CITY OF DUARTE

PUBLIC WORKS DIVISION

STOP SIGN POLICY

OCTOBER 22, 2019

I. PURPOSE

It is the goal of this policy to clarify the process for the installation of a stop sign. Warrants for stop signs defined in the California Manual of Uniform Traffic Control Devices (CA MUTCD) including the volume of traffic, the volume of pedestrian and bicycle activity, high traffic speed, restricted sightlines, collision records and unusual site conditions will be considered in the evaluation of all stop sign requests. This policy can be applied to intersections without current stop control or intersections that have only partial control (T-intersections or two-way stop control).

II. PROCEDURES

The following is the process that will be followed in the application and approval process for public requests for stop sign control.

- An engineering study may be conducted to ensure requirements within Duarte's Stop Sign Policy or CA MUTCD are met. The study will include the engineer's findings along with engineering recommendations for the intersection.

- If an engineering study is completed, and the engineering recommendations justify installation of stop sign control, they will be sent for review by the Duarte Traffic Safety Commission.

- If the Public Works Manager is unable to justify stop control based on the considerations in this Policy, the stop sign request shall be denied.

- After the Duarte Traffic Safety Commission reviews the engineering study, the City Council will be presented with

the engineer's findings and recommended actions. The Duarte City Council will finalize the process with their final motion.

III. STOP SIGN OR YIELD AT CURRENTLY UNCONTROLLED INTERSECTIONS

Stop or yield signs may be installed at uncontrolled intersections where application of the normal right-of-way rule[1] would not be expected to provide reasonable compliance with the law. One or more of the criteria, as identified in the Manual of Uniform Traffic Control Devices (MUTCD), should be met for staff to recommend the installation of a stop sign or yield sign to the Public Works Manager. Conditions that satisfy one or more of the criteria may not necessarily justify the installation of a stop or yield sign. Public Works staff exercises engineering judgment on a case-by-case basis to determine the need for stop or yield signs based on which criteria and considerations are satisfied. The following criteria apply to the installation of stop signs or yield signs at uncontrolled intersections on the minor street approach.

1. YIELD SIGNS ON STEM OF T-INTERSECTION

According to California Vehicle Code 21800 (b) (1), "*the driver of any vehicle on a terminating highway shall yield the right-of-way to any vehicle on the intersecting continuing highway.*" At locations where there is evidence of motorist behavior not conforming to this statute, installation of a yield sign on the stem of the T-intersection may be considered, provided that adequate stopping sight distance is met.

2. MINOR STREET STOP

The thresholds for a stop sign on the minor approach to an uncontrolled intersection, as identified in the MUTCD (2B.06), would be with one or more of the following conditions:

- The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;
- A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or
- Crash records indicate that three or more crashes that are susceptible to correction by the installation of a stop sign have been reported within a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway. Yield or stop signs should not be used for speed control.

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[1] CVC 21800 *(a) "The driver of a vehicle approaching an intersection shall yield the right-of-way to any vehicle which has entered the intersection from a different highway." CVC 21800 (b) (1) When two vehicles enter an intersection from different highways at the same time, the driver of the vehicle on the left shall yield the right-of-way to the vehicle on his or her immediate right, except that the driver of any vehicle on a terminating highway shall yield the right-of-way to any vehicle on the intersecting continuing highway."*

a. Sight Distance. Determination of whether a restricted view condition exists at an intersection with no stop control should be based on guidelines provided for intersection sight distance in the most current editions of the American Association of State Highway and Transportation Officials (AASHTO) publication "A Policy on Geometric Design of Highways and Streets". The Case A and Case C methodologies in AASHTO's guidelines should be used. Case A would be applicable for four-legged intersections with no controls on any approaches. Case C would be applicable for three-legged intersections with no control or yield control on the stem leg.

3. ADDITIONAL CONSIDERATIONS

When determining whether to install multi-way stop control, a number of additional engineering considerations may be considered for evaluation. These factors include:

a. In Vicinity of High-Pedestrian Generator – Installation of a stop sign on a minor street approach may be justified if there is a need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes. A pedestrian count should be conducted prior to the installation of a stop sign using this justification.

b. Unusual Intersection Geometrics – Installation of a stop sign may be justified where unusual intersection design or geometrics (horizontal and/or vertical curves, or intersection offsets) require the installation of a stop sign for orderly control of traffic movements.

c. Where lack of stop control is unexpected- Installation of a stop sign may be justified where motorists on other approaches behave as if they expect stop sign control on the uncontrolled approach based on surrounding roadway patterns.

IV. MULTI-WAY STOP CONTROL

The following criteria apply to the installation of stop signs at all approaches to an intersection (multi-way stop control). Ordinarily these criteria would apply to streets where stop or yield signs are already in place on at least one of the approaches.

1. MINIMUM TRAFFIC VOLUMES AND SPEED

Per MUTCD 2B.07 Guidance Paragraph 03 the decision to install multi-way stop control should be based on an engineering study. MUTCD 2B.07 Paragraph 04 provides the following thresholds that apply to the installation of a stop sign on all approaches:

A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.
C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

2. ADDITIONAL CONSIDERATIONS FOR MULTI-WAY STOPS

When determining whether to install multi-way stop control, there are a number of additional engineering considerations that may be considered for evaluation. These factors include:

a. Sight distance – A multi-way stop may be justified at locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop (MUTCD 2B.07 Paragraph 05C). Determination of whether a restricted view condition exists at an intersection with stop control on the minor street approaches should be based on guidelines provided for corner sight distance in the most current edition of the Caltrans Highway Design Manual (HDM), but modified as follows:

- The minimum value for corner sight distance should be equal to the stopping sight distance as given in the HDM.
- Setback for the driver of the vehicle on the minor road vehicle should be such that the vehicle's position, when located where the minor road driver can see a distance along the major road equal to the HDM stopping sight distance, allows major road vehicles to proceed without diversion from their normal path.

b. In Vicinity of High-Pedestrian Generator – – Installation of a multi-way stop sign may be justified if there is a need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes (MUTCD 2B.07 Paragraph 05.B). A pedestrian count should be conducted prior to the installation of a stop sign using this justification.

c. Unusual Intersection Geometrics – Installation of a stop sign may be justified where unusual intersection design or geometrics (horizontal and/or vertical curves, or intersection offsets) require the installation of a stop sign for orderly control of traffic movements.

d. Where the lack of stop control is unexpected- Installation of a stop sign may be justified where motorists on other approaches behave as if they expect stop sign control on the uncontrolled approach based on surrounding roadway patterns.

e. T-intersection with Higher Volume on Stem Approach –A multi-way stop may be installed if the volume of cars entering the intersection from the currently stop or yield sign-controlled terminating street is regularly higher than the combined total of cars entering the intersection from the two-leg road.

f. Intersection of Similar Neighborhood Streets – Multi-way stop signs may be installed at an intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection (MUTCD 2B.07 Paragraph 05.D).