

Socialist Republic of Vietnam
South East Asia Community Access Programme

Technical Assistance to the Ministry of Transport

**Road Map Field Verification and Roll Out
to Non-RT2 Provinces**

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ROAD MAP FIELD VERIFICATION AND ROLL OUT TO NON-RT2 PROVINCES AND TRANSFERRING MAPS TO WAN

I. DIGITIZATION AND UPDATING OF MAPS

The contract for digitization and updating of maps cover 36 provinces as follows:

- ✓ 21 province maps have to be digitized and updated: Lao Cai, Son La, Yen Bai, Phu Tho, Hoa Binh, Ha Giang, Cao Bang, Bac Can, Thai Nguyen, Lang Son, Bac Giang, Ha Noi, Hai Phong, Kon Tum, Quang Ngai, Binh Dinh, Phu Yen, Ho Chi Minh City, Ben Tre, Tra Vinh, and Soc Trang.

Digitization is to be prioritised as follows:

- (a) Nghe An, Thanh Hoa
 - (b) Phu Tho and Lao Cai (these are pilot provinces of RT3)
 - (c) Rest of RT2 provinces
 - (d) Rest of RT3 provinces
- ✓ 15 province maps have to be updated are: Tuyen Quang, Quang Ninh, Hai Duong, Thanh Hoa, Nghe An, Quang Tri, Da Nang, Gia Lai, Khanh Hoa, Binh Duong, Ba Ria Vung Tau, Dong Thap, An Giang, Kien Giang, Ca Mau

The duration of the contract is 13 months starting from September 2004.

According to the schedule, the digitization and updating of maps for 36 provinces will be finished at the end of June 2005. However, because there was delay in the preparation of initial procedures the progress will be delayed about 1.5 - 2.0 months compared to the schedule. The finalization of map digitization and updating works therefore was finished at the end of August 2005.

On August 20th 2005, maps of 37 provinces (map of Vinh Phuc province is not mentioned in the contract but it has been digitalized and updated) have been placed on RT2 WAN with verification of RT2 experts.

Implementation Steps

(1) Digitization

- Scan maps of all 36 provinces with scale of 1/50,000 issued by the General Land Department
- Digitize maps of 21 provinces
- Digitize maps of 15 provinces which were previously digitized by RT2 Project.
- Available documents and latest documents have been used during the digitization process, such as projects on national roads, provincial roads, present condition transport network maps, plans of localities, Rural Transport Projects 1, 2 and 3.

(2) Printing maps, re-specifying them through field trips and working with localities

- Print out map of each district which has been digitized by scale of approximately 1/50,000 with background color for field trips.
- Go to the fields together with district's and provinces' staffs to check routes and road names (with confirmation of localities)
- Some routes are checked by GPS.

(3) Updating data

- Based on data collected from field trips, present transport network map of each district is updated.

4) Checking before placing maps on WAN**(5) Completing and placing maps on WAN of RT2 Project**

After completion, maps show the following information:

- Province centre, district centres and commune centres,
- Administrative layers, including: national border, provincial borders, district borders and commune borders,
- Rail/road route layers, including: railways, national roads, provincial roads, district roads, RT2 roads, urban roads and paths,
- River layers,
- Stream layers, and
- Dyke layers.

For the 15 provinces whose maps do not require to be digitized, according to the agreement, information which was missing has been collected, especially for district roads, commune roads and small rivers, etc.

Regarding the implementation progress of digitization and updating at reporting time, please refer to the table below.

II. TRANSFER THE DIGITIZED AND UPDATED MAPS TO WAN

After being digitized, corrected and updated in accordance with data collected from field trips, map of each province will be stored on a server and placed on Internet through the MOT website. By this way, everyone who accesses the website is able to see and print maps, and persons who are granted a login are able to changed or corrected maps.

(1) Management software and placing the digitalized maps on the sever

- The Mapinfo Discovery software was purchased by RT2 Project. This software has the capacity to manage digitized maps produced by the Mapinfo software and exports them to a server and Internet. The software consists of two sets for the server and for client computers. The set for the server is installed on the server and the set for client computers is installed on the client computers. They are installed according to a form of dipping in the Mapinfo

software (similar to adding more functions on the menu of the Mapinfo.) Only the Mapinfo professional version 7.0 and newer ones are able to apply this property.

- Software installation: run the “setup.exe” programme on the server, noting that select the installation for the server according to the client format.

(2) Steps for placing maps on the server

(3) Preparing digitized maps according to standards

- Some displays on the Mapinfo are not used on the Mapinfo discovery. Thus those displays must be rejected and replaced by permitted displays of the Mapinfo Discovery. Displays that are not used on the Mapinfo Discovery include: Thematic map for line, region and point subjects.

(4) Declaring parameters of the server and exporting a map to the server

- A function of exporting a map to the server is to place on the Map menu of the Mapinfo programme according to the path of Map\Send map to: Mapinfo Discovery server. When exporting a map on the server for the first time, we will be required to declare parameters of the server and of the users. Then group name and map name also have to be declared for management.

(5) Operating and checking

- After the process of exporting a map to the server, we can immediately access the website to see and check the section: online map. At this moment a new group is formed and map name will be displayed.

(6) Using Internet to access maps

(7) Seeing and printing maps

- At present, the website on which maps are displayed is **www.gtnt2.org.vn**. Everyone who accesses to this website is able to see and print maps. On this website maps are placed in the section “Transport Sector\Map” and maps are arranged by name of Province and District. All maps are placed on that through two formats: raster image and online digitalized maps. Map that is mentioned here is online map.

(8) Correcting maps

- If you want to correct map you enter your login on the Mapinfo Discovery programme according to the following address **http://www.gtnt2.org.vn/midiscovery**. After doing login successfully you can carry out the following operations: changing some display properties, deleting old maps, etc.

(9) Transfer the Wide Area Network (WAN) to the Informatics Center of the Ministry of Transport

- According to the agreement, RT2 WAN will be transferred to the Informatics Center of the Ministry of Transport. This is the right decision, suitable to functions and tasks of the Informatics Center which is stated by the Minister at the Decision No.../... on organization and functions of the Informatics Center.

(10) Mechanism for updating maps at present

Map digitalization and updating have been done for 13 months, from September 2004 to October 2005 by consultants of the Transport Development and Strategy Institute. Implementation steps are:

- Printing digitized maps by scale 1:50,000. By going to the field in coordination with provinces' and districts' professional staff, road routes and road names have been re-specified, etc. Some road routes have also been re-defined by GPS.
- Updating data: Based on data verified on the fields, present condition transport network map of each district has been re-updated.
- Checking before transferring to WAN
- Completing and placing on WAN.

Recommendations on map updating in the future

Option 1: Provincial Departments of Transport or Transport and Urban Public Work Services should carry out the map updating.

Option 2: Map updating should be done every five years linked to SEDP. Updating process should follow the implemented one under the mechanism of one project, with finance and implemented by an agency: either consultants of the Transport Development and Strategy Institute or consultants of the Vietnam Road Administration; or consultants of any organizations/institutions selected through bidding.

Requirements for fulfill the updating:

For the Option 1:

Organization: A unit should be established under Provincial Department of Transport which has assigned functions and tasks (it may be a unit under the Rural Transport Division or Transport Division belonging to Departments of Transport.)

Staff: Staff at Provincial Departments of Transport or Transport and Urban Public Work Services who are assigned task have to have qualification, skills, knowledge, be good at MapInfo software, and be expert in using WAN, internet, equipment and GPS software.

These staff have to stabilize their work and be trained to improve their knowledge.

Equipment: It is required to have computers with high configuration, MapInfo software, internet connection, GPS, etc.

Annual expenditure should be available according to assigned work.

Regulations should be set up for updating and reporting.

If the implementation follows the Option 1, capability of local staffs will be enhanced through each step serving directly for local transport management at each localities.

Through the supplementary updating of localities, the Ministry of Transport is able to manage well the local transport network in nationwide.

For the Option 2:

There is much favorable for implementation by this option. It however does not improve capability and ability of local staff.

Its results have few positive impacts for management and planning local transport development plans at provincial level.

According to our point of view the implementation should follow the Option 1.

(11) Mechanism for map management

- At Ministry level: The Informatics Center of the Ministry of Transport is a body responsible for managing information, and data, including information on maps. The Center shall set up a management framework to be issued by the Ministry.
- At province level: Provincial Departments of Transport (or Transport and Urban Public Work Services) are bodies responsible for managing information and data, including information on map of their provinces. Provincial Departments of Transport (or Transport and Urban Public Work Services) is responsible for reporting to the Ministry of Transport (i.e. Informatics Center) according to regulations.

Implementation progress of map digitalization, field trip and map updating, SEACAP 12

No	Province	It is digitalizing	It was digitalized and corrected	It is going to field trip	Field trip is done	It is updating	It was updated	It isn't checked	It was completed and transferred to WAN	Notes
1	Thanh Hoa		+		+		+	+	+	Pilot; RT3
2	Phu Tho		+		+		+	+	+	Pilot; RT3
3	Nghe An		+		+		+	+	+	Pilot; RT3
4	Lao Cai		+		+		+	+	+	Pilot; RT3
5	Tuyen Quang		+		+		+	+	+	RT2
6	Yen Bai		+		+		+	+	+	
7	Hai Duong		+		+		+	+	+	RT2
8	Ben Tre		+		+		+	+	+	
9	Tra Vinh		+		+		+	+	+	
10	Quang Ninh		+		+		+	+	+	RT2
11	Soc Trang		+		+		+	+	+	
12	Dong Thap		+		+		+	+	+	RT2
13	An Giang		+		+		+	+	+	RT2
14	Quang Ngai		+		+		+	+	+	
15	Kon Tum		+		+		+	+	+	
16	Kien Giang		+		+		+	+	+	RT2
17	Ca Mau		+		+		+	+	+	RT2
18	Da Nang		+		+		+	+	+	RT2
19	Binh Dinh		+		+		+	+	+	
20	Quang Tri		+		+		+	+	+	RT2
21	Phu Yen		+		+		+	+	+	
22	Ho Chi Minh		+		+		+	+	+	
23	Gia Lai		+		+		+	+	+	RT2
24	Khanh Hoa		+		+		+	+	+	RT2
25	Hoa Binh		+		+		+	+	+	
26	Binh Duong		+		+		+	+	+	RT2
27	Son La		+		+		+	+	+	
28	BR-Vung Tau		+		+		+	+	+	RT2
29	Ha Noi		+		+		+	+	+	
30	Hai Phong		+		+		+	+	+	
31	Thai Nguyen		+		+		+	+	+	
32	Bac Kan		+		+		+	+	+	
33	Ha Giang		+		+		+	+	+	
34	Cao Bang		+		+		+	+	+	
35	Bac Giang		+		+		+	+	+	
36	Lang Son		+		+		+	+	+	
37	Vinh Phuc		+		+		+	+	+	Supplement

