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TRAFFIC STUDIES

Traffic Studies Forecast Future Needs

City and village leaders want to know what impact a new development or re-developed site will have on their transportation system. Development owners want to provide efficient traffic flow within their property to attract users and customers. The traffic study recommends improvements to accommodate future vehicle and pedestrian flow, both on the public system and within the development site.

Nationwide, traffic studies are becoming an important planning tool because infrastructure improvements are not keeping up with the growth. There are too few dollars to invest in new improvements not to mention the nation's current, aging roads and bridges.

The traffic study is typically provided by the developer or facility owner. It could be a school district, hospital, warehouse distributor or commercial developer.

The traffic study then is reviewed and approved by the city, village or county. It is an objective tool for the developer and the government entity to work out what needs to be done.

There are three main components of a traffic study: Data collection, traffic analysis and recommendations that are presented in a report and often visually to project stakeholders, the affected public or the government entity.

DATA COLLECTION

A traffic engineer reviews any existing documents like land use plans and zoning requirements. They will collect supplemental information to understand the current traffic flow. Traffic counts can be performed now with electronic devices that use magnetic-field technology, generating accurate counts, speeds, and classifications of cars and trucks.

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3-D Traffic Simulation software shows projected congestion and operation of traffic through intersections

TRAFFIC ANALYSIS

The traffic engineer will analyze Department of Transportation (DOT) and local law enforcement accident records for the specific geographic area. A *capacity analysis* will assess the adequacy of key intersections to handle the additional demand generated by a new development. This analysis is commonly completed with the help of traffic software.

The *queuing analysis* shows how far vehicles will back-up at key intersections and within the site based on projected traffic flow. Simulation software shows where vehicles will stack and any intersection congestion that may occur. 3-D or 2-D computer models can convey forecasted needs in a visual format.

Access management analysis looks at details like driveway spacing. The traffic engineer considers the developer's site and the public roadways and how they impact each other. *Trip generation analysis* considers the broader public transportation system. What is the growth potential of the adjacent properties? The ITE Trip Generation manual provides objective data for proposed developments (e.g. based on square footage for office buildings or number of employees for a business). Assumptions can be made

about traffic volumes and look 20 to 25 years down the road to gauge the impact.

RECOMMENDATIONS

The outcome of a traffic study is a report about what to do with the new level of traffic. It identifies specific recommendations like adding traffic signals, new lanes, driveways and other ways to improve vehicle and pedestrian traffic.

The traffic study provides an objective assessment of the situation. It benefits all stakeholders to accurately forecast future needs. The goal is to accommodate the public transportation system and the new development site traffic, resulting in a safe and efficient environment for pedestrians and vehicles. —†