



# LEE'S SUMMIT MISSOURI

## DEVELOPMENT REVIEW FORM TRANSPORTATION IMPACT

**DATE:** April 29, 2022  
**SUBMITTAL DATE:** April 4, 2022  
**APPLICATION #:** PL2022122  
**PROJECT NAME:** LS INDUSTRIAL

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**PROJECT TYPE:** Rezoning

### SURROUNDING ENVIRONMENT (*Streets, Developments*)

The proposed development is generally located south of Bailey Road, east of M-291 Highway. The development is bordered by M-291 Highway to the west, UPRR to the east, Bailey Road immediately north with mostly vacant ground further north and industrial mixed-use property to the south.

### ALLOWABLE ACCESS

The proposed development has proposed primary access from M-291. The property will construct three new entrance points; two along Bailey and one from 16<sup>th</sup> street. The two access points along Bailey are approximately 660' and 1,000' east of M-291, both directly across from access points along the north side of Bailey. The proposed access from 16<sup>th</sup> Street is proposed approximately 360' east of M-291.

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

M-291 is a four-lane divided highway owned and maintained by MoDOT. M-291 has an interchange at US 50 Highway just north of the project area. Bailey Road is generally a two-lane undivided minor arterial with a 35-mph speed limit extending east of M-291 to Ranson Road (a MoDOT roadway) with an overpass of the UPRR. Bailey Road provides several turn lane accommodations with a single median near M-291. West of M-291, Persels Road is an extension of Bailey to Ward Road, another major arterial. Persels is a two-lane undivided minor arterial with a 35-mph speed limit. Decker Street is connected between 16th Street and Thompson Drive. SE 16<sup>th</sup> Street is a two-lane local road with a 25-mph speed limit.

**ACCESS MANAGEMENT CODE COMPLIANCE?** Yes  No

In order for the proposed development to comply with the Access Management Code (AMC), a west-bound left turn lane will be necessary at the west-most access point. Due to the proximity of existing turn lanes, the construction of the required turn lane is not feasible. In order to comply with the AMC, the alternative would be to construct a continuation of the median from M-291 to the east-most access point.

### TRIP GENERATION

Time Period	Total	In	Out
Weekday	2004	1002	1002
A.M. Peak Hour	202	164	38
P.M. Peak Hour	202	44	158

Trip generation shown was estimated for the proposed development based on ITE Code 130 - Industrial Park (594,620 sf).

**TRANSPORTATION IMPACT STUDY REQUIRED?**

Yes

No

The proposed development will likely generate more than 100 peak hour trips along the adjacent street network during a weekday peak hour, meeting the minimum requirement for a traffic impact study in the Access Management Code.

A traffic impact study was completed for the previously approved preliminary development plan by TranSystem, dated August 2016. The study for this area was in coordination with "The Grove" PDP. Since the previous PDP was approved and incorporates the subject property, the current development will use the documents associated for this development. Since the subject development proposes a similar use and size, the traffic study and previously approved infrastructure upgrades will be required as part of this development.

The previous traffic study considered a much larger development and was separated by phases. The subject development aligns with the boundaries of what is identified as Phase 1 (1A and 1B) within the approved study. The City has completed a review of the traffic study in combination with the proposed development and concur that the improvements associated with the corresponding phase(s) shall be required.

The traffic study evaluated the subject property with a base condition, that included all near-by approved road improvements at the time of the study, including the interchange modifications at M-291 and US 50 Highway. At the time of this study there were no additionally approved developments to include. Since the study was complete, several improvements to the nearby road network has occurred.

Intersection analysis compares proposed development conditions to existing conditions and all operations based on City and MoDOT established performance goals for measuring adequate infrastructure. The City has adopted a level of service (LOS) standard "C" for overall traffic signal operations; where individual traffic movements may be at LOS D or worse. Level of Service for stop controlled movements should be at least "D", but LOS E and LOS F may be acceptable. MoDOT has a similar performance standard, but LOS D is an acceptable benchmark for signal operations on their system. These performance goals, or minimum conditions of adequate infrastructure, help to identify public improvement needs associated with development for safer and efficient travel. Level of Service is an industry accepted standard measure of traffic performance based on experienced or calculated delay and driver/user comfort rated on a scale from A to F, where A represents the best and F the worst. Other improvement needs may be identified based on vehicle queuing and minimum code criteria, guidelines and standards that address transportation operations and safety (e.g. turn lanes, sight distance, intersection spacing, alignment, etc.).

An assessment of the existing conditions and Phase 1 indicated acceptable levels of service for all studied intersections except for the intersections noted below:

- Stop-controlled eastbound movements at the M-291 and 16<sup>th</sup> Street intersection.
- Stop-controlled westbound movements at the M-291 and 16<sup>th</sup> Street intersection.
- Stop-controlled eastbound movements at the M-291 and Sherer/Thompson intersection.
- Stop-controlled westbound movements at the M-291 and Sherer/Thompson intersection.

The study identified several improvements to accommodate the associated Phase(s) with this development;

- Construct dual southbound left-turn lanes with a minimum 300 feet of storage plus appropriate taper.
- Construct dual westbound left-turn lanes with a minimum 250 feet of storage plus appropriate taper.
- Lengthen the northbound right-turn lane to provide a minimum 350 feet of storage plus appropriate taper.
- Construct a second eastbound through lane on Bailey Road east of M-291 Highway to terminate as a right-turn lane at the Decker Street intersection.

Since the study was complete, several of these improvements or alternative remedies have occurred. With those improvements, the following improvements will no longer be necessary with the proposed development;

- The dual westbound left-turn lane at M-291 and Bailey / Persels.
- Lengthening the northbound right-turn lane to provide a minimum 350 feet of storage

In conclusion, the TIS recommends a couple of additional improvements in combination with planned site revisions to accommodate the studied traffic and shall be a condition of approval for the subject development.

**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 conditions noted below:

1. The remaining improvements from the previously approved TIS (The Grove) for the phases associated with the subject property;
  - a. Construct dual southbound left-turn lanes at the intersection of M-291 Hwy with SW Persels Rd/SE Bailey Rd with a minimum 300 feet of storage plus appropriate taper.
  - b. Construct a second eastbound through lane on SE Bailey Road east of M-291 Hwy to terminate as a right-turn lane at the SE Decker Street intersection (i.e. east-most access point for the subject development).
2. Install a median along SE Bailey Rd between M-291 Hwy and the proposed eastern-most entrance to restrict traffic to right-in-right-out, as shown on the previously approved PDP.
3. All improvements on State ROW must be reviewed and approved by MoDOT prior to acceptance. A memo showing approval is required.
4. All other improvements required with the previously approved PDP will be required as future phases are constructed in coordination with the PDP's phasing plan.

