH 135 and SH 82 corridors with similar demographic characteristics and rural transit systems. We would propose using 5% rate applied to all external trips.

Pass-By

Pass-by trips represent vehicles that are already in the SH 145 corridor prior to the development of the site and can be expected either to make intermediate stops on the way from an origin to a primary trip destination or to substitute a trip to the proposed development for an existing trip to a more remote location. Pass-by trips are drawn from the passing traffic stream and are included in the site driveway movements, but are not included in the through-volumes passing the site access point on SH 145.

Pass-by percentages for various specific land uses are available in the ITE Trip Generation Handbook. As depicted in the handbook, the total project-generated trips may be reduced by utilizing pass-by percentages for applicable land uses. For instance, ITE identifies a reduction of 34 percent from the primary trips for a retail center and 43 percent for a restaurant. These would

be the final reductions applied to a specific use. These reductions would be applied to the PM peak hour developed traffic volumes.

A pass-by trip reduction would also be applied to the Medical Center and Medical Office uses. The existing Medical Center (~10,000 sf) located in the Town of Telluride will be relocated to the Society Turn parcel. Therefore, existing employees and users whose trips originate west or south of the site, will be diverted to the new facility. This percentage will be determined from a survey of the existing Medical Center of existing employees and users. A final percentage will be presented to CDOT for approval.

Changes to trip reduction from this proposal due to changes in Site plan will be vetted through CDOT prior to final submittal.

Project Traffic Distribution
The directional distribution for site traffic was developed primarily through existing traffic distribution on SH 145. The most recent counts available on the CDOT OTIS website indicate a predominant directional distribution on SH 145 west of the Roundabout (69%/31% EB/WB AM; 37%/63% EB/WB PM), and evenly distributed traffic south of the roundabout on SH 145 (50%/50% AM&PM).

The distribution at the roundabout to and from Telluride is unknown existing information at this point. It is proposed that upon the completion of traffic counts, a final directional distribution be determined. In general, the distribution would be very similar to the existing traffic distribution near the site.

Changes to directional distribution from this proposal due to changes in Site plan will be vetted through CDOT prior to final submittal.

Access Permits
The Society Turn Parcel will file for a single state highway access permit application for this project for access to SH 145 west of the roundabout. There may be an updated permit needed for #2 below.

Please provide Access Permits for the following SH 145 access points that I can reference in this study

1. Society Drive MM 71.3 Left (Lawson Hill)
2. Wastewater Treatment Plant MM 71.4 Left
3. San Miguel Power MM 71.8 Left
4. Nimbus Drive MM 71.9 Right (Last Dollar)

CDOT Comments 9/3/19 *and SGM response 10/9/19*

1. ***We do not have any existing counts for the roundabout location. You will need to obtain those as well as directional distribution. Same for Society Drive, no counts there please obtain those.***
    a. *These locations have been counted and directional distributions will be determined and submitted with TIS. Raw count data is attached.*
2. ***There will be an upgrade made to the current chain station before the roundabout. I have attached a concept drawing of what this will look like****.*
    a. *In regard to the proposed chain station, there is significant concerns to be discussed as noted below:*

SGM

   i. *The need for two chain stations (one currently under construction at bottom of Keystone Hill near CDOT maintenance facility. Why another needed at a higher location?*
   ii. *The impact of lighting, truck noise and potential of parking immediately adjacent to this development is a critical concern.*
- b. *I have attached the conceptual access plan for the main access point to the project for your review and initial comment, specifically with regard to the following:*
   i. *Potential to place a landscape buffer within CDOT ROW, outside of required clear zone. (See cross sections, p2)*
   ii. *Placement of significant embankment and retaining walls in north and east quadrant of the site, adjacent to SH 145. (See cross sections, p2)*
   iii. *Drainage routing*
   iv. *Existing trail crossing of SH 145 to be formalized*
   v. *Existing culvert extensions*
   vi. *The proposed medical center is planned to be located on the western portion of the parcel. CPW has noted concern with heli-pad and potential effect on wildlife crossing road during landing and take-off. We'd like to discuss advance warning signage options.*

3. ***In your TIS please put the land use description in as shown in the ITE manual (Ex. Instead of lodging use Hotel)***
   a. *Noted*
4. ***There are worksheets that should go along with the Internal Capture Rates as shown in your memo. Please send those to me so I can check the rates.***
   a. *Attached*
5. ***Will any of the Retail be in the same building as Office space or Residential?***
   a. *Specific uses in specific buildings is unknown at this time, only a general configuration of space. Additional definition will be requested as we begin the TIS shortly.*
6. ***Will the Hotel have a Restaurant in it?***
   a. *See above. If so, the use will be matched to ITE definitions.*
7. ***Please update any project traffic distribution if needed after getting counts and distribution at the Roundabout and Society drive.***
   a. *Will provide as we get started with TIS, in a forthcoming memo.*
8. ***All permits CDOT has on file are attached.***
   a. *Thank you*

COLORADO
Department of Transportation
Region 5

3803 N. Main Avenue
Durango, CO 81301-4034

Dan Cokley, PE
SGM
118 W Sixth St. Suite 200
Glenwood Springs, CO 81601

Re: Society Turn Assumptions Memo

Mr. Cokley,

I have reviewed the Society Turn assumption memo submitted by SGM on August 19,2019. Below are my comments/questions:

1. We do not have any existing counts for the roundabout location. You will need to obtain those as well as directional distribution. Same for Society Drive, no counts there please obtain those.
2. There will be an upgrade made to the current chain station before the roundabout. I have attached a concept drawing of what this will look like.
3. In your TIS please put the land use description in as shown in the ITE manual (Ex. Instead of lodging use Hotel)
4. There are worksheets that should go along with the Internal Capture Rates as shown in your memo. Please send those to me so I can check the rates.
5. Will any of the Retail be in the same building as Office space or Residential?
6. Will the Hotel have a Restaurant in it?
7. Please update any project traffic distribution if needed after getting counts and distribution at the Roundabout and Society drive.
8. All permits CDOT has on file are attached.

Please send the additional data and answer the questions above before moving forward with assumptions as stated in the August Memo.

Thank You,

JENNIFER ALLISON

Jennifer Allison, PE
Traffic and Safety Resident Engineer

COLORADO
Department of Transportation
Region 5

3803 N. Main Avenue
Durango, CO 81301-4034

Dan Cokley
SGM
118 W Sixth Street Suite 200
Glenwood Springs, CO 81601

RE: Society Turn Level III Traffic Analysis Methodology Proposal.

Mr. Cokely,

I have reviewed your October 9, 2019 submittal of raw counts, TIS memo and Conceptual plan. My comments are as follows: (I have pasted the questions from your Memo below and provided CDOT's answers in Bold)

1. (Roundabout and Society Turn counts) These locations have been counted (by SGM) and directional distributions will be determined and submitted with TIS. Raw count data is attached. - **Thank you.**

2. In regard to the proposed chain station, there is significant concerns to be discussed as noted below:

   i. The need for two chain stations (one currently under construction at bottom of Keystone Hill near CDOT maintenance facility. Why another needed at a higher location?

   All of our new/upgraded chain station locations are identified through working with our maintenance crews and the freight committee. These locations are identified as either a need or a location currently being used by trucks as a chain station. The location here was identified as a location that trucks are currently using as a chain station. Therefore, this location will be upgraded to make it safer as it is a commonly used location. These locations are then brought to the freight committee with location need and schedule for construction. So this location has both region and freight buy-in.

   ii. The impact of lighting, truck noise and potential of parking immediately adjacent to this development is a critical concern.

   All chain station lighting is dark sky compliant. Then in areas close to residential areas we have install shields on the lights to reduce light pollution. These are incorporated in the plan set for this location.

   As far as noise goes, the chain stations are to be used when chain law is in effect. Over the course of a year this amounts to a small portion of time. I imagine the noise from the Helicopter would be more of a concern as it is probably used more. *Per your email on October 25th you wanted to "understand low-elevation lighting opportunities, signage and enforcement to mitigate noise, exhaust and overnight use of the area (chain station).
   My response is as follows:
   Signage: We will put "no parking 30-minute chain up only".

Enforcement: CDOT does not do enforcement, this would be a conversation with the local police or CSP.

3. Conceptual access plan:
   i. Potential to place a landscape buffer within CDOT ROW, outside of required clear zone. (See cross sections, p2): **All landscaping must be on the Society Turn project and none of it will be allowed in the CDOT ROW. We do not allow landscaping in the ROW outside of areas such as Cities or Towns, where there is an existing landscaping agreement between the City or Town and CDOT.**

   ii. Placement of significant embankment and retaining walls in north and east quadrant of the site, adjacent to SH 145. (See cross sections, p2): **No walls for this project are allowed in the CDOT ROW. These must be moved back out of the CDOT ROW and back onto the Society Turn property.**

   iii. Drainage routing: **Maintain the existing drainage paths if possible, highlight any paths that changed and why.**

   iv. Existing trail crossing of SH 145 to be formalized: **This is a conversation that needs to include San Miguel County. We worked with Janet Kask the director of Parks and Open Space of San Miguel County back in May to get the existing signs at these two locations (north and south of SH 145). The signs include trail crossing signs on the Highway.**
   ***At the pre-design meeting we can invite Janet Kask to discuss options for this crossing, since your required improvements are increasing the crossing length. May need to look a moving the crossing west towards Nimbus or make crossing improvements at the proposed access location. Contact: janetk@sanmiguelcountyco.gov**

   v. Existing culvert extensions: **Due to the fact that your project requires culvert extensions, you can extend the culverts (assuming the culverts are currently in operable condition). If the culverts are in good condition, we require the contractor to clean the existing culverts and then they can be extended using the same material as the existing culvert.**

   vi. The proposed medical center is planned to be located on the western portion of the parcel. CPW has noted concern with heli-pad and potential effect on wildlife crossing road during landing and take-off. We'd like to discuss advance warning signage options: **In general, we do not install wildlife detection or warning signs where the crash data does not warrant it. The threshold is 5 animal hits per mile per year. I ran the wildlife crash data for this section for the last 10 years and found no reported wildlife hits. *At the pre-design meeting we can meet with CPW and our wildlife specialist to discuss.**

4. **Acceleration and deceleration lanes as shown on Exhibit 1:**

As far as the traffic impact study goes, the assumptions are good and CDOT would like to see a full TIS submitted so that we can complete a full review. Once CDOT reviews and accepts the TIS then we can move on to the construction plans and specification process. In this process we will have a pre-design meeting, in this meeting we can discuss in further detail any questions regarding the site plan and construction of your access.

Thank You,

Jennifer Allison, P.E.
Region 5 Traffic and Safety Resident Engineer

Appendix D

Synchro Output

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	573	0	0	114	0	0
Future Vol, veh/h	573	0	0	114	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	690	0	0	137	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	827	690
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	-	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	0	-	339	442
Stage 1	-	0	0	-	494	-
Stage 2	-	0	0	-	885	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	339	442
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	885	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	675	279	448
Demand Flow Rate, veh/h	702	290	466
Vehicles Circulating, veh/h	217	70	379
Vehicles Exiting, veh/h	70	775	540
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	12.2	3.3	10.4
Approach LOS	B	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	TR	L	R	LR
Assumed Moves	TR	L	R	LR
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	73	4.976
Entry Flow, veh/h	702	217	1872	466
Cap Entry Lane, veh/h	1106	1285	0.962	937
Entry HV Adj Factor	0.962	0.963	70	0.961
Flow Entry, veh/h	675	209	1800	448
Cap Entry, veh/h	1064	1237	0.039	901
V/C Ratio	0.635	0.169	0.0	0.497
Control Delay, s/veh	12.2	4.3	A	10.4
LOS	B	A	0	B
95th %tile Queue, veh	5	1		3

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	157	0	3	467	1	1
Future Vol, veh/h	157	0	3	467	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	189	0	4	563	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	189	0	760	189
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	571	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1373	-	371	848
Stage 1	-	0	-	-	838	-
Stage 2	-	0	-	-	561	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1373	-	370	848
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	559	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	515	-	1373	-
HCM Lane V/C Ratio	0.005	-	0.003	-
HCM Control Delay (s)	12	-	7.6	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	159	548	513
Demand Flow Rate, veh/h	166	570	534
Vehicles Circulating, veh/h	304	250	100
Vehicles Exiting, veh/h	250	384	370
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.3	3.4	7.4
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LTR	L	R	LR
Assumed Moves	LTR	L	R	LR
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	266	4.976
Entry Flow, veh/h	166	304	1872	534
Cap Entry Lane, veh/h	1012	1069	0.962	1246
Entry HV Adj Factor	0.959	0.960	256	0.961
Flow Entry, veh/h	159	292	1800	513
Cap Entry, veh/h	970	1027	0.142	1197
V/C Ratio	0.164	0.284	0.0	0.429
Control Delay, s/veh	5.3	6.3	A	7.4
LOS	A	A	0	A
95th %tile Queue, veh	1	1		2

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	693	0	0	133	0	0
Future Vol, veh/h	693	0	0	133	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	835	0	0	160	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	995	835
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	-	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	0	-	269	365
Stage 1	-	0	0	-	422	-
Stage 2	-	0	0	-	864	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	269	365
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	817	321	506
Demand Flow Rate, veh/h	850	333	526
Vehicles Circulating, veh/h	246	79	458
Vehicles Exiting, veh/h	79	905	638
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	19.2	3.4	13.8
Approach LOS	C	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	TR	L	R	LR
Assumed Moves	TR	L	R	LR
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	87	4.976
Entry Flow, veh/h	850	246	1872	526
Cap Entry Lane, veh/h	1074	1273	0.962	865
Entry HV Adj Factor	0.962	0.963	84	0.962
Flow Entry, veh/h	817	237	1800	506
Cap Entry, veh/h	1033	1226	0.047	832
V/C Ratio	0.792	0.193	0.0	0.608
Control Delay, s/veh	19.2	4.6	A	13.8
LOS	C	A	0	B
95th %tile Queue, veh	9	1		4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	190	0	3	547	1	1
Future Vol, veh/h	190	0	3	547	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	229	0	4	659	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	229	0	896	229
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	667	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1327	-	308	805
Stage 1	-	0	-	-	804	-
Stage 2	-	0	-	-	507	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1327	-	306	805
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	504	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	443	-	1327	-
HCM Lane V/C Ratio	0.005	-	0.003	-
HCM Control Delay (s)	13.2	-	7.7	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection	
Intersection Delay, s/veh	5.9
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	192	637	575
Demand Flow Rate, veh/h	200	662	598
Vehicles Circulating, veh/h	341	278	120
Vehicles Exiting, veh/h	278	440	421
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.9	3.6	8.4
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LTR	L	R	LR
Assumed Moves	LTR	L	R	LR
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	321	4.976
Entry Flow, veh/h	200	341	1872	598
Cap Entry Lane, veh/h	975	1039	0.962	1221
Entry HV Adj Factor	0.962	0.962	309	0.962
Flow Entry, veh/h	192	328	1800	575
Cap Entry, veh/h	938	999	0.172	1174
V/C Ratio	0.205	0.328	0.0	0.490
Control Delay, s/veh	5.9	7.0	A	8.4
LOS	A	A	1	A
95th %tile Queue, veh	1	1		3

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	689	81	189	123	29	68
Future Vol, veh/h	689	81	189	123	29	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	220	450	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	749	88	205	134	32	74

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	837	0	1293	749
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	544	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	789	-	178	409
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	578	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	789	-	132	409
Mov Cap-2 Maneuver	-	-	-	-	132	-
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.8	23.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	132	409	-	-	789	-
HCM Lane V/C Ratio	0.239	0.181	-	-	0.26	-
HCM Control Delay (s)	40.6	15.7	-	-	11.2	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	0.9	0.7	-	-	1	-

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	892	451	592
Demand Flow Rate, veh/h	927	469	615
Vehicles Circulating, veh/h	247	168	504
Vehicles Exiting, veh/h	167	951	670
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	25.1	2.7	20.3
Approach LOS	D	A	C

Lane	Left	Left	Bypass	Left
Designated Moves	LTR	L	R	LR
Assumed Moves	LTR	L	R	LR
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	223	4.976
Entry Flow, veh/h	927	246	1872	615
Cap Entry Lane, veh/h	1073	1163	0.962	825
Entry HV Adj Factor	0.962	0.963	214	0.963
Flow Entry, veh/h	892	237	1800	592
Cap Entry, veh/h	1032	1120	0.119	794
V/C Ratio	0.864	0.212	0.0	0.745
Control Delay, s/veh	25.1	5.1	A	20.3
LOS	D	A	0	C
95th %tile Queue, veh	12	1		7

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	185	39	93	536	79	183
Future Vol, veh/h	185	39	93	536	79	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	220	450	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	193	41	97	558	82	191

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	234	0	945	193
Stage 1	-	-	-	-	193	-
Stage 2	-	-	-	-	752	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1322	-	288	843
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	462	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1322	-	267	843
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	267	843	-	-	1322	-
HCM Lane V/C Ratio	0.308	0.226	-	-	0.073	-
HCM Control Delay (s)	24.4	10.5	-	-	7.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.3	0.9	-	-	0.2	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	370	683	617
Demand Flow Rate, veh/h	384	710	641
Vehicles Circulating, veh/h	342	321	221
Vehicles Exiting, veh/h	320	541	505
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	8.3	3.6	10.9
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LTR	L	R	LR
Assumed Moves	LTR	L	R	LR
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	369	4.976
Entry Flow, veh/h	384	341	1872	641
Cap Entry Lane, veh/h	974	995	0.962	1101
Entry HV Adj Factor	0.962	0.962	355	0.962
Flow Entry, veh/h	370	328	1800	617
Cap Entry, veh/h	937	957	0.197	1060
V/C Ratio	0.394	0.343	0.0	0.582
Control Delay, s/veh	8.3	7.4	A	10.9
LOS	A	A	1	B
95th %tile Queue, veh	2	2		4

Intersection: 3: SH 145

Movement	EB	B4	WB	NB
Directions Served	TR	T	UL	LR
Maximum Queue (ft)	206	89	11	133
Average Queue (ft)	88	6	0	49
95th Queue (ft)	185	46	5	99
Link Distance (ft)	121	1344	112	424
Upstream Blk Time (%)	6			
Queuing Penalty (veh)	37			
Storage Bay Dist (ft)				
Storage Blk Time (%)	95th Q EB = 121 + 46 = 167			
Queuing Penalty (veh)				

Intersection: 3: SH 145

Movement	EB	WB	NB
Directions Served	UTR	UL	LR
Maximum Queue (ft)	88	34	154
Average Queue (ft)	24	3	47
95th Queue (ft)	67	17	109
Link Distance (ft)	121	112	424
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SH 145

Movement	EB	B4	WB	NB
Directions Served	TR	T	UL	LR
Maximum Queue (ft)	222	408	8	134
Average Queue (ft)	140	96	0	56
95th Queue (ft)	242	388	5	108
Link Distance (ft)	121	1364	112	424
Upstream Blk Time (%)	31			
Queuing Penalty (veh)	212			
Storage Bay Dist (ft)				
Storage Blk Time (%)	95th Q EB = 121+ 388 = 509			
Queuing Penalty (veh)				

Intersection: 3: SH 145

Movement	EB	WB	NB
Directions Served	UTR	UL	LR
Maximum Queue (ft)	96	39	173
Average Queue (ft)	30	5	57
95th Queue (ft)	73	23	130
Link Distance (ft)	121	112	424
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SH 145

Movement	EB	B4	B15	WB	NB
Directions Served	UTR	T	T	UL	ULR
Maximum Queue (ft)	232	690	125	14	191
Average Queue (ft)	182	330	22	1	74
95th Queue (ft)	264	858	136	5	148
Link Distance (ft)	121	779	438	112	268
Upstream Blk Time (%)	66	11	0		
Queuing Penalty (veh)	499	82	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

95th Q EB = 121 + 779 + 136 = 1036

Intersection: 14: STP & SH 145

Movement	EB	EB	WB	WB	B4	B4	NB	NB
Directions Served	T	R	L	T	T		L	R
Maximum Queue (ft)	10	29	171	37	8	18	74	41
Average Queue (ft)	0	3	71	1	0	1	25	2
95th Queue (ft)	8	17	139	37	5	11	61	20
Link Distance (ft)	311			438	121	121		204
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		220	450				250	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: SH 145

Movement	EB	B4	WB	NB
Directions Served	UTR	T	UL	ULR
Maximum Queue (ft)	150	2	44	206
Average Queue (ft)	56	0	5	82
95th Queue (ft)	115	2	24	166
Link Distance (ft)	121	779	112	268
Upstream Blk Time (%)	1			0
Queuing Penalty (veh)	3			0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: STP & SH 145

Movement	WB	B4	B4	NB	NB
Directions Served	L	T		L	R
Maximum Queue (ft)	60	57	29	96	20
Average Queue (ft)	18	4	2	39	1
95th Queue (ft)	48	29	18	75	12
Link Distance (ft)		121	121		204
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)	450			250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Appendix E

March 2020 Traffic Counts / CDOT OTIS Comparison Table

Study Name	Society Turn Parcel Counts
Start Date	Tuesday, March 03, 2020 7:00 AM
End Date	Thursday, March 05, 2020 6:00 PM
Site Code	SH 145

Report Summary Tue / Wed / Thu Average

Westbound					Northbound					Eastbound					
T	L	U	I	O	R	L	U	I	O	R	T	U	I	O	Total
54	167	1	222	595	305	52	1	358	413	245	288	0	533	106	1114
94%	97%	67%	96%	98%	98%	94%	67%	97%	97%	97%	98%	0%	97%	94%	97%
2	4	0	6	13	6	2	0	9	11	6	7	0	13	4	28
3%	3%	0%	3%	2%	2%	5%	0%	2%	2%	2%	2%	0%	2%	4%	2.4%
2	0	0	2	1	0	1	0	1	2	2	0	0	3	3	6
3%	0%	0%	1%	0%	0%	2%	0%	0%	1%	1%	0%	0%	0%	2%	0.5%
57	**171**	**1**	**230**	**609**	**312**	**55**	**1**	**368**	**426**	**254**	**295**	**0**	**549**	**112**	**1147**
0.73	0.67	0.17	0.69	0.69	0.69	0.77	0.25	0.74	0.85	0.85	0.65	0.00	0.74	0.76	0.83
		Approach %	20%	53%				32%	37%				48%	10%	
232	269	1	502	341	253	218	2	472	330	59	87	1	146	450	1121
97%	99%	67%	98%	99%	98%	97%	100%	98%	99%	99%	100%	67%	99%	97%	98%
6	3	0	9	4	4	6	0	10	3	1	0	0	1	12	20
3%	1%	0%	2%	1%	2%	3%	0%	2%	1%	1%	0%	0%	1%	3%	1.8%
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.1%
238	**272**	**1**	**511**	**346**	**257**	**224**	**2**	**483**	**333**	**60**	**87**	**1**	**147**	**463**	**1142**
0.82	0.86	0.25	0.85	0.92	0.90	0.86	0.42	0.94	0.91	0.77	0.85	0.17	0.86	0.92	0.95
		Approach %	45%	30%				42%	29%				13%	41%	

Study Name	Society Turn Parcel Counts
Start Date	Tuesday, March 03, 2020 7:00 AM
End Date	Thursday, March 05, 2020 6:15 PM
Site Code	Society Dr

Report Summary - 3 DAY AVE

		Southbound					Northbound					Eastbound					
Time Period	**Class.**	**R**	**T**	**U**	**I**	**O**	**T**	**L**	**U**	**I**	**O**	**R**	**L**	**U**	**I**	**O**	**Total**
Peak 1	Lights	177	246	0	423	358	221	60	0	281	327	81	137	0	218	237	922
Specified Period	%	97%	98%	0%	97%	97%	97%	100%	0%	98%	98%	98%	96%	33%	97%	98%	97%
7:00 AM - 9:15 AM	Mediums	5	5	0	10	11	6	0	0	6	6	1	5	0	6	5	22
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2.3%
7:30 AM - 8:30 AM	Articulated Trucks	1	1	0	2	1	1	0	0	1	1	0	0	0	1	1	4
	%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0.4%
	Total	**183**	**252**	**0**	**435**	**370**	**228**	**60**	**0**	**287**	**334**	**82**	**142**	**0**	**225**	**243**	**948**
	PHF	0.83	0.87	0.00	0.89	0.72	0.63	0.76	0.00	0.70	0.86	0.76	0.84	0.08	0.81	0.82	0.92
	Approach %				46%	39%				30%	35%				24%	26%	
Peak 2	Lights	125	209	0	334	473	320	66	0	387	263	54	153	0	207	192	928
Specified Period	%	98%	100%	0%	99%	98%	99%	99%	0%	99%	99%	97%	97%	33%	97%	98%	99%
3:00 PM - 6:15 PM	Mediums	3	0	0	3	7	3	0	0	4	2	2	4	0	6	3	13
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.4%
4:30 PM - 5:30 PM	Articulated Trucks	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	1
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.1%
	Total	**128**	**210**	**0**	**338**	**481**	**324**	**67**	**0**	**391**	**265**	**55**	**157**	**0**	**213**	**195**	**941**
	PHF	0.87	0.87	0.00	0.88	0.92	0.91	0.77	0.00	0.94	0.88	0.73	0.84	0.08	0.81	0.90	0.96
	Approach %				36%	51%				42%	28%				23%	21%	

Study Name	Society Turn Parcel Counts
Start Date	Tuesday, March 03, 2020 7:00 AM
End Date	Thursday, March 05, 2020 6:15 PM
Site Code	Nimbus Dr

Report Summary - 3 DAY AVERAGE

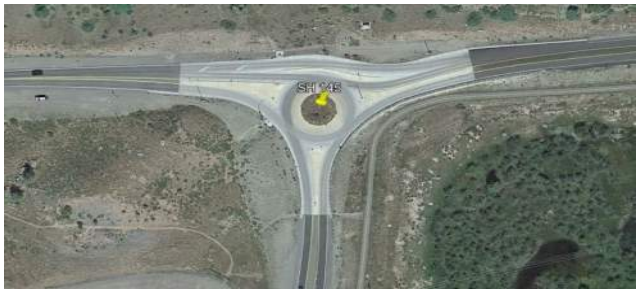
		Westbound					Eastbound					Southeastbound					
Time Period	**Class.**	**BR**	**T**	**U**	**I**	**O**	**T**	**HL**	**U**	**I**	**O**	**HR**	**BL**	**U**	**I**	**O**	**Total**
Peak 1	Lights	0	97	0	98	548	540	1	0	541	97	0	8	0	8	2	647
Specified Period	%	0%	100%	0%	100%	100%	100%	100%	0%	100%	100%	0%	100%	0%	100%	100%	100%
7:00 AM - 9:15 AM	Mediums	0	3	0	3	10	10	0	0	10	3	0	0	0	0	0	13
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7:15 AM - 8:15 AM	:iculated Tru	0	3	0	3	3	3	0	0	3	3	0	0	0	0	0	5
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	**0**	**103**	**0**	**103**	**561**	**553**	**1**	**0**	**554**	**103**	**0**	**8**	**0**	**8**	**2**	**665**
	PHF	0.1	0.73	0.08	0.74	0.76	0.75	0.25	0.00	0.76	0.73		0.61	0.00	0.61	0.33	0.81
	Approach %				16%	84%				83%	15%				1%	0%	
Peak 2	Lights	6	444	0	451	151	145	1	0	147	445	0	5	0	6	8	603
Specified Period	%	100%	100%	0%	100%	100%	100%	100%	0%	100%	100%	0%	100%	0%	100%	100%	100%
3:00 PM - 6:15 PM	Mediums	0	9	0	9	3	3	0	0	3	9	0	0	0	0	0	12
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4:15 PM - 5:15 PM	:iculated Tru	0	1	0	1	1	1	0	0	1	1	0	0	0	0	0	1
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	**6**	**454**	**0**	**461**	**154**	**149**	**1**	**0**	**150**	**455**	**0**	**5**	**0**	**6**	**8**	**616**
	PHF	0.5	0.90	0.00	0.91	0.88	0.87	0.25	0.00	0.87	0.90		0.44	0.00	0.46	0.50	0.94
	Approach %				75%	25%				24%	74%				1%	1%	

SH 145 Roundabout at Society Turn

Telluride, CO

AM PEAK

	SGM	CDOT		
	March 2020	Sta 104700 July 2018	Sta 104700 2020	
WB	112	166	165	
EB	549	389	408	
Total W spur	661	555	573	
RAB DHV	1147	-	1120	98%
	3d Ave Count	2d Ave Count	Balanced 2y GF 1.0211	



	SGM	CDOT	
	March 2020	July 2018	Balanced 2020
WB	230	-	290
EB	609	-	525
Total E spur	839	-	815
RAB DHV	1147	-	1120
	3d Ave Count	No Count	Balanced 2y GF

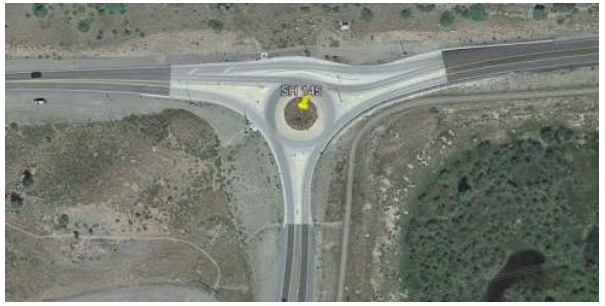
		SB	NB	Total S spur	DHV	
CDOT	Sta 104699 2020	354	440	794	1120	Balanced 2y GF 1.0171
	Sta 104699 July 2018	346	418	764	-	2d Ave Count
SGM	March 2020	426	368	794	1147	3d Ave Count

SH 145 Roundabout at Society Turn

Telluride, CO

PM PEAK

	SGM	CDOT		
	March 2020	Sta 104700 July 2018	Sta 104700 2020	
WB	463	455	465	
EB	147	218	223	
Total W spur	610	673	687	
RAB DHV	1142	-	1213	106%
	3d Ave Count	2d Ave Count	Balanced 2y GF 1.0211	



	SGM	CDOT	
	March 2020	July 2018	Balanced 2020
WB	511	-	506
EB	346	-	352
Total E spur	857	-	858
RAB DHV	1142	-	1213
	3d Ave Count	No Count	Balanced 2y GF

		SB	NB	Total S spur	RAB DHV	
CDOT	Sta 104699 2020	375	474	849	1213	Balanced 2y GF 1.0171
	Sta 104699 July 2018	370	468	838	-	2d Ave Count
SGM	March 2020	333	483	816	1142	3d Ave Count

Appendix F

Medical Center Letter

JRG Healthcare Consulting

Memorandum

To: Tom Kennedy
From: John Gardner
CC: Karen Winkelmann

Per your discussion I have reviewed our data, the feasibility study for the new Medical Center and surveyed current Medical Center employees to develop and estimate of the potential afternoon traffic moving westbound on Highway 145.

Employee Traffic

The greatest concern expressed to me was the potential employee traffic exiting the campus in the afternoon during peak afternoon travel time. It is my conclusion that employee impact on traffic volumes during the peak traffic window will be insignificant. This belief is based on the hours of operation of the Primary Care clinic as well as where the Medical Center employees reside.

The Primary Care Clinic hours of operation are from 8:00am to 5:00pm. The bulk of the employees working in the new facility will supporting activities surrounding the Primary Care operations. While the Clinic completes seeing patients at 5:00pm, a significant number of employees are on site until 6:00pm, wrapping up administrative duties from the day.

Reviewing Daytime Staffing of the Medical Center, it is estimated that there will be 35 employees on site any weekday. We have surveyed all of our employees to determine how many travel westbound from Society Turn. We had 38 employees respond, with 33% indicating that they would be westbound on 145 to go home. If the ratio remains the same in the future, we are looking at 12-13 employees who might be exiting the site in the evening.

4077 BUFFALO MOUNTAIN DR LOVELAND COLORADO 80538
T 970.988.1559

Patient Traffic

Unlike employee entering and exiting the site at the beginning and end of the day. There is no time of the day where the Medical Center experiences a concentration of patient arrival or departure. We would envision an even distribution over the nine hours of clinic operations. Looking at our clinic visit projections for 2025, we project the following hourly visits during the day:

Patient Visit Impact			
	2025	Vists/Day	visits/hour
Primary Care (9 hours/day-312 days)	15817	51	5.7
Behavioral Health (9 hours/day-260 days)	1716	7	0.8
Emergency (24 hours/day-365)	4037	11	0.03
Total Visits per hour			6.5

We do not have the data to determine how many patients would be exiting the site and heading west on highway 145. We have no reason to believe that it would be significantly different from our employee sampling, of one-third. Thus, we are looking at 2-3 patients per hour exiting westbound. Again, a very minimal impact.

Appendix G

Retail Land Use – AM Trip Generation Rate

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Gen Manual, 10th Ed

New data edition is available. Click here to upgrade.

SEARCH BY LAND USE CODE:
820

LAND USE GROUP:
(800-899) Retail

LAND USE :
820 - Shopping Center

LAND USE SUBCATEGORY:
All Sites

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GLA

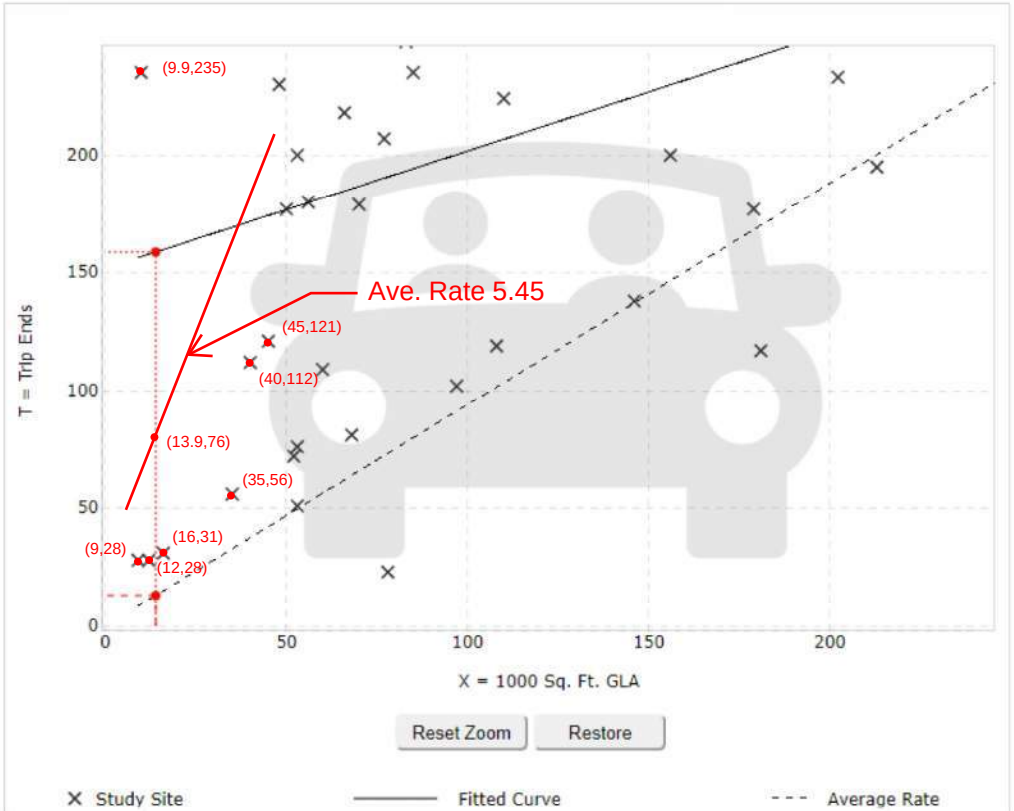
TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

SETTING/LOCATION:
General Urban/Suburban

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
13.89 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:
Shopping Center (820) Click for more details

Independent Variable:
1000 Sq. Ft. GLA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
84

Avg. 1000 Sq. Ft. GLA:
351

Average Rate:
0.94

Range of Rates:
0.18 - 23.74

Standard Deviation:
0.87

Fitted Curve Equation:
T = 0.50(X) + 151.78

R^2:
0.50

Directional Distribution:
62% entering, 38% exiting

Calculated Trip Ends:
Average Rate: 13 (Total), 8 (Entry), 5 (Exit)
Fitted Curve: 159 (Total), 98 (Entry), 61 (Exit)

Appendix H

NCHRP 684 Internal Capture Reduction

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	SocietyTurn Parcel	**Organization:**	SGM
Project Location:	SH 145 Teluride CO	**Performed By:**	DJC
Scenario Description:		**Date:**	
Analysis Year:	2040	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	750	116	ksf	230	205	25
Retail	820	14	ksf	29	18	11
Restaurant				0		
Cinema/Entertainment				0		
Residential	220	88	dwelling	43	10	33
Hotel	310	150	room	110	65	45
All Other Land Uses[2]	610	40	ksf	35	24	11
Total				447	322	125

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.50			1.50		
Restaurant	2.00			2.00		
Cinema/Entertainment						
Residential	1.50			1.50		
Hotel	2.00			2.00		
All Other Land Uses[2]	1.00			1.00		

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1000			1000	1000
Retail	1000				1000	1000
Restaurant						
Cinema/Entertainment						
Residential	1000	1000				1000
Hotel	1000	1000			1000	

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	0	0	0	0
Retail	5		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	0	0		0
Hotel	6	1	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	594	401	193
Internal Capture Percentage	7%	5%	11%
External Vehicle-Trips[3]	415	304	111
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	6%	28%
Retail	33%	29%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	4%
Hotel	0%	8%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	SocietyTurn Parcel
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	205	205	1.00	25	25
Retail	1.50	18	27	1.50	11	17
Restaurant	2.00	0	0	2.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.50	10	15	1.50	33	50
Hotel	2.00	65	130	2.00	45	90

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	16	0	0	0
Retail	5		2	0	2	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	10	0		0
Hotel	68	13	8	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		9	0	0	0	0
Retail	8		0	0	0	0
Restaurant	29	2		0	1	5
Cinema/Entertainment	0	0	0		0	0
Residential	6	5	0	0		0
Hotel	6	1	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	12	193	205	193	0	0
Retail	9	18	27	12	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	15	15	10	0	0
Hotel	0	130	130	65	0	0
All Other Land Uses[3]	0	24	24	24	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	7	18	25	18	0	0
Retail	5	12	17	8	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	48	50	32	0	0
Hotel	7	83	90	42	0	0
All Other Land Uses[3]	0	11	11	11	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	SocietyTurn Parcel	**Organization:**	SGM
Project Location:	SH 145 Teluride CO	**Performed By:**	DJC
Scenario Description:		**Date:**	
Analysis Year:	2040	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	750	116	ksf	201	30	171
Retail	820	14	ksf	127	61	66
Restaurant				0		
Cinema/Entertainment				0		
Residential	220	88	dwelling	53	33	20
Hotel	310	150	room	135	73	62
All Other Land Uses[2]	610	40	ksf	38	12	26
Total				554	209	345

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.50			1.50		
Restaurant	2.00			2.00		
Cinema/Entertainment						
Residential	1.50			1.50		
Hotel	2.00			2.00		
All Other Land Uses[2]	1.00			1.00		

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1000			1000	1000
Retail	1000				1000	1000
Restaurant						
Cinema/Entertainment						
Residential	1000	1000				1000
Hotel	1000	1000			1000	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	0	0	2	0
Retail	2		0	0	23	5
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	7	0	0		1
Hotel	0	2	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	780	330	450
Internal Capture Percentage	13%	15%	11%
External Vehicle-Trips[3]	487	177	310
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	10%	5%
Retail	16%	30%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	50%	30%
Hotel	4%	2%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	SocietyTurn Parcel
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	30	30	1.00	171	171
Retail	1.50	61	92	1.50	66	99
Restaurant	2.00	0	0	2.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.50	33	50	1.50	20	30
Hotel	2.00	73	146	2.00	62	124

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		26	7	0	3	0
Retail	2		29	4	24	5
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	10	6	0		1
Hotel	0	20	84	0	2	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	0	0	2	0
Retail	9		0	0	23	25
Restaurant	9	46		0	8	104
Cinema/Entertainment	2	4	0		2	1
Residential	17	7	0	0		18
Hotel	0	2	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	3	27	30	27	0	0
Retail	15	77	92	51	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	25	25	50	17	0	0
Hotel	6	140	146	70	0	0
All Other Land Uses[3]	0	12	12	12	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	8	163	171	163	0	0
Retail	30	69	99	46	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	9	21	30	14	0	0
Hotel	2	122	124	61	0	0
All Other Land Uses[3]	0	26	26	26	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Appendix I

CDOT OTIS Highway Explorer Data

CDOT-OTIS Online Transportation Information System

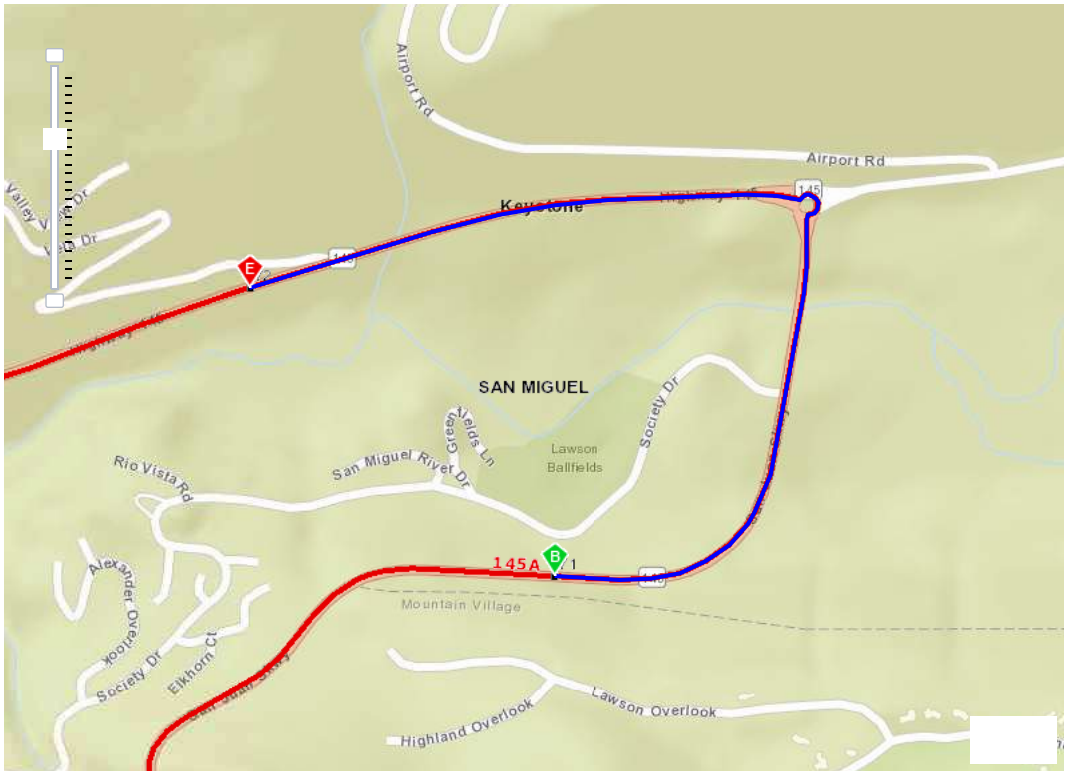
(/otis/)

- Highway Data (/otis/HighwayData)
- Traffic Data (/otis/TrafficData)
- Data Catalog (/otis/catalog)
- Reports (/otis/Statistics)
- Map View (/otis/Flex/MapView)
- Help (/otis/HighwayData/Help?actionName=Index)

Highway Data Explorer

- Search (#search-tab)
- Highway Details (#geometrics-tab)
- Traffic Statistics (#traffic-tab)
- Video Log (#videolog-tab)
- Documents (#documents-tab)
- Structures (#structures-tab)

(/otis/TrafficData#ui/1/0/0/criteria/145A/71/72/true/true) (/otis/Flex/MapView?hwy=145A&begrefpt=71&endrefpt=72)



Search by highway segment (#)

Select a route and begin and end ref points. You can select a route from the drop down list or click the pencil icon then click the map. You can enter the ref points into the text boxes or click the pencil icon then click the map.

Zoom to County (optional): select a county

CDOT Route Number: 145A Find by Name

Begin Reference: Min(0) 71

End Reference: Max(116.879) 72

Search by traffic station (#)

Search by structure (#)

Section between intersections (#)

Click the headings below to view results.
Highway 145A between 71 and 72 **Create Straight Line Diagram** (/otis/Sld?route=145A&begRef=71&endRef=72&keys=31,120,121,122,32,123,20,23,13,24,18,16,21,27,30,25,1,3,12,6,5,10,117,118,63,65,111,94,58,54,55,96,97,95,108,51,100,103,102,109,110,98,48,49,104,105,106

Description

Export to Excel (/otis/API/TRANSYS/DescOn/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Description
145A	70.991	71	0.009	UnNamed Event
145A	71	71.058	0.056	MILEPOST 71
145A	71.058	71.1	0.041	UnNamed Event
145A	71.1	71.2	0.094	RD N (LAWSON HILL RD)
145A	71.2	71.243	0.041	UnNamed Event
145A	71.243	71.254	0.01	SIGN BRIDGE STR (SIGN-M-05-A) - SBND ML VMS MM 71.24
145A	71.254	71.361	0.101	UnNamed Event
145A	71.361	71.389	0.026	MINORSTR (145A071360BR) PEDESTRIAN UNDERPASS
145A	71.389	71.404	0.022	MAJOR STR (M-05-D) SAN MIGUEL RIVER
145A	71.404	71.481	0.113	UnNamed Event
145A	71.481	71.508	0.026	JCT SH 145 SPUR E (TO TELLURIDE AND IDARADO MILL)
145A	71.508	71.916	0.398	UnNamed Event
145A	71.916	71.99	0.063	RD NW (CO RD LD-1) (NIMBUS DR)
145A	71.99	72	0.009	UnNamed Event
145A	72	72.087	0.091	MILEPOST 72

Pavement Primary Direction

Export to Excel (/otis/API/TRANSYS/PavementPrimaryDirection/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Pri DL Class	Pri Remaining DL	Pri IRI
145A	70.991	71.094	0.1	M	5	109
145A	71.094	71.2	0.1	M	5	124
145A	71.2	71.306	0.1	M	5	94
145A	71.306	71.404	0.1	M	5	166
145A	71.404	71.472	0.1	M	5	347
145A	71.472	71.57	0.1	M	5	83
145A	71.57	71.579	0.009	M	5	81
145A	71.579	71.673	0.091	L	3	81
145A	71.673	71.775	0.1	L	3	86
145A	71.775	71.878	0.1	L	3	89
145A	71.878	71.99	0.1	L	3	78
145A	71.99	72.087	0.1	L	3	75

Pavement Secondary Direction

Export to Excel (/otis/API/TRANSYS/PavementSecondaryDirection/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Sec DL Class	Sec Remaining DL	Sec IRI
145A	70.991	72.087	1.1	-	-	

Speed Limit

Export to Excel (/otis/API/TRANSYS/SpeedLimit/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Pri Speed Limit	Sec Speed Limit
145A	70.2	71.589	1.385	35	55
145A	71.589	71.9	0.303	45	55
145A	71.9	72.701	0.818	45	35

Toll / HOV

System Classification

Export to Excel (/otis/API/TRANSYS/SystemClassification/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Access Control	Admin Class	Functional Class	NHS Designation	Special System
145A	70.793	79	8.223	R-A: Regional Highway	CDOT Highway	3 Principal Arterial - Other	1 Mainline NHS	NON-STRAHNET

Route Classification

Export to Excel (/otis/API/TRANSYS/RouteClassification/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Highway Designation	Forest Route	Scenic Route	Truck Restriction	Terrain
145A	70.793	79	8.223	SH	0	Y	0 No Truck Restrictions	Mountainous

Jurisdiction Classification

Export to Excel (/otis/API/TRANSYS/JurisdictionClassification/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	FIPS City	FIPS County	Urban Area
145A	70.793	79	8.223	00000 - None	113 - San Miguel	UNDETERMINED

CDOT Classification

Export to Excel (/otis/API/TRANSYS/CdotClassification/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Commission District	CDOT Engineering Region	Transportation Planning Region
145A	59.465	84.258	24.735	8	Region 5	Gunnison Valley

Geometrics 1

Export to Excel (/otis/API/TRANSYS/GeometricsGeneral/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Thr Ln Qty	Thr Ln Wd	Is Divided	Operation	Surface Width
145A	70.527	71	0.459	2	10	No	Two-Way	32
145A	71	71.389	0.369	2	10	No	Two-Way	56
145A	71.389	71.481	0.135	2	10	No	Two-Way	44
145A	71.481	73	1.538	2	10	No	Two-Way	26

Geometrics 2

Export to Excel (/otis/API/TRANSYS/GeometricsPrimary/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Pri TL Qty	Pri TL Wid	Pri Surf	Pri Out Shld	Pri Out Shld Wid	Pri Out Safety	Pri Out Curb	Pri Snd Wall
145A	70.527	71	0.459	1	10	1 Asphalt	5 Combination	6	0 None	Unknown	None
145A	71	71.389	0.369	1	10	1 Asphalt	2 Bituminous	6	0 None	Unknown	None
145A	71.389	71.481	0.135	1	10	1 Asphalt	5 Combination	6	0 None	Unknown	None
145A	71.481	73	1.538	1	10	1 Asphalt	5 Combination	3	0 None	Unknown	None

Geometrics 3

Export to Excel (/otis/API/TRANSYS/GeometricsPrimary2/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Pri In Shld	Pri In Shld Wid	Pri In Curb	Pri Aux Ln Type	Pri Aux Ln Qty	Pri Aux Ln Wid	Pri LT Ln Qty	Pri LT Ln Wid
145A	70.527	71	0.459	1 No Shoulder	0	Unknown	None	0	0	0	0
145A	71	71.481	0.504	1 No Shoulder	0	Unknown	None	0	0	1	12
145A	71.481	73	1.538	1 No Shoulder	0	Unknown	None	0	0	0	0

Geometrics 4

Export to Excel (/otis/API/TRANSYS/GeometricsSecondary/145A/71/72.csv)

Route	Begin Ref	End Ref	Length	Med Type	Med Wid	Med Safety Type	Man Acc Lns	Man Acc Lns Aln	Lt Rail Aln
145A	70.527	73	2.501	1 None	0	0 None	None	None	None

Mile Markers

Export to Excel (/otis/API/TRANSYS/MILEGROUPSON/145A/71/72.csv)

Route	Mile Marker	Length	UTM X	UTM Y	Longitude	Latitude
145A	71	0.97	247337.03	4203684.09	-107.89878	37.9471
145A	72	1	246918.9	4204104.32	-107.91614	37.94808
145A	73	1.042	245285.04	4203909.35	-107.93136	37.95493

Click the headings below to view results.

Highway 145A between 71 and 72

AADT

Export to Excel (/otis/API/TRANSYS/AADT/145A/71/72.csv)

Route Begin Ref End Ref Length AADT % Trucks Vehicle Miles Travelled

Traffic Capacity

Export to Excel (/otis/API/TRANSYS/TrafficCapacity/145A/71/72.csv)

Route Begin Ref End Ref Length Route Capacity V/C Ratio V/C Ratio 20

Count Locations

Export to Excel (/otis/API/TRANSYS/TRAFFStation/145A/71/72.csv)

Route Ref Station LOCATION Count Type

Click the headings below to view results.
Highway 145A between 71 and 72
Camera: Front Right Direction: Increasing Decreasing Full-Size
View in Windshield App (/otis/windshield#2018/145A/71/1/1) Google Street View

Route Ref

Photo Year: 2018
The maps and data available for access from the Colorado Department of Transportation (CDOT) are provided "as is" without express or implied warranty of any kind. CDOT disclaims any and all responsibility for the accuracy, timeliness or completeness of the maps and data. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing the information. For the definitive description of real property, consult the deeds recorded in the appropriate County Clerk and Recorder's Office.
Click the headings below to view results.
Highway 145A between 71 and 72

ROW Plans

Route Begin Ref End Ref ROW Plan

Click the headings below to view results.
Highway 145A between 71 and 72

Structures

Export to Excel (/otis/API/TRANSYS/Structures/145A/71/72.csv)

Route Ref StrId Dir ClrminNE ClrmaxNE ClrminSW ClrmaxSW On / Under Type Sufficiency Rating GFP Location Photo

OTIS Online Transportation Information System (/otis/)

- Contact Us (/otis/Home/ContactUs) Sign In (/otis/Account/LogOn)
- CDOT Home (https://www.codot.gov)

- (https://www.facebook.com/coloradodot)
- (https://twitter.com/ColoradoDOT)
- (https://www.youtube.com/channel/UC0WFfiQ-SE4kV07saKZdueA)
- (https://www.linkedin.com/company/3690818)
- (https://public.govdelivery.com/accounts/CODOT/subscriber/new?pop=t&qsp=1851)
- (https://www.flickr.com/photos/coloradodot)

Appendix K

Trip Generation, Reduction, Distribution, Assignment Worksheet

Trip Generation
Society Turn Parcel

				Design Hour Rates						Weekday Design Hour Traffic					Trip Reduction												
	Variable	ITE	Weekday	AM	AM	AM	PM	PM	PM	Weekday	AM	AM	PM	PM	Internal Capture Rates				AM	AM	PM	PM	Multi-	AM	AM	PM	PM	Pass-By	AM	AM	PM	PM
Land Use	units / ksf	Code	Rate	Rate	Entering	Exiting	Rate	Entering	Exiting	Traffic	IN	OUT	IN	OUT	AM IN	AM OUT	PM IN	PM OUT	IN	OUT	IN	OUT	Modal	IN	OUT	IN	OUT		IN	OUT	IN	OUT
Multi-Family (Low-rise)	88	220	7.09	0.48	0.11	0.37	0.60	0.38	0.22	624	10	33	33	20	0%	4%	50%	30%	10	32	17	14	5%	10	30	16	13					
Hotel	150	310	8.45	0.46	0.27	0.19	0.58	0.29	0.28	1,267	41	29	44	42	0%	8%	4%	2%	41	27	42	41	5%	39	25	40	39					
Medical Center	40	610	10.72	0.89	0.61	0.28	0.97	0.31	0.66	429	24	11	12	26					24	11	12	26	5%	23	10	11	25	33%	8	3	4	8
Office Park	111.075	750	13.23	2.01	1.79	0.22	1.76	0.26	1.49	1,469	199	25	29	166	6%	28%	10%	5%	187	18	26	158	5%	178	17	25	150					
Retail	9.659	820	37.75	5.45	3.38	2.07	9.98	4.79	5.19	365	33	20	46	50	33%	29%	16%	30%	22	14	39	35	5%	21	13	37	33	34%	7	5	12	11
									TOTAL TRIPS:	4,154	307	118	164	304					284	102	135	274		270	96	129	260		15	8	16	19

Internal Capture Reduction (10%)	415
Transit Reduction (5%)	208
TOTAL ADJUSTED TRIPS:	3,531

DIRECTIONAL DISTRIBUTION

	Telluride / South SH					STP Oriented				East Access RI/RO Oriented					Society Drive Oriented Turning Movements				
	WB	EB	145 Split*			EB	EB / SB			EB	SB		EB	SB		EB Lt (NB)	NB Th	SB Rt	SB Th	
SH 145 @	30%	70%	60%	40%	SH 145 @	60%	40%	AM		0%	0%	EAST	0%	0%	AM	Society	35%	65%	40%	60%	AM
STP	30%	70%	55%	45%	RAB	55%	45%	PM		0%	0%	RI/RO	0%	0%	PM	Drive*	35%	65%	40%	60%	PM

*Based on Existing traffic percentages

*Based on Existing traffic percentages

Land Use	ITE Code	Trip Generation Method		Weekday Design Hour Distribution* AM IN	AM OUT	PM IN	PM OUT
Multi-Family (Low-rise)	220	Fitted Curve	Peak Hour adjacent Street	23%	77%	63%	37%
Hotel	310	Fitted Curve	Peak Hour adjacent Street	59%	41%	51%	49%
Medical Center	610	Ave Rate	Peak Hour adjacent Street	68%	32%	32%	68%
Office Park	750	Fitted Curve	Peak Hour of Generator	89%	11%	15%	85%
Retail	820	Ave / Fitted Ra	Peak Hour adjacent Street	62%	38%	48%	52%

ITE Ttrip Generation Manual, 10th Edition

	FROM/TO	Weekday Design Hour Traffic Distribution AM IN	AM OUT	PM IN	PM OUT	Internal Capture Reduced Ajusted Total AM IN	AM OUT	PM IN	PM OUT	Multi-Modal Reduced Adjusuted Total AM IN	AM OUT	PM IN	PM OUT	Pass-by Reduction AM IN	AM OUT	PM IN	PM OUT
DIRECTIONAL DISTRIBUTION	STP-TELL	42.0%	42.0%	38.5%	38.5%	STP-TELL 42.0%	42.0%	38.5%	38.5%	STP-TELL 42.0%	42.0%	38.5%	38.5%	STP-TELL 42.0%	42.0%	38.5%	38.5%
	STP- WEST DV	30.0%	30.0%	30.0%	30.0%	STP- WEST DV 30.0%	30.0%	30.0%	30.0%	STP- WEST DV 30.0%	30.0%	30.0%	30.0%	STP- WEST DV 30.0%	30.0%	30.0%	30.0%
	STP-So Dr	9.8%	11.2%	11.0%	12.6%	STP-So Dr 9.8%	11.2%	11.0%	12.6%	STP-So Dr 9.8%	11.2%	11.0%	12.6%	STP-So Dr 9.8%	11.2%	11.0%	12.6%
	STP-SOUTH	18.2%	16.8%	20.5%	18.9%	STP-SOUTH 18.2%	16.8%	20.5%	18.9%	STP-SOUTH 18.2%	16.8%	20.5%	18.9%	STP-SOUTH 18.2%	16.8%	20.5%	18.9%
	RI/RO TELL	0.0%	0.0%	0.0%	0.0%	RI/RO TELL 0.0%	0.0%	0.0%	0.0%	RI/RO TELL 0.0%	0.0%	0.0%	0.0%	RI/RO TELL 0.0%	0.0%	0.0%	0.0%
	RI/RO So Dr	0.0%	0.0%	0.0%	0.0%	RI/RO So Dr 0.0%	0.0%	0.0%	0.0%	RI/RO So Dr 0.0%	0.0%	0.0%	0.0%	RI/RO So Dr 0.0%	0.0%	0.0%	0.0%
	RI/RO SOUTH	0.0%	0.0%	0.0%	0.0%	RI/RO SOUTH 0.0%	0.0%	0.0%	0.0%	RI/RO SOUTH 0.0%	0.0%	0.0%	0.0%	RI/RO SOUTH 0.0%	0.0%	0.0%	0.0%
		100%	100%	100%	100%	100%	100%	100%	100%	Weekday Design Hour Traffic Total				100%	100%	100%	100%
TRIP ASSIGNMENT	STP-TELL	129	50	63	117	STP-TELL 119	43	52	105	STP-TELL 113	41	50	100	STP-TELL 6	3	6	7
	STP- WEST DV	92	35	49	91	STP- WEST DV 85	30	41	82	STP- WEST DV 81	29	39	78	STP- WEST DV 4	2	5	6
	STP-So Dr	30	13	18	38	STP-So Dr 28	11	15	35	STP-So Dr 26	11	14	33	STP-So Dr 1	1	2	2
	STP-SOUTH	56	20	34	57	STP-SOUTH 52	17	28	52	STP-SOUTH 49	16	26	49	STP-SOUTH 3	1	3	4
	RI/RO TELL	0	0	0	0	RI/RO TELL 0	0	0	0	RI/RO TELL 0	0	0	0	RI/RO TELL 0	0	0	0
	RI/RO So Dr	0	0	0	0	RI/RO So Dr 0	0	0	0	RI/RO So Dr 0	0	0	0	RI/RO So Dr 0	0	0	0
	RI/RO SOUTH	0	0	0	0	RI/RO SOUTH 0	0	0	0	RI/RO SOUTH 0	0	0	0	RI/RO SOUTH 0	0	0	0
		307	118	164	304	284	102	135	274	270	96	129	260	15	8	16	19
										AM IN	AM OUT	PM IN	PM OUT				

Appendix J

Combined Scenario Results – MOE's by Movement

Approach	Movement		2022 BASELINE TRAFFIC					2042 BACKGROUND TRAFFIC					2042 TOTAL TRAFFIC				
			Overall LOS	*Overall Delay*	LOS	Delay	95th Q	*Overall LOS*	*Overall Delay*	LOS	Delay	95th Q	*Overall LOS*	*Overall Delay*	LOS	Delay	95th Q
Exist / STP	NB Left	AM	*A*	*0*				*A*	*0*				*A*	*3.7*	E	40.6	61
		PM	*A*	*0*	B	12	-	*A*	*0*	B	13.2	-	*A*	*4.1*	C	24.4	75
	NB Right	AM													C	15.7	20
		PM			B	12	-			B	13.2	-			B	10.5	12
	WB Left	AM													B	11.2	139
		PM			A	7.6	-			A	7.7	-			A	7.9	48
SH 145	NB	AM	*A*	*9.9*	B	10.4	99	*B*	*14.5*	B	13.8	108	*C*	*18.4*	C	20.3	148
		PM	*A*	*5.3*	A	7.4	109	*A*	*5.9*	A	8.4	130	*A*	*7.3*	B	10.9	166
	WB Left	AM			A	6.3	-			A	4.6	-			A	5.1	-
		PM			A	3.4	-			A	7	23			A	7.4	24
	EB	AM			B	12.2	167			C	19.2	509			D	25.1	1036
		PM			A	5.3	67			A	5.9	73			A	8.3	115

Appendix L

SMPA Access Permit

COLORADO DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ACCESS PERMIT

PAID 4/22/94

SH No/MP/Side: 145/71.773 Lt.
Local Jurisdiction: San Miguel Co.
Dist/Section/Patrol: 503/27
DOT Permit No.: 594039
Permit Fee: $100.00
Date of Transmittal: April 8, 1994

THE PERMITTEE;

San Miguel Power Association, Inc.
P.O. Box 547
Telluride, CO 81435

RECEIVED
APR 21 1994
COLORADO DEPT. OF TRANSPORTATION
DISTRICT 5
CONSTRUCTION / PRE - CONSTRUCTION

is hereby granted permission to construct and use an access to the state highway at the location noted below. The access shall be constructed, maintained and used in accordance with the terms and conditions of this permit, including the State Highway Access Code and listed attachments. This permit may be revoked by the issuing authority if at any time the permitted access and its use violate any of the terms and conditions of this permit. The use of advance warning and construction signs, flashers, barricades and flaggers are required at all times during access construction within State right-of-way in conformance with the MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, Part VI. The issuing authority, the Department and their duly appointed agents and employees shall be held harmless against any action for personal injury or property damage sustained by reason of the exercise of the permit.

LOCATION:

Access is to be located on the West side of State Highway 145, a distance of 1200 feet South of Milepost 72.

ACCESS TO PROVIDE SERVICE TO:

San Miguel Power Association, Inc. office (4800 square feet); warehouse (2016 square feet); and loading area (3895 square feet); and electrical substation

OTHER TERMS AND CONDITIONS:

SEE REVERSE AND ATTACHED Pages 2, 3, and 4

MUNICIPALITY OR COUNTY APPROVAL

Required only when the appropriate local authority retains issuing authority.

By (X) NOT APPLICABLE Date _____ Title _____

Upon the signing of this permit the permittee agrees to the terms and conditions and referenced attachments contained herein. All construction shall be completed in an expeditious and safe manner and shall be finished within 45 days from initiation. The permitted access shall be completed in accordance with the terms and conditions of the permit prior to being used. **The permittee shall notify** Dave Reece **with the Colorado Department of Transportation in** Ridgway at 303-626-5588, **at least 48 hours prior to commencing construction within the State Highway right-of-way.**

The person signing as the permittee must be the owner or legal representative of the property served by the permitted access and have full authority to accept the permit and all it's terms and conditions.

Permittee (X) R Allen Lin Date 4-20-94
San Miguel Power Association, Inc.

This permit is not valid until signed by a duly authorized representative of the Department.
DEPARTMENT OF TRANSPORTATION, STATE OF COLORADO

By (X) FOR A.A. Shablo Steven W. Chapman Date 4-22-94 (Date of issue) Title Region Transportation Director

COPY DISTRIBUTION: Required; 1. District (Original) Make copies as necessary for; Local Authority Inspector

Previous Editions are Obsolete and will not be used
CDOT Form #101

The following paragraph are pertinent highlights of the State Highway Access Code. These are provided for your convenience but do not alleviate compliance with all sections of the Access Code. A copy of the State Highway Access Code is available from your local issuing authority (local government) or the Colorado Department of Transportation (Department). When this permit was issued, the issuing authority made its decision based in part on information submitted by the applicant, on the access category which is assigned to the highway, what alternative access to other public roads and streets is available, and safety and design standards. Changes in use or design not approved by the permit or the issuing authority may cause the revocation or suspension of the permit.

I **Appeals**

1. Should the permittee or applicant chose to object to any of the terms or conditions of the permit placed therein by the Department, an appeal must be filed with the Colorado Transportation Commission within 60 days of transmittal of the permit for permittee signature. The request for the hearing shall be filed in writing and submitted to the Colorado Transportation Commission, 4201 East Arkansas Avenue, Denver, Colorado 80222. The request shall include reasons for the appeal and may include recommendations by the permittee or applicant that would be acceptable to him.

2. The Department may consider any objections and requested revisions at the request of the applicant or permittee. If agreement is reached, the Department, with the approval of the local issuing authority (if applicable), may revise the permit accordingly, or issue a new permit, or require the applicant to submit a new application for reconsideration. Changes in the original application, proposed design or access use will normally require submittal of a new application.

3. Regardless of any communications, meetings, or negotiations with the Department regarding revisions and objections to the permit, if the permittee or applicant wishes to appeal the Department's decision to the Commission, the appeal must be brought to the Commission within 60 days of transmittal of the permit.

4. Any appeal by the applicant or permittee of action by the local issuing authority when it is the appropriate local authority (under subsection 2.4), shall be filed with the local authority and be consistent with the appeal procedures of the local authority.

5. If the final action is not further appealed, the Department or local authority may record the decision with the County Clerk and Recorder.

II **Construction standards and requirements**

1. The access must be under construction within one year of the permit date. However, under certain conditions a one year time extension may be granted if requested in writing prior to permit expiration.

2. The applicant shall notify the office specified on the permit at least 48 hours prior to construction. A copy of the permit shall be available for review at the construction site. Inspections will be made during construction.

3. The access construction within highway right-of-way must be completed within 45 days.

4. It is the responsibility of the permittee to complete the construction of the access according to the terms and conditions of the permit. If the permittee wishes to use the access prior to completion, arrangements must be approved by the issuing authority and Department and included on the permit. The Department or issuing authority may order a halt to any unauthorized use of the access. Reconstruction or improvements to the access may be required when the permittee has failed to meet required specifications of design or materials. If any construction element fails within two years due to improper construction or material specifications, the permittee is responsible for all repairs.

5. In the event it becomes necessary to remove any right-of-way fence, the posts on either side of the access shall be securely braced with an approved end post before the fence is cut to prevent any slacking of the remaining fence. All posts and wire removed are Department property and shall be turned over to a representative of the Department.

6. A copy of the permit shall be available for review at the construction site. If necessary, minor changes and additions shall be ordered by the Department or local authority field inspector to meet unanticipated site conditions.

7. The access shall be constructed and maintained in a manner that shall not cause water to enter onto the roadway, and shall not interfere with the drainage system in the right-of-way.

8. Where necessary to remove, relocate, or repair a traffic control device or public or private utilities for the construction of a permitted access, the work shall be accomplished by the permittee without cost to the Department or issuing authority, and at the direction of the Department or utility company. Any damage to the state highway or other public right-of-way beyond that which is allowed in the permit shall be repaired immediately.

9. Adequate advance warning is required at all times during access construction, in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways. This may include the use of signs, flashers, barricades and flaggers. This is also required by section 42-4-501,C.R.S. as amended. The issuing authority, the Department and their duly appointed agents and employees shall be held harmless against any action for personal injury or property damage sustained by reason of the exercise of the permit.

III **Changes in use and violations**

1. If there are changes in the use of the access, the access permit-issuing authority must be notified of the change. A change in property use which makes the existing access design or use in non-conformance with the Access Code or the terms and conditions of the permit, may require the reconstruction or relocation of the access. Examples of changes in access use are; an increase in vehicular volume by 20 percent, or an increase by 20 percent of a directional characteristic such as a left turn. The issuing authority will review the original permit; it may decide it is adequate or request that you apply for a new permit.

2. All terms and conditions of the permit are binding upon all assigns, successors-in-interest and heirs.

3. When a permitted driveway is constructed or used in violation of the Access Code, the local government or Department may obtain a court order to halt the violation. Such access permits may be revoked by the issuing authority.

IV **Further information**

1. When the permit holder wishes to make improvements to an existing legal access, he shall make his request by filing a completed permit application form with the issuing authority. The issuing authority may take action only on the request for improvement. Denial does not revoke the existing access.

2. The permittee, his heirs, successors-in-interest, and assigns, of the property serviced by the access shall be responsible for meeting the terms and conditions of the permit and the removal or clearance of snow or ice upon the access even though deposited on the access in the course of Department snow removal operations. The Department shall maintain in unincorporated areas the highway drainage system, including those culverts under the access which are part of that system within the right-of-way.

3. The issue date of the permit is the date the Department representative signs the permit which is after the permittee has returned the permit signed and paid any required fees.

4. The Department may, when necessary for the improved safety and operation of the roadway, rebuild, modify, remove, or redesign the highway including any auxiliary lane.

5. Any driveway, whether constructed before, on, or after June 30, 1979, may be required by the Department, with written concurrence of the appropriate local authority, to be reconstructed or relocated to conform to the Access Code, either at the property owner's expense if the reconstruction or relocation is necessitated by a change in the use of the property which results in a change in the type of driveway operation; or at the expense of the Department if the reconstruction or relocation is necessitated by changes in road or traffic conditions. The necessity for the relocation or reconstruction shall be determined by reference to the standards set forth in the Access Code.