General Information

The classic roadway reconfiguration, commonly referred to as a "road diet," involves converting multi-lane roadways into fewer lanes. For example, a four lane road would be converted to three lanes made up of two through lanes and a center two-way left turn lane. The reduction of lanes allows the roadway to be reallocated for other uses such as bike lanes, pedestrian crossing islands, and/or parking.

Below is a figure that shows how a typical road diet fits within the existing curb-to-curb configuration.

Traditionally, roads have been designed to handle peak traffic volumes. By designing for the peak period, roads may be over-designed for most common traffic volumes. When a roadway is over-designed, it can encourage drivers to travel faster than the posted speed during off-peak hours. It also creates an unnecessarily wide section for pedestrians to cross the street.

In a traditional 4-3 road diet, removing the left turns from the travel lane will often reduce the number of crashes caused by stoppages in the travel lane. It also reduces the number of lanes the left turning vehicle must cross when making the turn.

Benefits

Road diets have multiple safety and operational benefits for vehicles as well as pedestrians and bicyclists, such as:

- Decreasing vehicle travel lanes for pedestrians to cross, therefore reducing the multiple-threat crash (when one vehicle stops for a pedestrian in a travel lane on a multi-lane road, but the motorist in the next lane does not, resulting in a crash) for pedestrians
- Providing room for a pedestrian crossing island
- Improving safety for bicyclists when bike lanes are added (such lanes also create a buffer space between pedestrians and vehicles)
- Providing the opportunity for on-street parking (also a buffer between pedestrians and vehicles)
- Reducing rear-end and side-swipe crashes
- Improving speed limit compliance and decreasing crash severity when crashes do occur.
When to Consider a Road Diet

Although reducing the number of lanes reduces capacity, it also creates a more inviting environment for business and residential uses, and encourages alternate modes of transportation.

Often times, road diets can be successful on roads with less than 20,000 vehicle trips per day. For volumes in excess of this, a more in-depth study is recommended. It has been shown that roads with 15,000 ADT or less had very good results in the areas of safety, operations, and livability.

Driveway density, transit routes, the number and design of intersections along the corridor, as well as operational characteristics are some considerations to be evaluated before deciding to implement a road diet.

In a standard four-lane section of roadway it is common for speeds to increase at mid-block locations. These increased speeds result in a higher number of pedestrian fatalities. Eight of ten pedestrians struck by a vehicle traveling at 40 mph or faster will die. By reconfiguring the roadway to fewer lanes, speeds are reduced and therefore fatalities are reduced. If a pedestrian is struck by a vehicle traveling at 20 mph or less there is a 90% chance they will survive the crash.

According to the Federal Highway Administration, “when modified from four travel lanes with a two-way-left-turn lane, roadways have experienced a 29 percent reduction in all roadway crashes.” In minimizing the crossing distance, road diets reduce the potential for pedestrian fatalities.

Information and diagrams courtesy of FHWA