ITS in Thailand : 2020-2021 Update

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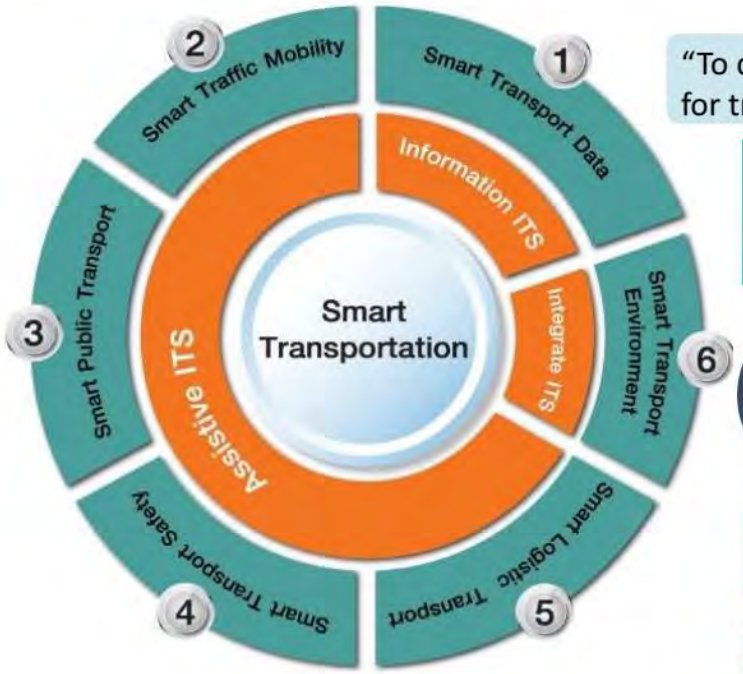
Thailand ITS Master Plan (2019)

VISION — **Thailand Smart Transportation by Driving Information and ITS Management**



MISSION

"To develop traffic information system and ITS management for transport strategy support aiming Thailand Smart Transport"

Phase 1 (3 years) :
Thailand Informative Transportation
Internal country trip is informative and active which is information for trip planning.

Phase 2 (5 years) :
Thailand Integrated Transportation
Transport in Bangkok and metropolis area are integrated with ITS such as toll collection, traffic management & interactive connection between travelers, service providers and infrastructure.

Phase 3 (10 years) :
Thailand Smart Transportation
Integrated and interactive system. Transport in major Country of Thailand turns to autonomous era.

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Example : Assistive Public Transport Vision

- Bus Arrival Information at 30 Key Bus Stop
- Public Transport Information
- Common Ticket System

3 years

- Connected Mass Transit
- Bus Arrival Information in Bangkok and Vinicities

5 years

- Automatic Mass Transit

10 years

Strategy 1

Assistive Public Transport

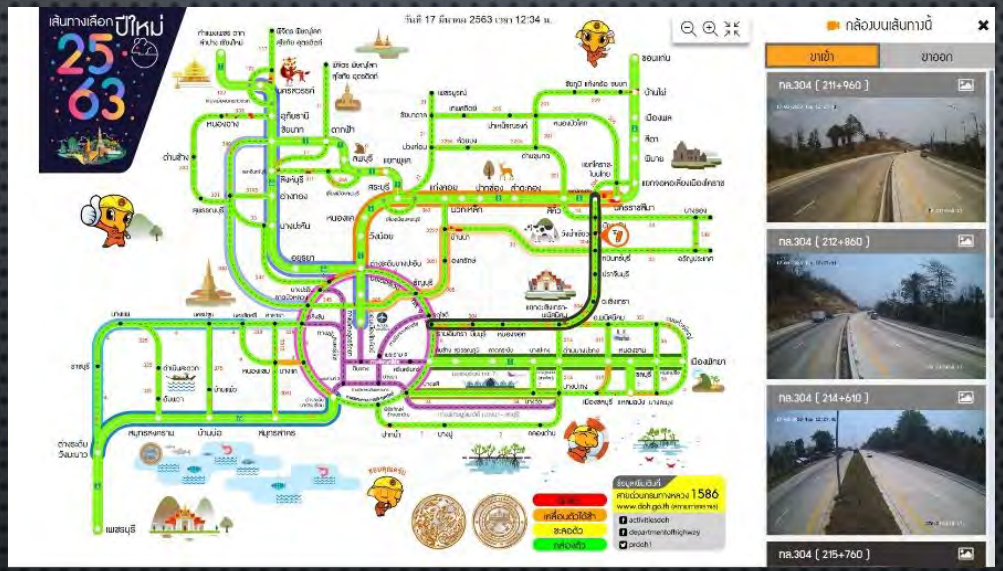
Keywords from ITS Master Plan

Recent Projects by Government agencies

Improving Road and Traffic Operation

Weight in Motion

Highway Traffic Management

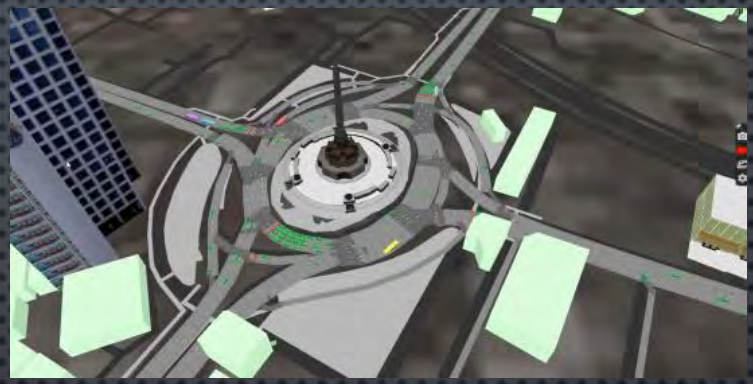


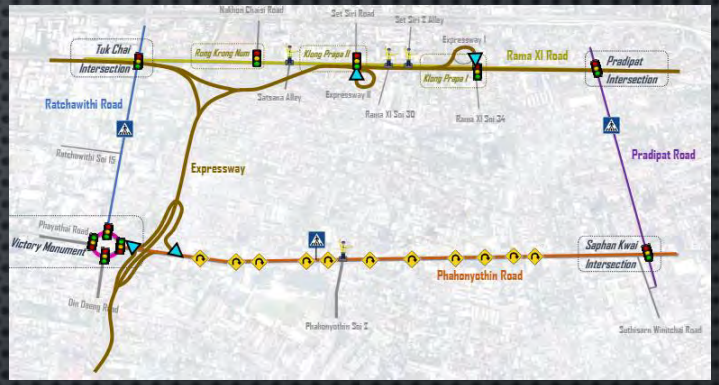
Truck Tolling

Recent Projects by Government agencies

Information System

Road Traffic Signal Control



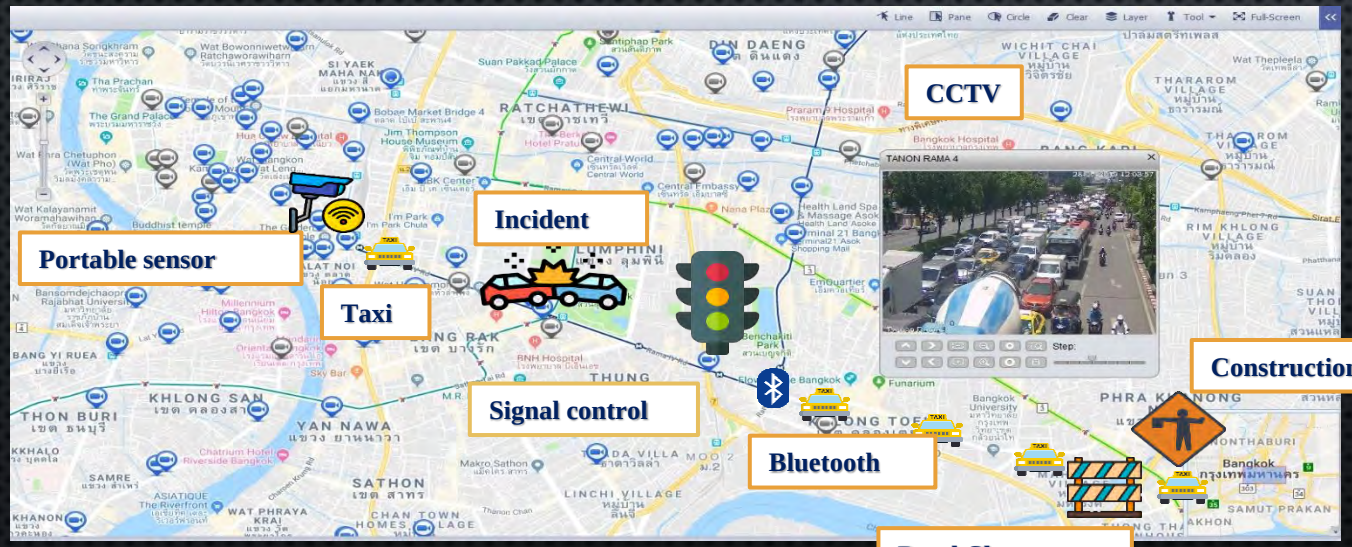


Interesting projects/initiatives

Rama4 Model

- Data centric approach to enhance traffic flow management
- Use multi-source data
- Big data + AI + Socio-engineering

TOYOTA mobility FOUNDATION proudly supports Rama 4 Model Bangkok Thailand



TOYOTA mobility FOUNDATION

ROYAL THAI POLICE

ASIAN INSTITUTE OF TECHNOLOGY 1959

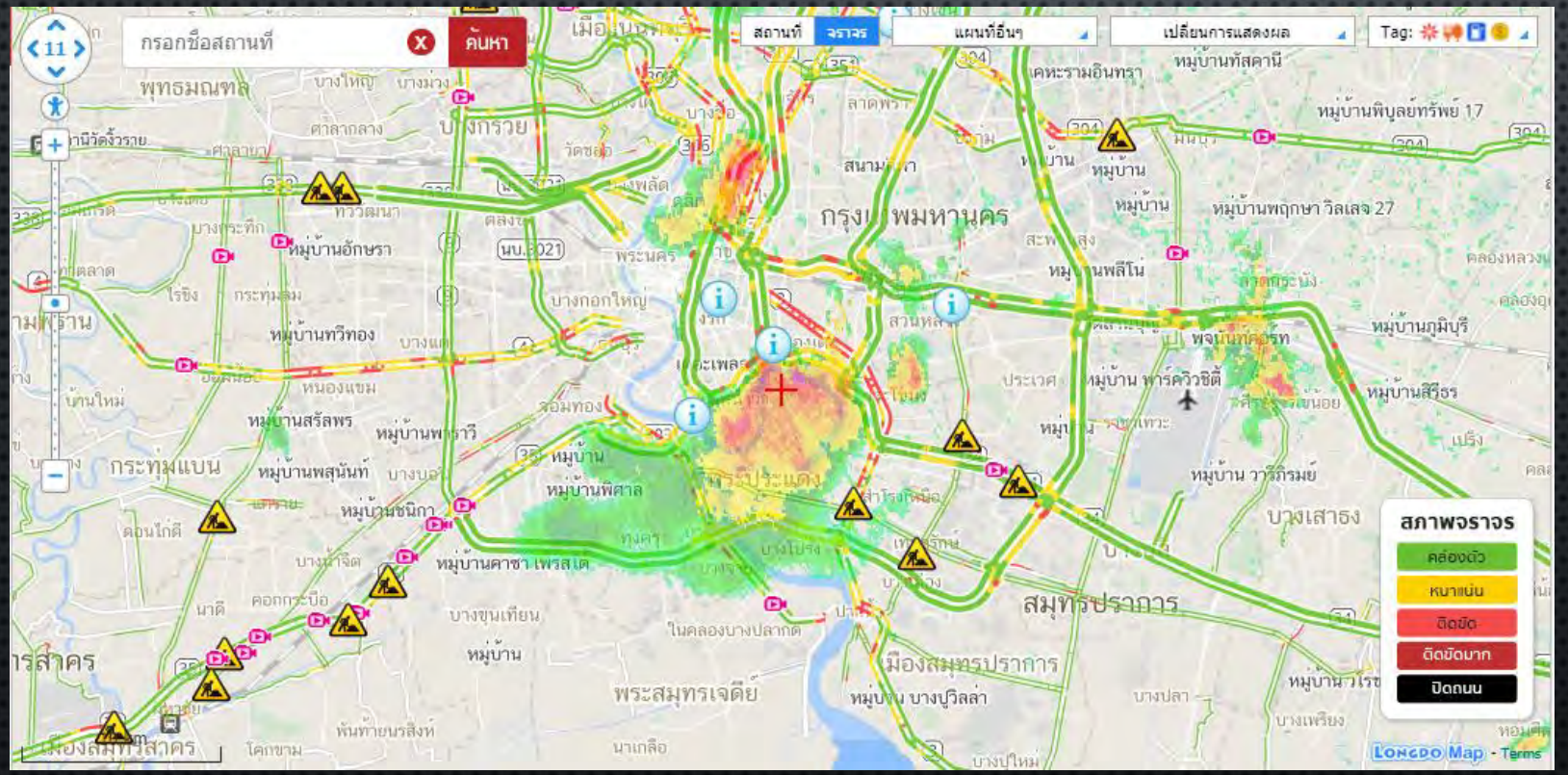
iTIC

waycare Grab

Interesting projects/initiatives

ITS Thailand Co-creation

- Weather – Cooperate with multi-organization to share data
- Parking



Notable ITS related projects (2020-2021)

1. Thailand Smart City (Smart Mobility)
2. ITS R&D at EXAT
3. iTIC for Safer Road
4. Smart Mobility and CAV

1

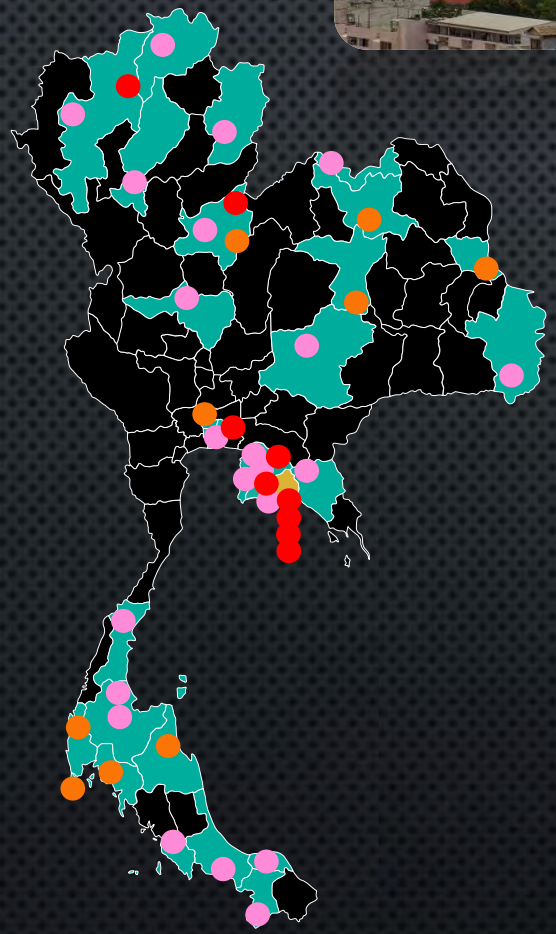
Smart City, Thailand

depa

สำนักงานเมืองอัจฉริยะประเทศไทย
SMART CITY Thailand OFFICE

Smart Mobility

SMART CITY Thailand



36 Livable City

4 New City

9	22	9
Provincial Level	District/Municipal Level	Area Level

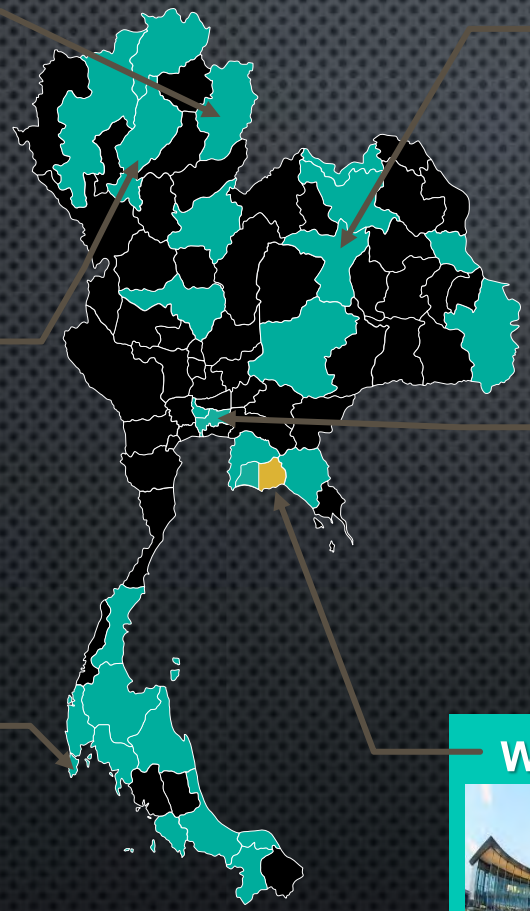
As of Feb 2021

6 cities/areas are approved

Nan Smart City


Mae Maw Livable City


Phuket Smart City

As of Feb 2021

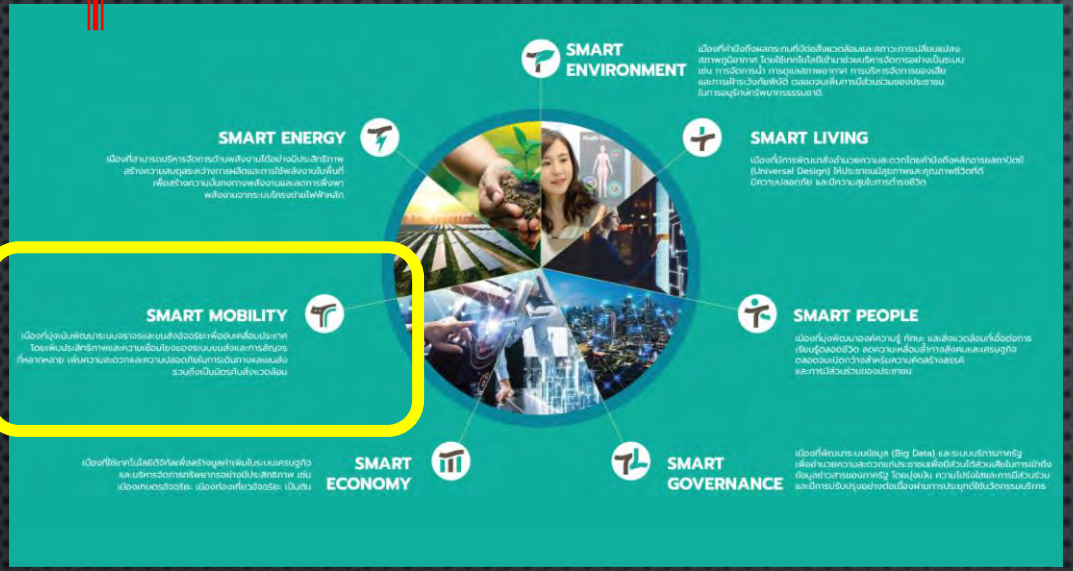
Khon Kaen Smart City


Samyan Smart City



WangJuntr Valley


Smart Mobility in Smart City



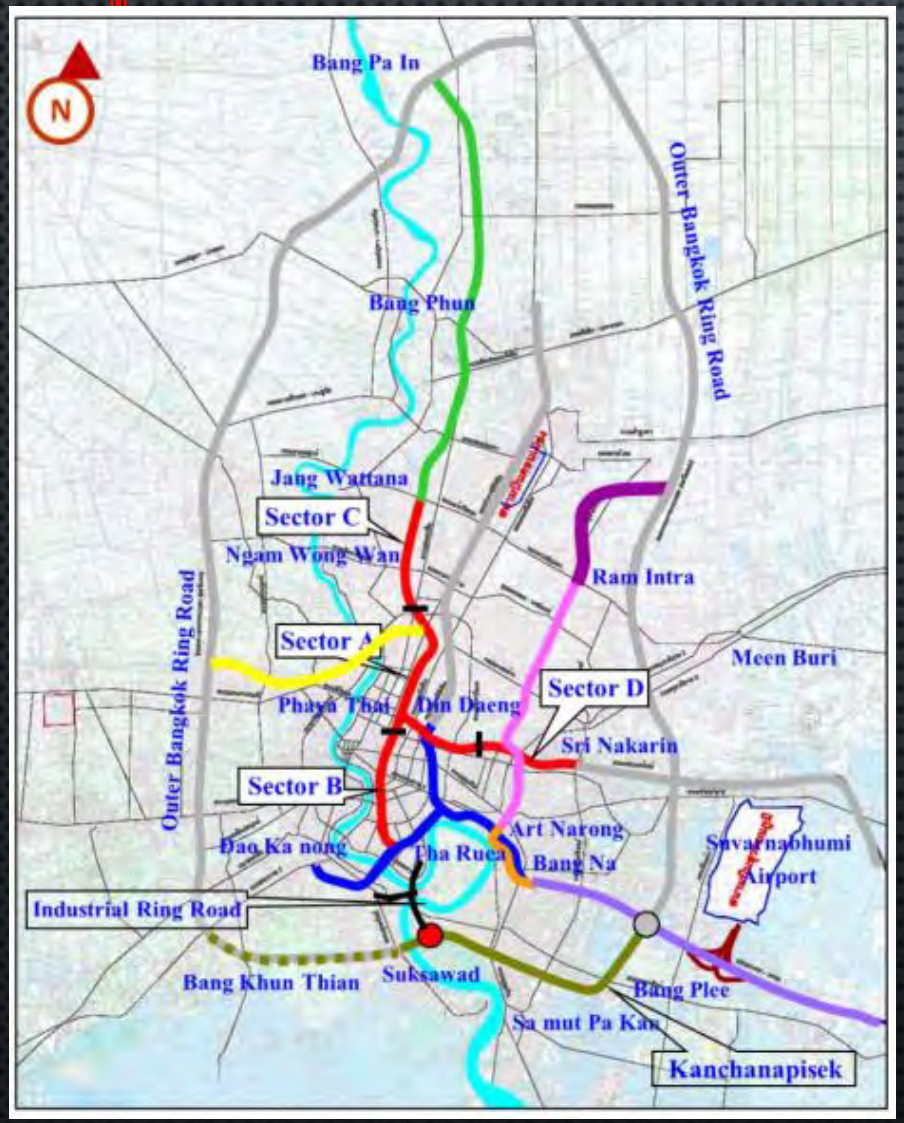
Rama4 Smart Mobility

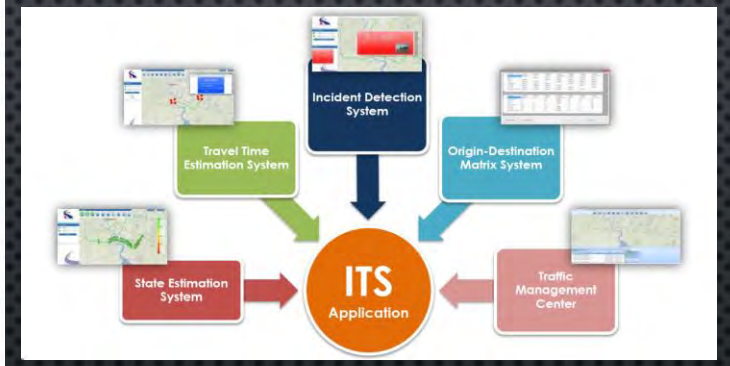
Khon Kaen Smart Mobility

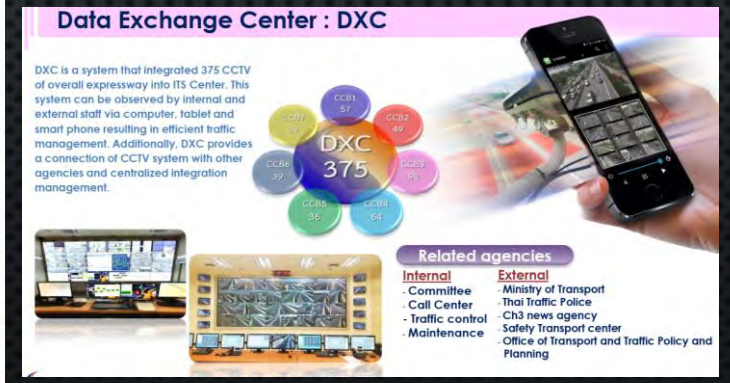
Phuket City

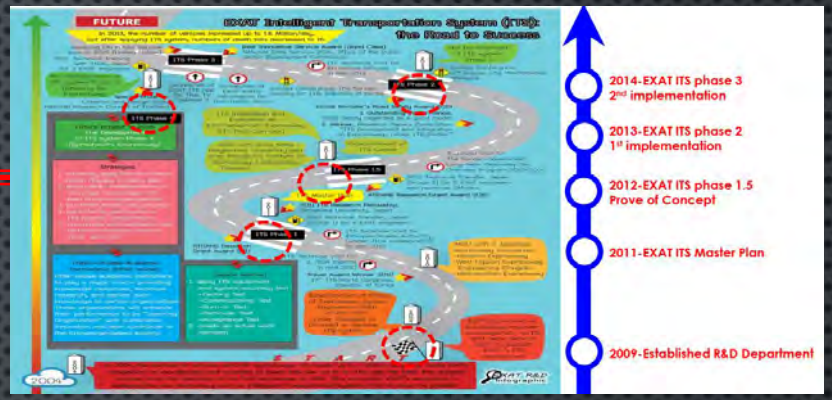
Example : Samyan Smart City

ITS R&D at Expressway





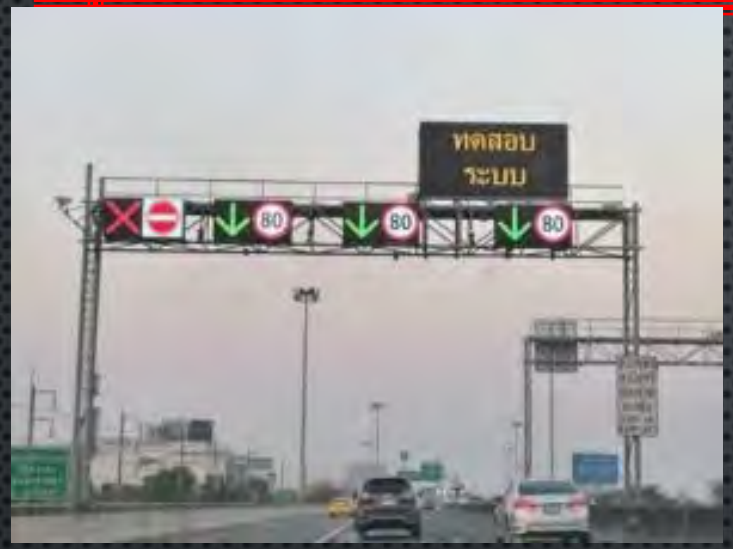




Multi-lane Free Flow

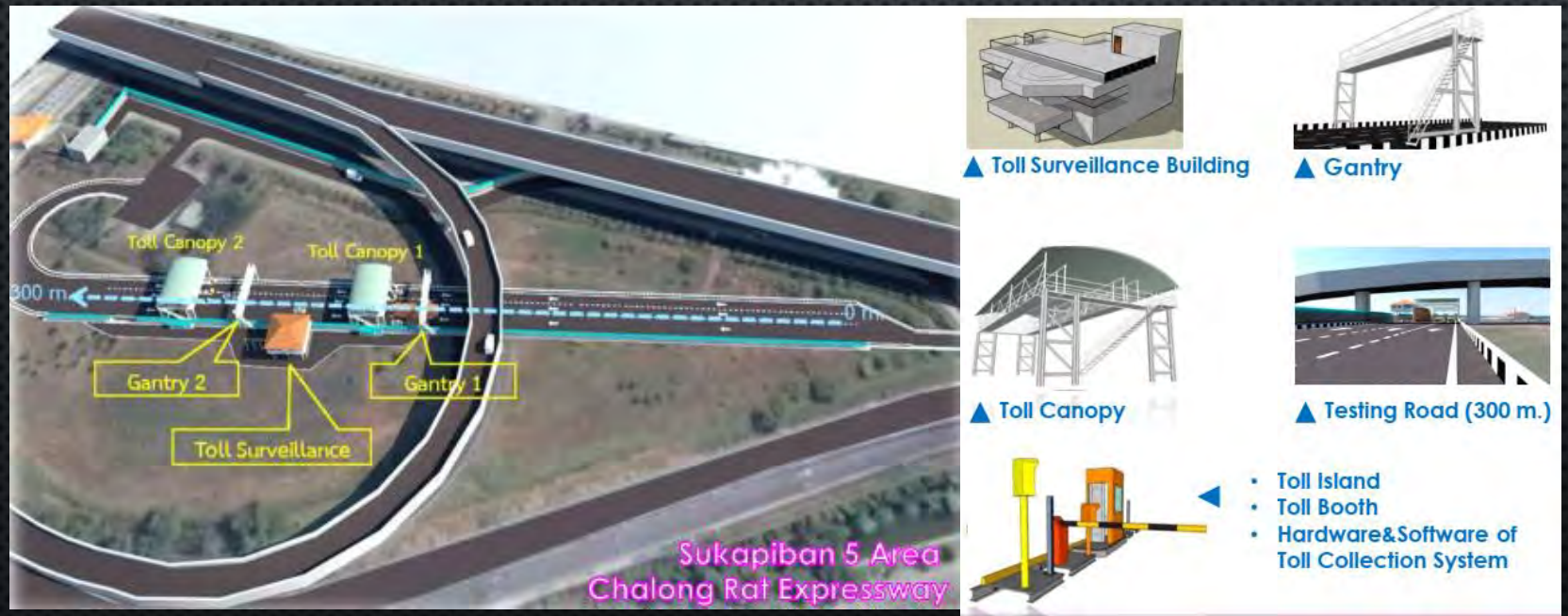
Starting 2021

ITS R&D at Expressway



Automatic Lane Control System

R&D Testing facility



▲ Toll Surveillance Building

▲ Gantry

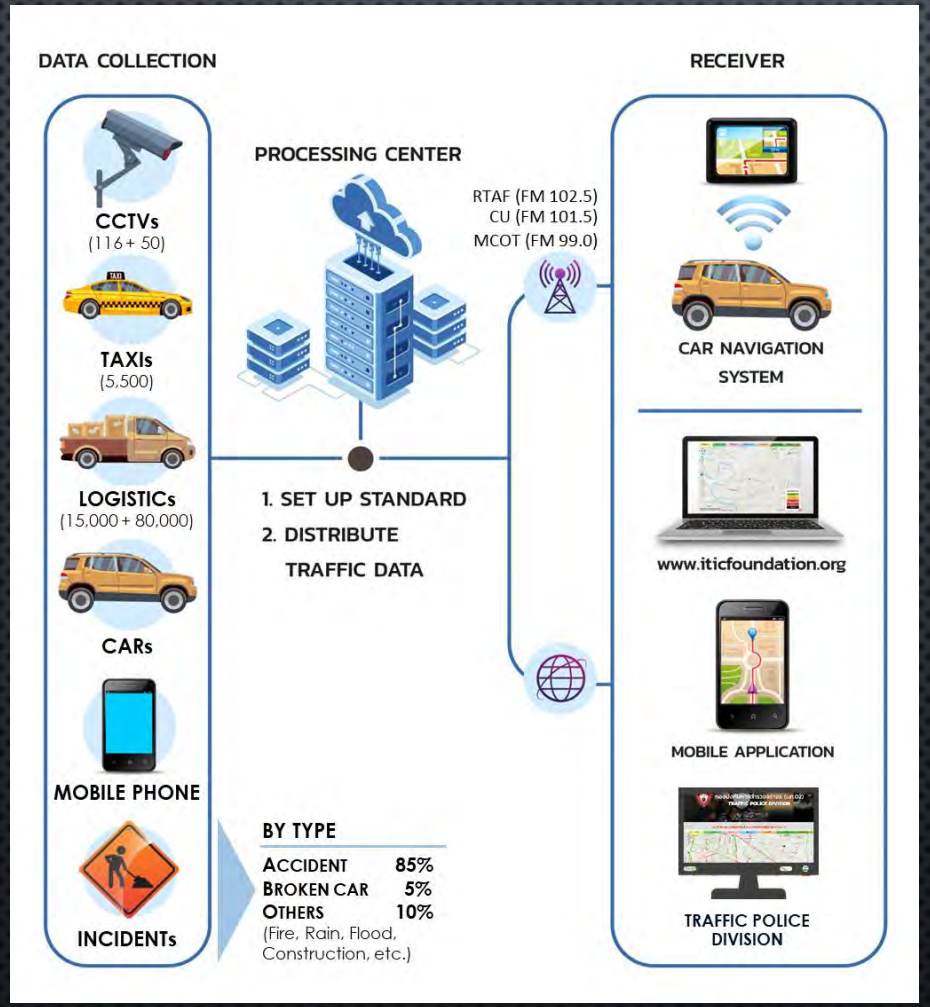
▲ Toll Canopy

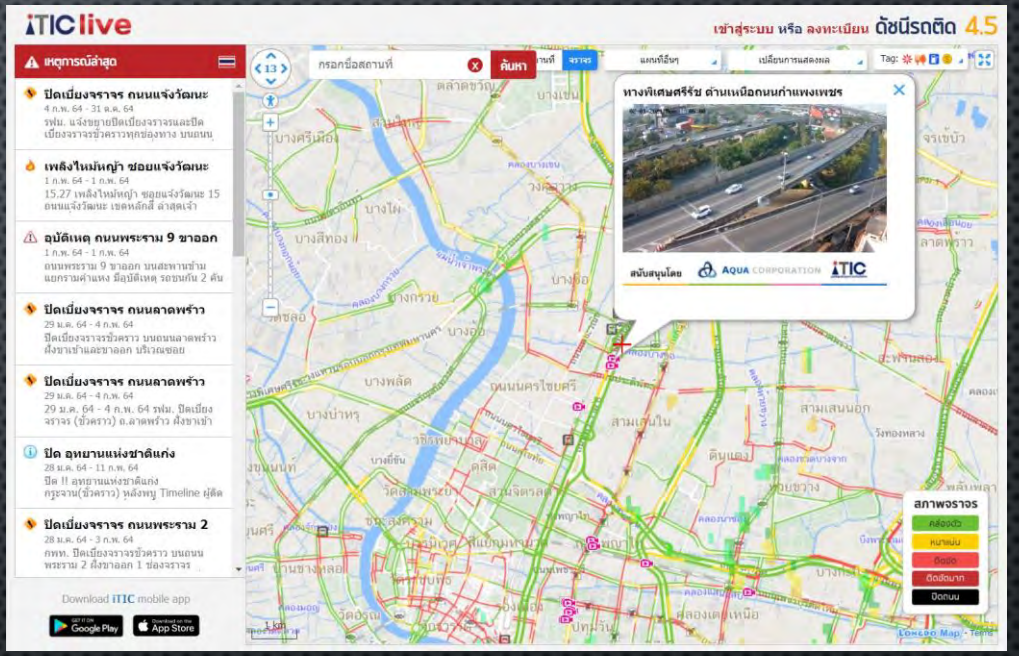
▲ Testing Road (300 m.)

- Toll Island
- Toll Booth
- Hardware&Software of Toll Collection System

iTIC AI for Safer Road

Collect, process, and broadcast traffic data to public for traffic improvement and road safety.





iTIC AI for Safer Road

Accident Reduction

Big Data and AI for Safer Roads #2 – Chachoengsao Pilot Model

1

Data analytics from past records:

- Risk map, risk factor (darkness, U-turn)
- Solution by experts from iTIC's network

2

CCTVs monitoring platform:

- Real-time traffic report and root cause analysis of accidents

3

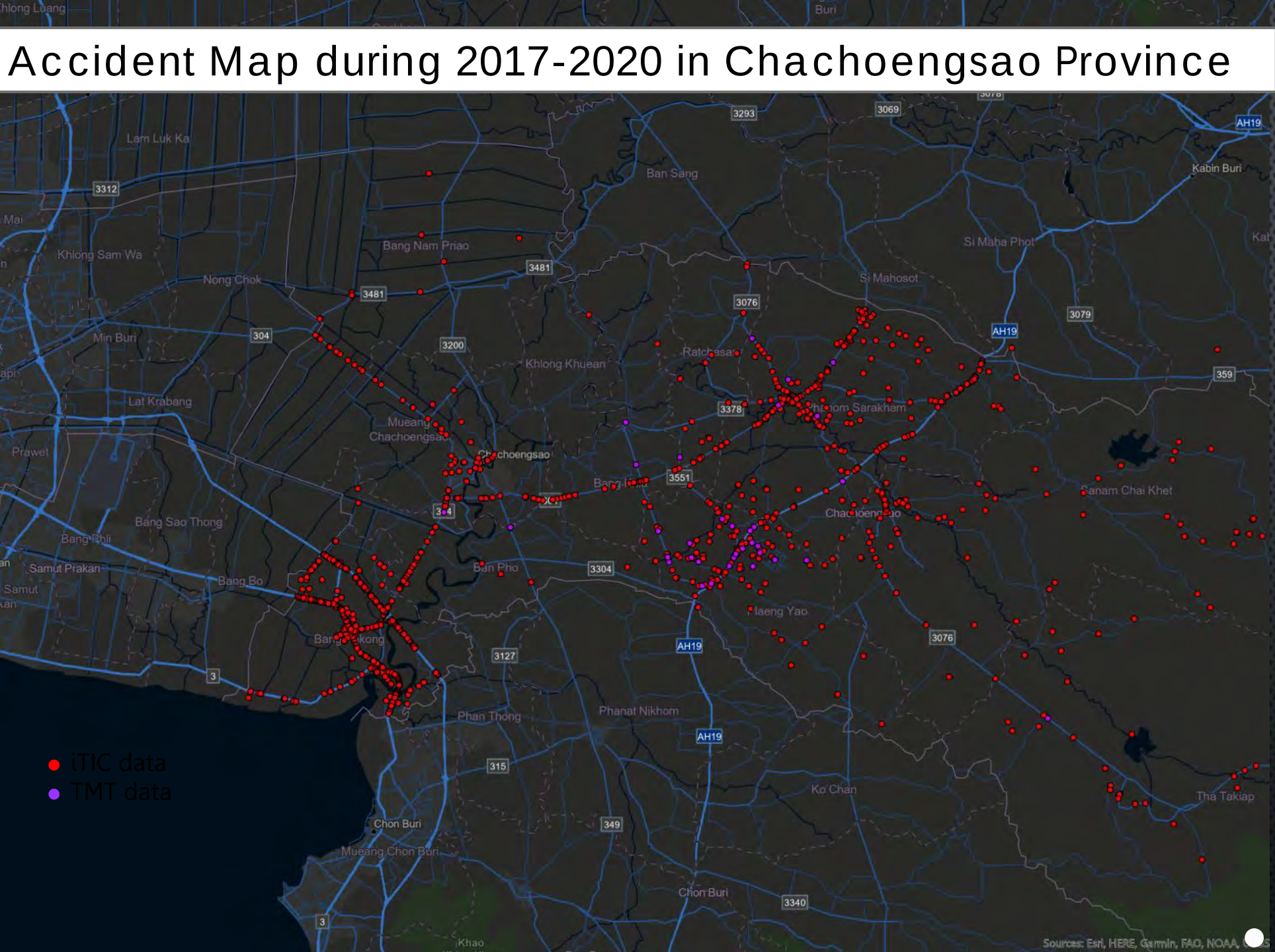
National Accident Registry:

- Real-time accident report with ID by Mahidol University, Senate Committee

Project implemented by Public-Private Partnership

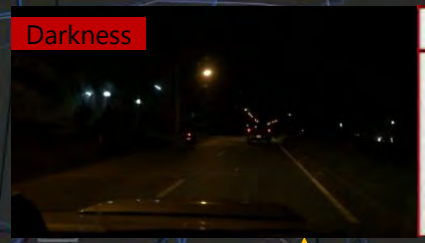
Research funded by public endowment

Accident Map during 2017-2020 in Chachoengsao Province



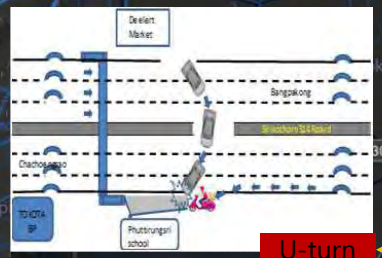
Accident Map during 2017-2020 in Chachoengsao Province

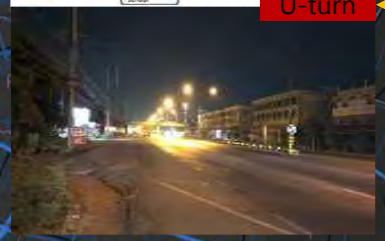
#4 - Bangkla Intersection



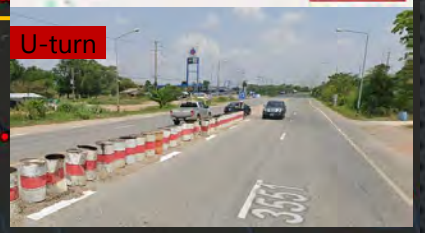
Environment
Dark environment can see 30 M. distance by low beam.

#1 - 314





#5 - 3018, 3551, 3245



#3 - 3121

#2 - 331

Summary on Accident prone area

1) U-turn
2) Darkness
3) J-walking
4) Sign and road defect

Smart Mobility

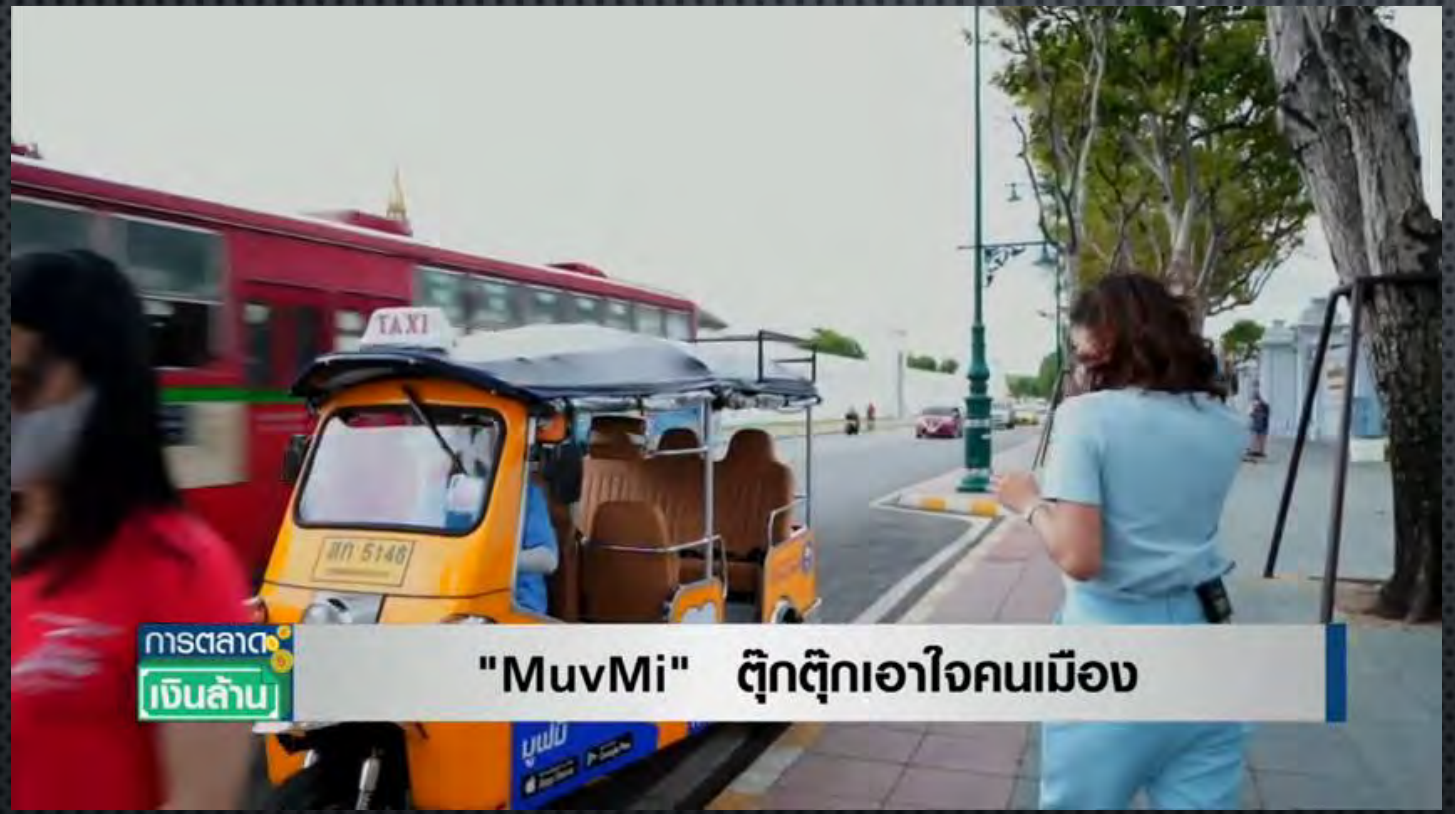
Shared Mobility (Ha:mo, Muvmi, Bike, Scooter)

Smart Mobility – Proof-of-Concepts

Electric Motorcycle Taxi (New business model and service) -Winnonie

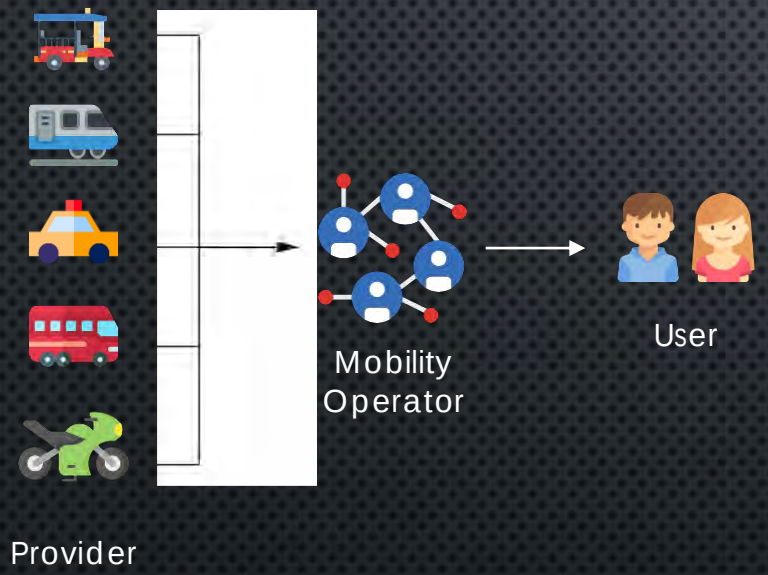
Smart Mobility on Roads

Shared Tuk Tuk - Muvmi



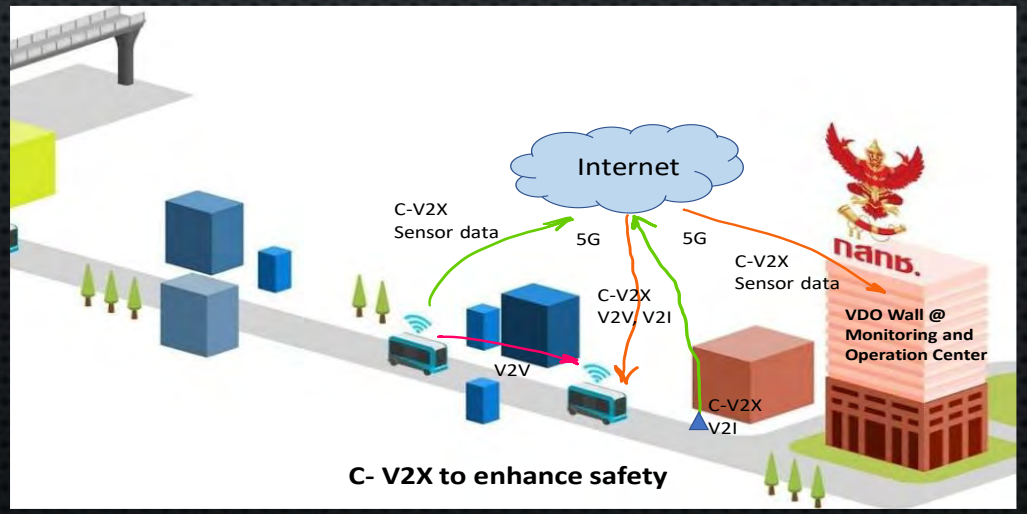
Smart Mobility

Mobility-as-a-Service (MaaS) research



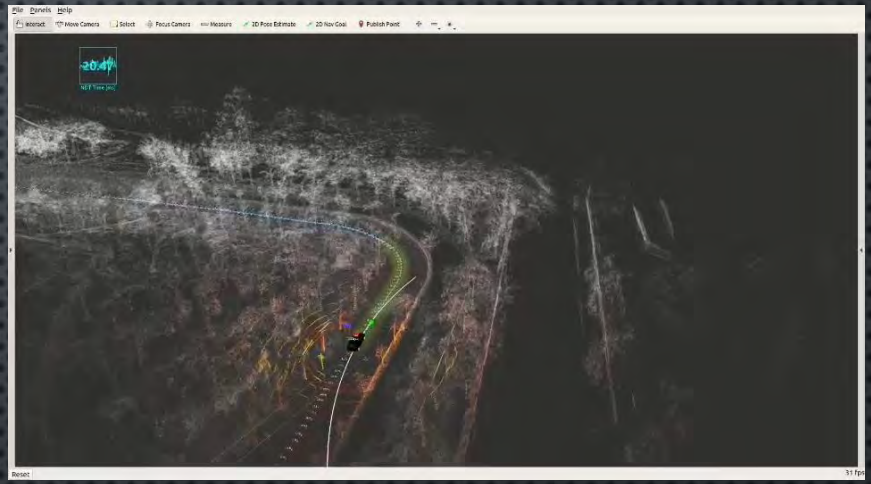
R&D on CAV


Vehicular Networks
for Public Transport


Internet
C-V2X
Sensor data
5G
5G
C-V2X
Sensor data
C-V2X
V2V, V2I
V2V
C-V2X
V2I
VDO Wall @
Monitoring and
Operation Center
C- V2X to enhance safety

Smart Mobility -- CAV

Connected and Automated Vehicle (CAV)



Thank you for your attention

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