

# Traffic Calming

## Small changes that make a big difference

**What is “traffic calming?”** Traffic calming is defined as education, enforcement, or engineering treatments to reduce vehicle speeds, usually on urban or suburban residential or collector streets. Low-cost approaches include reducing speed limits, conducting outreach, installing flashing speed indication signs, or increasing enforcement. If these aren’t effective, well-designed engineering treatments can reduce the average vehicle speed, eliminate the highest speeds, and reduce the incentive for cut-through traffic. In addition to encouraging walking and biking, auto emissions are reduced when vehicles travel at a steady, moderate speed. For example, CO<sub>2</sub> emissions are lowest at 25 mph<sup>1</sup> and treatments such as traffic circles, which require no stopping, cause fewer emissions than stop signs. Below are example treatments.



**Curb Extensions (“bulb-outs”):** Narrow the intersection or mid-block crossing distance by extending the curb into the street, making pedestrians more visible and reducing the speed of turning vehicles.  
**Costs:** \$40,000-\$80,000 for installation<sup>2</sup>. Must accommodate emergency vehicles.  
**Benefits:** Can reduce speeds (7% in one study), and traffic volume (10% in another study), while providing areas for landscaping, public art, seating, or other amenities.<sup>2</sup>

**Raised Crosswalk:** Raised flat pavement area that functions as a long speed hump; it clearly marks a pedestrian crossing and prioritizes pedestrian safety.  
**Costs:** Installation is approximately \$25,000.<sup>3</sup>  
**Benefits:** Shown to reduce average speed by 18% and reduce collisions by 45%.<sup>3</sup>



**Speed Hump or Speed Lump:** Similar to a speed bump, but wider and gentler. Speed “lumps” are speed humps with precisely spaced breaks allowing large (emergency) vehicles to pass without damage or slowing.  
**Costs:** Installation is approximately \$2,500.<sup>4</sup>  
**Benefits:** Found to reduce speed by 22%, traffic volume by 18%, and collisions by 13%.<sup>4</sup>

**Road Diet:** Reducing the number of vehicle travel lanes to reduce speeds while providing new space for medians, bike lanes, wider sidewalks, landscaping.  
**Costs:** Variable. Can be modest if the project is simply restriping following repaving or other road work.  
**Benefits:** 4-lane to 3-lane conversions (pictured) decrease pedestrian crashes by 29%.<sup>5</sup>



**Modern Roundabout:** A circular intersection median that more safely processes conflicting traffic without the need for stopping, while increasing street capacity using existing lanes.  
**Costs:** Around \$1 million in San Diego County, but with lower maintenance costs than traffic signals. Requires more intersection width in some cases, which may increase costs.  
**Benefits:** 40% reduction in crashes; 80% decrease in injuries.<sup>6</sup> Emissions case studies found: 16% (AM peak) and 59% (PM peak) reduction in CO<sub>2</sub>; for major pollutants: 18-21% AM reduction and 42-65% PM reduction.<sup>7</sup>

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- For more information on speed reduction, see the Center for Problem-Oriented Policing, *Responses to the Problem of Speeding in Residential Areas*, at <http://popcenter.org/problems/speeding>.

#### Sources:

1. Barth, M. and Boriboonsomsin, K. “Traffic Congestion and Green House Gases” uctc.net (2009)
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3. Fehr & Peers. “Raised Crosswalk” trafficcalming.org (2014)
4. Fehr & Peers. “Speed Humps” trafficcalming.org (2014)
5. Ann Do. “Proven Safety Countermeasures: “Road Diet” (Roadway Reconfiguration)” (2009)
6. Wei Zhang. “Proven Safety Countermeasures: Roundabouts” fhwa.dot.gov (2012)
7. Mandavilli, Russell, Rys. “Impact of Modern Roundabouts on Vehicular Emissions” (2003)