LEE'S SUMMIT
MISSOURI

DEVELOPMENT REVIEW FORM
TRANSPORTATION IMPACT

DATE:	August 28, 2024	**CONDUCTED BY:**	Erin Ralovo, PE, PTOE
SUBMITTAL DATE:	June 18, 2024	**PHONE:**	816.969.1800
APPLICATION #:	PL2024157	**EMAIL:**	Erin.Ralovo@cityofls.net
PROJECT NAME:	DISCOVERY CROSSING LOTS 1-9	**PROJECT TYPE:**	Prel Dev Plan (PDP)

SURROUNDING ENVIRONMENT *(Streets, Developments)*

The proposed development is located on the southwest corner of Douglas and Colbern Road. It is bordered on the north by Colbern Road, the east by Douglas Street, the south by I-470 and to the west by Main Street. The area to the north is the approved Discovery Park development, currently under construction. To the west is a mixed use and industrial area, to the east and south is a commercial.

ALLOWABLE ACCESS

The proposed development will be accessed from two entrances along Colbern Road. The access points are as follows;

- Drive 4 will be a RIRO entrance west of Douglas Street.
- Drive 5 will be a full access entrance west of Drive 4.

EXISTING STREET CHARACTERISTICS *(Lanes, Speed limits, Sight Distance, Medians)*

Colbern Road is a Major Arterial with two lanes and a speed limit of 45 MPH. The intersection of Colbern Road and Douglas Street is signal controlled. Douglas Street is a Major Arterial with four lanes to the south and a speed limit of 45 mph and three lanes to the north with a speed limit of 45 mph. Douglas Street becomes Lee's Summit Road at the intersection of Douglas Street, approximately 1/2 mile north of Colbern Road. Main Street is a commercial/industrial roadway with a speed limit of 35 MPH. There are no areas of limited sight distance within the study area.

ACCESS MANAGEMENT CODE COMPLIANCE? **YES** ☒ **NO** ☐

All access points meet the City's Access Management Code.

TRIP GENERATION

Time Period	Total	In	Out
Weekday	7,877	N/A	N/A
A.M. Peak Hour	297	184	113
P.M. Peak Hour	759	364	395

Trip generation shown was provided in the Traffic Impact Study provided by the applicant. The trips estimated for the proposed development are based on various ITE Codes in the ITE Trip

Generation Manual 11th Edition using ITE Code 821 - Shopping Plaza (40-150k). For this study, Code 821 - Shopping Plaza was compared to breaking out each pad site into specific uses to the best of their knowledge at this time. The developer wanted to use the most conservative option as the basis of the trips. For Weekday, AM, and PM, Shopping Plaza had higher trips, probably because restaurants and quick service restaurants are not open for AM trips. We agreed to use Shopping Plaza and if there is a question in the future regarding a change in use, this informaton can be referred to.

TRANSPORTATION IMPACT STUDY REQUIRED? **YES** ☒ **NO** ☐

The proposed development will likely generate more than 100 vehicle trips to the surrounding street system during a peak hour based on industry standard methods for trip generation estimates, a minimum requirement for a traffic impact study in the Access Management Code. A traffic impact study was prepared by McCurdy Engineers, dated July 24, 2024. The traffic study was prepared to assess traffic impacts associated with the development and to provide public improvement recommendations or waivers requested by the development that mitigate delay and/or meet minimum standards defined by City and/or MoDOT policies.

The traffic study evaluated existing conditions and proposed development conditions of the subject development. The analysis included morning and evening commuter peak hours at the intersections of Colbern Road and Main Street, Colbern Road and Blue Parkway/Unity Way, Douglas Street/Lees Summit Road, Douglas Street and I470 eastbound and westbound ramps, Colbern Road and Pryor Road, Colbern Road and M350 northbound and southbound ramps and Colbern Road and M291 northbound and southbound ramps. The study considered several scenarios; Existing Conditions (this includes the approved Discovery Park development to the north), Existing plus Zone 2, Existing plus Zone 3, Existing plus Zone 4, Existing plus Zone 5.

The traffic study looked at each intersection for needed access improvements based on classification and projected turning movements. The available space and storage lengths were reviewed in coordination with the required turn lane lengths to provide recommendations for the subject development. The study found that the following the following improvements would be required for Zone 2:

1. Update traffic signal timings as necessary and reserve the right-of-way for future roadway widening.
2. Colbern Road and Drive 4 - Construct an eastbound right turn lane with 250 feet of storage plus taper and a northbound approach with a right-turn only lane with 200 feet minimum throat length. Northbound approach should be RIRO only and stop controlled.
3. Colbern Road and Drive 5 - Signalize intersection. Construct an eastbound right turn lane with 250 feet of storage and a taper. Construct a westbound left turn lane with 250 feet of storage plus taper. Construct a northbound left turn lane with 200 feet of storage plus taper and a shared right/through lane.

The traffic study looked at each noted intersection to be analyzed for traffic operations and assigned a Level of Service (LOS) associated with their delay. Level of Service (LOS) is an industry accepted performance measure for traffic operations based on delay represented by the A to F lettered scale, with A the best and F the worst. City policy has established a LOS goal C for traffic signal operations and LOS D (where LOS E and F may be acceptable) for stop-controlled movements. These LOS targets indicate acceptable operational performance or adequate operational conditions for the transportation network.

In addition to measured vehicle delay, vehicle queues were analyzed. With exception of a couple movements, all of the overall LOS meet the City's goals.

LIVABLE STREETS *(Resolution 10-17)* **COMPLIANT** ☒ **EXCEPTIONS** ☐

The proposed development plan will provide required sidewalks and all elements otherwise required by ordinances and standards, including but not limited to property landscaping, lighting, parking, and ADA accessibility. No exceptions to the Livable Streets Policy adopted by Resolution 10-17 are requested.

RECOMMENDATION: **APPROVAL** ☒ **DENIAL** ☐ **N/A** ☐ **STIPULATIONS** ☒
Recommendations for Approval refer only to the transportation impact and do not constitute an endorsement from City Staff.

Staff recommends approval of the proposed development with all of the proposed improvements recommended by the Traffic Impact Study. Approval would also be conditional on any improvements required by MoDOT.