

**Responsible Social Acceptance**  
**For the potential benefits the automation would**  
**bring to vulnerable road users.**

## RSA, “Responsible Social Acceptance”

- It is also necessary to do some efforts by society to increase social acceptance. It is a responsibility of our society. RSA “Responsible Social Acceptance”.
- By utilizing RRI (Responsible Research and Innovation) and RSA, the expected benefits of innovative technologies are realised for society more quickly.

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**Economic Commission for Europe**

Inland Transport Committee

**Global Forum for Road Traffic Safety**

**Eighty-fourth session**

Geneva, 7-11 March 2022

Item 4 of the provisional agenda

**Convention on Road Signs and Signals (1968)-**

**Group of Experts on Road Signs and Signals**



# HF-IRADS II. Principle (ix) No special consideration for ADS

Economic Commission for Europe

Inland Transport Committee

Global Forum for Road Traffic Safety

Eighty-fifth session

Geneva, 19-23 September 2022

Item 3 of the provisional agenda

Convention on Road Traffic (1968):

Human factors and automated driving as key issues for future road traffic-

Human factors and automated driving

**Human Factors Principles to Guide the Design, Standards and Policies for Automated Driving Systems**

**Submitted by Human Factors in International Regulations for Automated Driving Systems” (HF-IRADS)**



## II. Principles

(ix) **Safe interaction with other road users:**  
The ADS interaction with other road users should be consistent and predictable and **should not require other road users to have any special consideration for ADS-driven vehicles.**

The level of technological achievement  
=Technological guideline



Apart from the idea of technical guideline  
=Different point of view

**If other road users to have “Special consideration to ADS-driven vehicles”.  
What happened?**

# Special consideration for ADS

ADS-driven vehicles, which do not require special considerations by other road users, is expected to realise five years from now.



If other road users giving special consideration to ADS-driven vehicles, make it possible to realize ADS-driven vehicles immediately !



There is no reason to reject to do so.

# Japanese example



**The Automated Driving Bus (ADB) Operates 20 kilometers per hour.  
On a two-way traffic road with one lane in each direction with a speed limit of  
30 to 50 kilometers per hour.**

## What happened

Dangerous overtaking operations occurred.

Chronic traffic jams occurred:

- Low speed.
- Constant obstruction by roadside parking and stopping vehicles.



## Countermeasures

- Various test-ride events in a complicated manner.
- Promoted awareness using public relations magazines and teaching materials.



# ADB became familiar

Roadside parking and stopping of the ADB route almost disappeared six months after.

Bus stops on private land provided by townspeople.



- Overtaking zones in bus stops have been increased.
- Overtaking operations of ADB is performed when ADB stopped at the bus stop.
- And traffic congestion related to ADB decreased by **90%** in one year.

# Perspective of driver



Human-driven conventional (CV)

**ADB is nasty obstacle.**

- Too slow.
  - Too much time to clear parked vehicle.
  - Make heavy congestion.
- ⇒ **ADB is not necessary !**

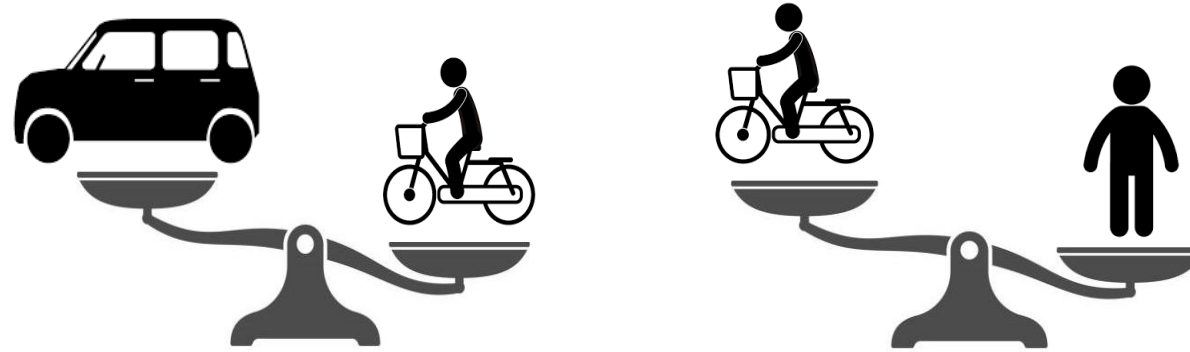
**But I cannot live without a vehicle. Some day I won't be able to drive.  
Only one option is ADB?  
⇒ ADB is necessary !**

**Noticed and developed to understand and has sympathy for vulnerable road users riding on the ADB.**



# Vulnerable Road Users

Tough  
↕  
Vulnerable



Physically “Those who suffer greater damage in the event of a collision”.



Vulnerable



In terms of road use

ADB is “weaker” than CV in terms of road use = “vulnerable road users”.



Occupants:  
Driver with the ability to drive vs.  
Elderly people with no other means  
of transportation”.

# Absolutes or Relative Concept

“Vulnerable road users” as physical absolutes concept.



“Vulnerable road users” as relative concept and include related elements = Passengers.

- Considering who the “Vulnerable road users” against myself.
- Aware of and understand these “Road users who are more vulnerable than myself”.
- To use the traffic space while paying attention to them.

“RSA = Responsible Social Acceptance”

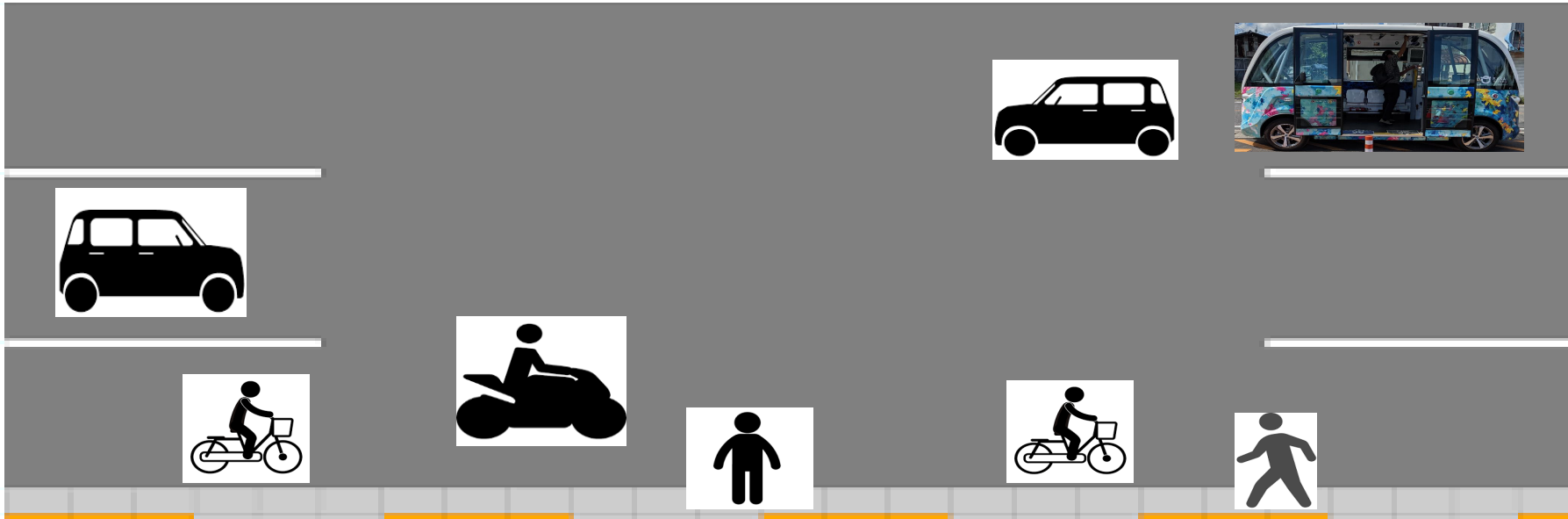


# The potential benefits the automation would bring to vulnerable road users

## Society

- Study what is the potential benefit for the vulnerable road users by automation.
- Study any special consideration for ADS-driven vehicles.

Each and every participant of the traffic space to be aware of and understand the "Road users more vulnerable than myself" and paying attention to them when he or she use the traffic space. (I believe this is also useful for current traffic system)  
\* And this is the basic policy that forms "RSA = Responsible Social Acceptance".



**Thank you  
For your attention.**

