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Agenda item 2.3

Japan's Policy and Contribution to the International Activities on **Automated Driving**

Ministry of Land, Infrastructure, Transport and Tourism(MLIT)

Japan

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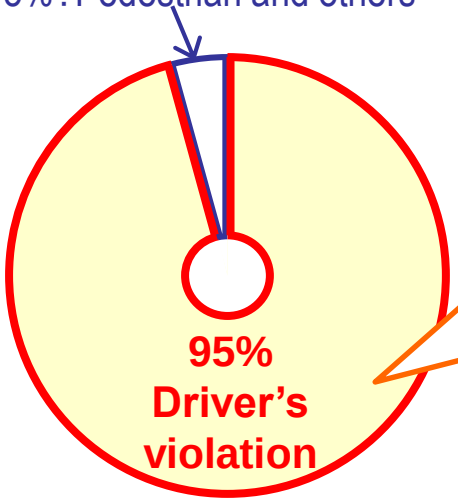
Significances of Automated Driving

Automated driving is expected to:
Significantly decrease traffic accidents caused by drivers' error,
Provide mobility for elderlies, and
Overcome challenges in professional driver shortage.

Cause of fatal traffic accidents per type of law-violation (2018)



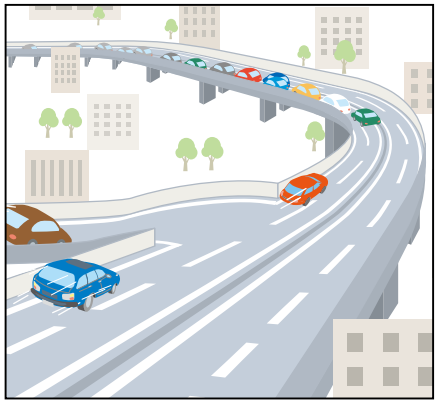
Source: White Paper on Traffic Safety 2019 in Japan

Number of traffic fatalities/injuries (2019)

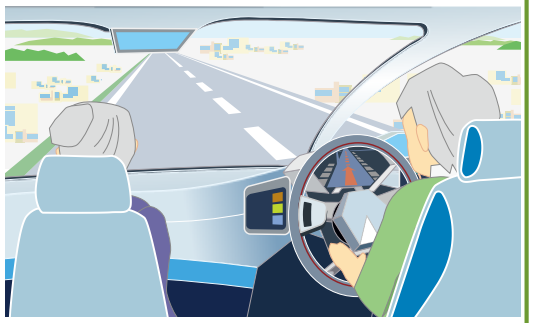
Fatality	3,215
Injury	460,715

Example: Effects of Automated Driving

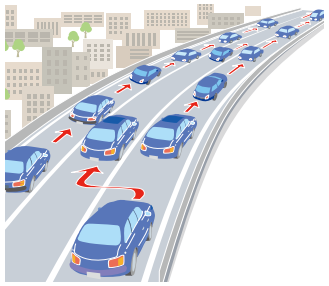
Reduction of traffic accidents



Providing mobility for elderlies



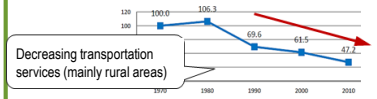
Reducing and eliminating traffic jam



Measure against aging population and productivity improvement

About 40% of truck drivers are over 50 years old

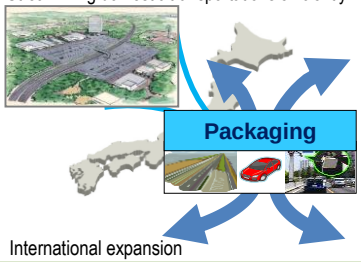
Source: "2015 Labour Force Survey" (MIC)



Route bus's operation frequency per day (compared to 1970 indexed to 100)

Strengthening international competitiveness

Streamlining domestic transportations efficiently



International expansion

Background

- With **the goal of realizing Level 3 automated driving in 2020**, **the Parliament in May last year revised the Road Vehicle Act** and the Road Traffic Act as a development of necessary legal system.

Automated driving of private vehicles on expressways

Amendment to Road Vehicle Act

Enacted in May 2019
Enforcement in April 2020

- "Automated driving system" added to systems subject to Safety Regulations for motor vehicles
  - **Our fundamental principle to develop the safety regulation is that the details of the technical requirement shall be consistent with corresponding new international one.**
  - **When the international regulation is developed, we will adjust ours without delay.**

- The conditions under which each of the automated driving system is used (ODD) shall be respectively designated by MLIT.
  - MLIT ensures safety by limiting the conditions of use of automated driving system such as speed, route, and weather.
  - MLIT shall confirm the appropriateness of the ODD defined by automakers, etc. as well as their compliance with safety regulations of automated driving system.

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Framework document on automated/autonomous vehicles

○ At the 178th session of WP.29 in June 2019, **the framework document on automated/ autonomous vehicles** created by Japan with China, the United States and the European Union, etc. was established.（ECE/TRANS/WP.29/2019/34/Rev.1）

Outline of the Framework document

●Safety Vision

“an automated/autonomous vehicle shall not cause any non-tolerable risk”, meaning that automated/autonomous vehicle systems, under their automated mode ([ODD/OD]), shall not cause any traffic accidents resulting in injury or death that are reasonably foreseeable and preventable.

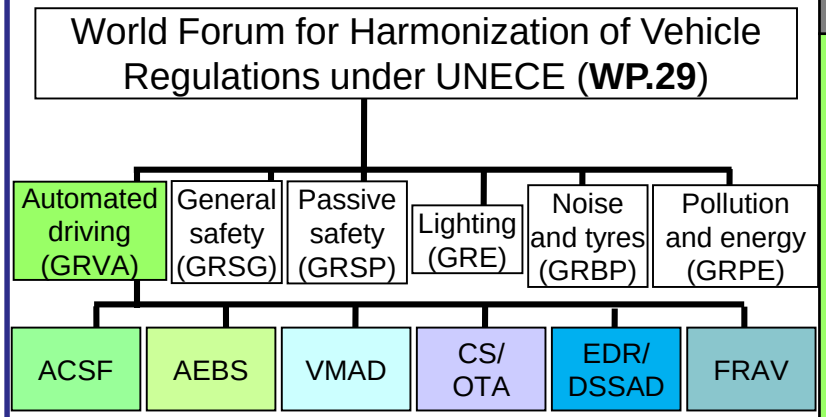
●Key issues and principles to be considered by WP29 subsidiary bodies as a priority

A	System Safety
B	Failsafe Response
C	Human Machine Interface (HMI) /Operator information
D	Object Event Detection and Response (OEDR)
E	Operational Design Domain (ODD/OD) (automated mode)
F	Validation for System Safety
G	Cybersecurity
H	Software Updates
I	Event data recorder (EDR) and Data Storage System for Automated Driving vehicles (DSSAD)

Development of International Regulations on Automated Driving

Japan has strongly contributed to the development of the international regulations and will continue to work for further discussion.

Current system for international regulations on automated driving technology



Major deliberative bodies on automated driving technology	Japan's post
Working Party on Automated/Autonomous and Connected Vehicles (GRVA)	**Vice-chair** (with China)
Informal Working Group on Automatically Commanded Steering Function (ACSF)	**Co-chair** (with Germany)
Informal Working Group on Advanced Emergency Braking Systems (AEBS)	**Co-chair** (with EC)
Informal Working Group on Validation Methods for Automated Driving (VMAD)	**Co-chair** (with NL, Canada)
Task Force on Cyber security and OTA issues (CS/OTA)	**Co-chair** (with UK,US)
Informal Working Group on Event Data Recorder (EDR) and Data Storage System for Automated Vehicle (DSSAD)	**Co-chair** (with NL,US)
Informal Working Group on Functional Requirements for Automated and Autonomous Vehicles (FRAV)	**(Technical secretary)**

Thank you for your attention!