

10 IMPLEMENTATION ARRANGEMENT

10.1 Introduction

This section identifies the potential problems that may hamper construction and discusses the consensus achieved over the last 12 months on how the CALA roads will be implemented. Implementation support encompasses all ancillary work and measures leading to actual construction.

In the past, the planning and feasibility studies have concentrated on the engineering and economic analyses of road projects, with the subsequent implementation phase taken for granted as following the usual or conventional ways within and under the DPWH. Resolution of obstacles to construction is then left to the creativity and wherewithal of project managers. This situation is deemed unacceptable for the target roads, as it transfers the burden to implementers and consequently limits their elbow rooms. Resolving them in advance, as well as mitigating risks, should lead to early completion.

10.2 Financial Constraints

10.2.1 Basics of Road Financing

It is common among governments of developing countries to have severely inadequate fiscal resources. Consequently, the financing of road infrastructure is also negatively affected. To remedy or mitigate this problem requires a clearer understanding on how roads get funded. There are differences even among fiscally-challenged developing countries. Table 10.2.1 summarizes the situation in the Philippines.

Table 10.2.1 Basic Road Financing in the Philippines

	Implementing Arm	Financial Instruments	Remarks
Public Sector: National	National Agency: DPWH	Appropriations from the National Treasury, funded by general taxation and borrowings by DoF. Proceeds from ODA included in annual budget cap	Responsible for national roads. CALA arterial roads under DPWH mandate. However, road appropriations must pass through Congress and projects listed in the agency Medium-Term Program
	SOE: (e.g., NDC, BCDA, PNCC, PEA)	Like private corporations, can provide equity, issue bonds and borrow loans. Loans/bonds usually guaranteed by NG/DOF.	CALA roads excluded from PNCC, BCDA and PEA scope. NDC can finance through PIC, provided the roads will be tolled and be financially viable.

	Implementing Arm	Financial Instruments	Remarks
Public Sector: LGUS	Province	Tax revenues of province, as well as internal revenue allotments from NG. Limited capacity for issuing bonds and incurring loans	Cannot fund roads classified as national, but can contribute for rights-of-way. Provinces have weaker tax base than cities. Provincial roads are built to interconnect municipalities and be planned to complement national road network.
	City/Municipality	Tax revenues of city/municipality as well as internal revenue allotments from NG. Limited capacity for issuing bonds and incurring loans	Cannot fund roads classified as national, but can contribute for rights-of-way. Local roads can be planned to complement the national road network
Private Sector	Subdivision developers	Private equity and commercial loans, cost eventually passed on to buyers of real estate. Roads are deemed private and use restricted	With advanced coordination, subdivision plans can incorporate relevant sections of public roads. Feeder and secondary roads w/in subdivisions can also be harmonized with the public road network
	Tollway Companies	Private equity and commercial loans, secured from domestic and/or international financing institutions. Eventually paid back by road users.	If the CALA arterial roads are designed as tollways, concessions to private companies can be tendered by DPWH and TRB. Supplemental funding from DPWH possible, but needs prior inclusion in latter's budget.

For major roads, the public sector, particularly the DPWH, is the most significant provider. Occasionally, a few government-owned corporations (like BCDA, PEA, and PNCC) enter into the picture, but only for pre-defined zones stated in their charters. Private sector participation is limited to toll roads, which are not yet feasible in many areas of the country.

Local government units (LGUs) (i.e. provinces, cities, municipalities) also build and finance roads that are mainly local in nature or secondary in traffic importance. Historically, their combined investments are still small relative to that of DPWH, despite the 1990 local government code and attempts to co-share burdens between NG and LGUs.

In rapidly urbanizing areas, the large private property developers invest in roads much more extensively than the LGUs in which they are located. The cost is recovered out of the selling price of the sub-divided lots. The appreciation in land values is captured by the developers and lot owners, and to some extent by LGUs through higher property taxes.

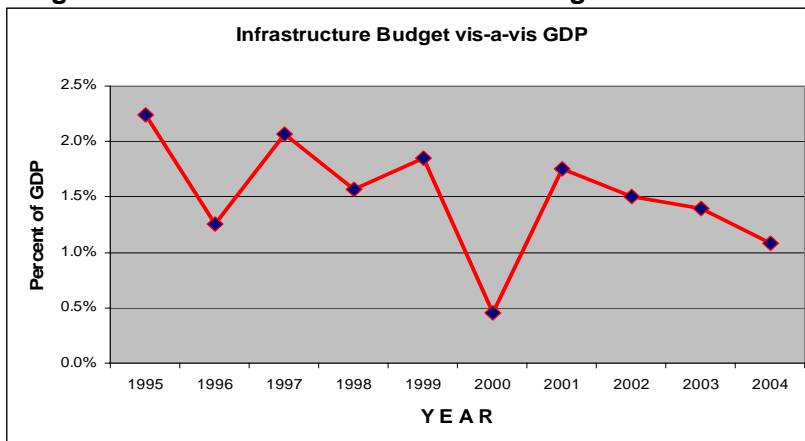
10.2.2 Fiscal Position of National Government

From 1995 to 2004, the infrastructure budget of the National Government (NG) has been on a steady decline relative to the Gross Domestic Product (GDP),

as illustrated in Figure 10.2.1.

The highest ratio was achieved in 1995 at 2.2% and the lowest at 0.5% in 2000. In 2004, the infrastructure outlays amounted to ₱51.4 billion,

Figure 10.2.1 Ratio of Infrastructure Budget to GDP

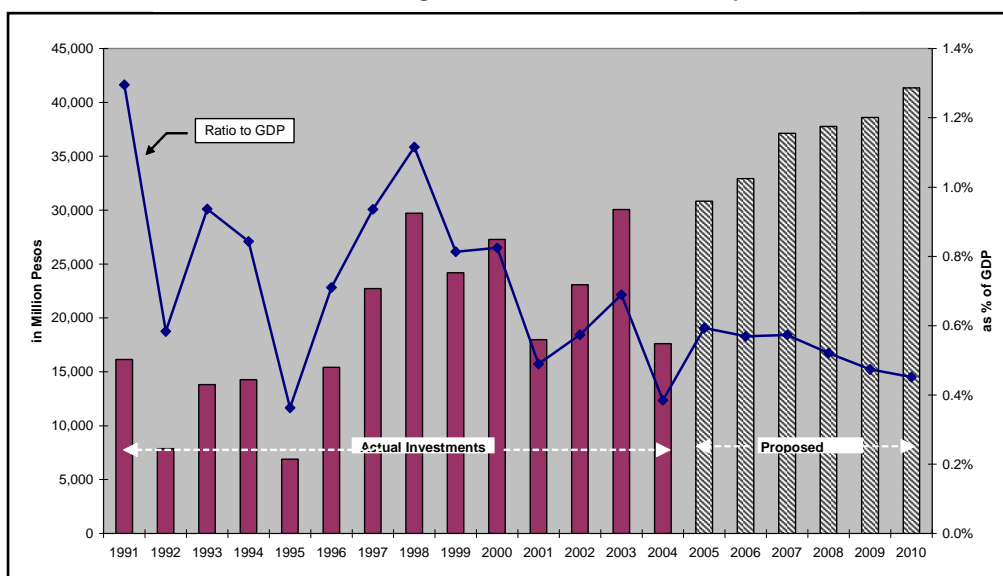


representing only 1.1% of that year's GDP. With the budget re-enacted in 2005 and 2006, the same fiscal levels were carried forward, thus, continuing the decline of investments in infrastructure relative to GDP. Money available for infrastructure got squeezed at both ends; on the expenditure side by increasing debt service (from 20% to 32% of expenditures), and on the revenue side by declining tax efforts (from 18.9% of GDP in 1995 to 14.2% in 2004). Correspondingly, investments on national roads, which comprised 24% of the total, followed the downsizing of the overall infrastructure budget.

The fiscal predicament of DPWH, past and prospective, is graphically shown in Figure 10.2.2 below, which indicates continuing decline relative to GDP although the tendency is slightly different from Figure 10.2.1 because Figure 10.2.2 shows the actual investments. The medium-term outlook is one of stagnant levels, rather than increasing level to compensate for backlogs.

Figure 10.2.2 Investments in Roads, 1991 to 2010

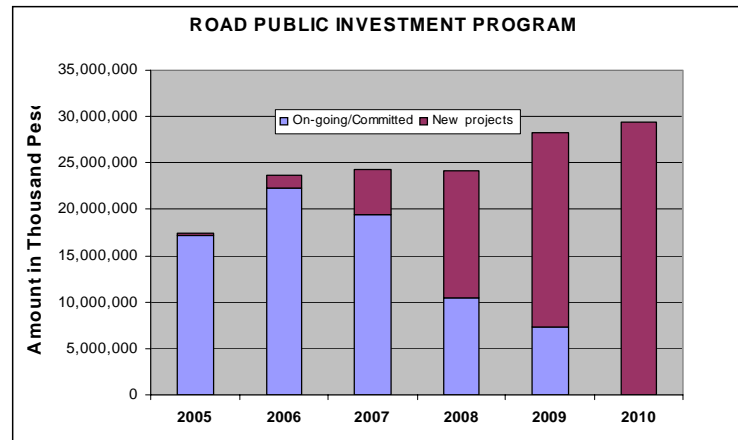
Road Investment Programs of DPWH: Past and Perspective



From 2005 to 2010, the severe budget constraint is forcing DPWH to defer necessary and badly-needed road investments to the latter years.

As shown in Figure 10.2.3, new projects can only be accommodated by 2008, notwithstanding passage of new tax measures by Congress in 2005. The proposed CALA roads have already been included by DPWH in the program, beginning 2008.

Figure 10.2.3 Medium-Term Road Investment Program



By mid-2006, the fiscal outlook has improved somewhat that the NG is reviewing its target deficits, and considering to postpone the balanced budget target from 2008 to 2010. This may allow DPWH to increase its road capital program, and enable implementation of the CALA target roads beginning 2007. It is, however, very uncertain especially because 2007 is an election year.

10.2.3 Fiscal Position of LGUs

The national policy is to get local government units (LGUs) to spend more of their own resources on infrastructure. To this end, DPWH has cajoled LGUs to shoulder a major portion of roads right-of-way. Municipalities and cities, however, do not have the incentive to invest on arterial roads, which are ‘national’ or intra-provincial in character and function, even if the proposed roads will traverse them. Even if they like to, can they afford it? The combined income and expenditure for the 23 municipalities, cities and province in Cavite recorded ₱4.89 billion and ₱4.19 billion, respectively in 2005. Using historical ratio on past investments, the amount that might be allocated to local roads would be ₱314 million. This implies an average of ₱13 million per locality in 2005. The estimated level for Laguna towns and cities is ₱340 million.

The provincial government of Cavite has the most incentive to contribute to the development of inter-urban roads. It has contributed ₱5 million as equity into the Cavite Coastal Road Corporation, on the expectation that the extension of R-1 Expressway would commence. Among different levels of LGUs, however, the province has the weakest revenue base.¹ It has very few independent sources of income and is highly dependent on the 40% Internal Revenue

¹ Manasan, Rosario G. “Infrastructure and Decentralization”, Draft Final Report, PIDS, 2004.

Allotment (IRA), which is in the form of transfers from the national to the local treasuries. In 2003, IRA accounted for 63% of Cavite's total income. The norm for other provinces in the country is even higher than this, i.e., worse off than Cavite. Hence, if the national treasury is hard-pressed, so will the IRA amounts be similarly constricted. Nevertheless, Cavite spent P50 million for subsidies in 2003 to other LGUs, and public sector bodies.

10.2.4 Use of ODA

Only public sector agencies can tap the ODA window (from lending agencies like JBIC, ADB, IBRD). The DPWH has relied on ODA for many of its infrastructure projects, with JBIC accounting for more than 50% (see Table 10.2.2). Aside from DPWH, the National Development Company can also borrow from ODA sources.

However, loan proceeds must still be counted as part of the annual budgetary ceilings imposed on line agencies. In addition, the government is also finding it difficult to come up on time with the required peso counterpart funds for ODA loans. These two factors are seen to limit the use of ODA in the next few years. As a consequence, the NEDA Medium-term Development Plan 2004-2010 is soft pedaling on the use of ODAs for infrastructure projects.

Table 10.2.2 Foreign Loans in DPWH Programs

Sources	1999	2000	2001	Total	Percentage
JBIC	8.2	6.7	3.8	18.7	54%
IBRD	1.1	2.2	2.9	6.2	18%
ADB	2.7	3.5	2.4	8.6	25%
Others	0.6	0.1	0.6	1.3	4%
Total Foreign Loans	12.6	12.5	9.8	34.8	100%

Source: DPWH

The financing program of JBIC for the Philippines is usually packaged in tranches (e.g., 25th Yen Loan, 26th Yen Loan, etc.) and negotiated every year. For 2006, none has been firmed up. The Department of Finance has opined that it can consider the next JBIC package, to include CALA Roads, if the NEDA-ICC approves it and that the projects are found economically feasible. Sometime in June 2006, the NEDA-ICC approved road projects that are to be funded under the 27th Yen Loan package². Unlike in the past, the new Yen Loan would likely be conditional, i.e., it can only take effect upon certification of funds availability from the Department of Budget and Management (DBM). This avoids unnecessary cost for loan commitment fees. According to DOF, this standby arrangement has already been adopted for two projects in the JBIC loan pipeline.

² "Committee seeks Cabinet approval of road projects", Business World, 5 June 2006.

Recently, the NEDA announced that it intends to tap China as an ODA source because of the latter's alleged faster processing procedures. Reportedly, about \$6-\$10 billion in loans would be negotiated for infrastructure³.

In the past, the World Bank has been a major source of ODA financing for the Philippines transport sector. It continues to be an influential lender, albeit behind JBIC and ADB in terms of volume of funds. It has expressed interest in financing the tollways portion of the target roads, particularly NS1 to NS5, to the extent of extending technical assistance in advance that would pave the way to a rapid loan appraisal, thence loan effectiveness by December 2007. Such a timetable opens up the possibility of completing Stages 1 and 2 (~27.2 kms) of North-South Road before 2010, especially if right-of-way financing can be included and the counterpart peso funds assured either via the budget of DPWH and/or contributed by the private concessionaire.

10.3 Lessons and Financing Opportunities

10.3.1 Lessons from Past BOT Projects

To some foreign observers, the country's legal framework (Republic Act No. 7718) for private sector participation in infrastructure projects is better than most developing countries. But it has not yielded good results for the transport sector. There are several reasons. For one, of the seven transport projects awarded concessions, only one went through direct solicitation process. Of the five unsolicited ones, two had to muddle through improvised ex post facto hurdles and challenges. The contractual structures were a product more of expediency and protracted negotiations after selection, rather than results of rigorous assessment of the business case before award. Consequently, they invited numerous re-openings and subsequent amendments. With few exceptions, the proponents had weak financial base and had to scramble for financial closures as the capital market tightened during the 1998 Asian financial crisis.

Table 10.3.1 summarized the problems encountered by the seven transport projects, 5 of whom are toll roads. The key lessons for the CALA target roads can be distilled into four: (a) open tender is faster and less controversial than the unsolicited mode; (b) financial muscle is important, particularly for the lead proponent; (c) avoid selection on the basis of lowest toll fee, when traffic and other variables are uncertain and cannot be guaranteed; and (d) avoid open-ended option for the next phase and stipulate clear conditions for government to step in.

³ "RP eyes China as major ODA source - Neri," BusinessWorld, 19 July 2006.

Table 10.3.1 Transport Projects With Private Sector Participation

Project	Origins & Structure	Critical Problems Encountered	Root Cause of the Problems/Failures
NAIA 3 (New Manila International Airport)	<p>Group of Chinese tycoons (AEDC) was enticed by gov't to pursue the project. To legalize the deal, it was treated as unsolicited proposal under the BOT Law. AEDC lost the Swiss challenge to Piatco (back-up by Fraport of Germany), but continued to challenge contract in Court.</p> <p>Structure: BOT with 25-year concession</p>	<p>Contract was amended 4 to 5 times, each time increasing the project cost and reducing obligations of proponent.</p> <p>Local partner had stormy business relationship with foreign investor (Fraport), which affected construction.</p> <p>AEDC continued its battle and encouraged existing private contractors (landside) of NAIA 1 (old airport) to declare contract onerous.</p> <p>Supreme Court later voided the contract.</p>	<p>Repeated re-openings of the contract gave rent-seekers opportunities to jack up transaction costs.</p> <p>Original proponent never gave up, and instigated steps to upset the concessionaire and induce failure. When contract was annulled, AEDC filed claim to operate the partially completed terminal building.</p> <p>Government panel tasked to resolve compensation to Piatco and complete building for immediate operation fumbled, leading to protracted and heated negotiations.</p>
Skyway Stage 2	<p>PNCC, the original concessionaire for SLEX, entered into joint-venture (without bidding) to improve capacity of SLEX from Makati to Alabang. A new project company was formed and granted a new Toll Concession Agreement for Stage 1 and Stage 2 – as a kind of extension to PNCC's franchise and anointed proponent.</p> <p>Structure: joint venture with a SOE-franchisee plus supplemental Toll Agreement</p>	<p>Stage 1 was completed, albeit a bit delayed, but failed to produce the cash flows sufficient to pay off its debts. Most of the lenders refuse to extend new loans to build Stage 2, but insist on capturing incremental revenues to Stage 1 should Stage 2 gets built. Thus, a Catch-22 situation, since no bank would lend to Stage 2 for the benefit of stage 1 creditors.</p> <p>Bulk of equity money was borrowed; some of the debts had short maturities that could not be repaid by project's cash flows.</p>	<p>Absence of a controlling shareholder (more than 1/3) with sufficient capital to break stalemate in new capital infusions that Stage 2 would require.</p> <p>DPWH offered to finance substructure of Stage 2, so as to reduce the needed capital from concessionaire; but stalemate among existing lenders and shareholders failed to come up with their proportionate share. Buy-out by one of the shareholders also failed to materialize.</p> <p>On the other hand, TRB is hesitant to terminate the concession for Stage 2, as it may trigger cross-default and lengthy Court proceedings.</p>
R-1 Expressway (Manila-Cavite Expressway)	<p>Original concessionaire, Public Estates Authority, entered into joint venture to upgrade an</p>	<p>Stage 1 (~7km long) was completed in May 1998.</p> <p>The Renong Group suffered financial setbacks in Malaysia as well as on</p>	<p>Refusal of existing owner of Manila-Cavite Coastal Road Corporation to cede control, and to put in new money from its own pocket, is a</p>

Project	Origins & Structure	Critical Problems Encountered	Root Cause of the Problems/Failures
	<p>existing public road into a tollway and build stage 2 (link to SLEX), and stage 3 (extension to Cavite). The JV partner of PEA was the Renong Group of Malaysia.</p> <p>Structure: joint venture in 1994 with a SOE-franchisee, PEA. PEA got the franchise from TRB in 1990.</p>	<p>its investments in National Steel in Mindanao. A local entity took over Renong's interests in the R-1 Expressway, by claiming it as payment for unpaid obligations in the National Steel deal. New owner then sought new partners and lenders for Stages 2 and 3, but insisted on majority control without added equity. Naturally, new lenders/investors balked.</p> <p>Delays and incomplete acquisition of rights-of-way led to the abandonment of Stage 2.</p>	<p>major obstacle. Initially, IFC offered to finance but withdrew in 2005. The Supreme Court ruling (that reclaimed land can not be titled to private entity while still foreshore lands) effectively removed one of the selling points (future assets) of the Concessionaire.</p> <p>Status quo (of no road extension) is more attractive to existing concessionaire which gets 90% of toll revenues, while PEA gets 10%. Construction of Stage 3 would change the profit equation.</p>
SLEX rehabilitation and improvement	<p>PNCC, the original concessionaire for SLEX, entered into joint-venture in 1997 with Hopewell Holdings to improve capacity of SLEX from Alabang to Sto.Tomas. A project company (Hopewell Crown Infrastructure Inc.) was subsequently formed. Ownership changed hands 2x, last one is MTD Capital Bhd in June 2005.</p> <p>Structure: joint venture with a SOE-franchisee, plus supplemental Toll Agreement</p>	<p>Main investor, Hopewell, suffered financial reverses in Hongkong, Thailand, and China. Project company was sold to local investors, which did not have expertise nor capital to pursue project. The JVA was about to be cancelled by PNCC when MTD Capital bought Hopewell Crown Infrastructure Inc. (renamed South Luzon Tollway Corp) in June 2005 and re-started the project.</p> <p>TRB took a long time to grant the Toll Concession Agreement (March 2006), and to approve revise design on Alabang viaduct (June 2006).</p>	<p>The main reason for the project delay: the original proponent – Hopewell Holdings - did not have the equity money that will lend comfort to lenders.</p> <p>Construction is now re-scheduled to start July 2006 and be completed by 2009. If financial closure is not secured, the project may again be stalled. However, since NDC was ready to step in (before MTD Capital bought out Crown Infrastructure), it is likely that financing will be secured. Project fundamentals are bankable, and current proponent has track record in operating toll roads in Malaysia.</p>
NLEX rehabilitation and improvement	<p>PNCC signed a joint-venture deal with First Phil. Infrastructure Development Corp in</p>	<p>Construction of one segment, Subic connection, was advanced and completed in 1996 in</p>	<p>Project can be considered a success since completion in Feb 2004, but met by strong protests from motorists</p>

Project	Origins & Structure	Critical Problems Encountered	Root Cause of the Problems/Failures
	<p>1994 to rehabilitate and improve NLEX from Monumento to Sta. Ines. A project company (Manila North Tollway Corp.) was subsequently formed.</p> <p>Structure: joint venture with a SOE-franchisee, plus supplemental Toll Agreement</p>	<p>time for APEC. Construction of other segments delayed. Target completion date of 2002 was not achieved because lenders refused to disburse funds until all rights-of-way (mainly for improved access roads) were secured.</p> <p>Main investor, Benpres Holdings, suffered financial difficulties after 1998.</p>	<p>resisting high toll rates.</p> <p>Willingness of contractor, Leighton International, to accept part of payment in shares of stocks of the project company enabled start of construction. Also, BCDA, an SOE, advanced funds for rights-of-way; DPWH is now re-imbursing the BCDA via annual appropriations.</p>
MRT 3	<p>Unsolicited proposal that was made to appear as a bidding (all bidders were disqualified).</p> <p>Structure: Build-Lease-Transfer deal.</p>	<p>Construction started in 1996, instead of 1991, and system became operational in Dec 2000. Original proponent did not have the capital. For the project to move, the ownership changed hands (through government suasion). Also, project loans were guaranteed plus fixed lease payments regardless of patronage.</p>	<p>Choice of concessionaire (with deficient capitalization) was vitiated by other factors. Lease payments not backed up in DOTC annual budget due to the wrong claim that railway operations will be profitable to venture will be profitable and can cover debts. Thus, part of the lease payments that goes to maintenance are suffering.</p>
STAR Expressway	<p>DPWH constructed phase 1 of the Expressway with JBIC financing, then invited tenders for phase 2, with the winner (SIDC) adding the toll facilities and operating the two as an integrated system.</p> <p>Structure: Build-Transfer-Operate for a two-in-one project.</p>	<p>Phase 1 was supposed to be linked to SLEX, but this event did not happen. Consequently, traffic on phase 1 was below expectations. This affected funding for phase 2. Compounding the problem was the low toll rate that the winning bidder offered. Also, main proponent did not have sufficient risk capital that can lend comfort to lenders. ROW possession also got delayed.</p>	<p>To ease the financial burden of the proponent, the DPWH budgeted P1.49 billion for 2005 and 2006 as its contribution to phase 2. However, lenders could not overcome the fundamental weakness of SIDC. DPWH has issued notice of defaults in 2003 and termination in 2005 to SIDC, but the concession still stands. A protracted legal battle precludes the transfer of concession to another entity.</p>

10.3.2 Land with Road Development

Lessons from more progressive countries showed that land development is one of the means to finance roads. It also has the advantage of integrating land use with transport developments, aside from generating capital gains that could help fill up the financing gap. This mechanism is not really new to the Philippines, and is widely practiced, except that it occurs in the private sector rather than in the public sector. This difference is actually more advantageous as it frees governments to focus on essential services. Besides, local government units have basic weaknesses that preclude their involvement in property developments, viz., scarce funds for land banking, short-term outlook of elected officials, institutional inadequacies, and non-commercial orientation.

The most visible example of private-sector-led land development is Makati, the country's premier business district. The developer planned and developed the residential, commercial and business districts as an integrated whole. The roads within the property were funded by the developer from the proceeds of its land sales. More than 37% of the total road network in Metro Manila were built in this manner, and are classified as private roads. In Makati, Parañaque and Las Piñas, private roads constitute a higher percentage of the total. It is an arrangement that is mutually-beneficial. The local government subsequently benefited from the appreciation in property taxes at later years. On the other hand, the private investors also reaped the benefits of land value appreciation. Many municipalities and cities outside Metro Manila are following this model, as can be observed in the industrial estates and many residential subdivisions in Cavite and Laguna.

In the study area, the national government owns a huge property that could be put to better uses and generate much-needed revenues. This is the Muntinlupa State Penitentiary where the proposed DH-2 road is expected to traverse. With proper planning, it could be re-developed into an urban node. Its subsequent development can be patterned after that of Fort Bonifacio and Filinvest Alabang, where public sector assets were bid out to the private sector on a joint venture basis.

Another model for road development is that of Republic Avenue in Quezon City. It was planned in advance, but its construction fell behind the urbanization of properties along the corridor. As buildings got built over 20 years, the rights-of-way of the proposed road was respected and recognized. It remained a linear open space, without permanent structures. Later, when the DPWH finally got the funds, the road got built as one of Metro Manila's primary road. This arrangement has been discussed with several large property developers (e.g., One Asia, Ayala Land, Cathay Land, Greenfield Development, etc.) along the path of the target roads.

10.3.3 Special Financing Facility

Recognizing the budget constraints and the problems on the PSP front, the government has decided to set up an infrastructure fund. This will be pooled in the Philippine Infrastructure Corporation (PIC) that was established in 2005 as a subsidiary of the National Development Company (NDC). The latter is a state-owned enterprise (SOE) utilized in the past to pioneer investments in various businesses. The intent is to reverse the downward slide in infrastructure spending depicted in Figure 10.2.1.

To finance PIC, long-term bonds will be floated by NDC. The reasoning is that the NDC accounts is not included in the annual general appropriations act (or NG budget) and therefore not covered by the fiscal ceilings. But since the bonds would need NG guarantees, these liabilities could potentially end up at some future dates in the NG budget accounts and thus exacerbate the fiscal deficits if not repaid, similar to what transpired on loans incurred by NPC, LRTA and other SOEs. The LRT 3 and NAIA 3 projects, both contracted on BOT and billed as not requiring government funding, ended up as huge liabilities on the NG budget. To avoid this fate, the PIC investments need to be very selective and placed only on projects with assured profit streams or at the very least, assurance of take-out by the private sector somewhere down the line.

What NDC is contemplating is to mimic a private sector company that will secure a concession (except that it would get the franchise *sans* bidding), build, construct and operate an infrastructure project. In the case of toll roads, it would set up a project company that will get a toll road concession from TRB, bid out the construction, then operate and maintain the tollway. It would then privatize the project company, before construction as the preferred choice, or after construction as second choice. From the proceeds, it would then redeem the bonds.

As of July 2006, NDC has commenced floating bonds to raise P10 Billion for projects of the National Housing Authority and National Irrigation Authority⁴. The bonds are guaranteed by the NG and being underwritten by two state-owned banks: Land Bank of the Philippines and Development Bank of the Philippines, and will carry 5-year maturities. Since these types of projects are usually financially non-viable, the bonds are to be repaid via future budget appropriations to these two SOEs. In effect, they will later turn out as obligations of the NG.

A government-sponsored infrastructure facility (like PIC) does not guarantee success. A preliminary study⁵ of similar facilities in other countries showed

⁴ "Pump priming bond float likely to be cut". BusinessWorld, 05 July 2006.

⁵ "Why Infrastructure Facilities Often Fall Short of their Objectives," by Daniela Klingebie and Jeff Ruster, World Bank.1999.

mixed results, and traced under-performance to two sets of factors: (1) “lack of a conducive environment for PSP in infrastructure,” such as poor sector policies, poor macro-framework, inadequate financial sector policies and (2) faulty design of the facility itself. These negative factors exist, to a large degree, in the Philippines. In addition, NDC must buck the historical record of failures in execution by SOEs in the Philippines, as well as resistance to subsequent privatization. As a minimum, the projects funded under such a facility should generate enough cash flows to cover the interest on the bonds and their eventual redemption. Alarming, several projects now in the PIC pipelines fail such criterion.

10.3.4 Desirable Financing Scenario

The basic option, of course, is to finance the roads under the traditional mode: as an investment of the national government through the DPWH. In turn, the DPWH will secure ODA funds. This financing mode implies earliest start date of 2008, and completion no earlier than 2011 for the NS1 to NS3. About ₱5.8 billion has been programmed at the tail-end of the DPWH Medium-Term Investment Program for 2005-2010. Risk of further delays, however, is very high, as it assumes successful resolution of the fiscal problem of the NG as well as priority over competing demands of other similarly-deferred capital projects. If the right-of-way is not secured in advance, the ODA funding may also be derailed. Historically, projects scheduled at the tail-end get bumped off and slid over to the next (i.e., 2011-2016) program.

The second option is based on leveraging a mix of public and private funds. DPWH has tested the waters for two stalled toll projects: the Skyway Stage 2 (from Bicutan to Alabang), and STAR Expressway Stage 2 (from Lipa to Batangas). Although not required by their corresponding concession agreements, the DPWH allocated some funds (₱1.49 billion for STAR and ₱3.9 billion for Skyway) for the two projects under its Medium-Term Public Investment Program 2005-2010. So far, this has not produced the desired result (which is to start construction) because of the corporate problems internal to the two concessionaires.

The PPP option is supposed to be enhanced by the entry of NDC into the picture. The NDC will in effect increase the capital pool for toll projects, as the PIC funds that it could raise via bonds will be in addition to what DPWH can allocate in its budget. This option has been examined (and discussed with relevant parties in detail) as the fastest way to implement the North-South Road.

The agreed financing plan for the target roads are summarized in Table 10.3.2. It involves a mix of DPWH, NDC, ODA, and private sector funds.

Table 10.3.2 Financing Scheme for CALA Roads

Road Section	Base Scheme	Remarks
Stage 1 of North-South Road (NS-1, NS-2, and NS-3)	<u>PPP Scheme:</u> Existing Molino Blvd to be contributed by DPWH. Funding for ROW of NS-1 to be advanced by PIC. Private concessionaire to design, finance and build the expressway and recoup its investments from toll fees. DPWH may have to absorb or repay cost of ROW.	DPWH shall tender the concession for Stage 1 of North-South Road in early 2007. While Detailed Engineering by winning bidder is proceeding, ROW acquisition shall start with bridge funding from PIC. Private sector funding for construction of roads and provision of toll equipment.
Stage 2 of North-South Road (NS-4 and NS-5)	<u>PPP+ODA Scheme:</u> IBRD financing for design and construction, under DPWH budget, to complement subsequent private sector financing via a toll concession.	Concession to be tendered, after completion of design and construction of 2-lanes. Funding from ODA+DPWH likely to be ahead of private sector.
Stage 3 of North-South Road (CE-1 and CE-2)	<u>Conventional Scheme:</u> ODA financing for design and construction, from JBIC, under DPWH program.	Private funding not likely, until after 2016. Tolling to start only if concessioned. Additional lanes and toll equipment for the account of private sector.
East-West (DH2)	<u>PPP Scheme:</u> Considered as part of PNCC franchise. NDC, with PIC and PNCC, to execute the project as a toll road - either part of, or separate from, the existing SLEX concession. Funding from local capital market.	No anticipated demands on DPWH budget, other than technical support to NDC/PIC.
East-West (DH3 and DH4)	<u>Conventional Scheme:</u> ODA financing for design and construction, from JBIC, under DPWH program.	DPWH to budget early funding for ROW, or arrange NDC advances.

10.4 Implementation Scenarios

10.4.1 Leveraging Resources

It became clear during the early stages of this Study that none of the target roads can proceed to construction earlier than 2008 if it relies only on traditional public sector financing of road development. The Study Team therefore explored various financing alternatives with DPWH, NDC-PIC, JICA, and IBRD.

The most promising track that emerged by the 1st quarter of 2006 is for PIC to front load the financing for the priority road sections and to backload the contributions from DPWH which shall, in turn, be complemented by an ODA loan. This arrangement fits nicely the budget constraints imposed on DPWH for the period 2005-2010, the lengthy processing time for ODA loans, and the assigned role for PIC to issue peso-denominated bonds to reverse the declining ratio of infrastructure expenditures to GDP. As indicated in figure 10.2.1, this ratio has skidded since 2001 towards one-half of its 1995 peak of 2.2%, which already pales in comparison to the 4% level that other developing countries allocate to their infrastructure.

To give traction to this arrangement, a Memorandum of Agreement between DPWH and NDC/PIC was drafted with the following features:

- NDC-PIC will form a special purpose company (SPC1) to develop stage 1 of the North-South Road (NS-1 to NS-3) into a toll road, and another company for DH2.
- The two special-purpose companies shall immediately seek their respective Toll Concession Agreements (TCA) from TRB, and proceed with detailed engineering of NS-1 (and DH2) as well as financing of ROW acquisition.
- DPWH shall reclassify Molino Boulevard to form part of NS-2, and to proceed with ROW acquisitions for NS-1, DH2, and DH4 with funding from PIC.
- After completion of DEs, and before actual construction, the SPC shall be auctioned off via international competitive tender, together with the corresponding TCA. The bidder which offers the highest financing cover for the project (and conversely, the least financial exposure from DPWH, NDC/PIC) shall be selected.
- In the event of failure of bidding, NDC/PIC will proceed with the financing and construction of NS1 and DH2.
- A toll fee no higher than prevailing rates for similar toll roads shall be pre-set in the bidding, but the concession period shall be endogenous or flexible.
- DPWH shall include in its capital investment program the residual financing for the target roads, including re-imbursement to PIC for its ROW advances not otherwise recoverable from toll fees. It shall also place the non-toll roads on the ODA pipeline (either on the 27th or 28th Yen Loan package, or IBRD Loan, or both).
- Approval from NEDA-ICC for the PPP scheme was to be secured jointly, preferably by last quarter of 2006.

During a consultative meeting among ODA institutions sometime in April 2006, the CALA target roads, among others, was raised by DPWH for future financing. It caught the attention of IBRD, particularly the evolving PPP scheme for North-South Road which meant to sidestep problems that bedeviled previous PSP projects in the Philippines. Since the 1999 study on CALA transport development strategy was funded by IBRD, it was only natural for it to monitor progress and to be invited by DPWH to take a closer look. An IBRD exploratory mission was dispatched in June 12-19, 2006. After extensive consultations with DPWH, NDC/PIC and the JICA Study Team, the IBRD mission expressed its interest towards providing technical assistance as well as financing for the early realization of the North-South Road.

The involvement of IBRD will increase the financing opportunities for the CALA target roads, that is, through DPWH capital budget, JBIC, IBRD, PIC, and private capital. However, it would necessitate a re-calibration of the emerging role of PIC: from an active risk-taking agent of PPP deals upstream to a passive investor downstream. More specifically, the IBRD has proposed the following:

- Conduct of competitive tender for North-South Road, prior to a grant by TRB of the TCA, instead of after as envisioned by PIC;
- The formation of SPC will be the responsibility of the private sector winning bidder, rather than by PIC;
- Packaging of stage 1 and stage 2 of North-South Road into one concession, analogous to the STAR Expressway 2-in1 project structure, and advancing the implementation of NS-4 and NS-5 to year 2012;
- Detailed engineering for North-South Road to proceed from, instead of precede, the tender;
- Rapid appraisal and co-financing for NS-4 and NS-5, to take effect in early 2008, as well as extending of partial risk guarantee that could trim down overall financing cost;
- Fielding of a preparatory mission by October 2006, one month after issuance of a development policy letter from DPWH to IBRD, with a mandate to bring the project forward and provide implementation support to DPWH and other line agencies.

10.4.2 The Three Implementation Scenarios

1) Track A – DPWH's Preference

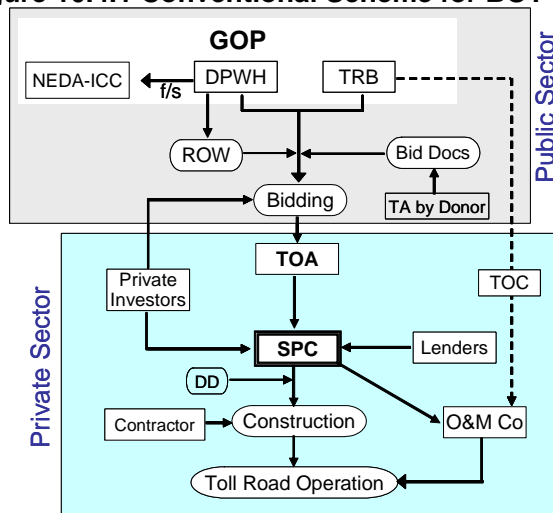
As summarized in the preceding Table 10.3.4, implementation of Stage 1 of North-South Road (NS-1 to NS-3) as well as DH-2 will entail the involvement of the private sector. The role of NDC-PIC shall be residual for North-South Road, i.e., as an investor or lender of last resort to the special project company

to be formed by the private toll concessionaire or winning bidder. Ideally, the funding from NDC-PIC should be nil, but the amount and form could only be firmed up based on the result of the bidding. Timid investors wary of the viability of the toll road could seek enhancement and comfort from NDC. Conversely, bold investors who see good opportunity for profits would find no need for government's participation in the toll business.

A solicitation process for Stage 1 of the North-South Road, within the framework of the BOT Law, will follow the procedures adopted for the STAR Expressway. The downside of this approach is that the winning bidder would deal with many uncertainties, like design and project cost, before it could seek commercial financing. Hence, it would inherit the same problems that bedeviled previous BOT projects and led to their delayed executions. To DPWH, however, it maybe the lesser evil and could be mitigated by avoiding open-ended options for a second phase and pre-setting a toll rate.

The progression of steps is depicted in Figure 10.4.1. Providing 3 months for preparation of documents and 3 months for NEDA-ICC approvals, the bidding

Figure 10.4.1 Conventional Scheme for BOT



could only commence no earlier than April 2007. The election ban that would apply will push this back to June 2007. The prequalification, bidding, and award can be done in 6 months, thus DE works for the winning bidder can start no earlier than 1stQ2008. Allowing 12 months duration for DE and financial closure, the earliest date for construction of NS-1 would be 3rdQ2009. Adding a construction period of 18 months, the toll road can start operation by 3rdQ2010.

On the other hand, the DE for the other road sections (such as DH-4, NS-4, and NS-5) can only begin in mid-2010 after ODA approval. This schedule also assumes that NDC/PIC would be able to lend financial support, if not directly to DPWH, then indirectly via the winning bidder. The NDC support can take several forms: equity investment, loan and/or joint-venture arrangement. As a minimum, it should cover cost of right-of-way during the weakest moments for the concessionaire, which is before completion of DE and before commercial lenders can appraise the project.

Figure 10.4.2 Implementation Schedule Under Track A

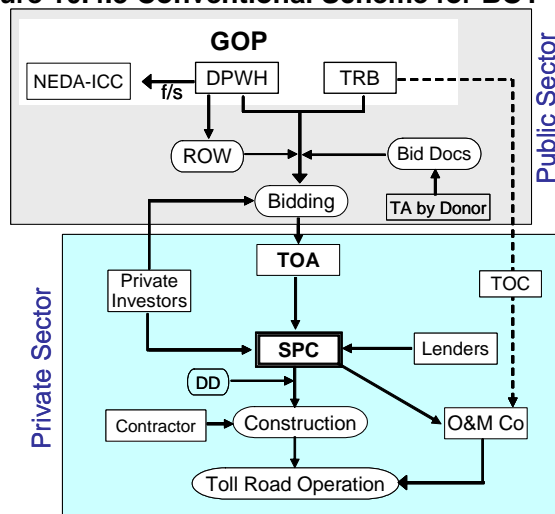
Steps/Tasks		2006	2007	2008	2009	2010	>2010
Stage 1 - North-South Road	Preparation of project docs	■					
	Evaluation of NEDA-ICC		■				
	Prequal, bidding and award		■				
	Detailed engineering			■			
	ROW acquisition			■			
	Financial closure				■		
	Construction of NS-1				■	■	■
DH-2	Detailed engineering for DH2		■				
	Secure Toll Concession Agr.		■				
	ROW acquisition		■				
	Construction of DH-2			■	■		
Other Roads: DE+ROW+Cons					■	■	■

Note: Earliest completion of NS-1 under Track A is 1Q2011.

2) Track B - Implementation Without NDC

This scenario assumes that the involvement of NDC-PIC for North-South Road is not possible for whatever reasons, but that DPWH proceeds with the implementation of North-South Road in any case. Right-of-way acquisition would thus wait for the inclusion of the project in the DPWH budget (sometime in 2008). Start of construction by the winning bidder can only happen after completion of DE, delivery of ROW, and securing of commercial loans.

Figure 10.4.3 Conventional Scheme for BOT*



*Track B tendering process is the same as that of Track A, except for a time delay of 6 months.

The tendering process will be no different from Track A, except for the time delay of about 6 months. The most likely implementation schedule, under this scenario, is shown on Figure 10.4.4. The earliest start of construction is 2ndQ2010, assuming that the concessionaire/winning bidder is able to secure financing on time. Date of toll opening would then be 4thQ2011.

Figure 10.4.4 Implementation Schedule Under Track B

Steps/Tasks		2006	2007	2008	2009	2010	>2010
Stage 1 - North-South Road	Preparation of project docs.	■					
	NEDA-ICC evaluation		■				
	Prequal, bidding and award		■				
	Detailed engineering			■			
	ROW acquisition				■		
	Financial closure					■	
	Construction of NS-1						■
DH-2 (same as Track A or C)			←————→				
	Appraisal & Loan Approvals			▨			
	Other Roads: DE+ROW+Cons					■	▶

Note: Earliest completion of NS-1 under Track B is 4Q2011.

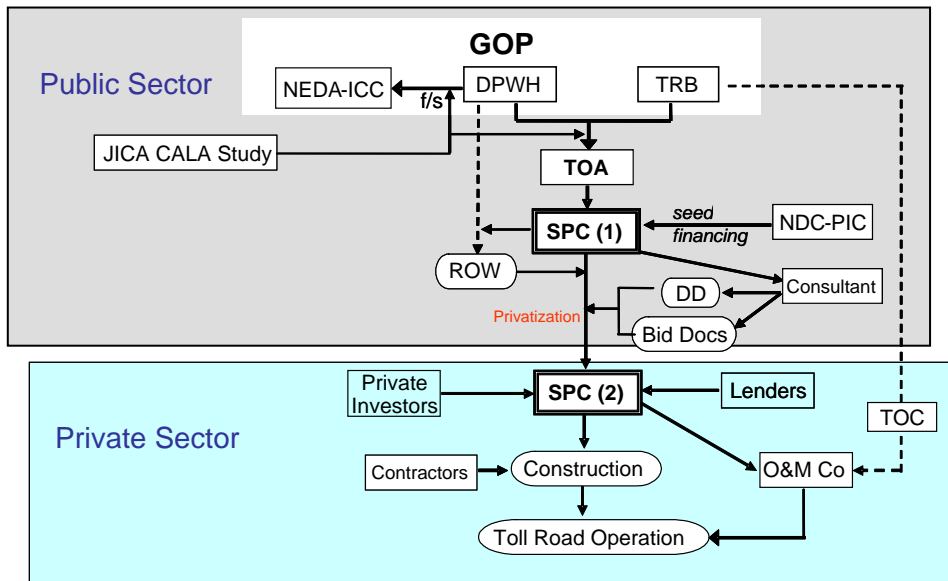
The funding demands of North-South Road on the DPWH budget would have the effect of bumping off funds for the other road segments. Given the annual budget cap on expenditures, ROW acquisition for DH-4 and NS-4, NS-5, CE-1 and CE-2 would be pushed back. ODA appraisal and loan evaluation for the non-toll road sections can be squeezed into the 1st quarter of 2008. However, disbursements from the Loan would depend on prior clearance of ROW and availability of counterpart funds. Hence, earliest date for construction of non-toll road segments would more likely occur in 2011.

3) Track C – Taking the PIC road

A modified BOT track is for PIC to form a special project company (SPC₁) that is granted a Toll Concession Agreement for Stage 1 of North-South Road. The presumption is that the grant would be faster as a matter of courtesy between two government agencies, resulting in lower transaction cost. The SPC is then privatized via competitive tender. Although not provided for in the implementing rules and regulations of the BOT Law, this modified procedure is not prohibited either. As long as there is an impartial tender, the public policy requirement for transparency is satisfied.

What makes this scheme attractive to PIC is that detailed engineering works and ROW acquisition can start without waiting for private sector funds to flow in. A large part of the project uncertainties, ROW and firm cost, is also removed. Bidders could then price their bids more accurately, and the project becomes more bankable. A lengthy negotiation for the TCA between the government and the private sector, with the Lenders' interventions, is avoided. This procedure is shown on Figure 10.4.5.

Figure 10.4.5 Modified BOT Scheme for Stage 1 of Expressway



Unlike in Track A (i.e., direct solicitation by DPWH), the modified BOT track would entail two biddings: first, the contracting out of the detailed engineering and second, the privatization of the SPC. It may even entail a 3rd bidding cycle, if construction is bid out separately or ahead of privatization. Nevertheless, it may not necessarily be longer than Track A; since the longer time to reach financial closure under Track A could offset the elapsed times required by two public biddings in Track C.

Figure 10.4.6 Implementation Schedule Under Track C

Steps/Tasks		2006	2007	2008	2009	2010	>2010
	MOU between DPWH & NDC	▼					
Stage 1 - NS Way	Preparation of project docs	■					
	Evaluation of NEDA-ICC		■				
	Formation of SPC ₁		■				
	Secure TCA for SPC ₁			■			
	Detailed engineering			■			
	ROW acquisition				■		
	Privatization of SPC ₁				■		
	Construction of NS-1					■	
	DH-2 (same as Track A or B)		←	→			
Appraisal & Loan Approvals			■				
Other Roads: DE+ROW+Cons					■	▶	

Note: Earliest completion of NS-1 under Track C is 1Q2011.

4) Common element

Regardless of implementation track, DPWH has to designate and constitute a Project Management unit under the PMO for foreign-assisted projects, with personnel drawn from the PMO pool. Some road segments or tasks may be

assigned and executed by the District Engineering Office of the DPWH (which had implemented the existing DH-1 and Molino Roads with local, Congress-initiated, funds).

The question is when will responsibility be assumed? The established practice is to appoint a project manager only after funding has been secured. The longer the gap between the end of feasibility study to start of implementation, the greater the loss of momentum. During the transition or gap, no one is effectively accountable. For North-South Road road segments, the BOT-PMO is recommended to be charged with the mission of shortening this gap.

10.4.3 Comparison of the Three Tracks

The NDC-PIC participation offers the hope of earliest realization of the toll road sections. In case the private sector concessionaire fails to reach financial closure, PIC can step in and bankroll the implementation. It also lends greater comfort to ODA agencies that the loan can be disbursed, if the ROW has been acquired in advance.

Track A puts the burden more heavily on DPWH. The uncertainties to the winning bidder, availability of detailed engineering and ROW for NS-1, would make financial closure a challenge. The private sector will form the SPC after competitive bidding. In case of failure to achieve financial closure, DPWH or PIC can only step in and build the road after a protracted termination process. While it delays Stage 1, it advances Stage 2 implementation.

A major obstacle perceived by DPWH about NDC participation is the legal hurdle of lending directly to DPWH. This was not a problem in the case of BCDA, which advanced the funds for ROW of NLEX. It will not be an obstacle, however, if the funding takes the form of an investment into the SPC, whether formed by the private bidder or by NDC, for the North-South Road. In the absence of a toll road company, NDC funding for ROW of DH-4 is also deemed untenable.

The difference between the preferred options of DPWH and NDC is one of timing and sequence. Track A puts the tendering before the TCA and the formation of SPC₂. Track C awards the TCA to a state-owned SPC₁ before bidding occurs. In case of failure, the former will entail messy Court proceedings to cancel the TCA (and thus delay construction of NS-1); while the second route will permit construction to proceed with fallback funding from PIC in the event that private investors fail to do so.

There are downsides to Track C, however. The SPC₁ lacks technical expertise, but can be overcome with hand-holding from DPWH and outside consultants. Political interference is possible, and can give rise to uneven playing field. Instead of bidding, the joint venture route might occur (like what happened with

PNCC and PEA). The favored private party wins control of the SPC₁ + TCA at a big discount, then turns around and sells its stakes at a premium. In which case, the “windfall profit” is siphoned off by rent seekers and PIC ends up the loser.

10.4.4 Risk Analysis

Risks vary for the three aforementioned implementation tracks. They need to be identified so that countermeasures can be prepared in order to minimize their negative impacts. Track C (the NDC preferred route) is most vulnerable to organizational risk, hence the factor that needs special attention when on this mode. Financing risk is highest with Track A (i.e., the DPWH preferred mode). Loss of momentum, as well as environmental and ROW risks, are stacked against Track B.

How the three implementation scenarios stacked up against the various risk factors are shown in Table 10.4.1, and discussed below:

- (1) Right-of-way – the sooner the ROW is surveyed and acquired the lesser the risk. This hinges on early availability of funding. If DPWH relies only on general budget support, the earliest it could initiate ROW proceedings would be 2008.
- (2) Financing risk – there are three project phases with three funding packages. First is funding for Detailed Engineering, the completion of which opens the door to ROW acquisition, thence construction. The higher the probability of securing the funding for any phase, the lower the risk.
- (3) Grant of Toll Concession Agreement (TCA) – this will come from the Toll Regulatory Board, whose record in processing and approvals are not exactly commendable. The presumption is that if issued based on precedent, as well as to a government entity, the risk of delay is lower. Non-toll road will have zero risk on this yardstick, since no TRB processing is required. Transaction costs would tend to be high for a private sector entity applying for a TCA.
- (4) Environmental risk arises more from probable changes in the political climate. The validity of the EIA hinges on resolutions from different barangays and LGUs. Local elections scheduled in 2007 and 2010 could undermine the EIA and upset the implementation. Hence, the sooner the project gets built, the lower the political risk.
- (5) The Lenders, whether ODA or private commercial banks, also face some risks. The greater the funding exposure, and the slower the pace of implementation, the higher the risk. Availability of ROW as well as construction outside the public sector tend to bring down the risk.
- (6) Risk to private sector or winning bidder – conventional BOT projects poses the greatest risk, while traditional mode entails the lowest risk. The winning

bidder only has to confront the usual construction risks in the latter, but adds financing risk and cost volatility in the former.

- (7) Tendering risk – when the government conducts bidding, there is an element of risk involved in the sense that the process and eventual award can be controversial. It can be questioned in Congress, or challenged in Court. The more established the bidding procedures, the less risk involved. For the North-South Road, a remote possibility is a legal challenge from the R-1 concessionaire (CRC) on the pre-text that it would be a competing road.
- (8) Loss of project momentum – the consultations undertaken by the CALA Study Team has raised the expectations of various stakeholders. The longer the gap between completion of the study and actual execution, the higher the risk. Momentum and enthusiasm for the project could evaporate or diminish through time.
- (9) Organizational snafus – the more (and also, autonomous) number of agencies get involved, the higher the probability of snags or mistakes that can derail the project.

Table 10.4.1 Risk Analysis in the Implementation of the CALA Target Roads

Type of Risks	Track A	Track B	Track C
Right of way risk in assembling/securing land	Medium: ROW for Stage 1 of North-South Road to be acquired with PIC financing, after bid and award of concession.	High: Acquisition of ROW would have to depend on annual appropriation of funds in DPWH budget. Medium: financing for DE, ROW and construction will have to be included in DPWH budget for year 2008 and up.	Low: advance funding for ROW allows immediate reservation & acquisition for N-S road and DH4
Financing: uncertainty in getting funding for the 3 phases (DE, ROW, and Construction)	High for all phases, since the financing will have to be secured by the private concessionaire		Low for DE and ROW; medium for construction
Toll Concession Agreement (TCA): delay in approval or issuance of TCA by Toll Regulatory Board	Low: grant of TCA shall follow same procedure as that for STAR Expressway.	Low: grant of TCA shall follow same procedure as that for STAR Expressway.	Medium: grant of TCA follows a very novel and untried procedure, which could delay issuance or invite legal challenge
Environmental Risk	Medium: some LGU units may undermine support to EIA, as implementation commences after election of 2007.	High: elections in 2007 and 2010 likely to impact on implementation, and force a new updated EIA	Low: validity of EIA likely to hold, and not be changed by LGU election in 2007.
Risk to Lenders: - ODA - Private Financiers	Low risk to ODA sources, but Medium for commercial lenders.	Low risk to ODA sources, but High for commercial lenders. Delayed disbursements, likely.	Low risks to ODA as well as commercial lenders
Contractor's/Private Sector risks, including ability to mobilize and commence construction after award	Medium: winner has to raise the financing and wait for the clearing of ROW	High: winner has to raise the financing and face uncertainty in the clearing ROW	Low: project uncertainties reduced to a minimum for the toll road.
Tendering Risks	Low: legal precedent from STAR Expressway reduces uncertainty	Low: legal precedent from STAR Expressway reduces uncertainty	High: the novelty of procedure may invite legal challenge to the bidding and award

Type of Risks	Track A	Track B	Track C
Loss of Project Momentum	<p>Medium, as subsequent steps will rely entirely on DPWH initiatives. Gap between study and execution may widen</p>	<p>Medium, as subsequent steps will rely entirely on DPWH initiatives. Gap between study and execution may widen</p>	<p>Low risk, as partial implementation immediately follows the CALA study and creates a demonstration effect</p>
Organizational Snafus	<p>Medium: will require collaboration of 2 agencies.</p>	<p>Low: responsibility falls entirely on DPWH, replicating what it had done in previous road projects.</p>	<p>High: will require collaboration of at least 3 independent-minded government agencies. Inexperience of PIC can cause unnecessary delays</p>

10.4.5 Decision Tree for DPWH

The DPWH has to decide on the pending MOA with NDC-PIC. The decision will depend on its appreciation of which implementation scenarios to gamble on, its risk complexion, and its response on the IBRD Aide Memoire on the subject.

To provide DPWH a compass on which route to take, a decision tree is shown on Figure 10.4.5. It has 3 basic branches or sub-options: (a) Track A assumes acceptance by PIC and DPWH of the key recommendations of the IBRD. The MOA is amended to accommodate partly IBRD, but not to the extent of breaking the deal with NDC-PIC. On the other hand, Track B assumes the non-participation of NDC-PIC, with DPWH opting to follow the full recommendations of IBRD. The MOA becomes superfluous. The 3rd track follows the preferred route envisaged by PIC, but could endanger the financing from IBRD.

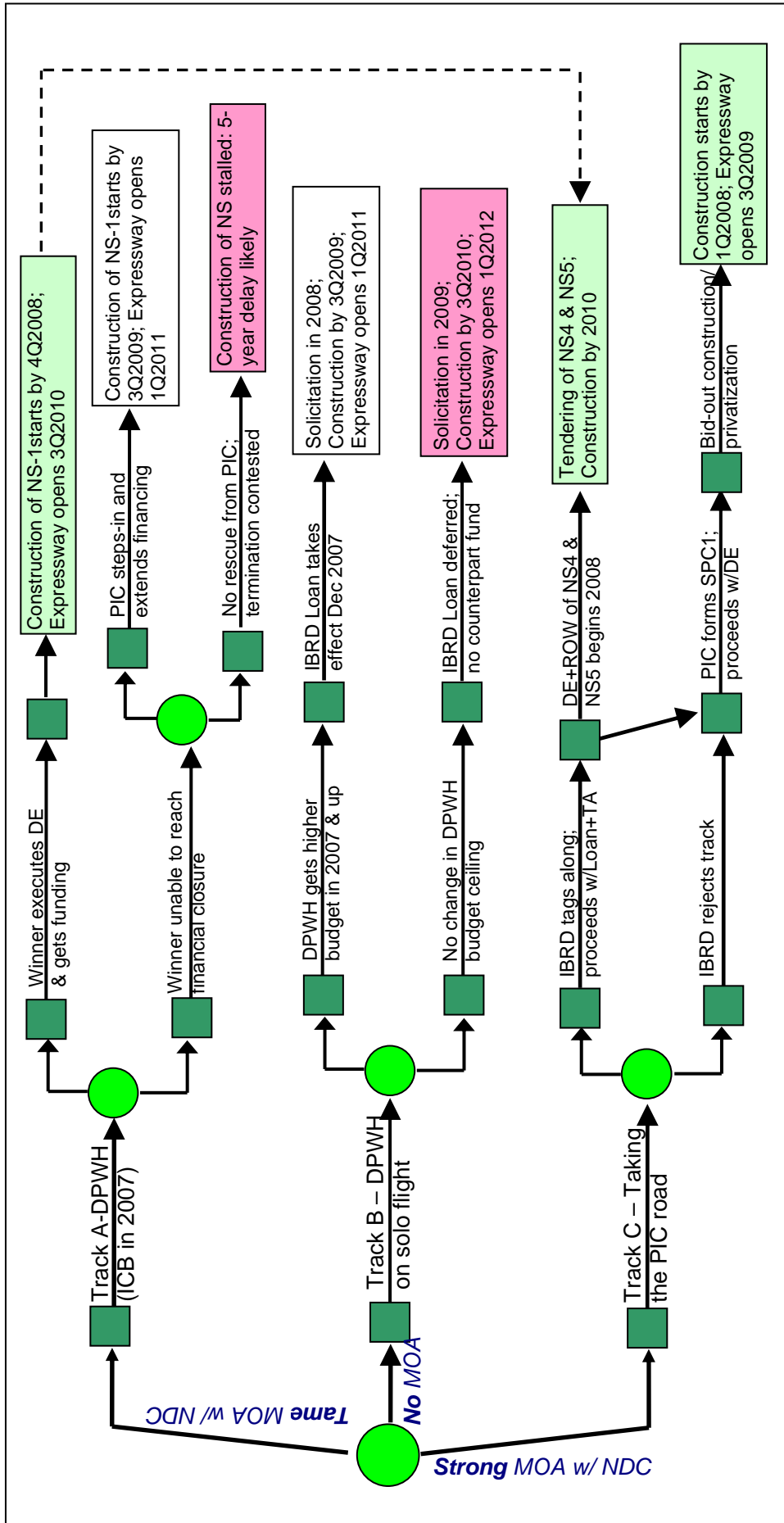
For DPWH, the best of both worlds is to get NDC-PIC and WB on board. However, it will take a Solomonic effort to hammer out a MOA that is acceptable to both entities. It is a route that promises earliest completion of Stage 1 of the North-South Road. If an agreement is reached soon, it can be the gist of the contemplated Development Policy Letter (from DPWH to IBRD in September 2006). If delayed, it will take its cue from the latter. A marriage of convenience between PIC and IBRD will hinge on the issue of tendering for PPP. The choice is clear: either solicit first and let the SPC₁ be formed by the winning bidder, or form the SPC₁ first and go to a privatization tender later.

In making the decisions, the following considerations or desiderata are offered:

- Must offer the best chance of early construction of the roads (earliest funding for DE is best);
- Minimizes demand on DPWH budget, next year and in the future (PPP approach is best), as this would accelerate implementation of the other road sections;
- Predicated on events or factors that are more likely to happen, or already in existence (no additional budget for 2007 is best assumption);
- Should sidestep many of the known problems that bedeviled past BOT projects.

In terms of possible outcomes, there are two worst cases to avoid (colored light red in the decision tree), viz., when the IBRD financing gets deferred due to lack of counterpart fund from DPWH, and where a concession is awarded but no financing and construction transpires. Three beneficial outcomes are shown in light green on the chart.

Figure 10.4.7 Decision Tree for DPWH re Implementation of NS Expressway of CALA Roads



10.5 Implementation Support

10.5.1 Terms and Timing of the PSP Tender

To maximize private sector participation, there should be one tender for DE, construction and the concession (or franchise) for North-South Road. The combined tendering will have the salutary benefit of attracting a wider base of bidders, as construction companies will join the competition. Separate tender for stage 1 and stage 2, however, is recommended. While there may be economies involved in combining Stages 1 and 2, the risk of delay (and failure to secure financing for a bigger investment) will be higher, due to the poor viability of Stage 2 at this point in time.

Subject to further study, the toll concession agreement should avoid the mistakes of past toll roads and contain the following features:

- A fixed toll fee, as determined from the feasibility study, but in no case higher than the highest toll rate prevailing in other expressways (e.g., rate for NLEX is currently pegged at ₱2.50/pcu-km). This is meant to avoid the bad experience with STAR Expressway.
- An endogenous concession period, instead of fixed at 25-years as in existing toll road concessions. In this manner, the concession period is shortened if traffic and revenues are higher than forecasted; or lengthened, if revenues get anemic. A target revenue, adjusted with inflation on a yearly basis, to cover costs and provide for a decent return on investment shall be the criterion.
- Rights to the implementation of NS-2 and NS-3 will have an expiry period, reckoned from the completion of NS-1. In this manner, the conundrum that hit R-1, STAR, and Skyway will be avoided.
- Costs of ROW, or part of it, shall be incorporated in the project cost to be covered by the toll fee. Start date of construction shall be reckoned from free possession of land, or completion of design, whichever is later.

In terms of selecting the winning private bidder, the recommended rules are as follows:

- The award shall be given to the bidder that minimizes total government exposure (NDC-PIC and DPWH) in the toll road venture. Aside from the cost of ROW, PIC may invest in the project company if so required by the winning bid.
- Financial capability shall be a key qualifying criterion. If no financing is secured within 3 months of completion of DE or after possession of ROW is conveyed, the PIC shall be granted the right to step in, invest, or takeover the project, in addition to cancellation of performance bond and surrender of the DE documents.

- The bidding consortium must include a design firm as one of its members, and the cost and schedule for DE shall be stipulated in the bid. The output shall become the property of DPWH in the event of failure to proceed to the next stage, and can be used by the successor toll concessionaire. Start date of construction will be reckoned from completion/approval of the detailed design.

The tendering of the Stage 1 should be conducted as early as possible, so that Detailed Engineering works can commence immediately. However, the election scheduled in May 2007 would throw a monkey wrench on the bidding schedule. If all the documents can be submitted to NEDA in early November 2006, and the NEDA-ICC gets to approve the project before 16 March 2007 (i.e. 45 days before election), then bidding could be started and advertised not later than 23 March 2007. Since this timetable is quite tight, the most probable start of bidding is after 21 June 2007 (i.e. 45 days after election).

10.5.2 Reserving ROW

In an ideal situation, once the alignment and right of way of a proposed road had been chosen, no more permanent structures are built thereon. The LGUs would then impose the proposed road ROW on new subdivision plans subsequently brought to them for review and approval, and to deny any building permit for construction thereon. The Study Team took pains in building consensus among stakeholders around the alignment, in changing alignments to gain consent of property developers, and to get the LGUs to reserve the space and back it up with local ordinances.

The actual situation, however, is far from ideal. The three controls, ordinance, subdivision plan approval and building permit, are rarely applied conscientiously. This is compounded when a major property developer ignore the alignment and proceed to develop their new subdivisions in conflict with the prior agreement. To obviate similar problem from recurring and thus reserve the future ROW, written agreements with property developers need to be sought. As part of the implementation support, the Study Team has initiated the signing of MOUs with the identified major property developers in the area (refer to Appendix). Towards a harmonization of private plans with DPWH roadway plans, interactive discussions have progressed with such entities as One Asia, Ayala Land, Cathay Land, and Greenfield Development Corporation, Citta Italia, and UST. The intent is to accommodate and adjust each other's plans that will be mutually beneficial, and before the lots are locked-in and sold to buyers by the developers. MOUs will serve as written manifestations of harmonized public and private plans, and will be disseminated to LGUs concerned so that they, in turn, can re-enforce the agreement.

While there is a decentralization policy for LGUs to be more active in road development, the reality is that few have the willingness and resources to do so. The most that can be expected from LGUs in the development of the target roads, in the order of likelihood of occurrence, are as follows:

- Enactment of council resolution or ordinance freezing the land use classification or zonal valuation of the lands affected by the proposed ROW;
- Waiver of property tax on the designated ROW, pending transfer of land titles to the government (or DPWH);
- Assistance in the tagging of households that may be displaced or resettled, as well as supervision in the subsequent relocation;
- Assistance in parcellary mapping and assembly of land titles in affected areas;
- Persuasion on affected land owners to voluntarily yield their property;
- Provision of feeder and local roads;
- Financial contribution in the acquisition of ROW and relocation of displaced residents.

11 CONCLUSIONS AND RECOMMENDATIONS

11.1 Key Conclusions from the Study

11.1.1 Highly Feasible Arterial Roads

The rapid growth of Cavite and Laguna was driven by the spillover effects from, and its proximity to, Metro Manila. However, this growth has occurred more rapidly than the development of the area's road transportation network, thus resulting in increasing traffic congestion. The congestion is more severe on roads that link the provinces to the national capital. This north-south pattern is likely to continue over the medium-term, with congestion getting worse before it gets better. The improvement of SLEX and its extension to Santo Tomas, Batangas, within the next 3 years would provide some relief to these MMA-oriented trips. The same effect can be expected if the extension of R-1 Expressway finally gets off the ground after 5 years delay. Both projects increase road capacities, but will not create new transport corridors.

Beyond the medium-term horizon, the economic pie should expand and mature coupled with the shift in orientation of commuting trips inward and east-west, i.e., within the CALA region. To support and enhance this changing landscape and avoid further congestion, two new arterial roads need to be introduced. One will be on a north-south axis, the other on east-west axis.

This Study has delineated a suitable North-South Road (NS Road) that connects with R-1 Expressway on the north, intersects Daang Hari midway and moves further south of Governor's Drive. With due consideration to technical, environmental and financial issues, this new expressway is found to be feasible economically, and should be constructed in two stages. Stage 1 of NS Road (~13 kms) should be completed before 2010, and this can be achieved through a PPP scheme. NS-1 and NS-2 rank very high, with EIRR exceeding 80% or more than 5 times the hurdle rate. The entire expressway from NS-1 to NS-5 (~27.8kms) shows EIRR of 23%.

For the east-west arterial, this study identified the existing Daang Hari to be extended eastward (labeled as DH-2) to connect to SLEX and westward (DH -4), and to continue the widening of DH-3. The EIRR for DH-4 exceeds 60%, or more than 4 times the hurdle rate.

In some short sections of the foregoing roads, the level of service (i.e., designed speed, alignment, width) had to be downgraded due to right-of-way constraints. These constraints may worsen, if implementation gets delayed further. Unless the right-of-way of these future roads is reserved now, the roads will never be realized even when funds become available.

11.1.2 Leverage Resources

The Study also concluded that public sector resources be combined with private sector in order to realize the projects sooner. The aggregate cost for all the road segments (NS + DH + CE) is ₱26.9 billion. Stage 1 of NS Road is estimated to require ₱5.2 billion, and stage 2 another ₱8.7 billion. If dependent on DPWH resources only, completion would be delayed by 3 years at the least. The NS Road can be built on a 'two-in-one' PPP model that combines public and private resources: Stage 1 relying principally on private funds and Stage 2 tapping ODA and public funds. The full cost of DH-2 is already being lined up for a BTO scheme by PIC and PNCC, and need not impinge on DPWH budget.

DH-3 and DH-4 is estimated to need ₱3.1 billion, and shall be lodged in the DPWH capital program beginning 2008. Right-of-way cost for NS Road is ₱1.4 billion and ₱419 million for DH-3 and DH-4. The ROW cost can be reduced if private property developers can be persuaded to convey at book or acquisition value, if not, donate for one peso.

11.2 Study Team's Recommendations

11.2.1 Keep the Momentum Going

Over the last 5 years, extensive consultations have been made on the transport requirements, for both urgent and long-term, of CALA. The first study dealt with long-term development strategy (1999), followed by a Cavite Busway cum road feasibility study (2002). Building on those two efforts and realizing the expectations raised, this Study put a lot of emphasis on implementation support, that is, towards getting the ball rolling and unblocking the financial and institutional hurdles. Hence, there should be an immediate turnover of the baton of responsibility: from planning and project preparation to implementation. In most past road projects of this magnitude, the gap lengthened and interests waned as the availability of funds move further away with no one holding the ball. Aside from taking over responsibility for the voluminous data and records from the JICA Study Team, the designated Project Steward should continue the efforts to sign off more property developers on the preferred alignment, enlarge the coalition for reserving the right-of-way, conduct information and education campaigns to new set of local officials beginning 2nd semester of 2007, initiate parcellary mapping and detailed engineering, and mobilize public and private funds for construction as soon as possible.

11.2.2 Recommendations on EIS Implementation

The following shall be conducted to adequately implement the EIS after the JICA Study.

- In the preparation of the Environmental Management and Monitoring Plan (EMMP) during the Detailed Design (D/D) stage, the conduct of

new and/or supplementary baseline study for some environmental and social parameters, subject to monitoring during both construction and operational stages of the project, would be necessary at the adequate locations based on detailed monitoring plan.

- The environmental and social impact mitigation/enhancement measures proposed in the EIS shall be confirmed if those are integrated in the detailed design, construction supervision management plan and operational plan to secure the implementation of the proposed measures as well as responsible bodies for each measures.

11.2.3 Decide on the Implementation Track

In trying to overcome the budgetary constraints of DPWH, this Study has identified three implementation tracks, with different outcomes as to the timing of execution. DPWH should decide on whether it wants to sign the MOA with NDC-PIC or junk it. If it chooses the former, then an acceptable version must be negotiated. The Study Team has already facilitated the preparation of a 'draft MOA version 7' which grants PIC a bigger role, and a version 'draft MOA version 8' which casts PIC on a residual role (refer to Appendices for the draft MOAs). Although it refers primarily to Stage 1 of NS Road, the draft MOA also has implications on the timetable for DH-4 and other priority road segments. If DPWH opts for the latter (no MOA), then it would have embarked on Track B.

It should be noted that the Regional Development Council (during its 3 August 2006 meeting) has deferred its endorsement of the project to NEDA-ICC pending a decision on this issue.

11.2.4 Bid Out Stage 1 of NS Road

An urgent task for the Project Steward is to secure the approval of the NEDA-ICC for the PPP implementation of Stage 1 of NS Road (or with Stage 2 if the IBRD suggestion is adopted) on a design-finance-build-transfer-operate scheme. This will, necessarily, take off from the decision on the preceding issue. One of the supporting documents that will be required by the NEDA-ICC will be the draft concession, which in turn needs to be ironed out first with TRB.

The bidding documents need to include resolution of the following issues (vis-à-vis R-1 Coastal Expressway) as they would impact on their financial proposals:

- (1) Modification in the design of the interchange between R-1 and NS-1, and the concomitant question as who shall foot the bill for the resulting changes. Initial discussions of the JICA Study Team with the R-1 concessionaire revealed that their design, as approved by TRB, will not permit accommodation of the 4 lanes approaches of NS-1 in the middle of R-1. While there is no objection to the proposed integration, the revision must be cleared by TRB and the incremental cost allocated properly to either concessionaire. More importantly, it must be

resolved before the construction is vetted out by Coastal Road Corporation – which appeared to have gotten its long-sought financial closure in August 2006.

- (2) Inter-operability of toll collecting system as well as revenue-sharing and toll collection arrangement. The option of having a common collecting agent, a common toll plaza or a shared maintenance capability, could lead to cost savings for both. Motorists should be able to drive seamlessly from one toll road to the other, without having to use two incompatible tickets issued by two operators.

The start of the tendering process would likely be pushed to sometime after the May 2007 elections, due to some legal strait-jacket on public infrastructure projects. Thus, the forced interlude should be taken as an opportunity to complete all preparatory tasks, including NEDA-ICC approval.

11.2.5 Adopt Small-scale Traffic Improvement Measures

Aside from enacting the appropriate ordinances that will reserve future road rights-of-way, the LGUs can pursue small-scale traffic management improvements to alleviate congestion while the supply of roads is stagnant.

While conduct of detailed traffic management studies is beyond this study's scope, the field investigation could not overlook numerous opportunities for improving the flow of traffic along major roads such as Aguinaldo Highway and Governor's Drive. Traffic management program includes signalization of major intersections, provisions of loading/unloading bays, construction of sidewalks, and installation of necessary road signages, among others.

The Pala-pala junction of Aguinaldo Highway and Governor's Drive, where two shopping malls (Robinsons and Shoemart) are located, could benefit from an underpass along Aguinaldo Highway and a left-turning fly-over ramp towards Governors Drive.

The concept of dedicated lanes for public transport can be introduced on the 6-lane Bacoor- Dasmariñas Road initially during the peak hours, say 7:00 to 9:00 and 16:30 to 18:30.

11.2.6 Tweak Existing Public Transport System

The northern municipalities of Cavite look at the extension of LRT Line to Bacoor as the solution to their currently inadequate public transport system. But even if the rail system gets built, most of the commuting trips will still be road-based, i.e., dependent on buses and jeepneys. Their current operations can stand improvement, not to mention modifications as new roads are opened. Route hierarchy is blurred, such that buses, jeepneys and tricycles sometimes compete on the same streets. Capacity of arterial roads can dramatically increase if these are restricted to buses. Conversely, jeepneys should mainly serve secondary roads.

As part of route re-structuring, two public transport terminals can also be developed: that is, North terminal at the proposed end-point of LRT-1 extension to Bacoor and South terminal at the south-west corner of the intersection of Bacoor, Dasmariñas Road and Governor’s Drive. Bus stop facilities should also be developed along the trunk routes mentioned earlier, to minimize unnecessary disturbances to the flow of other vehicles and buses.

11.2.7 Further Study on the 2nd SLEX Link

From a long-term and network development perspective, the proposed CALA Expressway, NS Road and SLEX should be interconnected. However, rapid property developments in Sta. Rosa, Laguna are dimming such a possibility in the future, particularly CE-1 which would permit linkage with SLEX at Malitlit Interchange. Two other options to SLEX (Mamplasan and Sta. Rosa Interchanges) were deemed inferior. Three alignments had been considered for CE-1; all skirt existing structures but consensus among stakeholders proved to be elusive. Two additional options have emerged. The first option is to terminate the CALA Expressway at the proposed rotunda where it intersects the Tagaytay-Sta. Rosa road and the north-south spine road of Laguna Technopark. The second option is to continue CE-1 southward to connect with the Star Expressway in Batangas. It is recommended that these five alignment options be studied and evaluated in the future, especially when the northern segments of the CALA Expressway and the southern segments of NS Road crystallize.

