A city of Safe and Convenient AI Transport Services

INCHEON TRANSPORT INFORMATION CENTER

인천교통정보센터 | INTAS

인천교통정보센터 INTAS

INTRODUCTION

STAFFING

Total of 100 People
(City Officials, Police Officers, Professional Operating Staff, Maintenance Personnel)

VISION

Transition to a Digital Road Traffic System,
Providing Safe and Convenient Transportation Services

MAIN SYSTEMS

ATMS, BIMS, ATSCS, PIS, Big-Data System
(Traffic Policy Support)

SERVICE AREAS

Providing 52 unit Services in 8 Categories
(Traffic Management, Public Transportation,
Electronic Payment, Traffic Information Distribution,
Supplementary Traffic Information, Fright Transportation,
Intelligent Vehicles and Roads, Utilization of Big Data Analysis)

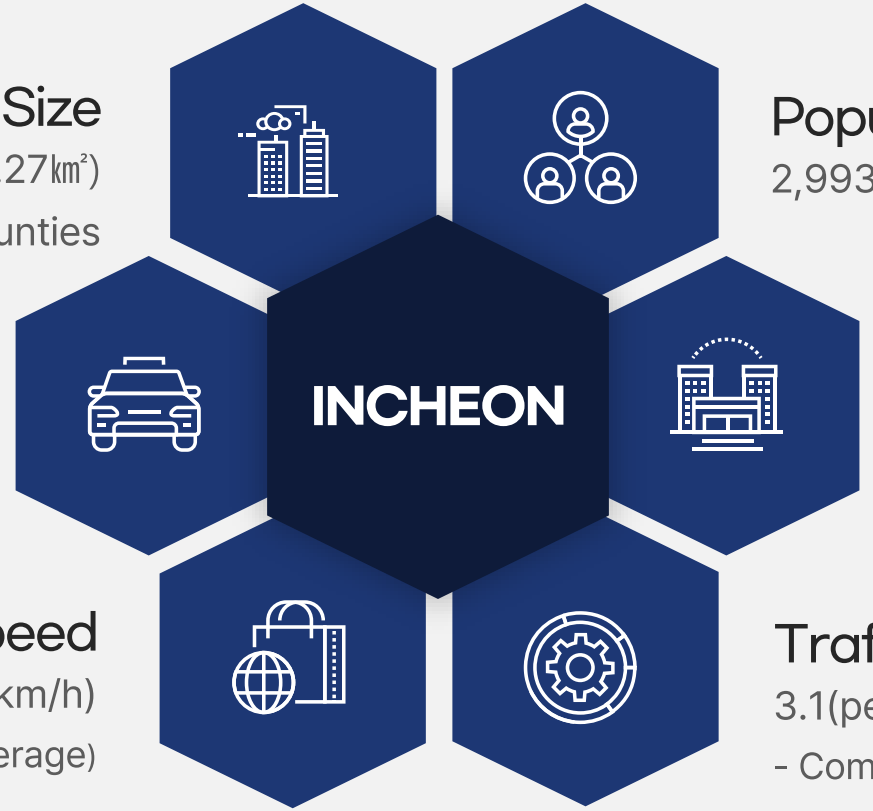
인천교통정보센터 INTAS

Current Road TRAFFIC SITUATION

City Size
410.53sq mi(1,063.27㎢)
8 Districts and 2 Counties

Registered Vehicles
1,726,631 cars

Travel Speed
13.79mi/hr(22.km/h)
(on Metropolitan Roads, average)



Population
2,993,492 People

Road Conditions
Total of 2,095.26mi(3,372km)
- Highways/National Roads 114.95mi(185km)
- Metropolitan Roads 512.63mi(825km)
- District/County Roads 1,437.23mi(2,313km)

Traffic Fatalities
3.1(per 100,000people)
- Compared to 2020, OECD average 4.7)

인천교통정보센터 INTAS

SMART TRANSPORTATION SERVICES

Intelligent Traffic Management Services

Traffic Optimization by Digital Twin & AI

Smart Traffic Signal Control Services

AI-based Emergency Vehicle Priority Signal Service

Smart Traffic(signal) Information Provision Services

인천교통정보센터 INTAS

SMART TRANSPORTATION SERVICES

AI-based Traffic Safety Services

Detection and Identification
of an abnormal traffic situation

Big Data-Based Traffic Policy Formulation

Big Data-based
transportation policy

Future Mobility Services

Metaverse, C-ITS, MaaS

인천교통정보센터 INTAS

Intelligent Traffic Management Services

01 Smart Traffic Information Collection

Using AI-Based Smart CCTV

02 Traffic Flow Analysis Based on Digital Twin

Real-Time Traffic Information,
Synchronization and Linkage of Signal Information

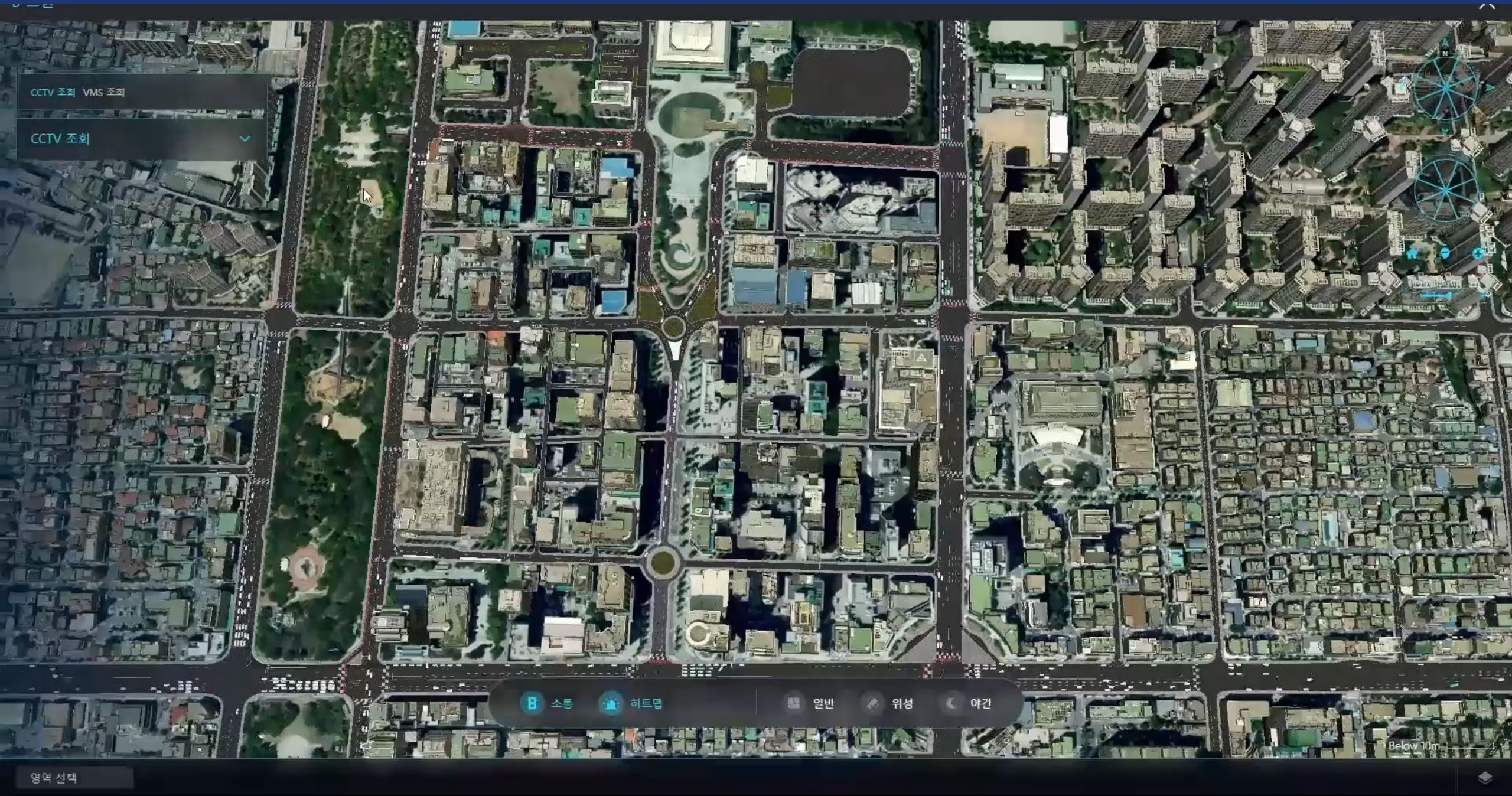
03 Road Traffic Services and Operations Analysis Based on Digital Twin

04 Traffic Signal Operating System Analysis

Signal Phase Patterns, Waiting Queue,
Time-Space Diagrams, etc. by Signal Coordination Group

Intelligent Traffic Management Services - Collecting Smart Traffic Informations

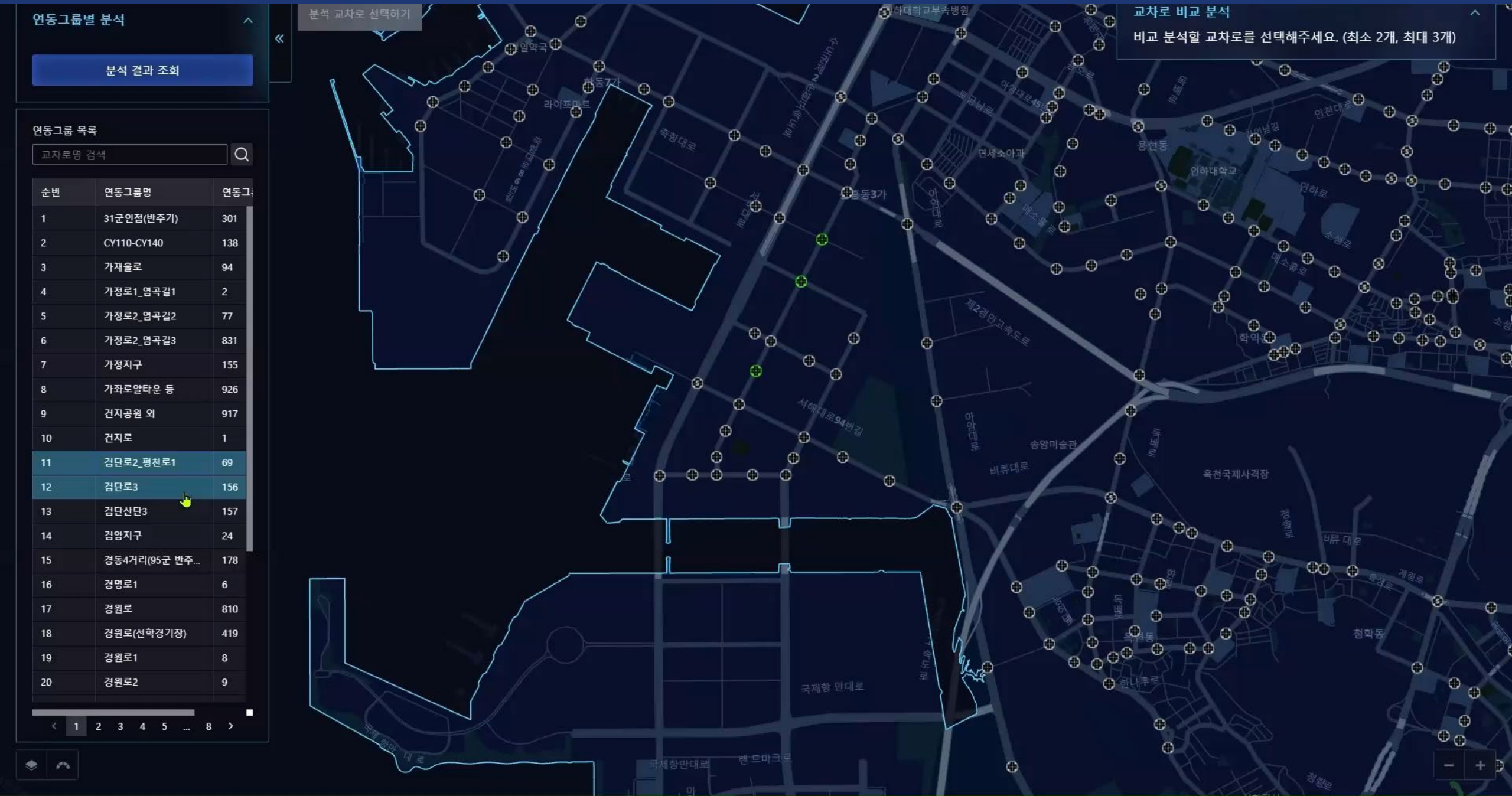
Intelligent Traffic Management Services - Traffic Flow Analysis based on Digital Twin



Intelligent Traffic Management Services - Traffic Management Analysis based on Digital Twin

Intelligent Traffic Management Services - Road Operations Analysis based on Digital Twin

Intelligent Traffic Management Services - Traffic Signal Operating System Analysis



순번	연동그룹명	연동그
1	31군인접(반주기)	301
2	CY110-CY140	138
3	가재울로	94
4	가정로1_염곡길1	2
5	가정로2_염곡길2	77
6	가정로2_염곡길3	831
7	가정지구	155
8	가좌로알타운 등	926
9	건지공원 외	917
10	건지로	1
11	검단로2_평천로1	69
12	검단로3	156
13	검단산단3	157
14	검암지구	24
15	경동4거리(95군 반주...	178
16	경명로1	6
17	경원로	810
18	경원로(선학경기장)	419
19	경원로1	8
20	경원로2	9

1 2 3 4 5 ... 8

01

AI-Based Signal Optimization and Traffic Congesting Improvement

Traffic Signal Optimization Simulation

02

AI-Based Emergency Vehicle Priority Signal Service

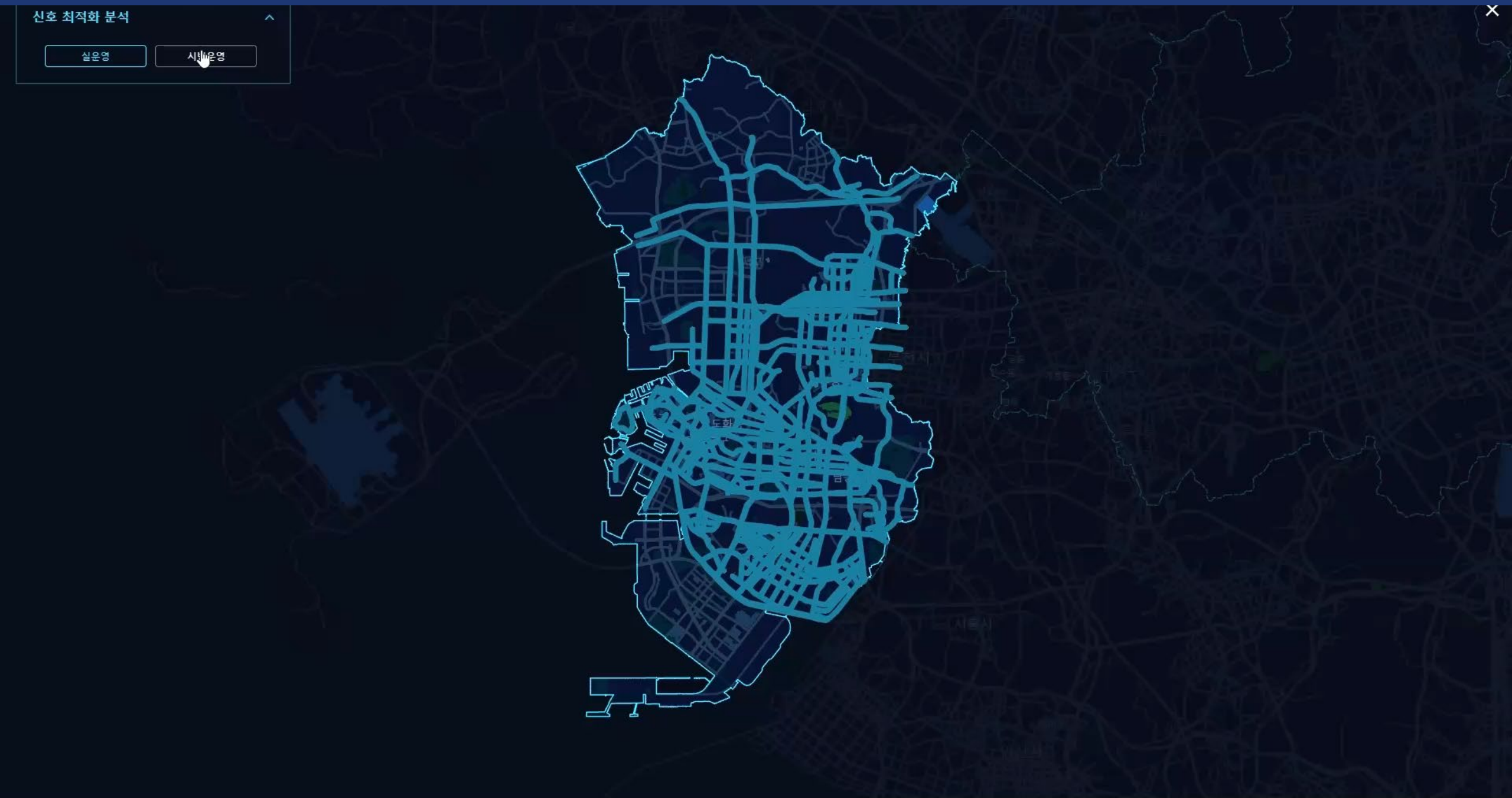
Providing Priority Signals Linked with Real-Time
Emergency Vehicle Location, Road Speed, and Signal Cycles

03

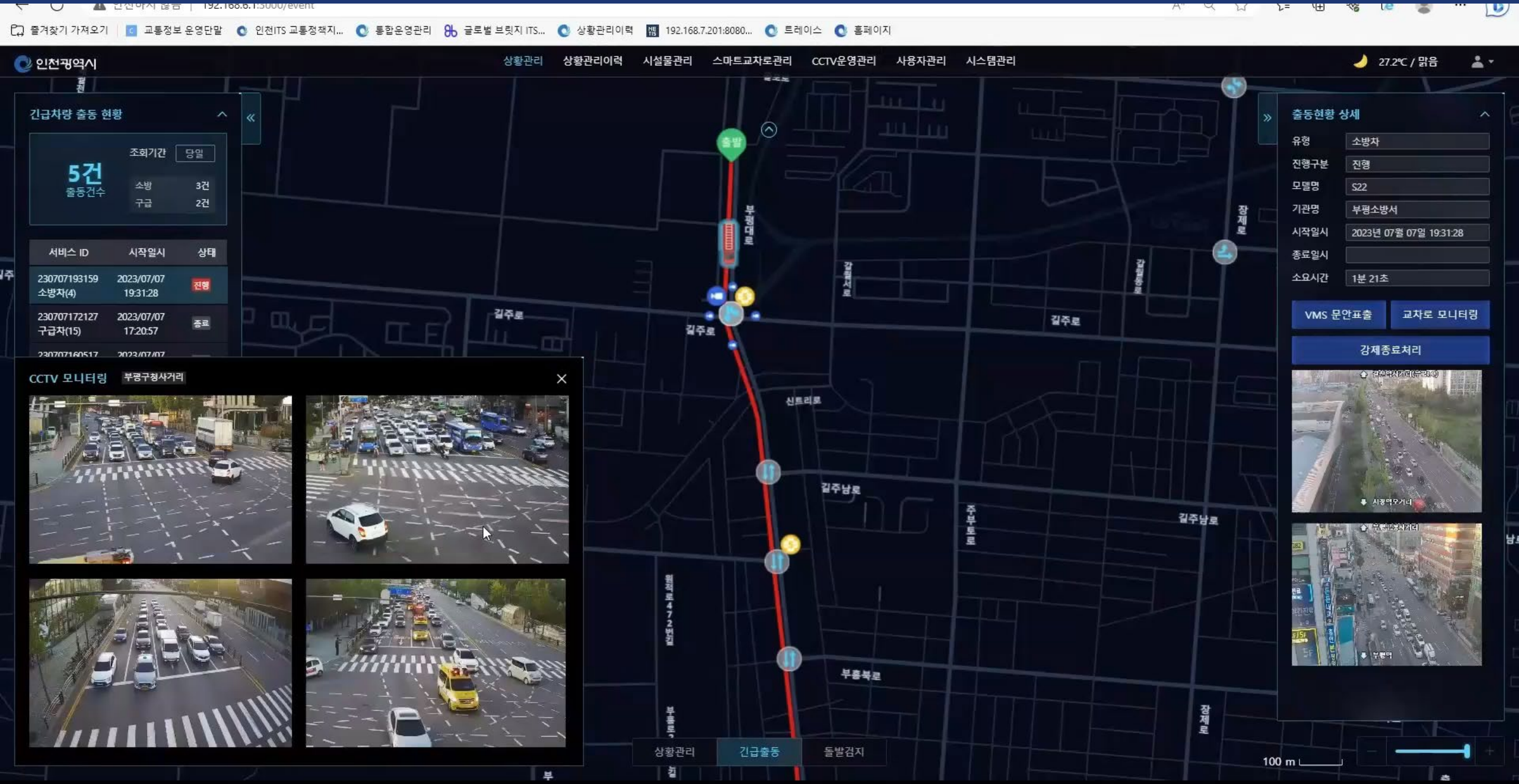
Implementation of an Integrated Operating System

With Incheon, the National Police Agency,
and the Specialized Agencies

Smart Signal Control Services - AI-based Signal Optimization and Traffic Congestion Improvement



Smart Signal Control Services - AI-based Emergency Vehicle Priority Signal



Smart Signal Control Services - Implementation of an Integrated Operating System

Traffic Situation Monitoring, Immediate Response to Emergency Situations

Specialized Agencies

National Police Agency

Incheon city Hall

인천교통정보센터 INTAS

Smart Traffic (Signal) Information Provision Services

01 Providing Real-Time Signal Information to Navigation Systems

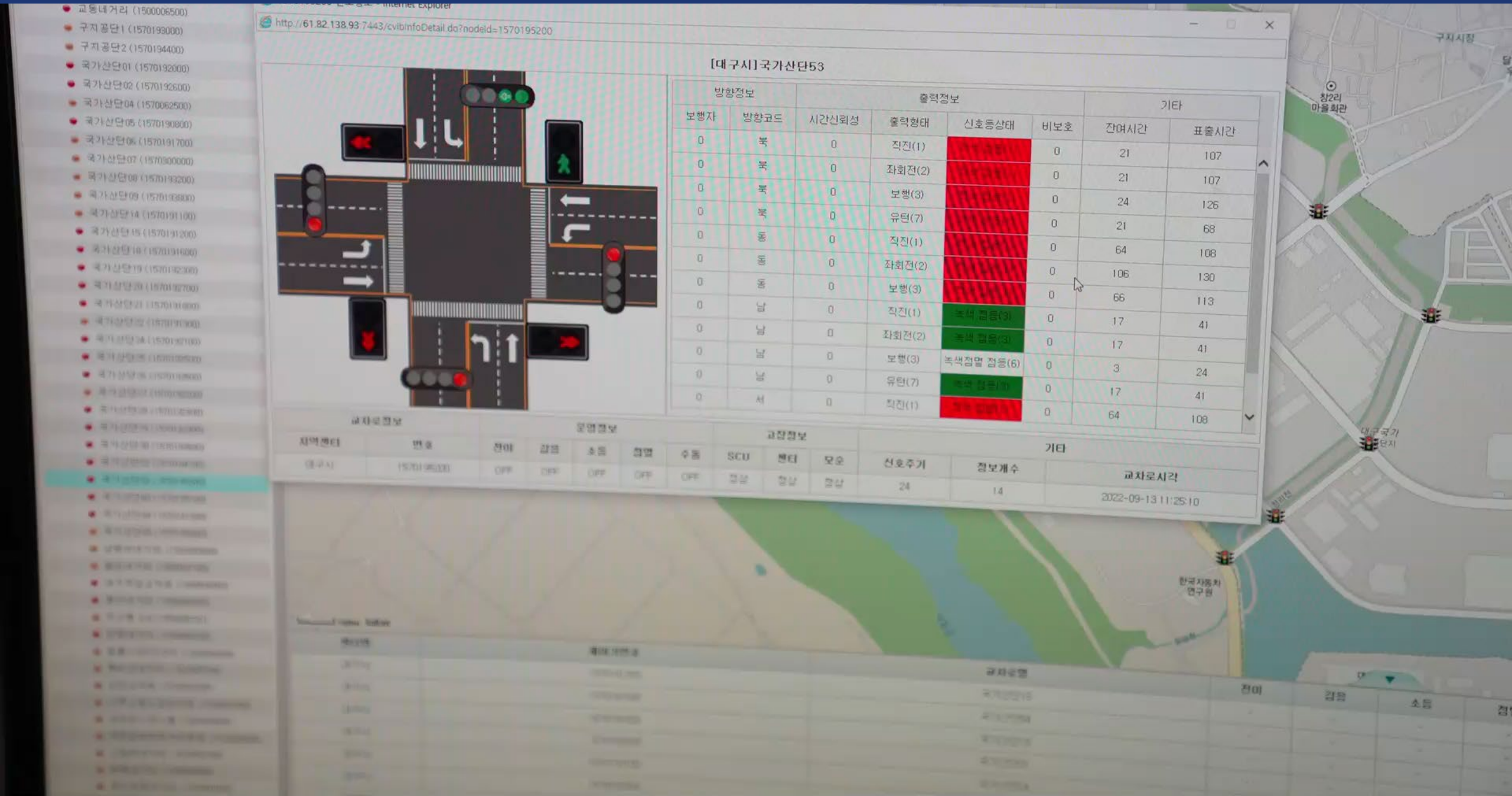
Traffic Lights, Remaining Time

02 Providing Real-Time Traffic and Parking Information

03 Providing Real-Time Operation Information for Public Transportation(Buses, Subways, etc.)

Including Arrival Times, Congestion Levels,
and Wheelchair Accessibility

Smart Traffic(Signal) Information Provision Services



01 Providing Intelligent Emergency Situation Management Services

02 Automatic Alarm to the Control Center
In Case of an Emergency Situation

03 Immediate Response by Police Officers to Prevent Secondary Accidents

인천교통정보센터 INTAS

AI-Based Traffic Safety Services

AI-Based Traffic Safety Services - Intelligent Emergency Situation Management Services

01

Mobility Big Data Collection

Vehicle/People Means of Transportation

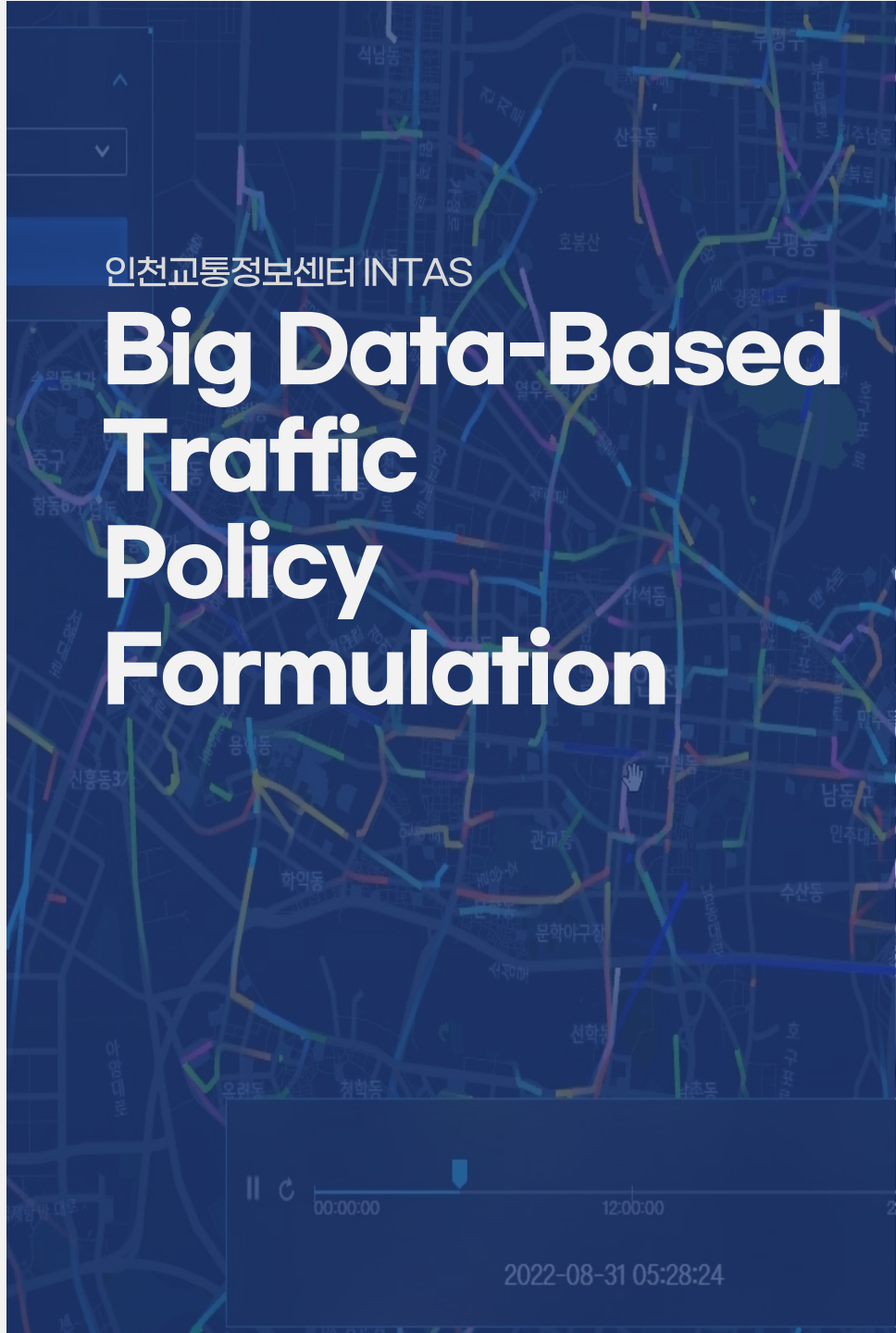
02

Big Data Integrated Analysis

Public Transport Demand/Supply Analysis

03

Data-Based Support for Traffic Policy Decision Making



Big Data-Based Traffic Policy Formulation - Signal Operations, Public Transportation, Taxis, Logistics

01

Traffic Policy Simulation Service

Using Digital Twin(Mataverse)

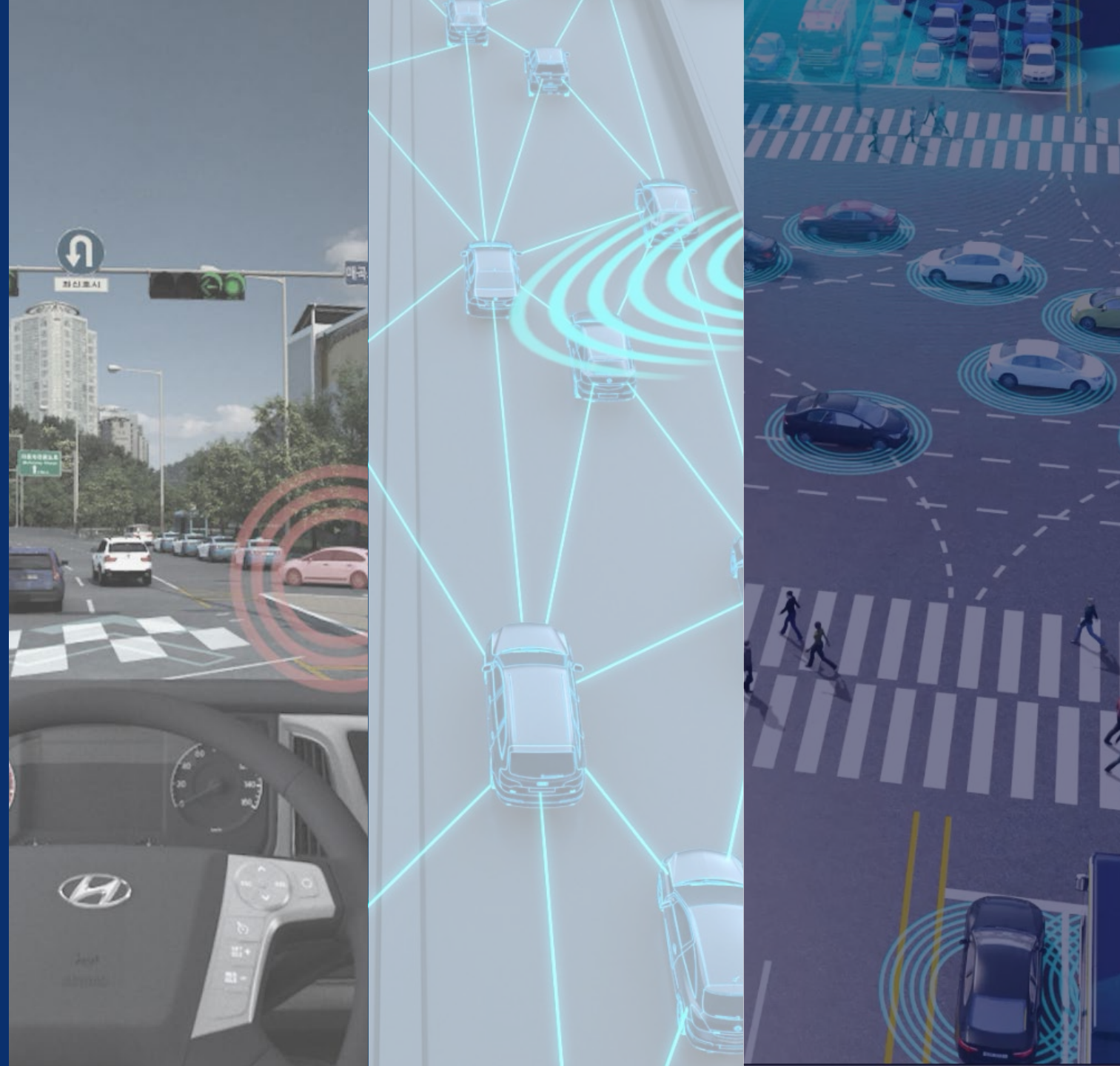
02

Data-Based Traffic Policy Implementation

Provision of C-ITS, DRT, MaaS
(Integrated Mobility Services)

Future Mobility Services - Metaverse, C-ITS, DRT, MaaS

인천교통정보센터 INTAS

Thank you

Q&A