

ベトナム国
高速道路運営維持管理体制強化プロジェクト
詳細計画策定調査報告書

平成24年12月
(2012年)

独立行政法人国際協力機構
経済基盤開発部

基盤
JR
12-244

ベトナム国
高速道路運営維持管理体制強化プロジェクト
詳細計画策定調査報告書

平成24年12月
(2012年)

独立行政法人国際協力機構
経済基盤開発部

ベトナム国 高速道路運営維持管理体制強化プロジェクト 詳細計画策定調査

目次

プロジェクト位置図

略語表

1章	詳細計画策定調査の概要	1
1.1	プロジェクトの名称	1
1.2	プロジェクトの目的	1
1.3	背景	1
1.4	詳細計画策定調査の目的	2
1.5	詳細計画策定調査対象地域	2
1.6	詳細計画策定調査日程	2
1.7	詳細計画策定調査団員	2
2章	ベトナム高速道路スキームの現状	3
2.1	高速道路行政担当機関	3
2.2	道路予算	3
2.3	高速道路に関する法令	4
2.4	ベトナム国での高速道路の定義	5
2.5	高速道路整備計画	6
2.6	高速道路の現状	6
2.7	高速道路庁(VEA)の立ち上げ準備状況	8
2.8	他ドナーの援助・協力の状況	10
2.9	受入国側の現地リソース	10
2.10	参考となる調査報告書	11
3章	高速道路O&M事業として実施すべき内容	12
3.1	O&Mの目的	12
3.2	O&M対象項目	12
3.2.1	全般的に見た対象項目	12
3.2.2	ITS(高度道路交通システム)	13
3.2.3	ETC(電子料金収受)	14
3.3	技術標準、ガイドラインの準備項目	15
3.3.1	マニュアル記載項目	15
3.3.2	VECやBOTプロジェクトの扱い	17
3.3.3	維持すべきサービス水準	17
3.3.4	O&Mのマニュアルの準備手順	18
3.4	プロジェクト実施のための組織・現場・関係機関	19
3.5	実施工程	21
4章	事業実施の前提条件	21
5章	提言	22

添付1: MOTとの合意議事録

添付2: 関係機関との面談記録

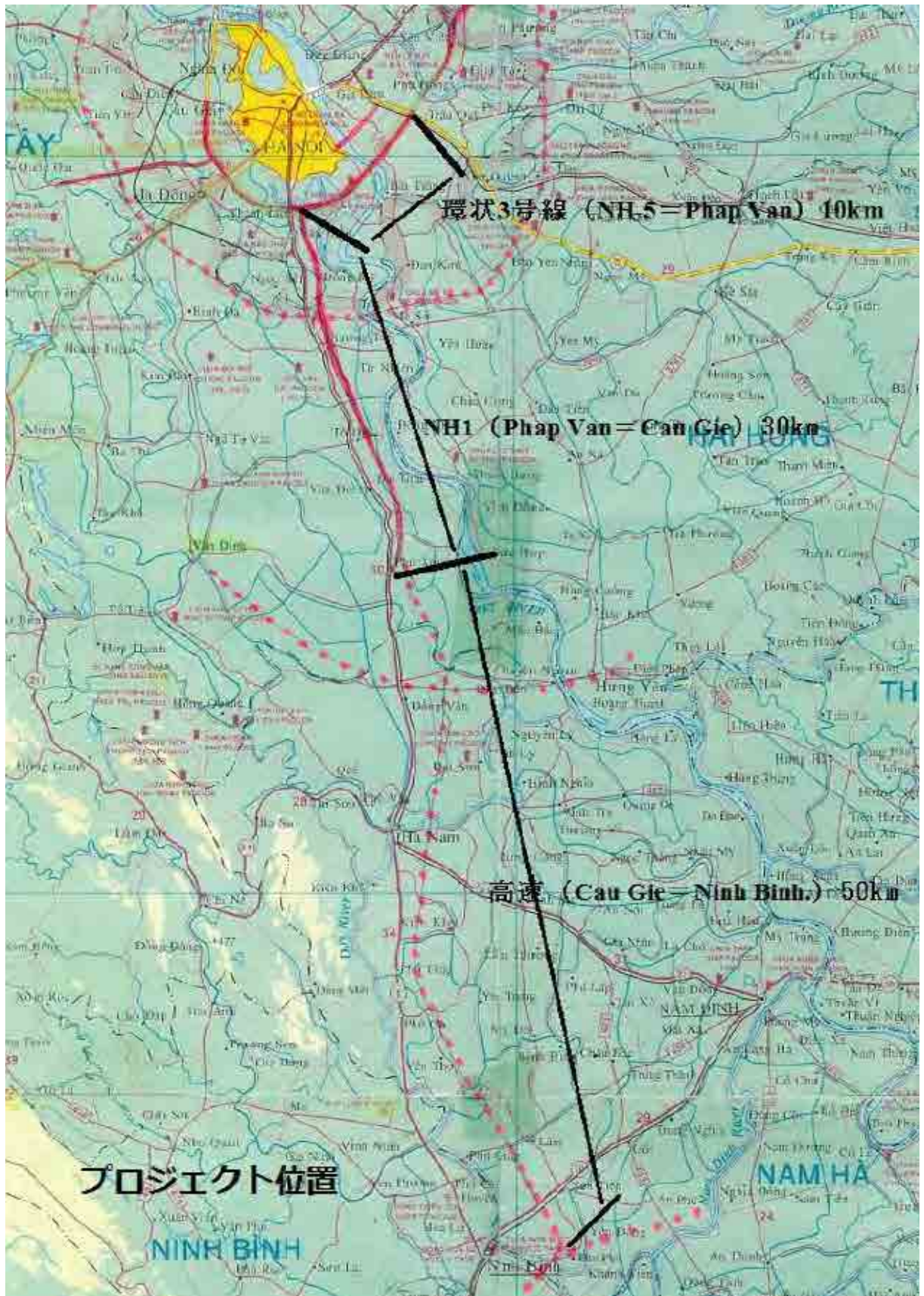
添付3: ベトナム国高速道路整備状況一覧表

添付4: ハノイ周辺高速道路計画地図

添付5: 参考すべき法令基準開発計画その他報告書一覧

添付6: 質問状に対する回答書(英訳)

添付7: 民間資本活用方法の解説



環状3号線 (NH5=Phap Van) 10km

NH1 (Phap Van=Can Gio) 30km

高速 (Cau Gio=Ninh Binh) 50km

プロジェクト位置

NINH BINH

NAM HA

略語表

ADB	Asian Development Bank
ASB	Authorized State Body
BIDV	Bank for Investment and Development of Vietnam
BMS	Bridge Management System
BOT	Build-operate-transfer
BT	Build-transfer
BTO	Build-transfer-operate
CCTV	closed - circuit television
D/D	Detailed Design
DOF	Department of Finance
DOL	Department of Law
DRTPD	Road and Railway Traffic Police Department
DPI	Department of Planning and Investment
DRVN	Directorate for Roads of Vietnam (VRAの後継組織)
DST	Department of Science Technology
DTI	Department of Transport Infrastructure
DTS	Department of Traffic Safety
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
F/S	Feasibility Study
FIRR	Financial Internal Rate of Return
G/D	General Director
GDP	Gross Domestic Products
GNI	Gross National Income
HCMC	Ho Chi Minh City
HDM4	Highway Development Management System Version 4
ITS	intelligent transport systems
ITST	Institute for Transport Science and Technology
JICA	Japan International Cooperation Agency
KEC	Korean Expressway Corporation
KIC	Katahira International Cooperation
KOICA	Korea International Cooperation Agency
METI	Ministry of Economy Trade & Industry
MIC	Ministry of Information & Communication
MOC	Ministry of Construction
MOF	Ministry of Finance
MONRE	Ministry of National Resources and Environment
MOPS	Ministry of Public Security
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
O&M	Operation and Management
OBU	On Board Unit
ODA	Official Development Assistance
O/C	Operation Center
ORICON	Oriental Consultants
PC	People's Committee
PDOT	Provincial Department of Transportation
PMS	Pavement Management System
PMU	Project Management Unit
PPC	Provincial People's Committee
PPP	Public Private Partnership

P/A	Parking Area
ROSY	Pavement management system developed by Carl Bro Pavement Consultants (Denmark)
RR	Ring Road
RRMU	Regional Road Management Unit
S/A	Service Area
SDE	State Owned Enterprises
SMS	Short Message Service
SOE	State Owned Enterprise
TA	Technical Assistance
TCQM	Transport Construction Quality Management
TEDI	Transport Engineering Design Incorporation
TUPWS	Transport and Urban Public Works Service
USD	US Dollar
UTC	University of Transport & Communication
VCB	Vietcombank
VDB	Vietnam Development Bank
VEA	Vietnam Expressway Administration
VEC	Vietnam Expressway Corporation
VGFM	Viability Gap Funding Mechanism
VICS	Vehicle Information & Communication System
VIDIFI	Vietnam Infrastructure Development and Finance Investment Joint Stock Company
VietcomBank	Joint Stock Commercial Bank for Foreign Trade of Vietnam
VINACONEX	Vietnam Construction and Import-Export Joint Stock Corporation
VITRANSS2	the Comprehensive Study on the Sustainable Development of Transport System in Vietnam
VND	Vietnam Dong
VNPT	Vietnam Posts and Telecommunications Corporation
VR	Vietnam Register
VRA	Vietnam Road Administration (DRVNに改称)
WB	World Bank

通貨単位

VND	Vietnam Don
JPY	Japanese Yen = 250 VND
USD	American Dollars = 20000 VND

1 章 詳細計画策定調査の概要

1.1 プロジェクトの名称

和文名称「高速道路運営維持管理¹体制強化プロジェクト」

英文名称「the Project for Strengthening Operation and Maintenance System for Expressway」

1.2 プロジェクトの目的

高速道路維持管理方法習得のケーススタディとして現場訓練（OJT）実施用に、ある特定高速道路区間を選び、その結果を高速道路運営管理のスキームづくりに反映させることを目的とする。

このスキームづくりには、法令、行政組織、現場実施組織、設置機材施設、設置基準、運営管理基準、維持管理マニュアル等の検討・提案・作成のほか、実施訓練も含まれるものとする。

1.3 背景

Vietnam政府は、2006年－2010年経済社会開発5か年計画で、2020年までに工業国への転換を目指している。この目標の達成のため、運輸交通インフラの整備は、重要な課題と位置づけられ、空港、港湾、高速道路、鉄道の分野で各種の大規模計画が立案され実行されつつある。

この一環として、高速道路整備計画マスタープランが、2008年12月に首相承認となった（法令1734/QĐ-TTg）。

この総延長5,873kmの高速道路マスタープランでは、2020年までに2,235kmの整備を目標とし、ベトナムの経済発展に資するものとしている。2010年末現在開通している高速道路は、下記のとおりである。

PhapVan - CauGie	(30km)	ハノイ環状3から南へ
BenLuc - TrungLuong	(37km)	HCMCから西へ
Lang-HoaLac	(29km)	ハノイ環状3から西へ

建設中のものとしては、CauGie-NinhBinh(約50km：2011年末開通予定)の他、10路線以上(約500km)がある。² こうした高速道路の整備財源としては、ベトナム政府資金およびWB、ADB、JICA、KOICA等の外国ドナーを計画している。同時に、BOT、PPP等による方法³も採用しているが、その管理方法を含めた契約内容は、確立していないままで、問題点を模索している状況にある。即ち、現在、開発整備が進む一方で、顕在化してきているのが、高速道路の運営管理方法である。過去に経験のない高速道路の維持管理を一般国道と同様な手法で始めてはいるが、問題はたえない。例えば、交通事故の際に一般道路同様に警察の到着まで事故車を動かさないため、高速交通条件下では危険なばかりでなく、う回路のない閉鎖された道路では交通がしばらくの間遮断される事態も生じている。こうした高速道路に対処した運営管理方法を早急に確立すべく、管轄機関である運輸交通省（MOT）は、すでに各種の標準、マニュアル等作成してきており、2010年9月にMOTは、高速道路を専門に管理・運営する機関としてベトナム高速道路庁（VEA）の新設を首相宛に提案し、現在その認可を待っている状況にある。こうした対策に並行して2009年8月当分野の経験が豊富な我が国に高速道路運営管理のための技術協力を要請してきたものである。



¹ 維持管理を本報告書ではO&Mと呼ぶ。

² 本報告 2-1 章参照

³ 添付資料 7

1.4 詳細計画策定調査の目的

要請状に基づく本格調査を実施するに当たり、ベトナム国の高速道路の現状を調査し、本格調査の作業策定案を作成することである。

1.5 詳細計画策定調査対象地域

ハノイ市内

1.6 詳細計画策定調査日程

Day			JICA	MLIT	Consultant
			Mr. Kawahara Mr. Nishigata	Mr. Murata Shigeo	Mr. Kaneda
Feb	13	Sun			Narita 11:00 - Hanoi 15:25 / VN955
	14	Mon			10:00 Meeting JICA Expert&JICA 14:00~ 16:00 Meeting MoT's working group
	15	Tue			9:00 VEC 14:00 DRVN
	16	Wed			14:00 Site survey
	17	Thu			10:00 JICA TV meeting 14:00 VIDIFI
	18	Fri			9:00 WB 11:00 ADB 1330: NEXCO
	19	Sat			Documentation
	20	Sun	Narita 11:00 - Hanoi 15:25 / VN955		ditto
	21	Mon	10:30 Meeting with Mr Hung, Local consultant- Universtiy of Transport		
Feb	22	Tue	10:00 Meeting & Discussion w / MoT (Vice Minister)		
	23	Wed	08:30~09:30 Meeting w/ JICA Vietnam Office+ CR, SR+ Hata expert		
	24	Thu	9:00 Meeting & Discussion w / MoT and other relevant organizations on M/M		
	25	Fri	10:00 Signing M/M		
	26	Sat	next assignment	Hanoi 00:05 - Narita 06:40 / VN 954	

1.7 詳細計画策定調査団員

No.	Name	Job Title	Occupation	Period (arr. -dep.)
1	Shuntaro KAWAHARA (Mr.) 川原 俊太郎	Leader 総括	Senior Advisor, Economic Infrastructure Dept, JICA 国際協力機構経済基盤開発部 参事役	Feb20-Mar05
2	Shigeo MURATA (Mr.) 村田 重雄	Expressway Operation and Maintenance (Administration) 高速道路運営維持管理行政	Japan Institute of Construction Engineering JICE 国土技術研究センター 総括	Feb20-Feb26
3	Kotaro NISHIGATA (Mr.) 西形 康太郎	Project Planner 協力企画	Deputy Director, Transportation and ICT Div 2, Economic Infrastructure Dept, JICA 国際協力機構経済基盤開発部 運輸交通・情報通信第二課 主任調査役	Feb20-Mar05
4	Koki KANEDA (Mr.) 兼田 公揮	Expressway Operation and Maintenance (System/Capability) 道路維持管理体制・技術	Pegasus Engineering Corporation ペガサスエンジニアリング株式会社	Feb13-Feb26

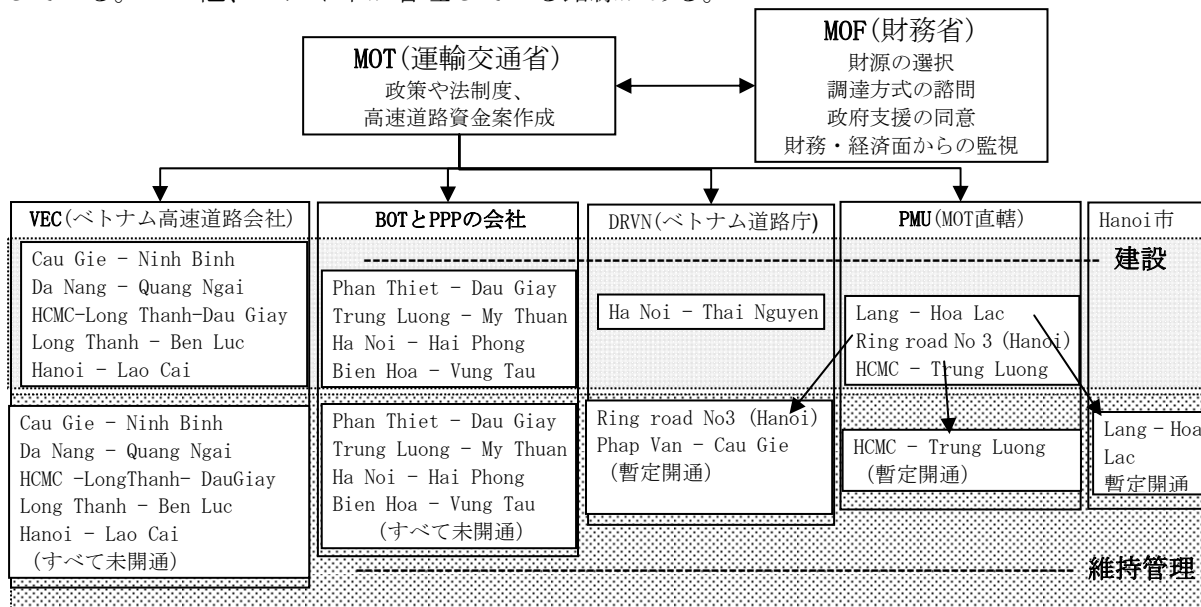
なお本詳細計画策定調査には、下記の方から現地で支援をいただいている。

JICA ベトナム事務所	Phan Le Binh, Ph. D.
同上	勝田 穂積
同上	Nguyen Dieu Linh Ms
長期専門家 (MOT)	秦 俊司 高速道路 O&M アドバイザー

2章 ベトナム高速道路スキームの現状

2.1 高速道路行政担当機関

現時点での高速道路の運営管理は、MOTであり、政府資金(一般予算、政府債権、政府保証)、ODA(二カ国、国際機関)、民間資金を単独または組み合わせて、下記に示す路線の建設と維持管理を実施している。この他、ハノイ市が管理している路線がある。



MOT傘下には12の部局があるが、高速道路に関係する機関には次のようなものがある。なお、本省に海運、道路、鉄道、内陸水運というサブセクターとしての内局はなく、DRVNも外庁の一つである。

Department of Planning and Investment (DPI)	計画投資局	交通分野の政策・戦略・計画の立案
Department of Law (DOL)	法務局	交通分野にかかわる法令の取り扱い
Department of Finance (DOF)	財務局	交通分野にかかわる財政・予算の取り扱い
Department of Transport Infrastructure (DTI)	交通インフラ局	交通インフラ全般の助言を担当
Department of Traffic Safety (DTS)	交通安全局	交通施設にかかわる安全全般の助言を担当
Department of Science Technology (DST)	科学技術局	技術関連法令・標準を担当し、ITS、ETC を管理している
Transport Construction Quality Management (TCQM)	建設品質管理部	交通関係の建設と品質管理を担当
Directorate of Road (DRVN)	ベトナム道路庁	国道にかかわる管理を担当

2.2 道路予算

最近の国道の予算(2009年・2010年)は、下記のようになっているとDRVNは回答している。

種類	年	VND millions	JPY 換算(百万円)	国道(14000 kmに対し)
国道 (Highway)	2009	2,016,180	8,065	58 万円/km
	2010	2,600,580	10,402	74 万円/km

また、現在の道路維持管理費(実際)は、DRVNによると下記のようになっている。

	2004	2005	2006	2007	2008	2009	2010
VND(million)	458,485	704,000	1,174,000	1,330,000	1,254,803	1,545,000	2,165,100
JPY 換算(百万円)	1,833	2,816	4,696	5,320	5,019	6,180	8,660
km当り(万円)	13	20	36	38	36	44	62

この維持管理費は、日本のレベル⁴から見ると極端に少ないといえる。

⁴平成23年度国交省直轄事業予算のうちの維持管理事業費2,158億円(国道延長5470kmとすると3945万円/km)

2.3 高速道路に関する法令

高速道路に関係すると思われる法令には下記のようなものがある。⁵

制定年	政令番号	名称	備考
2003	Law No. 23/QH12	Road Traffic Law	道路法 (廃止)
2003	Decision1527/QD-BGTVT	Technical Standards on Road Routine Maintenance	一般道路の維持管理についての規定
2004	Decision90/TT-BTC	Road Fare	1万ドン/70km BOTは2倍まで可。
2005	TCVN4054-2005	Highway Design Standard	道路設計基準
2006	22 TCN-336-03	the standard for O&M of highway	一般道路用
2007	TCVN5729-2007	Expressway Design Standards	高速道路の定義の記載あり
2007 Sep	Decision 1202/QD-TTg	Mechanism, Policies Applied to Expressway Investment Operation Project of VEC	VECによるプロジェクトの通行料金の規定
2007	Decree 78-2007-ND-CP	Regulation about BOT project excluding maintenance	用地は保障。優遇税制。債務政府保証。O&Mは記述なし。(廃止)
2007	Decree 84/ND-CP	Regulation on Land Use Right, Procedures	追加変更 By Decree No 69/2009/ND-CP
2007	Decision 412/QD-TTg	Investment Policy for Transport Project	
2007 Nov	No. 7056/TTr-BGTVT	Analytical & Advisory Activity report Expressway Development Strategy	道路マスタープラン
2008	Law 23/2008/QH12	Road Traffic Law	第3条12項に高速道路の定義
2008	Report 385/TTr-BGTVT	Proposal on Transport Strategy by 2020	
2008 Dec	Decision1734/QD-TTg	Expressway Master Plan (approved by Prime Minister)	高速道路基本計画の承認
2009 Feb	No. 41/TB-BGTVT	About Road Traffic Control Center	
2009 Mar	Decision35/2009/QD-TTg	Transport Strategy up to 2020 with Vision toward 2030	全土交通計画基本方針を承認
2009	Decision1621/QD-TTg	investment policy for pilot project of Hanoi - Hai Phong Expressway	VIDIFIが実行中のものについての規定
2009	No. HH81/BGTVT-KHDT	Detailed Planning Report	
2009 Aug	Decision1327/QD-TTg	Approval of Vietnam Road Transportation Development Plan	2020年までの各道路についての開発計画を明示している
2009 Nov	Decree 108/09/ND-CP (政令)	New BOT, BTO, BT Regulation including PPP scheme	BOT, BTO, BT 各方式の定義、資金元等についての布告 高速道路に限定したものではない
2010 Jan	Decree 108	New BOT, BTO, BT Regulation including PPP scheme	PPP関連法規 (廃止) Decree 78-2007-ND-CPの廃止
2010 Jun	Decision 195/QD-BGTVT	Draft Regulation on Management & Operation HCM-Trung Luong	対象道路限定のかんりの具体案 [秦専門家コメントあり]
2010 Sep	6499/TTr-BGTVT	Proposal of Establishing Expressway Administration	VEA設立についての提案 現行の各機関の役割
2010 Nov	Decision71/QD-TTg	Regulation on Pilot Investment using PPP Model	PPPのPilot投資についての法令
2011 Feb	Decision 266/QD-BGTVT	Issuance of temporary regulation on the maintenance of Ho Chi Minh City-Trung Luong Expressway	HCMC~TrungLuong 高速道路の暫定維持管理規定で今後マニュアル作成時の参考の基本となりうる
2011 Apr	Decision 633/QD-BGTVT	Establishment of Expressway management Office	ベトナム高速道路関連の国家方針・法令・運営・保全に係る MOT大臣への諮問機関の設置命令

備考：通達・政令ではDecision1734で高速道路事業での主要企業と定めたVECの立場についてのものと、VIDIFIのようなBOT関連会社のものが目立つ。(廃止)とあるのは秦専門家からの助言に基づく。

⁵ Law(法令)、Decision(通達・決定)、Decree(政令)、Circular(省令)についてはベトナム国インフラ工事事質確保能力向上プロジェクト詳細計画調査報告書(2010年6月-JICA) p21~p28に、またMOTの技術基準については同報告書の添付資料7に詳述あり。

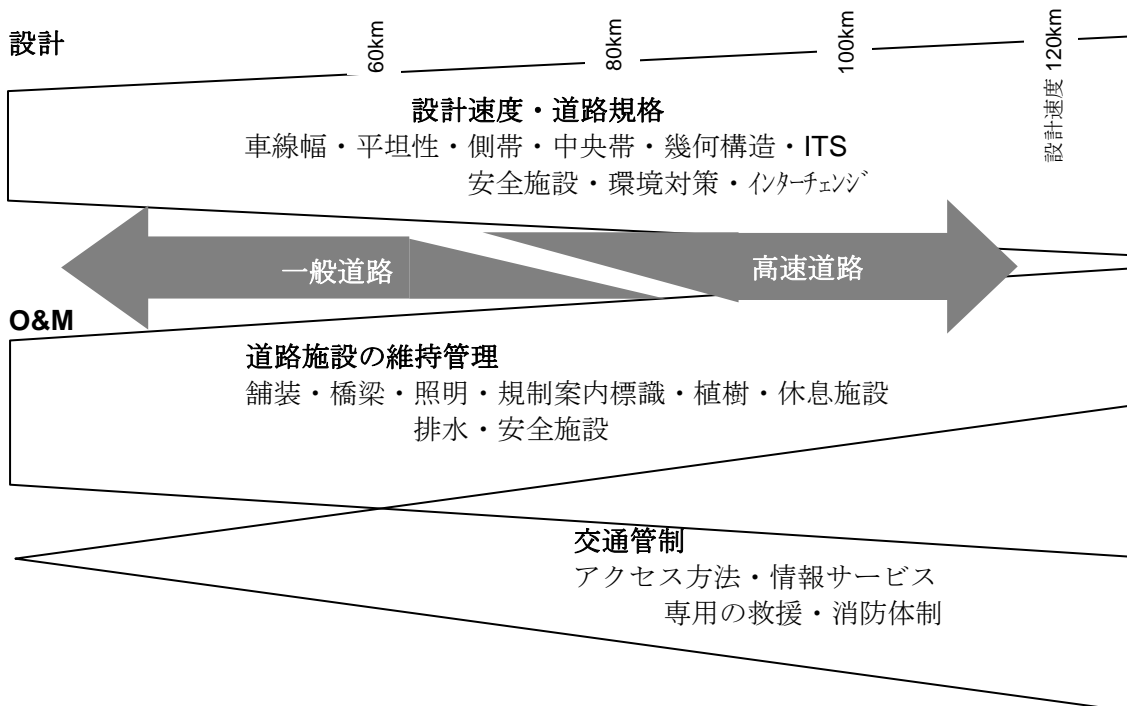
2.4 ベトナム国での高速道路の定義

ベトナムでは、技術基準としての高速道路設計基準（TCVN5729-2007）および、道路法（Law23/2008/QH12）で、高速道路について下記のように定義している。

TCVN5729-2007	Law23/2008/QH12
<p>条項 3-1 freeway/expressway は、方向別に分離された、片方向最小 2 車線に、非常用車線を備え、連続した安全な交通を確保できる施設を備え、ある決められた地点でのみ出入可能な自動車専用道路をいう。</p>	<p>3 条 12 項. 高速道路は自動車専用の、中央分離帯で上下車線が分離され、他の道路と平面交差はなく、走行上支障がなく安全が確保され、車両の出入路を備えた道路をいう。</p>
<p>条項 3-2 区分 Freeway/expressway はその設計速度により 4 種に区分する：</p> <ul style="list-style-type: none"> - Grade 60 : 設計速度 60 km/h - Grade 80 : 設計速度 80 km/h - Grade 100 : 設計速度 100 km/h - Grade 120 : 設計速度 120 km/h 	<p>3 条 18 項 自動車とは 4 輪自動車、トラクター、けん引されたトレーラー、オートバイ、3 輪自動車、モペット等をいう</p> <p>26 条 4 項 高速道路を通行できない車両：設計速度が 70km/hr 以下のモーターバイク、トラクター、原始的な自動車等</p>
<p>条項 3-4 Freeway/expressway は、（高架道路の場合は別として）将来地域計画を妨げることなく、これに適合するものでなければならず、設計にあたっては市街との交通流を確保するものとする。また、自然・社会環境問題の解決がなされ、沿線住民の生活と環境への影響を極力少なくし、地域分断が行われる住民の交通の便を確保するものでなければならない。</p>	

参考： 高速道路の O&M と一般国道の O&M との違い

高速道路も一般道路もその規格により種類は分かれ、両者の中間の性格をもつ道路もある。下記の図にその概念を示す。なお、有料か否かは一般には、両者を区別するものではない。それぞれの O&M は共通する点と異なる点がある。



2.5 高速道路整備計画

高速道路整備計画としては、2007年11月MOTが提案し、2008年12月首相承認となったものがある。

(DecisionNo.1734/QĐ-TTg) 下記にその概要を示す。

=====

第1条：22路線、総延長5873kmを計画。
その内訳は下記のようになっている。

区分	名称・区間	距離 km	小計 km
南北高速道路	東西2本のルート 東部(海岸沿い)、	1941	3262
	西部(山岳部分)	1321	
北部高速道路	Lạng Sơn- Bắc Giang- Bắc Ninh	130	1099
	Hà Nội- Hải Phòng	105	
	Hà Nội- Việt Trì- Lào Cai	264	
	Nội Bài- Hạ Long- Móng Cái	294	
	Hà Nội- Thái Nguyên- Chợ Mới (Bắc Kạn)	90	
	Lạng- Hòa Lạc- Hòa Bình	56	
	Ninh Bình- Hải Phòng- Quảng Ninh	160	
中部高速道路	Hồng Lĩnh (Hà Tĩnh)- Hương Sơn (Hà Tĩnh)	34	264
	Cam Lộ (Quảng Trị)- Lao Bảo (Quảng Trị)	70	
	Quy Nhơn (Bình Định)- Pleiku (Gia Lai)	160	
南部高速道路	Biên Hòa (Đồng Nai)- Vũng Tàu (Bà Rịa- Vũng Tàu)	76	984
	Dầu Giây (Đồng Nai)- Đà Lạt (Lâm Đồng)	209	
	Hồ Chí Minh City- Thủ Dầu Một (Bình Dương)- (Phon Thành (Bình Phước)	69	
	Hồ Chí Minh City- Mộc Bài (Tây Ninh)	55	
	Châu Đốc (An Giang)- Cần Thơ- Sóc Trăng	200	
	Hà Tiên- Rạch Giá (Kiên Giang)- Bạc Liêu	225	
	Cần Thơ- Cà Mau	150	
Ring Road	Hà Nội City Ring Road 3	56	181
	Hà Nội City Ring Road 4	125	
	Hồ Chí Minh City Ring Road 3	80	
計		5873	

上記高速道路建設のための必要な用地は、下記のように示されている。

直接建設用地	2.916ha	平均幅5m	注： 数字には疑問がある
間接的に必要な用地	38.188ha	65m	
合計	41.104ha	70m	

第2条：財源は、ローンを含む政府資金とBOT, BTO, BT, PPP等⁶を考えている。

2020迄	336,240 billion VND	2,355 km,	26 routes	出典
2020以降	429,980 billion VND	3,518 km	17 routes	MOT 提案書間 No: 6499/TT
計	766,220 billion VND	5.873 km	43 routes	17 September 2010

採用する技術は、ITを活用した最新のものとしている。
実施機関はMOTとし、競争入札、人材育成を念頭に入れている。
VECを高速道路への投資、整備の主要企業と位置づけている。
関係機関として地方人民委員会をあげている。

第3条：発効は2008年12月16日とする。

⁶ 添付書類7参照

2.6 高速道路の現状

高速道路の最近の現状は、添付表3にまとめているが、今回プロジェクト別の概要が判明したものについて、下記に示す。

ベトナムの国家予算はそのフローも公開されておらず、各省の予算も明確でない。大型交通インフラはODAや民活で行われた場合、マスコミ報道等でその額が推定されている。

プロジェクト	概要
Ho Chi Min-Trung Long	2010年開通 CCTVカメラを2km間隔で設置 韓国援助のパッシブ形式のETCを設置決定
HCMC-Long Thanh-Dau Giay	国道51号線(ロンタン市)経由する55kmの道路 設計施工形式で2009年末に入札段階にある 2014年開通予定 実施機関 VEC コンサルタント NK 初期投資額 6.66億ドル 資金 ADB JICA
Cau Giie-Ninh Binh	2011年開通予定 実施機関 VEC 建設費用約4.9億ドル 資金 ベトナム政府 CCTV ETC その他 ITS設備を予定
Hanoi - Thai Nguyen (NH3)	2013年開通予定 実施機関 MOT 資金 JICA 登録番号認識可能なCCTVカメラをインターの出入り口に設置 重量計測器を各インターに設置、重量違反車は警察に通報、次のインターで排除 気象観測装置をPho Yen, Thai Nguyenに設置しETCゲートとサービス施設を併設する Pho Yenの管理事務所に送る。 ETCはアクティブ方式で片方向1レーンのみ、ほかの5レーンはマニュアル。 可変型の表示板が各インターに設置され目的方向の情報サービスが受けられる。
その他	
管理センターO/C	中央管理センターは、北部・中部・南部の3箇所に予定されている。(No. 41/TB-BGTVT) 北部は、NH3のSoc Son、あるいはRR3の南のPhap Vanのいずれか。 中部は、Danan 南部は、HCMC
(重量車 ⁷ の検量所 ⁸)	13の道路に27か所の検量所を設置する首相通達(Decision45/TTg Sep 1993)がでていますが 実際は下記の2か所(一般道路)にパイロット的に設置されているのみ。 許容加重を10%以上超えた過積載車の報告例
	Dau Giay 検量所 (2009年3月設置) 全検査車両51852台に対し2931台(5.3%) (Highway No. 1, Dong Nai) (8ヶ月間の統計)
	Quang Ninh 検量所 (2010年6月) 全検査車両4196台に対し1523台(36.3%) (Highway No. 18, Quang Ninh) (4ヶ月間の統計)

本格調査実施に当たっては、対象道路の概要、特に検量所、ITS施設の内容を調査しなければならない。

⁷ WBの支援によるベトナム道路網保全事業(Vietnam's Road Network Protection Project:NPP)による、NH5においての2006年5月5日~11日の調査結果では、平均1日1000台の車が過積載で(全体の20-30%に相当)が観測された。この過積載車の中には、総重量80トン、後軸加重54tのものがあり、過積載率200%と報告されている。

⁸ 高速道路では、各事業者が個別に検量所を設置している

2.7 高速道路庁 (VEA) の立ち上げ準備状況

MOT は、高速道路管理をより効率的に行うため 2010 年 9 月に高速道路事業の運営管理機関として首相宛、ベトナム高速道路庁 VEA の設立を提案している。(6499/TTr-BGTVT)
これはカバーレター 6 ページ、本文 (3 編) 21 ページという長文であるがその概要は次のとおり⁹：

=====**第 1 編**=====

(I-1) MOT は、下記の工区で高速道路建設を始めた：Noi Bai - Lao Cai : Ho Chi Minh City - Trung Luong, Cau Gie - Ninh Binh : Ho Chi Minh City - Long Thanh - Dau Giay

(I-2) 高速道路の投資総額は次のように考えている。

Expressway routes	By 2020			After 2020			Total		
	Section	Km	Total investment (billion VND)	Section	Km	Total investment	Section	Km	Total investment
Eastern North -South Axle	11	976	176.730	3	895	102.510	14	1.871	279.240
Western North -South Axle	-	-	-	2	1.321	150.700	2	1.321	150.700
In the North	7	855	89.330	3	214	19.250	10	1.069	108.580
In the Central	-	-	-	3	264	19.350	3	264	19.350
In the South	2	265	31.440	5	699	103.670	7	964	135.110
Ring Road System - Hanoi	1	56	17.990	1	125	34.500	2	181	52.490
Ring Road System - Ho Chi Minh City	1	83	20.750	-	-	-	1	83	20.750
Other routes	4	120	2.902	-	-	-	4	120	2.902
Total	26	2.355	336.240	17	3.518	429.980	43	5.873	766.220

(I-3) 現在、高速道路の建設投資、維持、運営は下記のようなさまざまな組織で行われている。政府系機関ないし企業、国内外合弁会社、PPP 形態での民間企業と政府機関、純民間企業。こうした企業団体は、投下資金回収と運営維持管理のため開発権を得ることができる。

(II-1) 現時点での高速道路の運営管理は、Decree 51/2008/ND-CP に基づき MOT である。

(II-2) 高速道路の管理についての MOT の認識

高速道路と一般国道の違い	大規模で複雑なシステムを有し、投資規模も大きい。管理方法も ITS, ETC のような最新の技術を採用している。また、管理と投資面から見ると公益を重視する一般国道とことなり商業的側面を有する。ほかの国の例をみると政府資金や外国 ODA の活用より、BOT や PPP 契約が多い。建設は国の認めたいろいろな組織が担当するので、高速道路建設の恒常的な管理組織として新たな組織の設立が望ましい
高速道路の運営管理	新しい分野であり、既存の一般国道とは異なる技術を習得したスタッフを必要とする。円滑・安全な輸送を確保するため、非常帯、アクセスコントロール、インターチェンジ、舗装の種類、標識等に ITS, ETC を含めた新技術が要求され、そのため高速道路に特有の新しい管理運営システムが必要となる。またデータベースシステムも定期的に更新され方針決定・管理・補修に活用されねばならない。
高速道路の維持補修作業	大量且つ高速交通に対処できる安全で高度の技術基準を満たすものが必要で、たとえば舗装表面が悪ければ管理運営はできない。その補修は迅速性が要求されるもので一般国道での要求とはことなるものであり、こうしたことに対応可能な新組織が必要となる。新組織は、MOT に代わり、高速道路網の投資・建設・運営・管理全般の国家としての管理を指示・監視・実施するものでなければならない。

(II-3) MOT の管轄下に高速道路管理のための新組織を設置する必要性 (省略)

⁹ 参照したのはベトナム語の英訳版であり、翻訳に不明な点も多く日本語への意識に錯誤があるかもしれない

(II-4). 諸外国の高速道路管理の状況例

韓国	国家レベルの交通運輸担当は建設運輸省で、その管轄下に高速道路庁がある。韓国高速道路会社(KEC)は、国家予算50%、海外援助20-30%、債券発行により資金を調達し、高速道路の建設・運営・維持管理を実施。
中国	16州の内9州(経済発展が進んでいる地域)では道路局と高速道路局2つの組織を持つ。また各州には、国有あるいはJVによる高速道路会社が存在する。高速道路建設資金は登録税・海外機関・銀行借入・債券発行・民間の投資・政府援助からである。
マレーシア	1980年公共事業省の下にMHAを立ち上げ、建設・料金徴収・維持作業を実施している。建設資金は政府資金である。1986年MHAから高速道路の建設・運営を他社に移管する事例が生まれた。
日本	1995年までは国道と高速道の別組織が存在した。1995年高速道制度が完備し、地方別高速道路会社に分離した。これは道路局・高速道路親会社・債権機構の下にある。高速道の運営監理は道路局の下各組織で行われ、ITS、ETCも別個に運営されている。財源は、国債、料金収入である。
アメリカ	高速道の管理は連邦道路局で行われている。これはインド・マレーシア・中国と類似している。料金収受・維持は中央機関で行う。
国際機関から のコメント	副首相・世銀総裁が出席し2008年11月に開催された高速道路投資開発戦略セミナーで、世銀は高速道専門の管理機関の設立を推薦し、JICA、ADB、EDCFからの賛同を得た。MOTは専門組織をPPP事務所と平行して立ち上げるとした。

(II-5). 結論

現状、諸外国の先例、専門家・コンサルタント・投資家の意見を踏まえ、2008年12月発布の法令1734/QD-TTgに基づき、高速道路を専門に管理する新組織の立ち上げを提言する。

=====**第2編： 高速道路管理組織案**=====

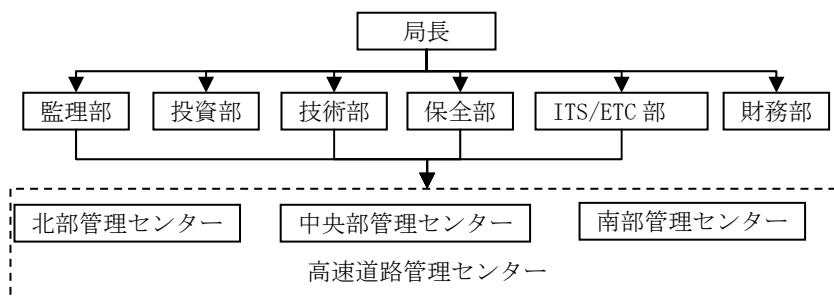
(A) 設置の目的 (省略)

(B) 設置方法

案1：VEAをMOTの管轄下とする	案2：VEAをDRVNの管轄下とする
MOT 其他関連政府機関と直接的に迅速に対応が可能。 高速道路専門の機関として技術・運営管理が可能。	一般国道での経験を活用でき、国道と高速道路を一体化した道路網管理が可能
既存の道路での経験者がいないため、運営効率上問題が懸念される。	MOTとの直接の接触がなく、迅速な対応が期待しにくい。高速道路網が未発達な段階では適応可能。
結論：以上の2案を比較した結果 案1を提案する	

案1の詳細

- B1 概要 高速道路網の建設・運営についてPPP、BOT、BT¹⁰に関する問題について大臣に助言する
- B2 職務権限 計画・法令・基準・投資・料金・海外協力・PPP・先進技術・人事・他省庁との調整・安全
- B3 組織



B4 備考 VEAには運輸交通大臣に任命される部長を1~3人おく

=====**第3編： 結論と提案**=====

1. VEAをMOTの管轄下に設置する
2. 高速道路建設と管理に係る追加法令を準備する。
現行の道路法は、高速道路についても記述があるが あいまいで詳細でない
3. 高速道路建設・料金徴収・維持について国内外の投資家とのPPP協定についての法令を検討する

¹⁰ 添付資料7参照

2.8 他ドナーの援助・協力の状況

WB は現在下記のような青写真を考えている

BOT あるいは類似の資金調達プロジェクトについての道路法や政令 7 8 に基づく高速道路の整備・運営についての法的フレームワークの構築
制度・法制のフレームワークに見合う高速道路の計画、整備、所有、運営に係る適切な組織の立ち上げ
高速道路整備に必要な活動内容とスタッフの強化についての MOT への支援

実施中のプロジェクトには次のようなものがある。

The Road Network Renovation and Upgrade Component Project	Total Cost : 125,000,000 USD 工期 : 2005-2012
---	---

ADB は下記のようなことを計画しているとのこと

一般的な道路運営とベトナム高速道路庁の効率的な運営	MOT はその国営会社の USD1.1billion に及ぶ負債 (2009) を解消せねばならない
高速道路プロジェクトの財務支援と VEC の財務的強化	高速道路建設のための資金の調達方法の多様化、高速道路プロジェクトに PPP を活用する方法、VEC の高速道路管理運用能力の向上を図る
ベトナムの風土にそぐわない設計基準の見直し	設計基準の柔軟な運用
持続的で効果的な道路アセットマネジメントシステム	高速道路建設に伴い急増する道路アセットの O&M のためのファンドを作る 道路状況のデータ収集は、道路保全の第 1 歩である。 地方道路にかけている保全のためのデータを整備する。
道路セクター管理のフレームワークの改善	MOT と道路関係機関、JICA、世銀との Policy に関する調整

実施中のプロジェクトには次のようなものがある

Noin Bai~Lao Cai 道路建設	2007 年 11 月融資決定 USD11 億 2009 年着工
-----------------------	----------------------------------

2.9 受入国側の現地リソース

プロジェクト実施の際に活用可能と思われるローカルコンサルタント 2 社を訪問し面談した。

名称	面談内容	参照
TEDI Transport Engineering Design Institute	ベトナム国営コンサルタントとして発祥した。 現在従業員 2000 人を擁する同国最大の交通関係のコンサルタントである。 高速道路 O&M について関与したものは次の通り： *HCM - Trung Luong の O&M マニュアル案を作成 (ベトナム基準 22-TCN336 のほか SMEC の報告書、中国、韓国のもの参考とした) *NH3 の ITS 関係の設計 (料金所、CCTV カメラ、表示板等) *Hanoi - Hai Phong では VIDIFI の BOT 契約案作成にたずさわっており (未完成) KEC と協力関係にある JICA の T/A に参加することで実績と経験を積むことには意欲的	面談記録 2月17日
UTC University of Transport &Communication (交通大学)	UTC は、傘下に 23 の会社組織となっているコンサルタントを持つ。 現在 HCM の PP に対し、ロードプライシングの FS を実施中。 交通信号制御の調査研究を実施中。 ITS に関して科学技術省に国家委員会の設立を提案し不採用となった。 O&M についての最近の研究は、ノンストップ課金方式である。 維持管理基準の数値については事業者の判断するものとの見解。	面談記録 2月21日
SMEC	TEDI との打ち合わせで聞いたコンサルタント名であるが未調査	

印象としては、交通大学は、研究的な分野に重点を置いているようであり、TEDI は、O&M は新分野ではあるが、実務面からさらに努力したいという意欲が感じられた。プロジェクト実施に際し、両者とも協力を期待できると考えられる。

2.10 参考となる調査報告書

ベトナムの一般道路・高速道路についての調査報告書は下記のように多くのものがある。

2009年2月 (添付リスト 5の19番)	KIC, ORICONで国道の維持管理についてまとめたSAPI2の報告書(全241ページ)。 WB、ADBが援助してきたPMS (ROSY、HDM4) の活用方法についての提言。 2.1道路区分。2.2管理組織。2.2.2.(2) 点検頻度。2.2.3管理維持手順。2.2.4実施計画。2.2.5予算。 2.3.1ROSY。2.3.2HDM4。2.4外国の例。2.5ベトナムでの実績。2.6問題点(関係機関の調整、管理の本質、予算)。3.6.2収集元データの解析。3.8結論としてデータベースの質が悪い。4.提言ではデータを建設当初から集め、まめに更新していくこと。VRAの組織改革を行うこと(=5章にも同じ記述)。 6.橋梁管理。8.結論と提言(専門委員会の立ち上げ、スタッフのキャパシティ・ビルディング)。				
2009年12月 (添付リスト 5の28番)	MOT (Mr. Hong, DTI) ではHCM-Trun Luong 高速道路を対象としたO&Mマニュアル案をTEDIに依頼し作成している。これは 運用編と維持管理編の2部からなる。 今回入手したものはベトナム語版であり 英訳は入手していないが、目次(和)は、下記の経産省報告書P3-29~P3-31に記載あり。				
2010年3月 (添付リスト 5の31番)	経済産業省が行ったベトナム高速道路維持管理事業形成調査報告書。その目的としては下記の2路線についてのO&MをPPPの形式で実施可能かどうかの調査。 <table border="1" style="width: 100%;"> <tr> <td>Cau Gie=Ninh Binh : 50km (巻頭図に位置を示す)</td> <td>料金所未定、0/C1、サービスエリア1</td> </tr> <tr> <td>HCMC =Dau Giay : 55km (下図に位置を示す)</td> <td>料金所3、0/C1、給油所2</td> </tr> </table> <p>以下4つの方式を提言している。</p> <ol style="list-style-type: none"> 委託方式：ベトナム企業がO&Mを実施し、日本側がノウハウを提供 委託方式：ベトナム企業とのJVを組んでのO&Mの実施 コンセッション方式：ベトナム企業とのJVを組んでのO&Mの実施 コンセッション方式：ベトナム企業とのJVを組んで部分的O&Mの実施 	Cau Gie=Ninh Binh : 50km (巻頭図に位置を示す)	料金所未定、0/C1、サービスエリア1	HCMC =Dau Giay : 55km (下図に位置を示す)	料金所3、0/C1、給油所2
Cau Gie=Ninh Binh : 50km (巻頭図に位置を示す)	料金所未定、0/C1、サービスエリア1				
HCMC =Dau Giay : 55km (下図に位置を示す)	料金所3、0/C1、給油所2				
 					
2010年	JICA は、交通輸送システム総合調査を行いVITRAN SS2報告書を出している。ここにはITSのマスタープランおよび南北高速道路マスタープランが提案されている。				
2010年6月 (添付リスト 5の32番)	MOTはDecision 195/QG-TVT (2010年1月) に基づきHCM-Trun Luong 高速道路を対象とした管理運営(M&O)のための規則案を作成した。(泰専門家にコメントを求めてきたもの) 全20ページの主な内容は下記の通り： バイク等の通行は禁止。速度100km/h~60km/h。非常時には携帯?で非常用番号にかける。重量超過車は許可を受ける。交通規制距離は5段階に分けて実施。悪天候時の速度規制。交通警察との協力内容。地方関連機関との協調。事故現場の扱い。組織図と職員数。設置機材数。交通量表。事故発生率表。定期的O&Mの頻度規定。(サービスレベル規定はない)				
2011年1月 (添付リスト 5の37番)	ITS技術基準・運用計画の策定支援調査報告書 (JICA) ITS実施のために下記を提案： 3.3プロセス。3.4サービスレベル。6.フレームワーク。6.8料金体系。7.重要ポイント。8.基準書。9.パイロットプロジェクトの提案。				
2011年2月 (添付リスト 5の38番)	Proposal of Expressway Development & Operation の報告書 (JICA) 2.1関連法令、基準、料金、用地、BOT、環境。2.2関係組織、PPP。2.3高速道路開発計画。3.問題点(組織と財源、総合管理、基準、VECの財務管理、VECの立場)。4.VEAについての提言。5.O&Mの方向性。				

3章 高速道路O&M事業として実施すべき内容

3.1 O&Mの目的

道路（特に高速道路）のO&Mの本来の目的は、巨額の資金を投じて建設した道路施設がユーザーのために安全性・快適性を保持しながら効率的に保全され、経済の発展に寄与することである。その目指すゴールは下記のような項目であり、これらの設計時に設定されたゴールを維持することがO&Mの目的である。

- 運輸交通システムの運用管理の効率化
- 円滑且つ正確な運輸交通の確保
- 主要道路へのスムーズなアクセス
- 利便性と快適性の確保
- 先進技術の導入により産業の発展への貢献
- 安全確保
- エネルギー効率を高め環境コストを低減すること

O&Mの分野では、従来の事後処理型の保全から予防保全型のO&Mに移行してきている。その目標としては、①必然的な道路施設の通常劣化を如何に予測し損傷を起こす前に手当てしていくか、②劣化とは別個の道路の破壊要因¹¹を如何に取り除くか、の2つが基本である。

道路構造物・施設の劣化予測保全のためには、「PMSやBMSと呼ばれる、経年変化を観測・点検し、データベースとして保存し、（劣化予測をたて）予防的保全に心がける」システムの確立が望まれる。しかし、過去の報告¹²を見ると旧VRA（現在のDRVN）のデータベースは、信頼性において低く有効活用できるものではないとされている。有効なPMSあるいはBMSのデータベースを含むシステム構築は、それ自体が一大プロジェクトになりうるもので、今回のO&Mの対象とはならないが、並行して実施される技術協力プロジェクト「道路維持管理能力強化プロジェクト」や実施中の有償資金協力「国道・省道橋梁改修事業」において、それぞれPMSおよびBMSの導入を検討しており、両案件の成果を参照しつつ、データベースの基本的な目的・内容はマニュアル案に記載することが望まれる。

保全と逆行する立場にある筆頭が違法車両による破壊行為である。重量車は、その軸重の4乗に比例して路面を破壊することは実験で確認されている。また、速度制限オーバーや酩酊運転は、人身事故を起こし、施設を破壊する。従い、違法車両走行を取り締まらなければ、劣化予測を超える損傷が発生し、O&Mは成り立たない。このため、事故・災害時の救援活動も含め交通警察との協力は不可避である。幸い、今回の交通警察との打ち合わせでは、積極的支援が期待できる発言があった。

3.2 O&M対象項目

3.2.1 全般的に見た対象項目

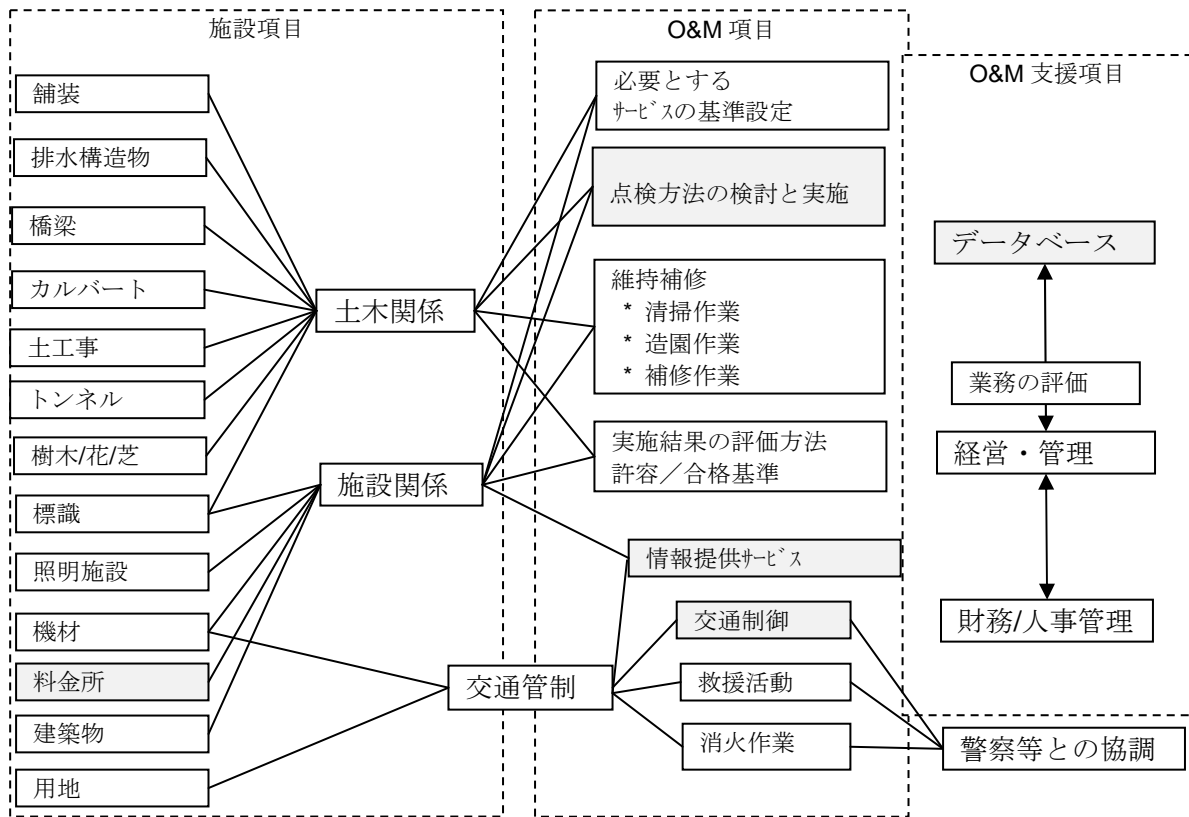
高速道路のO&Mでは、一般道路より高度の設計規格にあわせたサービス水準の維持が望まれると同時に、高速走行条件に対応した安全管理と交通管制が求められる。また、独自の施設（サー

¹¹ 2.6節の脚注参照

¹² 2009年2月SAPI-2: Highway O&M methodology (Draft)

ビス施設、植栽等)の管理、インターチェンジ以外のアクセス部分を持たないことに起因する事故・救援体制が必要となる。

下図に O&M の対象となる項目の関係を示す。



注：

- DRVN は上記の中で優先順位を次のように希望している。
1. 事故・災害を含む交通データの集積・解析・処理方法
 2. 道路ユーザーに対する情報サービス
 3. トラックの重量管理
 4. 料金徴収システム
 5. 定期的点検・保全方法 (ITS 関係を含む)
 6. 老朽化した部分や大交通量区間の大規模改修方法。
 7. 必要な補修作業を随時行う方法

3.2.2 ITS (高度道路交通システム)

ITS は、人と道路と自動車の間で情報の受発信を行い、道路交通が抱える事故や渋滞、環境対策など、様々な課題を解決するためのシステムであり、一般道路はもちろん、特に高速道路においては必要性が高い。

ITSの範疇は、非常に広く、ITSを含むO&Mの整備レベルの段階は下記のように示すことができる。

	交通管制	料金所	事故対応	清掃	点検・補修
ITS：最低限	限定した CCTV	簡易な方式	他事業者と共用困難		
O&M：低レベル	渋滞対応困難			敏速な対応困難	手作業併用
ITS：中レベル	監視を中心とした	コンタクトレスカード	同上		

	小規模システム	距離制料金困難		
O&M：中レベル			低速型	専用機械
ITS：先進のもの	監視と情報提供系の一体化+本格的ETC	(費用が高い)	(施設設備高額)	
O&M：高レベル			高速型機械	ロボット等

最終段階のものとしては、VICS(Vehicle Information and Communication System)、Telematics systems(テレマティクスは、車両とセンターとの相互通信によって、ドライブに役立つ様々な情報を提供するサービス)、AHS(Advanced Cruise-Assist Highway Systems)、ASV(Advanced Safety Vehicle)、ユビキタス ITS(ITを活用して、いつでも、どこでも、だれでも、移動経路や交通手段、目的地などの情報を得られる「自律移動支援プロジェクト」)、さらには自動運転等が提唱されてきている。

ベトナムでは、まず、中レベルを目標とすることが実際的である。この場合、当面導入が求められるITSには次のようなものがある。

分類	ITS施設	必要程度
交通管 制	非常電話システム	携帯電話で代替可能か?
	交通量計測システム	○
	重量計測システム	○
	CCTVカメラシステム	ICその他に必要
	気象観測システム	○
	移動無線通信	○
	可変式道路情報板	○
	ハイウェイラジオ	将来
	VICS	将来
	インターネットWEB	将来
交通情報システム	SMS	将来
	センターシステム	交通管制システム
料金収受	料金徴収システム	当面人手による?
通信システム	(光ファイバーケーブル)	○

出典：高速道路における運営維持管理事業 P3-61~62

VITRANSS2のITSマスタープランではITSの整備段階を下記のような時系列で考えている。¹³

(1) 交通情報	交通制御	
(2) ノンストップ料金徴収		この3つを優先課題としている。
(3) 超重量車両制御		
(4) 都市間公共輸送		次の時点での課題としている
(5) 駐車支援		
(6) 道路課金制度		地域の交通対策のひとつ

本プロジェクトでのITS関係の取り扱いについては、別プロジェクトとして予定されている「ITS統合プロジェクト」との連携が必要である。

3.2.3 ETC(電子料金収受)

ベトナムでは、一般国道でも約70-80km毎に料金所が設置され、乗用車で1万ドン(約50円)が支払うよう、法令で制定されている(Decision90/2004/TT-BTC)。BOT高速道路ではこの2倍が認められており、料金徴収が行われてき



¹³ ITS 技術基準・運用計画の策定支援調査による

ているが、大部分の箇所では機械の使用はなく、2ストップ（ゲート手前での切符販売員とゲートでの切符受け取り員が別個の方式）もしくは1ストップ（ゲートで直接料金を支払い領収書として半券を受領する方式）である。

ETCについては、過去に様々な方法が試行されてきているが、まだ限定的であり、統一は困難な状況にある¹⁴。

2008年3月、ハノイ近郊のハイフォン市のビン橋に1箇所：右の写真、ホーチミン近郊ではハノイ・ハイウェイなど2箇所にオーストリアのエフコン社が開発した赤外線方式ETCの機械が、現地のSI業者により導入された。車載器はUSD65-で販売されており、これまでハノイでは1,000台、ホーチミン市では20,000台の車載器がエフコン社より供給されている。¹⁵

ベトナム政府は今後建設予定の高速道路への建設段階からのETC導入を視野に入れて検討を進めており、今後はETCの展開が本格化してゆくと考えられているが、今後本格的に運用するとなると運用方式の決定にあたり下記のような課題を解決しなければならない。

解決されるべき課題	担当機関
(1) 体系化された方法で交通情報管理を実施するために、どのような組織を活用すべきか	MOT (DTI)
(2) 道路管理事務所に対応して権限を付与された高速道路交通警察の立ち上げ	MOPS (RRTPD), MOT (DTI)
(3) 高速道路料金を決めるための車種区分の定義	MOF, MOT (財務部、DRVN)
(4) 道路管理者毎の料金徴収方法の設定	MOT, ベトナム国立銀行
(5) ICカード発行のための銀行数の決定と銀行数が2以上の場合の決済センターの決定	ベトナム国立銀行
(6) 有料料金を交通量に応じ公正に徴収しているかをチェックする機関の決定	MOF, MOT
(7) 車載器のメーカーの決定	MOT (Vietnam Register)
(8) 料金所での料金徴収ミスや不正通過を防止するための方法設定	MOF, MOT (財務部)
(9) 過積載車取締の権限を道路管理者と交通監視担当との間でどのように分担するか	MOT
(10) 統合的に通信網を運営するための組織・通信会社の選択	MOT, MIC
(11) ITS実施用に必要となる無線周波数の決定	MIC (無線周波数管理部), MOT

出典: The Study for Supporting ITS Standards & Operation Plan Development in Vietnam Table 6.9

上記に示すような多くの機関が関係する複雑な準備体制を必要とするから、MOTの体制強化を中心とした本プロジェクトにETCを含むITSのO&Mを含めることは難しく、また、ETCがO&Mに欠かせない要素ではないことから、今回のプロジェクト対象項目からは、除外することが適当である。

3.3 技術標準、ガイドラインの準備項目

3.3.1 マニュアル記載項目

OJTの対象は下表のように幅広く、マニュアルもそれぞれに必要となる。

運営管理	原状維持のための維持補修	機能向上・改良	記載すべき最小限の項目
道路施設管理		利用者増加対策	* 道路の点検項目と
清掃・緑地管理・照明、	舗装	車線増設	頻度・記録・報告方法
災害復旧、水道光熱供給	橋梁	サービス施設拡充	* 道路管理機器の点検項目
料金収受	トンネル		* 定期的な維持項目と方法

¹⁴ VITRAN2 報告書(2.8.2)に実施例記述あり

¹⁵ 道路新産業開発機構 WEB Site

交通気象情報, 交通管制
定期巡回
情報提供サービス (表示
板・ラジオ)
交通監視 違法運転取締
事故対応

地下埋設物
建築物
機械器具
電気関係施設

但し、対象とする
高速道路が新設で
あると考え
機能向上・改良は
今回の対象とはし
ない。

- * 補修項目と補修実施基準
- * 交通管理巡回頻度
- * ITSの維持管理事項と基準

情報通信システム管理
光ファイバー管理

下記に、参考用として、本プロジェクトで対象とするO&M実施訓練項目の細目案を示す。

O&M実施訓練項目の細目案

	道路施設管理			交通管制					供給	道路 料金	評価	予算	人事			
	維持点検	清掃	修繕補修	違反 取締	事故 対応	運用員	交通情報	交通 規制								
舗装	路面測定車		ローラー	警察車	警察車 救急車 レッカー車		標識車									
橋梁	橋梁点検車		○													
トンネル	トンネル点検車	○	○													
路肩	○	清掃車	○													
歩道	○		○													
法面擁壁	パトロール車		○													
芝		芝刈機	○													
排水	○	圧水機	○													
地下埋	○		○													
立体横断	○		○													
建築物	○	○	○													
機械器具	○		○													
電気施設	○		○						E							
照明	梯子車								E							
植樹	○															
標識	○	洗浄車	○													
区画線・鋸	○		○													
防護柵	○		○													
誘導標	○		○													
可変表示板	○	○	○			○										
建物	○	○	○			○			EW							
サービス施設	○	○	○			○			EW							
バス停	○	○	○													
用地	○	○														
CCTV	○		○			○		○	E							
車両識別	○		○			○		○	E							
ICカード	⊖					⊖			E	⊖						
路車間通信			○			無線設備		○	E							
軸重計	○		○			○		○	E							
伝送ケーブル			○				○	○	E							
気象観測	○	○	○			観測器	○	○	E							
移動無線	○		○			○	○	○	E							
O/C	○	○	○		○	○	○	○	E							

E:電気の供給 W:水の供給

参考：DRVN は O&M のマニュアル作成に当たっては下記のような点を重視すべきと要望している。

- 安全性、速度、過積載についての既存の法律・基準の見直し
- サービス基準の設定
- O&M の実施方法の研究
- O&M 基準案の研究
- O&M のフレームワーク・機構案、
- 国家運営機構についての意見交換、MOT との意見交換と組織機能、
- 必要となる法律、基準、マニュアルの作成
- パイロットプロジェクトの実施： Phap Van - Cau Gie Ho Chi Minh City - Trung Luong

今回の2年を想定したプロジェクト期間で、高速道路O&Mの運営管理システム、スキーム、組織、アウトライン、制度、調達方法等含めた全般項目についてベトナム側に提言するのは、時間的に困難といえるので、プロジェクトの範囲を絞り、成果が見えるものとするのが本プロジェクトのポイントの一つといえる。

3.3.2 VEC や BOT プロジェクトの扱い

2007年9月のDecision 1202で公社的な高速道路会社として認められているVECの扱いや、民間資金を活用するため制定されたDecision71 及び Decree 108 に基づきBOT実施中の各社を、VRAの下でどのように扱うのか、法律の枠組みは不明である。BOT契約プロジェクトが、最終的にMOTに移管される場合、その道路施設の現況条件は、問題となる可能性が高いが、未だ明確な契約内容は確立されていないようである。高速道路のO&Mを統合的に管理していく方針でマニュアルを作成する場合には、契約変更も必要となる可能性が高い。

今回の詳細計画策定調査では、BOTプロジェクトでの契約内容は、実施業者から開示を受けることができなかったが、BOT契約については、下記のような法令が出ている。

* Decision71/QD-TTg: Regulation on Pilot Investment using PPP Model: 2010 Nov

* Decree 108/09/ND-CP: New BOT, BTO, BT Regulation including PPP scheme: Nov 2009

BOT契約下での高速道路のO&Mについても今回のマニュアルに記載すべきか否かは本格調査の当初に決定すべきと考える。BOT契約をも考慮する場合、将来を考えパフォーマンスベースの契約を研究する必要があると考えられる。

3.3.3 維持すべきサービス水準

マニュアルの作成に当たっては、将来のゴール設定を想定し、サービス水準の目標を具体的な数値としてどの程度とするかは重要な点である。

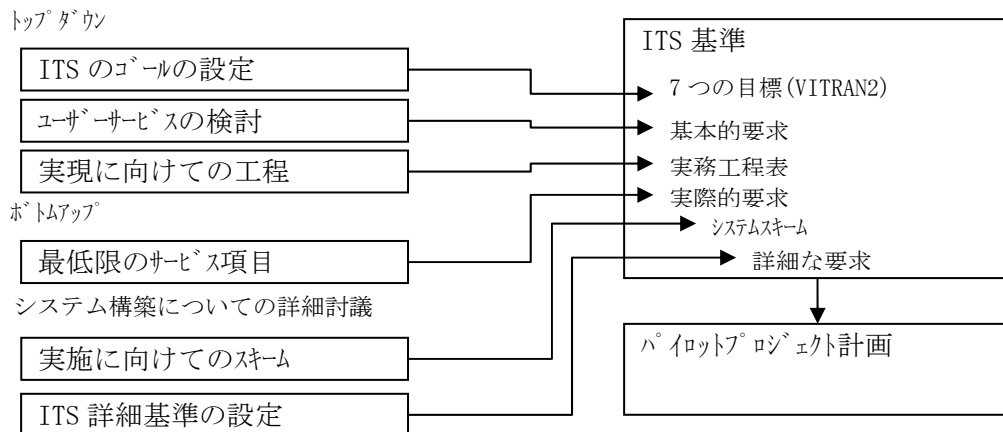
現在のところ、ベトナム高速道路O&M暫定マニュアルには、具体的数値はないが、過去の規定には下記のような数値基準が存在する。

2003年版一般道路維持管理基準 (1527/QD-BGTVT)	一般道路についての設計基準 (TCVN4054)	高速道路設計基準 (TCVN 5729)
点検項目 (2.3.1-4節)	-	-
維持修繕方法 (3章)	-	-
結果の承認方法 (4章&付録7)	-	-
路面平坦性 (付録2&3)	舗装の平坦性 (8.6節)	舗装平坦性 (8.4.1節)
-	路面最大湛水深さ (10.9節)	-
-	-	照度 (10.5.2節)
-	-	サービス施設設置間隔 (10.6.1節)

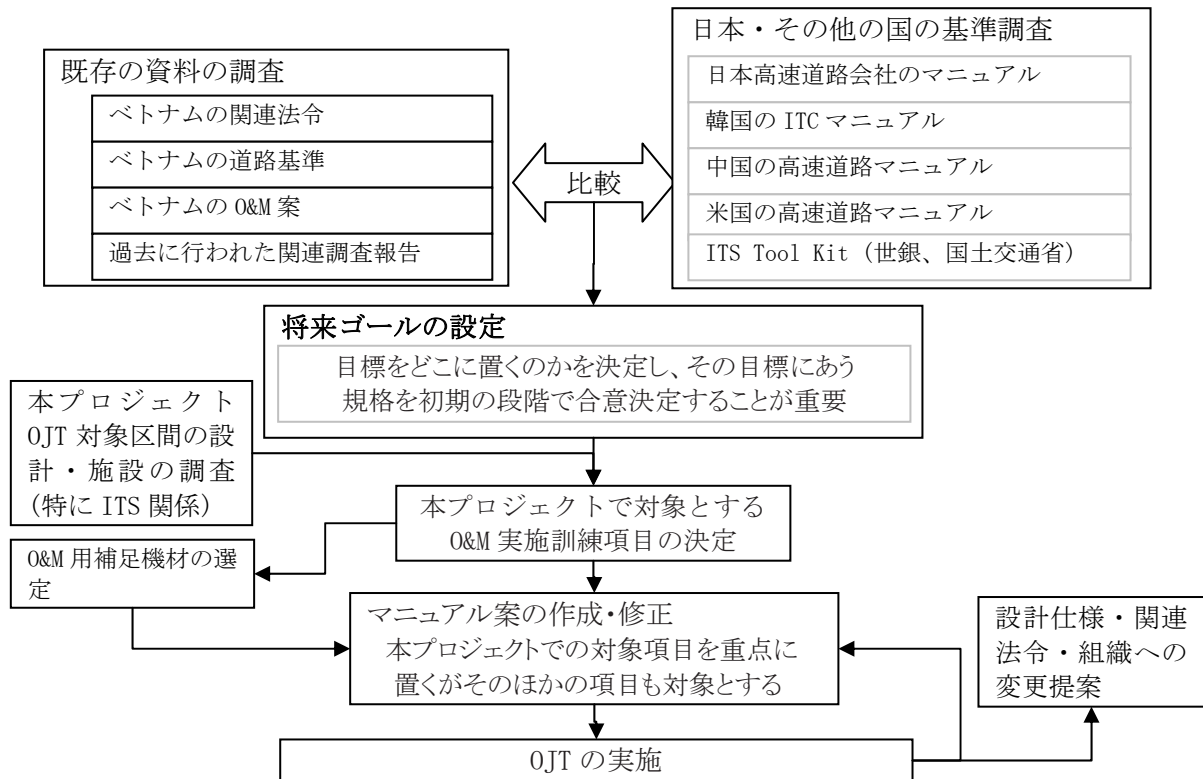
しかしこれら基準の要求程度は高くベトナムでは現実的とはいえない。また、軟弱地盤層が厚く圧密沈下を待つ時間的余裕のない工事が常態化しているベトナムに、日本の高速道路維持管理基準を適用することは、問題があり、本格調査で検討すべき課題といえる。

3.3.4 O&Mのマニュアルの準備手順

非常に幅の広い ITS 整備のための手順については、2011 年 1 月の JICA レポート「ITS 技術基準・運用計画の策定支援調査報告書(3 章)」に下記のように示されている。



上記を参考に、本格調査で、高速道路のO&Mのマニュアルを準備するための手順案を下記に示す。

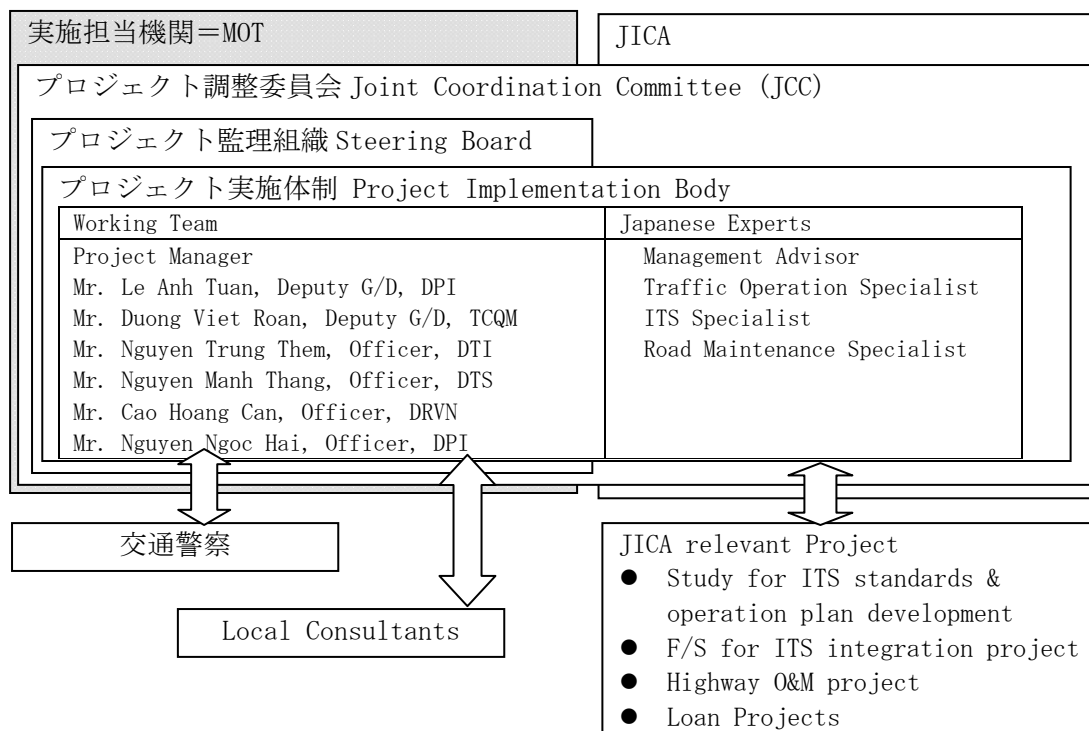


重要なのは、既存の資料と海外の参考基準の比較に基づいた将来ゴールの設定、OJT対象区間に設置される施設を検討してのOJT項目の選定である。

3.4 プロジェクト実施のための組織・現場・関係機関

高速道路のいくつかは既に完成し供用を開始しており、現在、その維持管理は、道路総局やMOT直属の組織、BOT project 実施を行う企業等が、国道管理の延長線上で実施しているが、本格的な運用に伴う高速道路の&Mの方針確立が緊急課題とされている。このため、高速道路を管理する専門組織として、前述のように、VRA（ベトナム高速道路庁）の設立が2010年9月首相宛にMOTから申請がなされ、現在その認可を待っている状況にある。今回の調査を通じての感触では、2011年半ばには許可が下りる見込みとされているが、VRAの組織形態、権限もふくめ、MOTの提案どおりとなるか不明の状態にある。MOTの見解としては、設立調査は、MOT内部の各部局から15人程度選出し、VEAを組織する見込みとのことである¹⁶。

一方、本プロジェクトの実施体制としては本件議事録の中で下記のように合意されている。

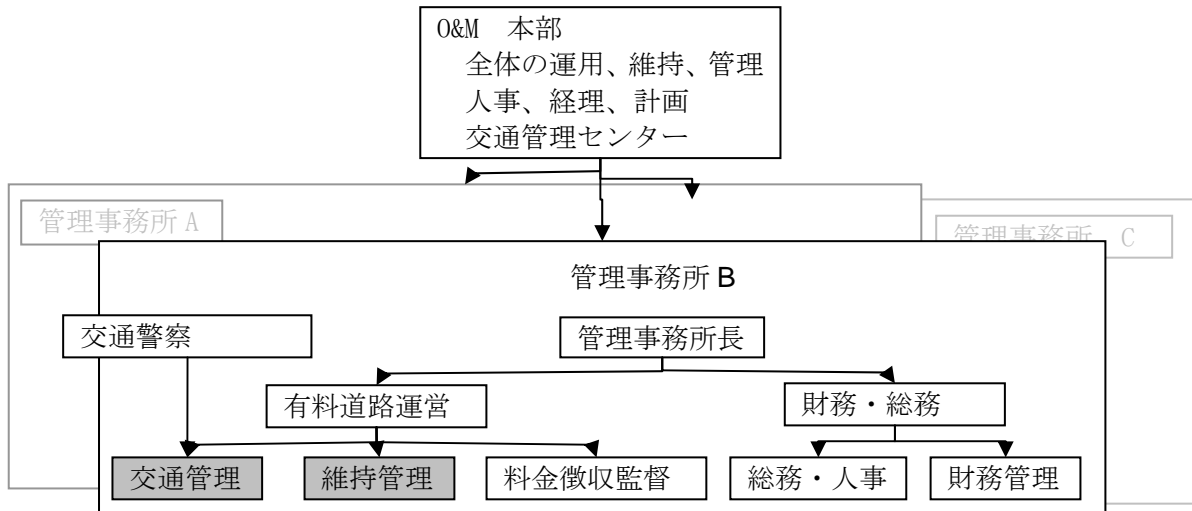


上記は、いわば本プロジェクトの管理組織であり、この体制で 基準・ガイドライン案を作成する計画である。さらに作成された基準・ガイドラインは現場実務の技術移転を通じ問題点を見直す必要があり、このOJTまでが本プロジェクトのスコープとされている。

今回のOJTの対象組織は、上記組織とは異なる高速道路の現場を実際に管理している組織・実戦部隊が望ましい。即ち、OJTの訓練対象・技術移転の受け皿となる実働チームは、管理事務所の職員でなければ実務的なものにはならない。そこで、暫定的にプロジェクト対象路線の維持管理担当とされているDRVN、VECの職員を想定する。

通常、供用中の高速道路管理センターは下記のようなものと想定されるので、こうした組織の中の交通管理部門、維持管理部門のスタッフから選抜き、OJTの訓練を行う。

¹⁶ その予算は（人件費込みで通常一人当たり USD1500/年なので）200万円/年程度と推定している。

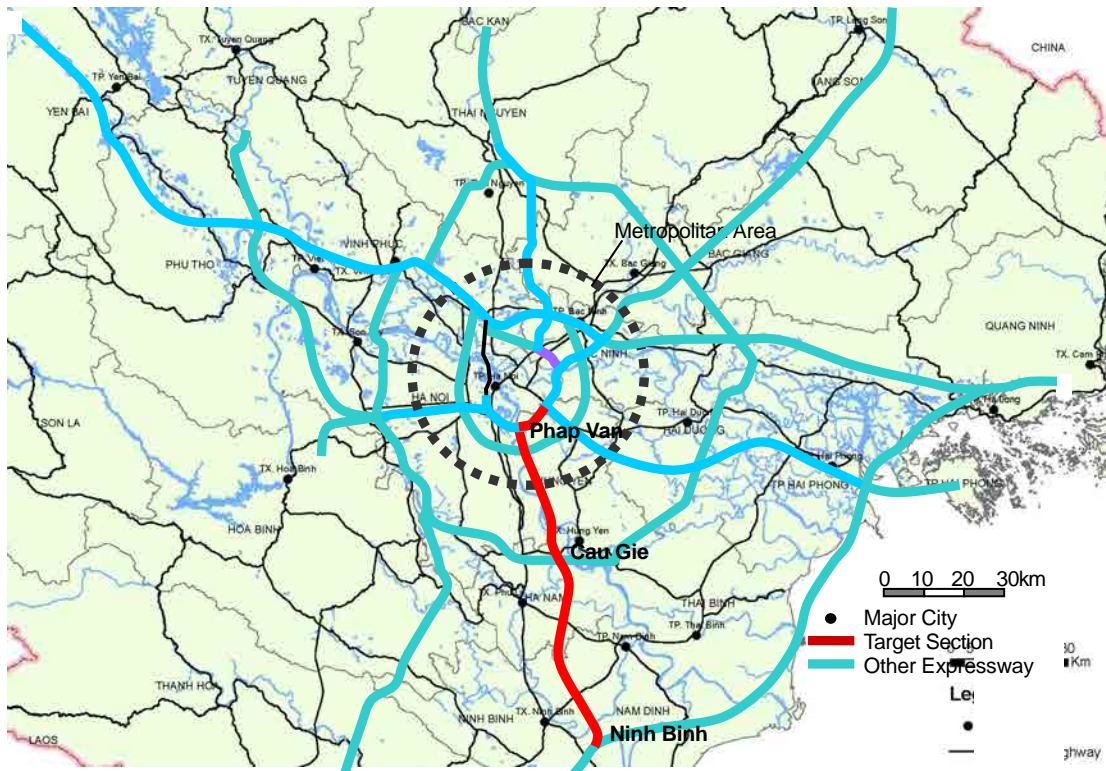


OJTの対象現場としては、今回の調査でのMOTとの話し合いの中で、その候補としてハノイ近辺の下記の3つの路線があがった。

環状3号線 (NH-5=Phap Van)	10km	高架道路として2010年から供用中	JBIC資金
NH1 (Phap Van=Cau Gie)	30km	NH1のバイパスとして数年前から供用中	
高速 (Cau Gie=Ninh Binh.)	50km	2011末~2012年に開通予定区間	VECが国内予算で整備

(注：この3本の路線は下図に示すように連続した道路である。)

環状3号線はわが国の資金援助によるプロジェクトで暫定開通したばかりであり、これとつながるNH1は、すでに舗装が痛み始めている。また、CauGie~NinhBinhはこれから開通するという区間であり、供用開始の時期的にみて、3種類の道路が対象となる。

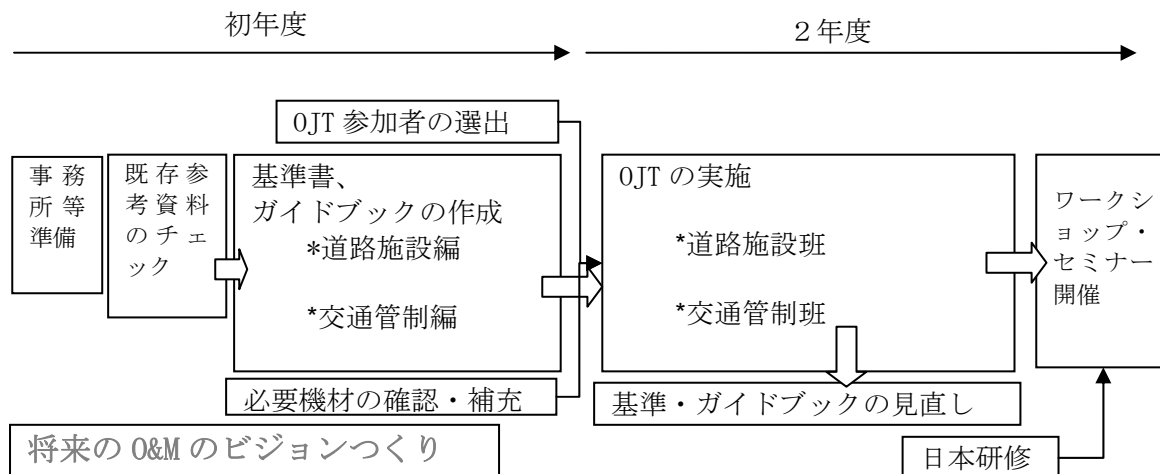


なお、本プロジェクトを実施するにあたり下記のような Stake Holder との協議は不可欠である。

	役割	対象機器
O&M 実施主体者	交通管理センターと路側装置の管理運営 維持補修業務実施管理	CCTV、車両検知 無線通信機器
交通警察	違法走行車両取締 事故発生時の対応	高速パトロールカー 救急車
地区の人民委員会	周辺交通との競合の調整	
道路料金管理者	道路料金の管理と路側装置の管理運営	本プロジェクトでは対象外とする想定。
銀行決済事業者	銀行決済センターと路側装置の管理運営	
ETC 車載器事業者	ETC 車載器発行管理	
IC カード事業者	IC カード発行管理	
情報提供事業者	Web や携帯電話を通じての交通情報サービス	
ラジオ・TV 事業者	ラジオ・TV を通じての交通情報サービス	
携帯電話事業者	携帯電話を通じての交通情報サービス	
有線通信事業者	光ファイバー運営管理	(ITS 関係で必要作業であるが本プロジェクトでは扱わない予定)
電力供給業者	センターや路側装置に必要な電力供給	

3.5 実施工程

実施工程として 次のような工程が考えられる。
 重要なのは、将来のO&Mのあり方を議論し、ビジョンを明確にし、標準化を目指すことである。



4章 事業実施の前提条件

ベトナム側が準備している組織改革案やマニュアル案の準備状況から見ると、本プロジェクトに対するベトナム側の意欲はかなりあると考えられる。しかし次のような前提条件を考慮する必要がある。

- 1) 今回合意したプロジェクトの ①基準・マニュアルの整備支援と②OJT を通じてのこの修正・改良という実施内容からみれば、VEAのような事業の直接実施機関が対象となることが望ましいが、その組織設立は準備段階にある。一方、すでに複数の高速道路が開通し始めて

いる状況にあることを考慮すると、別途、制度や基準を速やかに整備するため、本プロジェクトのような対策を早急にも実施することも必要である。このため、MOT内の関係部署により構成される本プロジェクトのための Working Group 及び本プロジェクトの成果を法制度化していくための上位組織として合意された Steering Board が確実に組織され機能することが必要である。

- 2) VEA の設立は当初 15 人構成と説明がありその予算は通常人件費込みで年 1500 ドル x15 人分程度であり、設立後もしばらくは十分機能しないことも懸念されるので、現存の維持管理組織である DRVN や VEC 等の実施組織・体制の活用も必要である。
- 3) MOT は、技術協力プロジェクトの実施経験は持たないが、ベトナム側の負担部分を認識し、プロジェクトを実行出来るスタッフ・予算を含めた裏付けを実行することが望まれる。
- 4) プロジェクト実施に際しては、基準や制度の部分に関して、ベトナム側の行政や社会風土、技術的背景を熟知する必要がある。また、参考書類・成果物もベトナム語によるものが多くを占めると思われることから、ローカルコンサルタントの有効活用が重要な前提条件となる。

5章 提言

巨額の資金を投じて建設した高速道路がユーザーのために安全性・快適性を保持しながら効率的に保全され、経済の発展に寄与することが O&M の目的である。

我が国の先進技術の移転という面からみれば、従来の事後処理型の維持管理から予防保全型の維持管理に切り替えるように提案することは重要である。

予防保全では、①違法車両による破壊行為・破壊要因を如何に取り除くか、②避けることのできない道路施設の通常劣化を如何に予測し対策を講じていくか、の2つが基本となる。

過積載・速度制限オーバー・酩酊運転等の違法車両走行を取り締まらなければ O&M は成り立たない。このため、事故・災害時の救援活動も含め交通警察との協力は不可避である。幸い、今回の交通警察との打ち合わせでは、積極的支援が期待できる発言があったが、警察との連携がプロジェクトの成否の一つのカギである。

予防保全では PMS や BMS と呼ばれる、経年変化を観測・点検し、データベースとして保存し、劣化予測をたて、予防的保全に心がけるシステムの確立が重要課題として望まれる。PMS あるいは BMS のようなデータベースシステム構築は、それ自体が一大プロジェクトになりうるもので、今回の O&M の対象の一部とするには荷が重い感じがするが、マニュアルにはその基本事項を明示し、関係者の理解を深めることが肝要である。維持管理の基本は 点検・記録・予測・保全のサイクルの確立である。記録は紙でもよい。実態把握と将来見込みを想定するためのデータベースは不可欠である。

道路施設維持管理グループの標準やマニュアルは、別プロジェクトとして実施される予定の国道の O&M のものを流用し、高速道路での OJT を通じ、修正していくのが、実用的な方法と考えられる。中でも 2011 年 2 月に決定された HCMC~Trung Luong 高速道路の暫定道路維持管理規定 (Decision 266/QD-BGTVT) は、その構成内容から見てもっとも参考となるものといえる。

OJT の実施にあたっては、将来組織的にも別個となる道路施設維持管理グループと道路管制グループを分け、(さらにできれば高速警察業務グループを加えて) 各グループで、最終段階を見据えた中期目標をたて、そこにいくためのアクションプランを実現することを、今回のプロジェクトの OJT の目標とすることを提案する。

添 付 書 類

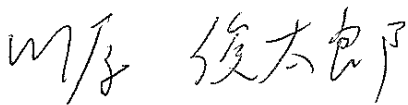
- 添付 1 : MOT との合意議事録
- 添付 2 : 関係機関との面談記録
- 添付 3 : ベトナム国高速道路整備状況一覧表
- 添付 4 : ハノイ周辺高速道路計画地図
- 添付 5 : 参考すべき法令基準開発計画その他報告書一覧
- 添付 6 : 質問状に対する回答書（英訳）
- 添付 7 : 民間資本活用方法の解説

**MINUTES OF MEETING
BETWEEN
JICA DETAILED PLANNING SURVEY TEAM
AND AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIETNAM
ON JAPANESE TECHNICAL COOPERATION
FOR THE PROJECT FOR STRENGTHENING
OPERATION AND MAINTENANCE SYSTEM FOR EXPRESSWAY**

In response to the request of the Government of the Socialist Republic of Vietnam (hereinafter referred to as “Vietnam”), the Detailed Planning Survey Team (hereinafter referred to as “the Team”) of the Japan International Cooperation Agency (hereinafter referred to as “JICA”) headed by Mr. Shuntaro Kawahara, visited Vietnam from 13th February to 25th February, 2011, for the purpose of working out the details of the technical cooperation program concerning “the Project for Strengthening Operation and Maintenance System for Expressway” (hereinafter referred to as “the Project”).

The Team exchanged views and had a series of discussions with the concerned officials of the Ministry of Transport (hereinafter referred to as “MOT”). In the meeting, the followings were agreed upon between the Government of Vietnam and the Team.

Hanoi, 25th February, 2011



Mr. Shuntaro Kawahara
Leader
Detailed Planning Survey Team,
Japan International Cooperation Agency
Japan



Mr. Le Anh Tuan
Deputy Director General
Department of Planning and Investment,
Ministry of Transport
The Socialist Republic of Vietnam

1. PROJECT TITLE

Both sides agreed that the Project title is “the Project for Strengthening Operation and Maintenance System for Expressway”.

2. TERM OF THE PROJECT

The term of the project, which can be changed depending on the evaluations, will be two (2) years from the first dispatch of JICA experts.

3. PROJECT SITE

The main activities of the Project will be conducted in Hanoi and on the following pilot sections for the On the Job Training (OJT) as well as trial basis operations:

- Ring Road No.3 between the cross section with NH-5 and Phap Van,
- Road Section between Phap Van and Cau Gie, and
- Expressway Section between Cau Gie and Ninh Binh.

The site of each OJT and trial basis operation activity will be selected according to the contents of the activities. The sites of OJT and trial basis operations are shown in ANNEX 1.

4. RECORD OF DISCUSSIONS AND PROJECT DESIGN MATRIX

The Record of Discussions (R/D) will determine the framework of the Project, and include the contents of this Minutes of Meeting (M/M). Draft R/D is attached to this M/M for reference in ATTACHMENT. It will be agreed and signed among Japanese side and the relevant Vietnamese authorities after approval from JICA Headquarters. And both sides agreed to the contents of the draft Project Design Matrix (PDM) for the Project as shown in ANNEX 2. The PDM is to be flexibly revised according to the progress and achievement of the Project, upon mutual agreement between MOT and JICA in the form of the Minutes of Meeting, according to R/D.

5. INPUT BY JICA

Both sides agreed that each component and its cost of following inputs will be prepared and born by JICA.

(1) Dispatch of Japanese Experts

The Japanese side will dispatch experts basically in the following field;

- (a) Management Advisor
- (b) Traffic Operation Specialist
- (c) ITS Specialist
- (d) Road Maintenance Specialist

Other experts necessary for effective implementation of the Project will be discussed in the Project.

(2) Provision of machinery and equipment

JICA will provide the Project with machinery, equipment and materials needed for the effective implementation of the Project within its budget.

(3) Training of Vietnamese Personnel in Japan

The training of Vietnamese personnel in Japan will be conducted for effective technology development under the condition that both sides agreed when necessity arise. The training fields and the number of participants of the training programs will be identified in the Project.

6. INPUT BY VIETNAMESE SIDE

Both sides agreed that each component and its cost of following inputs will be prepared and born by Vietnamese side.

(1) Assignment of the Personnel

The Vietnamese side agreed to assign the administrative and counterpart personnel form each organization concerned according to the activities of Japanese experts as follows;

a) Administrative Personnel

- Project Director: Deputy Director of Department of Planning and Investment (DPI), MOT

The assignment of the Project Director will be reconsidered when the Vietnam Expressway Administration (VEA) is established.

b) Counterpart Personnel

The Vietnamese side agreed to assign counterpart personnel listed in ANNEX 3 as the Working Team member. The counterpart personnel will be involved in the Project as part-time basis. However, the Vietnamese side agreed to assign at least one full-time counterpart staff when VEA is established.

(2) Provision of Offices and Facilities

The Vietnamese side agreed to provide the necessary office(s) and facilities for the implementation of the Project including the office(s) for the Japanese experts.

(3) Budget Allocation for Personnel, Operation and Activities

The Vietnamese side shall allocate the necessary budget for implementation of the Project,



including personnel costs, travel expenses for surveys, and other recurrent cost.

7. ADMINISTRATION OF THE PROJECT

7-1. Steering Board (SB) for the Project

The Vietnamese side agreed to establish the SB for the Project. The function of SB will fulfil following functions:

- (1) To coordinate with other relevant entities, such as Ministry of Public Security and Hanoi People's Committee, and
- (2) To review the Project outputs, such as proposed policy, regulations, manuals and guidelines and to propose concurrence to issue them as official documents.

The members of SB are listed in ANNEX 4. The vice minister will be assigned as the head of the SB.

7-2. Working Team (WT)

The WT will be established for the effective implementation of the activities. The WT will fulfil the following functions;

- (1) To conduct the Project activities in coordination with JICA experts and
- (2) To report the progress of the Project activities to the Steering Board.

The head of the WT will be assigned as the Project Director.

7-3. Joint Coordinating Meeting (JCM)

JCM is held to discuss the progress and make decisions for the better implementation of the Project. It is held at the timing of project's milestone at least every six months when necessity arises to fulfil the following functions;

- (1) To discuss and approve the annual work plan of the Project to be formulated under the framework of the R/D,
- (2) To evaluate the achievement of the annual work plan and overall progress of the Project, and
- (3) To review and exchange opinions on major issues that arise during implementation of the Project.

The JCM will be co-chaired by the Vice minister of MOT and Representative of JICA Vietnam Office. The JCM's attendants consist of SB members, WT members, officials of other relevant entities, JICA Experts, and Representative of JICA Vietnam Office.

8. ORGANIZATION CHART

The organization chart of the Project including SB, WT and JCM is shown in ANNEX 5.

9. OTHERS

(1) Coordination with the Project for Capacity Enhancement in Road Maintenance is expected on the preparation of manuals and guidelines for expressway maintenance.

(2) The Team requested to establish VEA in early occasion for smooth implementation of the Project and the Vietnamese side agreed.

(3) The Team explained that equipment necessary for expressway O&M can be procured using Japanese Loan as far as its purpose is consistent with Loan Agreement; and that O&M equipment necessary for training and trial basis operation conducted in the course of the Project can be also procured subject to budget constraint of JICA. The Vietnamese side agree to take into consideration JICA relevant studies and consider this issue in consultation with JICA relevant officials.

(4) The General Director or Deputy General Director for O&M of VEA will be assigned as the Project Director, when the VEA is established.

ANNEX

ANNEX 1. TARGET SECTION OF OJT AND TRIAL BASIS OPERATION

ANNEX 2. PROJECT DESIGN MATRIX (DRAFT)

ANNEX 3. LIST OF WORKING TEAM MEMBERS

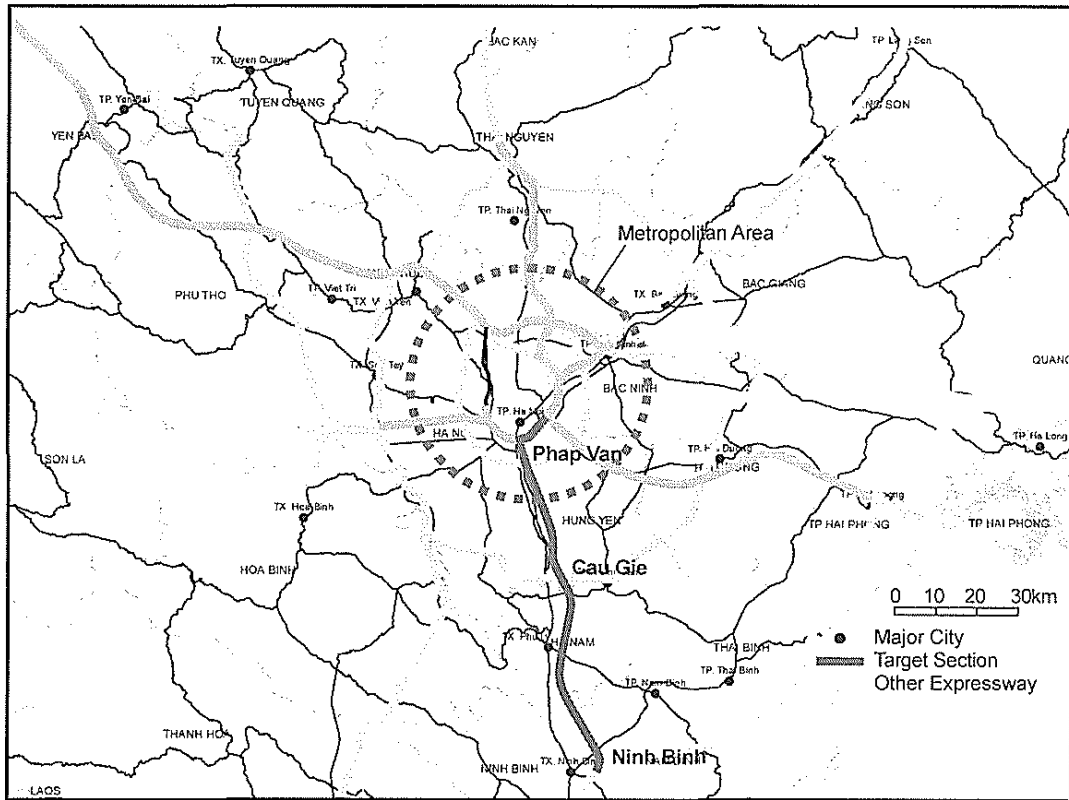
ANNEX 4. LIST OF STEERING GROUP MEMBERS

ANNEX 5. ORGANIZATION CHART

ATTACHMENT

RECORD OF DISCUSSION (DRAFT)

TARGET SECTION OF OJT AND TRIAL BASIS OPERATION



LIST OF WORKING TEAM MEMBERS

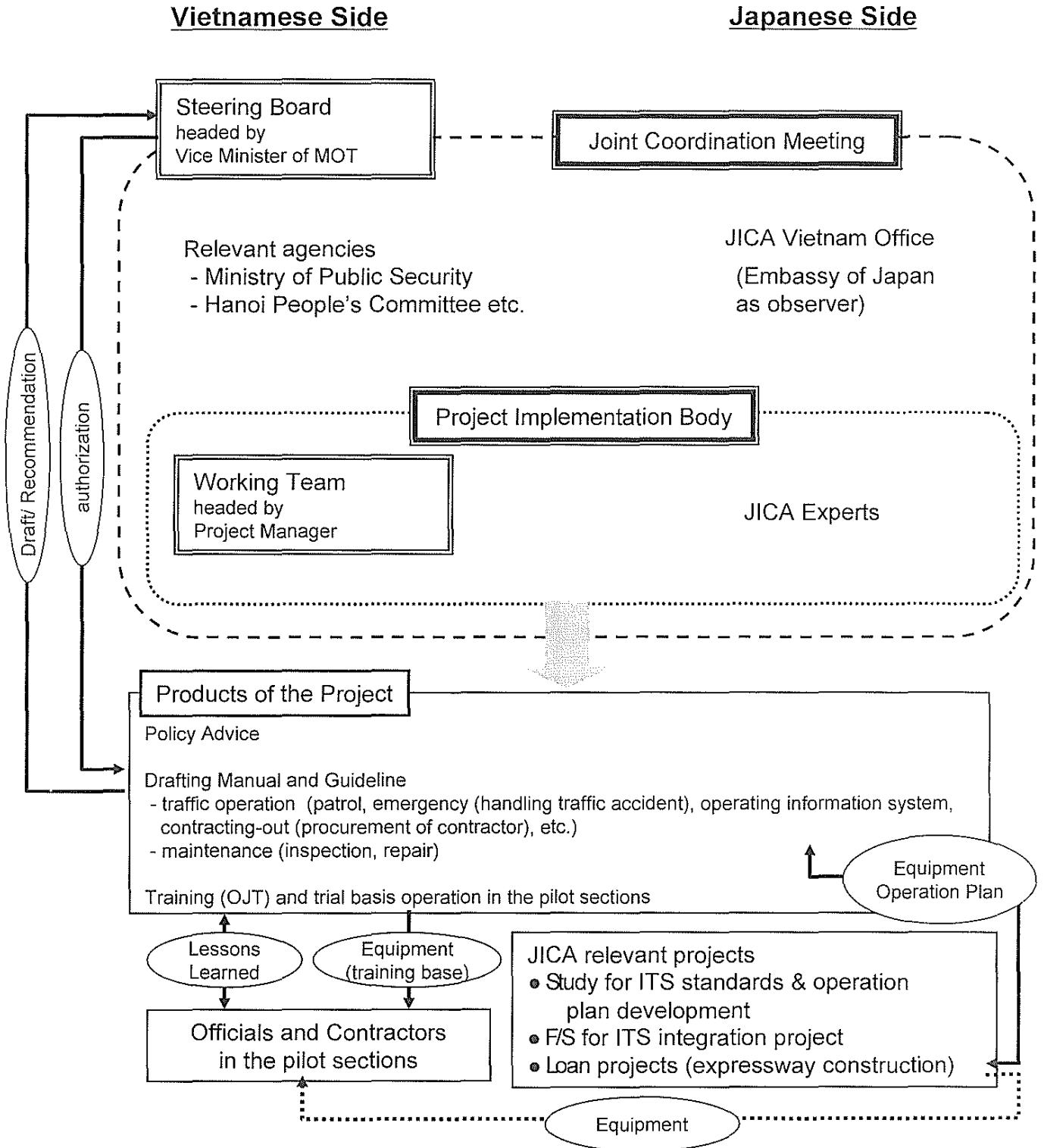
1. Mr. Le Anh Tuan, Deputy General Director, Department of DPI: Team Leader
2. Mr. Duong Viet Roan, Deputy General Director, TCQM: Member
3. Mr. Nguyen Trung Them, Officer, DTI: Member
4. Mr. Nguyen Manh Thang, Officer, DTS: Member
5. Mr. Cao Hoang Can, Officer, Division of Transport Infrastructure and Traffic Safety, DRVN: Member
6. Mr. Nguyen Ngoc Hai, Officer, DPI: Member



LIST OF STEERING BOARD MEMBERS

1. Mr. Ngo Thinh Duc, Permanent Deputy Minister, Ministry of Transport (MOT): Chairman
2. Leader of the Department of Transport Infrastructure, MOT: Permanent Vice-chairman
3. Leader of the Department of Planning and Investment, MOT: Vice-chairman
4. Leader of the Department of Science and Technology, MOT: member
5. Leader of the Department of Personnel and Organization, MOT: member
6. Leader of the Department of International Cooperation, MOT: member
7. Leader of the Department of Finance, MOT: member
8. Leader of the Department of Legislation, MOT: member
9. Leader of the Transport Construction Quality Management Bureau, MOT: member
10. Leader of the Information Technology Center, MOT: member

Organization Chart



Handwritten signatures and initials.

RECORD OF DISCUSSIONS BETWEEN JAPANESE
IMPLEMENTATION STUDY TEAM AND
AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE SOCIALIST REPUBLIC OF VIETNAM
ON JAPANESE TECHNICAL COOPERATION
FOR THE PROJECT FOR STRENGTHENING
OPERATION AND MAINTENANCE SYSTEM FOR EXPRESSWAY

The Japanese Detailed Planning Survey Team (hereinafter referred to as “the Team”) organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. Shuntaro Kawahara, visited the Socialist Republic of Vietnam from 13th February to 25th February, 2011 for the purpose of working out the details of the technical cooperation program concerning the Project for Strengthening Operation and Maintenance System for Expressway in the Socialist Republic of Vietnam.

During its stay in the Socialist Republic of Vietnam, the Team exchanged views and had a series of discussions with the Vietnamese authorities concerned with respect to desirable measures to be taken by JICA and Vietnamese Government for the successful implementation of the above-mentioned Project.

As a result of the discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and the Government of the Socialist Republic of Vietnam, signed in Hanoi on October 20, 1998 (hereinafter referred to as “the Agreement”), the Team and Vietnamese authorities concerned agreed on the matters referred to in the document attached hereto.

Hanoi □ (day month, year)

(Name)
(Title)
(Department)
Japan International Cooperation Agency
Japan

(Name)
(Title)
(Department),
Ministry of Transport
The Socialist Republic of Vietnam

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIETNAM

1. The Government of the Socialist Republic of Vietnam will implement the Project for Strengthening Operation and Maintenance System for Expressway (hereinafter referred to as "the Project") in cooperation with JICA.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan and the provisions of Article II of the Agreement, JICA, as the executing agency for technical cooperation by the Government of JAPAN, will take, at its own expense, the following measures according to the normal procedures of its technical cooperation scheme.

1. DISPATCH OF JAPANESE EXPERTS

JICA will provide the services of the Japanese experts as listed in Annex II. The provision of Article III of the Agreement will be applied to the above-mentioned experts.

2. PROVISION OF MACHINERY AND EQUIPMENT

JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The provision of Article VIII of the Agreement will be applied to the Equipment.

3. TRAINING OF VIETNAMESE PERSONNEL IN JAPAN

JICA will receive the Vietnamese personnel connected with the Project for technical training in Japan.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIETNAM



1. The Government of the Socialist Republic of Vietnam will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.
2. The Government of the Socialist Republic of Vietnam will ensure that the technologies and knowledge acquired by the Vietnamese nationals as a result of the Japanese technical cooperation will contribute to the economic and social development of the Socialist Republic of Vietnam.
3. In accordance with the provisions of Article VI of the Agreement, the Government of the Socialist Republic of Vietnam will grant in the Socialist Republic of Vietnam privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families.
4. In accordance with the provisions of Article VII of the Agreement, the Government of the Socialist Republic of Vietnam will take the measures necessary to receive and use the Equipment provided by JICA under II-2 above and equipment, machinery and materials carried in by the Japanese experts referred to in II-1 above.
5. The Government of the Socialist Republic of Vietnam will take necessary measures to ensure that the knowledge and experience acquired by the Vietnamese personnel from technical training in Japan will be utilized effectively in the implementation of the Project.
6. In accordance with the provision of Article V of the Agreement, the Government of the Socialist Republic of Vietnam will provide the services of Vietnamese counterpart personnel and administrative personnel as listed in Annex IV.
7. In accordance with the provision of Article V of the Agreement, the Government of the Socialist Republic of Vietnam will provide the buildings and facilities as listed in Annex V.
8. In accordance with the laws and regulations in force in the Socialist Republic of Vietnam, the Government of the Socialist Republic of Vietnam will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment



provided by JICA under II-2 above.

9. In accordance with the laws and regulations in force in the Socialist Republic of Vietnam, the Government of the Socialist Republic of Vietnam will take necessary measures to meet the running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

1. Deputy Director of Department of Planning and Investment, Ministry of Transport, as the Project Director, will bear overall responsibility for the administration and implementation of the Project.
2. The Japanese Team Leader will provide necessary recommendations and advice to the Project Director on any matters pertaining to the implementation of the Project.
3. The Japanese experts will give necessary technical guidance and advice to Vietnamese counterpart personnel on technical matters pertaining to the implementation of the Project.
4. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Meeting, whose functions and composition are described in Annex VI , will be held.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Vietnamese authorities concerned, around six months before the completion of the Project in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

In accordance with the provision of Article VII of the Agreement, the Government of the Socialist Republic of Vietnam undertakes to bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the

discharge of their official functions in the Socialist Republic of Vietnam except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between JICA and the Government of the Socialist Republic of Vietnam on any major issues arising from, or in connection with this Attached Document.

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

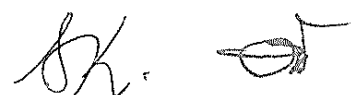
For the purpose of promoting support for the Project among the people of the Socialist Republic of Vietnam, the Government of the Socialist Republic of Vietnam will take appropriate

measures to make the Project widely known to the people of the Socialist Republic of Vietnam .

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be two (2) years from the first dispatch of JICA experts.

- ANNEX I MASTER PLAN
- ANNEX II LIST OF JAPANESE EXPERTS
- ANNEX III LIST OF MACHINERY AND EQUIPMENT
- ANNEX IV LIST OF VIETNAMESE COUNTERPART AND ADMINISTRATIVE PERSONNEL
- ANNEX V LIST OF BUILDINGS AND FACILITIES
- ANNEX VI JOINT COORDINATING MEETING



MASTER PLAN

Overall goal

Expressway network is operated & maintained with effective & sustainable way

Project Objective

Effective & safety framework for O & M of Expressway is established

Expected Output

1. Overall scheme for O&M of Expressway is established
2. Trial O & M works is executed at some Expressway based on the above scheme

Activities

- 1-1 Preparation of Draft for the principal scheme of O & M for Expressway referring the existing one
- 1-2 Preparation of Draft for the (additional) standards, manuals related to maintenance for civil works, facilities & traffic management
- 1-3 Recommendation of overall policy, if any.

- 2-1 Selection of appropriate section of some expressway for O&M about:
 - a) Civil Works (Road, Bridge, Tunnel etc)
 - b) Facilities (Lights, Sign, lavatory etc)
 - c) Traffic management (for accident, disaster)
- 2-2 Execution of OJT and trial basis operation for
 - a) Inspection (patrol etc) and evaluation methods
 - b) Repair & Maintenance methods
 - c) Application of Database
 - d) Review of drafted standards, manuals related to maintenance
- 2-3 Identification of issues of design standards, if any.
- 2-4 Execution of:
 - a) Seminars and Workshops
 - b) Training in VN & Japan

LIST OF JAPANESE EXPERTS

The Japanese side will dispatch experts basically in the following field;

- (a) Management Advisor
- (b) Traffic Operation Specialist
- (c) ITS Specialist
- (d) Road Maintenance Specialist

Other experts necessary for effective implementation of the Project will be discussed in the Project.



LIST OF MACHINERY AND EQUIPMENT

Machinery, equipment and materials needed for the effective implementation of the Project

- Equipment for trial basis operations

LIST OF VIETNAMESE COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Administrative Personnel

(1) Project Director: Deputy Director of Department of Planning and Investment (DPI), Ministry of Transport

(2) Steering Board:

- 1) Mr. Ngo Think Duc, Permanent Deputy Minister, Ministry of Transport (MOT): Chairman
- 2) Leader of the Department of Transport Infrastructure, MOT: Permanent Vice-chairman
- 3) Leader of the Department of Planning and Investment, MOT: Vice-chairman
- 4) Leader of the Department of Science and Technology, MOT: member
- 5) Leader of the Department of Personnel and Organization, MOT: member
- 6) Leader of the Department of International Cooperation, MOT: member
- 7) Leader of the Department of Finance, MOT: member
- 8) Leader of the Department of Legislation, MOT: member
- 9) Leader of the Transport Construction Quality Management Bureau, MOT: member
- 10) Leader of the Information Technology Center, MOT: member

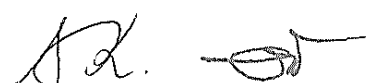
2. Counterpart Personnel (Working Team)

- 1) Mr. Le Anh Tuan, Deputy General Director, Department of DPI: Team Leader
- 2) Mr. Duong Viet Roan, Deputy General Director, TCQM: Member
- 3) Mr. Nguyen Trung Them, Officer, DTI: Member
- 4) Mr. Nguyen Manh Thang, Officer, DTS: Member
- 5) Mr. Cao Hoang Can, Officer, Division of Transport Infrastructure and Traffic Safety, DRVN: Member
- 6) Mr. Nguyen Ngoc Hai, Officer, DPI: Member



LIST OF BUILDINGS AND FACILITIES

The Vietnamese side agreed to provide the necessary office(s) and facilities for the implementation of the Project including the office(s) for the Japanese experts.



JOINT COORDINATING MEETING

1. Function

Joint Coordination Meeting is held to discuss the progress and make decisions for the better implementation of the Project. It is held at the timing of project's milestone at least every six months when necessity arises to fulfil the following functions;

- (1) To discuss and approve the annual work plan of the Project to be formulated under the framework of the R/D,
- (2) To evaluate the achievement of the annual work plan and overall progress of the Project, and
- (3) To review and exchange opinions on major issues that arise during implementation of the Project.

The JCM will be co-chaired by the Vice minister of MOT and Representative of JICA Vietnam Office.

2. Composition

[Member of Vietnamese side]

Steering Board members, Working Team members, officials of other relevant entities

[Member of the Japanese side]

Japanese experts, Representative of JICA Vietnam Office

Memorandum of Meeting

Table of Contents

No.1	MOT DPI	2 pm 14 February 2011	p2
No.2	DRVN	3.30pm Tuesday 15 February 2011	P5
No.3	VEC	9am Tuesday 15 February 2011	P7
No.4	VIDIFI	2:00pm Thursday 17 February 2011	P9
No.5	TEDI	3:30pm Thursday 17 February 2011	p11
No.6	World Bank	9:00am 18 February 2011	p13
No.7	ADB	1:00am 18 February 2011	P15
No.8	UOT	10:30am Monday 21 February 2011	P17
No.9	Ministry of Transport	10:00am Tuesday 22 nd February 2011	P19
No.10	MOT Working Team	3:00pm Tuesday 22 nd February 201	p22
No.11	Traffic Police Department	3:30pm Friday 25 February 2011	p24

No.1

MEMORANDAM OF MEETING WITH MINISTRY OF TRANSPORT

Time: 2 pm 14 February 2011

Venue: Department of Planning and Investment, Ministry of Transport

Participants:

Japanese side:

Mr. Katsuta Hozumi	Senior Project Formulation advisor, JICA
Mr. Kaneda Koki	JICA's consultant, Expressway Operation and Maintenance (System/Capability)
Mr. Hata Shunji	JICA's expert
Ms. Nguyen Dieu Linh	Program Officer, JICA Vietnam Office
Ms. Mai Thu Trang Trang	Hata expert's secretary
Ms Tran Thi Loan	Interpreter / Translator

Vietnamese side:

Mr. Hoang Anh Tuan	Deputy General Director, Department of Planning and Investment, MoT
Mr. Nguyen Manh Thang	Department of Science Technology, MOT
Mr. Vinh	Transport Construction Quality Management
Mr. Hoang The Luc	Vice Director of Division of Transport Infrastructure, DRVN
Mr. Nguyen Trung Them	Department of Transport Infrastructure, MOT
Mr. Cao Hoang Can	Division of Transport Infrastructure, DRVN
Mr. Hoang Ngoc Hai	Senior Officer, Department of Planning and Investment, MoT

Brief introduction and questions by Mr. Katsuta:

- Mr. Katsuta introduced Mr. Kaneda as a team member of the study team for the Detailed Planning Survey on the Project for Strengthening Operation and Maintenance System for Expressway. Another two (02) team members will arrive on Sunday and join meetings from next Monday (21 February 2011).
- Purpose of the study team is to collect as much information as possible and conduct discussions with Vietnamese sides to exchange views in order to prepare a framework for the project.
- Output of the study will be Minute of Meetings with two main documents, i.e. PDM (Project Design Matrix) and PO (Plan of Operation). First draft is expected to be available early next week. Cooperation and discussion with the Vietnamese side is essential as these documents will be the basic framework for the implementation of the project.
- Mr. Katsuta requested information on the status of the followings:
 - (a) the preparation for the establishment of a special organization/agency/ department for the administration of the expressways
 - (b) actions towards the establishment of a working team/group as the counterpart team for the implementation of the project.
- Mr Tuan replied that
 - (a) the agency for the administration of expressway was proposed to be Vietnam expressway administration (VEA); proposal was submitted to the Prime Minister but is still under consideration. Once the establishment of VEA is approved and decided it will become the

receiving agency of the results from the project. This question should be raised again at the meeting with Vice Minister Duc for more detailed answers.

(b) A letter has been submitted to the leaders of MoT on the establishment of the working group as the counterpart team for the project and is expected to be approved this afternoon (14 February 2011). Members of the working groups consist of representatives from Department of Planning and Investment, DRVN, Department of Transport Infrastructure, Department of Science and Technology, TCQM. Some members of the working group may move to VEA when it is established.

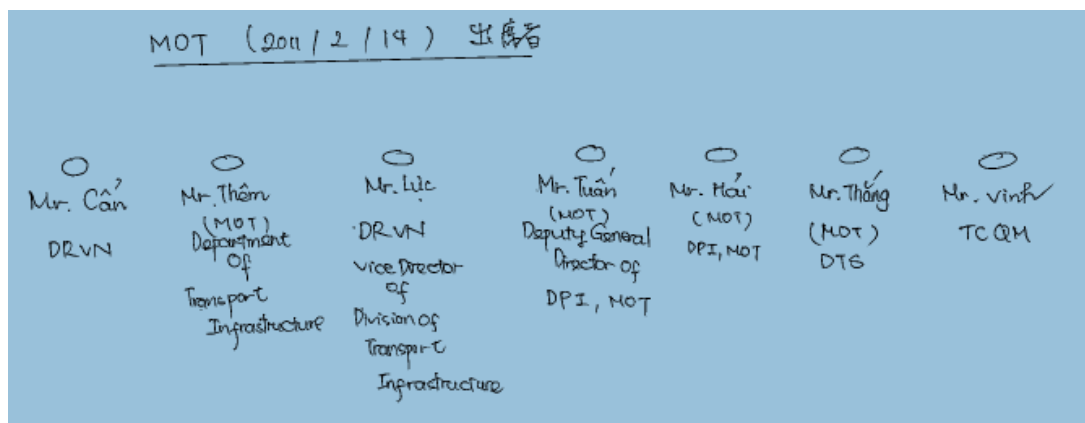
- Mr. Katsuta pointed that pro-active participation from the counterpart team members is very important for the project outcomes to be successful and suitable for the implementation of expressway O&M in Vietnam. Members of counterpart team should work closely in cooperation with the Japanese specialists exchanging information and views on all matters. The transition from the MoT project counterpart team to future VEA as counterpart of the project should be smooth to ensure the smooth implementation of the project activities. Mr. Tuan agreed.
- Mr. Katsuta mentioned that Japanese necessary procedure for project approval will need to be followed so project is likely to start around June/July.

Explanation of questionnaire and comments from Mr. Kaneda:

- Mr. Kaneda confirmed that this is the preliminary survey to determine Scope of Works and ToR for the project.
- Vietnamese side is expected to provide answer to questionnaire in writing by next Monday (21 February 2011) when other members of mission arrive.
- Question 1: The Vietnamese side is to list out priority of O&M categories on the execution of project within the limited period of two years.
- Question 2: The Vietnamese side is to list out priority of study activities in this study process.
- Question 3: The Vietnamese side is to provide information on the organizational matters according to outline.
- Question 4: The Vietnamese side is to provide explanation and comments on the methods of O&M execution, such as BOT, PPP, PFI etc.
- Question 5: The Vietnamese side is to review the list of regulations, standards and development plans and provide additional documents (if any). The Japanese team also asked about the availability of the official English versions of the documents to avoid any misunderstanding due to misinterpretation.
- Question 6: Vietnamese side is to provide comments on Weigh Bridges. Mr. Luc (DRVN representative) summarized the background on the existing 2 Weigh Bridges situation in Vietnam (legal framework for vehicle overloading/ fining of violation and coordination with other entities) and the difficulties in implementing these regulations.
- Question 7: Vietnamese side is to recommend project for pilot staff training for the O&M manuals.
- Question 8: Even though this question is mainly for WB and ADB, Vietnamese side is to provide information, if available.
- Question 9: Vietnamese side is to provide information as requested.
- Question 10: Vietnamese side is to provide comments on ideas how to use financial policies/measures to ensure safety and sustainable O&M.

The Vietnamese side agreed to study questions and provide written answers by Monday 21 February 2011.

The meeting ended at 3.30p.m.



DECISION (Draft)

Regarding Working group to implement the TC “ Project for Strengthening Operation and Maintenance system for expressway”

Set up a working group to work with JICA including:

1. Le Anh Tuan, Deputy General Director, Department of DPI: Group Leader
 2. Duong Viet Roan, Deputy General Director, TCQM: Member
 3. Nguyen Trung Thiem, senior staff DTI: Member
 4. Nguyen Manh Thang, senior staff DTS: Member
 5. Cao Hoang Can, senior staff Division of Transport Infrastructure and Traffic Safety, DRVN: Member
 6. Nguyen Ngoc Hai, senior staff DPI: Member
-

(質問書は添付書類 6 に記載)

No.2

MEMORANDAM OF MEETING WITH DIRECTORATE OF ROAD OF VIETNAM

Time: 3.30pm Tuesday 15 February 2011

Venue: DRVN Office

Participants:

Japanese side:

Mr Katsuta Senior Advisor, JICA Vietnam Office
Mr. Kaneda Koki JICA's consultant, Expressway Operation and Maintenance
(System/Capability)

Vietnamese side:

Mr. Nguyen Ngoc Dong MoT Vice Minister cum General Director of DRVN
Representatives from:

- Department of O&M
- Department of Transport Infrastructure and Safety
- Department of Science, Technology and International Cooperation
- Department of Road Construction Management Department
- Department of Planning and Investment
- PMU2



Brief introduction and questions by Mr. Katsuta:

- Mr. Katsuta introduced members of the mission coming to the meeting and noted that the team leader (Mr. Kawahara) and other members of the mission would join from next week.
- Mr. Katsuta explained the purpose of the mission as the preliminary survey to gather information, opinions and comments to formulate framework for the project. Any comments and opinions from DRVN would be highly appreciated.
- Mr. Katsuta explained that the main two documents as the results of the mission will be the drafts of PDM (Project Design matrix) and PO (Plan of Operation) to be attached to the M/M to be signed on Friday 25 February 2011.
- To avoid misunderstanding, Mr. Katsuta also explained that this preliminary survey mission is for a project called “Project for Strengthening Operation and Maintenance System for Expressway”. Another mission also headed by Mr. Kawahara will conduct survey later (in 1-2 weeks) for the project for the O&M of highways.

Response from Mr. Nguyen Ngoc Dong:

- Mr. Dong welcomed the mission on behalf of DRVN.
- Mr Dong requested to have information regarding the project for the O&M of road system as early as possible so DRVN departments can carry out necessary preparation work to cooperate with the Japanese mission.
- For the expressway O&M project, DRVN has assigned Mr Cao Hoang Can as a member of

the MoT counterpart team working with the mission. The MoT leader directly in charge of the project is Mr. Ngo Think Duc with the focal point as Department of Transport Infrastructure.

- Mr. Kaneda explained the questions based on the questionnaires.
- Mr. Dong pointed out that the expressway is a new area in Vietnam so study should be looking into a comprehensive system for the organizational structure from the state administration agencies down to the level of the direct implementing agencies. With the interest in the expressway from local investors as well as foreign investors later on, there should be a regulation as a reference for all parties.
- As a developing country Vietnam has high ambition to achieve advanced technology for the management of the advanced facilities (e.g. ITS) that is compatible and can provide linkage between different systems and control centers. Mr. Katsuta replied that a study on ITS has been conducted under a TA project with MoT, however further study has been requested. This project's activities should be linked together with the activities under this extended study to ensure the best outcome.
- DRVN is now in charge of the management of 28,000km of road, of which 17,000km is directly under DRVN's administration. The study into O&M of highways can support the study of expressway O&M, e.g. the cost norms for maintenance works, etc.
- On the establishment of the Vietnam Expressway Administration, Mr. Dong confirmed that at the moment there is no agency in charge of the management of expressways in Vietnam. There was a proposal submitted to the Government to establish VEA, however, it is still under the appraisal and approval process of the Government. There were ideas about putting VEA as an entity under DRVN, however considering that DRVN is also a newly-established directorate and in need of more capacity strengthening themselves, the inclination now is to set up VEA as a department directly under MoT. Logically VEA should be under DRVN as DRVN is in charge of the whole road system in Vietnam, which includes expressway. Therefore, discussion of nation-wide management structure is expected as the first priority one of DRVN. This may be considered at a later stage.
- Mr. Dong promised to assign departments under DRVN to study the questions in the questionnaires to provide answers to preliminary survey team.

The meeting ended at 4:45pm.

MEMORANDAM OF MEETING WITH VIETNAM EXPRESSWAY CORPORATION

Time: 9am Tuesday 15 February 2011

Venue: VEC Office

Participants:

Japanese side:

Mr. Kaneda Koki JICA's consultant, Expressway Operation and Maintenance
(System/Capability)
Mr. Hata Shunji JICA's expert (Expressway O&M)

Vietnamese side:

Mr. Mai Tuan Anh Deputy General Director, VEC
Mr. Tuan Director, VEC O&M Company



Brief introduction and questions by Mr. Hata:

- Mr. Hata introduced members of the mission coming to the meeting and noted that the other members of the mission would join from next week.
- Mr. Hata explained the purpose of the mission as the preliminary survey to gather information, opinions and comments to formulate framework for the project. Any comments and opinions from VEC as a corporation conducting the actual work would be highly appreciated.
- Mr. Kaneda explained the questions raised in the questionnaires and requested to have written answers by next Monday 21 February 2011 by the time the other members of the mission arrive.

Brief response from Mr. Mai Tuan Anh:

- Mr. Tuan Anh briefly introduced the activities of VEC. VEC has been investing in expressway projects. Some of the expressways are going to be put in operation in very near future.
- Mr. Tuan Anh made a point that there is no expressway at the moment in Vietnam. There are some sections that are called “expressway”, however they do not have the full standard of services and facilities required for expressways.
- Mr. Tuan Anh highly appreciated the assistance from JICA for the O&M of expressway in Vietnam as this is a completely new area that Vietnam has no experience in. VEC is also very appreciative as they will be one of the beneficiaries from the results of the project.
- VEC considers the legal document system regarding O&M very important so any assistance to MoT on this matter is highly appreciated.

- VEC is also very interested in the O&M manuals. While there is no manual available at this stage, VEC has been doing researching and preparation themselves to be ready when the expressway is put in operation. VEC O&M Company has been set up for this purpose.
- Another important area for O&M is resources (both human and equipment and facilities). VEC has been working to enhance their staff capacity in O&M through cooperation with Japanese partner (NEXCO Central), Chinese and Korean partners. In terms of equipment, VEC has obtained a portion of loan from ADB for Noi Bai- Lao Cai project for O&M equipment. Requests will be made to JICA to obtain loan for O&M equipment for other projects as well.
- VEC has also been carrying out their own study on O&M in order to learn from experience, manuals and technical standards from developed countries.
- Answering question if VEC has had the concession rights to conduct O&M on Phap Van – Cau Gie from DRVN, Mr. Tuan Anh said that VEC is now in charge of toll collection on Phap Van – Cau Gie and will continue with the next section from Cau Gie to Ninh Binh.
- Initial comment on Question 1 (priority of category) by Mr. Tuan Anh was that O&M should be considered as a whole uniform and comprehensive process and priority should be given to every aspect of O&M. His approach is that we should start on every category and decide on which degree the study will reach so that further consolidation and elaboration can be continued later on.
- Mr. Tuan Anh commented that HMC–Trung Luong should not be considered an expressway at the moment as its facilities are not sufficient. The design for the new expressways that VEC is investing in will ensure the higher standard of expressways and facilities (weather information, TV cameras, ETC, etc.).
- In terms of technical standards and manuals, while waiting for official documents from MoT, VEC is also carrying out their own researches with cooperation and assistance from Korean Expressway Corporation, a Chinese partner and possibly a Japanese partner.
- Mr. Tuan Anh stated that overloading was a big problem in Vietnam and the freighters are too profit oriented so they would do anything to overload their trucks to maximize their profit. This affects the quality of the road directly and VEC will have to work with other authorities to control the overloading.
- A candidate project for the training is Ho Chi Minh- Long Thanh- Dau Giay which is due to finish by 2014.

The meeting ended at 10.30a.m.

MEMORANDAM OF MEETING WITH VIDIFI

Time: 2:00pm Thursday 17 February 2011

Venue: VIDIFI Office

Participants:

Japanese side:

Mr. Hata Shunji JICA's expert (O&M expressway)
Mr. Kaneda Koki JICA's consultant, Expressway Operation and Maintenance
(System/Capability)

Vietnamese side:

Mr. To Duc Quan Deputy Director, Management Board of Hanoi – Haiphong Expressway
Mr. Vu Van Cao Officer, Project Management Department of Hanoi – Haiphong Expressway

Brief introduction and questions by Mr. Hata:

- Mr. Hata introduced members of the mission coming to the meeting and noted that the other members of the mission would join from next week.
- Mr. Hata explained the purpose of the mission as the preliminary survey to gather information, opinions and comments to formulate framework for the project.
- Mr. Hata explained that questionnaires have been forwarded to various agencies such as MoT, VEC, DRVN, etc. The purpose of the meeting today was to find out comments, opinions and issues during the implementation of BOT project (Hanoi – Haiphong Expressway).

Discussion between Japanese side and VIDIFI:

- Mr Kaneda asked if VIDIFI encountered any issues during the execution of the BOT project and if VIDIFI was planning to develop more expressways in the future.
- Mr. Quan replied that VIDIFI did not bid for this project but it was appointed to execute the BOT project as a task by the Government. This is a huge investment requiring a big capital and the cost recovery time lasts quite a long time. VIDIFI is entitled to a special mechanism that allows them to generate revenues to ensure the effectiveness of the project. At this stage VIDIFI has not made any plan whether or not to further invest in more transport projects in the future because they are unclear at the moment what the financial benefits will be for the current project.
- VIDIFI faces with several issues with the mechanism to execute the project. Due to the nature of the project is transport, the in-line ministry is MoT and they have to report to MoT and get approval for a lot of processes.
- The BOT contract between VIDIFI and MoT (DRVN as the authorized signer) has not been finalized. VIDIFI is required to re-calculate the economic and financial effectiveness of the project taking into account the revenues that they are entitled to under the special mechanism (rights to develop residential areas and industrial zones along expressway; toll collection of the existing National Highway 5, etc.)
- The preliminary agreement with MoT allowed an operation period of 35 years before the expressway is transferred to MoT. However, due to recent changes in regulations and total project costs, VIDIFI has employed a consultant to re-evaluate the project economic effectiveness in order to determine the most reasonable operation period. The consultant is now working on the evaluation and is expected to finish in 6 months so that the BOT Contract can be ready to be signed with MOT before the end of the year.
- Hanoi- Haiphong expressway is considered a pilot project therefore the project implementation follows the stipulations stated in the Pilot Regulation and Decision No.1621/QD-TTg by the Prime Minister dated 29 July 2007. It also has to abide to regulations in the Decree 108. Even though the BOT contract has not been signed, the project already commenced on 19 May 2008.

- Mr. Kaneda raised the question of what standard the expressway should be at the time of transfer, e.g. the technical criteria (IRI, smoothness, etc). Mr. Quan replied that the consultant is now working on drafting the BOT contract and these technical figures should be studied and stipulated in the contract.
- Mr. Hata asked about the measures that VIDIFI would take in case they received complaints from road users about the quality of the road. Mr Quan replied that if complaints were filed, an independent appraisal company would be employed to evaluate the situation. If the road quality was poor VIDIFI would be responsible for the repair. If the complaints were unreasonable and had no creditable basis VIDIFI would file a report to MoT for further actions. However, VIDIFI is confident that their expressway design is one of the best designs for expressway in Vietnam and highly regarded by the National Inspection Committee.
- Mr. Hata asked about the insurance policy for the expressway in case damages would occur to the pavement or guard rails, etc due to accidents and disasters. Mr. Qua replied that VIDIFI is very cautious of these situations therefore the Hanoi- Hai Phong expressway project is insured for every stage from the design stage.
- When asked about toll fares, Mr. Quan replied that the toll fare indicated under the draft BOT contract was at VND909/km/PCU following the Decision 1621 entitling VIDIFI to the special mechanism. Even though this is similar rate to the rates currently applied in other ASEAN countries, it is still 2.5 times higher than the maximum toll rate stipulated in Circular 90 by the Ministry of Finance and about 4 times higher than the current toll fare at the existing Highway No.5. This will be an issue later on as road users may not think that the saving in time and fuel by using the expressway does not justify the increase in cost. VIDIFI also requested JICA to reflect this back to Government for further consideration.
- Mr. Quan stated that the fares collected from tolls would not be sufficient to cover the costs for construction, operation and overhead. VIDIFI will recover their costs through the development of urban development areas, industrial zones along the expressway while VEC will generate their revenue through the businesses in the service areas.
- Regarding the overloading and over speeding problems, Mr. Quan said the police force will be involved in the control of the over speeding (with information extracted from the installed cameras as reference). For control overloading VIDIFI will have 2 weigh stations at the 2 ends of the expressway to allow control over overloading and oversized vehicles.
- Requests for support in terms of O&M:
 - ✓ Provision of O&M technical standards as expressway O&M is a completely new area in Vietnam and no technical documents are available at this stage.
 - ✓ Awareness raising for public as the Vietnamese people are not used to the idea of paying to use roads.
 - ✓ Provision of reference documents, e.g. VITTRANS reports, etc.
- Mr. Hata asked whether the BOT contract will be re-negotiable if there was fluctuation to the traffic forecast compared to the design traffic forecast. Mr. Quan said that according to the initial preliminary agreement, the BOT contract would remain the same if the fluctuation was under 2%, but if it was over 2% there would be adjustments made to the BOT contract.
- Mr. Hata asked if the cost to employ the Korean consultant to prepare the O&M scheme is funded by Korean ODA. Mr. Quan replied that the cost is covered by VIDIFI's own funding.
- Mr. Kaneda asked if VIDIFI would apply the new standards and manuals produced as the results of the T/A project. Mr. Quan said that VIDIFI would be happy to consider these new technical documents as Vietnam is still lacking the technical standards for this area.
- When asked if VIDIFI would set up their own O&M Company once the expressway construction was finished, Mr. Quan replied that VIDIFI was planning to do so. However the construction had just been recently started so there was no rush to establish such a company at this stage.
- The Japanese side thanked VIDIFI representatives for their information and VIDIFI said that they were happy to keep in contact and provide more information if needed.

The meeting ended at 3:10pm.

MEMORANDAM OF MEETING WITH TEDI

Time: 3:30pm Thursday 17 February 2011

Venue: TEDI Office

Participants:

Japanese side:

Mr. Hata Shunji	JICA's expert (O&M expressway)
Mr. Kaneda Koki	JICA's consultant, Expressway Operation and Maintenance (System/Capablility)

Vietnamese side:

Mr. Nguyen Minh Thang	Vice General Direcor Other 2 staff
-----------------------	---------------------------------------

Brief introduction and questions by Mr. Hata:

- Mr. Hata introduced members of the mission coming to the meeting. Hata introduced members of the mission coming to the meeting and noted that the other members of the mission would join from next week.
- Mr. Hata explained the purpose of the mission as the preliminary survey to gather information, opinions and comments to determine the cooperation area and to formulate framework for the project.
- Mr. Hata explained that questionnaires have been forwarded to various agencies such as MoT, VEC, DRVN, etc.
- Mr. Kaneda explained the purpose of the meeting
 - ✓ To inquire TEDI's resources in expressway O&M as a potential candidate for the local consultant company to assist in the actual study project later on.
 - ✓ To seek necessary information on the draft O&M scheme for the Ho Chi Minh – Trung Luong project.
 - ✓ To share any appropriate information or experience that TEDI has as the project evaluation consultant for the VIDIFI.

Discussion between Japanese side and TEDI:

- Mr. Thang answered that as Mr. Kaneda was already aware, TEDI had had participated in several projects that included O&M:
 - ✓ Hanoi – Thai Nguyen (National Highway 3)
 - ✓ Draft O&M scheme for Ho Chi Minh – Trung Luong expressway. The administration agency for the work was the Department for Transport Infrastructure (Mr. Hong).
 - ✓ Co-participation with KEC (Korean Expressway Corporation) in Hanoi – Hai Phong Expressway.
- Mr. Thang clearly stated that Vietnam has very little experience in expressway O&M (except for HCMC – Trung Luong). There was a lot of limitation during the operation due to the lack of experience. He hoped that TEDI would gain more experience in expressway O&M through this T/A project with JICA.
- Mr. Kaneda explained the questions in the questionnaires and requested answers from TEDI. Mr. Thang promised to study the questions with his staff and provide comments and answers by middle of next week.
- Some initial comments from Mr. Thang:
 - ✓ It is quite difficult to recommend a pilot site for OJT as the expressways and highways are under different management agencies.
 - ✓ Even though TEDI prepared the O&M scheme for HCMC – Trung Luong section, Mr. Thang was not fully satisfied with the draft version. He understood that expressway

- O&M was a completely new area in Vietnam and there is a lot to learn for everyone.
- Mr. Kaneda asked Mr. Thang on his idea on O&M execution methods (PPP, BOT or PFI, etc). Mr. Thang stated that it is not clear at the moment. Mr. Kaneda stated that it would be very difficult to propose one unified standard/manual for all different methods.
 - Mr. Kaneda asked if Mr. Thang could recommend any professors of universities that could assist in this area. Mr. Thang responded that TEDI had been looking for someone during their work for the HCMC – Trung Luong project, however they could not find anyone. Most of their work was conducted based on the standard 22-TCN336/03 and with some study into a report prepared by SMEC (another consultant). TEDI was looking into Chinese and Korean standards for reference but faced with the language problem.
 - Mr. Thang provided the Japanese mission with a copy of the draft O&M scheme for HCMC-Trung Luong section.

The meeting ended at 4:45pm.

accidents thus data collection became harder. Planning for next stage is to identify back spots, work with Traffic Police Force and raise awareness.

- All WB projects need to undergo economic analysis and pass the minimum requirement of 12% economic return.
- The execution of PPP needs to be based on good institutional arrangement. That was the main reason why WB proposed to establish VEA as a state administrator / regulator as it would not be ideal to have VEC handling all aspects of expressway development single-handedly. MPI is now cooperating with WB on PPP framework and MoT can base on this framework to identify potential PPP projects to propose.
- WB also assisting in capacity building for TCQM and MoT Inspectorate in both preparing and coping with incidents.
- Ideas about structure of DRVN and VEA: Considering legal basis and logics VEA should be placed under DRVN. However the concern was that DRVN's former self, VRA showed little change after a lot of donors' support. The hope is that with the Vice Minister directly in charge of DRVN it will become more dynamic and involved in the planning process.
- Cooperation with Traffic Police: This proved difficult as under the previous project, a data system had been set up in order to share data among Traffic Police, hospitals and MoT. However, the traffic police haven't been active in inputting data. WB recognized the need to have the police's involvement but needs to find out a way how to do it. The concern is that there are too many agencies are included in NTSC (MOET, MoH, Police, MoT, etc.) but NTSC is not working well therefore many small committees are set up and operate separately from one another.
- A performance based maintenance contract has been tried out for Highway No.10. As a pilot project it faced with many issues to start (supervising consultant took too long, needed more funding, MoF demanded details on proof of implemented quantity to disburse, approval process for Variation order took too long, etc.) However, the actual work is going well and MoT is keen to have more but MoF wants to finish the 3 pilot contracts before going on further.
- Personal opinion from Mr. Valley on overloading control is that it is very difficult worldwide. Experience from Indonesia showed that this could lead to incorrect data as well as risk of corruption. For maintenance purpose it's better to obtain the actual load data on the road by putting the weigh-in-motion system under the road. This system can measure the accumulative weight and number of truck over a certain period of time to help provide correct data. In long term, the truck operators will realize that they are faced with high vehicle maintenance cost if they are overloading and will reduce the load.
- Involvement of private sectors with Maintenance contracts is good for the system. Even though VEC has established their own O&M Company, it would be far more efficient if the O&M is contracted out to private companies.
- Mr. Valley promised he would send the project list and will search to find the study report on "Application of PPP to the Road Sector".

The meeting ended at 10:15am.

MEMORANDAM OF MEETING WITH THE ASIAN DEVELOPMENT BANK

Time: 11:00am 18 February 2011

Venue: ADB Vietnam Office

Participants:

Japanese side:

Mr. Kaneda Koki JICA's consultant, Expressway Operation and Maintenance (System/Capability)

Mr. Hata Shunji JICA's expert (O&M expressway)

ADB side:

Mr. Robert Valkovic Principle Transport Specialist

Mr. Le Dinh Thang Senior Project Implementing Officer



Brief introduction and questions by Mr. Hata:

- Mr. Hata introduced members of the mission coming to the meeting and noted that the other members of the mission would join from next week.
- Mr. Hata explained the purpose of the mission as the preliminary survey to gather information, opinions and comments to determine the cooperation area and to formulate framework for the project by the copy of the Application Form that listed the activities proposed under the project..
- Mr. Kaneda provided the questionnaires (for WB and ADB) and explained the questions

Response from ADB:

- ADB main works are in expressway, urban transport and provincial highways. Focus is clearly on expressway development as half of the program is on expressway (Noi Bai – Lao Cai; Ho Chi Minh – Long Thanh – Dau Giay; Ben Luc – Long Thanh in design stage and Hanoi – Lang Son to be started this year).
- Issues at this stage include the institutional arrangement of VEC and Vietnamese road users' reluctance to pay tolls. At the moment the tolls are to cover O&M costs, but not to recover capital costs.
- There is no indicator for project selection, most of the projects are based on Government requests. ADB has been working in cooperation with JICA in co-financing projects as the ADB and JICA have similar principles. WB tends to focus more on policy conditions and requirements and that's not so in-line with ADB's focus. bADB believes that practical works need to be conducted along with policy rather than waiting for a policy to materialize before

starting the implementation.

- ADB has raised concern that VEC model is not sustainable. With the current condition they do not have enough equity to borrow for Hanoi – Lang Son project. VEC had some financial support from the Government however it is only enough to meet the ratio for the currently ongoing project.
- Structure of DRVN and VEA: Unfortunately Mr. Tanaka of ADB who is in charge of this issue isn't in Vietnam but Mr. Valkovic can forward the question to him for more detailed comments. It was ADB's recommendation that VEA be separated from DRVN.
- Performance based contract: It is a good idea; however it needs a more sophisticated contracting industry to work. At this stage it might be too early and risk overpricing and the saving may not be very much.
- Selected pilot PPP areas: Project design recommended that VEC can do O&M first then concession it later otherwise VEC cannot cope with all O&M works. At this stage the arrangement is not yet clear. Mr. Thang added that it is recommended that VEC will do the O&M after concession to understand the practical side of work. Some bad experiences have been shown in highway O&M, e.g. revenue from toll collection tripled after the concession at Cau Gie Toll Plaza. This calls for good management procedure. VEC O&M Company will need time on actual operation to work out range for concession rights.
- Overloading Control: MOT seems to be nervous about implementing project activities with the Police. ADB fully supports the overloading control at weigh stations, but does not include it a particular component but leave it up to the Government. Implementing weigh stations can lead to a few issues as truckers will continue to overload but hopefully this matter will evolve in time. Operating of weigh station is MoT's responsibility but they have to work in cooperation with the Police for the enforcement. One solution for this issue is to change the design and raise technical standards for the roads to cope. The police will need to be involved and hopefully it will happen in the future.
- Mr. Valkovic promised to provide JICA with a project list by ADB of the last 10 years.
- Issues of project implementation:
 - ✓ **Resettlement and land acquisition** causing delay in project progress.
 - ✓ Due to concern of big loan, Government tends to try to reduce scope of works, which may result in the ineffectiveness of the expressway, i.e. a 4-lane expressway cannot compete with other normal roads that have 6-8 lanes. The need to expand the expressway will arise and will eventually cost more.
 - ✓ Contractors lack capacity in finance and project implementation skills. A lot of companies are still state owned enterprises, more and more are being privatized but have no skills to implement projects.
 - ✓ Quality issue that is linked with management capability. Government needs to address this issue and help set up a private Contracting system.
 - ✓ Combination of overloading and bad quality often leads to failure of roads.
- Mr. Kaneda requested a copy of the "Study Report on the Application of PPP to the Road Sector". Mr. Valkovic promised to look into this and will provide URL link to report if found.

The meeting ended at 12:00pm.

MEMORANDAM OF MEETING WITH UNIVERSITY OF TRANSPORT

Time: 10:30am Monday 21 February 2011

Venue: University of Transport, Center for International Research and Education Cooperation

Participants:

Japanese side:

Mr. Kawahara Shuntaro	Senior Advisor, Economic Infrastructure Department, JICA
Mr. Nishigata Kotaro	Deputy Director, Transportation and ITC Division 2, Economic Infrastructure Department, JICA
Mr. Murata Shigeo	MLIT
Mr. Kaneda Koki	JICA's consultant, Expressway Operation and Maintenance (System/Capability)

Vietnamese side:

Mr. Khuat Viet Hung, Dr-Ing	Director, Center for International Research and Education Cooperation, University of Transport
-----------------------------	---

Welcome from Mr. Hung and introduction from Japanese side:

- Mr. Hung welcomed the Japanese mission.
- Mr. Hung advised that he just came back from Ho Chi Minh City as his center was assisting Ho Chi Minh City People's Committee in the electronic road pricing feasibility study.
- Mr. Kawahara briefly introduced the mission and the purpose of the preliminary survey to formulate a framework for the Project for Strengthening Expressway Operation and Maintenance System.
- Mr. Kaneda provided Mr. Hung with a copy of the Application Form that outlined the proposed activities of the project and explained the purpose of the visit:
 - ✓ To collect information for the project preliminary survey in order to formulate ToR or Scope of Works.
 - ✓ To get information on local consultants that can be potentials as assistants in the study project later on.
 - ✓ To collect any information regarding O&M (not jut expressway but others as well) and inquire if there are any available studies on ETC, ITS.

Discussion between Japanese side and Mr. Hung:

- Mr. Hung advised that under University of Transport, there are UTC as a big company and another 23 smaller research centers that can provide consultancy and researching services. Mr. Hung is willing to help introduce both firms and individuals to work with the Japanese expert team.
- Mr. Kaneda requested brochures for these organizations and mentioned that the Japanese team would be more inclined to use a firm to avoid unnecessary difficulties in management.
- Mr. Kaneda asked if Mr. Hung had any experience in O&M manuals and standard preparation as this is one of the activities of the project. Mr. Hung replied that he chaired the Committee for the Traffic Signal Control Study.
- Mr. Kaneda stated that the existing many standards in O&M of Vietnam could cause issues in the O&M of expressways. Mr. Hung agreed and mentioned that he had proposed to set up a national ITS Committee, however, he failed to get funding from the Ministry of Science and Technology for this establishment. Mr. Hung also mentioned Mr. Thao, a very experienced consultant whose knowledge on HDM-4 software and ITS could assist the team during their study.

- Regarding the pilot site as a test field for O&M manual, Mr. Hung stated that this can be potentially sensitive. He recommended the Thang Long Avenue as the trial site and the involvement of Hanoi PC as the neutral training ground to avoid the focus about Japanese Government and Japanese technology.
- When asked to compare TEDI and UTC, Mr. Hung believed that TEDI's strength lay in their construction design; however operation and management remained a weakness.
- Mr. Kaneda asked about the latest ideas on O&M technology. Mr. Hung stated that some activities already went past idea stage and into implementation stage. At the moment activities were being carried out for non-stop tolling, automatic number plate recording, patrol car to identify OBU, handheld devices for searching, etc. He is confident with the traffic volume forecast, the revenue from tolling will be sufficient to set up facilities.
- Regarding over-speeding and overloading, Mr. Hung stated that this would continue to be a problem until the society matured into a more developed motorized society. For overloading other measures should be taken into account during the study (re-routing to avoid congestion, etc.).
- Regarding the service criteria, i.e. the required technical criteria at the time of transfer, Mr. Hung replied that this depended on the Project owner's decision. His personal opinion is that BTO method (rather than BOT method) should be adopted because the BOT method presented more risks to both involved parties. Under BTO method, the expressway immediately became public asset after the transfer, therefore it would be easier to get cooperation from Traffic Police in enforcing the regulations. Operation after transfer should be contracted out and should be managed as a performance based contract.
- Mr. Hung provided the Mission with a soft copy of the BTO form figure in Vietnamese. (attached to this MoM)
- Mr. Hung mentioned the two legal documents relating to this area: Decree No. 108/ND-CP and Circular No. 03/2011/TT-BKH.
- The Japanese side expressed their concern that too many operators are involved in the operation of expressway causing discrepancy in standards. Mr. Hung replied that to address this issue the Government needs to set up a National ITC Committee.
- The Japanese side thanked Mr. Hung for sharing information and asked if he had any contact with KEC. Mr. Hung said that he had met one person from KEC but personally he found KEC's approach not ideal for the expressway O&M field. The goal here is to set up a win-win situation for every party, including the Government, the companies and individuals.
- Mr. Hung promised to send soft copy of brochures/CVs (of companies and individuals) to JICA and stated that he was always available to help. JICA thanked him for his support.

The meeting ended at 11:45am.

MEMORANDAM OF MEETING WITH MINISTRY OF TRANSPORT

Time: 10:00am Tuesday 22nd February 2011

Venue: Ministry of Transport

Participants:

Japanese side:

Mr. Kawahara Shuntaro	Senior Advisor, Economic Infrastructure Department, JICA
Mr. Nishigata Kotaro	Deputy Director, Transportation and ITC Division 2, Economic Infrastructure Department, JICA
Mr. Murata Shigeo	MLIT
Mr. Kaneda Koki	JICA's consultant, Expressway Operation and Maintenance (System/Capability)
Mr. Shunji Hata	JICA's expert (expressway O&M)
Mr. Phan Le Binh	JICA Vietnam Office
Ms Nguyen Dieu Linh	JICA Vietnam Office

Vietnamese side:

Mr. Ngo Think Duc	Permanent Vice Minister, MoT
Dr. Trung	Director, IT Center of MoT
Dr. Ha	Deputy Director General, Department of Science and Technology, MoT
Dr. Tuan Anh	Deputy Director General, Vietnam Expressway Corporation
Professor Hong	Deputy Director General, Department of Transport Infrastructure, MoT
Dr. Thang	Deputy Director General, Personnel Department, MoT
Mr. Le Anh Tuan	Deputy Director General, Department of Planning and Investment, MoT cum Head of Counterpart team
Mr. Thach	Deputy Director General, Department of International Cooperation, MoT
Prof. Roan	Transport Construction Quality Management, MoT
Ms Thao	Deputy Director General, Financing Department

Introduction of participants from both sides:

- The Vice Minister welcomed the Japanese Mission and appreciated the continued support from JICA for the project.
- Mr. Kawahara thanked the Vice Minister for sparing time to meet with JICA mission and expressed JICA's willingness in extending the technical cooperation together with ODA loans in developing the expressways in Vietnam.
- Both sides briefly introduced their participants in the meeting.

Discussion between Japanese side and Vice Minister Duc:

- Mr. Kawahara explained the main purposes of the meeting:
 - ✓ To discuss project term/schedule
 - ✓ To discuss project activities
 - ✓ To inquire and discuss about decision making system/counterpart personnel.
 - ✓ To inquire about ideas for pilot section for OJT
- Mr. Kawahara stated that it is extremely important for the Vietnamese counterpart

personnel to be pro-actively participating in the project activities in order to produce best project outcomes. The Vietnamese side was requested to provide a list of counterpart personnel (both officials and their subordinates directly implementing the works.)

- Once VEA is officially established it would be the natural counterpart agency, and it would be preferable that members of counterpart team consist of future key persons in VEA.
- Mr. Kawahara explained the proposed Project Concept and Structure. JCC is to monitor the project activities and progress. JCC is usually chaired by the Vice Minister or Director General of a department/authority/directorate under MoT. Members should consist of leaders from both sides (Chief Representative of JICA Vietnam Office from Japanese side, leaders of involved departments from Vietnamese side).
- As the project will produce drafts of manuals and guidelines, Vietnamese side is requested to set up a decision making system (headed by a committee?) that can facilitate the officialization of the prepared documents.
- Ideas for pilot section for OJT are welcomed. Mr. Kawahara stated that together with training in Japan (in cooperation with other expressway corporations and MLIT), pilot sections in Vietnam is important to facilitate on-site training and trials of manuals. One proposal for pilot section was Ring Road 3.
- Project term is for 2 years with starting date around June/July. This commencement time is also appropriate as it will match with the time of VEA's establishment.
- It's necessary to have good coordination among the relevant Japanese project and this T/A project (e.g. Study on ITS standards and operation plan development; F/S on ITS integration, etc.)
- Cooperation with the Police Force is also important.
- The Vice Minister Duc responded that there would be a Steering Board headed by the Vice Minister himself to oversee the expressway administration. Members of this group consist of Mr. Hong (DTI), Mr. Tuan (DPI), Mr. Trung (IT Center), Mr. Ha (DST), Mr. Thang (Personnel Department), Mr. Thach (DIC), Mr. Roan (TCQM), Ms Thao (Finance Department), Ms Phuong (Legislative Department).
- The Steering Group will have two groups in charge of the policy and OJT headed by Mr. Hong (DTI) and Mr. Ha (DST) respectively. The policy group will work with monitor the preparation of O&M manuals and will need to involve Police Force for the preparation of the traffic accident handling manual, patrol and traffic control manual. The OJT group will have the assistance from Mr Tuan Anh (VEC) and Mr. Trung (IT Center). Department of International Cooperation is to assist with all international contacts and coordinating. Personnel Department is to ensure the human resources are met. More personnel specialized in ITS will be needed and Personnel Department is to look into recruiting a PhD holder and an engineer in ITS to set up an ITS team.
- The Counterpart Team is headed by Mr. Tuan (DPI).
- The Personnel office is to work closely with The Ministry of Internal Affairs and the Government Office to speed up the process on the establishment of VEA.
- The Vice Minister agreed with the proposed outputs of the project and mentioned that cooperation with the Police is important as the Department of Traffic Police (central level) is directly in charge of traffic control on expressway nationwide (in term of patrol, inspection, accident handling, etc.).
- Mr. Kawahara mentioned RR3 as a candidate for pilot section for training. The Vice Minister however recommended Cau Gie-Ninh Binh as a pilot section for OJT, on the basis that RR3 does not have all the standards for an expressway. On the other hand Cau Gie-Ninh Binh section is under MoT's administration, which could be easy for the trials later. MoT can easily close/partially the section for showcase or trial. VEC confirmed that this section will be substantially open to traffic by November 2011.
- Another candidate for trials is Saigon – Trung Luong section as it has been under operation, holds heavy traffic and under MoT's administration. Accommodation and office space can easily be arranged for Japanese experts but the Vice Minister is concerned about the required amount of travelling (from Hanoi to HCMC) for the Japanese experts.

- The Japanese side clarified that the proposal to use RR3 as the pilot site was based on the fact that this section was a Yen-loan project and there was some left-over funding that could possibly be somehow utilized for the equipment procurement of this project. However, the Japanese side respected the recommendation from the Vietnamese side and would discuss further with JICA's ODA-loan-department to find out further solutions.
- The Vice Minister instructed the working team to prepare a notice stating the decision made in the meeting on the establishment of the Steering Board for his signature and issuance among the Ministry.
- The JICA team thanked the Vice Minister for his time and comments and promised to work on the details of M/M, R/D, etc. with the Working Team in the next meetings.

Meeting completed at 11am.

MEMORANDAM OF MEETING WITH MINISTRY OF TRANSPORT

Time: 3:00pm Tuesday 22nd February 2011

Venue: Ministry of Transport

Participants:

Japanese side:

Mr. Kawahara Shuntaro	Senior Advisor, Economic Infrastructure Department, JICA
Mr. Nishigata Kotaro	Deputy Director, Transportation and ITC Division 2, Economic Infrastructure Department, JICA
Mr. Murata Shigeo	MLIT
Mr. Kaneda Koki	JICA's consultant, Expressway Operation and Maintenance (System/Capability)
Mr. Shunji Hata	JICA's expert (expressway O&M)
Mr. Phan Le Binh	JICA Vietnam Office

Vietnamese side:

Mr. Le Anh Tuan	Deputy Director General, Department of Planning and Investment, MoT cum Head of Counterpart team
Mr. Hoang Ngoc Hai	Chief Officer, DPI, MoT
Mr. Cao Hoang Can	Officer, Department of Transport Infrastructure and Safety, DRVN

Discussion between Japanese side and Vietnamese side:

- Mr. Tuan welcomed the Mission again and confirmed that as the Project Manager of the Project (as appointed by the Vice Minister) he will work closely with the Mission.
- The Mission expressed that after hearing the Vice Minister's comments in the previous meeting and discussing internally among Japanese side, it is proposed that in addition to Cau Gie-Ninh Binh section, nother sub-sections can be used as pilot sections. Proposals include RR3 (from intersection with NH5 to Phap Van) and Phap Van – Cau Gie section. The reason for this proposal is that the trials should cover different aspects of the O&M (new section, existing section under traffic, and section that had been damaged and requires repairs). Mr. Tuan was to report this proposal back to the Vice Minister, and it is likely that Mr. Duc will agree to it.
- The Mission mentioned that the RR3 project (Yen Loan project) had been extended and there was some left-over fund that could be utilized. The Mission also inquired about the status of RR3's administrator. Mr. Tuan confirmed that the section from Phap Van to Mai Dich would be transferred to Hanoi People's Committee's administration as it is urban road. The section from Thanh Tri Bridge to Phap Van is still under DRVN's administration, and it has not been confirmed if it would be transferred to Hanoi PC or not. Mr. Tuan also mentioned that Lang-Hoa Lac section is transferred to Hanoi after construction as it is an urban road.
- The Mission shared the information about the tentative SAPI study to set up an information center in order to collect, integrate, process and analyze the data from the various ITS centers around Hanoi (Cau Gie-Ninh Binh; Phap Van – Cau Gie; NH3, inner-Hanoi, etc.). There will be consideration and coordination between this study with the Project and other possible potential ITS pilot projects.
- The Mission proposed that the Vice Minister would be the Project Director of the Project, and

Mr. Tuan as Project Manager. Mr. Tuan was to report to the Vice Minister for decision, however, he raised question whether it was necessary to request the Vice Minister to hold such a position in the Project.

- The Mission asked about the status on the establishment of VEA. Mr. Tuan replied that there was a T/A project funded by WB to study on the organizational structure, functions, tasks and responsibilities of VEA. Proposals had been submitted to the Government for appraisal and approval.
- Another project funded by ADB relating VEA is likely to take place. The plan is to provide capacity and resource development for VEA, however, it is still under preparation stage and the contents haven't been finalized.
- The Vice Minister always provides very close direction on the implementation of the projects. There is a working group as the counterpart team for each project and these groups are supposed to report to MoT leaders on the Project progress and activities.
- The Japanese mission stressed the importance to have the close cooperation between the Japanese experts and the Vietnamese counterparts, especially on the review of procedure and manuals after the trials to reach final proposal.
- Mr. Kaneda checked on the status of the answers to the questionnaires and Mr. Tuan replied that he was still waiting for the contribution from other departments. He apologized for the delay and promised to forward the answers later.

Meeting completed at 4:30pm.

MEMORANDAM OF MEETING WITH TRAFFIC POLICE

Time: 3:30pm Friday 25 February 2011

Venue: Traffic Police Department, Hanoi

Participants:

Japanese side:

Mr. Kawahara Shuntaro
Mr. Nishigata Kotaro

Mr. Murata Shigeo
Mr. Kaneda Koki

Mr. Shunji Hata
Mr. Phan Le Binh
Ms Nguyen Dieu Linh

Senior Advisor, Economic Infrastructure Department, JICA
Deputy Director, Transportation and ITC Division 2,
Economic Infrastructure Department, JICA
MLIT
JICA's consultant, Expressway Operation and Maintenance
(System/Capability)
JICA's expert (expressway O&M)
JICA Vietnam Office
JICA Vietnam Office

Vietnamese side:

Colonel Vu Do Anh Dung
Mr Vu Ngoc Hoan
Mr Vu Quy Phi
Mr Lai Tien Nam
Mr Le Xuan Duc
Mr Ha Dinh Son
Ms Trinh Thu Ha
Ms Tran Thi Hong Luong
Mr Nguyen Phuoc Huy

General Director
Director of Political Logistic Division (internal name: Division 2)
Director of Road Patrol Division (internal name: Division 6)
Deputy Director of Political Logistic Division
Deputy Director of Road Patrol Division
Road Patrol Division
Political Logistic Division
Political Logistic Division
Road Patrol Division.



Discussion between Japanese side and Vietnamese side:

- Mr. Dung welcomed the mission.
- Mr. Kawahara introduced the background of the survey team. The Japanese government has been supporting Vietnam in the development of expressway in the form of ODA loans for expressway construction, T/A for studies and capacity building for Government agencies. Other sectors also receive support from Japanese Government. Cooperation has also been carried out with Ministry of Public Security, i.e. the support for the Police Academy.

- Mr. Kawahara explained that the Mission has had various discussions with Ministry of Transport and the departments under the Ministry. The Permanent Vice Minister of MoT, Mr. Ngo Tinh Duc is in charge of this upcoming project, which is expected to start around the middle of this year with the implementation term of 2 years. During the discussions, it has been pointed out that cooperation with the Traffic Police is extremely important for the operation of expressway, especially in the enforcement of speed and load limit, and the traffic handling in case of accidents or maintenance activities during which some lanes of the expressway has to be closed.
- Mr. Kawahara explained that the expected products of the project will be the manuals and guideline for expressway O&M and hoped to take the opportunity of this meeting to hear ideas, concerns and issues that the Traffic Police may raise.
- Mr. Dung thanked the JICA Mission for being pro-active in approaching the Traffic Police concerning the Project. He briefly introduced the participants in the meeting from Traffic Police Department's side.
- Mr. Dung welcomed the Project as traffic control on expressway is becoming one of the pressing issues for his Department as well. He stated that it is the responsibility, task and authority of the Traffic Police to ensure the Traffic Safety and enforcement of violation penalties on the expressway.
- Mr. Dung would like to receive information on the cooperation mechanism and activities between the expressway operator and the Traffic police in Japan.
- Mr. Hata explained that Japan Highway Corporation (an originally state-owned but recently privatized enterprise) is in charge of financing, building, operating and maintaining expressways in Japan. Unlike the normal roads in Japan on which the traffic signals are controlled by the Traffic Police, the Traffic information is controlled and delivered to the drivers by the expressway operator through the use of cameras and other detecting devices. There is a Traffic Information Center at every 300km of expressway. The Traffic Police set up a Special Force for the Traffic Control on Expressway, and normally has an office in the Traffic Information Center to facilitate information sharing between operator and police.
- Mr. Dung asked how many police officers are needed for the traffic control on the average section of 300km of expressway. Mr. Hata replied that for every 60-80km of expressway there is a traffic control station under the overall 300km-Traffic Information Center. The Traffic Control by the Police Force will involve both the Police from Central Level (around 20 officers working in shifts) and Police from the provincial levels (around 100-200 officers).
- Mr. Dung mentioned that due to limited time of the meeting, he would like to further inquire information about traffic control details (procedures, arrangements, etc.) by the Traffic Police in Japan in near future. Any information and documents for reference from the Mission will be highly appreciated.
- Mr. Dung confirmed the willingness to cooperate with MoT and Japanese Team for the Project. When MoT sends invitation and requests for any detail of the cooperation, his department will make necessary arrangements to respond appropriately under their functions and responsibilities.
- Mr. Kawahara expressed his appreciation of the willingness to cooperate from the Traffic Police as it is extremely important to have this cooperation in order to deal with the traffic incidents on expressways to maintain the expressway capacity for a high volume of traffic at high speed.
- Mr. Dung thanked JICA Mission for their visit and information sharing on the Project. He would like to receive more detailed information from MoT and Japanese team in the future. Upon receipt of information and request, he will assign relevant professional division under his department to respond. He also requested to receive more information on the activities, organization and procedures that the Japanese Police force is currently carrying out on expressway.
- The Mission thanked Mr. Dung and his Department for their time and discussion.

Meeting completed at 5:00pm.

VN Expressway Status

No.	DevelopmentPlan						as of 2010 end										O&M Agency	
	Section	Length (km)	No.of lanes	Cost (BillionVND)	Investment (BillionVND)	Investment		Section	Length (km)	No.of lanes	investment		Financial souce	Remarks	execution by	Now	Future	
						Before 2020	After 2020				million \$	BillionVND						
Eastern North-South Expressway	1	CauGie-NinhBinh	50	6	9,300	9,650	1st stage	Under	CauGie-NinhBinh	50	4		8,970	National Budget+credit	open end of 2011??	VEC		
	2	NinhBinh-ThanhHoa	121	6	12,380	25,289	2011-2014		Ninh Binh - Thanh Hoa	127	6		30,000	ODA	as pilot project	PMU-1		
	3	ThanhHoa-Vinh	97	6	22,120	19,852	2012-2015		ThanhHoa-HaTinh	140			19,850	ODA			PMU-1	PMU-1
	4	Vinh-HaTinh		4-6	2,580													
	5	HaTinh-QuangBinh	145	4	21,610	25,362	2019-2023											
	6	Quanbinh-QuangTri	117			12,051	2019-2023											
	7	QuangTri-DaNang	182	4	18,160	24,591	2015-2019							ODA				
	8	DaNang-QuangNgai	130	4	17,820	25,035	2020		DaNang-QuangNgai	131.5	4	1,427	27,970	WB, JICA	approved in sep 2010	VEC		
	9	QuangNgai-BinhDinh	170	4	23,700	29,750	2016-2019											
	10	BinhDinh-NhaTrang	215	4	24,960	35,905	2017-2020											
	11	NhaTrang-PhanThiet	226	4-6	55,940	35,708	2011-2020		NhaTrang-PhanThiet	235	6						PMU-6	
	12	PhanThiet-DauGiai	98			16,170	2011-2014		DauGiai-PhanThiet	99	4		16,488	WB,			Bitexco	
	13	DauGiai-LongThanh	43	6-8		16,340	1st stage	Under Construction	HCM-LongThanh-DauGiai	55	4	932		JICA, ADB, VEC	under construction, 2014 Open, 3 TollGate, 1O&Mstation	VEC		
	14	Vinh-HaTinh	20	6-8	2,580		Yes											
15	LongThanh-NhonTrach-BenLuc	58	6-8	12,340	22,620	2012-2016		BenLuc-LongThanh	58		1,607		JBIC, ADB, national budget	approved in oct 2010	VEC			
16	BenLuc-TrungLuong	37	8	13,200	14,970			HCM-TrungLuong	37	4		9,880	national budget	open Feb 2010	PMU-MyThuan			
17	TrungLuong-MyThuan	92	6	26,250	26,700	2011-2015		TrungLuong-MyThuan	54	4		19,000		under construction from sep 2009	BEDC			
18	MyThuan-CanTho							MyThuan-CanTho	24.5							PMU-MyThuan		
19	DoanHung-HoaLac-PhoChau	457	4-6	53,930			Yes											
20	NgocHoi-ChonThanh	864	4-6	96,770			Yes											
21	LangSon-BacGiang-BacNinh	130	4-6	12,220	12,220	Yes		HaNoi-LangSon	131	6		25,520		transfer on dec 2008 from VEC to	PMU1			
22	HaNoi-HaiPhong	105	4-6	16,800	16,800	Yes		Hanoi-HaiPhon	105	6	1,368	24,570	Korean ODA	under construction	VIDIFI			
23	HaNoi-LaoCai	264	4-6	15,580	15,580	Yes		NoiBai-LaoKai	245	4	1,249	19,980	ADB, ODA, Credit	under construction	VEC			
24	HaNoi-ThaiNguyen	62	4-6	4,220	4,220	Yes		HaNoi-ThaiNguyen	62	4		8,140		under construction	PMU-2			
25	ThaiNguyen-ChoMoi	28	4-6	2,940	2,940		Yes									PMU-2		
26	Lang-HoaLac	30	6	7,650	7,650			Lang-HoaLac	29.264	6		7,500		open in 2010	PMU TangLong			
27	HoaLac-HoaBinh	26	4-6	2,550	2,550		Yes			6		6,750		Oct 2010 Start??	gleximxo			
28	BacNinh-HaLong	136	6	19,040	19,040	Yes		NoiBai-HaLon	146.5	6		20,558				PMU-2		
29	Noi Bai - Bac Ninh	30																
30	Bac Ninh - Phap Van	40																
31	Phap Van - Cau Gie	30	6		1350			PhapVan-CauGie	30					open (when?)	VEC			
32	HaLong-MongCai	128	4-6	13,820	13,820	Yes		Ha Long - Mong Cai	149	4		26,180	ADB	transfer Dec 2008 from VEC to	PMU-Thang Long			
33	NinhBinh-HaiPhong-QuangNinh	160	4	13,760	13,760		Yes											
34	HongLinh-HuongSon	34	4	2,450			Yes											
35	CamLo-LaoBao	70	4	4,900			Yes											
36	QuyNhon-Pleiku	160	4	12,000			Yes											
37	DauGiai-DaLat	189	4	19,280	19,280	Yes		Dau Giai - Lien	200.3	4		48,324				PMU1		
38	Lien Khuong - Da Lat	20																
39	BienHoa-VungTau	76	6	12,160	12,160	Yes		BienHoa-VungTau	68.8	6		15,760		FS		BVEC		
40	HCMC-ThuDauMot-ChonThanh	69	6-8	20,010			Yes											
41	HCMC-MocBai	55	4-6	7,480			Yes											
42	SocTrang-CanTho-ChauDoc	200	4	24,200			Yes											
43	HaTien-RachGia-BacLieu	225	4	27,230			Yes											
44	Can Tho-CaMau	150	4	24,750			Yes											
45	Ha Noi City Ring Road	37	4-6	17,990	17,990	Yes		RingroadNo3									PMU TangLong	
46	Ho Chi Minh City Ring Road System	38	6-8	34,500	34,500	Yes		RingroadNo4	135.3	6		71,959						
		Total	5,753		766,220	766,220												
									2313.16			6,583	407,399					



QUY HOẠCH PHÁT TRIỂN GIAO THÔNG VẬN TẢI ĐẾN NĂM 2020
THỦ ĐÔ HÀ NỘI
 TỶ LỆ 1/80.000
 CÔNG TY TƯ VẤN THIẾT KẾ GIAO THÔNG VÀ TÀI CHÍNH

CHÚ THÍCH:

ĐƯỜNG VÀNH ĐAI 1, 2, 3, 4	ĐƯỜNG TRỰC ĐỒ THỂ BỐ PHÁP	QUỐC LỘ	NÚT LẬP THỂ	ĐƯỜNG SẮT QUỐC GIA	CẢNG BÓNG	GA, DEPOT	BẾN XE TÀI	BẾN XE QUÁCH
ĐƯỜNG XE BUÝT (NHÀM (BT))	ĐƯỜNG TRỰC ĐỒ THỂ ĐÓ TRÁI		ĐƯỜNG SẮT ĐÓ THỂ	SÂN BAY		TRUNG TÂM VẬN TẢI	LIÊN HỢP SẮT MỎ	

添付書類4 ハノイ近郊高速道路予定図

参考すべき法令基準開発計画その他報告書一覧

List of Regulation, Standards and Development Plan related to Road Sector

	Date	No	Title	Issued by	Lang	
1	2001	22 TCN-273-01	Specification for Road Desigr		En	
2	2001	22-TCN-237-01	Road Signing and Signalling Regulations		En	
3	2003	No. 13/QH11	Land Law			道路用地への貸与を規定
4	2003 May	Decision 1527/QD-BGTVT	Highway Routine Maintenance Standards	MOT	En	D:道路の通常維持管理の技術基準。かなり高度の仕様。
5	2004Sep	No.90/TT-BTC	Detailed regulations for collection of toll far			車種別道路通行料金についての規定
6	2005	TCVN4054-2005	Highway Design Standards		En	D:
7	2005	22 TCN - 331 -05	Guide for Sign on EXPRESSWAY		En	
8	2006	22 TCN-336-03	the standard for O&M of highway	MOT	Vn	一般道路のO&Mマニュアル(英語版なし)
9	2007	TCVN5729-2007	Expressway Design Standard:		En	D: 高速道路の定義の記載あり
10	2007 Sep	Decision 1202/QD-TTg	Mechanism, Policies Applied to Expressway Investment Operation Project of VEC			VECによるプロジェクトの通行料金の規定
11	2007	Decree 7/ND-CP	Regulation about BOT project excluding maintenance			
12	2007	Decree 84/ND-CP	Regulation on land use right, procedure:			追加変更 By Decree No 69/2009/ND-CP
13	2007 Apr	Decision 412/QD-TTg	Investment policy for Transport projec			
14	2007 Nov	No.7056/TTr-BGTVT	Analytical & Advisory Activity report Expressway Development Strategy for Vt	MOT		道路マスタープラン
15	2008 Nov	Law 23/QH12	Road Traffic Law			D: 第3条12項に高速道路の定義
16	2008 Nov	Report 385/TTr-BGTVT	Proposal on Transport Strategy by 2020	MOT		
17	2008 Dec	Decision1734/QD-TTg	Expressway Master Plan (approved by Prime Minister)	P.Min	En	D: 高速道路基本計画の承認
18	2009 Feb		Internal report by VN government and private sectors study team	MOLT (Japan)		D: ベトナム国道路官民連携手法の提言
19	2009 Feb		SAPI-2: Highway O&M methodology (Draft)	JBIC	En	D: 国道の維持管理方法の具体的提案 取締り関係なし
20	2009 Feb	No.41/TB-BGTVT	About Road Traffic Control Cente	MOT		
21	2009 Mar	Decision35/QD-TTg	Transport Strategy up to 2020 with Vision toward 2030	Prime M	En	D: 全土交通計画基本方針を承認
22	2009 Apr		Study of Application of PPP to the Road Sector	WB		(世銀へ依頼中)
23	2009 Jul	Decision1621/QD-TTg	investment policy for pilot project of Hanoi – Hai Phong expressway	Prime M	Vn	(related with VIDIFI)
24	2009 Jul	No.HH8/BGTVT-KHDT	Detailed Planning Repor			
25	2009 Aug	Decision1327/QD-TTg	Approval of Vietnam Road Transportation Development Plan by 2020	MOT	En	D: 各道路についての開発計画を明示している
26	2009 Oct		QC & Safety measure for Infrastructure works Report	JICA	Jp	D:社会インフラ整備の品質管理向上及び施工管理中の安全向上のためのハンドブックをつくり、合わせて人材育成を図るもの。実施期間はMOC。
27	2009 Nov	Decree 108/09/ND-CP	New BOT, BTO, BT Regulation including PPP scheme	MOT	En	D: 各方式の定義、資金元等についての布告 高速道路に限定したものではない
28	2009 Dec		(Draft) O&M Manual for Expressway	TEDI	Vn	D: OperationとMaintenanceの2部
29	2010 Jan	VITRANSS-2	Comprehensive study on the Development of Transport system (including ITS Master plan	JICA	En	D:
30	2010 Feb	VITRANSS-2	Comprehensive study on the Development of Transport system N-S Expressway master plan	JICA	En	D:
	2010Feb	Circular07/TT-BGTVT	Definition of maximum load, size of cargo			トラックの最大寸法、重量の規定
31	2010 Mar		ベトナム高速道路維持管理事業案件形成調査報告	経産省	Jp	D: NS Expwy でのO&M事業形成のため MOTの暫定基準と官民連携スキームの検討をおこなったもの
	2010 May		draft decree of vehicle load inspection station	DRVN		検量所の設置についての案
32	2010 Jun	Decision 195/QD-BGTVT	Draft Regulation on Management & Operation HCM- Trung Luong	MOT	En	D: 対象道路限定のかんりの具体案 [泰専門家コメント]
	2010 Aug		draft circular about vehicle load inspector	DRVN		検量所の設置についての案
33	2010 Jul		ITS 技術基準・運用計画の策定支援調査 Interim Rp	JICA	Jp	D: 高速道路への適用についての報告
34	2010 Sep	6499/TTr-BGTVT	Proposal of Establishing Expressway Administration	MOT	En	D: VEA設立についての提案 現行の各機関の役割
	2010 Oct	Decision 20/QD-BGTVT	Temporary regulations on organizing an operating Vehicle Load Inspection stations	MOT		トラック重量計測所の管理運営について
	2010	Decree 34/ND-CP	penalization due to administrative violations of the field of road traffic	MOT		違法車両罰則規定
35	2010 Nov	Decree71/QD-TTg	Regulation on Pilot Investment using PPP Model	MOT	En	D: PPPのPilot 投資についての法令
36	2011 Jan		Study for supporting ITS standards & Operation plan development	JICA		D: 高速道路運用の基本条件としてのITSの整備方針を調査したもの。基準案、サービス基準、パイロットプロジェクトの実施について触れている
37	2011 Jan		Proposal for Expressway Development and Operation (Progress Report 2)	ALMEC	En	D: 表2.2.1に機構関連の規定を網羅。表2.2.2 図2.2.1に関連各組織の機能を示している。2.4章にWBの動向。3.1章に課題。4.2章にJICAがVEAを推薦と記載あり。
38	2011 Feb	Decision 266/QD-BGTVT		MOT		

RESPONSES TO JICA's QUESTIONNAIRE

Attention to: JICA MISSION

After the meeting with JICA Mission in the afternoon of February 15, 2011, Directorate for Road of Vietnam would like to answer the questionnaire of JICA as follows:

Question 1

Question:

Please provide a list of priority rank for Operation and Maintenance scope?

Answer:

The list of priority rank is shown as follows:

- Collecting, analyzing and managing traffic data, including the methods against accidents or disasters.
- Providing information services to transport participants.
- Managing tonnage of vehicle.
- Tolls system.
- Periodical inspection and maintenance - including the ITS equipment.
- Large scale rehabilitation and improvement for degraded areas and areas with large volume of traffic.
- Required repairing work at any time.

Question 2

Question:

Please provide a list of priority rank of activities for "Legal framework" and "Institutional structure" which are requested in the "Project Activities" part of the Application Form?

Answer:

We have agreed with JICA's research methods for Operation and Maintenance.

However, in the present situation, the process of researching Standard Operation and Maintenance should be consulted. This process is arranged in the order of priority as follows:

- Review of existing Regulation & Standards for Safety, Speed and Overload.
- Study of necessary service criteria
- Study of Operation and Maintenance Execution Methods.
- Study of Operation and Maintenance Standard (draft version).
- Drafting Operation and Maintenance frame work / structures; discussing the National management structures; discussing the opinions of Ministry of Transport and organization's functions; preparing Regulations, Standards and necessary manuals; organizing site study.
- Implementation of pilot projects:
 - + Phap Van - Cau Gie
 - + Ho Chi Minh City - Trung Luong

Question 3

Question:

Please present the current organization and the interactive relation of Operation and Maintenance?

Answer:

In the meeting with Directorate for Road of Vietnam in the afternoon of February 15, 2011, the answer of the Minister of Transport to this question was recorded in the minutes of meetings; otherwise please kindly contact the Department of Personnel and Organization or other Functional Units directly under the Ministry of Transport.

Question 4

Question:

Are all the methods on the execution of Operation and Maintenance permitted by the regulation? If so, please state the related decision?

Answer:

According to the government's decree No. 108/2009/NĐ-CP dated 27 November 2009 and the decision No. 71/2010/QĐ-TTg dated 9 November 2010 of the Prime Minister promulgating the Regulation on pilot public-private partnership investment.

Question 5

Question:

Except for prepared documents, please show other relative documents if any.
How about the current availability status of English version for all documentations?

Answer:

The decision No. 71/2010/QĐ-TTg dated 9 November 2010 of the Prime Minister promulgating the Regulation on pilot investment in the public-private partnership form was added.
The English versions of all documentations are not yet available.

Question 6:

Please provide information related to Weigh Bridge and Vehicle Overload Control on Expressway, including the followings:

Q 6.1. Basis of Vehicle Gross Weight and Axle Load Laws and Regulations?

Answer:

- Road traffic laws in 2008
- Decision No. 20/2008/QĐ-BGTVT dated 2 October 2010 of Ministry of Transport promulgating the Temporary regulations on organizing and operating Vehicle Load Inspection stations.
- Decree No. 34/2010/ND-CP stipulating on penalization due to administrative violations on the field of road traffic
- Circular No. 07/2010/TT-BGTVT dated 11 February, 2010, stipulating on the loading capacity, limit size of roads; operation of oversized, overloaded and track vehicles; transportation of extra-long and extra-heavy cargoes; and cargo loading limits of road vehicles for road traffic.
- In May 2010, Directorate for Road of Vietnam submitted the second draft of the decree promulgating regulations on organizing and operating Vehicle Load Inspection stations for road traffic to the Ministry of Transport.
- In July 2010, Directorate for Road of Vietnam sent the draft circular of National technical regulations for Vehicle Load Inspection Stations asking for comments of units involved.

Q 6.2. Cooperation status from Traffic Police?

Answer:

The Ministry of Transport - together with the people's committees of Quang Ninh province and Da Nang province - signed the Regulations on the coordination of forces in the operation of the Vehicle Load Inspection Stations in Dau Giay and in Quang Ninh.

At this time, Directorate for Road of Vietnam has deployed coordination regulations with the General Police Department for Administrative Management for Social Order and Safety – directly under the Ministry of Public Security.

Q 6.3. Information on Weigh Bridges?

Answer:

- According to the decision No. 45/TTg dated 4 September 1993 of the Prime Minister, there are twenty-seven (27) fixed Vehicle Load Inspection Stations on thirteen (13) ways. Those stations were equipped with static weight system managed by the Road Management Companies.
- In March 2010, those Vehicle Load Inspection Stations were suspended.
- Implementation of document No. 1882/TTg dated December 3, 2007 of the Prime Minister on the modernization and restoration of pilot operation of two Vehicle Load Inspection Stations: providing Dau Giay Station in Dong Nai (Highway No.1, Regional Management Unit VII) and Quang Ninh (Highway No.18, managed by Department of Transportation – Quang Ninh province) both weight in-motion system and static weight system:
 - + Pilot operating of Dau Giay Vehicle Load Inspection Station and official sanction from March 1 2009;
 - + Pilot operating of Quang Ninh Vehicle Load Inspection Station and official sanction from June 6 2010;

- + Investment preparation on building a Vehicle Load Inspection Station at Pho Giang - Highway No.70
- + Directorate for Road of Vietnam is submitting the overall project of Managing vehicle loading to the Ministry of Transport – preparing for the early implementation of Vehicle Load Inspection stations nationwide.

Q. 6.4. Vehicle overload studies (reports)?

Answer:

- The social conditions of transport tariffs and the unfair competition in the market mechanism have led to the ignorance of regulations and laws to pursue their own profits. Many business owners force their drivers to increase the number of trips and workload and for better profits.
- The Vietnam's Road Network Protection Project (NPP) sponsored by World Bank conducted a pilot test on Highway No. 5 from May 11th to May 15th 2006. The test results showed an average of 1000 overloaded vehicles a day - equivalent to the rate of 20-30%. Among them, there were cases in which the total load of vehicle is up to 80 tons, or 54 tons on the rear axle - equivalent to the rate of 200% overloaded.
- Summary Report after 8 months inspecting and handling violations at Dau Giay Station (Highway No.1, Dong Nai), there were 2,931 cases exceeding 10% of permitted load/51,852 cases tested by static weight system, which consists of 5.3%
- Summary Report after 4 months inspecting and handling violations at Quang Ninh Station (Highway No.18, Quang Ninh), there were 1,523 cases exceeding 10% of permitted load/ 4,196 cases tested by static weight system, which consist of 36.3%).

The remarkable reasons mentioned above has caused damage to transport structures and threatened the life-safety of vehicle drivers as well as other Road traffic participants.

Q.6.5. Cooperation of other donors for weigh bridge installations?

N/A. No donor.

Question 7

Question:

Please provide details of expressway projects and other projects which are appropriate for training of staff on the selected pilot roads for the trials of prepared manuals.

Answer:

Training of staff on the selected pilot roads for the trials of prepared manuals are requested in the "Activities" part of the Application Form. The Candidate Expressways are assumed as follows:

Route	Road Administrator	Status	Length	Estimated Traffic Volume	O/M Facilities
Phap Van - Cau Gie	Directorate for Road of Vietnam	On operation	32 km	PCU: 40,000	
Ho Chi Minh-Trung Luong	My Thuan Project Management Unit	On operation	28 km	PCU: 40,000	

Question 8

Question:

Please provide your assisted road project list and the support policies of The World Bank and The Asian Development Bank in Vietnam in the past 10 years?

Answer:

Please consult the support of The World Bank and The Asian Development Bank.

Question 9

Question:

Please fill the following tables:

(1). Road Classification, Budget, and Fund Sources (FY2009/2010)

Unit: Million(s) VND

Road Classification	Budget Allocation in 2009	Budget Allocation in 2010
Highway	2,016,180	2,600,580

(2). Budget Allocation for Road Traffic

Unit: Million(s) VND

	2004	2005	2006	2007	2008	2009	2010
Actual Allocation for Maintenance	458,485	704,000	1,174,000	1,330,000	1,254,803	1,545,000	2,165,100

(3). Status of Foreign Financial Support to Road Traffic/Maintenance Program in recent 5 years

Organization	Title of Project/Program	Total Cost & Schedule
WB 4	The Road Network Renovation and Upgrade Component Project	125,000,000 USD/ 2005-2012

* All remaining information can be consulted at the Department of Planning and Investment - under Ministry of Transport.

Question 10

Question:

Please mention recommended financial policies/measures can be taken to fulfill the maintenance needs for Safety and sustainable Operation and Maintenance?

Answer:

The Ministry of Transport plans to build a decree on Road Maintenance Fund responding to the needs of maintenance. The decree will be submitted to receive Government approval. Besides, public private partnership investment can address the needs of capital for Operation and Maintenance in general and for Expressway operation and maintenance in particular.

- The current sources include:
- + Maintenance Fund
- + Stage Budget
- + Toll Traffic System

The responses of Directorate for Road of Vietnam to the questionnaire of JICA mission are as presented above. We are so willing to cooperate with JICA mission in order to achieve the best for both parties.

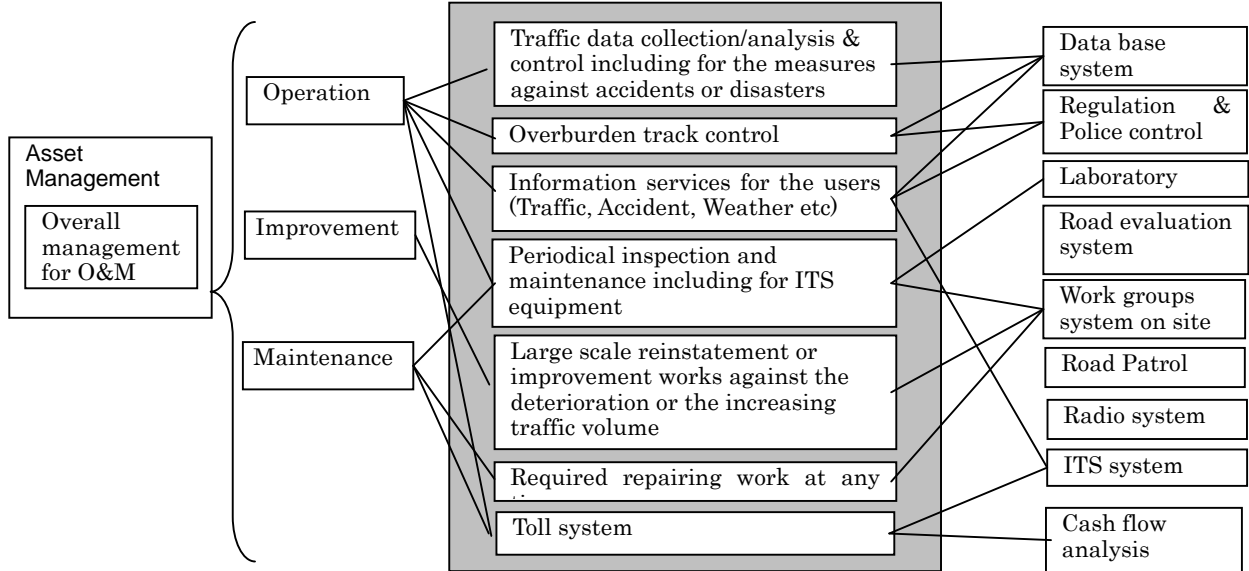
Best Regards,

On behalf of Minister,
Vice-Minister, Directorate for Road of Vietnam

Nguyen Duc Thang (signed)

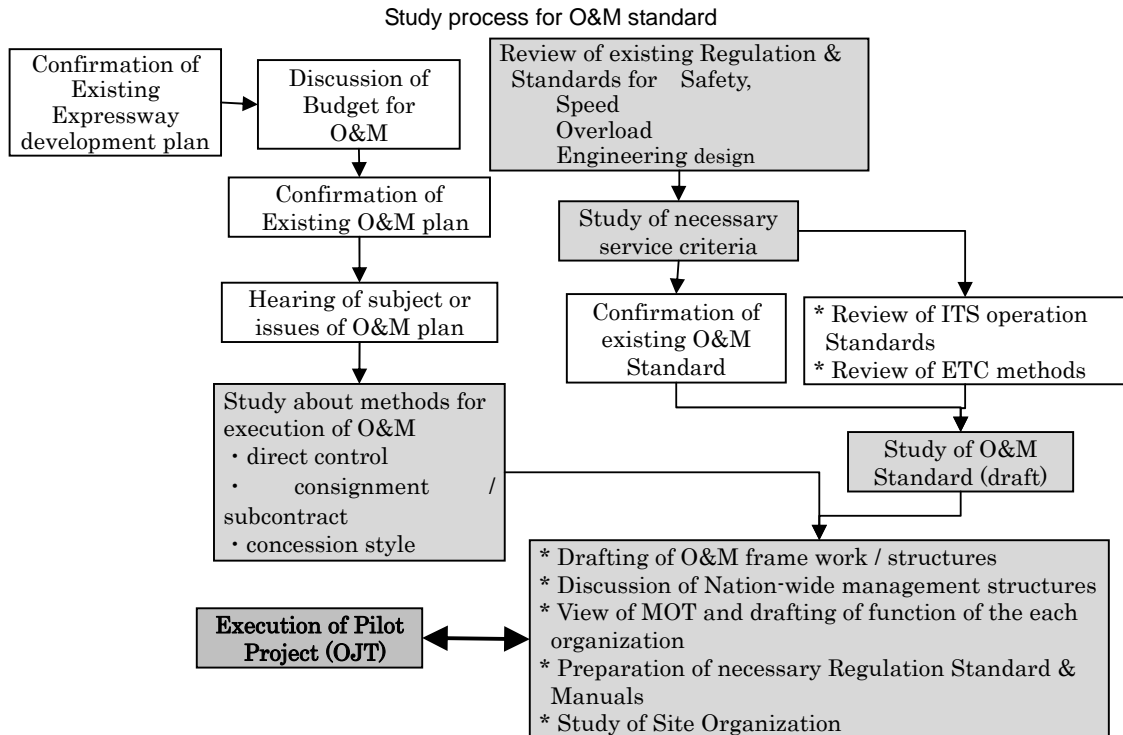
Questionnaires

1. The category of O&M will cover the very wide scope as shown below:
It is not easy to propose all of above schemes in details within 2 years of the Survey period between 2012 and 2014?.



Q: It is expected to give the priority (in the above shade part) based on their importance and urgency.

2. Preparation of a proposal for “Legal frame work” and “Institutional structure” are requested in Project Activities of Application Form. On the execution of this study, following process will be necessary.

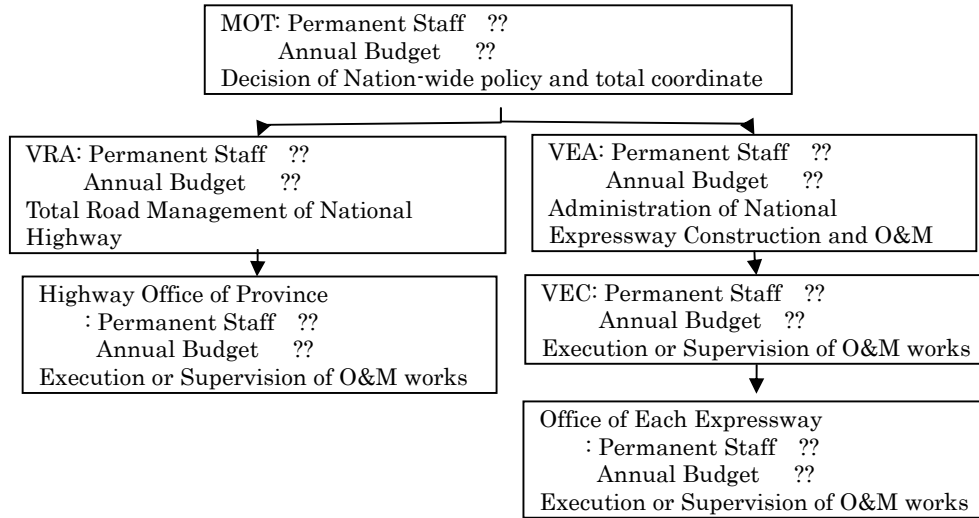


Q: Please show priority of activities (of the above shade part) to be conducted in the Project.

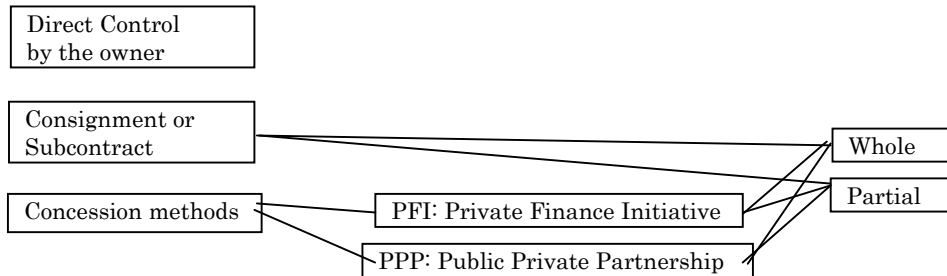
3. O&M for Expressway is essential one to ensure the both of the convenience for the user and the efficiency of the investment. Current relevant agency for O&M will be MOT, VEA, VEC and DRVN?. They are requested to cooperate effectively.

Q: It is requested to show current organization and their relations:

Example of Nation-wide Organization relationship



4. There are various methods on the execution of O&M.



Q: All of these methods are permitted by the regulation? If so, please mention the decision numbers related.

5. Preparation of Technical standards and draft manuals are requested in the Activities of the Application Form. For this preparation work, it is necessary to review the documents prepared in the past as much as possible. We consider that related documents prepared by the relative agencies are as follows:

List of Regulation, Standards and Development Plan related to Road Sector

Date	No	Title	Issued by	Availability of English Version
2004Sep	No.90-2004/TT-BTC	Detailed regulations for collection of toll fare		
2005	TCVN4054-2005	Highway Design Standards		
2007	TCVN5729-2007	Expressway Design Standards		Available
2007	Decision 78-2007-ND-CP	Regulation about BOT project excluding maintenance		Available
2007 Apr	Decision412/QD-TTg	Investment policy for Transport project		Available
2008 Oct		Analytical & Advisory Activity report Expressway Development Strategy for VN		
2008 Nov	Law 23/2008/QH12	Road Traffic Law		
2008 Dec	Decision1734/QD-TTg	Expressway Master Plan (approved by Prime Minister)		
2009 Feb		Internal report by VN government and private sectors study team	MOLT (Japan)	Available
2009 Feb	No.41/TB-BGTVT	About Road Traffic Control Center	MOT	
2009 Mar	Decision35/2009/QD-TTg	Transport Strategy up to 2020 with Vision toward 2030		Available
2009 Apr		Study of Application of PPP to the Road Sector	WB	
2009 Jul	No.HH81?BGTVT-KHDT	Detailed Planning Report		
2009 Aug	Decision1327/QD-TTg	Road Master Plan		Available
2009 Oct		QC & Safety measure for Infrastructure works Report	JICA	Available
2010 Jan	Decision 108	New BOT Regulation including PPP scheme		Available
2010 Jan	VITRANSS□2	Comprehensive study on the Development of Transport system (including ITS Master plan)	JICA	Available
2010 Feb	VITRANSS□2	Comprehensive study on the Development of Transport system N-S Expressway master plan	JICA	Available
		(Draft) O&M Manual for Expressway	TEDI	
2011 Jan		Study for supporting ITS standards & Operation plan development	JICA	Available

Q: Please show us other relative documents, if any.

Q: It is expected to show us about the current status of availability of English version for all documentations.

6. Please provide information related to Weigh Bridge and Vehicle Overload Control on Expressway, including followings:

Q1: Basis of Vehicle Gross Weight and Axle Load Law and Regulations

Q2: Cooperation status from Traffic Police

Q3: Information on Weigh Bridges

- 1) Location
- 2) Condition, Weigh System, Operation Methods and Operation Entity (Body)
- 3) Application of Penalty or Other Initiative

Q4: Vehicle overload studies (reports)

Q5: Cooperation of other donors for weigh bridge installations

7. Training of staff on the selected pilot roads for the trials of prepared manuals are requested in the Activities of Application Form. Candidate Expressway projects are assumed as follows:

Candidate Expressway Project as Pilot Road for Training

Route	Road Administrator		Length	Estimated Traffic Volume Fare Rate	O/M Facilities
HaNoi~ Cau Gie		On Operation			
Cau Gie~ Nihn Binh	VEC	Start Jan 2006 Open End of 2010	Around 45 km 20% of length is on flood area	PCU : 200,000	
HCMC~ Dau Giay		Design Oct 2009	51 km	PCU : 90,000 900VND/KM	
RR3 of Hanoi					
Hoa Lac road					

Q: It is expected to show the further outline of these projects and other projects suitable for the training, if any..

8. World Bank and Asian Development Bank

Q: Overall policy

- (1) Please provide information on Road Sector Assistance Policy, Main focus and Criteria of your Bank. How and what degree of economic indicators are used when selecting road project and subjected road links?
- (2) Could you mention about Assistance Policy Change, from development to maintenance?
- (3) How about your opinion for the utilization of private sectors for the Expressway operation and Maintenance in VN?
- (4) How about your opinion about the performance base Maintenance contract?
- (5) Please give us your opinions and/or executed project about the restriction of overload tracks on the road?
Which methods are you adopting, gross vehicle weight limit and/or maximum axle load?
- (6) Do you have any opinion and suggestion on Reform Plan of Road Agencies, such as MOT, VRA, VEA, VEC?

Q: Please provide us your assisted road project list in VN in the past 10 years. And please mention any issues on the execution of these projects, especially characteristic one in VN.

9. Please fill the following tables

(1). Road Classification, Budget, and Fund Sources (FY2009/2010 or Latest one)

Road Classification	Budget Allocation
Expressway	
National Roads	
Provincial Roads	
City Roads	
Municipal Roads	
Other minor Roads	
Total	

(2). Planned Budget Allocation by MPI for Road Sector & Expressway

	2004	2005	2006	2007	2008	2009	2010
(Actual Allocation)						-	-
Construction						-	-
Maintenance						-	-
(Actual Allocation)						-	-
Construction						-	-
Maintenance						-	-

(3). Status of Foreign Financial Assistance to Road Sector/Maintenance Program in recent 5 years

Organization	Title of Program/ Project	Total Cost & Schedule
WB ADB JBIC/JICA Others		
Total		

10. Safety and sustainable O&M could be backed up by financial sources.

Q: Please mention recommended financial policies/measures to be taken to fulfill the maintenance needs.

契約方式

外資のベトナムへの進出形態

ベトナムへの外資系企業の進出形態としては外国投資法に基づき現地法人を設立又は事業協力契約を締結する方法、特殊な形態として BOT・BTO・BT 契約によるインフラ事業等への投資、駐在員事務所又は支店形態で進出する方法、及び現地法人等は設立せずに非居住者としてベトナム国内の企業又は個人に役務を提供する外国契約者のステータスで進出する方法に分けられる。

1 100%外国投資企業・合弁企業・事業協力契約の特徴

外国投資法では 100%外国投資企業・合弁企業・事業協力契約の投資形態が設けられており、それぞれの形態・特徴は下記の通りである。

	100%外国投資企業	合弁企業	事業協力契約
形態	外国の企業又は個人の 100% 出資により会社設立・事業活動を行う	外国の企業又は個人とベトナムの企業又は個人の出資により会社設立・事業活動を行う	外国の企業又は個人とベトナムの企業等が法人設立を行わず契約に基づいて事業を行う
責任	外国投資家による有限責任	出資比率での有限責任	契約当事者の無限責任
出資	現金又は有形・無形固定資産の現物出資 総投資額の 30%以上の法定資本が必要	現金又は有形・無形固定資産の現物出資 総投資額の 30%以上の法定資本が必要 原則外資出資は 30%以上	契約により規定
投資期間	最長 50 年 承認を得れば 70 年まで延長可能	最長 50 年 承認を得れば 70 年まで延長可能	契約により規定 延長は可能
配当	納税後に配当・定款の規定に従う・海外送金の源泉税なし	納税後に配当・出資比率に応じて配当・海外送金の源泉税なし	契約により規定・出資比率に応じ配当・海外送金の源泉税なし

各進出形態にはそれぞれメリット・デメリットがあるが、それ以前に進出事業分野によっては進出形態が規制されている分野もあるため注意が必要である。

BOT/BTO/BT 契約

BOT・BTO・BT 契約は、投資家と政府との間で締結され、橋梁・発電所・水処理場・空港・道路・鉄道など産業基盤の建設事業に適用されるものであり、プロジェクトを最終的には政府に譲渡する契約である。100%外資系企業又は合弁企業形態で実施されるが、合弁企業形態が推奨される傾向にある。政府に対してプロジェクトをどの時点で譲渡するかによって下記のように 3つの形態に分けられている。

BOT 契約 Build Operate Transfer	投資家がプロジェクトの組織、建設及び操業の全てに責任を負う。特定期間後（投下資本の回収と適正な利潤が確保可能な期間）に無償で政府にプロジェクトが譲渡される。 民間事業者が資金調達、設計、施工を行い、完成後契約期間中運営を行い、契約期間終了後に所有権を公共部門に移転する方式
BTO 契約	投資家は建設完成後政府にプロジェクトを譲渡する。投資家は改めて契約で合意された期間そのプロジェクトの操業権を付与される。 民間事業者が資金調達、設計、施工した後、公共部門に施設の所有権を移転し、事業者が施設の使用許可等を与え、民間事業者が施設を運営する方式。
BT 契約	投資家は建設完成後政府にプロジェクトを譲渡する。 政府は他のプロジェクトの操業権を投資家に一定期間付与する。

BOT・BTO・BT 契約でのプロジェクトには、法人税の優遇措置の適用、プロジェクト実施のために輸入される機械設備・原材料の輸入関税の免除、土地使用料の免除などの優遇措置が認められている。

民間資金活用の方法

PPP : Public Private Partnership

PPPは、文字どおり官と民がパートナーを組んで事業を行うという、新しい官民協力の形態。従来地方自治体が公営で行ってきた事業に、民間事業者が事業の計画段階から参加して、設備は官が保有したまま、設備投資や運営を民間事業者に任せる民間委託などを含む手法。

PPPは、欧米で1990年代後半に普及した概念で、国によって定義が若干異なる。欧米の場合、政策形成過程の早い段階から官民が協力して事業や政策を検討する形態をとっている。企業と政府との間の連携だけでなく、地域住民やNPO（非営利団体）、大学、地域コミュニティなどの多様なプレイヤーが政策や事業の検討に参加・連携する。支出を伴う事業の場合、政府部門とともに民間もリスクを負担する。

PFI : Private Finance Initiative（民間資金を活用した社会資本整備）

PFIは、国や地方自治体が基本的な事業計画をつくり、資金やノウハウを提供する民間事業者を入札などで募る方法を指している。一方、PPPは、たとえば事業の企画段階から民間事業者が参加するなど、より幅広い範囲を民間に任せる手法である。

DBO方式 Design Build Operate

DBO方式とは、PFIに類似した事業方式の一つで、公共が資金調達を負担し、設計・建設、運営を民間に委託する方式のこと。民間の提供するサービスに応じて公共が料金を支払う。民間が資金調達を行うのに比べ、資金調達コストが低いため、コスト縮減率≒VFMで有利になりやすい。一方、公共が資金調達を行うため、設計・施工、運営段階における金融機関によるモニタリング機能が働かない（働きづらい）点がPFIと異なる。

コンセッション : Concession Scheme

事業運営権を一体で民間にアウトソースする手法。

事業運営権とは、道路や空港などのインフラを整備、管理、運営し、料金徴収できる権利のこと。税金でつくったインフラには通常、私権を設定できない。そこで、行政が施設や土地を保有したまま、運営権だけを民間に売却。数十年の長期間にわたって、民間の工夫と知恵を生かして、効率的にサービスを提供してもらおう。行政は運営権の売却で得た収入によって負債を解消できる半面、利用者である市民に将来の通行料などとして、負担が生じる恐れがある。また、政府としての将来的な地域開発に制限が生じる場合もある。

ニュー・パブリック・マネジメント【NPM】 New Public Management

NPMとは、民間企業における経営理念、手法、成功事例などを公共部門に適用し、そのマネジメント能力を高め、効率的で質の高い行政サービスの提供を目指すという考え方。

行政の意識を、法令や予算の遵守に留まらず、より効率的で質の高い行政サービスの提供へと向かわせ、行政活動の透明性や説明責任を高め、国民の満足度を向上させることを目指す。

1980年代半ば以降、ニュージーランドでは市町村合併という行政のシステムの最適規模についての検討がなされ、イギリスでも二層制の地方組織がいいのか、それともロンドンを特別に大きな地方団体として扱うべきかなどについて検討された。

NPMの三つの基本原則として、(1) 競争原理の導入 (2) 業績／成果による成果主義、(3) 政策の企画立案と実施執行の分離（権限委譲）が挙げられる。

