

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis of the proposed Project Ranger (IKEA) development, the following conclusions and recommendations are made:

The proposed IKEA development is predicted to generate 715 weekday PM peak hour trips and 1,429 Saturday peak hour trips.

Intersection Capacity Analysis

- The following intersections are predicted to operate at acceptable levels of service under existing, background, and total traffic conditions at IKEA Build-Out (2017):
 - SH 161 NBFR at Mayfield Road
 - SH 161 Frontage Roads at Warrior Trail
 - SH 161 Frontage Roads at Forum Drive
 - Mayfield Road at Robinson Road
 - Robinson Road at Brentwood Drive
 - Robinson Road at Brian Drive
 - Robinson Road at Forum Drive
- The intersection of SH 161 SBFR at Mayfield Road is predicted to operate at level of service E during the PM peak hour under the background traffic conditions (without IKEA traffic) at Build-Out (2017). A southbound right turn lane is recommended to improve traffic operations at the intersection of SH 161 SBFR and Mayfield Road. The addition of a southbound right turn lane is predicted to allow the intersection to operate at an acceptable level of service (LOS C) during the PM peak hour under background and total traffic conditions at IKEA build out.
- The intersection at the IH 20 WBFR at Lake Ridge Parkway operates at level of service E/F under existing, background and total traffic conditions. The existing traffic volumes for the southbound through movement are over capacity which cause the intersection to operate at poor levels of service. The proposed IKEA development is predicted to add approximately three percent (3%) of the total traffic volumes to the IH 20 WBFR and Lake Ridge Parkway intersection. Therefore, no mitigation is recommended as a result of the IKEA development. As more development occurs along the SH 161 corridor, the City of Grand Prairie should plan for infrastructure improvements at this intersection.
- The westbound approach at the intersection of SH 161 NBFR and IKEA Way is predicted to operate at LOS C during the weekday PM peak hour and Saturday peak hour, using the HCM (2000) methodology.

Traffic Signal Warrant Analysis for the Intersection of Mayfield Road at IKEA Place

- Based on the preliminary signal warrant, Warrant 1A, 1B, and 2 are NOT met. Based on the projected traffic volumes at IKEA Build-Out, a traffic signal is not warranted at the intersection of Mayfield Road and IKEA Place. However, with the addition of traffic from developments on the adjacent parcels in the near future, a traffic signal will most likely be warranted at this intersection. Therefore, an installation of traffic signal is recommended at the intersection of Mayfield Road and IKEA Place with the proposed IKEA development.

Access Management Analysis

- Right turn deceleration lanes are recommended at the following locations:
 - Northbound right turn on SH 161 NBFR at IKEA Way
 - Eastbound right turn on Mayfield Road at IKEA Place
 - Northbound right turn on SH 161 NBFR at Mayfield Road
- The field investigation results of the available sight distance indicate that adequate sight distance is predicted to be provided at the proposed site driveways.