Kimley»Horn

1.0 Executive Summary

1.1 INTRODUCTION

This technical memorandum documents a traffic impact study (TIS) for the Broken Arrow Grocer development located on the northwest corner of Oneta Road and Kenosha Street in the City of Broken Arrow, Oklahoma. The property is currently vacant and does not generate traffic. The development is anticipated to include a 42,000 square foot supermarket and a twelve (12) vehicle fueling position convenience store/gas station to be constructed within two (2) years.

1.2 REPORT PURPOSE AND OBJECTIVE

This TIS evaluates the impact on the surrounding traffic system with the construction of the proposed development in Broken Arrow, OK. The study examines site access driveways and significant intersections, determines peak hour periods, and recommends capacity and access improvements.

Peak period turning movement counts (TMC) were collected on Wednesday, October 1, 2025. The peak period TMCs were collected at the study intersections. Based on these results it was determined that the AM peak hour is from 7:15 AM to 8:15 AM, and the PM peak hour is from 5:00 PM to 6:00 PM.

1.3 PRINCIPAL FINDINGS AND RECOMMENDATIONS

SITE ACCESSIBILITY

- Based on Section 6.4.7 – C2 of the City of Broken Arrow's *Engineering Design Criteria Manual*. all site driveways meet minimum access connection spacing requirements.

SITE TRIP GENERATION

- Site trip estimates: Daily (6,409 trips), AM Peak Hour (163 trips), PM Peak Hour (327 trips)

AUXILIARY LANE ANALYSIS

- A westbound right-turn auxiliary lane is warranted and recommended at Drive 1 & Kenosha Street. Warrants are not met at Drive 2 or Drive 3 due to low turning volumes and therefore are not recommended.
- Based on guidance from the turn lane warrants, an eastbound left-turn auxiliary lane is warranted at Drive 1 & Kenosha Street. Warrants are not met at Drive 2 or Drive 3 due to low turning volumes and therefore are not recommended. Further discussion on the left-turn lane along Kenosha Street is provided in the body of the report.

LEVEL OF SERVICE ANALYSIS (CONSIDERATIONS AND MITIGATIONS)

- Existing (2025) and No-Build (2027) - All intersections operate at LOS D or better in both the AM and PM peak hours.
- Build-Out (2027) – All intersections operate at LOS D or better in both the AM and PM peak hours except the following:

    - Drive 1 & Kenosha Street (TWSC) – In the AM and PM peak hours the southbound approach operates at LOS F due to the left-turn movement. It is anticipated that the signalized intersection at Oneta Road & Kenosha Street will generate traffic gaps along Kenosha Street that will be utilized by drivers making southbound left-turn movements at Drive 1. Additionally, during peak hours, motorists are anticipated to divert to Drive 2 and Drive 3 to access the signal at Oneta Road & Kenosha Street. At this time, no recommendations are offered.

As previously mentioned, an eastbound left-turn lane at this site driveway is warranted. In order to determine if the installation of a dedicated left-turn lane is needed, the capacity analysis was evaluated for the eastbound approach. Based on the analysis, the eastbound approach is anticipated to operate at LOS A with less than a one (1) vehicle queue during the peak hours. Therefore, an eastbound left-turn lane is not recommended.

- No-Build (2037) - All intersections operate at LOS D or better in both the AM and PM peak hours with the exception of Huston & Oneta Rd which continues to project to operate at LOS F in the AM peak hour. The westbound and northbound approaches operate at a failing LOS F and LOS E respectively due to the delay at the through/right-turn movement. Additionally, in the PM peak hour the eastbound approach operates at LOS E due to the through/right-turn movement. The failures are caused by background conditions, as no recommendations are offered for such. The City should monitor this intersection for future control considerations.
- Build-Out (2037) – All intersections operate at LOS D or better in both the AM and PM peak hours except the following:

    - Huston Street & Oneta Road (AWSC) - In the AM peak hour the westbound and northbound approach operates at a failing LOS F and LOS E respectively, due to the delay at the through/right-turn movement. Additionally, in the PM peak hour the eastbound approach operates at LOS F due to the through/right-turn movement. It should be noted that the westbound through/right movement operates at LOS E and LOS F during the Existing (2025) and No-Build (2027) scenario, respectively. The failures are caused by background conditions, as no recommendations are offered for such. The City should monitor this intersection for future control considerations.

    - Drive 1 & Kenosha Street (TWSC) – In the AM and PM peak hours, the southbound approach operates with a failing LOS F due to the left-turn movement. It is anticipated that the signalized intersection at Oneta Road & Kenosha Street will generate traffic gaps along Kenosha Street that will be utilized by drivers making southbound left-turn movements at Drive 1. Additionally, during peak hours, motorists are anticipated to divert to Drive 2 and Drive 3 to access the signal at Oneta Road & Kenosha Street. At this time, no recommendations are offered.

      As previously mentioned, an eastbound left-turn lane at this site driveway is warranted. In order to determine if the installation of a dedicated left-turn lane is needed, the capacity analysis was evaluated for the eastbound approach. Based on the analysis, the eastbound approach is anticipated to operate at LOS A with less than a one (1) vehicle queue during the peak hours. Therefore, an eastbound left-turn lane is not recommended.

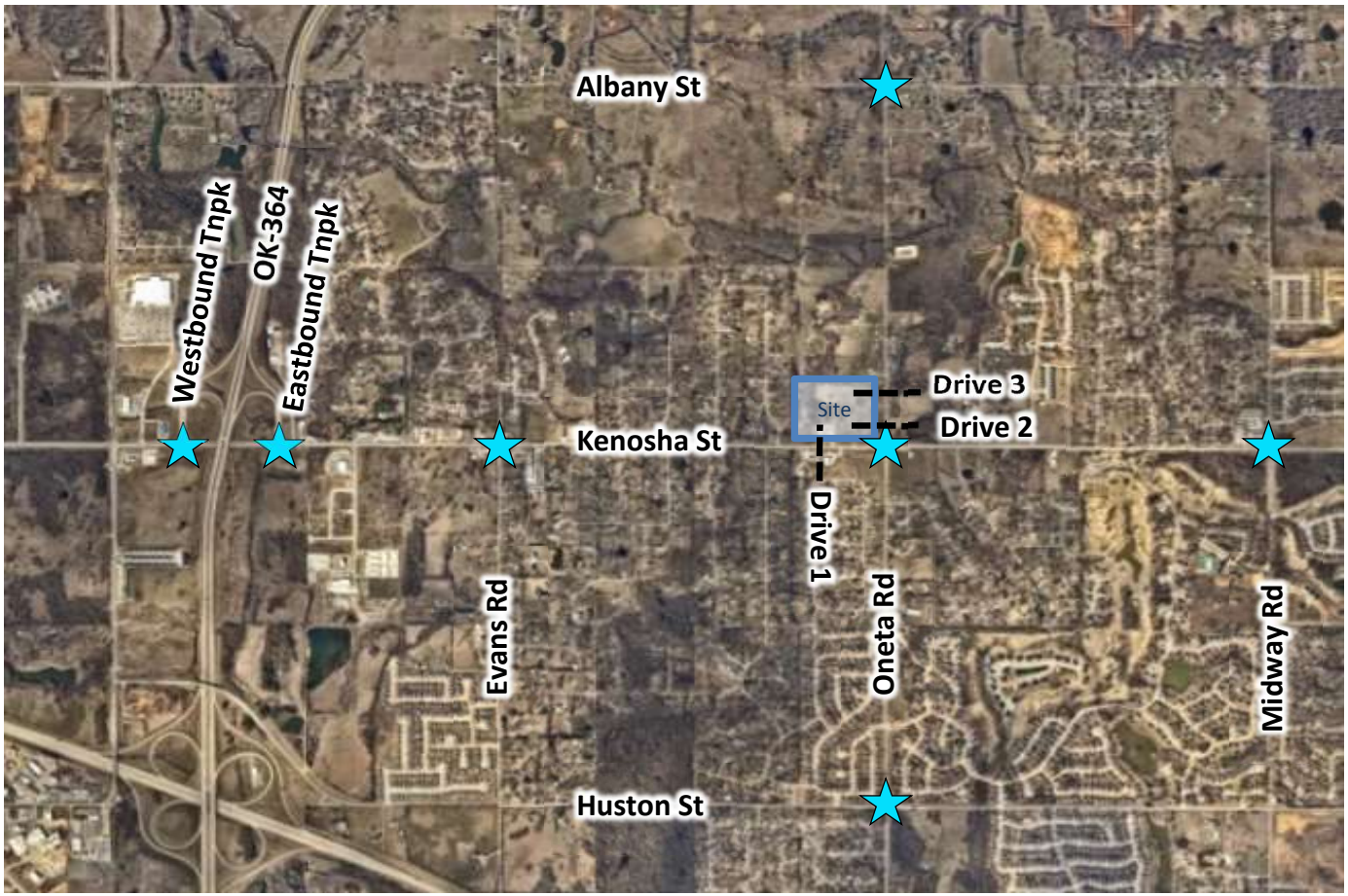

Exhibit 1

Vicinity Map

Broken Arrow Grocer TIA

LEGEND:

= STUDY INTERSECTION

= SITE BOUNDARY

= PROPOSED DRIVE

North

Not To Scale