TRAFFIC SAFETY TOOL KIT





Los Angeles County Department of Public Works

Traffic & Lighting Division



TRAFFIC INVESTIGATIONS SECTION







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TRAFFIC CONCERNS IN YOUR NEIGHBORHOOD

As our transportation culture changes from less walking and bicycling to more driving, with increasing traffic volumes and higher speeds, we are faced today with a variety of traffic safety concerns, particularly in residential neighborhoods.

The Los Angeles County Department of Public Works' Traffic Investigations Section addresses these neighborhood traffic-related concerns, conducts studies, and implements solutions using prudent traffic engineering practices.

Public Works receives nearly 1,200 traffic-related requests annually, from residents, community groups, school organizations, and others throughout unincorporated Los Angeles County. Some of the most common concerns or requests are:

Speeding

Parking problems

Stop Signs

Traffic signals

Crosswalks and Crossing Guards

School Area Traffic Safety

To share your traffic-related concern and request a study please contact:

Los Angeles County Department of Public Works

Traffic and Lighting Division, Traffic Investigations Section P.O. Box 1460 Alhambra, CA 91802 -1460

(626) 300 - 4709

www.ladpw.org/traffic



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APPROPRIATE USES OF TRAFFIC CONTROLS

The consistent application of traffic control devices is essential in maintaining traffic safety. Any given device for the control of traffic should have the same meaning and require the same action on the part of all motorists regardless of where it is encountered. For example, an out-of-state motorist should be able to expect similar traffic conditions when encountering the same traffic control device.

STOP SIGNS AND TRAFFIC SIGNALS

Stop signs and traffic signals are not intended to reduce speeding. Generally, stop signs and traffic signals are installed at intersections where conflicting traffic volumes are high enough to require control, or where there is a high incidence of collisions correctable by stop signs or traffic signals.

Stop Signs

Stop signs help drivers and pedestrians establish right-of-way at intersections. The justification for stop sign installation is determined by nationally recognized, "warrants," or guidelines. These warrants consider:

- The number of vehicles and pedestrians entering the intersection during a substantial part of the day,
- The prevailing speed of traffic,
- The amount of time traffic must wait to enter the intersection, including the availability of safe crossing opportunities, and
- Collision patterns susceptible of correction by stop control.

The volumes of traffic on both streets should be nearly equal to consider all-way stop control at an intersection.

Stop signs installed at locations that **<u>do not satisfy</u>** the above warrants may produce negative consequences such as:

- Unnecessary traffic congestion and delay,
- Motorist frustration and the temptation to not completely stop, disobey the stop signs,
- An increase in the potential for rear-end collisions,
- Added noise and pollution for nearby residents as vehicles stop and accelerate, and
- An intersection that previously appeared "not busy," may now look like a major intersection.



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Traffic Signals

Traffic signals provide for the orderly movement of vehicles and pedestrians by:



- Increasing the traffic handling capacity of the intersection,
- Reducing the frequency of certain types of accidents, especially the right angle type,
- Providing for the efficient and orderly movement of traffic, and
- Providing for minor street traffic to enter or cross the major street with less delay or risk of accidents.

The justification for installing traffic signals is based on nationally recognized warrants, or guidelines, and considers factors such as:

- The number of vehicles and pedestrian entering the intersection during a substantial part of the day,
- The prevailing speed of traffic,
- Schools in the vicinity,
- The amount of time traffic must wait to enter the intersection, including the availability of safe crossing opportunities, and
- Any accident patterns susceptible of correction by traffic signals.

FLASHING BEACONS

Flashing yellow beacons may be used at heavily used crosswalks that are not already controlled by traffic signals or stop signs, and when there is no alternate controlled crossing nearby. They are also used to warn motorists of upcoming severe dips or curves, or obstructions such as tunnel portals, bridge railings and abutments, or overcrossings.

Flashers attract attention to conditions that may not be readily apparent to drivers. For flashers to be effective, they must command the respect of motorists. Therefore, the condition must be viewed serious enough for motorists to justify having been alerted. If it seems arbitrary or unnecessary, drivers tend to ignore it.



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RUMBLE STRIPS

Rumble strips are bands of raised markers or grooves across the roadway which cause tire vibration and noise to warn motorists of some unusual condition ahead. The use of rumble strips is typically reserved for serious conditions requiring heightened motorists' awareness. Examples of such conditions include notification of end of freeways or roadways, or notification of upcoming stop signs in remote areas where the motorists have not encountered any other stop signs or traffic signals for long continuous stretches.

Since rumble strips have disadvantages such as persistent noise to nearby residents, and being a slippery, uneven surface for bicyclists and motorcyclists, traffic conditions must be carefully evaluated before installing them.

"CHILDREN AT PLAY" SIGNS

"Children at Play" signs are not recognized by the County, State or Federal Highway Administration as official signs, due to their limited effectiveness. Since these signs, once posted, are present 24-hours a day, seven days a week, regardless of whether or not children are actually present, motorists quickly learn to neglect them, and the signs lose their effectiveness. These signs also create a false sense of security for parents as well as the children who believe the sign will provide an added degree of protection. There is no evidence that these signs prevent accidents or reduce speeds. For these reasons, "Children at Play," signs are not installed on public streets.

Most importantly, adults are encouraged to talk to children about the dangers associated with playing in or around roadways, and to discourage children from playing in streets.





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FACTS AND STATISTICS ABOUT SPEEDING

Speeding in residential neighborhoods is one of the most common traffic-related complaints received by Public Works. By gaining a better understanding of some of the facts about speeding we can work together towards alleviating speeding on our roadways.

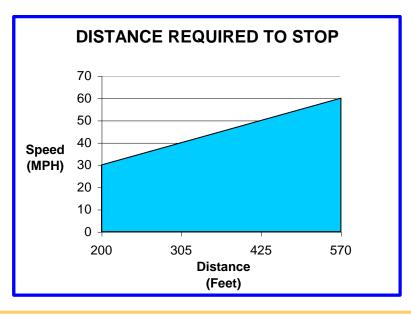
Speeding Facts and Statistics:

- The speed limit on residential roadways is 25 mph, unless otherwise determined by an Engineering and Traffic Survey.
- Quite frequently, the speeders in neighborhoods are the residents who live there.
- The distance required to come to a stop is:

200 feet if you're traveling at 30 mph* 305 feet if you're traveling at 40 mph* 425 feet if you're traveling at 50 mph* 570 feet if you're traveling at 60 mph*



*American Association of State Highway and Transportation Officials (AASHTO) policies



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EFFECTIVE WAYS TO REDUCE SPEEDING IN RESIDENTIAL NEIGHBORHOODS

TRAFFIC SIGNS

Speed limit signs remind motorists to drive within the established speed limit. Other signs, such as curve warning signs supplemented with advisory speed plates, assist drivers in safely negotiating unexpected roadway conditions that require significant speed reduction.

Inappropriate signs often confuse and annoy drivers, and tend to foster disrespect for other appropriate traffic signs. Well-placed signs in accordance with the State of California's criteria can be highly effective in reducing speeds and increasing traffic safety.

SPEED LIMITS

The California Vehicle Code (CVC) sets the following speed limits:

- 15 mph in alleys, at blind intersections and at blind railroad crossings
- 25 mph in residence and business districts, school zones and playground areas when children are present, and at senior citizen facilities

These speed limits may be posted or unposted.



Speed limits may also be established by an Engineering and Traffic Survey. This Survey determines an appropriate speed limit considering factors such as the type of adjacent development, pedestrian and bicycle activity, roadside conditions, reported collision history, and the prevailing speed of traffic. The prevailing speed is that speed which 85 percent of the motorists are

traveling at or below. The prevailing speed is utilized as a reference to establish speed limits based on the concept that most motorists can be relied upon to drive at a reasonable speed. Studies have shown that setting arbitrarily low speed limits results in wholesale violations, and does not necessarily result in lower driving speeds.



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SPEED HUMPS/ SPEED CUSHIONS

When less restrictive means, such as traffic limit signs and speed enforcement, have not been effective, speed humps or speed cushions may be considered on roadways with the following characteristics:

- Local, residential street with one travel lane in each direction
- Roadway width is not more than 40 feet
- There are no curves that would make it difficult for drivers to see the speed humps or cushions as they approach them
- Grade or slope less than 5 percent
- Traffic volumes between 500 and 2,000 vehicles per day
- Speed limits of 30 mph or less
- Actual measured prevailing speeds greater than 35 mph
- Not a transit route or primary emergency response route



Additionally, the Fire Department must review and approve the location on a case-by-case basis to ensure fire response times are not unduly affected. Upon Fire Department approval, Public Works must receive a petition showing at least 75 percent of the fronting residents in favor of installing them.

Pros of Speed Humps/ Speed Cushions

• They effectively lower the prevailing speeds on roadways with the above characteristics.

Cons of Speed Humps/ Speed Cushions

- They must be supplemented with signs and pavement markings, which may not always be aesthetically pleasing.
- There may be an increase in noise as cars slow down and speed up at the speed humps or cushions, especially in the evenings when the neighborhood is quiet.
- Some residents feel that going over the speed humps or cushions on a daily basis becomes an annoyance after a while.



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RADAR SPEED TRAILER/ SPEED DISPLAY SIGNS

This type of equipment displays the actual speed of motorists in comparison to the posted speed limit as they pass by. They are temporarily deployed and serve as an educational tool to encourage motorists to be mindful of the speed at which they are traveling.

ENFORCEMENT



In unincorporated Los Angeles County areas speeding laws are enforced by the California Highway Patrol (CHP). Increased speed enforcement at selected locations may be highly effective in reducing speeds. To request CHP enforcement you may contact the CHP office nearest you:

<u>CHP</u>	OFFICES	

East Los Angeles Office	(323) 980-4600
Santa Fe Springs Office	(562) 868-0503
Baldwin Park Office	(626) 338-1164
Altadena Office	(626) 296-8100
Antelope Valley Office	(661) 948-8541
Newhall Office	(661) 294-5540
South Los Angeles Office	(310) 516-3355
West Los Angeles Office	(310) 642-3926
West San Fernando Valley	(818) 888-0980

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PEDESTRIAN SAFETY



Pedestrian Safety Tips When Crossing The Street:

- Cross at signalized or stop-controlled intersections whenever possible.
- Always look left, right, and left again.
- Always make eye contact with drivers.
- Always observe all vehicles stopping for you.
- Always cautiously walk across the street.
- Wear light-colored clothing at night.
- $rac{9}{9}$ Avoid distractions such as phone calls, texting, and music.





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CROSSWALKS

A crosswalk can be either "marked" or "unmarked". A "marked crosswalk" is designated by white or yellow painted lines on the pavement. Where there are no painted lines at intersections, "unmarked crosswalks" exist.

Per the California Vehicle Code, drivers must yield the right of way to pedestrians within a crosswalk, whether it is marked or unmarked. However, pedestrians must not enter a crosswalk when there is an approaching vehicle so close as to be a danger.

When should crosswalks be marked?

- Crosswalks are usually marked at intersections controlled by traffic signals or stop signs.
- At locations where there are no traffic signals or stop signs, the crosswalks are usually unmarked, unless there are substantial amounts of pedestrians to justify marking the crosswalk, or where necessary to direct pedestrians along a suggested or more desirable route.

State law requires that when a marked crosswalk is adjacent to a school, or at certain locations on the suggested route to school, it shall be painted yellow.

Research suggests that marked crosswalks can give pedestrians a false sense of security since the rate of pedestrians being hit by a vehicle in a marked crosswalk is about 3 times greater than in unmarked crossings. Pedestrians appear to use less caution when crossing at a marked crosswalk than at locations where no marked crosswalks exist, often times stepping off the curb into the roadway, expecting drivers to stop. For the approaching motorist, however, the crosswalk is not as visible as it is to the crossing pedestrian.

On multi-lane roadways, marked crosswalks at locations where there are no traffic signals or stop signs are even more of a safety concern. An unfortunate but recurring scenario involves a motorist in the lane nearest the curb stopping for a pedestrian. The pedestrian begins to walk across the street not seeing a second vehicle approaching in the adjacent lane. The motorist in the second vehicle may not notice the pedestrian until the pedestrian steps directly into the vehicle's path, which may be too late to stop.

For these reasons, marked uncontrolled crosswalks should not be arbitrarily installed, but only after traffic and pedestrian conditions have been thoroughly examined.



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PEDESTRIAN SIGNALS

When crossing at traffic signals pedestrians should follow these steps to enhance their safety:

- Always press the pedestrian push button (ppb). When the ppb is pushed the traffic signal system will activate the pedestrian signal and provide longer green time for vehicles, to allow pedestrians to cross the street. However, when the ppb is not pushed, the pedestrian signal is not activated and traffic signal system will only account for the time necessary to clear the vehicles.
- 2. Begin crossing only after you've observed that the vehicles have stopped, and the "walking person" symbol appears on the pedestrian signal. Be aware of vehicles entering the crosswalk to turn right.
- 3. If a bright flashing "orange hand" indication appears on the pedestrian signal while you're in the crosswalk, continue walking you have enough time to get to the other side before the signal turns red. Some traffic signals may provide a countdown display to inform pedestrians of the number of seconds remaining to cross the street.
- 4. If you have not yet left the curb and a bright orange hand indication appears, Flashing or steady, DO NOT START TO CROSS since there may not be enough time to get to the other side before the signal turns red. Push the ppb and wait for the next cycle of the walking person symbol to appear.



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IN-ROADWAY-WARNING LIGHTS (IRWL'S)

At crosswalks where there are no stop signs or traffic signals, pedestrian safety can be enhanced by In-Roadway-Warning-Lights (IRWL'S). IRWL's are lights installed in the pavement along the entire length of both crosswalk lines. The lights blink when activated by a pedestrian using a pedestrian push button. They are intended to enhance motorists' awareness that pedestrians are attempting to cross the street within the crosswalk. For added emphasis, the IRWL's are usually supplemented with overhead pedestrian crossing symbol signs and two alternately flashing yellow lights.

Since this system is a warning device and not a traffic signal, pedestrians must continue to utilize caution when crossing the roadway.

IRWL installations are considered when the following conditions exist:

- More traditional traffic controls, such as warning signs and pavement markings, have not been effective,
- The crosswalk is not within 300 feet of a stop controlled or signalized intersection, within 200 feet of a railroad crossing, or within 300 feet of any other flashing yellow warning beacon, and
- > There is a high number of pedestrians crossing during hours of darkness.



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SCHOOL AREA TRAFFIC SAFETY

During school arrival and dismissal times, congestion and confusion can result when cars, school buses, and pedestrians all use the roadway at the same time. Younger children are often inexperienced at maneuvering through this congestion. The orderly control of traffic and efficient use of curbside parking can greatly enhance traffic safety for motorists and children.

Parking Controls

Public Works, in cooperation with school administration, may implement parking controls such as:

- SCHOOL BUS LOADING zones,
- NO PARKING zones where parents can stop to load/unload students, but not leave cars unattended,



- PASSENGER LOADING zones,
- NO STOPPING zones to keep certain areas clear of vehicles for safety or traffic flow reasons, or
- TIME LIMIT parking to restrict the length of time for parking in certain areas.

These restrictions can be full-time or for certain hours of the school day.

Crosswalks

Crosswalks adjacent to schools are painted yellow. Where there are no traffic signals or stop signs, the crosswalk is accompanied by pedestrian crossing warning signs.

Crossing Guard Service



At school crossings where pedestrian and vehicular volumes are high, school officials may request Public Works to conduct a crossing guard study. Upon determination that traffic conditions satisfy established warrants, crossing guard service may be implemented.



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COMMUNITY PARTICIPATION

The best solutions for establishing appropriate traffic controls often come from effective partnerships among local residents, law enforcement, school officials, traffic engineers and government representatives.

There are usually several options available to improve traffic and pedestrian safety when a significant traffic concern exists. It helps to approach the situation with an open mind and work together towards solutions.



NEIGHBORHOOD AND HOMEOWNERS ASSOCIATION NEWSLETTERS

Newsletters prepared and distributed by members of the neighborhood are also highly effective in encouraging speed reduction. Since the residents are often the most knowledgeable with regards to speeding "hot spots," a newsletter identifying these areas may serve as a reminder to other neighbors to reduce their speeds, sensitize them to the concerns of others, as well as bring the community together in addressing this common concern.



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NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

To enhance the walkability, driveability and liveability of public roadways, while maintaining safety and mobility for pedestrians and motorists, Public Works will offers a Neighborhood Traffic Management Program (NTMP).

The NTMP is a process in which we will work together with your community, as a group, to identify traffic-related concerns, and implement appropriate and effective traffic management devices and controls. Some of the measures include:

- Enforcement
- Traffic signs and markings
- Speed trailers

- Speed humps/ speed cushions
- Curb extensions or center medians
- Traffic circles
- > Traffic diverters to reduce or eliminate cut-through traffic

Appropriate application of traffic devices and controls requires consultation with traffic engineers to ensure conformance with design standards, sound planning, and prudent traffic engineering practices.

The NTMP is a community-based process that begins and ends with your community. Participants will be involved with the development, evaluation and implementation of traffic solutions in their own neighborhood. This process involves:

- > Written request/petition from individuals or community groups.
- Traffic studies including field reviews, data analyses, preliminary recommendations, and design.
- Community Meeting to discuss proposals.
- Temporary Installations and Evaluations.
- Permanent Installations.



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County of Los Angeles HIGHWAY SAFETY COMMISSION

The Highway Safety Commission (HSC) was established by the Los Angeles County Board of Supervisors to serve as an impartial appeals board for citizens who wish to appeal a decision made by Public Works regarding requests for traffic controls. After listening to testimony from Public Works and the appellant, the HSC makes a decision whether or not the requested traffic control should be installed. Subject to the Board of Supervisors approval, the decision of the HSC is usually binding.

If you have questions, regarding the HSC, please contact the Executive Officer at (626) 300-4709.



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