LEE'S SUMMIT
MISSOURI

DEVELOPMENT REVIEW FORM
TRANSPORTATION IMPACT

DATE:	February 6, 2020	**CONDUCTED BY:**	Michael K Park, PE, PTOE
SUBMITTAL DATE:	January 13, 2020	**PHONE:**	816.969.1800
APPLICATION #:	PL2019413	**EMAIL:**	Michael.Park@cityofls.net
PROJECT NAME:	CULVER'S	**PROJECT TYPE:**	Prel Dev Plan (PDP)

SURROUNDING ENVIRONMENT *(Streets, Developments)*

The proposed development is located along the south side of Oldham Parkway, west of Ranson Road/Route RA. The existing undeveloped property is bordered by US 50 Highway to the north, single family residential subdivision to the south, commercial development to the west and undeveloped property to the east.

ALLOWABLE ACCESS

The proposed development will be accessed from an existing driveway along Oldham Parkway, shared with existing development as planned.

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

Oldham Parkway in the vicinity of the proposed development is a two-lane undivided, 40-mph, east-west commercial collector owned and maintained by the City, formerly owned and maintained by MoDOT. MoDOT has ownership of Oldham Parkway at Ranson Road (Route RA) and east of Ranson Road. The section of roadway east of Ranson Road is subject to future ownership transfer from MoDOT to City according to an agreement between the City and MoDOT at such time certain conditions associated with the Blackwell Interchange and Outer Road Improvements Project are completed. Oldham Parkway exhibits 24 feet of pavement, roadside ditches and partial paved shoulders. The condition of Oldham Parkway generally meets the City's interim road standard and Ranson Road generally meets the City's urban road standard.

Oldham Parkway intersects Ranson Road (or Route RA) to the east of the subject development. Oldham Parkway is stop controlled at this two-way stop intersection. Ranson Road, also known as Route RA, is a 45 mph (40 mph north of Oldham Parkway) MoDOT owned and maintained roadway with grade separated interchange at US 50 Highway. Ranson Road becomes Todd George Parkway at the US 50 Highway Interchange. The interchange ramps are traffic signal controlled in close proximity to Ranson Road (and the traffic signal controlled north outer road, Blue Parkway). Ranson Road is an undivided partially improved roadway with changing lane configurations south of US 50 Highway. Portions of Ranson Road have roadside ditches, limited shoulder areas, turn lanes with varied lengths, etc. MoDOT owns Ranson Road (Route RA) to James A. Reed Park Driveways south of Bailey Road.

Sight distance is adequate all the aforementioned street intersections.

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

The proposed development will utilize an existing driveway, shared with an existing business to the immediate west, along Oldham Parkway. There is no left-turn lane at this existing driveway, nor a left-turn lane proposed to comply with the Access Management Code. The traffic study

completed for this development includes information supporting a waiver to the left-turn lane requirement based on traffic volume, delay and queue reports. The projected left-turn volume associated with this development and existing driveway marginally exceeds the minimum requirements for left-turn lanes. The Oldham Parkway corridor is fully developed between Ranson Road and Hamblen Road with exception of the subject project and adjacent lot (included in the traffic study). This corridor comparatively experiences low volume and generally few turning movement conflicts with minimal delay at the existing driveway during the peak hours. The traffic study shows little to no additional delay at the driveway upon completion of the proposed development. There is no opportunity for opposing left turn movements at the subject driveway and there are no left turn lanes elsewhere along the highway frontage of this corridor. In consideration of this information and existing roadway conditions, Staff supports a waiver to the left-turn lane requirement. The Access Management Code permits the City Engineer (or designee) to grant such waivers.

All other Access Management Code criteria, including driveway spacing, have been met.

TRIP GENERATION

Time Period	Total	In	Out
Weekday	2,044	1,022	1,022
A.M. Peak Hour	175	89	86
P.M. Peak Hour	142	74	68

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 traffic impact study in the Access Management Code. A traffic impact study was prepared by TranSystems, dated December 31, 2019. The traffic study was prepared to assess traffic impacts associated with the development and to provide public improvement recommendations or waiver's 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 fast food restaurant and future potential general office/retail development on the remaining lot (which is not included in the PDP). The analysis included morning and evening commuter peak hours at the intersection of Oldham Parkway at Ranson Road and all existing/proposed driveways to the site(s). There was no scenario accounting for approved and unbuilt projects or future development of property on the southeast quadrant of the nearby interchange. Approved development in the vicinity has negligible traffic impact to the surrounding street system. The remainder of the Oldham Parkway corridor west of Ranson Road is already developed.

In previously completed traffic studies submitted to the City and MoDOT pertaining to the intersection of Ranson Road at Oldham Parkway, it was determined a traffic signal installation is warranted. Based on the existing warranting situation and MoDOT comments, the traffic study assumes traffic signal installation at this intersection is a requirement for adequate infrastructure to support the project. A traffic signal is recommended and all reported operational performance considers traffic signal control. The traffic study reports adequate level of service during the existing AM and PM peak hours at the intersection of Oldham Parkway and Ranson Road for the

existing and developed scenarios. It should be noted though, operational impacts from closely spaced signals within the interchange area have not been factored. The level of service reported before and after development for site driveways also meets City and State desired goals.

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. MoDOT has a similar performance standard, but LOS D is acceptable for signal operations. These LOS targets indicate acceptable operational performance or adequate operational conditions for the transportation network. T

In addition to measured vehicle delay, vehicle queues were analyzed. With exception of the eastbound left-turn, northbound left-turn and southbound movements at the intersection of Oldham Parkway and Ranson Road, all forecast queues were minimal and contained within existing available lane capacities. The eastbound left-turn queue exceeds 200 feet during the P.M. Peak Hour; but there is no left-turn lane available and other traffic movements have low volume, so storage of the shared lane space accommodates the queue with adequate overall level of service (delay). The northbound left-turn queue exceeds the available left-turn lane storage. The traffic study recommends extending the northbound left-turn lane to provide a minimum storage of 150 feet plus taper. The southbound queue exceeds the distance between adjacent traffic signal controlled intersections. This queue would be metered by the adjacent traffic signal and influence operational delay throughout the interchange and outer road network. Signal coordination can help mitigate the queues and negative impacts caused by closely spaced intersections. The traffic study recommends traffic signal interconnect between the adjacent traffic signals. No other traffic improvements are recommended to mitigate delay or queue impacts from the proposed development.

MoDOT has received, reviewed and accepted the submitted traffic study. MoDOT concurs with the study recommendation for traffic signal control at the intersection of Oldham Parkway and Ranson Road. MoDOT also concurs with the recommendations for traffic signal interconnect and extended northbound left turn lane. As owner of the intersection, MoDOT may waive improvement recommendations or require additional improvements to their right-of-way beyond those improvements the City conditions upon development approval as part of its permitting process. For example, MoDOT may require the addition of left-turn lanes along Oldham Parkway at the intersection of Ranson Road, as dictated by signal operations, or allow a span wire traffic signal installation in lieu of typical permanent standards. MoDOT also has planned major maintenance work to Ranson Road (resurfacing) that may or may not incorporate some turn lane modifications or developer coordination of required improvements. As aforementioned and recommended, MoDOT has firmly indicated a traffic signal will be required.

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

The proposed development plan includes all Livable Streets elements identified in the City's adopted Comprehensive Plan, associated Greenway Master Plan and Bicycle Transportation Plan attachments, and elements otherwise required by ordinances and standards, including but not limited to sidewalk, landscaping, parking, and accessibility. No exceptions to the Livable Streets Policy adopted by Resolution 10-17 have been proposed.

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 preliminary development plan subject to the following improvements that must be substantially completed prior to occupancy:

1. Traffic signal installation at the intersection of Oldham Parkway and Ranson Road.
2. Traffic signal interconnect between the intersection of Oldham Parkway at Ranson Road and the intersection(s) of Ranson Road/Todd George Parkway at US 50 Highway Ramps.
3. Extend the northbound left-turn lane along Ranson Road at Oldham Parkway to provide a minimum storage length of 150 feet, plus taper in compliance with City and/or MoDOT standards.

Conditions of approval pertaining to state rights-of-ways (e.g. Ranson Road) may be waived or modified or other improvements added at the discretion of MoDOT for MoDOT's approval of permitted work. Any waiver, modification or new condition provided by MoDOT shall be documented to the City in substitute for the satisfaction of conditions prior to occupancy.