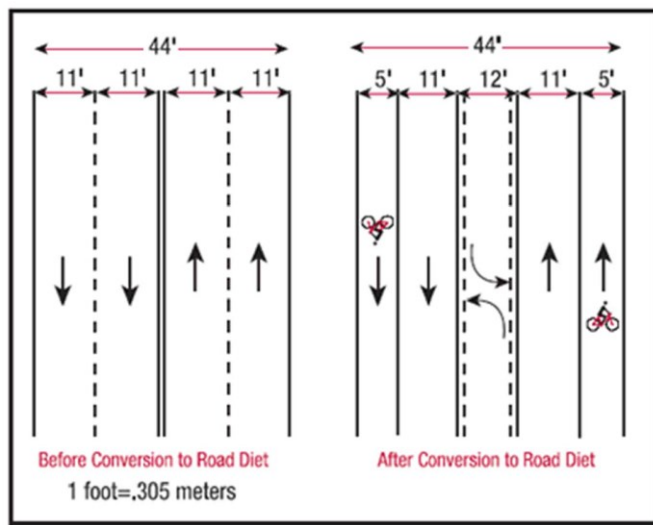




## Road Diet

### General Information

Reconfiguration of a roadway, sometimes known as a road diet, involves the reallocation of roadway space. The classic road diet entails reducing a 4-lane roadway to a 2-lane roadway with a two way left turn lane (TWLTL) and bike lanes. In a typical downtown business district there is also parking that may be affected. The figure below shows how a typical road diet fits within the existing curb-to-curb width.



**Credit:** FHWA diagram

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

Road diets may generate benefits for all modes of transportation, not just bicycles and pedestrians. In a traditional 4-to-3 road diet, removing the left turns from through travel lanes will often reduce the number of crashes caused by stoppages in the travel lanes. It also reduces the number of lanes the left-turning vehicle must cross while making the turn.

### By the Numbers

When considering a road diet it is important to consider safety benefits, neighborhood benefits, operational impacts, and project costs. 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. If the volumes exceed ~20,000 vehicles per day or ~1000 vehicles per hour per direction a more in-depth study is recommended to evaluate additional options and mitigations for a potential road diet.

In a standard four-lane section of roadway it is common for speeds to increase at midblock locations. These increased speeds result in a higher number of pedestrian fatalities. Eight out of ten pedestrians struck by a vehicle traveling at 40 mph or faster will die. By reconfiguring the roadway to one lane in each direction with a TWLTL speeds are reduced and consequently 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 FHWA, “when modified from four travel lanes to two 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 and creating fewer midblock crossing locations, road diets reduce the potential for pedestrian fatalities



**Credit:** FHWA Proven Safety Countermeasure, “Road Diet”



# Systemic Safety Measures

## Road Diet

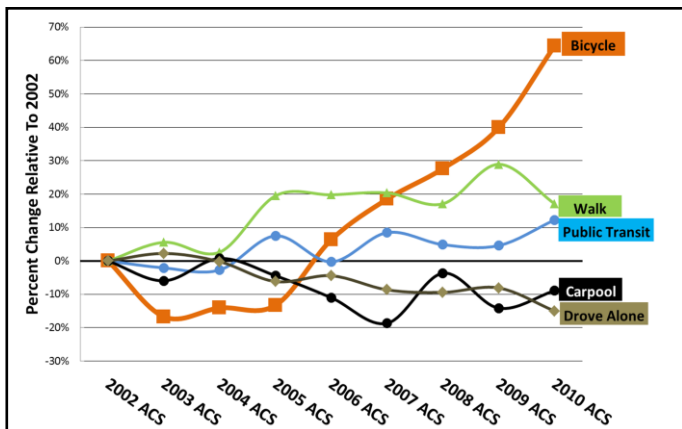
### Others Cities' Experiences

San Francisco County Transportation Authority (SFTA) has implemented 50+ road diets and Seattle has implemented 30+ road diets since the 1970s. Both cities have had positive and negative experiences but the positive heavily outweigh the negative.

The US Census American Community Survey has shown that use of alternate modes of transportation has dramatically changed between 2002 and 2010. San Francisco has encouraged this change by increasing pedestrian and bicycle safety and comfort on their city streets.

Both Seattle and San Francisco perform before and after studies on the road diets they implement. Even with the ever growing number of road diets being applied, both cities still face critical questions throughout the process.

A recently installed road diet in Seattle was highly contested during the review process. The traveling public was concerned about the increased travel time and congestion that they believed it would cause. A study conducted by the Toole Design Group found that after implementation there were only 3 requests to remove the road diet.



**Credit:** US Census American Community Survey, Changes in Mode Share in San Francisco

In a before and after study conducted on 3 road diets in San Francisco, SFTA found a reduction in speeds of 4%-14%. A reduction in speed creates a safer environment for non-motorists. They also found road diets reduce midblock crashes up to 85 percent.

Mansell btwn:	before (mph)	after (mph)	change (mph)	% change
Holyoke - Somerset				
eastbound	37.6	32.3	5.3	-14
westbound	31.9	30.4	1.5	-5
Colby - Dartmouth				
eastbound	39.8	34.8	5	-13
westbound	37.4	35.8	1.6	-4
Visitation - John F Shelley				
eastbound	50	47.5	2.5	-5
westbound	47.3	42.6	4.7	-10
Total midblock collisions	58	9	49	-84
Midblock Collision Rate	3.89	0.57	3.32	-85

**Credit:** Road Diet Webinar, PBIC, Nov 20, 2012 presentation by SFTA Mike Sallaberry

Street	Before Comments	After Comments	Requests to remove
NE 125 <sup>th</sup> St	394	7	3
Nickerson St	66	8	0

**Credit:** Toole Design Group Study of NE 125<sup>th</sup> and Nickerson Streets

Both agencies stress public outreach and education as mandatory when starting the process to implement a road diet. Careful before and after studies to monitor not only the street with the new road diet but also the surrounding streets for spillover is also necessary to ensure pedestrian and bicycle safety.

### Helpful Resources

- ✓ Pedestrian and Bicycle Information Center <http://www.walkinginfo.org/training/pbic/index.cfm>
- ✓ FHWA Proven Safety Counter Measures, "Road Diets" [http://safety.fhwa.dot.gov/provencountermeasures/fhwa\\_sa\\_12\\_013.htm](http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_013.htm)
- ✓ Crash Modification Clearinghouse <http://www.cmfclearinghouse.org/>
- ✓ San Francisco County Transportation Authority <http://www.sfcta.org/mos/Frontpage/>
- ✓ Toole Design Group (Seattle) <http://www.tooledesign.com/>