



NE Rice Road is an east-west local street which currently ends at the far northwest corner of the proposed development site. There is not a speed limit posted currently.

Todd George Parkway is a 4-lane (divided south of Colbern and undivided north), north-south major arterial with a 45-mph speed limit.

**ACCESS MANAGEMENT CODE COMPLIANCE?** YES  NO

The subject development has shown several conceptual developments within the overall plan. There are a few commercial sites and a small number of residential units. All proposed access meets the City's AMC spacing with the exception of the residential units along proposed Ball Drive north of Colbern. The spacing required to meet the City's AMC is 300'. Access spacing for each use will be reviewed with each site-specific Preliminary Development Plan (PDP).

The AMC also provides guidance for turn lane analysis based on traffic volumes in relation to street classification. In review of the projected traffic volumes, several turn lanes will be warranted with this development and shall be constructed as recommended. An eastbound left-turn lane is required at the intersection of Colbern Road and Ball Drive. Per the AMC a 200-foot plus taper turn lane is required. However, due to the westbound left-turn lane used to access the property, the eastbound left-turn lane shall be constructed with a storage length of 120-feet plus taper. Additionally, the AMC requires left-turn lanes on all approaches of a signalized intersection. A southbound left-turn lane shall be constructed at the intersection of Ball Dr. and Colbern Rd.

#### TRIP GENERATION

Time Period	Total	In	Out
Weekday	2,576	1,288	1,288
A.M. Peak Hour	210	136	74
P.M. Peak Hour	267	100	167

The trip generation above was estimated by using the ITE Trip Generation Manual, 11<sup>th</sup> edition. Codes 220 - Multifamily - Low Rise Housing (136 dwelling units), 710 - General Office Building (25,000 sf), 712 - Small Office Building (8,500 sf), 720 - Medical Office Building (29,500 sf).

**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 Kimley-Horn, dated April 21, 2023. 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 M-291 NB Ramp and Colbern Road, Colbern Road and Rice Road, Colbern Road and Lucky Road, Colbern Road and Ball Drive, and Colbern Road and Todd George Parkway. The study considered several scenarios; Existing, Existing + Approved, Existing + Approved + Development, and Future (2042).

The traffic study looked at each intersection for turn lane requirements 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 turn lane improvements would be required;

1. Construct an eastbound left-turn lane on Colbern at Ball with a storage length of 120 feet plus an appropriate taper.
2. Construct a southbound left-turn lane on Ball at Colbern with a storage length of 150 feet plus an appropriate taper.

While the queue volume is expected to exceed the storage on Colbern Rd., the turn lane cannot be extended without impacting the existing turn lane for the private driveway.

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. 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.

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

**LIVABLE STREETS** (*Resolution 10-17*)

**COMPLIANT**

**EXCEPTIONS**

The proposed conceptual 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, street connectivity 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 conditions noted below:

1. Construct an eastbound left-turn lane on Colbern Road at Ball Drive with a storage length of 120 feet plus an appropriate taper.
2. Construct a southbound left-turn lane on Ball Drive at Colbern Road with a storage length of 150 feet plus appropriate taper.
3. Modify the traffic signal at the intersection of Colbern Road and Ball Drive to provide protected-permissive left-turn phasing for east/west traffic.

4. Additional improvements may be required as PDPs for individual lots are submitted in the future or if future higher intensity land uses are proposed from what is shown in the traffic study dated April 21, 2023.