



Asia-Pacific  
Economic Cooperation

Advancing  
Free Trade for Asia-Pacific  
Prosperity

# Economy Report - ITS in Republic of Korea

April 23, 2018 – Seoul

---

Presented by  
Yoo-jin Chang, Ministry of Land, Infrastructure and Transport of Korea

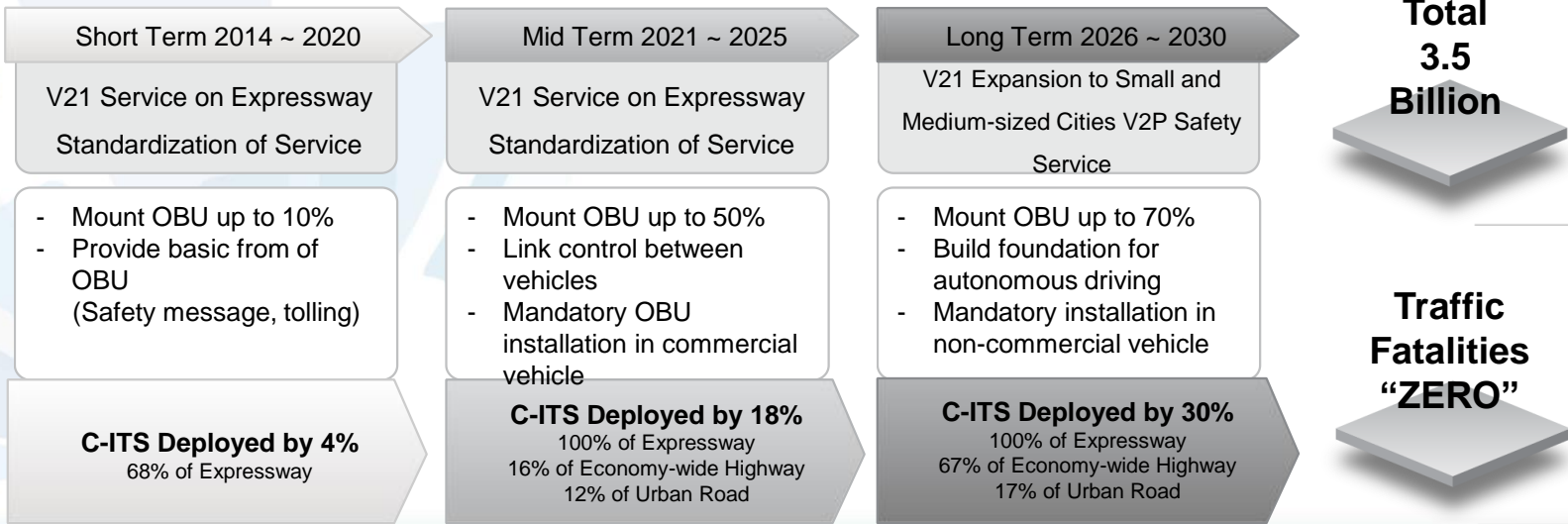
# Cooperative-ITS(C-ITS)



Asia-Pacific  
Economic Cooperation

Object	Verifying technologies and services and laying the foundation for C-ITS deployment
Period	July. 2014 ~ Dec. 2017
Area	88km long on expressway near Sejong city and Daejeon city, economy-wide highway, and urban road

## C-ITS Master Plan




# C-ITS Pilot Deployment in Seoul



Asia-Pacific  
Economic Cooperation

- Period : 2018.01~2020.12 (36 months)
- Budget : 20 Million USD
- Target Section : Total 113.4km (32.6km in 2018, 48.3km in 2019, 52.5km in 2020)

## Vehicle System

 OBU (Wave+LTE)  
1,600 units(550 units)



 Deep learning for image based ADAS(Private Collaboration)  
1,600 units(550 units)


Providing enhanced safety service like lane departure, surface condition monitoring, and collision warning


- Abnormal surface condition to be transmitted to the center


## Infrastructure System

 Traffic Signal  
210 units(60)


 Pedestrian Detection  
120 units(40)

 Smart Tolling  
2 sets(2)

 Portable Work Zone Warning  
40 units(0)

 Incident Detections  
39 units(9)

 Wave RSU  
125units(40)

 Monitoring Blind Spot of Intersection  
28units(8)

 Monitoring Blind Spot of Bus Station  
100units(40)

 Deep Learning for Image Based  
120 units(40)


Figures in ( ) is the quantity for the 1<sup>st</sup> phase

## Cloud Center System

 Integrated Management & Shared System

 Privacy Protection & Security System

 Electronic Map (Private Collaboration)

 Standardized system for Evaluation and Information Exchange

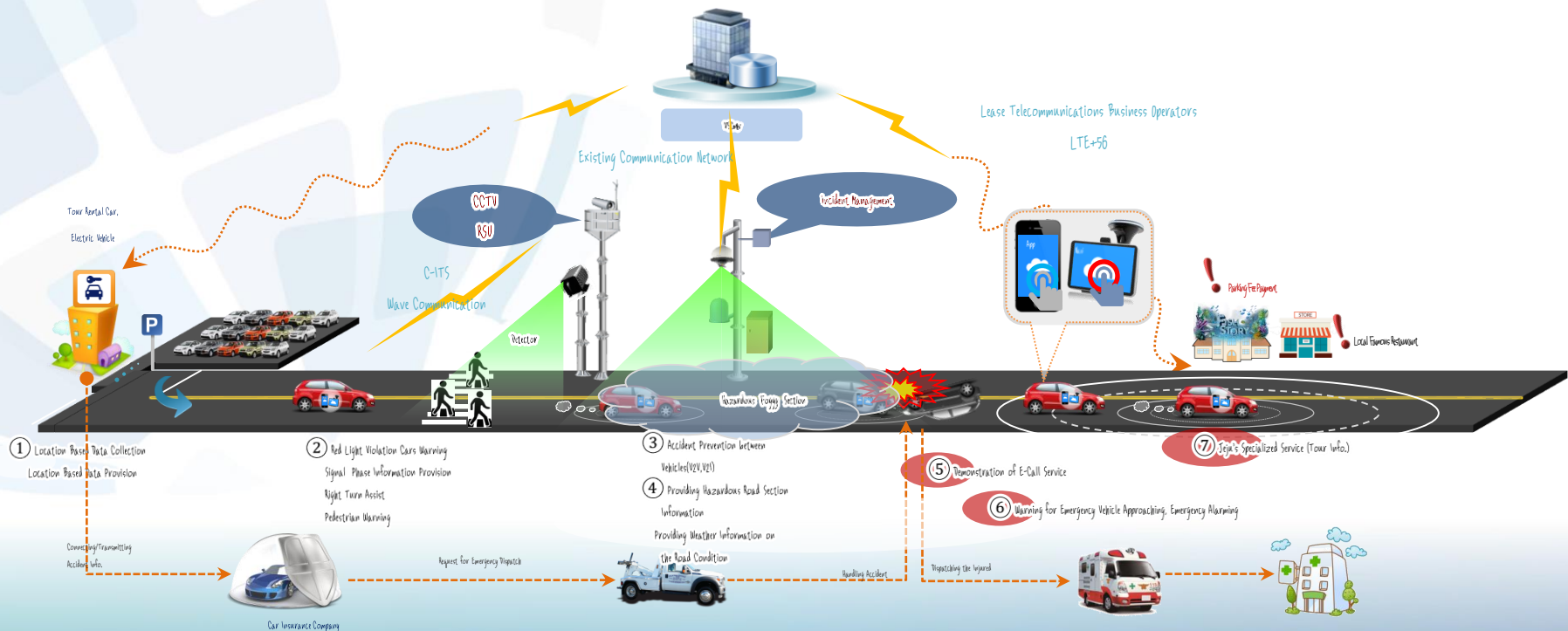
\* Minimize new communication devices focusing on safety system (Utilizing existing 10G communication network )

# C-ITS Pilot Deployment in Jeju



Asia-Pacific  
Economic Cooperation

- Period : 2018.01~2020.12 (36 months)
- Budget : 22 Million USD
- Target Section : Total 300km (150km in 2018, 90km in 2019, 60km in 2020)



# Use of Advanced Technologies



Asia-Pacific  
Economic Cooperation

## Vehicle

### **Lane Departure Warning System(LDWS) for buses & trucks**

- Support on budget for installation of LDWS (about 187 USD from both central and local government per vehicle)

### **Advanced Emergency Braking System(AEBS) for large-sized buses**

- Support on budget for installation of AEBS for newly introduced buses (about 1,170 USD from both central & local government per vehicle)
- Discount on insurance & toll fee

---

### **Improvement on cycle of traffic signal by traffic volume analysis**

- Increase in 5% of road capacity & decrease in 10% of congested time by adopting optimized traffic signal cycle on congested roads

## Traffic Signal

### **Expansion of traffic-actuated signal system**

- Improvement of efficiency for left-turn in the intersection by using the system
- Expect to increase in 18% of road capacity and decrease in 53% of signal violation

## Road Infra

---

### **Use of Big-Data for road risk assessment**

- Analysis on data of both traffic volume, road geometry, safety facilities, and incident information to improve condition at black spots