



VOLUME CONTROL DEVICES

While most traffic calming approaches have some effect on both volume and speed, some measures are primarily targeted at discouraging or eliminating opportunities for vehicles to pass through certain streets, often referred to as cut-through traffic. Volume control devices can include full and half street closures, diverters, median barriers, and forced turn islands. They are generally more permanent traffic calming solutions and must be implemented as part of a network solution as the diverted traffic will likely be relocated to nearby streets.

USE

- Volume control elements are best suited to long, straight streets with speeds limits less than 30 mph that feature higher than desired traffic volumes. They should be applied to lower order streets (Neighborhood Residential, Link Residential, Neighborhood Business, and Maker/Industrial streets).
- Semi-diverters and diverters should be carefully considered as they limit connectivity and the functionality of the street grid. They are inappropriate for use on emergency response routes, bus routes, or streets classified as collector or higher.

DESIGN

Sometimes called a half street closure, semi-diverters prevent vehicles from crossing an intersection in one direction of a street while permitting traffic in the opposite direction to pass through. It is an alternative to one-way street operation for a block and it allows residents on the block limited two-way travel opportunity. A semi-diverter should be located at the end of a block to prevent vehicles from entering but allowing exits.

A somewhat less common volume control measure, diagonal diverters are barriers installed across an intersection blocking through movement. Like half closures, diagonal diverters are usually staggered to create circuitous routes through neighborhoods.

 Diverters and median barriers can create opportunities for landscaping, street trees, and low impact development.

SPECIAL CONSIDERATIONS

- Volume control elements may divert traffic to other low-volume streets, which may increase trip lengths.
- Wherever traffic diversion techniques are employed, provisions should be made for the continuation of pedestrian and bicycle routing through or around the diversion.
- Care must be taken in design of diversion installations to allow for emergency vehicles and not lengthen emergency response times.

OPERATIONS AND MAINTENANCE

- Operation of the street network should be monitored to ensure that traffic is diverted to higher level streets as intended, and that low volumes on one segment is not diverted onto a parallel low volume street. Devices should minimize disturbances to other low volume streets.
- If compliance is an issue, designs should be modified to increase compliance. Drivers may be less likely to go around the diverters or barriers if they are extended down the street, or angled for right turns out of the neighborhood, making turns into the neighborhood less desirable.
- A combination of measures can also be used to increase compliance, such as half closures with opposing center islands to make through movements more awkward.

REFERENCES

- AASHTO: Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004
 - Section 2.6.2: Traffic-Calming Methods
- AASHTO: Guide for the Development of Bicycle Facilities, 2012
 - Section 4.12.6: Bicycles and Traffic Calming
- ITE/FHWA: Traffic Calming: State of the Practice, 1999
- Chapter 3: Toolbox of Traffic Calming Measures