

Development of Radar Speed Sign Warrants

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Radar speed signs have seen increased application in recent years in communities across the United States. These devices, which measure (by radar) and display the speed of vehicles passing by, are typically mobile (trailer-based) units or are permanent pole/post-mounted digital display boards. Such devices are used to reduce traffic speeds by making drivers aware of how fast they are moving relative to the speed limit and inducing them to adjust their speed accordingly. Typically, the deployment of radar speed signs has been conducted in an unscientific manner and has been driven by subjective judgment rather than engineering studies. In other words, devices are typically placed where there is a perceived problem with little quantification of the problem itself. Consequently, it is necessary to establish criteria regarding when/how such signage can be deployed and operated to address safety and speed issues effectively. Based on the lack of existing guidance regarding when and where radar speed signs should be deployed, there is a need to develop warrants for the use of radar speed signage. This presentation will discuss the development of such warrants for use in Caltrans District 2 and elsewhere in the state. The objectives of this project were to establish what situations warrant radar speed signs, whether they have been effective in similar applications and where such signs should be located (both setting and placement). The work encompassed a review of research reports and documentation conducted nationally and internationally, as well as the engineering practices and policies employed in California and by other states and localities. Based on this review, as well as a review of maintenance practices and evaluation of the effectiveness of such signage in applications similar to those intended for use in California, warrants were developed to guide future applications of radar speed signs. Two levels of guidance were developed: general guidance and location-specific guidance. General guidance warrants apply to cases where a radar speed sign may be used to address excessive mean speed and 85th percentile speed issues, ADT levels, speed limit compliance issues, accident history, pedestrian presence, and existing posted speed limits. Location-specific guidance warrants apply to the use of radar speed signs in school and park zones, work zones, and general street locations such as transition zones, curve warning sign locations, and signal approaches. To a large extent, these warrants cover a wide range of the deployment settings already pursued in California. Employing the warrants developed by this project is expected to lead to a more systematic approach to the use of radar speed signs and, potentially, greater acceptance of and compliance with posted speed limits by the driving public.