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## Opportunities of advanced driver assistance systems towards overtaking

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### Abstract

Advanced driver assistance systems (ADAS) are available on the market whilst the development of existing systems and new systems continues. Improving safety is one of the key purposes of these systems. ADAS would therefore be welcome to support overtaking manoeuvres, since these cause many fatal accidents each year. Before an ADAS could be developed that can assist drivers with overtaking a thorough task analysis of overtaking is necessary and presented in this paper. The overtaking manoeuvre is divided in five phases, in which more than 20 subtasks are distinguished. Next, possibilities of ADAS towards overtaking are verified. Almost all subtasks of an overtaking manoeuvre can be assisted with existing ADAS functionalities, combined in a so-called active overtaking assistant. Unfortunately, for the more complex subtasks such as 'judging the distance with the first opposing vehicle' and 'monitoring the deviations of the lead vehicle' no ADAS functionality is available yet.

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