

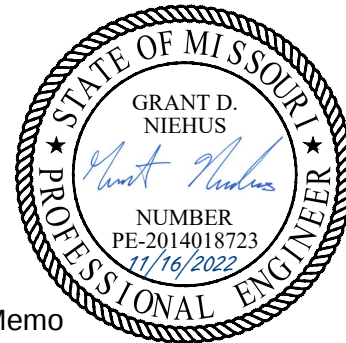
MEMORANDUM

TO: Summer Moon Lee's Summit, LLC

From: Grant Niehus, PE, PTOE

Date: November 4, 2022

Subject: Lee's Summit Summer Moon Coffee Trip Generation Memo



INTRODUCTION

Renaissance Infrastructure Consulting (RIC) has completed a trip generation analysis for a proposed Coffee Shop located north of Chipman Road and east of Blue Parkway in Lee's Summit, Missouri. The purpose of this analysis is to compare the trip generation estimates for the proposed development and the existing land use. A 1,500 square foot Coffee Shop with Drive-Through is proposed to replace what was previously an Ice Cream Shop. The existing shops/restaurants on the south side of the building are not proposed to be changed.

Figure 1 – Project Location



TRIP GENERATION

Trip generation estimates developed for this analysis is based on the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). The Manual is the most widely used industry resource for this type of data. The trip generation data are organized by land use types, with more than 170 different categories of land uses. For each category the manual provides a data set for use in estimating the number of vehicle and person trips generated by a site based on its characteristics such as physical size or intensity. Trips may be estimated by direction (entering or exiting the site) and for time periods typically pertaining to a full day (weekday or weekend), peak hours of the adjacent

roadway, and peak hours of the particular land use. Used properly, the Trip Generation Manual provides an objective basis for estimating trips generated by a proposed development.

ITE does not provide trip generation estimates for the specific land use of Ice Cream Shop. However, it does provide estimates for Fast Food Restaurants without drive-throughs, which we believe is the closest match to the proposed land use. The trip generation estimate for the prior land use is shown in **Table 1**.

Table 1 – Trip Generation – Ice Cream Shop								
Land Use	Intensity	ITE Code	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Fast Food Restaurant w/o Drive-Through Window	1,500 SF	933	65	38	27	56	28	28

Estimated trips for the proposed Coffee Shop are shown in **Table 2**.

Table 2 – Trip Generation – Coffee Shop								
Land Use	Intensity	ITE Code	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Coffee/Donut Shop w/ Drive-Through Window	1,500 SF	937	129	66	63	58	29	29

SUMMARY

RIC completed the trip generation analysis to assess the traffic impacts of the proposed development. Overall, the proposed use is expected to generate more traffic for both the AM and PM Peak Hours compared to the existing fast-food restaurant. However, the increase in trips compared to the prior use is expected to be less than 100 vehicles per hour.

Table 3 – Trip Generation Comparison						
	AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out
Existing Fast-Food restaurant	65	38	27	56	28	28
Proposed Development	129	66	63	58	29	29
Difference	+64	+28	+36	+2	+1	+1

Please do not hesitate to contact us should you have any questions.

Sincerely,
Renaissance Infrastructure Consulting

Grant Niehus, PE, PTOE
Traffic Engineer