City of San Diego, California **DEPARTMENT INSTRUCTION**	DI Number **1.0**	Department **Transportation & Storm Water**
Subject **Citywide Crash Analysis**	Page **1 of 2**	Effective Date **8/25/17**
Division Applicability **Transportation Engineering Operations Division**	Supersedes DI **NA**	Dated **8/25/17**

1. PURPOSE

Identifying high-crash locations is an important first step to create and maintain a proactive traffic safety improvement program that reduces fatalities and injuries on City streets. The Transportation Engineering Operations (TEO) Division of the Transportation & Storm Water Department is responsible for evaluating the highest collision locations on a yearly basis and identifying improvements at each location. This set of instructions shall be used to guide the evaluation of collision locations and the subsequent steps and timeline for the yearly highest crash location analysis.

2. SCOPE

The scope of this Departmental Instruction (DI) includes three methods to analyze high crash locations. The three methods are crash frequency (patterns), crash rates, and the five highest Pedestrian Crash Locations. This DI outlines the timelines of gathering and analyzing the highest crash locations citywide along with the methodology of each of the types of crashes to be analyzed.

3. TIMELINE & FUNDING

The Traffic Engineering Operations Division's Traffic Safety and Information Section (Safety Section) will conduct a crash analysis of the highest crash locations by three different methods; crash frequency patterns, crash rates and the five highest severe and fatal pedestrian crash locations. The crash analysis for all three methods should be completed by July 31st of each year for the previous calendar year by the Safety Section.

The Senior Engineer from the responsible Section will respond to the Safety Section by September 30th with a report listing the findings from the safety analysis for each location, the proposed improvements for each location and cost estimates for each improvement.

The Safety Section will prepare a final report consolidating the recommended improvements, cost estimates and the planned action for improvements by October 31st. The Safety Section will be responsible for ensuring the identified improvements are funded, programmed or placed on the Transportation Unfunded Needs List until funding becomes available. Prioritizing for funding will be based on Council Policy 800-14, CIP Prioritization Policy. Programming of funds should be identified as available in the following fiscal year which typically begins in November of each year and is allocated in July. If funding is not available, the identified improvements will be added to the Transportation Unfunded Needs List.

If funding is received for a specific type of pedestrian safety infrastructure improvement, the pedestrian crash location ranking method (4.C. below), in conjunction with Council Policy 800-14, will be a factor in determining where pedestrian infrastructure is improved.

4. THREE METHODS OF CRASH ANALYSIS

4.A. *Crash Frequency*

4.A.1. *Intersections* A Crash Frequency intersection list will be compiled with all intersections with five (5) or more accidents of the same pattern, excluding the locations on the High Crash Rate List for the same time period.

4.A.2. *Mid-bock Segments* A Crash Frequency segment (mid-block) list will be compiled from all segments with five (5) or more accidents within each mid-block segment for the same time period. The three highest crash locations will be evaluated.

4.B. *Critical Crash Rate* The Safety Section will compile all intersections with six (6) or more intersection related accidents reported for that year. The crash rate of an intersection is calculated using the following formula:

$$\frac{(1{,}000{,}000 \times \textit{Number of Reported Accidents})}{(\text{Entering average weekday traffic volume x 365 days})}$$

To determine if an intersection is considered high crash, some criteria or cut-off point must be used. A commonly accepted industry standard for this purpose is one standard deviation above the average. The Critical Rate is thus defined as the average rate plus one standard deviation. All intersections with a crash rate value at or above the Critical Rate are considered High Crash Locations.

4.C. *Five Highest (5) Pedestrian Crash Locations* Intersections citywide are ranked by the number of fatal and severe injury pedestrian crashes in the preceding five calendar years. The five highest pedestrian crash locations will be evaluated. If there is a tie in the ranking of locations, then the total number of pedestrian crashes (including non-severe or fatal) will be considered in the ranking.

Approval:

Kris McFadden, Director

8/28/17
Date