*This is a revision of Document 5 building from FRAV-03-05-Rev.1. Previously considered text is shaded in green, meaning that FRAV has reviewed and accepted the text under its working consensus. This status does not mean the text has been formally approved by FRAV for submission to GRVA and/or WP.29. Document 5 only reflects FRAV discussions to date pending further work.*

*New paragraphs and changes to the previous version of Document 5 are shaded in blue. Outstanding paragraphs under consideration from the previous version are shaded in yellow. In the case of changes to pre-existing text (whether considered by FRAV or not), the proposal for revised text is in the second column for comparison against the earlier text in the first column.*

*Unshaded text is carried over from FRAV-03-05-Rev.1 and has not yet been discussed/accepted as working text by FRAV.*

| Current Text and Proposals (green = accepted, blue = new text for consideration, yellow = previous text still under consideration, unshaded = not yet discussed) | Alternative text to previous text | *Explanatory remarks* |
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| 1. Purpose of this document | | |
| 1.1. FRAV has established this document to facilitate and document its work. Known as "Document 5", this text is updated periodically to reflect the current working consensus of the group.<br>1.2. This document provides a basis for periodically reporting FRAV progress to GRVA and WP.29. The document also aims to inform other WP.29 informal working groups, and especially the GRVA Informal Working Group on Validation Methods for Automated Driving (VMAD), on FRAV activities and progress.<br>1.3. This document does not constitute a formal or informal text for submission to GRVA or WP.29. FRAV will issue such proposals in separate documents as determined and approved by the group. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |

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| 2. Abbreviations, Acronyms, and Definitions<br>2.1. The introduction of automated driving systems and related technologies has resulted in a proliferation of new terms and concepts. This chapter defines abbreviations, acronyms, and terms as used in this document.<br>2.2. Acronyms and Abbreviations<br>2.2.1. ADS: Automated Driving System | | *Introduced in FRAV-03-05-Rev.1* |
| 2.2.2. DDT: Dynamic Driving Task | | *Added per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 2.2.3. ODD: Operational Design Domain | | |
| 2.3. Definitions | | |
| 2.3.1. *"Automated Driving System (ADS)"* means the hardware and software that are collectively capable of performing the entire DDT on a sustained basis. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 2.3.2. *"(ADS) feature"* means an application of ADS hardware and software designed specifically for use within an ODD. | 2.3.2. *"(ADS) feature"* means an application of an ADS designed specifically for use within an ODD. | *Proposal to revise pursuant to the 7th FRAV session discussion.* |
| 2.3.3. *"(ADS) function"* means an application of ADS hardware and software designed to perform a specific portion of the DDT. | 2.3.3. *"(ADS) function"* means an application of an ADS designed to perform a specific portion of the DDT. | *Proposal to align the function definition with the phrasing of the feature definition per the 7th FRAV session discussion.* |
| 2.3.4. *"ADS vehicle"* means a vehicle equipped with an ADS. | | |

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| 3.2.2. *"Dynamic driving task (DDT)"* means all of the real-time operational and tactical functions required to operate a vehicle in on-road traffic, excluding the strategic functions such as trip scheduling and selection of destinations and waypoints, and including without limitation: Lateral vehicle motion control via steering (operational); Longitudinal vehicle motion control via acceleration and deceleration (operational); Monitoring the driving environment via object and event detection, recognition, classification, and response preparation (operational and tactical); Object and event response execution (operational and tactical); Maneuver planning (tactical); and Enhancing conspicuity via lighting, signaling and gesturing, etc. (tactical). | 2.3.5. *"Dynamic driving task (DDT)"* means all of the real-time operational and tactical functions required to operate a vehicle in on-road traffic. | *Proposal pursuant to the 7th FRAV session discussion.* |
| | 2.3.5.1. Driving involves three behavioral levels: strategic (trip planning), tactical (maneuvering), and operational (basic skills).[1] The levels relate to perception, information processing, and decision making under uncertainty.[2] According to SAE J3016, operational effort involves split-second reactions, such as making micro-corrections while driving. | *Introduced new footnote 1 per SAE FRAV-09-06.* |
| | 2.3.5.2. Operational functions include, but are not limited to:<br>• Lateral vehicle motion control via steering,<br>• Longitudinal vehicle motion control via acceleration and deceleration. | |
| | 2.3.5.3. Tactical functions include, but are not limited to:<br>• Maneuver planning via motion control,<br>• Enhancing conspicuity via lighting, signaling, gesturing, etc. | |

[1] Michon, J.A., 1985. "A Critical View of Driver Behavior Models: What Do We Know, What Should We Do?" In L. Evans & R. C. Schwing (Eds.). Human behavior and traffic safety (pp. 485-520). New York: Plenum Press, 1985.

[2] Michon, J.A., 1979 (update 2008). "Dealing with Danger", Summary Report of the Workshop on Physiological and Psychological Factors in Performance under Hazardous Conditions with Special Reference to Road Traffic Accidents, Gieten, Netherlands, May 23-25, 1978.

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| 2.3.5.4. Operational and tactical functions include, but are not limited to:<br>• Monitoring the **vehicle** environment via object and event detection, recognition, classification, and response preparation,<br>• Object and event response execution | 2.3.5.4. Operational and tactical functions include, but are not limited to:<br>• Monitoring the **driving** environment via object and event detection, recognition, classification, and response preparation,<br>• Object and event response execution | *First bullet: replaces "vehicle" with "driving" per SAE FRAV-09-06* |
| | 5.3.5.5 The DDT excludes strategic functions. | |
| 2.3.6. *"Minimal risk condition"* means a condition to which a user or an automated driving system may bring a vehicle in order to reduce the risk of a crash when a given trip cannot or should not be completed. | 2.3.6. *"Minimal risk condition"* means a condition to which a user or an automated driving system may bring a vehicle in order to reduce the risk of a crash when a given trip cannot or should not be completed **due to a DDT performance-relevant system failure in the ADS and/or other vehicle system failure or upon exit from the ODD.** | *Updated per SAE FRAV-09-06.* |
| 2.3.7. *"Minimal risk maneuver"* means a procedure automatically performed by the automated driving system to place the vehicle in a minimal risk condition in a manner that minimizes risks in traffic. | 2.3.7. *"Minimal risk maneuver"* means a procedure automatically performed by the automated driving system to place the vehicle in a minimal risk condition in a manner that **avoids unreasonable** risks in traffic. | *Updated per SAE FRAV-09-06.* |
| 2.3.8. "Operational Design Domain (ODD)" means the operating conditions under which an ADS feature is specifically designed to function. | | *Introduced in FRAV-03-05-Rev.1* |

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| 2.3.9. *"User"* means a human being responsible for the ADS vehicle who is qualified, fit, and capable of performing the DDT. | 2.3.9. *"User"* means a human being who plays any of the following roles with respect to an ADS vehicle:<br>• in-vehicle (conventional) driver,<br>• remote driver, passenger, or<br>• DDT fallback-ready user. | *Revised definition per SAE FRAV-09-06.* |
| 3.29.3 [DDT] FALLBACK-READY USER The user of a vehicle equipped with an engaged level 3 ADS feature who is able to operate the vehicle and is receptive to ADS-issued requests to intervene and to evident DDT performance-relevant system failures in the vehicle compelling him or her to perform the DDT fallback. | 2.3.9.1 *"Fallback-ready user"* means a user determined by the ADS to be receptive to a transition of control. | |
| 2.3.9.2. *"User-in-charge"* means a user in or with a line of sight to the vehicle. | ~~2.3.9.2. *"User-in-charge"* means a user in or with a line of sight to the vehicle.~~ | *Proposal to delete per SAE FRAV-09-06 (based on use of "remote driver" definition in 2.3.9.3. covering any user outside the vehicle).* |
| 2.3.9.3. *"Remote operator"* means a user other than a user-in-charge. | 2.3.9.3. *"Remote driver"* means a driver who is not seated in a position to manually exercise in-vehicle braking, accelerating, steering, and transmission gear selection input devices (if any) but is able to operate the vehicle. | *Revision proposed in SAE FRAV-09-06.* |
| 2.3.9.4. *"In-vehicle (or conventional) driver"* means a driver who manually exercises in-vehicle braking, accelerating, steering, and transmission gear selection input devices in order to operate a vehicle. | | *New term proposed in SAE FRAV-09-06.* |
| 2.3.9.5. *"Passenger"* means a user in a vehicle who has no role in the operation of that vehicle. | | *New term proposed in SAE FRAV-09-06.* |

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| | 2.3.10. *"Safe fallback response"* means a successful transition of control to an ADS user or automatic execution of an ADS maneuver that places the ADS vehicle in a Minimal Risk Condition. | |
| 2.3.10. *"**Transition** of control"* means a transfer of full control over the DDT from the ADS to a user. | 2.3.11. *"**Transfer** of control"* means a transfer of full control over **responsibility for performance of the DDT** from the ADS to a user. | *Revision per SAE FRAV-09-06.* |
| 2.3.12. *"Request to intervene"* means a notification by an ADS to a fallback-ready user indicating that the user should promptly perform the DDT fallback, which may entail resuming manual operation of the vehicle (i.e., becoming a driver again), or achieving a minimal risk condition if the vehicle is not drivable. | | *Based on SAE FRAV-09-06.* |

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| 3.2.5. *"New Assessment/Test Method (NATM)"* means the tools and methodologies for the assessment of automated vehicle safety performance under development by the GRVA Informal Working Group on Validation Methods for Automated Driving (VMAD). | | *Not addressed in this document.* |
| 3.2.6. *"Operating environment"* means the reasonably foreseeable conditions which a vehicle can be expected to encounter when in automated mode. | | *Not addressed in this document.* |

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| 3. | ADS Safety Requirements | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session. Section number changed pursuant to separate of FRAV-06-05 into "Document 4" and "Document 5".* |
| 3.1. | Driving a motor vehicle in traffic is a complex task requiring continuous awareness of roadway conditions, control of the vehicle motion, interactions with other road users, and adaptation of the vehicle motion to changes in roadway conditions. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.2. | ~~The automation of driving obligates manufacturers, safety authorities, and other stakeholders in road transportation to ensure that Automated Driving Systems perform safely in traffic.~~ | 3.2. ADS performance should be consistent with safe human driving behaviors while avoiding human recognition, decision, and performance errors and the introduction of unreasonable ADS-specific risks. | *Proposal pursuant to the 8th FRAV session discussion. The proposal is to describe the overall level of safety agreed by FRAV in this paragraph. The word "safe" has been added based on input from the UK and USA. OICA suggested adding "unreasonable" to qualify "new risks".* |

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| 3.3. | The assurance of ADS safety involves attention to specific performance and behavioral competencies required to operate a vehicle in traffic and the application of methods and practices to verify that ADS perform as intended. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.4. | This document addresses minimum requirements necessary to ensure that an ADS is safe for use on public roads. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.5. | Unlike human drivers broadly licensed to operate a vehicle on all roadways, ADS may be designed to operate under specific conditions. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |

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| 3.6. In order to ensure public safety while benefiting from the potential of ADS to reduce crashes, injuries, and deaths (especially related to human driving errors), manufacturers and safety authorities anticipate a prudent and gradual introduction of these technologies. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.7. ~~As a result, stakeholders anticipate a wide variety of ADS applications carefully designed to operate within their performance limits.~~ | 3.7. As a result, stakeholders anticipate a wide variety of ADS applications carefully designed to operate within their performance capabilities. | *"Limits" replaced with "capabilities" per the 7th FRAV session discussion to avoid confusion with limit requirements.* |
| 3.8. This document describes requirements designed to ensure that ADS perform safely on public roadways. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.9. The safety requirements address ADS in two ways. The document first defines conditions that may describe or limit the use of an ADS based on the manufacturer's assessment of its capabilities. The document then describes minimum performance requirements to ensure safe use of ADS. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.10. The performance requirements apply to ADS regardless of their individual configurations. The definition of conditions that may impact performance requires manufacturers to fully describe the intended uses and limitations of an individual ADS. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.11. In combination, the ADS descriptions and the ADS performance requirements ensure that each ADS can be assessed for safe operation. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |

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| 3.12. These safety requirements for ADS descriptions and performance are designed to enable the validation of ADS safety prior to their introduction on the market. | | *Accepted per FRAV-06-05 as reviewed during the 7th FRAV session.* |
| 3.13. The safety of an ADS may be considered from five fundamental perspectives:<br>• ADS should drive safely.<br>• ADS should interact safely with the user.<br>• ADS should manage safety-critical situations.<br>• ADS should safely manage failure modes.<br>• ADS should maintain a safe operational state. | | *The initial points were accepted per FRAV-06-05 as reviewed during the 7th FRAV session. The proposal is to expand the text to provide additional context for understanding the scope and purpose of requirements to be elaborated under each item.* |
| 4.13.1. *The ADS should drive safely.* In performing the entire DDT, the ADS assumes the role of the vehicle driver. Under this perspective, the ADS should fulfill the same maxims taught to human drivers such as to respect traffic rules, to share the road, to signal intentions, and to expect **the unexpected**. The performance requirements should ensure ADS driving behaviors consistent with good driving practices, including aspects that may be specific to the ADS as the driver of the vehicle. | 4.13.1. *The ADS should drive safely.* In performing the entire DDT, the ADS assumes the role of the vehicle driver. Under this perspective, the ADS should fulfill the same maxims taught to human drivers such as to respect traffic rules, to share the road, to signal intentions, and to expect **unusual driving situations**. The performance requirements should ensure ADS driving behaviors consistent with good driving practices, including aspects that may be specific to the ADS as the driver of the vehicle. | *Per SAE FRAV-09-06.* |

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| 3.13.2. The ADS should interact safely with the user. | 4.13.2. *The ADS should interact safely with the user.* ADS are intended for human use. ADS safety requirements should ensure accurate user understanding of the ADS (capabilities and limitations), user appreciation of her or his roles and responsibilities, and the safety of transitions of control between the ADS and the user. | *This text is based on the proposal of the Netherlands (with input from Leeds University and Canada) in FRAV-08-10. The proposed text has been modified for clarity and textual consistency.* |
| | 4.13.2.1. ADS users do not correspond to a uniform profile but exhibit diverse characteristics across a spectrum of behaviors (abilities, limitations, understanding, experience, alertness, etc.). To understand the ADS, each user forms a mental model of its operation and use. One of the challenges is to safely accommodate the full spectrum of ADS users in order to ensure predictable interactions and a more error-tolerant system. | |
| 4.13.2.2. Commonality across user interfaces and system responses, including in **transitions** of control, enables users to form reliable mental models applicable to any ADS. This commonality curtails learning curves and promotes correct ADS use (while also facilitating user education). As with today's vehicle controls, the users' mental models based on such commonality enable correct understanding of any ADS without a need to learn a new model for each ADS configuration. | 4.13.2.2. Commonality across user interfaces and system responses, including in **transfers** of control, enables users to form reliable mental models applicable to any ADS. This commonality curtails learning curves and promotes correct ADS use (while also facilitating user education). As with today's vehicle controls, the users' mental models based on such commonality enable correct understanding of any ADS without a need to learn a new model for each ADS configuration. | *Substitution of "transfers" per SAE FRAV-09-06.* |

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| | 4.13.2.3. ADS use involves interactions including, but not necessarily limited to communication of information and transitions of vehicle control. In order to fulfill his/her roles, the user should have information about the ADS status, its operation, its intentions and the expected user responsibilities. Transitions of control may occur under diverse conditions involving different degrees of cooperation and possible fallback options to ensure safety. The user interface needs to ensure proper user inputs and feedback to facilitate correct use of the ADS and safeguard against misuse or user error. | |
| 3.13.3. The ADS should manage safety-critical situations. | 4.13.3. *The ADS should manage safety-critical situations.* Driving involves the assessment of risks and responses to those risks, often involving degrees of uncertainty. A driver cannot control the actions of other road users or the conditions of the road environment. Situations may arise that require a driver to take evasive action. An unexpected condition may require a period of ADS and user cooperation or mutual support to complete a transition of control. A fallback-ready user may be unavailable. The ADS vehicle may be subject to a collision caused by another road user. While performing the DDT (or even part of the DDT during a transition of control), the ADS should manage responses to such safety-critical conditions to avoid and/or mitigate risks. | *Per SAE FRAV-09-06, the highlighted sentence raises an issue regarding the distinction between ADS and ADAS. Under a situation where the ADS is no longer in full control of the vehicle, the ADS is no longer functioning as an ADS (i.e., Level 3+ performing the entire DDT). Arguably, the human driver is now in control, assisted by certain capabilities provided by the ADS. In this sense, the system is in a degraded level of performance and operating as an ADAS. Given issues raised in transfers of control, the comment suggests that FRAV may wish to consider the possibility of degraded ADS operational states where the human user is in control, assisted by certain ADS functions.* |

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| 4.13.4. *The ADS should safely manage failure modes.* A condition, such as an internal malfunction or damage to a component, may render an ADS operationally unsafe. The ADS should detect and respond to such conditions. ADS may also have diverse strategies and capabilities to safely permit continued operation in the presence of a failure. This perspective aims to ensure that failures specific to the functioning of ADS hardware and software do not result in unreasonable risks to safety. | 4.13.4. *The ADS should safely manage failure modes.* A condition, such as an internal malfunction, damage to a component, **or the failure of a vehicle system on which ADS performance relies**, may render an ADS operationally unsafe. The ADS should detect and respond to such conditions. ADS may also have diverse strategies and capabilities to safely permit continued operation in the presence of a failure. This perspective aims to ensure that failures specific to the functioning of ADS hardware and software do not result in unreasonable risks to safety. | *Revision per SAE FRAV-09-06.* |
| 3.13.5 The ADS should maintain a safe operational state. | 4.13.5 *The ADS should maintain a safe operational state.* As a software-driven system, an ADS may be impacted for better or for worse by the evolution of technologies. Motor vehicles may remain in use for two decades or more which requires attention to ensure that the ADS remains operationally safe throughout the useful life of the vehicle. This perspective aims to address ADS responses to external factors that may arise during the useful life of the ADS vehicle, including verification of its operational state pursuant to a collision, vulnerabilities that may arise with technological changes, and obsolescence. | |

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| 4. | Operational Design Domain (ODD) | | |
| 4.1. | This chapter concerns the description of an Operational Design Domain (ODD). | | |
| 4.2. | For the assessment of vehicle safety, the vehicle manufacturer should describe the ODD of each ADS feature available on the vehicle in accordance with the provisions of this chapter. | | |
| 4.3. | The purpose of an ODD description is to inform determinations on the requirements and scenarios applicable to an ADS feature. | | |
| 5.4. | The ODD description shall include (at a minimum): | | *FRAV has agreed to consider requirements for the content of an ODD description during the course of drafting proposals for functional requirements. As noted above, the ODD description should be aligned with the requirements in a manner that facilitates decisions on which requirements are applicable to a given ADS.* |
| 5.4.1. | Roadway types [Road conditions (motorways/expressways, general roads, number of lanes, existence of lane marks, roads dedicated to automated driving vehicles, etc.)] | | *Not addressed in this document.* |
| 5.4.2. | Geographic area [Geographical area (urban and mountainous areas, geofence setting, etc.)] | | *Not addressed in this document.* |

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| 5.4.3. Speed range | | *Not addressed in this document.* |
| 5.4.4. Environmental conditions [Environmental conditions (weather, night-time limitations, etc.)] | | *Not addressed in this document.* |
| 5.4.5. V2X dependencies (e.g., dependence on connectivity and availability of vehicle, infrastructure or other external sources of data) | | *Not addressed in this document.* |
| 5.4.6. Other constraints [Other conditions that must be fulfilled for the safe operation of the ADS.] | | *Not addressed in this document. FRAV notes the proposal from China to define "ODC" as a broader level of design constraints than covered by ODD. FRAV has agreed in principle that ODD refers to ambient conditions (i.e., conditions surrounding the vehicle). FRAV has agreed that other design constraints (such as reliance on the user to fulfill safety-critical roles outside the ADS capabilities) may be relevant to manufacturer descriptions of an ADS. FRAV has agreed to further consider the structure and content of this chapter once the group has a better understanding and consensus on the items that should be covered by the ADS descriptions.* |

*The following section integrates the discussion topics identified by FRAV thus far. These are not safety requirements; they are topics identified for further discussion towards defining eventual safety requirements. FRAV expects substantial changes to the contents as its work advances.*

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| 5. ADS Performance Requirements | | *Currently 40 subtopics under the five starting points.* |
| 5.1. The ADS should drive safely. | | |
| 5.1.1. The ADS should perform the entire Dynamic Driving Task. | | |
| 5.1.1.1. The ADS should control the longitudinal and lateral motion of the vehicle. | | |
| 5.1.1.2. The ADS should recognize the ODD conditions and boundaries of the ODD of its feature(s). | | |
| 5.1.1.3. The ADS should detect, recognize, classify, and prepare to respond to objects and events in the traffic environment. | | |
| 5.1.2. The ADS should respect traffic rules. | | |
| 5.1.3. The ADS should interact safely with other road users. | | |
| 5.1.4. The ADS should adapt its behavior in line with safety risks. | | |
| 5.1.5. The ADS should adapt its behavior to the surrounding traffic conditions. | | |

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| 5.1.5.1. The ADS driving behavior should not disrupt the flow of traffic. | | *Proposed by JRC related to the discussions on "string stability".* |
| 5.1.6. The ADS behavior should not be the critical factor in the causation of a collision. | | |
| 5.2. ADS should interact safely with the user. | | *Harmonized* |
| 5.2.1. Activation of an ADS feature should only be possible when the conditions of its ODD have been met. | | |
| 5.2.2. The ADS should signal when conditions indicate a probable ODD exit. | | |
| 5.2.3. The user should be permitted to override the ADS to assume full control over the vehicle. | | |
| 5.2.4. The ADS should safely manage transitions of full control to the user. | | |
| 5.2.4.1. Prior to a transition of control to the user, the ADS should verify the availability of the user to assume control. | | |
| 5.2.4.2. Pursuant to a transition, the ADS should verify full control of the vehicle by the user prior to deactivation. | | |
| 5.2.5. The ADS should tolerate user input errors. | | |
| 5.2.6. The ADS should provide feedback to the user on its operational status. | | |

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| 5.2.7. The ADS should warn the user of failures to fulfill user roles and responsibilities. | | |
| 5.2.8. The user should be provided with information regarding user roles and responsibilities for the safe use of the ADS. | | |
| 5.3. ADS should manage safety-critical situations. | | |
| 5.3.1. The ADS should recognize and respond to road safety agents. | | |
| 5.3.2. The ADS should mitigate the effects of road hazards. | | |
| 5.3.3. The ADS should execute a safe fallback response as conditions warrant. | | |
| 5.3.3.1. In the absence of a fallback-ready user, the ADS should fall back directly to an MRM. | | |
| 5.3.3.2. The ADS should execute an MRM in the event of a failure in the transition of full control to the user. | | |
| 5.3.3.3. Pursuant to an MRM, the ADS should place the vehicle in a Minimal Risk Condition prior to deactivation. | | |
| 5.3.3.4. The ADS should signal an MRM. | | |
| 5.3.5. ADS vehicles that may operate without a user-in-charge should provide means for occupant communication with a remote operator. | | |

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| 5.3.6. The ADS should safely manage short-duration transitions between ODD. | | |
| 5.3.7. Upon completion of an MRM, the user may be permitted to assume control of the vehicle. | | |
| 5.3.8. Pursuant to a collision, the ADS should stop the vehicle and deactivate. | | |
| 5.4. ADS should safely manage failure modes. | | |
| 5.4.1. The ADS should detect system malfunctions and abnormalities. | | |
| 5.4.2. The ADS should execute a safe fallback response upon detection of a failure that compromises performance of the DDT. | | |
| 5.4.3. Provided a failure does not compromise ADS performance of the entire DDT, the ADS should respond safely to the presence of a fault in the system. | | |
| 5.4.4. The ADS should signal faults and resulting operational status. | | |
| 5.5. ADS should ensure a safe operational state. | | |
| 5.5.1. The ADS should be permanently disabled in the event of obsolescence. | | |
| 5.5.2. Pursuant to a collision and/or a failure detected in DDT-related functions, ADS activation should not be possible until the safe operational state of the ADS has been verified. | | |

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| 5.5.3. The ADS should signal required system maintenance to the user. | | |
| 5.5.4. The ADS should be accessible for the purposes of maintenance and repair to authorized persons. | | |
| 5.5.5. ADS safety should be ensured in the event of discontinued production/support/maintenance. | | *JRC* |