City of Arts & Innovation

Transportation Committee

TO: **TRANSPORTATION COMMITTEE MEMBERS** **DATE: APRIL 12, 2018**

FROM: **PUBLIC WORKS DEPARTMENT** **WARDS: ALL**

SUBJECT: **SPEED LIMIT ZONES – GUIDELINES FOR ESTABLISHMENT**

ISSUE:

Receive a report outlining the guidelines for determining and establishing appropriate speed limit zones.

RECOMMENDATION:

That the Transportation Committee receive and file the report regarding guidelines for the establishment of speed limit zones.

BACKGROUND:

The Public Works Department performs engineering and traffic surveys (ET&S) to establish appropriate speed limits on City street segments including those classified as collector or arterial roadways and local roadways that do not meet the California Vehicle Code (CVC) requirements for a "Residence District." These surveys include consideration of prevailing speeds as determined by traffic engineering measurements, and several other factors including but not limited to accident data, unusual conditions not readily apparent to motorists, residential density, and pedestrian and bicyclist activity and safety. Surveys are performed in accordance with the CVC and California Manual on Uniform Traffic Control Devices (CA MUTCD). Survey results and evaluation of other pertinent factors enables official adoption of speed limits for specific segments of roadway into the Riverside Municipal Code (RMC) and enforcement of the posted speed limit on many of our City streets.

DISCUSSION:

The setting of speed limits is an important tool in defining safe and enforceable speeds and regulating motorists' speeds on collector, arterial, and some local roadways, however, posted speed limits are only effective if set at a reasonable and safe speed. When conducting engineering and traffic surveys for segments of a roadway which do not meet the CVC definition of a roadway designated with a prima facie speed limit, an agency will survey a sampling of free-flowing traffic to determine the 85th percentile speed. The 85th percentile speed is the speed at which 85 percent of drivers travel at or below and is considered one of the primary indicators of a reasonable and safe speed. The CA MUTCD provides guidance on

performing engineering and traffic surveys and establishing appropriate speed limits so agencies implement uniform practices and measures to set speed limits.

The CA MUTCD recommends setting speed limits in 5 mph increments and typically at the nearest 5 mph increment of the 85th percentile speed. The 85th percentile speed is the base condition from which engineers first identify an appropriate speed limit. The CA MUTCD specifies that when a speed limit is to be posted, it shall be established at the nearest 5 mph increase of the 85th% speed of free-flowing traffic, except as shown in the following two options:

- Option 1: Allows for the optional reduction of the posted speed limit by 5 mph from the nearest 5 mph increment of the 85th percentile speed in compliance with CVC Sections 627 and 22358.5 and standard documentation requirements. This allows for consideration of collision history, residential density, and highway, traffic and roadside conditions not readily apparent to the motorist but does not allow for special downward speed zoning for physical conditions such as width, curvature, grade and surface conditions or any other condition readily apparent to a drivers, in the absence of other factors; and

- Option 2: Permits a 5 mph reduction where the nearest 5 mph increment of the 85th percentile speed would require rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed if no further reduction is used, in accordance with CVC 21400(b) which calls for uniform standards and specifications for all official traffic control devices.

The following are examples showing application of the speed limit criteria are outlined in the CA MUTCD:

1. Following Option 1 above, if the 85th percentile speed in a speed survey for a location was 37 mph, then the first step is to round down and the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 37 mph speed. Optionally, the 35 mph speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the ET&S and approved by a registered Civil or Traffic Engineer;

2. Using Option 1 above, if the 85th percentile speed in a speed survey for a location was 33 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 33 mph speed. Optionally, this 35 mph speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the ET&S and approved by a registered Civil or Traffic Engineer; and

3. Using Option 2 above, if the 85th percentile speed in a speed survey for a location was 33 mph, instead of rounding up to 35 mph, the speed limit can be established at 30 mph, but no further reductions can be applied (which is allowed in the two examples above).

Federal Highway Administration studies of the effects of establishing, raising, and lowering speed limits demonstrate that the most effective attribute in establishing the speed limit is determination of the 85th percentile speed and setting the posted speed close to that value.

Speed limits set near the 85th percentile speed of free-flowing traffic are deemed safer and produce less variance in vehicle speeds. The majority of motorists drive at speeds they perceive as comfortable. As such, the 85th percentile speed is utilized to establish upper limit operating speeds which are considered reasonable and prudent. Speed limits that are arbitrarily low tend to create a situation where a disproportionate number of drivers are in violation, do not facilitate the orderly movement of traffic, are unenforceable, and typically do not achieve compliance.

Engineering and traffic surveys are required to be conducted at least once every 5, 7 or 10 years, in compliance with CVC Section 40802 which defines conditions which constitute a speed trap, and as necessary to re-evaluate non-statutory speed limits on roads which have experienced significant changes in configuration, characteristics, or traffic volumes. The City's Traffic Engineering Division typically resurveys roadways which have not undergone substantial changes every 7 years. Any recommended changes in speed limit and/or speed limit zone boundaries are considered by the Transportation Board which makes recommendation to the City Council regarding the proposals. Upon approval by the City Council, speed limit zones are established and adopted into section 10.76.010 of the RMC. Adopted changes to established speed limits may require the posting of new or additional speed limit signs to ensure motorists are aware of the current maximum allowable and enforceable speed limit for a specific corridor. Appropriately set and posted speed limits aid in optimizing safety and traffic flow along our City roadways.

FISCAL IMPACT:

There is no cost associated with this report.

Prepared by: Kris Martinez, Public Works Director
Certified as to
availability of funds: Adam Raymond, Chief Financial Officer/City Treasurer
Approved by: Al Zelinka, FAICP, Assistant City Manager
Approved as to form: Gary G. Geuss, City Attorney

Attachments:

1. CA MUTCD Section 2B.13
2. Presentation