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Road vehicles — Ergonomic aspects of transport information and control systems — Simulated lane change test to assess in-vehicle secondary task demand

Véhicules routiers — Aspects ergonomiques des systèmes de commande et d'information du transport — Essai du changement de voie simulé pour évaluer la demande de tâche secondaire à bord du véhicule



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

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Introduction

Many advances are being made in introducing a wide range of information, communication, entertainment and driver assistance systems in motor vehicles. Navigation aids, emergency messaging systems and wireless communication, including e-mail and internet access, are all possible. Since many of these features require the driver's attention it is important to recognise that, on one hand, these systems provide information and assistance but, on the other hand, have the potential to distract the driver as well.

The lane change test (LCT) described in this International Standard, is a dual-task method that is intended to estimate secondary task demand on the driver resulting from the operation of an in-vehicle device in a laboratory setting. The method is simple and inexpensive so that it can be used by vehicle manufacturers, in-vehicle device manufacturers, and other organizations.

The driver behaviour and attentional demand principles embodied in the LCT only apply to the operation of a typical passenger car, as the vehicle dynamics model, driver eye height, and lane change dimensions and geometries are scaled for such vehicles.

The test procedure specified in this International Standard uses software to set up the LCT task on a computer, and to calculate the primary task performance measures. Appropriate software is available from the ISO Central Secretariat.