



Department
for Transport

Document ADS-04-24
4th ADS IWG session
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Examples of potential application of AV categories and ADS feature types

ADS-04, London, October 2024

Definitions

Categories (copied from ADS-04-19):

Category X vehicle

Category X vehicles are vehicles of categories M, N and L meeting all of the following conditions:

- (a) They are equipped with an ADS
- (b) They are not capable of being driven manually at speeds exceeding 6 km/h
- (c) They are designed to carry occupants

Category Y vehicle

Category Y vehicles are vehicles of categories N and L meeting all of the following conditions:

- (a) They are equipped with an ADS
- (b) They are not capable of being driven manually at speeds exceeding 6 km/h
- (c) They are **not** designed to carry occupants at any time

Features (inspired by ADS-04-19):

3.3. “ADS feature” means an application of an ADS designed specifically for use within an Operational Design Domain (ODD). **ADS features consist of:**

3.3.1. “**ADS feature of type 1 (ADSF-1)**” means an ADS feature which includes a system-initiated deactivation process (i.e. a feature which requires the presence of a fallback user).

3.3.2. “**ADS feature of type 2 (ADSF-2)**” means an ADS feature which does not include a system-initiated deactivation process (i.e. a feature which does not require the presence of a fallback user).

Categories X and Y

- Exemption from aspects related to manual driving (e.g. R79 – steering):

5.1.9. Steered wheels

*The steered wheels shall not be solely the rear wheels. This requirement does not apply to semi-trailers **or to vehicles of categories X and Y.***

- Additional requirements related to lack of manual controls:

5.5. PROVISIONS FOR THE PERIODIC TECHNICAL INSPECTION OF STEERING EQUIPMENT

5.5.3. For vehicles of category X and Y, suitable means shall be provided (e.g. a test mode, manual controls) to enable the performance of the necessary checks described in paragraph 5.5.1.

Category Y

- **Exclusion of vehicles from regulations (or requirements) related to occupant protection (e.g. R17 – seats)**

1. SCOPE

This Regulation applies to:

- (a) Vehicles of categories M1 and N1 with regard to the strength of seats and their anchorages and with regard to their head restraints;*
- (b) Vehicles of categories M2 and M3 1 with regard to seats not covered by Regulation No. 80, in respect of the strength of seats and their anchorages, and in respect of their head restraints;*
- (c) Vehicles of category M1 with regard to the design of the rear parts of seat backs and the design of devices intended to protect the occupants from the danger resulting from the displacement of luggage in a frontal impact.*

It does not apply to vehicles with regard to side-facing or rearward-facing seats, or to any head restraint fitted to these seats, with the exception vehicles of category M2 and M3 of classes A and I, subject to the provisions of paragraph 5.1.1.

It does not apply to vehicles of category Y.

'Type 2' Features

- Exemption from requirements related to manual driving while an ADS is performing the DDT

- e.g. R46 (indirect vision):

15.2.1.1.2. In the case a camera-monitor system is used for rendering (the) field(s) of vision, the relevant field(s) of vision shall be permanently visible to the driver when the ignition is on or the vehicle master control switch is activated (whichever is applicable) and not used for other information. **This requirement does not apply whilst an ADS feature of type 2 is active/engaged.** [...]

- e.g. R125 (forward field of view):

5.1.3 [...] there shall be no obstruction in the driver's 180° forward direct field of vision below a horizontal plane passing through V1, and above three planes through V2 [...]. **This requirement does not apply whilst an ADS feature of type 2 is active/engaged.**

- In addition to the definitions of the feature types, the appropriate language for “active” / “engaged” / “performing the DDT” needs to be confirmed.

Vehicles equipped with ADS feature of type 2

Important input from IWG ADS

Designed to carry occupants

Not designed to carry occupants at any time

Conventional controls

No conventional controls

No conventional controls

Manual driving (any speed)

Manual driving (≤6 km/h)

Manual driving (≤6 km/h)

Manual driving (≤6 km/h)

Examples of potential vehicle concepts

Deactivated

Covered

Inaccessible

Temporarily fixed

No controls

Interior controls (e.g. joystick, control pad, etc.)

External controller

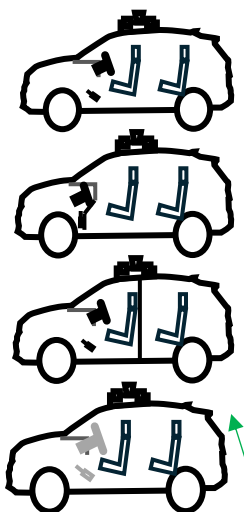
Category X

Examples of potential vehicle concepts

no controls

external controller

Category Y



These vehicles could also be equipped with ADS feature of type 1