



LEE'S SUMMIT MISSOURI

DEVELOPMENT REVIEW FORM TRANSPORTATION IMPACT

DATE: September 6, 2018 **CONDUCTED BY:** Michael K Park, PE, PTOE
SUBMITTAL DATE: August 29, 2018 **PHONE:** 816.969.1800
APPLICATION #: PL2018135 **EMAIL:** Michael.Park@cityofls.net
PROJECT NAME: WEST VILLAGE (A.K.A. WEST PRYOR) **PROJECT TYPE:** Rezoning

SURROUNDING ENVIRONMENT (*Streets, Developments*)

The proposed preliminary development plan for Fire Station #3 and conceptual development consisting of mixed-use commercial land uses is located along the west side Pryor Road, north and south of O'Brien Road. The surrounding property is residential.

ALLOWABLE ACCESS

Access to the site is proposed from a three right-in/right-out driveways accessing Pryor Road as well as several commercial driveways that directly access O'Brien Road and Shamrock Avenue, both of which have intersections at Pryor Road.

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

Pryor Road is a four-lane, median divided, suburban major arterial with a 35 mph speed limit in the vicinity of the proposed development. Pryor Road extends north-south across the City with major junctions at Interstate 470 and M-150 Highway. It also intersects nearby east-west major arterials, 3rd Street and Chipman Road. O'Brien Road is a wide two-lane, undivided collector with a 25 mph speed limit extending east of Pryor Road towards downtown Lee's Summit with a grade separated crossing of US 50 Highway. The intersection of Pryor Road and O'Brien Road is traffic signal controlled with various turn lanes. The nearest major intersections along Pryor Road at Chipman Road and 3rd Street are also traffic signal controlled. The intersection of Shamrock Avenue is full access and stop controlled at Pryor Road. There is adequate sight distance at the existing intersections.

ACCESS MANAGEMENT CODE COMPLIANCE? Yes No

All provisions of the Access Management Code (AMC) are fully satisfied as it pertains to new access associated with the proposed development (and in consideration of approved development or City Capital Improvements currently planned). The full access intersection of Shamrock Avenue at Pryor Road is proposed with approved development and a City Capital Improvement Project for Fire Station #3. This intersection is approximately 600 feet north of the existing full access intersection of Sterling Dr./1st Street at Pryor Road. The code requires a minimum separation of 660 feet between full access intersections along major arterials. The code also permits a 10% administrative deviation from standard. Since the location is marginally non-compliant and matches existing conditions, staff supports the proposed plan and any necessary code waiver.

TRIP GENERATION

| Time Period | Total | In | Out |
|----------------|--------|-------|-------|
| Weekday | 11,764 | 5,882 | 5,882 |
| A.M. Peak Hour | 557 | 383 | 174 |
| P.M. Peak Hour | 1,127 | 491 | 636 |

It should be noted that the Fire Station generates negligible traffic and future preliminary development plan applications for the conceptual area may be changed and/or phased.

TRANSPORTATION IMPACT STUDY REQUIRED?

YES

NO

The proposed development will likely generate more than 100 vehicle trips during a weekday peak hour; the minimum condition for traffic impact study requirements. A traffic impact study was completed by City Staff (City is the applicant of record on the development plan), dated September, 2018. This study considered AM and PM Peak Hour traffic operations along Pryor Road at the intersections of Chipman Road, O'Brien Road, Shamrock Avenue, 3rd Street, and proposed commercial driveways. Analysis scenarios were completed for existing conditions, existing plus approved development conditions and proposed development conditions.

Level of service (LOS) is an industry accepted standard measure of performance (e.g. delay) for traffic operations rated A-F, similar to a grade card with A the best and F the worst condition. The City Council has adopted a LOS policy in which the acceptable condition is LOS C or better for traffic signal controlled intersections and where LOS D (or worse) may be acceptable for stop controlled minor street approaches at major intersections. All studied intersections in all scenarios had adequate level of service reported with exception of the following two locations:

- Chipman Road at Pryor Road does not meet the LOS policy for the PM peak hour in the existing plus approved plus proposed development scenario. This intersection can meet the LOS policy and proposed development impact mitigated with the construction of northbound and eastbound right-turn lanes. The turn lanes improve overall intersection operations and address significant vehicle queuing issues for various traffic movements.
- The stop controlled movements at the intersection of Shamrock Avenue and Pryor Road have very poor operations and experience excessive delay in both peak hours for the existing plus approved plus proposed development scenario. This intersection will likely meet a peak hour signal warrant in this scenario and a traffic signal would mitigate the delays associated with the development impact.

A few other turn lane improvements are recommended in association with the proposed development and shown on the development site plan to comply with the Access Management Code, improve traffic safety and/or traffic operations to acceptable measures of performance. Those turn lanes are listed in the staff recommendations for approval.

The Fire Station has little to no impact on traffic at the subject location. As the development progresses from conceptual plan to preliminary plan, a comprehensive plan with potential phasing and more certain land uses should be evaluated in an updated/amended traffic impact study. Several of the recommended improvements to support the proposed development are shared with approved development. Any shared improvement should be coordinated. More

information about the traffic impacts and recommendations can be referenced in the traffic impact study.

LIVABLE STREETS (*Resolution 10-17*)

COMPLIANT

EXCEPTIONS

The proposed development 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 in full compliance with the Livable Streets Policy adopted by Resolution 10-17. The project includes a trails/shared use paths, subdivision connectivity, and promotes a potential spur between the regional Rock Island Trail and O'Brien Road (a preferable route towards downtown Lee's Summit).

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 conceptual development plan subject to the following off-site transportation improvement conditions:

1. Construct an eastbound left-turn lane with at least 300 feet of storage (along with reconstruction of O'Brien Road) at Pryor Road and O'Brien Road. This improvement is in part a condition of approval for another development in the immediate vicinity which requires 150 feet of storage plus taper.
2. Construct a northbound left-turn lane with at least 200 feet of storage plus taper (maximized space) at Pryor Road and Shamrock Ave. This improvement is a condition of approval for another development in the immediate vicinity and included in a current City Capital Improvement Project (i.e. Fire Station #3 Relocation).
3. Construct an eastbound left-turn lane (and the extension of Shamrock Avenue west of Pryor Road having at least one thru lane in each direction) with at least 150 feet of storage plus taper at the intersection of Pryor Road and Shamrock Avenue. This improvement is a condition of approval for another development in the immediate vicinity and included in a current City Capital Improvement Project (i.e. Fire Station #3 Relocation).
4. Construct a southbound right-turn lane with at least 150 feet of storage plus taper along Pryor Rd. at Drive A.
5. Construct a southbound right-turn lane with at least 150 feet of storage plus taper along Pryor Rd. at Drive B.
6. Construct a southbound right-turn lane with at least 150 feet of storage plus taper along Pryor Rd. at Drive C.
7. Construct a southbound right-turn lane with at least 200 feet of storage plus taper along Pryor Rd. at O'Brien Road.
8. Construct a southbound right-turn lane with at least 150 feet of storage plus taper along Pryor Rd. at Shamrock Avenue.

9. Construct a northbound right-turn lane with at least 250 feet of storage plus taper along Pryor Rd. at Chipman Road.
10. Construct an eastbound right-turn lane with at least 250 feet of storage plus taper along Pryor Rd. at Chipman Road.
11. Remove proposed driveways along O'Brien Road within 300 feet of Pryor Road or restrict driveway access within this area to right-in/right-out with a raised median along O'Brien Road.
12. Traffic signal installation at the intersection of Pryor Rd. and Shamrock Ave. with interconnect to adjacent traffic signals

These improvements, #1 through #12, shall be substantially completed prior to the issuance of occupancy for any building within the proposed development except where the Drive is not associated (not built). These recommended conditions of approval shall also not apply to the development of the Fire Station unless otherwise noted below. The Fire Station requires no improvements beyond those necessary for the Existing plus Approved Development scenario based on its trip generation. Those improvements are listed in the staff recommendation below:

Staff recommends approval of the proposed preliminary development plan (Fire Station #3) subject to the following off-site transportation improvement conditions:

13. Construct a northbound left-turn lane with 200 feet of storage plus taper at the intersection of Pryor Road and Shamrock Ave.
14. Construct an eastbound left-turn lane with 150 feet of storage plus taper at the intersection of Pryor Road and Shamrock Ave.

These improvements, #13 and #14, shall be substantially completed prior to the issuance of occupancy. Note: Conditions #13 and #14 are also conditions of approved development (Woodside Ridge).