Traffic Calming

SMALL CHANGES THAT MAKE A BIG DIFFERENCE

APCD
AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

Traffic calming is defined as education, enforcement, or engineering treatments to reduce vehicle speeds, usually on urban or suburban residential or collector streets. Lower-cost approaches include conducting outreach , installing speed feedback signs, or increasing enforcement. If these approaches 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_2 emissions are lowest at 25 mph[1] and treatments such as traffic circles, which require no stopping, cause fewer emissions than stop signs. This fact sheet shows some example treatments. Consult your local jurisdiction to see if any of these options work for your situation.

CURB EXTENSIONS ("BULB-OUTS")

Curb extensions 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.[2] Must accommodate emergency vehicles.

Benefits: Can reduce speeds (7% in one study[2]), and traffic volume (10% in another study[2]), while providing areas for landscaping, public art, seating, or other amenities.

Image courtesy www.pedbikeimages.org / Dan Burden

RAISED CROSSWALK

Raised crosswalks are raised, flat pavement areas that function as a long speed hump. They clearly mark a pedestrian crossing and prioritize pedestrian safety.

Cost: Installation is approximately $25,000.[3]

Benefits: Shown to reduce average speed by 18% and reduce collisions by 45%. [3]

References: 1. Barth, M and Boriboonsomsin, K. "Traffic Congestion and Green House Gases" uctc.net (2009) . 2. Fehr & Peers "Neckdowns" trafficcalming.org (2014); 3. Fehr & Peers, "Raised Crosswalk" trafficcalming.org (2014)

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.[4]
Benefits: Found to reduce speed by 22%, traffic volume by 18%, and collisions by 13%.[4]

Image courtesy City of Stockton

Image courtesy www.pedbikeimages.org / Dan Burden

ROAD DIET

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

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.[6] Emissions case studies found 16% (AM peak) and 59% (PM peak) reduction in CO_2; for major pollutants 18-21% AM reduction and 43-65% PM reduction.[7]

Image courtesy Mike Arnold, City of San Diego

References: 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).