## 9.3 List of Requirements of ITS Standards

### 1) Requirements on Traffic Information/Control

Traffic information/control is a priority ITS user service whose implementation is to be started in the 1st stage (by 2015) as shown in the road map in Chapter 3. This service includes the following implementation packages:

(i) Incident Information

(ii) Traffic congestion information

(iii) Travel-time information

(iv) Weather information

(v) Traffic control assistance

(vi) Center-to-center data exchange.

#### (1) Recommended Alternatives of Implementation Packages

The service requirements and the system architectures of the following recommended alternatives are itemized for the ITS standards on traffic information/control.

(i) Image recognition in combination with emergency telephones for incident surveillance. → See Table 5.3.1 and Figure 5.3.23.

(ii) Emergency telephones installation is assumed as a policy of incident surveillance on the inter-city expressways in mountainous areas. → See Figure 5.3.23.

(iii) Combined use of mobile phones with well-marked/well-maintained kilometer sign posts is assumed as a policy of incident surveillance on the metropolitan expressway network. → See Figure 5.3.23.

(iv) Vehicle detection shall be implemented for congestion surveillance. → See Table 5.3.1.

(v) DSRC probe shall be implemented for travel-time surveillance. → See Table 5.3.1.

(vi) Weather sensors shall be implemented for weather surveillance. → See Table 5.3.1.

#### (2) Performance and Installation of Equipment

The following is itemized for the ITS standards on traffic information/control for securing compatibility of equipment components.

(i) Management offices shall be located in intervals less than 80km on the expressway network. → See Sections 5.3 and 8.3.

(ii) Emergency telephones shall be installed every km on the inter-city expressways in mountainous areas allowedly including tunnel sections. → See Figure 5.3.23.

(iii) CCTV cameras shall have a monitoring range covering three lanes, sufficient resolution for identifying vehicles over a 150 m distance, the sensitivity for identifying rear red lights of the vehicle and the interface of the Internet Protocol. → See Figure 5.7.1.

(iv) Supersonic type vehicle detectors shall be installed on long bridge sections and loop-coil type vehicle detectors shall be installed on road sections excluding long bridges for the surveillance. → See 2) in Section 5.7.

(v) Rain-gauges, anemometers and thermometers shall be installed as the weather sensors.

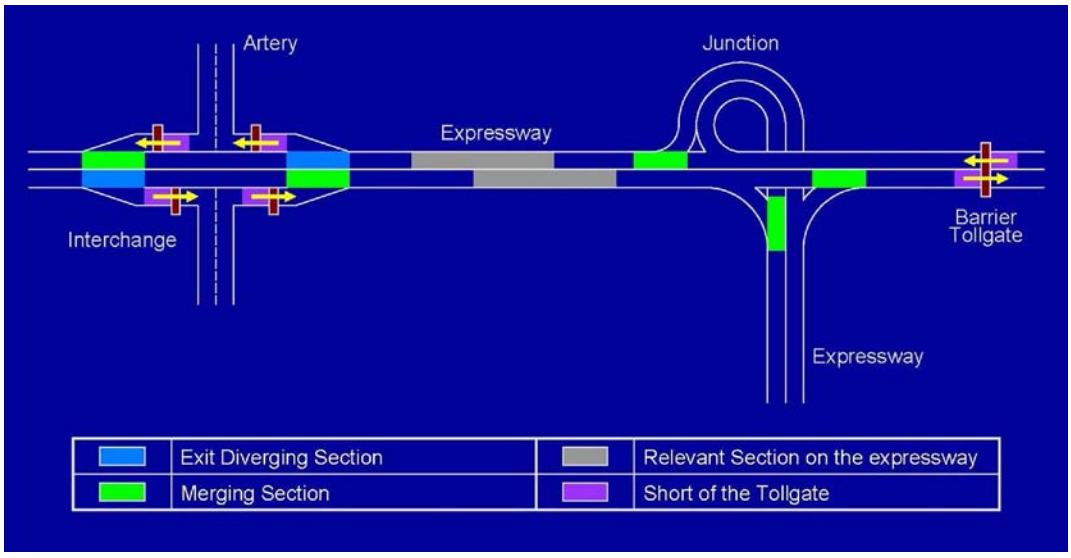
(vi) Equipment for surveillance shall be installed in the locations on the expressway network shown in the following table and figure.

**Table 9.3.1 Installation of Equipment for Surveillance**

| Information | | Equipment | Road Section of Surveillance |
|---|---|---|---|
| Traffic Event | **Traffic Accident** | CCTV, (+Tel.) | Merging section, tunnel section ** |
| | **Breakdown** | CCTV, (+Tel.) | Merging section, long uprising section, tunnel section |
| | **Left Obstruction** | CCTV, (+Tel.) | - |
| | **Congestion** | Detector, CCTV | Tollgate, exit diverging section, merging section *** |
| | **Rainy Weather** | Weather sensor | Every interchange |
| | **Strong Wind** | Weather sensor | Every interchange |
| | **Thick Fog** | Weather sensor | Every interchange |
| | **Restriction** | - | - |
| Basic Data | **Traffic Volume** | Detector | Tollgate, exit diverging section, merging section *** |
| | **Occupancy** | Detector | Tollgate, exit diverging section, merging section *** |
| | **Vehicle Speed** | Detector, CCTV | Exit diverging section, merging section *** |
| | **Travel-time** | Detector | Continuous road section |
| | **DSRC Probe** | Roadside antenna | Every interchange, every barrier tollgate, every junction |
| | **Rainfall** | Weather sensor | Every interchange |
| | **Wind Velocity** | Weather sensor | Every interchange |
| | **Temperature** | Weather sensor | Every interchange |

Note, **: Incident-prone section as well, ***: Congestion-prone section as well.
Source: VITRANSS 2 Study Team

**Figure 9.3.1 Road Sections for Surveillance**

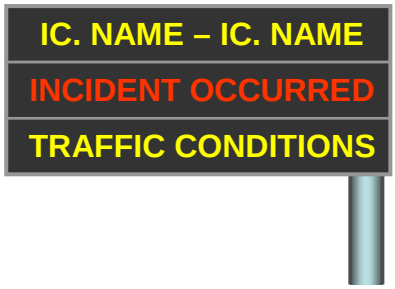



Source: VITRANSS 2 Study Team

(vii) Performance of VMS (Variable Message Signs) and message structure shall be defined as shown below. → See 3) in Section 5.7.

**Table 9.3.2 Message Structure of Typical VMS**

| | |
|---|---|
| Background | Matte black board |
| Indication | Alphabets by LED yellow/red colored |
| Size | 3 lines (Place, incident, traffic conditions),<br>18 letters/line |
| Contents | Combination of segmented information |
| Capacity | 90 segments pre-installed for each line |




Source: VITRANSS 2 Study Team
Note, LED: light emitting diode, IC.: Interchange.

(viii) Segments of information and abbreviation rules for place names shall be defined.

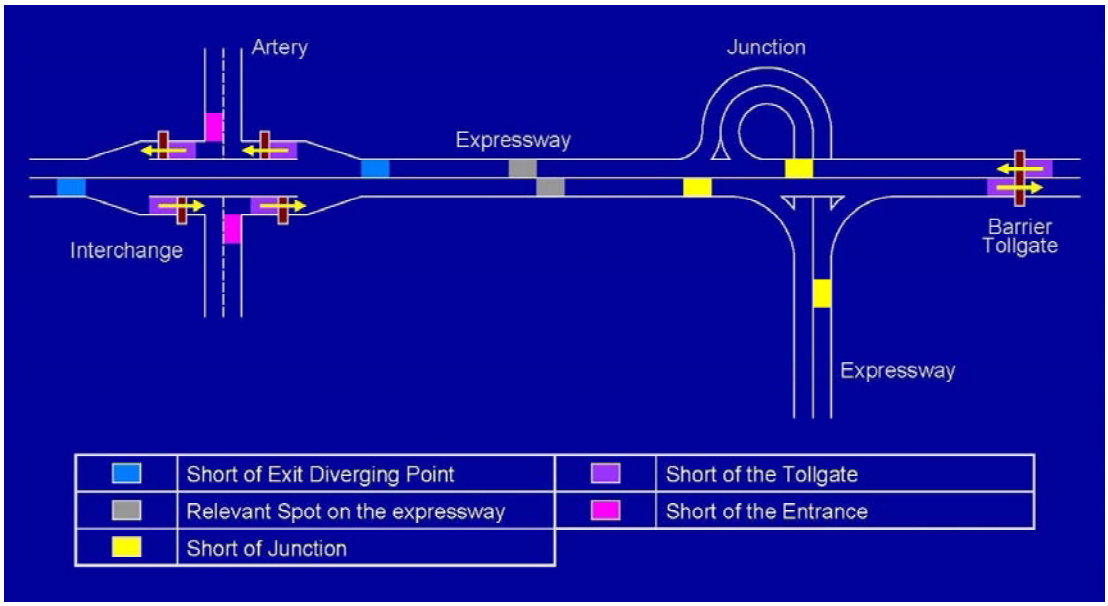
(ix) Equipment for information dissemination: VMS and SGM (Simple Graphical Message Sign) shall be installed in the manner shown in the following table and figure.

**Table 9.3.3 Installation of Equipment for Information Dissemination**

| Information | | Road Section of Information Dissemination |
|---|---|---|
| Traffic Event | Traffic Accident<br>Breakdown<br>Left Obstruction<br>Congestion<br>Weather<br>Restriction | VMS: short of the exit diverging point, short of the entrance point, short of the tollgate, relevant spot on the expressway<br>SGM: short of the junction. |
| Traffic Event on the Artery | | Short of exit diverging point |

Source: VITRANSS 2 Study Team

**Figure 9.3.2 Road Sections for Information Dissemination**




Source: VITRANSS 2 Study Team

### (3) Messages and Data

The following is itemized for the ITS standards on traffic information/control for securing connectability of the interfaces and interoperability of the data.

(i) Definitions of the concepts below shall be specified.

- Incident and its segmentation
- Congestion and its classification
- Travel-time and its calculation
- Segmentation of weather conditions
- Segmentation of traffic events
- Segmentation of road sections.

(ii) Data definitions shown in the table below shall be unified for exchanging messages for traffic information/control in assumed sequences. → See Section 5.3 and ***Appendix 1***.

**Table 9.3.4 Major Data for Traffic Information/Control**

| Information | | Major Data for Exchanging Message |
|---|---|---|
| Traffic Event | **Traffic Accident** | Traffic accident (words), time, location, type, object, state of handling |
| | **Breakdown** | Breakdown (words), time, location, lane, object, state of handling |
| | **Left Obstruction** | Left obstruction (words), time, location, lane, object, state of handling |
| | **Congestion** | Congestion (status), time, location, cause |
| | **Rainy Weather** | Rainy weather (status), time, location, object, state of handling |
| | **Strong Wind** | Strong wind (status), time, location, object, state of handling |
| | **Thick Fog** | Thick fog (status), time, location, object, state of handling |
| | **Restriction** | Restriction (status), time, location, lane, cause |
| Basic Data | **Traffic Volume** | Traffic volume (value), time, location, lane |
| | **Occupancy** | Occupancy (value), time, location, lane |
| | **Vehicle Velocity** | Velocity (value), time, location, lane |
| | **Travel-time** | Travel time (value), time, location |
| | **DSRC Probe** | tollgate/lane ID, date/time, OBU ID, vehicle class |
| | **Rainfall** | Rainfall (values), time, location |
| | **Wind Velocity** | Wind velocity (values), time, location |
| | **Temperature** | Temperature (values), time, location |

Source: VITRANSS 2 Study Team

(iii) Data for traffic information/control shall be updated every 15 minutes as shown in the comparison below.

**Table 9.3.5 Time Interval of Updating Information**

| | Quality of Information | Feature of System | Grade |
|---|---|---|---|
| 5 min | Fresh and useful | Highly automated and costly | Not suitable |
| 15 min | Average | Low-cost | Suitable |
| 30 min | Too old and not useful | Low-cost | Not suitable |

Source: VITRANSS 2 Study Team

### 2) Requirements on Non-stop Toll Collection

Non-stop toll collection is a priority ITS user service whose implementation is to be started in the 1st stage (by 2015), as shown in the road map in Chapter 3. This service includes the following implementation packages:

- Toll collection

- Center-to-center data exchange.

**(1) Recommended Alternatives of Implementation Packages**

The service requirements and the system architectures of the following recommended alternatives are itemized for the ITS standards on non-stop toll collection.

(i) ETC at toll island (2-piece type OBU) with a combined use with Touch & Go shall be implemented for non-stop toll collection. → See Table 5.4.1 and Figure 5.4.9.

(ii) A combination of the distance proportional tariff in rural areas and the flat tariff in urban areas is assumed as the toll rate system. → See Figure 4.3.2.

(iii) Prepayment is assumed as the toll payment method. → See Table 5.4.2.

(iv) Balance-in-card is assumed as the checking method of prepaid balance. → See Figures 5.4.7 and 5.4.8.

**(2) Performance and Installation of Equipment**

The following is itemized for the ITS standards on non-stop toll collection for securing compatibility of equipment components.

(i) The definition of vehicle classification for toll collection shall be specified. In the Master Plan, it is assumed that the vehicle class is to be identified by using simple sensors, such as license plate scanners and treadles. → See Tables 5.4.4 to 5.4.8.

(ii) Roadside equipment for ETC shall be installed in two or more lanes toward the middle side of the large tollgates in urban areas. → See Figures 5.4.10 and 5.4.11.

(iii) 2-piece type OBU shall be issued for ETC.

(iv) Roadside equipment for Touch & Go shall be installed in two or more lanes of the small tollgates in rural areas. → See Figures 5.4.10 and 5.4.11.

(v) Contact-less IC-card for prepayment shall be issued for the combined use of ETC and Touch & Go.

(vi) Candidates of the most appropriate road-to-vehicle communication for ETC are Active- DSRC, Passive-DSRC and DSRC/IR. → See Tables 5.7.3 and 5.7.4.

(vii) The most appropriate road-to-vehicle communication for ETC shall be selected from among the three candidates through the competitive experimental test. → See Section 10.3.

**(3) Messages and Data**

The following is itemized for the ITS standards on non-stop toll collection for securing connectability of the interfaces and interoperability of the data.

(i) Definition of the segmentation of the vehicle classification and the toll rate system.

(ii) Data definitions shown in the table below shall be unified for exchanging messages for non-stop toll collection in assumed sequences. → See Section 5.4 and ***Appendix 1***.

**Table 9.3.6 Major Data for Non-stop Toll Collection**

| Information | Major Data for Exchanging Message |
|---|---|
| **OBU -Registration** | OBU ID, LP number, vehicle class, date of registration |
| **IC-Card -Issue** | IC-card ID, issuer ID, issue terminal ID, date of issue |
| **IC-Card -Recharge** | date/time, recharge terminal ID, amount of recharge, balance, status |
| **IC-Card -Tollgate** | date/time, tollgate/lane ID, toll amount, balance, status |
| **Toll Collection** | tollgate/lane ID, date/time, OBU ID, LP number, vehicle class, toll amount, status |
| **Negative DB** | tollgate/lane ID, date/time, OBU ID, LP number, vehicle class, status |

Source: VITRANSS 2 Study Team

### 3) Requirements on Heavy Truck Control

Heavy truck control is a priority ITS user service whose implementation is to be started in the 1st stage (by 2015) as shown in the road map in Chapter 3. This service includes the following implementation packages:

(i) Overloading regulation

(ii) Heavy/Hazardous Material Truck Tracking

(iii) Center-to-center data exchange.

#### (1) Recommended Alternatives of Implementation Packages

The service requirements and the system architectures of the following recommended alternatives are itemized for the ITS standards on heavy truck control.

(i) Weighing in motion by measuring the axle load shall be implemented for overloading regulation. → See Table 5.5.1.

(ii) Penalty collected at the exit tollgates based on the negative database is assumed as a policy of overloading regulation. → See Figure 5.5.11.

(iii) DSRC probe shall be implemented for the heavy/hazardous-material truck tracking. → See Table 5.5.1.

#### (2) Performance and Installation of Equipment

The following is itemized for the ITS standards on heavy truck control for securing compatibility of equipment components.

(i) Axle load scales for weighing heavy trucks at low speeds (around 20 km/h) shall be installed in front of the exit tollgates. → See Figure 5.5.9.

(ii) Roadside antennas for DSRC probe shall be installed on the junctions as well as the interchanges and the barrier tollgates.

#### (3) Messages and Data

The following is itemized for the ITS standards on heavy truck control for securing connectability of the interfaces and inter-operability of the data.

(i) Definition of the concept of overloading and its classification shall be specified.

(ii) Data definitions shown in the table below shall be unified for exchanging messages for heavy truck Control in assumed sequences. → See Section 5.5 and ***Appendix 1***.

**Table 9.3.7 Major Data for Heavy Truck Control**

| Information | Major Data for Exchanging Message |
|---|---|
| **Negative DB** | axle scale ID, date/time, LP number, vehicle class, axle number/weight, status |
| **DSRC Probe** | tollgate/lane ID, date/time, OBU ID, vehicle class |

Source: VITRANSS 2 Study Team

### 4) Requirements on Communication Network System

The following requirements on the communication network system are defined for establishing the ITS standards in the next stage.

(i) Three main centers in Ha Noi, Da Nang and Ho Chi Minh shall be implemented for the inter-city expressway network. → See Section 8.4.

(ii) A couple of the main centers for mutual backup shall be constructed respectively around Ha Noi and Ho Chi Minh in the 1st stage. One center shall function as the inter-city expressway main center and another shall function as the metropolitan main center for urban expressways/arteries in the 2nd stage. → See Figures 8.5.4 and 8.5.5.

(iii) Center function of roadside equipment control shall be installed in the maintenance offices in the 1st stage, and the control function shall be transferred to the main centers for realizing more integrated forms of traffic information/control in the later stages. → See Figure 8.3.3.

(iv) Communication network for ITS consists of the backbone network and access network, and the fiber optic ring is to be adopted for the backbone network. → See Figure 8.3.1.

(v) The centers and roadside equipment shall be organized hierarchically through the backbone network. → See Figure 8.3.2.

(vi) IP over SDH/DWDM and IP over TDM/DWDM shall be adopted as the most suitable transmission method of the backbone network. → See Table 8.3.1.

## 9.4 Descriptions for Message/Data Standard

The information is made up of messages, while the messages consist of a set of data elements and the data elements are described by attributes. The messages and data of ITS are to be standardized, referring to ISO11179 and ISO/DIS14817.

For example, according to the ISO11179, the data elements of ITS are to be standardized by using the attributes in the table below. The column 'obligation' indicates whether an attribute in a data element dictionary is 'Mandatory'(M), 'Conditional' (C) or 'Optional' (O).

**Table 9.4.1 Data Element Attributes shown in ISO11179 (1)**

| Attribute Category | Data Element Attribute | Obligation |
|---|---|---|
| Identifying | Name:<br>Single or multi word designation assigned to a data element. | M |
| | Identifier:<br>A language independent unique identifier of a data element within a registration authority. | C |
| | Version:<br>Identification of an issue of a data element specification in a series of evolving data element specifications within a registration authority. | C |
| | Registration Authority:<br>Any organization authorized to register data elements. | C |
| | Synonymous name:<br>Single word or multi word designation that differs from the given name, but represents the same data element concept. | O |
| | Context:<br>A designation or description of the application environment or discipline in which a name and/or synonymous name is applied or originates from. | C |
| Definitional | Definition:<br>Statement that expresses the essential nature of a data element and permits its differentiation from all other data elements. | M |
| Relational | Classification scheme:<br>A reference to (a) class(es) of a scheme for the arrangement or division of objects into groups based on characteristics which the objects have in common, e.g. origin, composition, structure, application, function, etc. | O |
| | Keyword:<br>One or more significant words used for retrieval of data elements. | O |
| | Related data reference:<br>A reference between the data element and any related data. | O |
| | Type of relationship:<br>An expression that characterizes the relationship between the data element and related data. | C |
| Representational | Representation category:<br>Type of symbol, character or other designation used to represent a data element. | M |
| | Form of representation:<br>Name or description of the form of representation for the data element, e.g. 'quantitative value', 'code', 'text', 'icon'. | M |
| | Data type of data element values:<br>A set of distinct values for representing the data element value. | M |
| | Maximum size of data element values:<br>The maximum number of storage units (of the corresponding data type) to represent the data element value. | M |
| | Minimum size of data element values:<br>The minimum number of storage units (of the corresponding data type) to represent the data element value. | M |
| | Layout of representation:<br>The layout of characters in data element values expressed by a character string representation. | C |
| | Permissible data element values:<br>The set of representations of permissible instances of the data element, according to the representation form, layout, data type and maximum and minimum size specified in the corresponding attributes. The set can be specified by name, by reference to a source, by enumeration of the representation of the instances or by rules for generating the instances. | M |

Source: VITRANSS 2 Study Team

**Table 9.4.2 Data Element Attributes shown in ISO11179 (2)**

| Attribute Category | Data Element Attribute | Obligation |
|---|---|---|
| Administrative | Responsible organization:<br>The organization or unit within an organization that is responsible for the contents of the mandatory attributes by which the data element is specified. | O |
| | Registration status:<br>A designation of the position in the registration life-cycle of a data element. | C |
| | Submitting organization:<br>The organization or unit within an organization that has submitted the data element for addition, change or cancellation/withdrawal in the data element dictionary. | O |
| | Comments:<br>Remarks on the data element. | O |

Source: VITRANSS 2 Study Team

## 9.5 ITS Implementation Status in Ongoing Expressway Projects

Implementation status of ITS in the ongoing expressway projects is compiled in the table below.

**Table 9.5.1 ITS Implementation Status in Ongoing Expressway Projects**

| Name of Expressway Section | Cau Gie – Ninh Binh | Noi Bai – Lao Cai | Ho Chi Minh – Trung Luong | Long Thanh – Dau Giay |
|---|---|---|---|---|
| | 50 km | 264 km | 40 km | 55 km |
| **1. Traffic Information/Control** | | | | |
| Incident inforamtion | Yes | Yes | Yes | Yes |
| – Emergency telephone | Yes | Yes | Yes | Yes |
| – CCTV | Yes | Yes | Yes | Yes |
| Traffic congestion information | Yes | Yes | Yes | Yes |
| – CCTV | Yes | Yes | Yes | Yes |
| – Vehicle detector | Yes | Yes | Yes | Yes |
| Travel-time information | Yes | Yes | Yes | Yes |
| – Vehicle detector | Yes | Yes | Yes | Yes |
| – Probe car system | –– | ? | ? | –– |
| Weather information | Yes | Yes | Yes | Yes |
| – Weather sensor | Yes | Yes | ? | Yes |
| Traffic control assistance | Yes | Yes | Yes | Yes |
| – Variable message sign | Yes | Yes | Yes | Yes |
| – Simple graphical message sign | ? | ? | ? | –– |
| **2. Toll Collection** | | | | |
| Touch & Go system | Yes | Yes | Yes | ? |
| – IC-card recharger | Yes | Yes | Yes | ? |
| – IC-card roadside reader | Yes | Yes | Yes | ? |
| ETC system | Yes | Yes | Yes | Yes |
| – License plate scanner | Yes | Yes | Yes | Yes |
| – DSRC roadside antenna | Yes | ? | Yes | Yes |
| – 1-piece type OBU | ? | ? | ? | –– |
| – 2-piece type OBU | ? | ? | ? | Yes |
| **3. Heavy Truck Control** | | | | |
| Weigh system | Yes | –– | Yes | Yes |
| – License plate scanner | Yes | –– | Yes | –– |
| – Axle gage | Yes | –– | Yes | Yes |
| – Weigh bridge | –– | –– | Yes | –– |
| **4. Communication Network** | | | | |
| Fibre optic cable | Yes | Yes | Yes | Yes |
| – ATM node | –– | ? | ? | –– |
| – SDH node | Yes | ? | ? | –– |
| – DWDM node | –– | ? | ? | –– |

Yes: Included in design, ––: Not included in design, ?: Not determined,
Source: VITRANSS 2 Study Team

The results indicate the necessity of discussion on the aforementioned requirements of ITS standards as the urgent priority for all ongoing expressway projects.

# 10 URGENT ISSUES

## 10.1 General

In this chapter, the following items are proposed as urgent issues for ITS implementation in Vietnam:

(i) Establishment of ITS standards

(ii) Pilot project for coordinated implementation

(iii) Other issues on operation framework of ITS.

## 10.2 Establishment of ITS Standards

### 1) Necessities and Outlines

In the Master Plan, the priority ITS user services, the system architecture, the requirements of standards, the operation framework, the center arrangement and the communication system are clarified aiming at effective introduction and utilization of ITS for the operation and management of the expressways and other arterial roads.

On the other hand, system implementation of ITS is coming closer by way of the several expressway construction projects as shown in Section 9.5.

Establishment of the ITS standards is an urgent necessity for the next stage of the Master Plan. The primary item of the scope is establishment of the ITS Standards, which includes clarification of the requirements on the operation framework, for the following three priority ITS user services defined in the ITS Master Plan in VITRANSS 2:

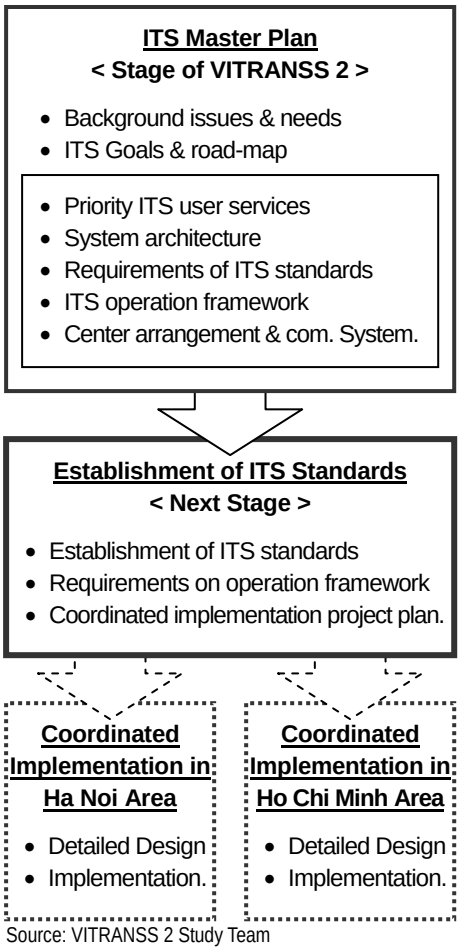
(i) Traffic Information/Control

(ii) Non-stop Toll Collection

(iii) Heavy Truck Control.

The additional item is developing a coordinated implementation project plan for the road networks including different expressway sections and the access ring roads around Ha Noi and Ho Chi Minh. That is detailed in the following section.

**Figure 10.2.1 Establishment of ITS Standards**




Source: VITRANSS 2 Study Team

## 2) Outputs of ITS Standards

The items shown in the following table shall be standardized in the next stage of the Master Plan for the implementation of ITS on the inter-city road network in Vietnam.

**Table 10.2.1 Outputs of ITS Standards**

| Standards | Detailed Items | |
|---|---|---|
| Design Standards | • Traffic information/control<br>• - Non-stop toll collection<br>• Heavy truck control | |
| General Specifications | • CCTV<br>• Image recognition<br>• Vehicle detection<br>• Weather sensing<br>• Radio communication<br>• Emergency telephone<br>• Traffic monitoring<br>• Event data generation<br>• Traffic information<br>• VMS indication | • Toll collection by ETC**<br>• Toll collection by T&G<br>• Vehicle classification<br>• Lane control<br>• DSRC**<br>• DSRC probe<br>• Prepayment by IC-card<br>• Toll management<br>• Overloading regulation<br>• Weight scale |
| Message/Data Standards | | |
| Communication Network Plan | • Communication system | |

Source:
Notes, **: Active- DSRC, Passive-DSRC and DSRC/IR are recommended as the candidates of road- to-vehicle communication for ETC in section 9.3, and from among them the most appropriate one will be selected based on the results of the competitive test in the coordinated implementation project.

**(1) Design Standards**

The service requirements and the system architecture are to be clearly specified in the design standards for each implementation package.

(i) Service requirements (considering the levels of stepwise implementation)
(ii) System architecture
(iii) Arrangement of functions
(iv) Installation, testing, operation and maintenance.

**(2) General Specifications**

Adequate performance, installation and compatibility of equipment and connectability of interfaces are to be achieved by defining the items below as the general specifications for each subsystem.

(i) Processing function and performance
(ii) Human-machine interfaces
(iii) Communication interfaces
(iv) Dimensions and installation
(v) Ambient conditions.

**(3) Message/Data Standards**

Inter-operability of data is to be secured by defining the items below based on the unified total system architecture.

(i) Total system architecture
(ii) Message sequences/templates
(iii) Data dictionary (definitions of data attributes)

**(4) Communication Network System Plan**

Total plan of communication network system is to be clearly defined for the whole ITS in Vietnam.

(i) Total system architecture
(ii) Location of the centers
(iii) Processing function and performance
(iv) Cable and node installation
(v) Operation and management.

## 10.3 Pilot Project for Coordinated Implementation

### 1) Necessities

A pilot project is necessary for promoting coordinated and integrated implementation of ITS over different road sections.

(i) Dissemination of the ITS Standards established in the next stage of the Master Plan

(ii) Unification of the implementation level of ITS, integration of the communication network and system coordination over different road sections

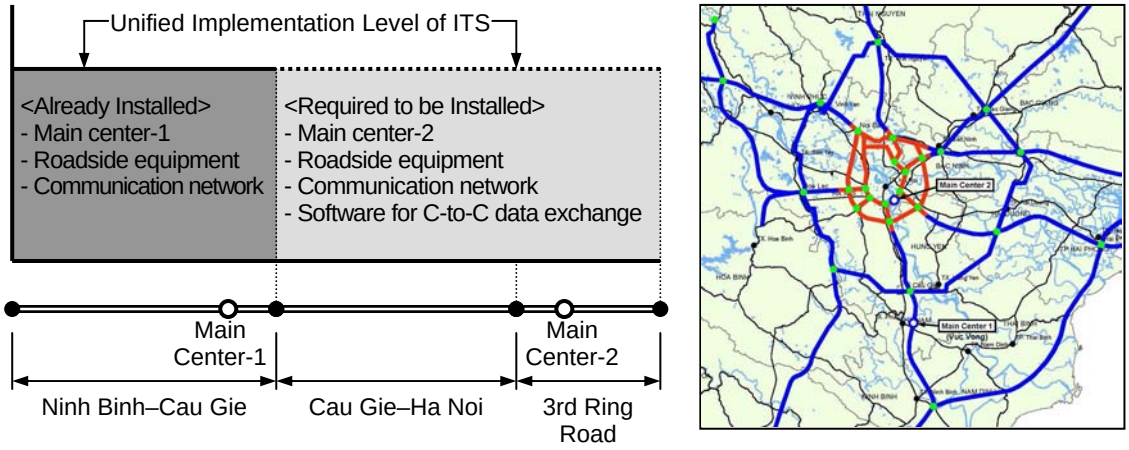
(iii) Verification of the Center-to-Center data exchange (including the usage of public telecom)

(iv) Selection of the most appropriate road-to-vehicle communication for ETC by competitive testing.

### 2) Outlines of Project

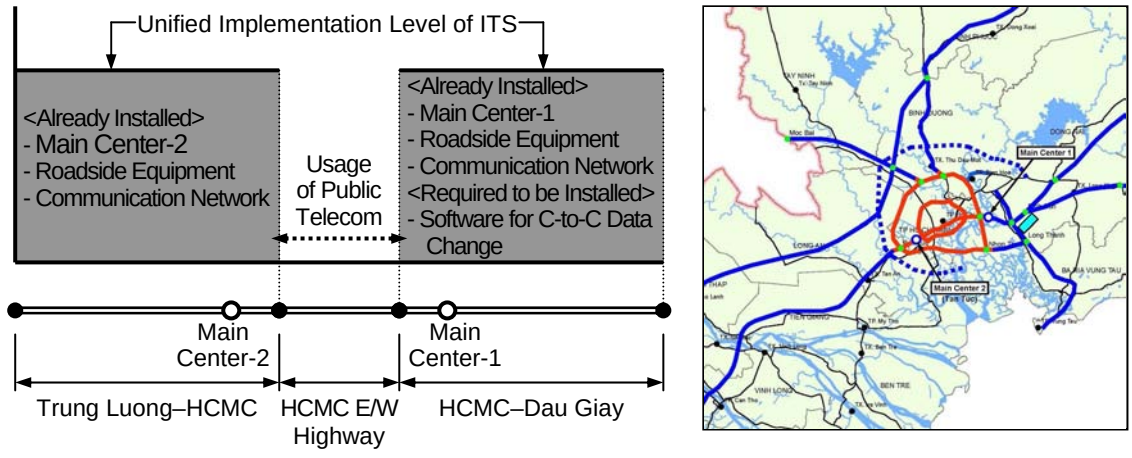
A pilot project for the coordinated and integrated implementation of ITS is to be performed on the road networks including several different expressway sections and the access ring roads around Ha Noi and Ho Chi Minh, as shown in the following figures.

**Figure 10.3.1 Coordinated Implementation in Ha Noi Area**




Source: VITRANSS 2 Study Team

**Figure 10.3.2 Coordinated Implementation in Ho Chi Minh Area**




Source: VITRANSS 2 Study Team

## 10.4 Other Issues on Operation Framework of ITS

As discussed previously in the Master Plan, the following issues on the operation framework need to be resolved for ITS implementation.

(i) Establishment of the minimal service standard of road operation (→ See Section 4.4)

(ii) Establishment of the policy of the function allocation of the road operation including the organization for operating the communication system for ITS (→ See Section 8.2)

(iii) Establishment of the policy of the framework for toll clearance including the IC-card issuance (→ See Section 7.7)

(iv) Establishment of the toll rate system including the vehicle classification (→ See Section 4.3 and Table 5.4.8)

(v) Permission of the usage of 5.8 GHz radio wave exclusively for ETC (→ See Section 6.10).