TECHNICAL REPORT

ISO/TR 24317

First edition
2023-11

Intelligent transport systems — Mobility integration — Mobility integration needs for vulnerable users and light modes of transport

Systèmes de transport intelligents — Intégration de la mobilité — Besoins d'intégration de la mobilité pour les usagers vulnérables et les modes de transport légers

Reference number
ISO/TR 24317:2023(E)

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Published in Switzerland

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

In previous years, the development of intelligent transport system (ITS) standards has been focused on road vehicles and supporting traffic and transport systems. Although provisions in respect of accessibility and accommodation of all travellers, including people with disabilities and older adults, have been taken into consideration, related requirements for ITS have not been accommodated, primarily because of the lack of possibilities for communicating electronically with these travellers.

The more recent focus on Mobility as a Service (MaaS), cooperative, connected and automated mobility (CCAM), and multimodal end-to-end journey planning and management, incorporate travel means such as active modes (e.g. bicycles) and micromobility vehicles (MMV) such as powered bicycles, powered scooters, Segways, powered boards, etc. Often, they also involve device sharing. End-to-end multimodal journeys often also include part of the journey on foot.

ITS service provision has, to date, tended to agglomerate standards for "road users", "drivers" and "vehicles" and is largely focused on car drivers and the systems that control or assist them. Some attention has also been focused on public service and commercial vehicles. But another group of light vehicle mode users are powered two-wheeled vehicle (P2WV) riders. With a few exceptions, there has been little appreciation of the different characteristics and behaviour of motorcycles, mopeds, trikes and quads and the requirements that they have that differ from those for other categories.

These categories of conveyances and travellers, at the least, have needs to be communicated in terms of ITS service provision. Conversely, many ITS services often need to communicate with, or be aware of the presence of, these actors. Yet, in previous years, there have generally not been any means for communicating with them individually.

However, during the last few years, smartphones and other nomadic devices have not only become available, but are already indispensable for multimodal journeys and assist in ITS service provision. Smartphone technology is also often used in devices assisting. The advent of low-cost communications and cooperative technologies can also assist in the provision of services.

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Intelligent transport systems — Mobility integration — Mobility integration needs for vulnerable users and light modes of transport

1 Scope

This document provides a review of mobility integration standardization efforts supporting all travellers using active and light transport modes and identifies gaps where additional standardization is potentially required. The gap analysis is focused on cooperative intelligent transportation systems (C-ITS) for all users, including people with disabilities, as they plan, manage and carry out their "complete trip", including all connections and transfers, from end-to-end.

The term "light mode conveyances" covers C-ITS for light power and active modes such as micromobililty vehicles (e.g. e-scooters), power or power-assisted vehicles (e.g. e-bikes, power wheelchairs), and full powered vehicles (e.g. motorcycles, mopeds).

This document identifies areas where standardization is potentially required to resolve problems and challenges, or to create opportunities, particularly with respect to enhancing safety and the provision of end-to-end multimodal journeys and support.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.2 Abbreviated terms

AI	artificial intelligence
BSM	basic safety message
CCAM	cooperative, connected and automated mobility
CV	connected vehicles
DSRC	dedicated short-range communication
HMI	human machine interface
HSM	hardware security module

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