

# **SIP-adus Workshop 2021 Breakout Workshop**



## **Research of V2X communication for Cooperative Driving Automation**

**Norifumi Ogawa (Mazda Motor Corporation)**

**SIP Task force on V2X communication for Cooperative Driving Automation**

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# 1. Research status of V2X communication for cooperative driving automation

- **TF on V2X communication for Cooperative Driving Automation (CDA) has been established in 2019**
- **Started research for communication methods for CDA**

## 【Purpose】

Draw the ideal form of cooperative driving automation and the roadmap to realization, while considering international standards, establish the optimal communication method policy by ALL JAPAN

## 【goal】

- Propose the optimal communication method for CDA
- Draw the roadmap for communication method (requirement)

# 1. Research status of V2X communication for cooperative driving automation

## ◆ Activities of TF on V2X Communication for CDA

- Define CDA
- Develop CDA use cases based on the definition

Phase1

Done

- Define communication requirements based on use cases

Phase2

Done

- Examination of applicability of existing ITS communication
- Technology verification for Communication methods (frequency / bandwidth) for CDA
- Proposal of communication method and the roadmap

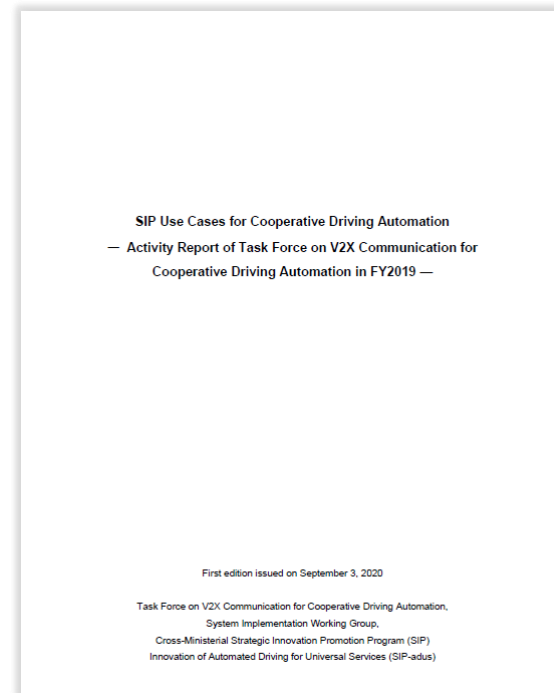
Phase3

On going

## ◆ SIP Cooperative Autonomous Driving Use Case 1st Edition released

### Contents

- CDA system definition
- Scope of study
- Use case review process
- SIP CDA use cases

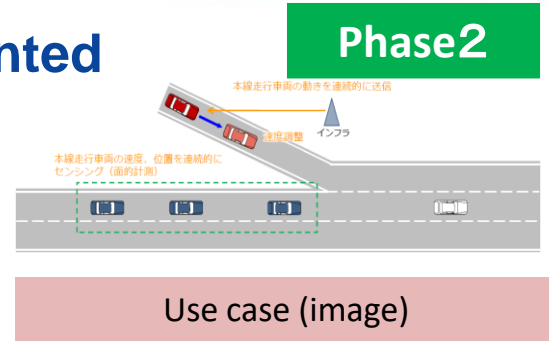


# 2. Communication requirements

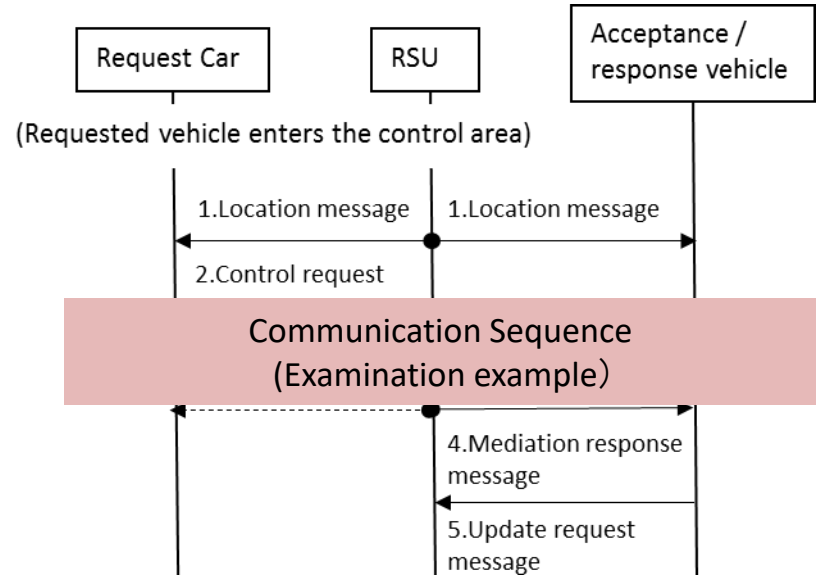


## ◆ Examined with reference to similar cases implemented in the past or currently under consideration

- ✓ Experimental guidelines for communication systems for CDA (ITS FORUM RC-015 1.0 version)
- ✓ Demonstration experiments by ITS-related organizations, etc.



Functional classification	a. Merging / lane change support
Use case	Main line gap aiming merge support
No.	a-1-2
Message name	Location information provided
Communication form	V2I (I → V)
Communication requirements (examination example)	
per area	1 vehicle
Required communication distance	66.7~116.7m
Maximum relative speed	Connection route : 20~70km/h
Maximum data size	1942 byte (1692+250) Estimated number : 62 vehicles

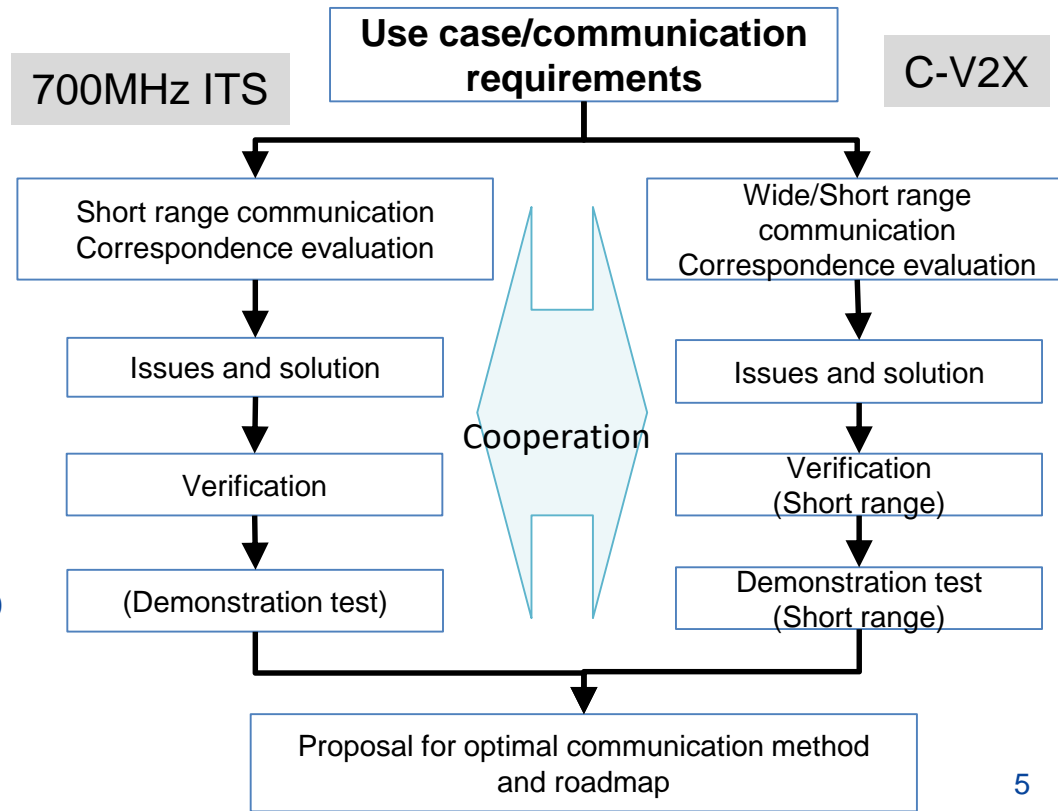


# 3. Examination of application to communication technologies

## ◆ Consider issues and solutions when applying use cases and communication requirements to ITS radio communication

Phase3

- Applicability of existing ITS radio communication (700MHz band)
- Application study and experiments of cellular V2X
- Proposal for optimal radio communication method and roadmap



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**Thank you**

