

Traffic Impact Analysis

Guidelines for a traffic impact analysis report for proposed developments in Kansas city

In order to adequately review development proposals, the city staff request that developers provide a traffic impact analysis to allow the staff to determine the need for street and highway improvements to serve the proposed use and address the traffic impact on the public street network. The following guidelines have been established to assist a professional engineer to provide the information needed for the staff to adequately analyze the development proposal before the plan is presented to the City Plan Commission.

The written report should address the following areas utilizing appropriate charts and graphics:

1. A description of the development site, proposed land uses and intensities, and the area of influence of site traffic. An access plan for the development, including the proposed internal circulation and available sight distances at major entry points.
2. Existing conditions and analysis:
 - a) Description of the existing conditions of perimeter streets and intersections and any other street in the area that will possibly be impacted. Information on existing street widths, number of lanes, intersection geometrics, locations of traffic signals and other types of traffic control, parking restrictions and transit routes should also be included.
 - b) Twenty-four hour traffic counts on the perimeter streets and turning movements counts during morning and evening peak periods at the impacted intersections.
 - c) Capacity and level of service analysis for the existing conditions of the perimeter streets and impacted intersections.
 - d) Traffic accident data for the influence area both for mid-block locations and intersections for the last three years.
3. Calculation, analysis, and representation of the following future conditions.
 - a) Trip generation during the 24 hour and morning and evening peak periods, and peak hour of the generator for each land use category in the project should be calculated and shown. A trip table that includes type of land use intensity, trip generation rates and trips generated should be prepared.
 - b) The distribution of generated traffic and assignment of that traffic to the street system during morning and evening peak periods and peak hour of the generator along with reasons for the assumed distribution.
 - c) Future 24 hour and peak period traffic volumes and assignments upon completion of the development by phases and for a 20 year horizon period based on regional growth.
 - d) Capacity analysis and levels of service for morning and evening peak periods and for the peak periods of the generator, if necessary.
4. Street and access improvement plan with recommendations by development phases, identifying all needed improvements and the improvements that are the responsibility of the developer. These recommendations should be based on both the morning and evening peak hour projected volumes with an emphasis on the safety aspects of the designs.
5. Proposed driveway locations, geometrics, sight distances and turn restrictions taking into consideration the proximity of nearby intersections and anticipated queues based on arrival rates should be shown.

Sight distance data at driveways using AASHTO procedures where horizontal and vertical alignments are critical should be included.

6. Impact of the development on the residential street network, signal warrants and mitigation techniques should be included wherever appropriate.
7. Concise summary of findings and recommendations for the approval of the city staff before the development plan is presented to the City Planning Commission for approval.

Additional Information that may be requested:

1. Estimates of the cost of the recommended improvements and/or information on proposed street improvements in the area by the City, County or State Highway Department.
2. A more intense analysis using network operational and simulation software such as TRANSY7.F and TRAF-NETSIM for special projects.

LEVELS OF ANALYSIS

The following guidelines are provided to help developers and their consultants determine the size of the area to study for a traffic impact analysis and the detail of the analysis that the city staff will request. There are three levels of analysis. Each one has a different emphasis and level of detail. Each development may have different or unique traffic issues and concerns that may require further study.

LEVEL ONE - *ON SITE ANALYSIS:*

Issues: Placement and design of internal (one site) features such as parking layout, access to public streets, site circulation, intersection sight distance, pedestrian circulation, delivery and loading areas and internal public street layout.

Example: Small commercial or multi-family development, small residential subdivisions or an addition to an existing development.

LEVEL TWO - *PROJECT AREA ANALYSIS:*

Issues: On site analysis (Level One) plus the impact of the development and its traffic on perimeter streets, adjoining developments, pedestrians and public transit facilities.

Example: Small to medium sized residential and commercial developments in new areas.

LEVEL THREE - *CORRIDOR ANALYSIS:*

Issues: On site analysis (Level One) plus project analysis (Level Two) plus the impact of the proposed development on a larger study area and the street and highway system that is being impacted by the addition or improvement of arterial streets and by other large developments in the study area.

Example: Large commercial and residential developments.