Government initiatives to realize automated driving in Japan

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Background

Problems such as aging population, increase in the rate of accidents caused by the elderly, and drivers shortages are getting serious in current road traffic in Japan.

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**Percentage of elderly people over 65 years old**

- **2010:** 23.0%
- **2011:** 23.3%
- **2012:** 24.1%
- **2013:** 25.0%
- **2014:** 25.9%
- **2015:** 26.7%
- **2016:** 27.2%
- **2017:** 27.7%

**Number of traffic accidents caused by elderly drivers over 65 years old**

- **2010:** 15.5%
- **2011:** 15.8%
- **2012:** 16.3%
- **2013:** 17.5%
- **2014:** 18.7%
- **2015:** 19.7%
- **2016:** 20.4%
- **2017:** 21.3%
- **2018:** 22.1%

Source: Statistics Bureau, Ministry of Internal Affairs and Communications. "Japan’s elderly people (65 years and over) based on statistics, FY2017, and National Police Agency "Occurrence of traffic accidents" (FY2018)."
Background

- Revenue status of shared bus in small cities is serious.
- Getting harder to find shared bus driver.
Social expectations for automated driving

- Aging society
  - Reducing traffic accidents
  - Easing traffic congestion
  - Rural revitalization in Japan
  - Strengthening international competitiveness of industry
  - Resolving driver shortages
  - Reducing numbers of the elderly by insufficient mobility
Roles of ministries about automated driving

**National Strategy Office of Information and Communications Technology, Cabinet Secretariat**
- Basic policy planning / drafting and general adjustments
  - Formulating the Public-Private ITS Initiative/Roadmaps
  - Formulating the Charter for Improvement of Legal System and Environment for Automated Driving Systems

**Science and Technology Agency, Cabinet Office**
- Promoting the Cross-ministerial Strategic Innovation Promotion Programs (SIP)

**National Police Agency**
- Ensuring safe and smooth traffic

**Ministry of Justice**
- Considering criminal liability

**Ministry of Internal Affairs and Communications**
- Developing information and communication environment

**Ministry of Economy, Trade and Industry (METI)**
- Promoting the automobile industry

**Ministry of Land, Infrastructure, Transport and Tourism (MLIT)**
- Road management
  - Ensuring safe vehicle
  - Considering the compensation for damages in car accidents

**Financial Services Agency**
- Insurance supervision

**Japan Economic Revitalization General Secretariat, Cabinet Secretariat**
- Formulating the Growth strategy
- Running the Public-private council for automated driving

**Regional Revitalization Promotion Office, Cabinet Office**
- Running the National Strategic Special Zone Advisory Council
The Public-Private ITS Initiative/Roadmaps has been updated annually since 2014 when it was formulated by IT Strategic Headquarters, based on environmental changes in ITS and automated driving systems.

- Automated Driving on expressways
- Driverless autonomous driving transport service in specified areas
- Track platooning on expressways
Vision of automated driving in 2020: Level 3 on expressways

- Automated driving on expressways (Level 3)
  - Staying in lane, maintaining distance between vehicles, and adjusting speed, at or below setting speeds
  - Automated driving on a main roadway end to exit

Automated driving starts

Automated driving ends

Stays in lane, maintains distance between vehicles, and adjusts speed at or below a certain speed
Vision of automated driving in 2020: Automated-driving transportation service

- Automated-driving transportation service utilizing the Field Operational Test framework
  - Relatively simple limited domain (ODD: Operational Design Domain)
  - Remote monitoring and operation of one or multiple units by one person
  - When the ODD is exceeded, operation of the vehicle stops swiftly and the remote monitoring, controlling party, service provider inside the vehicle, or another party implements necessary measures.
Field operational tests of automated driving systems (After FY2018)

Main verification items:
- Verify vehicle performance
- Verify the impact of weather conditions on vehicle performance
- Verify issues concerning technologies comprising automated driving
- Verifying the configuration, maintenance, and management of roads and surrounding facilities
- Verifying service contents
- Verifying service operations
- Verifying social receptivity

As of March 2019,
SIP Projects (Cabinet Office)
Automated Driving Service at Roadside Stations and Other Locations (MLIT/Cabinet Office - SIP)
Automated driving services in newly developed areas (MLIT/Cabinet Office - SIP)
Last-Mile Automated Driving (METI / MLIT)
Truck Platooning (METI / MLIT)
Projects Conducted by a Local Government, Private Company, or University
Progress based on Charter for Improvement of Legal System and Environment for Automated Driving Systems

To review the legal system necessary for the realization of automated driving, “Charter for Improvement of Legal System and Environment for Automated Driving Systems” was formulated in April 2018.

Main action items
- Securing the safety of vehicles
- Traffic rules
- Securing safety on an integrated basis (setting of driving environments conditions)
- Liability for the accident

Each ministries and agencies have proceeded with examinations, and had following progress, including legal revisions since the formulation of the Charter.

Main progress
- “Safety-technology guidelines for automated-driving vehicles” were formulated and announced in September 2018.
- Partial revision to “the Road Transport Vehicle Act” to ensure safety uniformly from the design and manufacturing processes through the use processes of automated driving vehicles and other vehicles passed in ordinary session of the Diet.
- Partial revision to the Road Traffic Act to develop provisions related to driver obligations in response to practical implementation of automated driving technologies passed in ordinary session of the Diet.
- The existing concept that a person that puts an automobile into operational use is liable to compensate for damage arising from the operation of the automobile if this results in the death or bodily injury of another person in Act on Securing Compensation for Automobile
Smart Mobility, Empowering Cities