Lane change requirement concept

MLIT, Japan

Ministry of Land, Infrastructure, Transport and Tourism

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	Regular lane change (Especially passing slow vehicles)	**Emergency lane change** (MRM, emergency evasive manoeuvre)
Situation	• Lane change in order to continue normal driving (i.e. passing slow vehicles, merging, departing) • These types of lane change are not necessarily essential.	• Situations that are safer by changing lane than by keeping lane. (risk mitigation, collision avoidance)
Required safety level	• As safe as lane keeping (**safe** → **safe**)	• Avoid collision or mitigate damage because the situation is already in danger (**not safe** → **safer than before**)
Requirement	• Do not cause accident • Should detect the vehicles in the target lane • Should detect "next next" lane and more	• Should avoid collision or minimise damage
Technical difficulty	High	Low
Priority	Low (not necessary with speed extension)	High (necessary with speed extension)
Way forward	Discuss this requirement in later stage. (Since the various environment and movement of vehicles have to be considered by scenario based testing, this issue should be discussed in FRAV and VMAD first. Avoiding divergence with FRAV/VMAD is also important aspect.)	Discuss this requirement first. The requirement of RMF can be applicable. Discussing step by step (from lower level to high level) can make the process easier.

Regular lane change

Emergency lane change
(MRM, Emergency evasive manoeuvre)

Image of detection area