

Cambodia MPWT  
Capacity Building Program  
2025. 03. 05.(Wed)

# Introduction to Traffic Monitoring System in Korea

MOLIT Road Bureau Smart Road Team  
Wonsik Jeong



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2. Major tasks of the Digital Road Team
3. Introduction of Traffic Monitoring System
4. ITS International Events



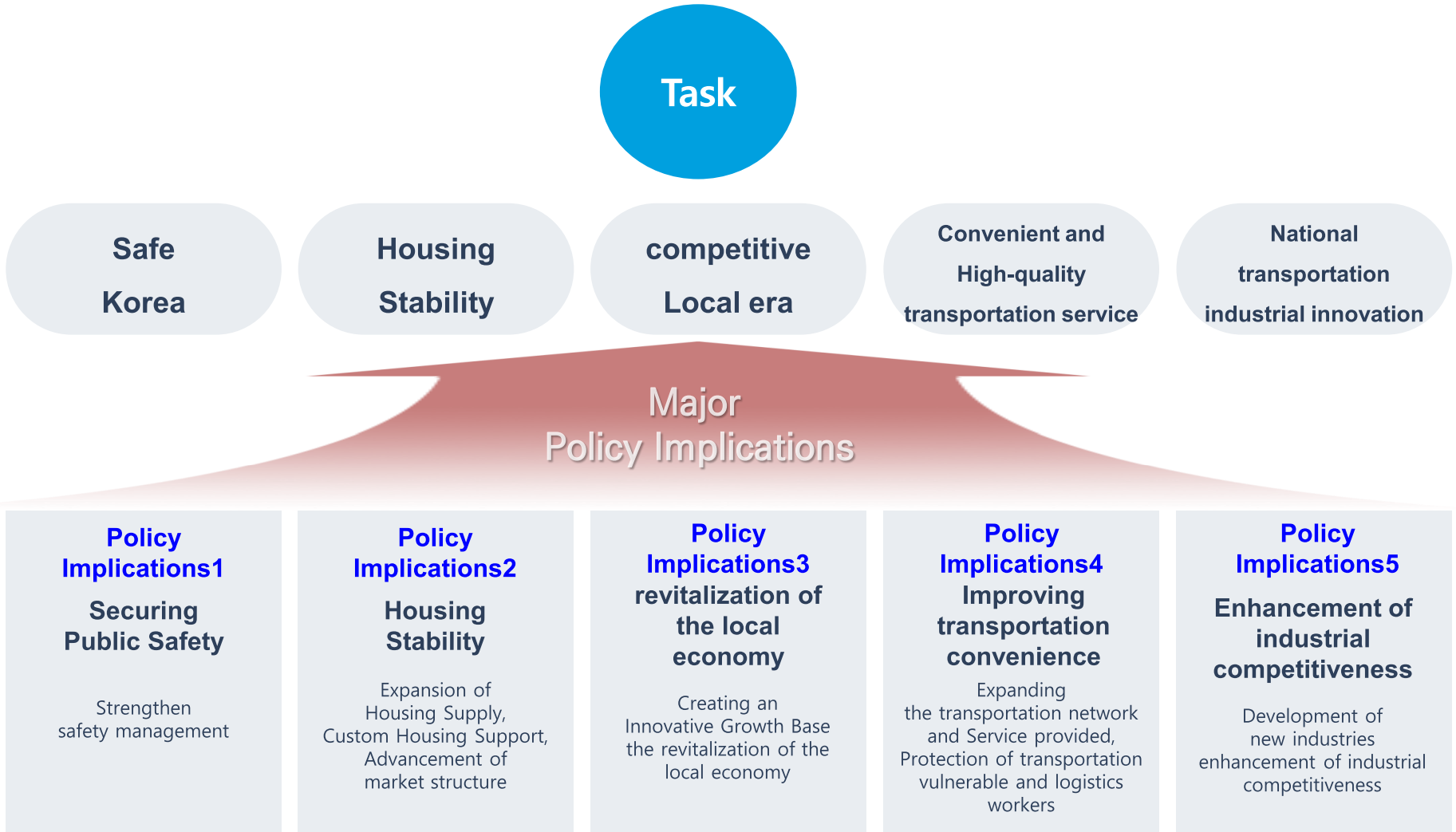
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# Introduction of MOLIT

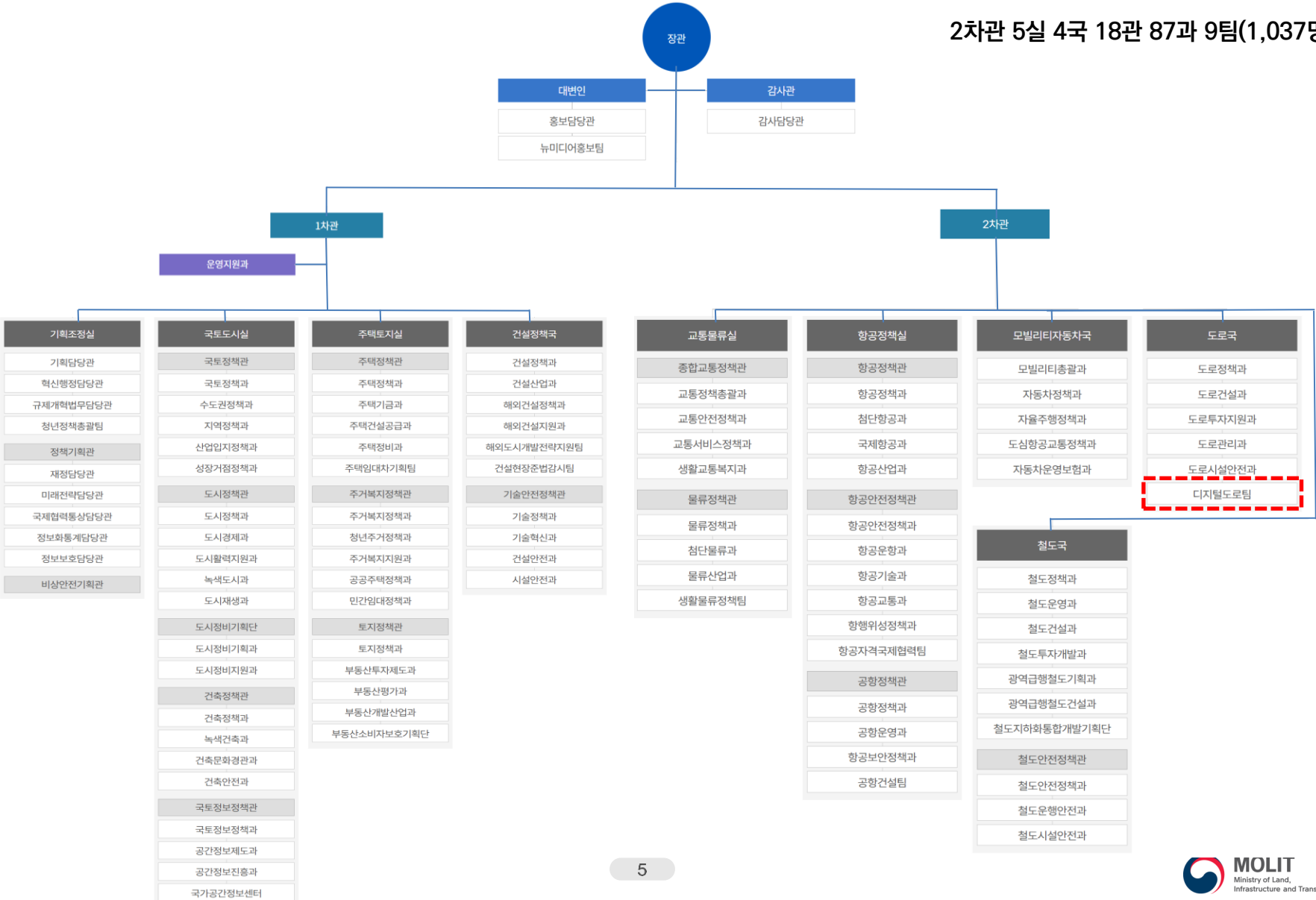


# Major tasks of MOLIT



# Organization of MOLIT

2차관 5실 4국 18관 87과 9팀(1,037명)



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# Major tasks of the Digital Road Team



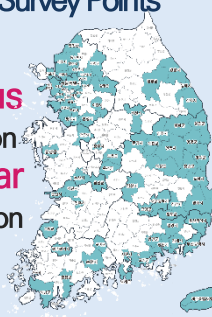
# TMS(Traffic Monitoring Systems)


- Pursuant to Article 102 of the Road Act (Investigation on Roads), traffic monitoring work for major highways such as high-speed national highways, general national highways, and local roads

### Traffic data collection


**Status of Traffic Survey Points**

601 continuous point of investigation  
3,293 irregular point of investigation






Buried




AI video




Number plate


[Continuous traffic survey equipment]




Mobile sensor



Imaging survey



Man-made survey



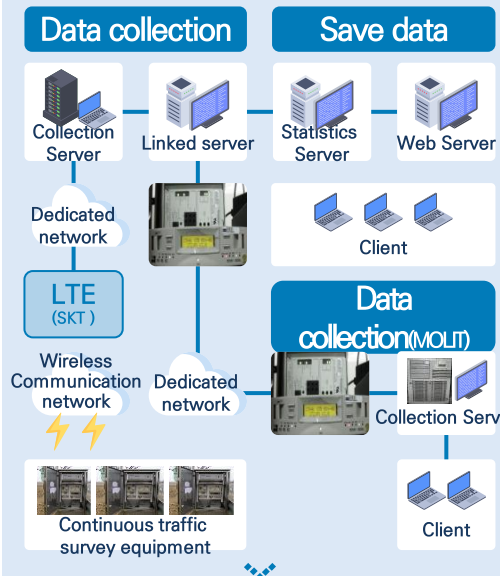
Vehicle types (12 types)

[Irregular Traffic Survey Equipment]


### Traffic information processing

Data collection

Save data



### Data Analysis and Statistical Processing



### Provision and utilization of information

#### National Land Transport Statistics(stat.molit.go.kr)



- ✓ Average daily traffic volume and composition ratio by road type and vehicle type
- ✓ Average daily traffic volume and composition ratio by road type and vehicle type
- ✓ Extension and composition ratio according to traffic distribution by road type

#### Statistical yearbook



- ✓ Provide traffic survey analysis results
- ✓ Provision of traffic volume by road type
- ✓ Annual average daily traffic per section
- ✓ Provide average daily traffic
- ✓ Provide Monday/Day Correction Factor

#### Internet information (www.road.re.kr)



- ✓ Provide information on location/line/road type, etc. of investigation point
- ✓ Daily Hourly Traffic Delivery
- ✓ Daily traffic by vehicle type
- ✓ Provide data from the last 5 years and the past

#### the field of traffic information utilization

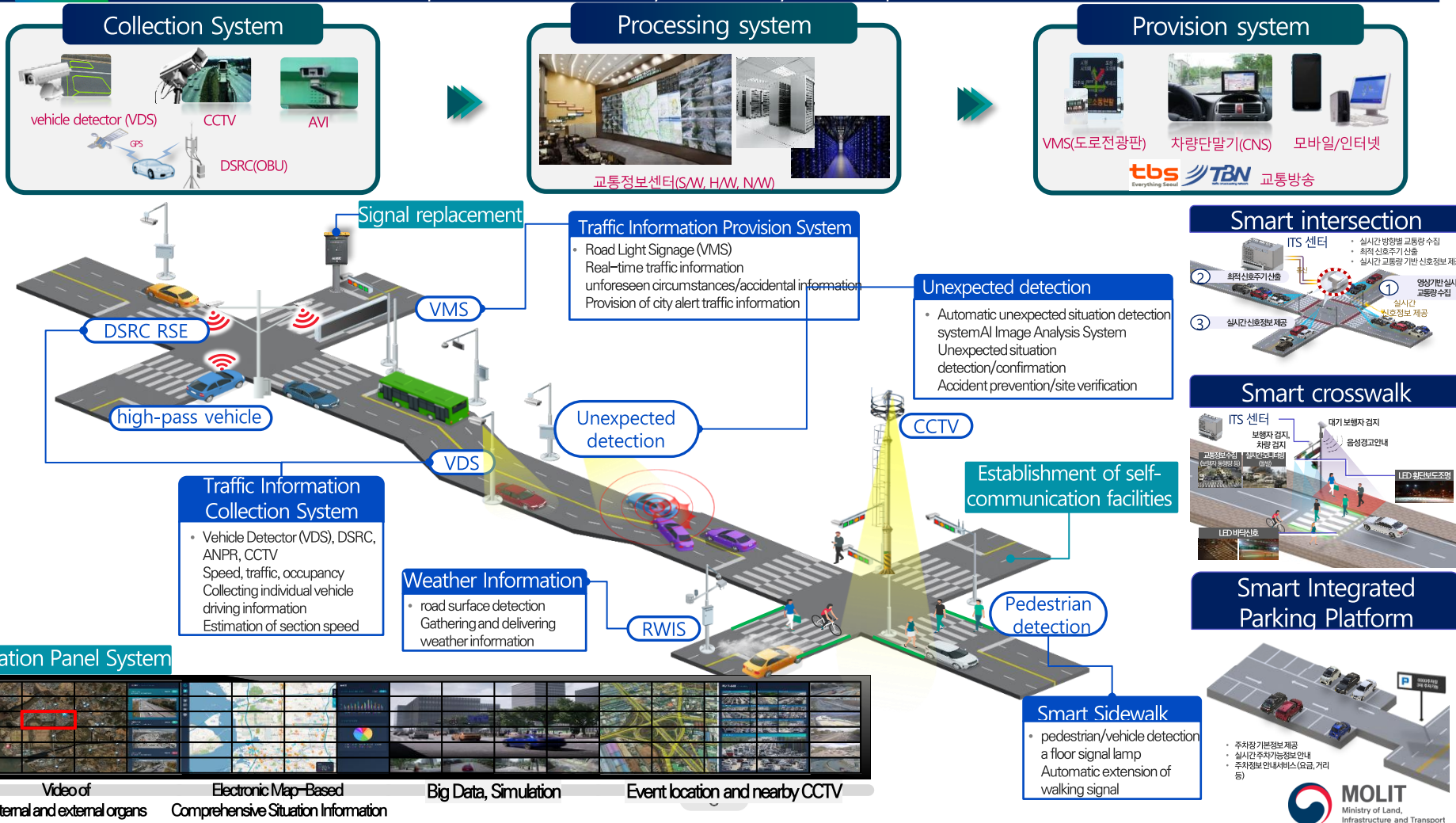
- ✓ Estimation of traffic demand, road planning and design, pavement design, traffic effectiveness evaluation, selection of corporate location, post-construction evaluation, etc

## ITS : Intelligent Transport Systems

국가교통체계효율화법 제2조

### Definition

A transportation system that scientifics and automates the operation and management of the transportation system **by developing and utilizing advanced transportation technologies such as electronic, control and communication**, and improves the efficiency and safety of transportation



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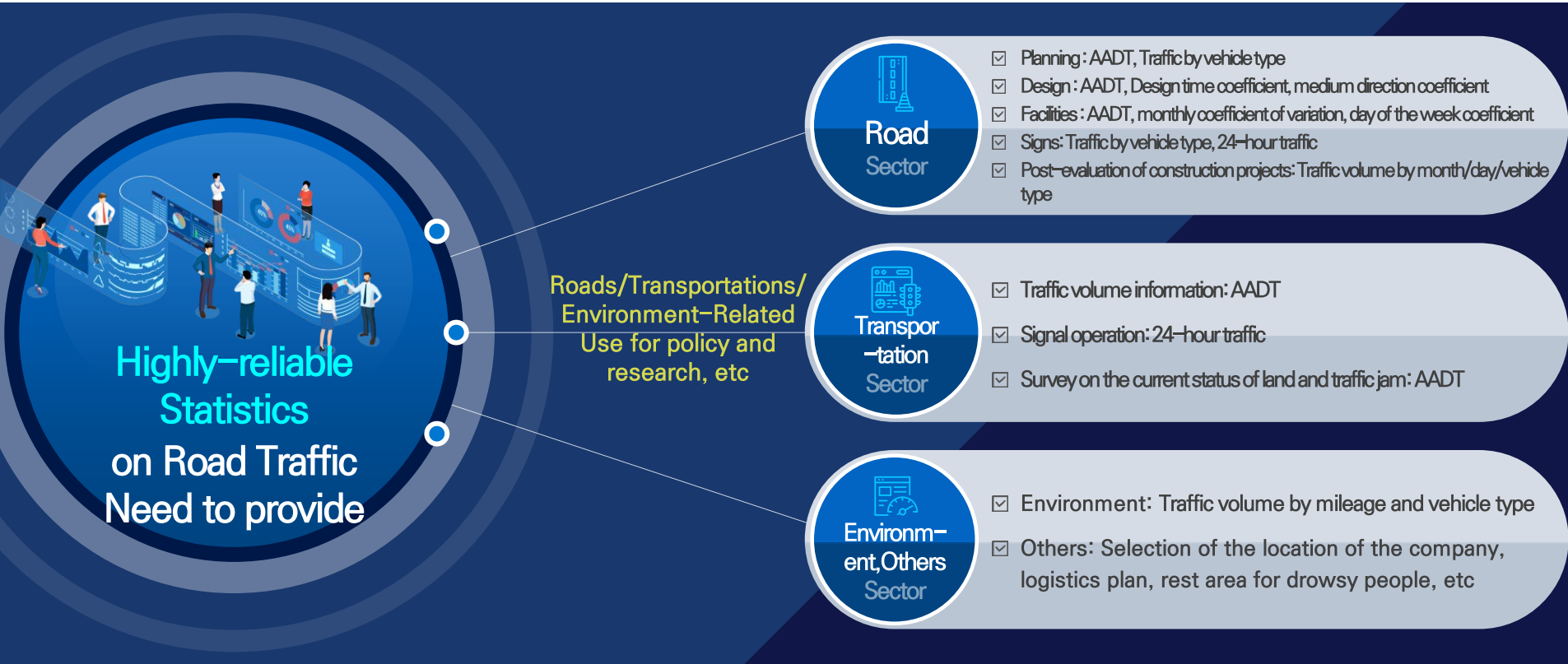
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# Introduction of Traffic Monitoring System



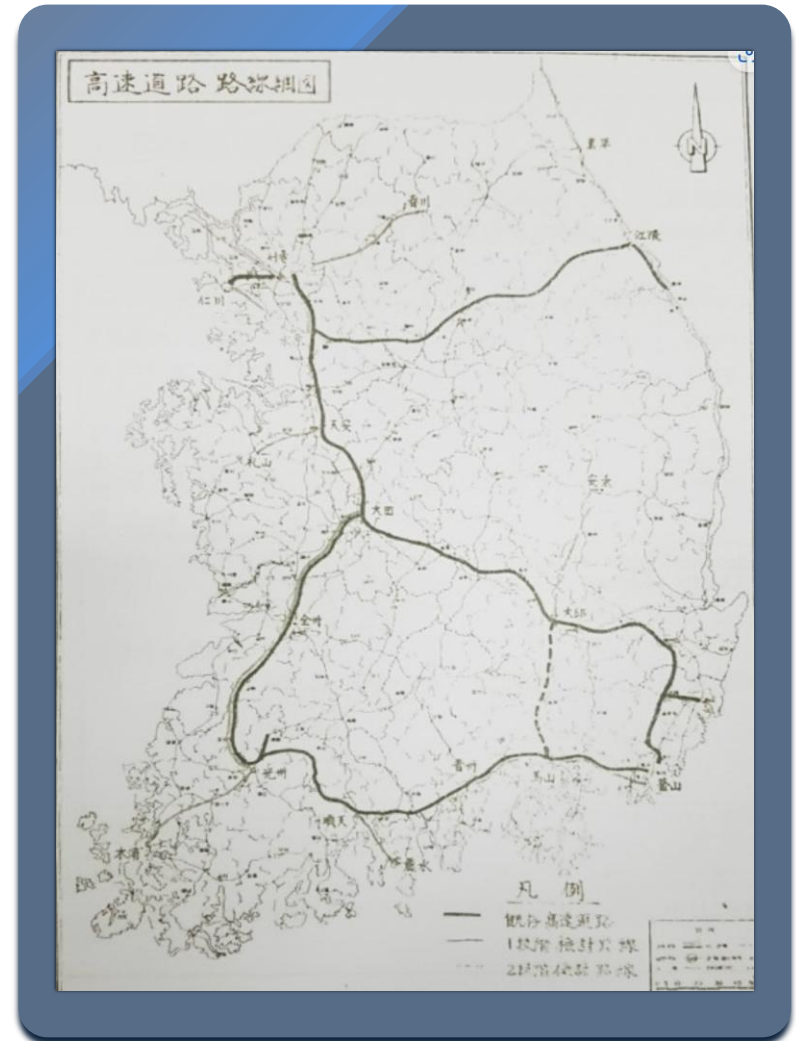
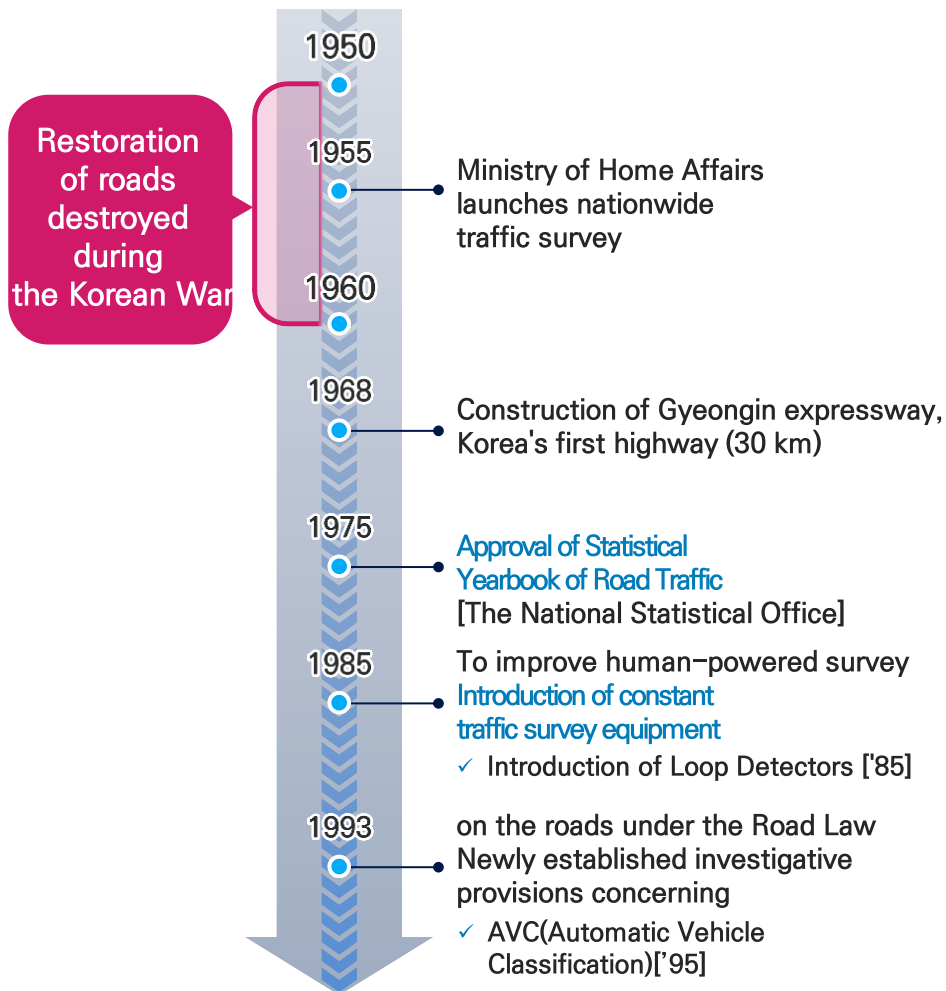
## Background

- After the end of the Korean War, there is a need for a systematic national traffic statistics survey for road restoration and construction
  - ☑ **The Ministry of Home Affairs begins a nationwide traffic survey (1955)**
- Article 102 of the Road Act (Investigation of Roads) **(since 1993)**
  - ☑ Traffic Survey on High-speed, General, and Local Roads



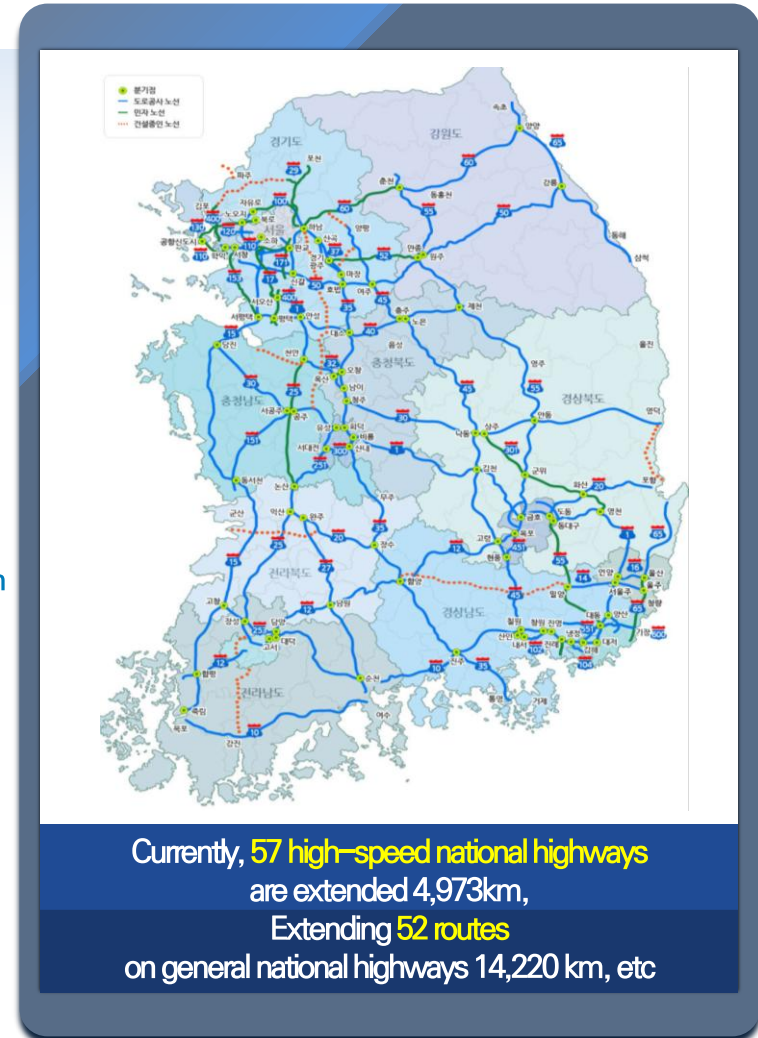
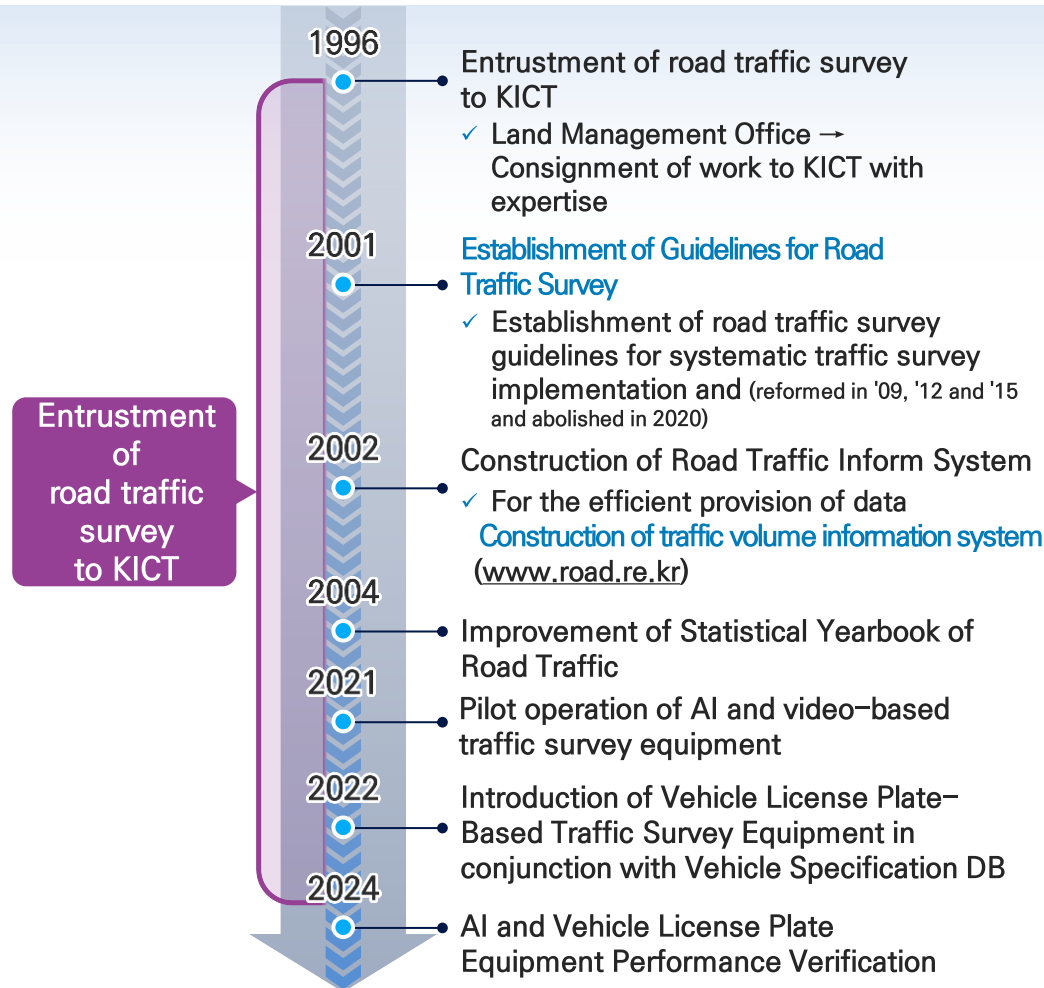
## History

### ➤ History of Korea Traffic Survey



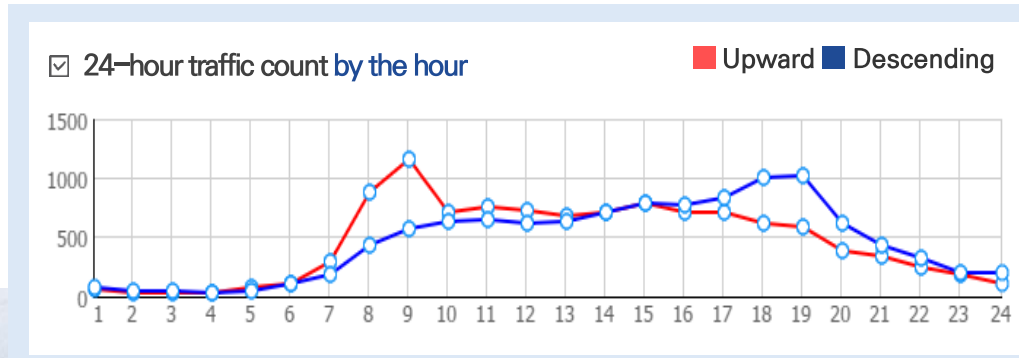
## History

### ▶ History of Korea Traffic Survey



## Summary of Traffic Monitoring System

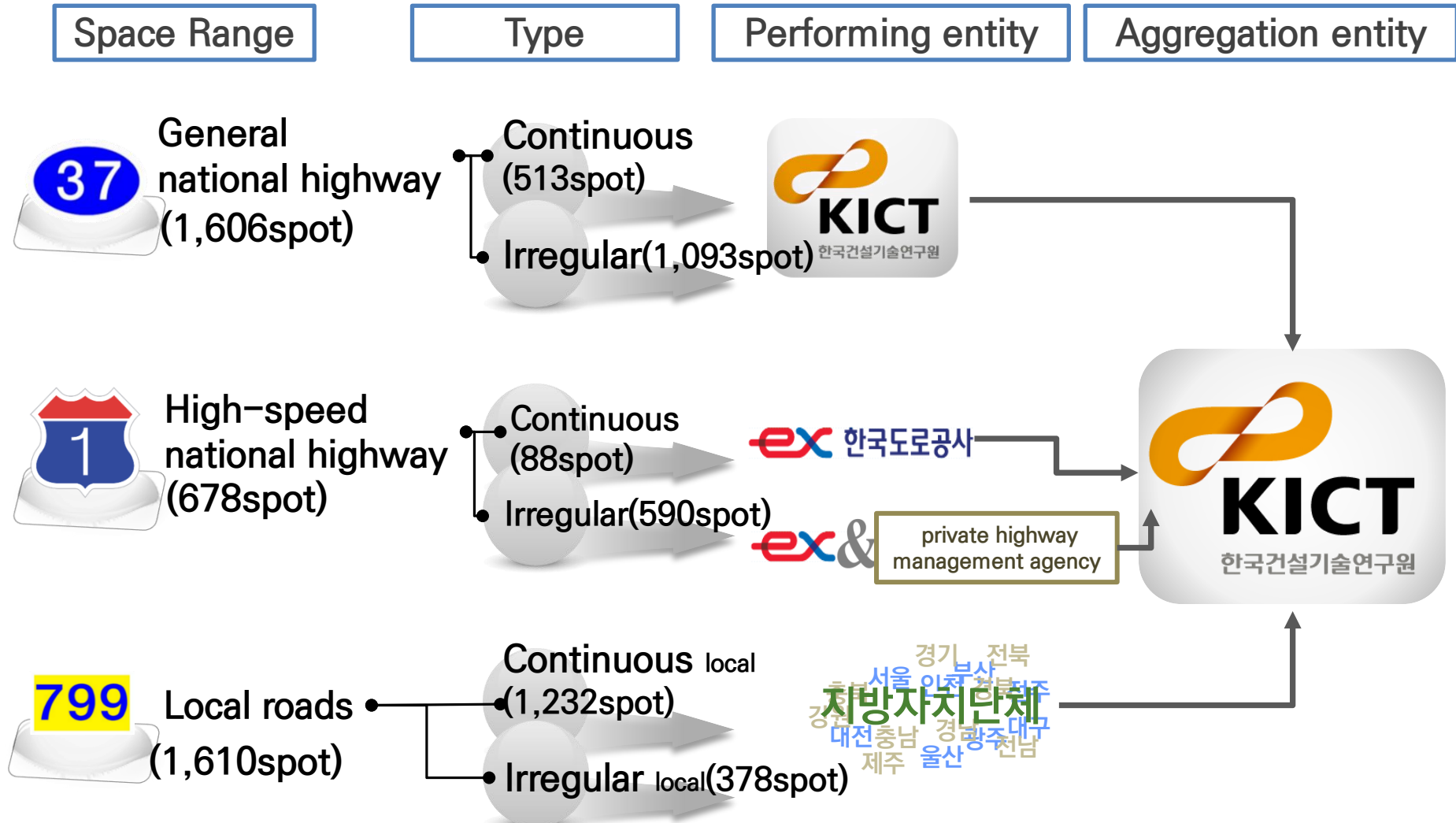
➤ Record survey by **time and direction** → **12 types** of survey



 <b>1종</b> 승용차, 미니트럭 1단위 2축	 <b>2종</b> 버스 1단위 2축	 <b>3종</b> 1~2.5톤 미만 1단위 2축	 <b>4종</b> 2.5~8.5톤 미만 1단위 2축	 <b>5종</b> 1단위 3축	 <b>6종</b> 1단위 4축
 <b>7종</b> 1단위 5축	 <b>8종</b> 4축 세미 트레일러 2단위 4축	 <b>9종</b> 4축 풀 트레일러 2단위 4축	 <b>10종</b> 2단위 5축	 <b>11종</b> 2단위 5축	 <b>12종</b> 2단위 6축

For road pavement, traffic flow analysis, and overload control, the **classification of vehicles** based on **the number of axes and units** considering the **specifications** and **load weight** of vehicles

# Method and System



※ A biennial survey of points where traffic does not change significantly

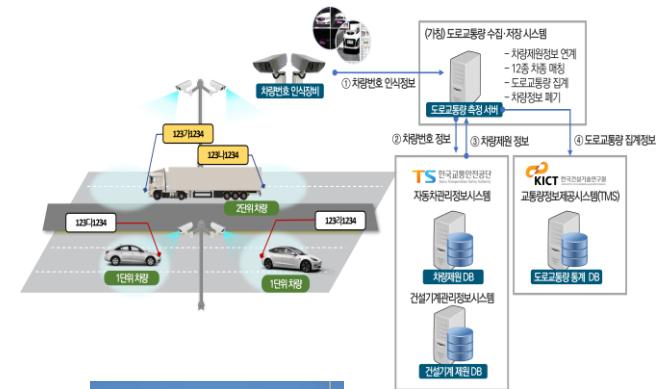
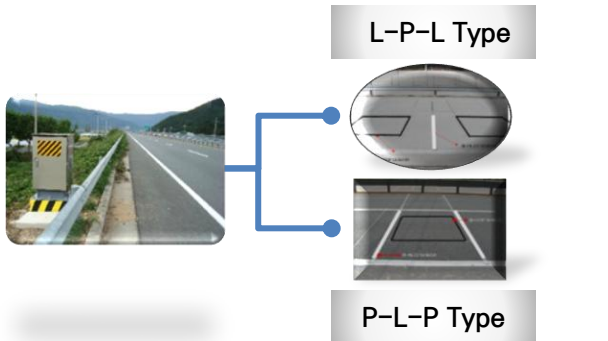
## Method of Investigation of Continuous survey

### ➤ Continuous survey items

☑ One year in a row at a survey point on the road (traffic volume by direction/time/day/vehicle)

※ The survey data of each branch is transmitted to the traffic volume survey data collection center (using wireless communication)

### ➤ Method of Investigation of Continuous survey



[Road Buried Investigation Equipment]

[AI Analysis Investigation Equipment]

[Vehicle number survey equipment]

[Buried traffic survey equipment]

[Unuried traffic survey equipment]

# Method of Investigation of Irregular survey

## ➤ Irregular survey items

- ☑ At least one day per year at the point of frequent road traffic survey using mobile sensors/CCTVs/manpower
  - ※ General national highway: From March to November every year, from Monday to Thursday, and from 7:00 a.m. to 7:00 a.m. on the following day, an occasional traffic survey
  - ※ High-speed national highways/local highways: A nationwide frequent traffic survey on Thursday, October 3 every year from 7:00 am on the day to 7:00 am on the following day

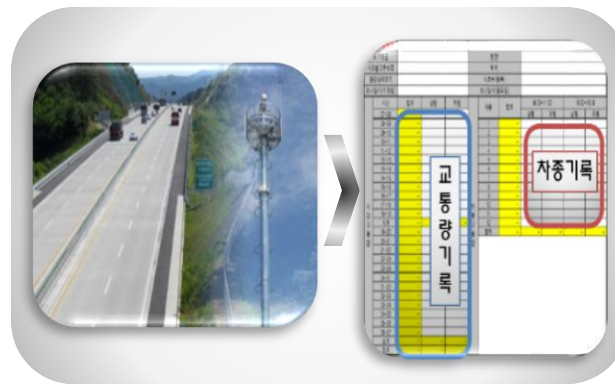
## ➤ Method of Investigation of Irregular survey

### Investigate a mobile sensor



Attach a mobile sensor to the road surface to collect traffic data

### Imaging survey



Use cameras to gather traffic data

### Man-made survey



Collect traffic data on the side of the road

## Provision of road traffic data

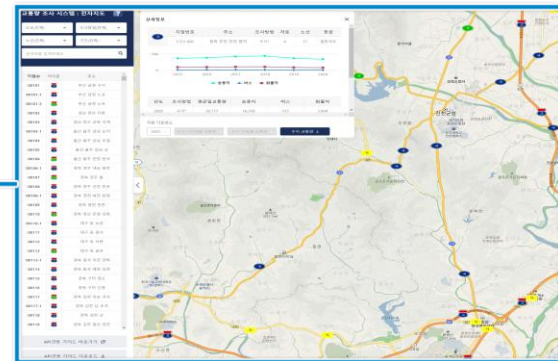
### ➤ Status of Road Traffic Survey Information

- ☑ Traffic volume information provision system
- ☑ MOLIT Stats
- ☑ Statistical Yearbook of Road Traffic

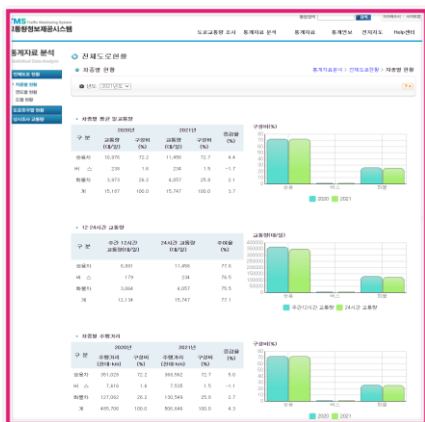
Statistical Yearbook



MOLIT Stats



Data delivery via electronic map







Provides statistical analysis



Providing Statistics

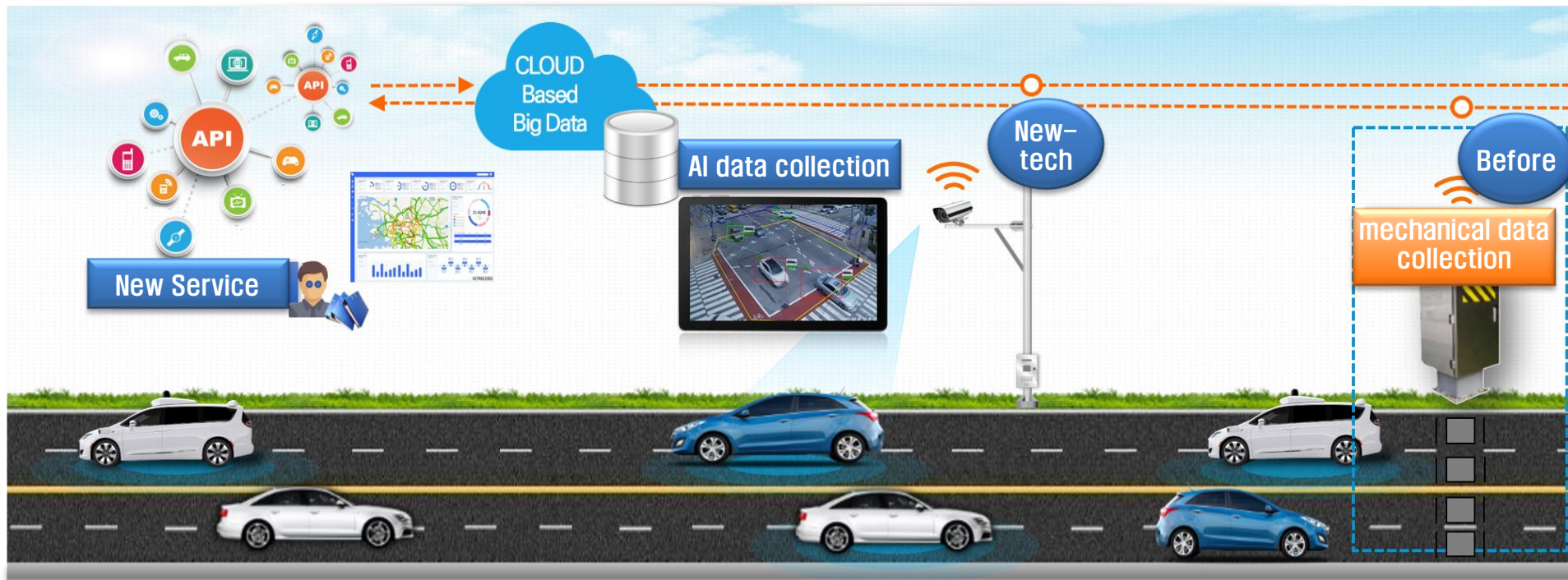
Operation of traffic volume information system ([www.road.re.kr](http://www.road.re.kr))

## Utilization of Data

Institution	Use	Purpose
<p>Public</p>  <p>Central government/ local governments</p>	<ul style="list-style-type: none"> <li>Road Design Capacity Criteria</li> <li>Establishment of new plans for local roads/national roads</li> <li>Road Extension, Paving Section Design</li> </ul>	<p>Use as basic data such as the basis for road construction and the calculation of the size of the road capacity</p>
<p>Industry</p>  <p>Engineering companies, etc</p>	<ul style="list-style-type: none"> <li>Transportation demand forecast</li> <li>Traffic Impact Assessment</li> <li>Establishment of Urban Planning and SOC Business Planning</li> </ul>	<p>Before carrying out projects such as building infrastructure, etc</p> <p>Use as basic data</p>
<p>School</p>  <p>Universities etc</p>	<ul style="list-style-type: none"> <li>An academic paper</li> <li>Preliminary feasibility study (demand forecast)</li> <li>Establishment of basic plan</li> </ul>	<p>A Study on Roads and Urban Planning and Planning</p> <p>Use as a foundation basis</p>
<p>Research</p>  <p>Research institute</p>	<ul style="list-style-type: none"> <li>Establishment of National Transportation DB</li> <li>Evaluation of Road Construction and Safety Efficiency</li> <li>Estimation of transportation demand, establishment of national basic plan, etc</li> </ul>	<p>In the field of road such as DB, road network, and effect analysis</p> <p>Use as basic basis data</p>

# Development Direction of Traffic Monitoring System

- Buried Equipment Data Collection → Non-buried AI image analysis method
  - Acquire traffic volume and vehicle type accuracy, collect various traffic information, including 12 types of eco-friendly vehicles, etc
- Advancement of traffic monitoring system
  - Respond to new services, environmental degradation



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# ITS International Events



# 2025 Suwon ITS Asia-Pacific Forum

## Overview : Suwon ITS Asia-Pacific General Meeting

Category	Details
Date	May 28th (Wed) ~ 30th (Fri), 2025
Place	Suwon Convention Center
Host	MOLIT, Suwon Special Case City
Organizer	Organizing Committee of Suwon ITS Asia-Pacific Forum, ITS Korea
Subject	Hyper-connected Cities by ITS
Program	Official social events (opening and closing ceremonies, galadiners, etc.), high-level meetings such as mayors, academic sessions, exhibitions and business consultations, technical demonstrations, special programs (ITSton, citizen participation programs, etc.)
Participation	Approximately 10,000 people in 20 countries (about 2,500 experts) / 196 booths for 50 institutional, companies (expected)



# 2026 Gangneung ITS World Forum

## ● Overview : 2026 Gangneung ITS World Forum

Category	Details
Date	<b>October 19th (Mon) ~ 23rd (Friday), 2026</b>
Place	Gangneung Olympic Park
Host	MOLIT, Gangneung-si
Organizer	Organizing Committee of Gangneung ITS World Forum, ITS Korea
Subject	Beyond Mobility Connected World
Program	Ministerial meetings, academic sessions, official social events (opening and closing ceremonies, galadiners, etc.), exhibitions, Technology demonstration inspection, cultural events (coffee festival, Gangneung cultural heritage night trip, lighting show, K-culture performance, etc.)
Participation	Approximately 60,000 people in 90 countries (40,000 Koreans and 20,000 foreigners expected) / 1,000 booths for 200 organizations and companies (expected)

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# Thank you

