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16. Abstract <p>This report describes the current state of knowledge regarding the effectiveness of several advanced collision-avoidance technologies (ACATs) and presents an assessment of the effect of each technology on traffic safety. The report covers only ACATs for light-duty vehicles. The literature reviewed is primarily restricted to English language publications from the last ten years (2003 to 2013). The technologies included in the assessment address vehicle instability (electronic stability control); forward impact collisions (forward collision warning, autonomous emergency braking); and crashes related to lane/road departure (lane departure warning and prevention, blind spot detection). The methodologies and data used to evaluate ACAT effectiveness are also discussed. Data on the penetration of the technologies into the light-duty fleet are also presented.</p> <p>Overall, the systems reviewed here were estimated to be substantially effective in reducing their target crash types. The studies reviewed had a range of estimated reductions, and in some cases the differences were fairly substantial. However, even the lower-bound estimates are significant in most cases. Most studies relied on simulation or limited field operational tests to evaluate effectiveness. Other than electronic stability control, available crash data cannot yet support evaluation of the actual crash experience of the technologies, because penetration rates are low and vehicles with the technologies are not directly identified in the data.</p>					
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