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THE PRINCIPLES OF ACCESS MANAGEMENT

TRAFFIC SAFETY DESCRIPTION

Why Is Access Management Necessary?

Constantly growing traffic congestion, concerns over traffic safety, and the ever-increasing cost of upgrading the islands roads have generated a new interest in managing the access to our highway system.

As the island develops, existing two lane roads cannot effectively handle the demand and eventually more travel lanes must be provided. New, multi-lane facilities attract traffic because they provide a good travel environment with limited delay and reasonable travel speeds. Development is naturally attracted to these type of facilities and a variety of land uses such as shopping centers, gas stations, employment centers, retail and restaurants start to move in. As average travel speeds on arterials drop and accidents rates increase, the efficiency of our transportation system deteriorates and our investment in the roadway infrastructure is seriously compromised. The typical section, at this point, is to add more travel lanes to the system, which can, in turn, attract further development and the need for additional travel lanes. The cycle continues until it becomes physically or economically impossible to add more capacity to the roadway.

This transportation land-use cycle does not need to be a continual problem. Access management together with good land use controls can preserve highway capacity and, in turn, effectively slow down or even halt the cycle.

Access management is very sensible and relatively low-cost strategy for improving traffic flow and safety on urban/suburban street systems.

THE ACCESS MANAGEMENT PRINCIPLES

Access management is the process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed.

The basic principles of access management include:

LIMITING THE NUMBER OF CONFLICT POINTS

At intersections along roadways a variety of vehicle paths will cross, merge into or diverge from one another. Anyplace this happens a conflict point exists. Conflict points are good indicators of the potential for accidents. The more conflict points that occur at an intersection the higher the potential for vehicular crashes. A typical 4-leg intersection has 32 conflict points, however where left turns and cross street through movements are restricted, the number of conflict points drops to four (4). Thus the potential for accidents is greatly reduced.

SEPARATING BASIC CONFLICT AREAS

Intersections of public streets as well as intersections of public streets and driveways represent basic conflict areas. High levels of activity can occur at these locations and consequently, through traffic needs time to react to decelerations, accelerations and travel paths of other vehicles at or near the intersections. Adequate spacing between intersections allows drivers to react to one intersection at a time and provides greater opportunities to avoid potential conflicts at each successive downstream intersection.

REDUCING INTERFERENCE WITH THRU TRAFFIC

Traffic needs to slow down for vehicles exiting, entering, or turning across the roadway. Providing turning lanes and restricting turning movements allows turning traffic to get out of the way of following through traffic.

PROVIDING SUFFICIENT SPACING FOR AT-GRADE INTERSECTIONS

An appropriate spacing of intersections along roadways reduces the frequency of conflict areas and also increases the potential for a smooth progression of through traffic on the roadway.

MAINTAINING PROGRESSION SPEEDS ALONG ARTERIALS

When traffic signals are uniformly spaced on a roadway at distances of greater than one-quarter mile, the signals can be coordinated such that through traffic travels in both directions with a minimal amount of stopping and delay at signalized intersections.

ON-SITE CIRCULATION AND STORAGE

The design of good internal vehicle circulation in parking areas and on local streets reduces the number of driveways that businesses need for access to the major roadway.

