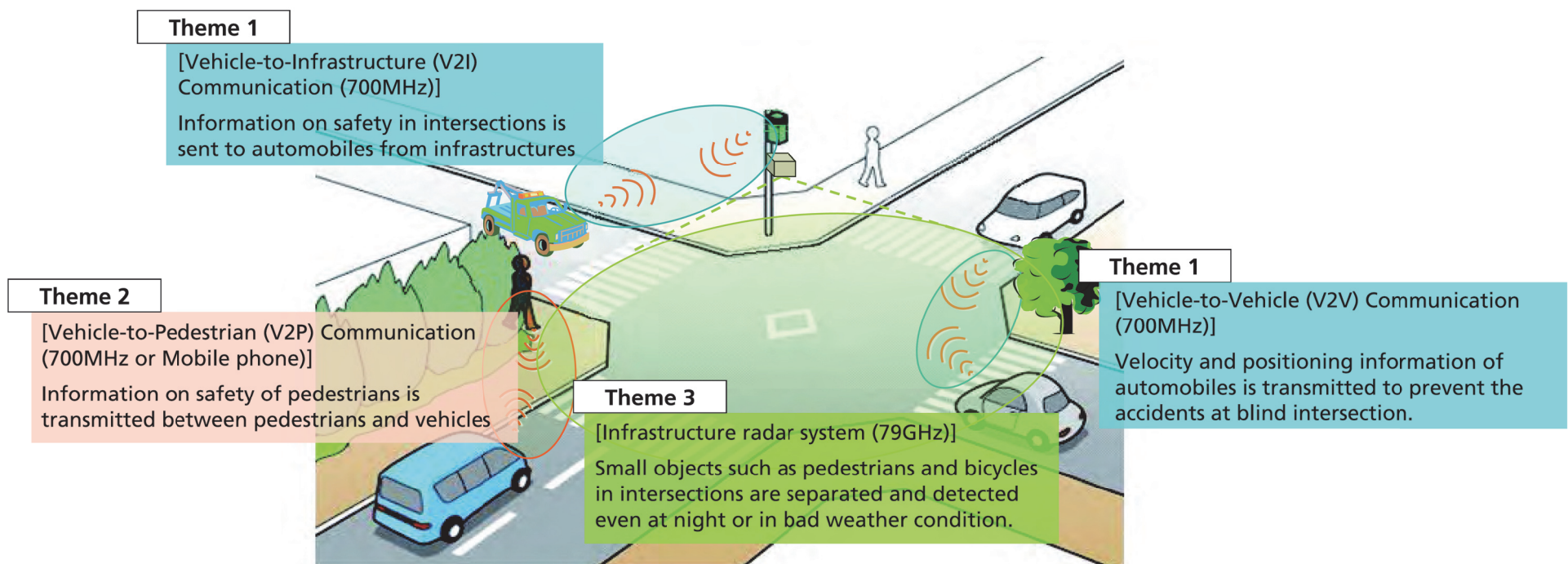# V2X communications

Next-Generation Intelligent Transport Systems (ITS) utilizing Information and Communication Technology (ICT)

Ministry of Internal Affairs and Communications (MIC) in Japan plans to realize an advanced safety driving support system utilizing ICT. With the system, traffic accidents can be avoided on the basis of information transmitted by V2V, V2I, V2P communication, as well as information collected from infrastructure radars. The system is going to be demonstrated on public roads, and a measurement data will be used for the construction of a technical guidelines.

Theme 1
[Vehicle-to-Infrastructure (V2I) Communication (700MHz)]
Information on safety in intersections is sent to automobiles from infrastructures

Theme 2
[Vehicle-to-Pedestrian (V2P) Communication (700MHz or Mobile phone)]
Information on safety of pedestrians is transmitted between pedestrians and vehicles

Theme 3
[Infrastructure radar system (79GHz)]
Small objects such as pedestrians and bicycles in intersections are separated and detected even at night or in bad weather condition.

Theme 1
[Vehicle-to-Vehicle (V2V) Communication (700MHz)]
Velocity and positioning information of automobiles is transmitted to prevent the accidents at blind intersection.

Theme1 : Vehicle–to-Vehicle / Infrastructure (V2V, V2I) Communication

Towards Cooperative Automated Driving System using Communication Technology

· Sophisticated Ｖ２Ｖ, Ｖ２Ｉ contributes the realization of the cooperative automated driving system.
· Highly–reliable communication technology, Low-latency communication protocol is needed.

Vehicle–to–Infrastructure (V2I) Communication(700MHz)

Safe and smooth intersection passing assistance.

Accel OFF
Confirm road ahead

Safety drive support at intersection

Vehicle–to–Vehicle (V2V) Communication(700MHz)

Blind intersection collision avoidance

Source: ITS WC home page

Highly -reliable communication → ← *Low-latency communication*

for example ;

Cooperative Automated driving System

Automated driving (merging on the free-way)

総務省
Ministry of Internal Affairs and Communications

SIP