

High Volume Three Lane Streets

Written by Administrator - Last Updated Sunday, 21 March 2010 17:26

The main argument by proponents of the five-lane solution is, that the existing and anticipated traffic volume can only be handled with four travel lanes. It is also sometimes suggested, that the Highway Department has no choice and must build five lanes due to the projected traffic.

Both parts of this argument are not true. Road designers have large degrees of freedom when determining how many cars can safely drive on a given street with a reasonable "level of service". The particular situation of a road needs to be taken into consideration. The segment of Quentin Road between Lake Cook Road and Dundee Road is particularly well suited for high capacity on only two lanes.

Capacity of a road is driven by how wide the travel lanes are and what obstacles exist on and next to the road. Every entrance into a parking lot along the road and every intersection or cross walk will reduce the road's capacity of safely moving vehicles at reasonable levels of service.

But Quentin Road between Lake Cook and Dundee Road has none of these capacity reducing aspects:

- There are no intersection with traffic lights or stop signs
- There are no strip malls and entrances to office buildings that require frequent traffic slow-down to accommodate turning vehicles
- There are no schools or public places with large number of pedestrians

In fact, road planners acknowledge this special situation of Quentin Road by designating it a 45 mph street. Rand Road, for example, is a 35 mph road mainly because of the business entrances along both sides of the street that require traffic to be slower and capacities per lane to be reduced.

We have looked across the country to find roads that operate at high traffic volume in situations comparable to Quentin Road. This article will report about those roads and the experiences

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shared by highway departments operating these high volume streets. It is very important for us that the roads we present

- are very comparable to Quentin Road
- show sustainably high volumes of travel at or beyond what is predicted for Quentin Road
- operate at high levels of safety and reasonable levels of service

The article will be updated frequently to add additional relevant examples and experiences by the responsibly highway departments.

Report 1: Orange County Road 133

Overview

Location	Laguna Beach, California
ADT	36,500
Peak traffic	38,000 vehicles per day
Accident rate	1.63 accidents per million vehicle miles

Description

Reporter	Description
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ORA-133 has a section of three-lane roadway that is 2.366 miles long. The average traffic volumes from

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P.E. Public Works

Laguna Beach, CA

It is a two-lane road with a bi-directional left turn facility. On the Southbound side of the street there is litt

Comparison with Quentin Road

This segment of ORA-133 safely sustains traffic volumes xx% higher than the projected traffic volume for Quentin Road in 2030. Both roads are defined by their commute traffic volume. However, Quentin road has significant advantages over ORA-133 in that:

- We do not have 100 driveways
- We do not have any retail complexes along the road
- We do not have a college with a 700 unit parking facility to deal with