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March 27, 2018

DRAFT

Ms. Katie Souder  
Due Diligence Coordinator  
6162 S. Willow Drive, Suite 320  
Greenwood Village, CO 80111

Please add the  
proposed plat name.

RE: Meridian Crossing  
Les Schwab Tire Center  
Transportation Memorandum  
LSC #184190

Dear Ms. Souder:

LSC Transportation Consultants, Inc. has prepared this transportation memorandum to accompany the submittal for the proposed tire store to be located on Lots 3 and 4 of Meridian Crossing Filing No. 1. Meridian Crossing is located between McLaughlin Road and Meridian Road south of Woodmen Road in El Paso County, Colorado. The site location is shown on Figure 1. LSC prepared a traffic report for Meridian Crossing development dated March 12, 2008 and updated May 21, 2008.

## SITE PLAN AND ACCESS

### Land Use

The 2008 traffic study for Meridian Crossing assumed the 9.5-acre development would be developed with four fast-food restaurants (at an average of 3,500 square feet each) and 33,000 square feet of retail floor space. Since completion of that study a 3,790-square-foot fast-food restaurant has been built on Lot 1 and a 13,048-square-foot liquor store has been built on Lot 6. A 12,813-square-foot tire store is currently proposed for Lots 3 and 4. There are currently no proposed plans for the 1.09-acre Lot 2 and 2.13-acre Lot 5. For this study it was assumed that Lot 2 will be developed with a fast-food restaurant and Lot 5 will be developed with a quick serve casual restaurant and an automotive parts store. The site plan is shown on Figure 2.

### Site Access

The existing Meridian Crossing access points to the adjacent public streets are in conformance with the overall prior LSC traffic study. These access points include a right-in-only access and a three-quarter-movement (left-in/right-in/right-out only) access to Meridian Road about 480 and 925 feet north of Rolling Thunder Way, respectively, and two full-movement site access points to McLaughlin

please add EPC # PPR 18-016 →

Please fix typo

Road. The internal driveway connection to the shared internal access drive has shifted to the north from what was shown in the previously approved plan.

### Sight Distance

Figure 3 shows the estimated and required lines-of-sight at the north driveway connection to the internal access drive. The analysis is based on a design speed of 25 miles per hour.

### TRIP GENERATION

Estimates of the traffic volumes expected to be generated by the proposed tire store has been made using the nationally published trip generation rates found in *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 1 shows the results of the trip generation estimates. Table 1 also shows the estimated trip generation for the existing and future land uses within the entire Meridian Crossing development and a comparison to the trip generation estimate assumed in the 2008 traffic impact study. The trip generation for the existing land uses are based on the ITE trip generation rates for the average weekday and morning peak hour. The afternoon peak hour estimate is based on traffic counts conducted by LSC at the site access points in March 2018. The trip generation estimate for future development (Lots 2 and 6) were based on the ITE trip generation rates assuming these lots are developed with a fast-food restaurant, a quick casual restaurant, and an automobile parts store.

The total number of vehicle-trips generated has been reduced to take into account the “pass-by” phenomena. A pass-by trip is made by a motorist who would already be on the adjacent roadways regardless of the proposed development, but who stops in at the site while passing by. The motorist would then continue on his or her way to a final destination in the original direction. The pass-by rates shown on Table 1 are from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE.

As shown in Table 1, the proposed tire store is projected to generate about 365 new vehicle-trips on the average weekday, with about one-half of the vehicles entering and one-half of the vehicles exiting in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 22 vehicles would enter and 13 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:30 and 6:30 p.m., about 22 vehicles would enter and 29 vehicles would exit the site.

Where is this number coming from? The May 21, 2008 study says 4,930 trips on Page 7.

At buildout the Meridian Crossing development is projected to generate about 7,252 new vehicle-trips. This is about 2,612 fewer trips than was estimated in the 2008 traffic study. During the morning peak hour about 222 vehicles would enter and site and 199 vehicles would exit the site. This is about 200 fewer entering vehicles and 193 fewer exiting vehicles than was assumed in the 2008 traffic study. During the afternoon peak hour about 380 vehicles would enter and site and 372 vehicles would exit the site. This is about 58 fewer entering vehicles and 65 fewer exiting vehicles than was assumed in the 2008 traffic study.

please give a short explanation as to how this happened, why did the number drop?

## TRIP DISTRIBUTION AND ASSIGNMENT

The estimated directional distribution of the site-generated traffic volumes on the adjacent roadways is an important factor in determining the site's traffic impacts. Figure 4 shows the directional distribution estimates for the primary site-generated traffic. The estimates have been based on the following factors: the land use proposed for the site and its location, the existing and planned street and roadway system in the vicinity; and the existing/projected traffic volumes.

The pass-by trips from Meridian Road and the diverted trips from Woodmen Road and US Highway 24 were assigned based in large part on the magnitude and direction of the existing and projected background traffic volumes on the adjacent roadways.

When the distribution percentages (from Figure 4) were applied to the trip generation estimates (from Table 1), the site-generated traffic volumes at the Meridian Crossing access points were determined. Figure 5 shows the site-generated traffic volumes.

## TOTAL TRAFFIC

Please refer to the dated *Meridian Crossing Updated Traffic Impact Analysis* dated March 12, 2008 and updated May 21, 2008 for the projected long-term total traffic volumes and level of service analysis. As the currently projected Meridian Crossing-generated traffic volumes are projected to be lower than what was assumed in the 2008 study, these volumes will be conservative.

## ROADWAY IMPROVEMENT FEE PROGRAM

The proposed tire store would be subject to Woodmen Road District platting fees and mils.

Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By \_\_\_\_\_  
Jeffrey C. Hodsdon, P.E., PTOE  
Principal

JCH:KDF:bjwb

Enclosures: Table 1  
Figures 1-5



Please add a  
conclusion.

<p style="text-align: center;">Table 1</p> <p style="text-align: center;">Trip Generation Estimate</p> <p style="text-align: center;">Les Schwab Tire Center</p>
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Meridian Crossing Filing No. 1 Lot Number	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>					Total Trips Generated					Pass-By Trips <sup>(2)</sup>	New External Trips Generated
				Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	Average Weekday Traffic		
					In	Out	In	Out		In	Out				In
Trip Generation Estimate Based on Existing, Currently Proposed and Future Potential Land Uses															
Currently Proposed Land Use															
3 & 4	848	Tire Store	12.813 KSF	28.52	1.74	0.98	1.71	2.27	365	22	13	22	29	28%	263
Existing Land Uses															
Based on manual turning movement counts by LSC March 2018															
1	934	Fast-Food Restaurant with Drive-Through Window	3.790 KSF <sup>(3)</sup>	---	---	---	---	---	---	---	---	178	165	---	---
6	899	Liquor Store	13.048 KSF	---	---	---	---	---	---	---	---			---	---
Based on ITE Trip Generation Rates															
1	934	Fast-Food Restaurant with Drive-Through Window	3.790 KSF	470.95	20.50	19.69	16.99	15.68	1,785	78	75	64	59	50%	893
6	899	Liquor Store	13.048 KSF	101.49	2.19	2.10	5.54	6.39	1,324	29	27	72	83	34%	874
									Total Lots 1 & 6	3,109	107	102	136	142	2,030
Future Land Uses															
2	934	Fast-Food Restaurant with Drive-Through Window	3.5 KSF	470.95	20.50	19.69	16.99	15.68	1,648	72	69	59	55	50%	824
5	930	Fast Casual Restaurant	5 KSF	315.17	1.39	0.68	7.77	6.36	1,576	7	3	39	32	43%	898
	843	Automobile Parts Sales	10 KSF	55.34	1.42	1.17	2.36	2.55	553	14	12	24	26	43%	315
									Total Lots 2 & 5	3,224	79	72	98	87	1,722
Total Meridian Crossing Filing No. 1 <sup>(4)</sup>									7,252	222	199	322	307	4,067	
Trip Generation Estimate From "Meridian Crossing Traffic Impact Analysis" by LSC dated March 12, 2008 (Updated May 21, 2008)															
---	820	Shopping Center	33 KSF	88.45	1.29	0.83	3.88	4.21	2,919	43	27	128	139	50%	1,459
---	934	Fast-Food Restaurant with Drive-Through Window	14 KSF	496.12	27.09	26.02	18.01	16.63	6,946	379	364	252	233	50%	3,473
									9,865	422	392	380	372	4,932	
Change in Trip Generation Estimate									-2,612	-200	-193	-58	-65	-865	

Notes:
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(1) Source: "Trip Generation, 10<sup>th</sup> Edition", September 2017 by the Institute of Transportation Engineers (ITE)

(2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, 3<sup>rd</sup> Edition" by ITE

(3) KSF = one thousand square feet of floor space

(4) Trip generation estimate for Lots 1 & 6 are based on ITE rates for the average weekday and morning peak hour and existing counts for the afternoon peak hour

Source: LSC Transportation Consultants, Inc.



# Vicinity Map

Figure 1

Les Schwab Tire Center (LSC #184190)

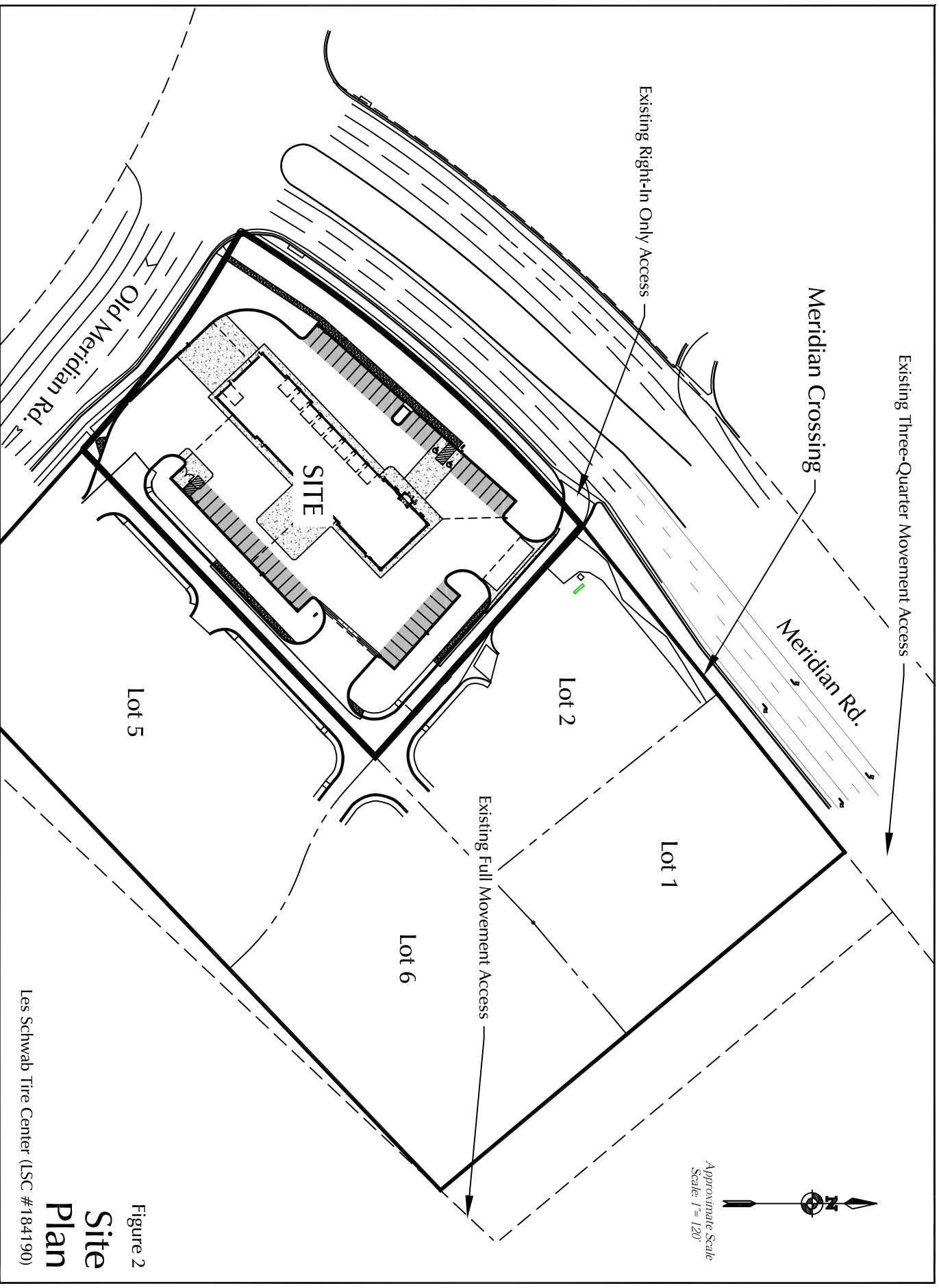


Figure 2  
**Site  
Plan**

Les Schwab Tire Center (LSC #184190)

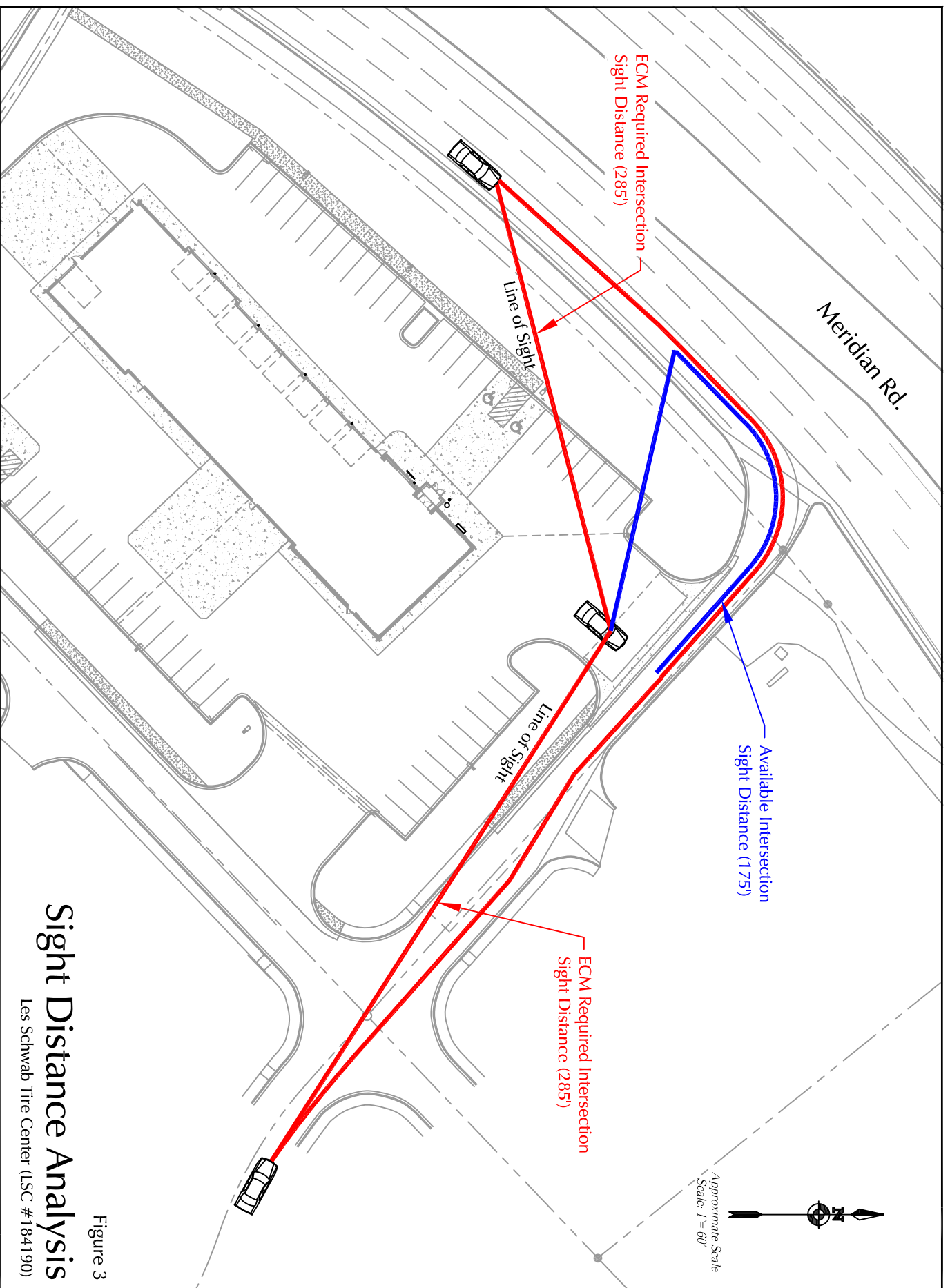


Figure 3

## Sight Distance Analysis

Les Schwab Tire Center (LSC #184190)



Approximate Scale  
Scale: 1" = 1,200'

LEGEND:

↔ XX% = Percent Directional Distribution

Figure 4

# Directional Distribution of Site-Generated Traffic

Les Schwab Tire Center (LSC #184190)

