



APPLICATIONS OF BROADBAND NETWORK FOR ITS IN VIETNAM

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Content



- Current Condition of ITS in Vietnam
- Purpose of ITS Integration Project Implementation in Vietnam
- Concept Illustration of ITS
- Overview of Broadband network in the Project

CURRENT CONDITION



- Expressway development planning in Vietnam: Building 39 expressway with 5,753 Km in total length.
- The plan includes 3 phases:
 - From 2008 - 2015: Has implemented 10 expressway projects with total length about 1000Km.
 - From 2016 - 2020: Implementing 15 projects with total length about 2000km
 - From 2021 - 2030: Complete the rest part of plan.

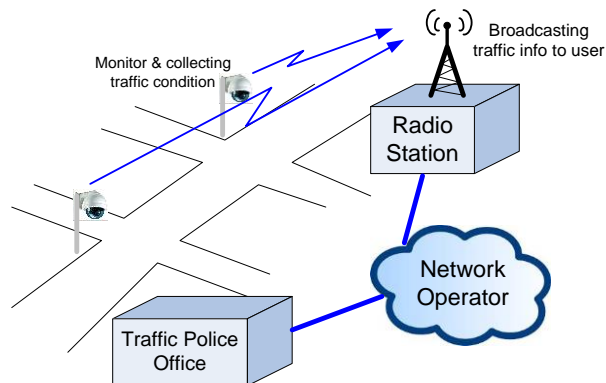


Road map of ITS for Inter-city Road Network in Vietnam

CURRENT CONDITION



- Traffic Information:
 - Using Close-circuit television camera (CCTV) installed at major intersections. The monitored moving image is transmitted to Center with wireless communication.
 - The collecting information is traffic jam, incident situations, weather,...



CURRENT CONDITION



- Location Information Service based on GPS:
 - Bus and truck company installed GPS to tracking location of vehicles.
- Electronic Toll Collection (ETC)
 - Infrared type and DSRC type are implemented for the ETC system.



Purpose of IST Project

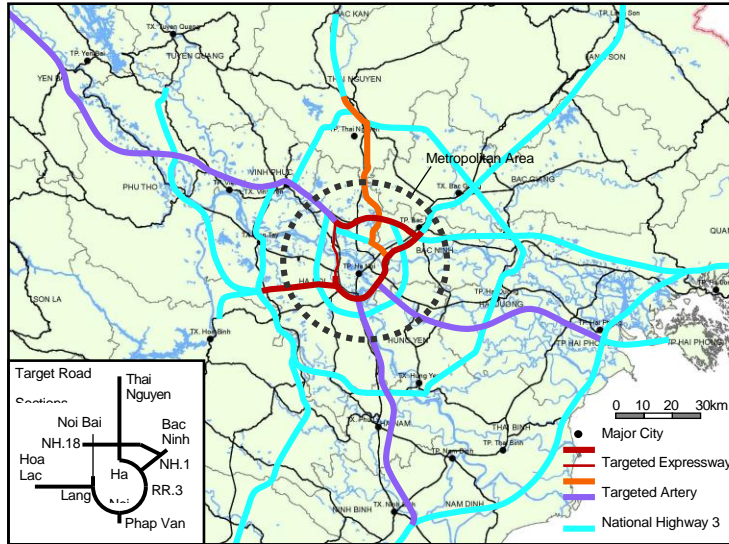


- Purpose:
 - Unify the ITS implementation levels covering the whole road network in Vietnam.
 - Build up the Northern Regional Main Center, to initiate expressway operation/maintenance (O&M) using ITS and to show the way to utilize ITS for solving traffic problems in the metropolitan areas.
- Scope:
 - Road traffic information/control system
 - Automated toll collection/management system
 - Heavy truck control system

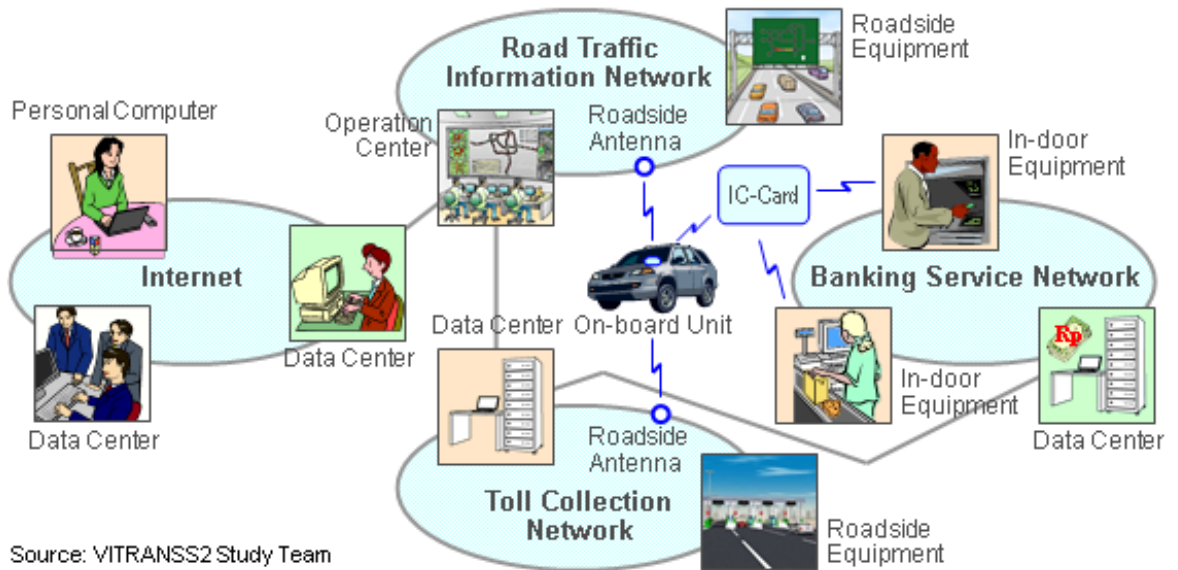
Purpose of IST Project



- Ha Noi Metropolitan Area:

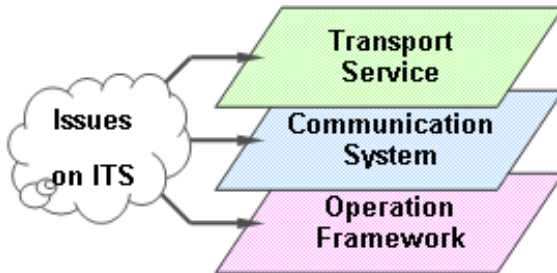


Concept Illustration of ITS



Source: VITRANSS2 Study Team

Concept Illustration of ITS



What services shall be provided?

What methods shall be adopted for each service?

What organizations shall be set for operation?

Source: ITS Integration Project (SAPI) Study Team

Transport Services

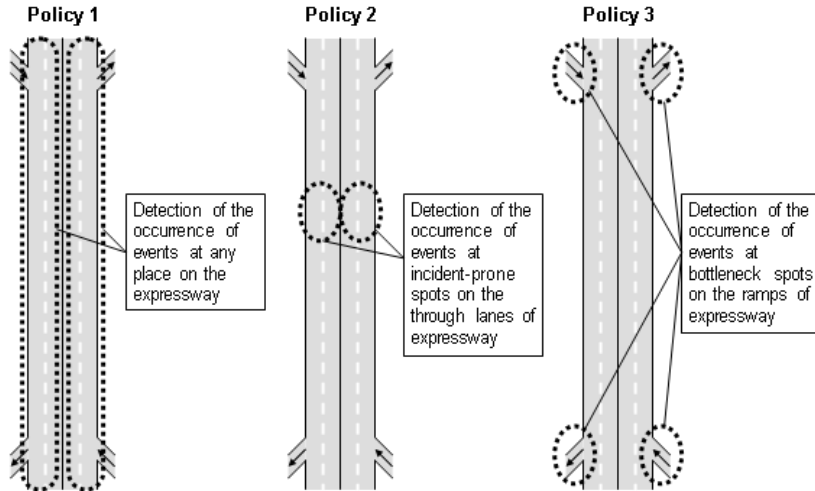


- Event Detection by Image
- Vehicle detector
- Road-to-vehicle communication method for ETC
- Load scale

Transport Services



- Event Detection by Image: Recognize the incidents, broken-down vehicles and traffic congestion

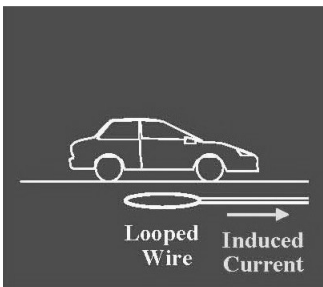


Source: ITS Integration Project (SAPI) Study Team

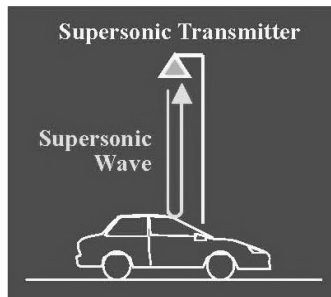
Transport Services



- Vehicle detector



Loop-coil type



Ultrasonic type

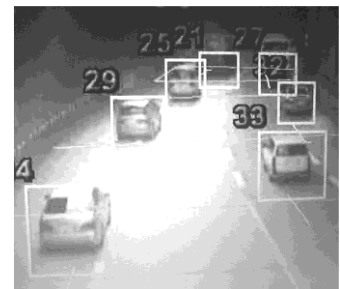
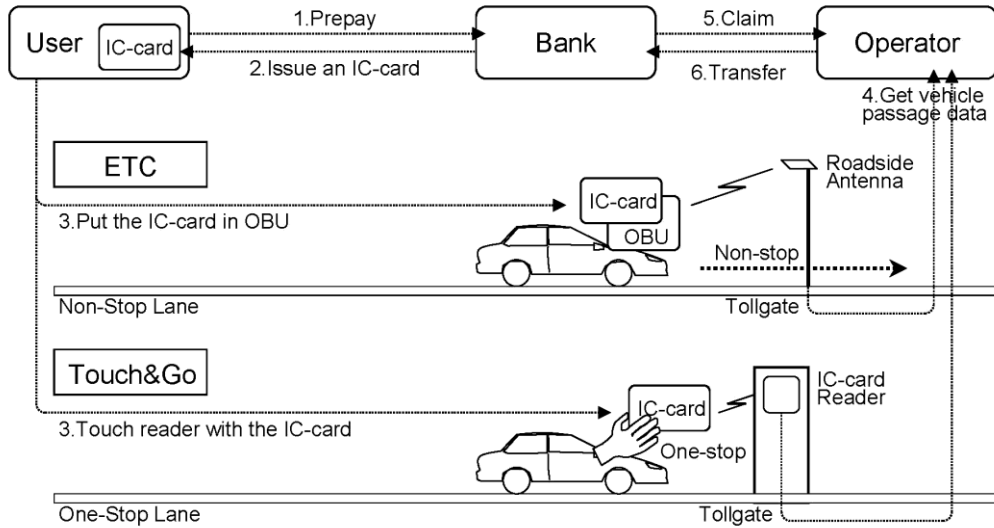


Image recognition (Recommended)

Transport Services



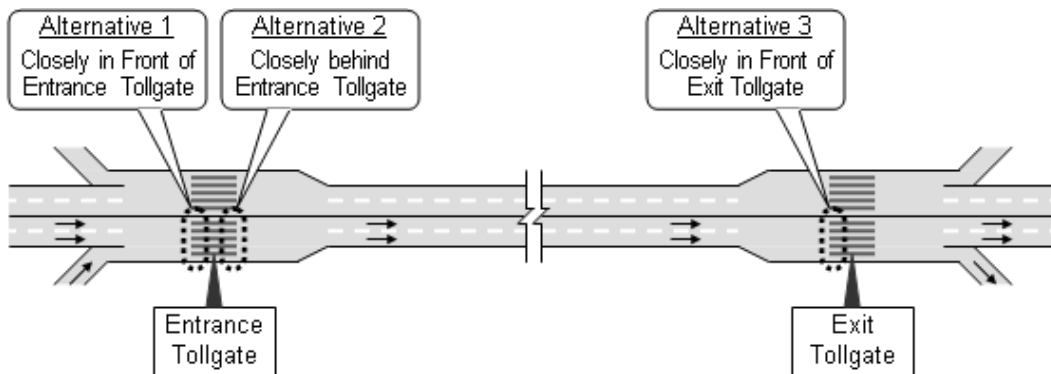
- Road-to-vehicle communication method for ETC



Transport Services



- Load scale arrangement



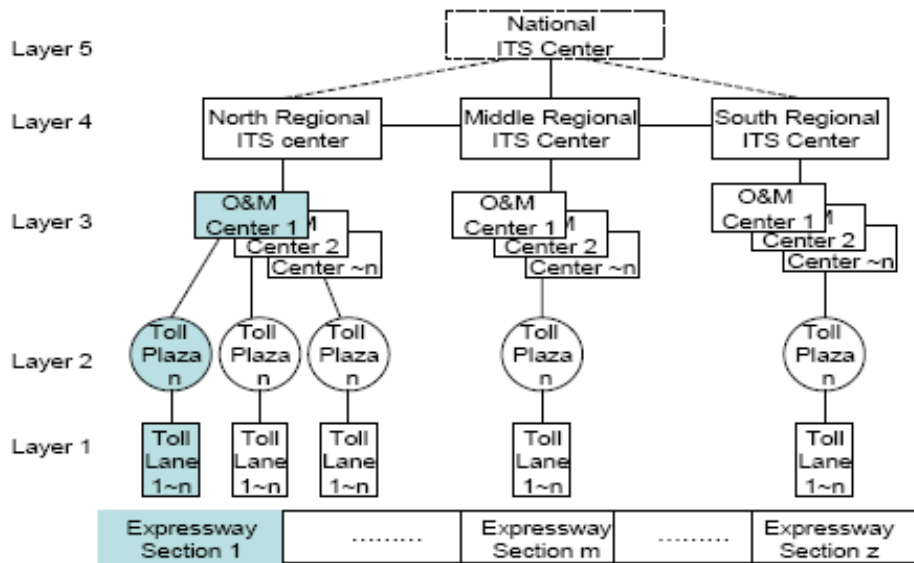
Source: ITS Standards & Operation Plan Study Team

Communication System



- Broadband network is used to connect Road management office with devices along expressway, toll fee collection stations and load scale stations.
- A dedicated optical network is installed along the road for transmitting data and communication between management offices.
- Type of network: IP over G-Ethernet
- Maximum capacity: 40Gbps

Operation Framework





Thanks for listening!