



SM ROCHA, LLC

TRAFFIC AND TRANSPORTATION CONSULTANTS

March 23, 2020

Tim Christopherson
Shoot Indoors Buckley
1310 South Abilene Street
Aurora, CO 80012

**RE: Shoot Indoors Buckley / Traffic Generation Analysis
Aurora, Colorado**

Dear Tim,

SM ROCHA, LLC is pleased to provide traffic generation information for the development entitled Shoot Indoors Buckley. This development is located at 1310 S Abilene Street in Aurora, Colorado.

The intent of this analysis is to present traffic volumes likely generated by the proposed development and consider potential impacts to the adjacent roadway network.

The following is a summary of analysis results.

Site Description and Access

Land for the development is currently occupied by an existing multi-tenant retail building of approximately 55,000 square feet. The proposed development is understood to consist of an indoors shooting range which will occupy an approximate 10,000 square feet of the existing building. The site is surrounded by a mix of commercial, institutional, and residential land uses.

Development site traffic is primarily accommodated by one existing full-movement access onto S Abilene Street (referred to as Site Access). Site Access operates as a stop-controlled intersection.

General site and access locations are shown on Figure 1.

A general site plan of the existing retail building, as provided by Shoot Indoors Buckley, is shown on Figure 2. This plan is provided for illustrative purposes.

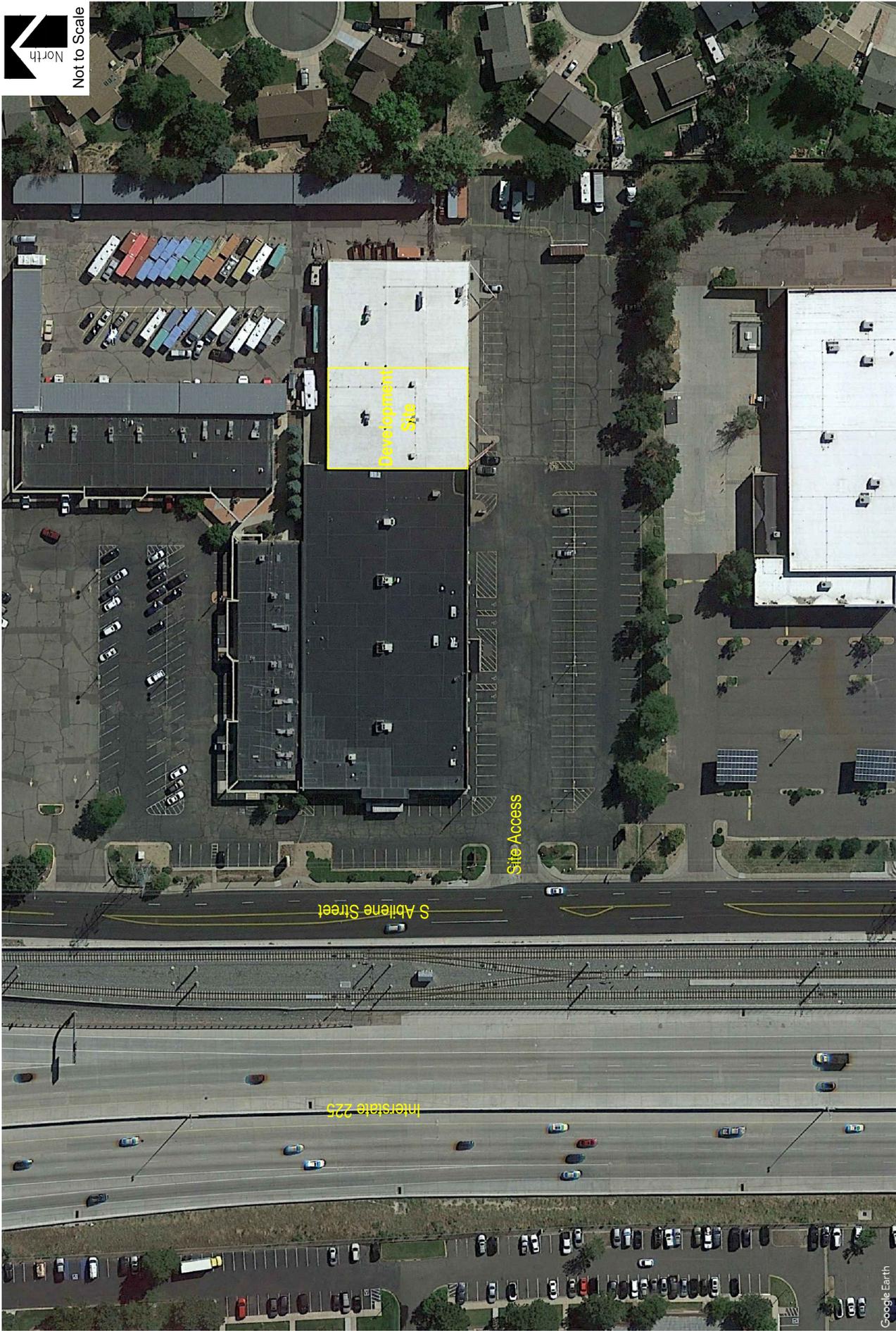


Figure 1
SITE LOCATION

SHOOT INDOORS BUCKLEY
Traffic Generation Analysis

SM ROCHA, LLC
Traffic and Transportation Consultants



Google Earth

Vehicle Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation, 10th Edition, were applied to the proposed land use in order to estimate the average daily traffic (ADT) and peak hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from point of origin to point of destination.

ITE does not provide data specific to a shooting range land use, therefore a comparable land use was chosen based on similarities between functionality. The ITE land use code 432 (Golf Driving Range) was used for estimating trip generation for the proposed shooting range as it is comparable in terms of having similar lanes used by a single individual for a recreational activity. Of the available ITE land use codes that may be used for comparison, it is believed Golf Driving Range is the best fit.

TABLE 1 TRIP GENERATION RATES									
ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
432	Golf Driving Range	LANE	13.65	0.24	0.16	0.40	0.56	0.69	1.25

Key: LANE = Number of Activity Lanes.

Note: All data and calculations above are subject to being rounded to nearest value.

Table 2 summarizes the projected average daily traffic (ADT) and peak hour traffic volumes likely generated by the land use proposed.

TABLE 2 TRIP GENERATION SUMMARY									
ITE CODE	LAND USE	SIZE	TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
432	Golf Driving Range	12 LANE	164	3	2	5	7	8	15
		<i>Total:</i>	<i>164</i>	<i>3</i>	<i>2</i>	<i>5</i>	<i>7</i>	<i>8</i>	<i>15</i>

Note: All data and calculations above are subject to being rounded to nearest value.

As Table 2 shows, the development area has the potential to generate approximately 164 daily trips with 5 of those occurring during the morning peak hour and 15 during the afternoon peak hour. Based on anticipated activity and visitor information provided by Shoot Indoors Buckley, it is believed that this estimate provides for a comparable and conservative analysis.

Adjustments to Trip Generation Rates

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

Trip Generation Distribution and Assignment

Overall directional distribution of site-generated traffic was determined based on existing area land uses, the site location within the City, and the available roadway network. Site-generated traffic is anticipated to be distributed through the existing Site Access. Distribution along S Abilene Street is general and assumed to be 60 percent to/from the north and 40 percent to/from the south.

Traffic assignment is how the site-generated and distributed trips are expected to be loaded on the roadway network. Applying assumed trip distribution patterns to site-generated traffic provides the peak hour trip volume assignments for the Site Access. These volumes are then divided further upon travel through adjacent roadways serving the overall development area. The table below uses the trip generation volumes from Table 2 and denotes projected traffic volumes at the existing access.

Development Site Access	AM Peak Hour Inbound Volume	AM Peak Hour Outbound Volume	PM Peak Hour Inbound Volume	PM Peak Hour Outbound Volume
Access on S Abilene Street				
Westbound Left	N/A	1	N/A	3
Westbound Right	N/A	1	N/A	5
Northbound Right	1	N/A	3	N/A
Southbound Left	2	N/A	4	N/A

Development Impacts

As Table 2 shows, peak hour traffic volumes anticipated for the proposed development are considered to be minor. These minor volumes are not likely to negatively impact operations of S Abilene Street or other adjacent roadways or intersections.

Due to the minor volumes indicated, it is believed that site circulation is anticipated to continue to operate adequately and comparable to current conditions. Vehicle queuing internal to the site, or at site accesses is anticipated to be similar to existing vehicle queues with no significant increase.

Conclusion

This analysis assessed traffic generation for the Shoot Indoors Buckley development and potential impacts to the adjacent roadway network.

It is our professional opinion that the proposed site-generated traffic is expected to create no negative impact to traffic operations for the surrounding roadway network and existing Site Access, nor impact internal site circulation. Analysis of site-generated traffic concludes that proposed development traffic volume is minor.

We trust that our findings will assist in the planning and approval of the Shoot Indoors Buckley development. Please contact us should further assistance be needed.

Sincerely,

SM ROCHA, LLC

Traffic and Transportation Consultants



Stephen Simon, EIT
Traffic Engineer



Fred Lantz, PE
Traffic Engineer