

TRIP GENERATION

Time Period	Total	In	Out
Weekday	654	327	327
A.M. Peak Hour	40	25	15
P.M. Peak Hour	40	19	21

TRANSPORTATION IMPACT STUDY REQUIRED?

Yes

No

The proposed development will not likely generate more than 100 vehicle trips to the surrounding street system during any given weekday peak hour. However, the traffic impact during a Sunday and weeknight services/activities will likely generate more than 100 vehicle trips to the surrounding street system in consideration of the 1200 seat auditorium (replaces existing 320 seat auditorium). Due to this significant impact along M-150 Highway, the City and MoDOT requested a traffic impact study be completed to assess improvement needs and evaluate proposed highway access operations.

A traffic impact study, dated December 10th, 2019, has been completed by TranSystems. The traffic study was reviewed by MoDOT. The study concludes adequate operations may be expected with the following recommended transportation improvements during a typical weekday peak hour:

- Construct an eastbound right turn lane with 200 feet of storage (min), plus taper, at the proposed right-in/right-out access along M-150 Highway.
- Construct a westbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.
- Construct a northbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.

Although a commuter peak hour during the week was adequately performing, a Sunday traffic operation will likely experience significant delay at the intersection of Arboridge Drive and M-150 Highway; particularly the northbound and southbound left-turns. This delay and poor level of service can be mitigated with the installation of a traffic signal as noted in the study. However, a traffic signal is not warranted under this projected condition and the study recommends MoDOT monitor the intersection for such warranting conditions as volumes increase during the commuter peak hours. A warranted signal in the future is expected, especially as adjacent land development continues. No other intersections or movements were likely to exhibit inadequate levels of service.

The City and MoDOT concur with the study findings and recommendations.

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, and accessibility. In addition, street connectivity to support adjacent land development in alignment with the City's Thoroughfare Master Plan have been

included. 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 as submitted subject to the following transportation improvements that must be substantially completed prior to occupancy:

- Construct an eastbound right turn lane with 200 feet of storage (min), plus taper, at the proposed right-in/right-out access along M-150 Highway.
- Construct a westbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.
- Construct a northbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.

If the proposed right-in/right-out access is not constructed, the eastbound right-turn lane improvement shall be constructed at Arboridge Drive.

These improvements may be waived or modified by MoDOT as the owner of M-150 Highway.