



# LEE'S SUMMIT

## M I S S O U R I

---

March 16, 2023

To: File

From: Susan Barry, P.E., PTOE  
City Traffic Engineer

Subject: Application # 2022394  
Project Name: Summit 470 Logistics Center

This memorandum is being provided to address questions and comments from the Planning Commission meeting on March 9, 2023, relative to the Summit 470 Logistics Center development Preliminary Development Plan (and Rezoning) Application.

The Planning Commission raised questions regarding different “hypothetical” users that could operate within the development that generate more traffic than the development application describes. These “hypothetical” scenarios led to a discussion on land use assumptions, transportation capacity concerns, impacts to surrounding roadways (and applicability of Unimproved Road Policy), and the lack of associated traffic study to address these uncertain conditions.

This memorandum:

- describes when a traffic impact study is required by the applicant;
- summarizes how trip generation estimates are developed;
- summarizes how the traffic estimates for the Summit 470 Logistics Center were originally presented;
- provides various alternative land uses (and subcategories of land use) in the industrial zoning similar to the proposed development that could be considered for the site consistent with similar designs depicted in the application;
- addresses safety and capacity concerns relative to Douglas Street;
- restates the applicability of Unimproved Road Policy to Main Street; and
- shows how the findings in the Traffic Impact Analysis form continue to reflect the most reasonable way to move forward with the project, limitations to the application, and opportunity for a traffic study/or PDP validity for more intense uses.



### Traffic Impact Study (TIS) Requirements:

Whether or not the applicant conducts a traffic impact study, Staff completes a traffic assessment summarized in the Traffic Impact Analysis (TIA) for each Preliminary Development Plan (PDP), Preliminary Plat and Rezoning application as part of the development review and Public Hearing process. The minimum trip generation for a development to necessitate a traffic impact study is 100 peak hour trips in accordance with the Access Management Code. Trip generation less than 100 peak hour trips is unlikely to have a measurable impact to the surrounding street network considering hourly volumes along major thoroughfares tend to deviate by more than 100 trips from day to day. It's deemed a reasonable minimum threshold for evaluating traffic impacts of development. The peak hour is used as an evaluation period because it is the time when the transportation network is most stressed (experiencing the greatest capacity demand) and appropriate mitigations needed for adequate level of service (LOS Policy).

Traffic studies can also be required as a result of development that proposes substantial changes to the transportation network, travel/circulation, thoroughfare master plan alignment, and other unique conditions without a minimum trip generation. No such unique condition was associated with the subject application. The Planning Commission and City Council can also stipulate a traffic study be done by an applicant without a minimum trip generation in review of the development application.

### Trip Generation Overview:

Trip generation rates are developed using data from studies gathered and published by the Institute of Transportation Engineers (ITE) and are summarized in the ITE Trip Generation Manual. The City of Lee's Summit uses the 11<sup>th</sup> Edition of this manual, dated September 2021. The manual provides averaged trip rates (and equations), typically per 1000 square foot of building area, for proposed developments based on land use. The data consists of similar uses, but a variety of building sizes, locations, and users/tenants/businesses. Trip generation and traffic studies are not user specific. Land use is evaluated and hundreds of land uses are available in the manual. Users are not studied considering users are subject to change within a land use category and businesses have different success and failure. The averaged data provides for a range of users. Trip generation is then used to evaluate the impacts of a particular development on the surrounding roadway network.

### Trip Generation for the Application:

The applicant proposed a generic "Warehousing" land use for the development that does not exceed the minimum trip generation criteria in the City's Access Management Code for traffic impact studies. The applicant submitted a Trip Generation Memorandum, prepared by Olsson, dated November 8, 2022, describing the land use and expected trip generation for the project according to industry standard practice. In the memo, ITE Trip Generation Manual Land Use 150 – Warehousing generates less than 100 peak hour trips for the proposed 465,000 square foot facility. Warehousing (Land Use 150), is generally defined by the ITE as, "*A warehouse is primarily devoted to the storage of materials, but*

*it may also include office and maintenance areas.” Warehousing in this land use category is traditional long-term storage.*

For the Summit 470 Logistics Center, it was determined that a TIS was not required as the peak hour trips for a 465,000 square foot warehouse did not exceed the 100 peak hour trip generation threshold (A.M. Peak Hour is 79 and P.M. Peak Hour is 82).

Alternative Land Use Trip Generation:

High-Cube Warehousing is one of several alternative land uses to Warehousing in the ITE Trip Generation Manual that may be applicable to industrial zoning. The ITE Trip Generation Manual specifically includes Warehouse alternatives:

- High-Cube Transload and Short-Term Storage Warehouse (154)
- High-Cube Fulfillment Center (Sort or Non-Sort) Warehouse (155)
- High-Cube Parcel Hub Warehouse (156)
- High-Cube Cold Storage Warehouse (157)

Other industrial zoning land use alternatives include, but not limited to, Industrial Park, Light Industrial, Manufacturing, Data Centers, Mini-Warehousing, Utility, and Trade Contractor.

A “hypothetical” user as discussed at Planning Commission within the proposed development, such as “Amazon”, would be categorized as a land use more aligned with High-Cube Warehousing (HCW), most likely HCW Fulfillment (Sort) Center (Land Use 155). As defined by ITE, *“A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses.”* HCW is further refined into the aforementioned subcategories with more narrow scope of particular characteristics. Expected traffic generated for a HCW facility of same building size depicted on the PDP application could exceed 400 trips during a peak hour, far exceeding the requirement to complete a traffic study.

If the proposed “Warehouse” were approved and an “HCW Fulfillment (Sort) Center”, e.g. “Amazon”, was to proceed after approval, the approved application would be significantly different in consideration of the trip generation comparison; necessitating a revised PDP under the UDO provisions constituting a substantial change.

The applicant could also propose a higher use, submit an associated traffic impact study, and get approval of the PDP with such use so that a lesser future change does not require a new/revised PDP. It would not be appropriate to require a traffic study for a land use that is not proposed in the application simply to address “hypothetical” users if that is not the applicant’s intent.

If the applicant were required to submit a traffic study based on the current plan and represented land use and continues to represent the land use is “Warehouse” and not a distribution facility (more closely related to HCW Land Use 155), such requirement



could be issued by the Planning Commission and/or City Council in review of the application for rezoning. In this case, trip generation in said study would be minimal as an assumed “Warehouse” is consistent with the applicant’s memo and would not address concerns of noted “hypothetical” users.

Traffic and Safety Concerns on Douglas Street:

Several members of the Planning Commission voiced concerns with additional traffic impacting Douglas Street, from Victoria Avenue to I-470. In looking at the traffic study for the Colbern Road project, existing levels of service (LOS) at the intersections along Douglas from Victoria through I-470 are LOS B or better overall. There is little concern that this development, as a “Warehouse” represented by the applicant, will cause a significant change in the LOS or degrade operations below the LOS Policy for adequate infrastructure (LOS C). Crash numbers for the corridor are within an acceptable range with this type of roadway.

If a higher trip generator were proposed as hypothesized in lieu of a “Warehouse”, there may or may not be increased delay and congestion along Douglas. Any associated mitigations for delay would be identified in a traffic impact study, potentially turn lane capacity on Victoria at the Douglas intersection or other roadway improvements. Douglas is fully built-out with turn lanes, great access management, and signal controlled intersections. The signal timings can be adjusted to minimize impacts to the Douglas corridor if an increase in traffic is experienced from Victoria (i.e. meter/increase delay to Victoria traffic for the benefit of Douglas traffic). Otherwise, expect increased traffic will have an incremental increase in delay.

Trips generated by the proposed development mostly impact the area of Douglas between Victoria and I-470. That is the shortest route by distance (about 4,200 feet), the most direct, and fastest time to access the interstate from the site. It is unlikely, but not impossible, for trips to take a longer route by distance and/or time to either I-470 (over 12,000 feet) or 350 Hwy (9,000 feet) via Main Street. Commuter trips for this land use will heavily favor I-470 as will business trips.

Unimproved Road Policy Applicability/Main Street:

A Trip Generation Memorandum was prepared by Olsson in lieu of a traffic study providing projected trips, site circulation, and a description of compliance with the Unimproved Road Policy (URP). The Staff TIA also addresses compliance with the URP. Since the development has no access to Main Street and its access is proximately remote from Main Street, the URP does not apply. The URP would apply for access to Lot 2 and/or if the emergency driveway is open to normal use. The URP applies to non-residential development regardless of volume on Main Street. Improvements to Main Street are not currently planned or funded by the City nor has a project to improve Main Street been mentioned in project priority discussions with City Council. If Main Street were to experience an increase in traffic and/or increase in crashes regardless of this development such that the traffic conditions are worse than other unfunded priorities throughout the City, it would be reconsidered for potential funding as funding



opportunities exist. The next funding opportunity for new major roadway improvements will likely follow the expiration of the voter approved 2017 CIP Sales Tax in 2032; assuming the voters consider its renewal thereafter. Otherwise, it is likely Main Street improvement will be associated with development of property south of Colbern Road.

Findings:

As of the time of the Public Hearing at the March 9, 2023, Planning Commission meeting, the developer did not have any signed tenants. All documentation up to that point had stated the typical warehousing was the most likely scenario for land use. There was nothing to indicate that this facility would be a distribution center or any other high traffic generator. The Planning Commission has the ability to request a TIS from any developer if they feel it is warranted. Another scenario is if an alternate land use is presented at the Final Development phase of the project, the Director of Development can require them to go back through the Preliminary Development Plan process with the new land use, in which case a TIS will be required assuming the new land use and building size(s) are likely to generate more than 100 peak hour trips.

