



Report and Recommendation of the President to the Board of Directors

Project Number: 37559
November 2005

Proposed Multitranche Financing Facility and Loan
Islamic Republic of Pakistan: National Highway
Development Sector Investment Program

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 31 October 2005)

Currency Unit – Pakistan rupee/s (PRe/PRs)

PRe1.00 = \$.0.0168

\$1.00 = PRs59.52

ABBREVIATIONS

ADB	–	Asian Development Bank
EIA	–	environmental impact assessment
EMP	–	environment monitoring plan
FFA	–	Framework Financing Agreement
HDM	–	highway design maintenance
JBIC	–	Japan Bank for International Cooperation
km	–	kilometer
LIBOR	–	London interbank-offered rate
MFF	–	multitranches financing facility
MTDF	–	Medium-Term Development Framework
NHA	–	National Highway Authority
NHDP	–	National Highway Development Plan
NHMP	–	National Highway and Motorway Police
NTP	–	national transport policy
NWFP	–	North-West Frontier Province
PFR	–	periodic financing request
PIU	–	project implementation unit
PPP	–	public-private partnership
RSDF	–	Road Sector Development Framework
TA	–	technical assistance

NOTES

- (i) The fiscal year (FY) of the Government ends on 30 June. FY before calendar year denotes the year in which the fiscal year ends, e.g., FY2005 ends on 30 June 2005.
- (ii) In this report, “\$” refers to US dollars.

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FACILITY AND INVESTMENT PROGRAM SUMMARY

Borrower	Islamic Republic of Pakistan
Classification	Targeting Classification: General intervention Sector: Transport and communications Subsector: Roads and highways Theme: Sustainable economic growth Subtheme: Fostering physical infrastructure development
Environment Assessment	Category A. An environmental impact assessment was undertaken and a summary was circulated to the Board on 30 June 2005.*
Sector Investment Program Description	<p>In 2005, the Government approved a Medium-Term Development Framework 2005–2010 (MTDF) targeting key infrastructure subsectors. Roads, railway systems, ports and airports are some of the priorities. This framework itself is embedded in individual subsector roadmaps and is therefore a means to articulate a longer term strategic endeavor in the selected areas. The Investment Program under the framework will help modernize existing facilities but also add new assets. The outcome will be greater and better connectivity within and across the country's principal economic centers and into neighboring countries. This will pave the way for greater and better logistics, which in turn will improve access to export points, people mobility, trade and competitiveness. Better logistics will also cut the final cost of goods and services.</p> <p>Road transport is the dominant mode for freight in Pakistan and the development/upgrading of national highway network features as a top priority within the MTDF and the longer term framework. The MTDF sets out key projects to begin during 2005/2010; in some instances projects will be completed during the subsequent 5 years ending 2014/15. The projected capital outlays from the National Highway Authority (NHA) over the next 10 years runs into PRs138.5 billion (\$2.3 billion). The MTDF program itself costs much more than that (PRs268.2 billion or \$4.5 billion). This implies the need for mobilizing additional domestic and international resources. The Asian Development Bank (ADB) is one of the financing sources being tapped by the authorities. Others include the private sector through the structuring of various investments under the modality of Private Public Initiatives (PPIs), commercial banks and other multilateral and bilateral agencies.</p> <p>The MTDF has been converted by NHA into a National Highway Development Plan (NHDP). This focuses on immediate priority investment and noninvestment interventions needed to overcome critical bottlenecks in the national highway network. To help meet these financing requirements, ADB has been requested to provide assistance through a multitranche financing facility (MFF).</p> <p>The multitranche modality is the most appropriate in this instance. The Government has a well-defined investment program, a roadmap and a diversity of project development structures (including PPIs) and the need for co-financing. The long term nature of the investment program and the variety of subprojects requires a flexible facility that combines</p>

* The summary EIA was circulated with title PAK: Proposed Subregional Transport Connectivity (Pakistan) Sector Project.

financing with reforms and adherence to ADB and Government guiding principles in the areas of safeguards, fiduciary oversight, procurement, disbursement, administration, monitoring, evaluation and reporting.

The Investment Program is structured into three batches of subprojects. The first batch comprises three sample subprojects totaling 376 kilometers (km); the second batch five subprojects totaling 460 km. The number of subprojects under the third batch has not yet been determined. The nature of the subprojects is the same; the number will differ according to local conditions. All subprojects will comply with pre-agreed selection criteria.

The Investment Program includes noninvestment interventions, especially in the area of capacity building. This support will focus on planning and design; management oversight for construction schedules, procurement, safeguards, and fiduciary arrangements. The work will also cover policy reform. The sector roadmap provides for public policy changes during the investment program. The proposed assistance will target such policy changes as they fall due, in essence to enhance the viability and credibility of the Investment Program.

Multitranche Financing Facility

An MFF amounting to \$770 million. This financing represents 33% of the total financing plan envisaged under the NHDP. The ADB funding covers investment and noninvestment interventions. The MFF has a maximum utilization period of 10 years. Individual periodic financing requests (PFRs) will be converted into individual or separate loans. The Government and NHA have entered into a Framework Financing Agreement (FFA) with ADB. The FFA satisfies the requirements set forth in Appendix 4 of the *Pilot Financing Instruments and Modalities*. Pursuant to the FFA, the Government has submitted to ADB the first PFR in the amount of \$180 million. The first PFR is presented to the Board, together with the FFA. Prior to ADB acceptance of a PFR, ADB will ensure that the Government and NHA comply in full with the terms and conditions of the Framework Financing Agreement. ADB teams will conduct due diligence on these to ensure that they are being satisfactorily adhered to. The minimum PFR or loan request at any one time will not be less than \$100 million.

Rationale

Efficient transport systems and networks contribute to economic growth and prosperity. Investment and noninvestment interventions in this network ultimately help tackle poverty. This approach and prioritization is embodied in the Country Strategy Program (CSP), the platform for ADB operations (public and private). The package of assistance from ADB targets institutional and capacity building. The latter is important in terms of defining and executing policy reform, but also better strategic thinking for the sector and planning, and oversight over the maintenance and upkeep of the new assets created out of the Investment Program. The support envisaged will also ensure a competitive or “level playing field” for the procurement and provision of goods, civil works and related services. Institutional reforms will enable NHA perform its strategic planning and management role, while setting the scene for the involvement of the private sector. The latter will be invited to take part in strategic parts of the network – both as an investor and operator. The investment in the highway network will respond to increasing traffic and address poor road conditions in

various parts of the country.

Impact and Outcome

The Investment Program will improve existing road network assets, create new ones and advance policy reform. The latter will create an enabling environment for private sector participation in the system. The main reforms are summarized in the Road Sector Development Framework. This framework has been endorsed by NHA and will trigger future lending by ADB to Pakistan's national highway subsector.

The Investment Program will deliver on two basic objectives. The first is improvement in transport efficiency by (i) adopting a national transport policy, (ii) strengthening NHA performance in managing the national highway network, (iii) improving road safety, and (iv) improving road maintenance and funding. The second objective is to increase private sector participation in road subsector investments by (i) increasing outsourcing of road works, and (ii) establishing operations jointly with NHA.

To realize these objectives, the Investment Program will consist of national highway network investment and institutional strengthening of NHA.

Cost Estimates

The NHDP amounts to \$2.3 billion, of which the Investment Program comprising the first three batches to be implemented amount approximately to \$966.8 million equivalent.

Financing Plan

	(\$ million)	
Source	Total	Percent
ADB, Ordinary Capital Resources	770.0	33.4
ADB, Special Funds Resources	3.0	0.1
Government	193.8	8.4
Total Investment Program	966.8	
Government and other agencies	1,341.5	58.1
Total	2,308.3	100.0

ADB = Asian Development Bank.

Source: Asian Development Bank estimates.

ADB Financing and Terms

An MFF of up to \$770 million or its equivalent from ADB's ordinary capital resources will be made available. The MFF is expected to be drawn down in five separate PFRs during the 2006 to 2011 period. Final terms and conditions for PFR will be determined in the context of each request. Terms and conditions will be finalized at the time of the relevant PFR release and will follow prevailing ADB policies. In general, the financing made available under each PFR is anticipated to be provided under ADB's London interbank offered rate (LIBOR)-based facility. The Government has the option to choose between eligible currencies and interest margin regime for each loan. Repayment schedules can also be structured for the purposes of each PFR.

In addition, a loan of \$3.0 million will be provided from ADB's Special

Funds resources. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions as set forth in the relevant draft loan and project agreements.

Allocation and Relending Terms

The Government will extend to NHA the proceeds under each loan in local currency in accordance with its policies in this regard. The Government will bear the foreign exchange risk on each loan.

Closing Date for Submission of PFRs

31 December 2011

Estimated Investment Program Completion Date

30 June 2015

Executing Agency

National Highway Authority

Implementation Arrangements

NHA will establish an investment program coordinating committee, chaired by the NHA chairperson, to monitor and oversee overall investment program implementation. NHA will establish two management units, one for implementation of the national highways improvement component and the other for the implementation of institutional strengthening of NHA. The implementation of each subproject under the Investment Program will be managed by a dedicated team.

Procurement

All civil works contract packages will be procured in accordance with ADB's *Guidelines for Procurement* following international competitive bidding procedures.

Consulting Services

The international consultants engaged on a consulting firm basis will be evaluated, using ADB's quality- and cost-based selection procedures and according to ADB's *Guidelines on the Use of Consultants*. Individual international consultants will be engaged in accordance with ADB's *Guidelines on the Use of Consultants* and domestic consultants on other arrangements satisfactory to ADB.

Program Benefits and Beneficiaries

By increasing the capacity on the main domestic corridors the Investment Program will improve the overall performance of the road subsector network and contribute to transport efficiency. This will improve the returns and sustainability of existing and future road assets in the sector, and contribute to a wide range of economic activities that depend on road transport services. Improved access to economic opportunities and services will tackle poverty reduction. The Investment Program will also serve regional transport connectivity and trade,

The quantified economic benefits consist of savings in vehicle operating costs and passenger time. The economic internal rate of return of the first batch three sample subprojects is between 16.5% and 37.8%. Beneficiaries will include (i) direct users of road transport, including owners/operators of trucks, passengers of the various vehicle categories, laborers, and the Government; (ii) those benefiting

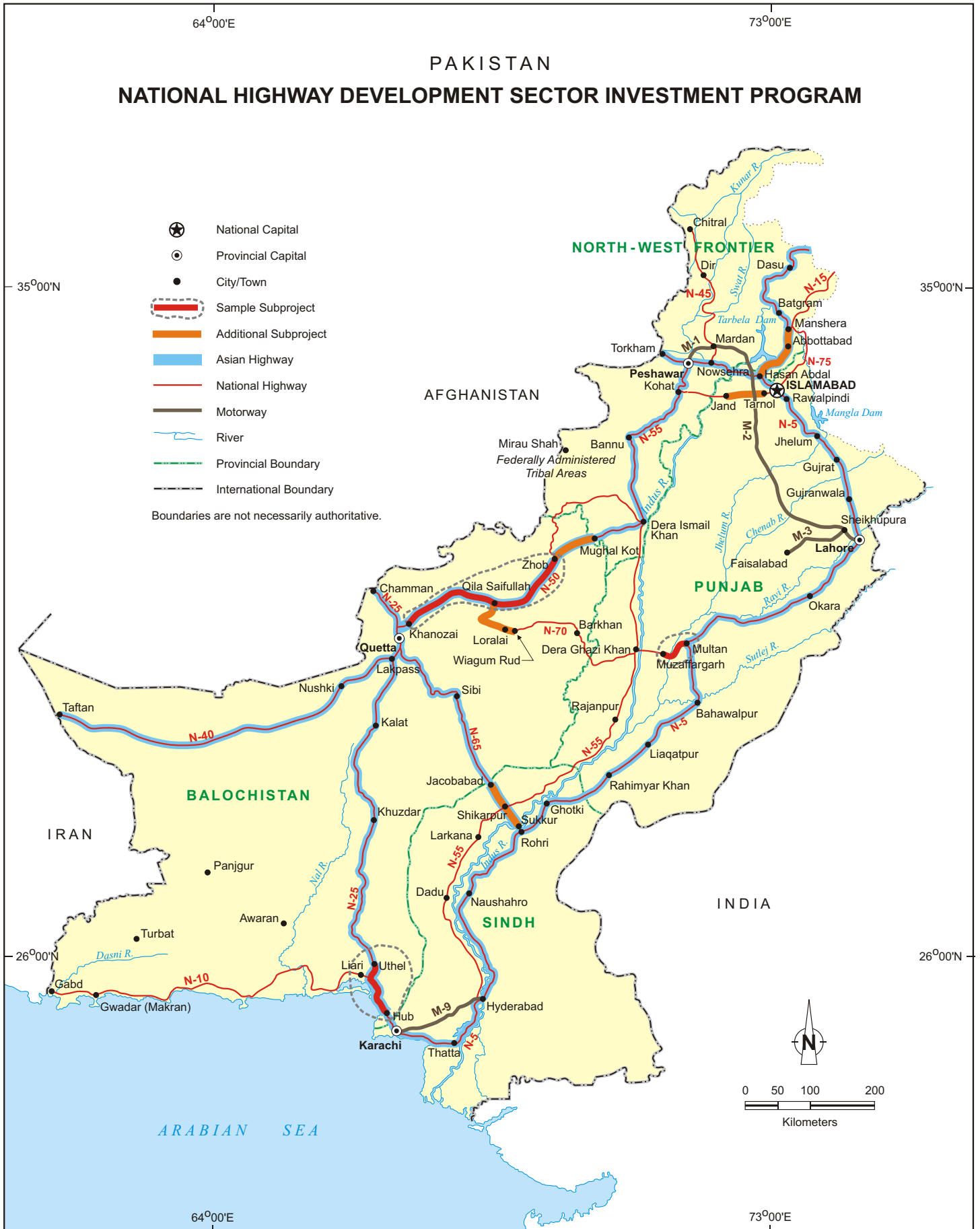
indirectly because they live in the immediate area of influence of the project improvements; and (iii) those in the immediate influence area employed on project construction.

Risks and Assumptions

The major risks for the Investment Program are (i) slow progress in the recruitment of consultants for construction supervision activities; (ii) slow progress in the implementation of the agreed policy reforms, leading to less than intended improvements in sector performance; and (iii) slow utilization of the MFF to implement the NHDP over 10 years. NHA has prepared advance consultant recruitment documents, which will be issued to the short-listed consulting firms before Board consideration of the Investment Program. Local procurement experts have been recruited to cope with the initial workload. The policy reform risks have been mitigated in the project design in accordance with the agreed Road Sector Development Framework with milestones to be met for future ADB involvement in the sector.

The MFF modality is new to ADB and Pakistan. Thus special investment program teams will be on standby to offer advice and guide NHA on specific issues and problems pertaining to terms and conditions for the use of the MFF. The Government and NHA are providing ADB with a set of specific “warranties and representations” on various fronts and will need real time support prior to making formal submission of individual PFRs under the MFF. ADB will handle this requirement in two ways. Firstly, it will strengthen the human resources of its Pakistan Resident Mission to deliver additional capacity in procurement and safeguard compliance activities. Secondly, headquarters staff responsible for the Investment Program will utilize time savings arising out of the elimination of repetitive processing tasks, directing these resources toward the supervision and monitoring of the Investment Program. This is clearly one of the advantages of the MFF. NHA has the capacity and willingness to adhere to the framework facility understandings, but from time to time the parties in the field will require special assistance. ADB will position itself to provide this. Finally, the Investment Program is accompanied by an institutional and capacity building component, the aim of which is to provide practical and real time support to the executing agency for the purposes of selected implementation work.

There is potentially a fiduciary oversight risk associated with the Investment Program. However, this will be addressed through oversight and monitoring arrangements in the areas of procurement, accounting, administration and reporting. Financial management, better and transparent budgeting, management and information system improvement, and strengthened financial planning will form part of this capacity-building endeavor. A longer term objective will be to leave in place, systems, people, and procedures that can outlive the Investment Program itself. The Government and NHA are especially keen on this approach and accordingly will work with ADB toward this endeavor.



I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed multitranchise financing facility (MFF) and loan to the Islamic Republic of Pakistan for the National Highway Development Sector Investment Program. The design and monitoring framework for the Investment Program is in Appendix 1.

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

A. Performance Indicators and Analysis

1. Roads

2. Transport contributes about 10% of gross domestic product. Road transport is the dominant mode, accounting for 91% of passenger traffic and 96% of freight traffic. Road transport services are largely in the private sector, which handles about 95% of freight traffic and is highly competitive. During the 1990s, the overall demand for road transport grew at 7–8% per year, compared with average gross domestic product growth of 4–5%. The number of registered motor vehicles in 2004 was 2.94 million (20 per 1,000 population), with a further 3.01 million motorcycles and rickshaws. The combined fleet is growing at 9% annually. The total length of the road network is some 250,000 kilometers (km), 60% is paved.

3. Traffic using the national highway network, comprising about 8,320 km of national highways and 710 km of motorways, is largely commercial: 75–80% of traffic. The main domestic artery is concentrated along the 1,760 km Karachi–Lahore–Peshawar (M9/N5) corridor. This serves 80% of the urban population and carries over 55% of intercity traffic. The corridor also links Punjab and the northern parts of the country with international markets through the southern Karachi area ports, which account for 96% of all trade. About 60% of the port traffic moves along this corridor. Other national highways include N55 (Indus Highway), N25, N65, N40, N70, and N35 (Karakoram Highway). A detailed condition survey in 2001 indicated that 50% of the national highway network was in poor to very poor condition. Some deteriorated sections are located on important interprovincial and subregional routes (N25, N50, and N70), connecting Pakistan with Afghanistan, and providing access to southern ports.

4. The National Highway Authority (NHA) under the Ministry of Communications is responsible for the operation, maintenance, and development of the national highway system. NHA is an autonomous highway agency with a functional structure and decentralized implementation arrangements through regional provincial offices. The Asian Development Bank (ADB) and the World Bank have provided assistance¹ (i) to reorganize and commercialize NHA, shifting its focus to that of a network operator and service provider, and (ii) to strengthen financial management systems to improve governance. NHA has internal capacity constraints, such as limited in-house capability in strategic planning, project and asset management, and network operation.

5. An analysis of the road sector and NHA operations is provided in Appendix 2.

¹ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Islamic Republic of Pakistan for the Road Sector Development Program*. Manila (Loan 1891-PAK approved on 19 December 2001 for \$50 million) and World Bank-financed Highway Rehabilitation Project.

2. National Highway Development Plan

6. In 2005, the Government approved the Medium-Term Development Framework 2005–2010 (MTDF), which was prepared on the basis of the following considerations: (i) optimal utilization of the existing capacity with emphasis on rehabilitating and upgrading; (ii) selective and cost-efficient investments in economically viable new roads, including expansion of the rural network; (iii) development/improvement of the road network to facilitate transport and trade with Afghanistan, Central Asian republics and India; (iv) development of innovative financing mechanisms and enhancement of private sector participation; (v) priority to road maintenance and safety; (vi) effective control of overloading on roads; and (vii) enhancement of capacity of road sector agencies. From the MTDF, NHA undertook preparation of the National Highway Development Plan (NHDP).²

7. With passenger traffic growing annually at 12.64% and freight traffic at 6.13%, 439 billion passenger-km of passenger traffic and 198 billion tons-km of freight traffic are expected to be handled by roads by 2010. As a result, the NHDP provides for the improvement and rehabilitation of about 6,500 km of existing roads and construction of 2,500 km of new roads (Table 1).

Table 1: Summary of Planned Roads (2005–2010)
(kilometers)

No.	Description	Improvements	New Construction	Total
1.	National Highways	6,500.0	2,500.0	9,000.0
2.	Provincial Roads	6,600.0	4,000.0	10,600.0
3.	Special Area Roads	1,000.0	500.0	1,500.0
	Total	14,100.0	7,000.0	21,100.0

Source: Government of Pakistan. 2005. Medium-Term Development Framework (2005–2010). Islamabad.

8. The NHDP focuses on consolidating existing assets and providing linkages from the main road system to remote areas and subregional border crossings. Main areas for improvement/upgrading are (i) completion of the Makran Coastal Road, (ii) Lyari Expressway, (iii) Indus Highway Phase III, (iv) Gwadar–Turbat–Hoshab section, (v) World Bank financed N5 highway improvement, (vi) Multan–Muzaffargarh, (vii) Kuchlak–Zhob, (viii) Karachi–Hub–Kakar, and (ix) Hub–Uthal N25.

9. Using the NHDP as the basis for undertaking the 10-year implementation plan, ending in 2014/15, the Government identified (i) public sector development projects totaling PRs138.5 billion (\$2.30 billion), and (ii) private sector investment projects totaling PRs30.8 billion (\$0.51 billion). Financing for public sector development projects is forecast to be sourced from multilateral and bilateral agencies for a total estimated amount of PRs89.7 billion (65%); the Government will provide approximately PRs48.8 billion (35%) using internal resources. Private sector investment projects will be financed by public-private partnership modalities (para. 14). A summary of the NHDP in terms of funding requirements is given in Table 2 and a detailed summary of public sector development projects is in Appendix 3. The investment program subprojects are selected from NHDP's public sector development projects. Their eligibility for funding from ADB resources will be subject to detailed feasibility studies and satisfactory compliance with the project eligibility criteria.

² The NHDP is reflected in the Government's MTDF 2005–2010, approved on 27 May 2005.

Table 2: Summary of the National Highway Development Plan (2005/06–2009/10)
(PRs million)

Item	PRs billion	\$ million
Public Sector Development Projects	138.5	2,308.3
Private Sector Infrastructure Projects	30.8	513.3
Total	169.3	2,821.6
Funded by:		
Multilateral Agencies	89.7	1,495.0
Public-Private Partnerships	30.8	513.3
Government	48.8	813.3
Total	169.3	2,821.6

Source: National Highway Authority.

3. The National Highway Network

10. The national highway network requires significant upgrading to support the current accelerated growth of the national economy and rapid expansion of subregional trade. Substantially increased funding of NHA is projected under the MTDF. Work to date has focused on upgrading the Grand Trunk Route N5 and the Indus Highway N55, both major national north–south routes, from a 2-lane single carriageway to either a 4-lane single or a 2-lane dual carriageway. Some key subregional sections of the national highway remain as single-lane roads, often in deteriorated condition and incompatible with use by through traffic. Other sections require urgent double-laning to avoid crippling congestion. Bypasses are required for many cities and towns that are totally unsuited to the passage of heavy vehicles typically used for subregional traffic.

11. Pakistan is ideally located to act as a hub for subregional transport and to take advantage of the subregion’s rapidly improving political situation for the development of transit and cross-border trade and commerce. Pakistan’s road corridors offer the shortest route to the sea by several hundred km for landlocked Afghanistan, Central Asia, Xinjiang province of the People’s Republic China, and parts of the Russian Federation. However, physical, institutional, and other constraints currently prevent Pakistan from taking full advantage of its location. The potential for increased trade through improved trade facilitation, rehabilitated transport links, efficient cross-border movements, and increased efficiency at ports is highly significant for the Pakistan economy. In addition, under the transit trade agreement with Afghanistan, in place for more than a decade, approximately 88% of Afghan exports pass through Pakistan, while 47% of Afghanistan’s imports also pass through Pakistan. The proposed Investment Program provides Pakistan with an opportunity to play a catalytic role in the development of such transport initiatives, thereby enhancing subregional cooperation in addition to promoting its domestic development.

12. The highways to be improved under the Investment Program have local, provincial, national, and subregional importance. The north–south corridors via the N25 and N65 connect Sindh and Balochistan provinces and are key subregional routes connecting Pakistan with Afghanistan and Central Asia. The east–west corridors via the N50 and the N70 connect Balochistan with North-West Frontier Province (NWFP) and Punjab. These routes are primary subregional corridors connecting Afghanistan and Iran with Pakistan and India. N50 is part of the key future corridor between Xinjiang province of the People’s Republic of China and the new deep-water port of Gwadar. N80 will be a future alternative route to the Khyber Pass and provide the Islamabad–Kabul link with the shortest distance in Afghanistan. The N35 section

forms the southern approach to the Karakoram Highway linking Pakistan and Xinjiang province, People's Republic of China, a corridor of rapidly increasing importance for trade and tourism.

B. Analysis of Key Problems and Opportunities

1. Challenges

13. **Subregional Competitiveness.** With evident political goodwill in place and growing pressure from consumers in the subregion for improved access to international markets, the stage is set for a transformation in trading patterns, with particularly beneficial prospects for Pakistan. Pakistan does however face strong competition from Iran for subregional trade. Iran has a better developed highway network, a more efficient trucking industry, and better functioning and more secure ports and transit routes. It is also actively pursuing cross-border and transit traffic opportunities with Afghanistan. All of the logistics chain will need to be improved for Pakistan to increase its share of transit traffic. While Pakistan has the advantage of very low road freight rates, this is offset by inefficient operation, delays to shipments, and damage to goods in transit; overcoming them is a time-consuming process because of the large number of stakeholders involved. ADB, United Nations Conference on Trade and Development, and World Bank have supported the establishment of the National Trade and Transport Facilitation Committee to accelerate the process. This committee and its subcommittees have made progress on (i) developing and improving the goods declaration form and transport clearance documents, (ii) developing a minimum standard of professional qualifications and standard training conditions for freight forwarders, and (iii) reviewing and improving various acts for the carriage of goods (i.e., Road Act, Sea Act, Air Act, and Marine Insurance Act).

14. **Private Sector Participation.** The Pakistan economy in recent years has continued to improve and gross domestic product growth accelerated to 8.4% in 2005, the highest in the last two decades. To maintain the achieved economic growth on a sustained basis, the Government has placed heavy emphasis on investing in the country's infrastructure requirements. The NHDP identifies projects valued at approximately PRs30.8 billion for public-private sector financing. However, NHA has experienced difficulties in attracting private sector investments because of the lack of a legal framework for ensuring private sector transactions. Under ADB-financed technical assistance (TA),³ NHA is receiving assistance in preparing the necessary documentation and evaluation of proposals for private sector financing (para. 28) achievements under the TA. The Government has identified seven projects for private sector opportunities comprising (i) interchanges and flyovers, (ii) motorways and carriageways, and (iii) tunnels (Appendix 4).

15. **Road Safety.** The fatality rate on Pakistan's road network remains among the highest in Asia.⁴ The causes are high speeds, lack of road safety measures, poor discipline and enforcement of rules, and poor condition of vehicles. Road safety audits are not conducted routinely for new and improved roads. The road safety problem is exacerbated by lack of awareness and poor knowledge of road safety matters among the general public and road users. National and provincial efforts and coordination are not rigorous, and responsibilities and accountability of institutions and provincial departments are not clearly delineated. More intensive efforts in educating and training drivers, together with awareness building are required

³ ADB. 2004. *Technical Assistance to the Islamic Republic of Pakistan for Facilitating Public-Private Partnership Initiatives in National Highway Development*. Manila (TA 4508, approved on 20 December for \$150,000).

⁴ Pakistan had 18.69 fatalities per 10,000 vehicles in 1992. This was lower than in Bangladesh (85.58) and India (25.27), but higher than in Southeast Asia (5–15 per 10,000 vehicles), and far above the countries with the lowest number of fatalities such as the United Kingdom (1.60) and Japan (1.74). Source: ADB.1995. *Technical Assistance for Regional Initiatives in Road Safety*. Manila.

to address the high fatality rate. Under the NWFP Road Development Sector and Subregional Connectivity Project,⁵ the National Highway and Motorway Police is about to commence a pilot project on road safety for sections of the national highway in NWFP. Among other items, the pilot project will address organizational and staffing arrangements as part of preparing the training programs. Policy dialogue for the Investment Program will track the findings of this pilot study and incorporate its recommendations into NHA operations.

16. **Road Maintenance.** NHA is responsible for maintaining approximately 8,320 km of national highways, which carry approximately 80% of the country's commercial traffic. Because the national highway network is under tremendous strain, NHA established the dedicated Road Asset Management Directorate to oversee maintenance operations. Despite the gap in maintenance needs and resources, NHA through its gradual increase in toll receipts, has been able to achieve significant progress since 2002/03 by increasing the quality of maintenance through periodic overlays, providing rigid pavement at places of rutting, replacing/rehabilitating old bridges, etc. In addition, NHA has embarked on a major axle-overload control program through installation of weigh stations and other suitable measures to control the damage caused by overloaded trucks. As per the latest studies undertaken in 2005, NHA requires approximately PRs6.3 billion (\$106.0 million) per annum to maintain the national highway network. Currently approximately PRs4.0 billion (\$67.0 million) is received annually from toll receipts and approximately another PRs1 billion (\$16.7 million) is provided by the Government. NHA is currently negotiating with the Government to increase funding by linking it to the goods and services tax levy on fuel products.

2. External Assistance

17. ADB's support for roads has been developed in close collaboration with the Japan Bank for International Cooperation and World Bank. ADB has met regularly with both agencies in the preparation of this Investment Program. They have shared their respective project preparation materials and studies, and presented materials for the preparation of the Government's MTFD. Since 2000, Pakistan has received substantial assistance from ADB, Japan Bank for International Cooperation, and World Bank (Appendix 5). ADB's provincial project financing assistance commenced with Sindh (2001 for \$200 million), Punjab (2002 for \$150 million), Balochistan (2003 for 185.7 million), and NWFP (2004 for \$243.2 million). The provincial projects concentrated on provincial highways and farm-to-market roads. For the Balochistan and NWFP projects, ADB financed sections of the national highways that form part of the regional connectivity network with Afghanistan and associated civil works for border facilities at Chaman (Balochistan for \$3.5 million) and Torkham (NWFP for \$2.3 million).

18. Since 2001, the Japan Bank for International Cooperation has financed the construction works for the Kohat Tunnel for a total of \$79 million. In 2001, the World Bank financed the Trade and Transport Facilitation Project for \$3 million, and in 2003, the Highway Rehabilitation Project for \$200 million. During the last 4 years, the Trade and Transport Facilitation Project has been actively assisting the Ministry of Commerce in reviewing, improving, and providing institutional capacity building for all major agencies associated with the logistical chain for transportation of goods. Under this project, the Government implemented the single administrative document, the goods declaration form, and is now pilot testing it as part of the electronic document exchange exercise. At the request of the Government, the World Bank is preparing the follow-on 2006 Trade Facilitation Project. In addition, the National Logistics Cell, a Government agency, is

⁵ ADB. 2004. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Islamic Republic of Pakistan for the North-West Frontier Province Road Development Sector and Subregional Connectivity Project*. Manila (Loan 2103/2104 for \$301.2 million).

undertaking all border improvements and, in addition to the Pakistan Railway, is authorized to freight transit goods for Afghanistan. Overall, trade facilitation of freight traffic is adequately covered by the Government and the World Bank project. The World Bank's ongoing Highway Rehabilitation⁶ Project focuses on about 856 km of highway improvements along the national highways N5 and M9, with implementation over 5 years. To date the World Bank project has commenced civil works on approximately 348 km of the project target.

3. Lessons Learned

19. Prior to 2000, ADB-financed road projects focused on farm-to-market needs and selective interventions in the national highway network. From 2001 onward, ADB's investment strategy shifted to more focused interventions on provincial and rural access roads on a province-by-province basis. From 2003 onward, in line with the Government's plan to integrate Pakistan's economy into the regional economy, ADB commenced financing sections of the national highway network with linkages to Afghanistan, on a selective basis. The proposed Investment Program is ADB's first major intervention into NHA's operations on an integrated basis combining project investments and sector reforms. With respect to ADB support for road projects in Pakistan, experience indicates the following actions are generally important for avoidance of delays in implementation: (i) advance procurement of civil works and recruitment of supervision consultants; (ii) early establishment of project implementation units (PIUs); (iii) strict prequalification criteria; (iv) advance action for land acquisition, resettlement, shifting of utilities, and clearance of right-of-way; and (v) increasing the authority of the independent engineer under the contract to ensure efficient and quick decision making during execution. Experience under the current ADB-financed Balochistan and NWFP provincial road projects suggests that highway projects require (i) early preparation of project pro forma (PC-1) documents for internal government approvals, (ii) early preparation and provision of adequate resources to implement advance procurement actions, (iii) recruitment and active involvement of staff in advance preparation of the project, (iv) limiting the executing and implementing agencies to one body, (v) early commencement of training for executing agency staff on ADB procurement policies and guidelines, and (vi) packaging of civil works and consulting services into larger parcels for international competitive bidding. As part of the Investment Program, NHA has undertaken early preparation steps by (i) appointing staff to senior positions in the project team, including the project coordination officer and the project directors for the three sample subprojects; (ii) completing and submitting the pro forma project document for Government approval before loan negotiations for the batch 1 and batch 2 subprojects; (iii) issuing requests for proposal documents for recruiting construction supervision consultants; (iv) preparing prequalification of contractors documents and bidding documents for civil works; (v) convening a business opportunities workshop for informing international contractors about future NHA project opportunities and requesting their participation; (vi) holding dedicated training seminars on ADB procurement and recruitment of consultants procedures (conducted by ADB staff); and (vii) commencing preparation of feasibility studies for the five batch 2 subprojects (para. 41).

4. Asian Development Bank Sector Strategy

20. ADB's country strategy and program update (2005–2006)⁷ focused objectives for national highways on supporting subregional cooperation, improving cross-border facilities and agreements, improving trade facilitation, and improving transport efficiency on the main transport corridors in Pakistan. During preparation of the Investment Program, ADB found that the Government was using its own resources to improve cross-border facilities. Support for

⁶ World Bank-financed project, Highway Rehabilitation Project, approved on 10 November 1993, for \$200 million.

⁷ ADB. 2005. *Country and Strategy and Program Update (2005–2006): Pakistan*. Manila.

subregional cooperation and cross-border agreements are to be undertaken as part of the ADB-sponsored Central and South Asian Transport and Trade Forum⁸ initiatives, which include reviewing regional transit arrangements. Trade facilitation activities are being undertaken by the World Bank-financed 2001 Transport and Trade Facilitation Project, and at the request of the Government, by a follow-on trade facilitation project being prepared for 2006 processing by the World Bank. Classifying a project as subregional has been difficult as the project is required to quantify the project economic benefits accruing to the subregional countries. This has not been feasible due to difficulty securing accurate trade statistics. Because of recent developments whereby most of the original objectives were being addressed by other Government initiatives and to avoid duplication of efforts, the focus of the Investment Program was modified to concentrate on enhancing the capacity of NHA to become a sustainable and efficient organization to operate and maintain a sustainable national highway network.⁹ This modified focus supports the country strategy and program update objectives of sustainable pro-poor growth and the Government's decision as part of its debt management strategy to only borrow from ADB's ordinary capital resources for priority infrastructure projects and provincial resource management programs. In addition, at the first management review meeting, ADB management approved increasing ADB's cost sharing to 80% to support the Government's need to mobilize resources in support of urgent infrastructure development.

21. As highlighted in the Government's MTDF, Pakistan is planning to undertake a large program of improving the national highway network over the next 10 years at a total cost of PRs169.3 billion (\$2.82 billion). To finance the program, the Government is reliant upon financing from bilateral and multilateral agencies, domestic banks, and private sector sponsors. The Government has requested ADB to provide an MFF under which ADB will provide individual loans for subprojects based on the completion of feasibility studies and advance project preparation activities in accordance with the Framework Financing Agreement (FFA) (para. 49). Because of the potential large scale of lending, a programmatic¹⁰ approach will be adopted and projects will be developed in a sequential and progressive manner. ADB's long-term sector strategy is to create an enabling environment for the efficient and sustainable development of the highway system to meet the needs of the public for increased mobility and efficient cargo movement.

5. Policy Dialogue

22. ADB has been engaged in policy dialogue with the Government and NHA since 2001, and has provided loans and TA in support of critical policy and institutional reform processes. The major national policy reform actions taken to date include (i) substantive preparation of a national transport policy (NTP); (ii) preparation of rolling five-year medium-term investment and maintenance plans; (iii) tolling of sections of the national highway network and use of toll receipts for road development and maintenance programs; (iv) setting up of the Road Asset Management Directorate, fully functioning since 2003; (v) enforcement of the National Highways Safety Ordinance and extending it to cover additional road lengths in each successive year; (vi) collection of monetary penalties from 2003 onward for violation of traffic ordinances and allocating the collections toward road development and maintenance programs; (vii) continued

⁸ This is an ADB-sponsored initiative, which commenced in 2003, with the objective to facilitate transport connectivity and trade in the subregion by focusing on (i) customs harmonization, (ii) law enforcement on drug and human trafficking, (iii) border crossing facilities, and (iv) regional transit trade agreements.

⁹ The original project title was changed from Subregional Connectivity and Trade Facilitation Project to National Highway Development Sector Investment Program.

¹⁰ The approach should be distinguished from a program loan lending modality, which is essentially based on policy reform. The loans are essentially designed as investment projects that will be prepared just like typical highway projects, but with the policy reform elements to be implemented in a systematic, sequential, and coherent manner.

implementation of the program to decrease NHA staff strength; (viii) introduction of standard operating procedures for financial management and an accompanying financial manual; (ix) recruitment of financial experts for NHA; and (x) installation of weighbridges to control axle loads.

23. Although significant progress has been made on major policy and institutional issues, a number of areas remain to be addressed before and during implementation of the Investment Program. Subsequent to extensive policy dialogue with NHA, agreement was reached on the Road Sector Development Framework (RSDF), and adopting a programmatic approach (para. 21). The RSDF comprises major policy reform actions and implementation target dates (Appendix 6). Because the Investment Program will be implemented over 10 years, the RSDF will be implemented in two phases. Phase 1 (2006–2008) will focus on agreed milestones, which will act as building blocks for the remainder of the Investment Program. Phase 2 will be based on the progress achieved during phase 1, and identification of additional capacity-building measures including sector reforms required to ensure sustainable NHA development. The policy reform milestones (contained in the RSDF) agreed with NHA will be reviewed for compliance, as part of the review process for all individual periodic financing requests scheduled to be completed by 2011. For implementation of the RSDF, NHA will be assisted by consultants with the requisite expertise (para. 63).

24. The RSDF focuses on five policy areas for improvement: (i) promulgating the NTP; (ii) facilitating public-private partnership (PPP) in road construction, maintenance, and toll collection; (iii) providing NHA with institutional development and improving its strategic focus; (iv) embedding concern for road safety in the decision-making process; and (v) ensuring sustainable funding of road maintenance. The RSDF takes into consideration the initial findings of the Business Process Reengineering Study¹¹ undertaken by NHA-appointed consultants under the World Bank financed Highway Rehabilitation Project. These actions accord with the policy matrix requirements of the 2001 Road Sector Development Program loan (footnote 1).

a. National Transport Policy

25. Government promulgation of the NTP and its implementation are a prerequisite for the effective development of a sustainable and cost-effective transport system. The recently approved MTD¹² represents an important step in developing the NTP, defining the investment needs at the project level. The ongoing National Transport Master Plan Study¹³ will provide a comprehensive database for supporting analysis and policy making. Developing the NTP provides an opportunity for modal priorities to be reviewed; for intermodal opportunities to be determined; and for macro objectives, responsibilities, and funding mechanisms to be reviewed. The NTP will provide the framework within which the infrastructure development and institutional components of this Investment Program and ADB's planned subsequent sector interventions can be most effective. This will ensure that their benefits are realized and that implementation is structured to ensure seamless integration with other NTP initiatives.

26. In addition to the appropriate technical research and financial and economic assessment, developing the NTP will require detailed discussions with stakeholders (including provincial governments, railways, civil aviation, roads, seaports, inland waterways, and users).

¹¹ The Business Process Reengineering Study focuses on streamlining NHA procedures for core activities, including accounting and finance, administration and general operations, and computerization.

¹² The MTD 2005–2010, prepared by the Planning Commission, represents the Government's infrastructure investment program for all sectors.

¹³ The first phase of the National Transport Master Plan study, financed by the Japan Bank for International Cooperation, focuses on the collection of transport statistics and is expected to be completed by March 2006.

To achieve an effective NTP, the consultation process must be effectively managed. ADB has provided assistance in the initial preparation of an NTP document, and the consultation process is about to start. To assist the Government, ADB is providing TA¹⁴ to support the consultation process. The Investment Program will assist the Government in developing the NTP, which will provide NHA with an enabling environment for institutional development. The NTP is expected to be promulgated by 30 June 2007 (Project milestone M1).

b. Enhancing Public-Private Partnerships in the Provision of Road Transport Infrastructure

27. NHA is faced with a major funding challenge to implement the MTFD. PPP financing is proposed as part of the solution to finance 18% of the 2005–2010 funding requirement. Given limited progress with PPP, this target places a considerable demand on NHA's management capabilities. Private sector participation should be developed at a rate that accords with NHA's ability to effectively manage it. Poorly executed PPP projects not only fail to realize their potential benefits, but they may discourage future initiatives.

28. During TA to facilitate PPP initiatives in national highway development (footnote 3), the ADB consultants assisted NHA in (i) preparing a revised draft policy and regulatory framework for private sector participation in national highways, motorways, tunnels, and bridges, which is now under consideration by the Cabinet Committee for Investments; (ii) preparing an action plan for improving the legal and regulatory framework for private sector participation; (iii) developing comprehensive PPP tender documents for future PPP projects; (iv) undertaking a preliminary review and improvement of NHA's proposed build-operate-transfer projects over the next 5 years; and (v) reviewing institutional arrangements necessary to carry out PPP projects, including creating a PPP cell in NHA.

29. The TA notes that NHA should reevaluate the PPP program, which is seen as optimistic. To select activities for ADB financing under the proposed Public-Private Initiative for National Highway Development Project in 2006,¹⁵ a full review of the current PPP financing strategy is necessary by 31 July 2006 (Project milestone M2-1). The bidding and implementation progress of the 2006 PPP project will be considered prior to commencing the midterm review, scheduled for June 2008. NHA agreed to a target value of total PPP projects of approximately PRs60 billion, which will be prepared for bid invitations by the time a project(s) is selected for the proposed ADB financing of a second PPP project in 2008. The pipeline of PPP projects is targeted to be available by 31 July 2008 (Project milestone M2-2). Project preparation requires that a funding proposal be developed such that the expected financial internal rate of return is sufficiently robust to attract private sector participation.

c. Institutional Development of NHA

30. **Network/Business Planning and Institutional Reform.** NHA has been called upon to develop, operate, and maintain a sustainable national highway network to meet the requirements of the public on an efficient and cost-effective basis. To successfully deliver on this challenge, NHA must transform itself into a service-driven organization with a strong service base for road users, which makes appropriate use of internal and external resources to deliver outcomes that match the needs of the community. Toward this goal, the Investment Program

¹⁴ ADB. 2004. *Technical Assistance to the Islamic Republic of Pakistan for Transport Policy Support*. Manila (TA 4400, approved on 30 September, for \$290,000).

¹⁵ In the 2005–2006 country strategy and program update (footnote 7), the Public-Private Initiative for National Highway Development Project, for \$50 million, is shown as a firm loan for 2006.

will incorporate a component designed to provide TA to the Government to help clarify NHA goals, define the form of the organization most likely to efficiently support the achievement of these goals, support the transformation of NHA into that new form, and build the institutional capacity and develop the improved funding options required to ensure the sustainability of the new organization. An essential first step in the institutional reform process will be for NHA to clearly chart its agenda, outline the capability improvements it must undertake to successfully pursue its agenda, analyze the legal and administrative regulatory constraints that may impede the pursuit of its agenda, and articulate an action plan to address each of the related issues.

31. TA will be provided to NHA under the Investment Program to develop a strategy for progressive federalizing of key provincial highways to establish an optimal national highway network and for the preparation of a network investment plan 2007–2011 for this network, drawing on the database being established in the National Transport Master Plan study for project appraisal. Delivery of the network/business plan together with an NHA institutional reform program and associated time-bound action plans is targeted for 31 January 2007 (Project milestone M3-1). Government endorsement of the plans/program and actions are expected by 30 June 2007 (Project milestone M3-2).

32. **Transparency and Accountability Policies.** Road users and taxpayers need to be given a role in reviewing the needs, priorities, and effectiveness of road system management. This will require improvements in NHA practices with regard to disclosure and public accountability. NHA will need to significantly increase transparency in all aspects of its operations from hiring staff to financial management. Supportive measures should include (i) basing programming, scheduling, and budgeting of rehabilitation and maintenance expenditures on rational criteria and clearly defined targets that maximize economic returns and allow performance to be judged; (ii) introducing a comprehensive program of community consultation and a process for incorporating the outcomes of this consultation in decision making; (iii) continually developing adequate and appropriate procurement guidelines and processes; (iv) establishing a website for registering grievances associated with the Investment Program; and (v) establishing audit processes using independent experts to monitor performance of all these aspects. NHA's Vigilance Department reports independently to the Ministry of Communications and the NHA chairperson. The department also regularly submits reports to the NHA executive board. NHA agreed to establish a website, maintained by the Vigilance Department, for registering complaints associated with the Investment Program. The website will be functioning by 30 June 2007 (Project milestone M3-3).

d. Road Safety on National Highway Network

33. Pakistan's road accident rates are among the highest in Asia due to a number of factors, including inadequate enforcement of safety regulations, an ineffective vehicle inspection system, and inadequate safety training. With increasing traffic and a growing national highway network, NHA is urgently required to establish clear primary portfolio responsibility for national highway safety program delivery and to establish a closer liaison with the National Highway and Motorway Police. The Investment Program will address the issue of road safety by supporting (i) design of a national highway safety program, and (ii) establishment of a road safety cell within NHA by 30 June 2007 (Project milestone M4-1). An improved robust measurement and quarterly reporting of road accidents and the causes and impacts of accidents as a part of a national road safety policy and targets are also required. Under the NWFP Road Development Sector and Connectivity Project (footnote 5), the National Highway and Motorway Police is undertaking a pilot safety study on sample sections of the national highway road in NWFP. The pilot study is expected to commence in November 2005

and results from it will be incorporated in the Investment Program. An action plan acceptable to ADB for institutionalizing the pilot study recommendations will be prepared by 30 June 2007 (Project milestone M4-2).

e. Sustainable Delivery of Road Maintenance

34. Maintenance of the highway network requires constant improvement in the utilization of technical expertise and maintenance techniques. NHA has implemented the Road Asset Management Directorate and to date it has achieved positive results in planning and implementing road maintenance activities. The Investment Program will support a comprehensive review of the options for delivery of the NHA maintenance programs. Increased options for effective outsourcing may be achieved by better packaging of maintenance and construction projects to foster the development of private sector provision. This could extend to multiyear comprehensive contracts for the maintenance of specified sections of the network to defined performance standards and the introduction of corridor maintenance schemes. Recent highway design maintenance (HDM) analysis based on the NHA maintenance program concluded that the average maintenance requirements will be approximately PRs6.3 billion per year for the next 5 years. NHA currently receives net toll revenues of approximately PRs4 billion per year; when combined with the Ministry of Finance maintenance grant of about PRs1 billion per year, NHA is almost self-sustaining in terms of maintenance financing for the next 5 years. For the remaining funding gap, NHA is currently discussing different proposals with the Ministry of Finance to ensure sustainable funding of the established road maintenance account. Likely funding services earmarked for the account include the goods and services tax levy imposed on fuel for road vehicles, collections from road tolls and weigh stations, right-of-way commercialization, billboards, and police fine collections. These proposals should be delivered by 30 June 2006 (Project milestone M5-1). Government endorsement of the maintenance plan and its underwriting of the funding are programmed for 30 June 2007 (Project milestone M5-2).

III. THE PROPOSED INVESTMENT PROGRAM

A. Impact and Outcome

35. The Investment Program is to advance policy reform in Pakistan to create an enabling environment for the efficient and sustainable development of the national highway network. It will also support growth in trade by improving regional connectivity on the Asian highway network and thereby contribute to economic growth and poverty reduction. The RSDF (Appendix 6) developed and agreed upon with NHA will serve as a plan for future lending to Pakistan's highway sector. The Investment Program is designed to achieve two specific objectives. The first is to improve transport efficiency by (i) facilitating adoption of a national transport policy, (ii) strengthening NHA performance in managing the national highway network, (iii) improving road safety, and (iv) improving road maintenance and road maintenance funding. The second objective is to increase private sector participation in the road sector by (i) increasing outsourcing of road works, and (ii) exploring opportunities for private operation of NHA assets and activities along its right-of-way. To realize these objectives, the Investment Program will comprise national highway improvements and institutional strengthening of NHA.

B. Outputs

36. The Government's 10-year National Highway Infrastructure Program ending 2014/15 will be implemented under the Investment Program by undertaking subprojects in three batches.

ADB's MFF will be used to finance the Investment Program. The first batch represents three sample subprojects for which detailed designs have been completed and advance preparation activities are substantially complete (paras. 38–40 and Appendix 7). The second batch comprises five subprojects for which detailed engineering designs and feasibility studies are currently in progress (Appendix 7). These subprojects are expected to be ready for submission to ADB during 2007. The third batch of subprojects will be identified during implementation of the Investment Program and is targeted for submission to ADB during 2009–2010. The policy reform component will be undertaken in two phases, the first phase (up to 2008) will focus on implementation of the agreed RSDF, and the second phase will cover the remainder of the investment program period.

37. The Investment Program will have two components:

- (i) **National highway improvement.** Highways of the Pakistan domestic transport system serving interprovincial traffic among Balochistan, NWFP, Punjab, and Sindh will be improved, along with selected national highways facilitating the movement of freight traffic with Iran and Afghanistan, and the seaports located at Karachi and Qasim in Sindh with Afghanistan and the central Asian republics via Torkham (in NWFP) and Chaman (in Balochistan). In addition, the Investment Program will provide vehicle parking and service facilities along the subproject highway corridors (paras. 38-43).
- (ii) **Institutional strengthening of NHA.** Assistance will be provided to facilitate finalization of an NTP, facilitate PPP transactions, and build institutional capacity in network/business planning, road safety, and road maintenance (para. 44).

1. National Highway Improvements

a. First Batch of Sample Subprojects

38. NHA has identified three subproject roads totaling 376 km that meet the agreed selection criteria (Appendix 8) and represent the typical geophysical, environmental, and social conditions throughout the highway network. NHA prepared the three sample subprojects and ADB staff consultants completed the due diligence. Sample subproject preparation involved a feasibility study; environmental, social, and resettlement assessments; detailed engineering; and preparation of bidding documents. The design approach and technical standards are in Supplementary Appendix A.

39. The sample subprojects comprise (i) N25: Hub–Uthal, widening and improving the Hub–Uthal section to 2-lane national standard road with 7.3 meter (m)-wide pavement and 3 m-wide shoulder (84.5 km); (ii) N50: Khanozai–Zhob, widening and improving the Khanozai–Zhob section to 2-lane national standard road with 7.3 m-wide pavement and 3 m-wide shoulder (255 km), including construction of the Muslim Bagh bypass; and (iii) N70: Multan–Muzaffargarh, expanding the existing 2-lane road between Multan and Muzaffargarh to 4-lane standard road with shoulder (20 km) and construction of a 4-lane bypass (16.5 km) to avoid the Muzaffargarh urban area.

40. The justification for selection of the three sample subprojects, namely (i) N25, Hub–Uthal, (ii) N50, Khanozai–Zhob, and (iii) N70, Multan–Muzaffargarh is as follows:

- (i) **N25: Hub–Uthal (84.5 km).** The Hub–Uthal section of N25 provides the only route from Karachi to the newly opened Makran Coastal Road, the 653 km Coastal Highway N10, which services the new deepwater port at Gwadar and connects to Gabd and the Iranian border. In the north, N25 connects to N40, which runs west to Iran via Taftan. On completion of this subproject, all but the 40 km Bela–Kararo section of N25 will have been upgraded to a 7.3 m carriageway. ADB is currently financing the upgrading of the Kalat–Quetta and Quetta–Chaman sections of N25 under the Balochistan Road Development Sector Project loan.¹⁶
- (ii) **N50: Khanozai–Zhob (255 km).** N50 is of considerable strategic importance, running parallel to the border with Afghanistan and being the closest national highway to the border. It provides by far the most direct route between Balochistan and the north and northeast of the country. It starts from the intersection with N25, at km711, some 26 km north of Quetta and 106 km south of the Afghan border crossing at Chaman. N50 runs east via the important local centers of Muslin Bagh, Qila Saifullah, Zhob, and Mughalkot, ending at an intersection with the Indus Highway N55 at D.I. Khan. The major east–west highway, the N70 starts from the N50 in Qila Saifullah, providing a direct connection to the Punjab via D.G. Khan and Multan. After the planned improvement of N50 and N70, these highways will be the main routes between Quetta in northern Balochistan and NWFP and/or Punjab, and will serve subregional traffic on the corridor from Iran, Afghanistan, and the Central Asian republics.
- (iii) **N70: Multan–Muzaffargarh (36.5 km).** The N70 runs west from the N5 at Multan to the N50 at Qila Saifullah, a distance of 441 km. It is the most direct route between southern Punjab and northern Balochistan, and onward to southern Afghanistan (via the N50/N25 to Chaman) and to Iran (via the N50/N40). It will also serve in the future as a subregional route between India, Afghanistan, and Iran. N70 passes through several important intermediate cities and towns, including Muzaffargarh, D.G. Khan, Bewata, and Loralai. Local traffic on the Multan–Muzaffargarh section is heavy, while the Multan–D.G. Khan section provides an important connection between the N5 and the Indus Highway N55, the two main north–south highways.

b. Second Batch of Subprojects

41. The second batch, comprising five subprojects totaling about 460 km of roads, will be studied using the selection criteria involving technical and economic feasibility, social assessment and resettlement, consideration for indigenous people, environmental considerations, stakeholder consultations, and availability of counterpart funds in coordination with the agreed selection criteria in Appendix 8.

¹⁶ ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Islamic Republic of Pakistan for the Balochistan Road Development Sector Project*. Manila (Loan 2019-PAK) and ADB. 2004. *Report and Recommendation of the President to the Board of Directors on Proposed Loans to the Islamic Republic of Pakistan for North-West Frontier Province Road Development Sector and Subregional Connectivity*. Manila (Loan Nos. 2103/2104-PAK).

c. Third Batch of Subprojects

42. Subprojects to be undertaken in the third batch will be identified and studied during implementation of the second batch subprojects.

43. The Investment Program will provide vehicle parking and service areas, strategically located along the project highway corridors serving domestic and subregional traffic in Pakistan. The component will include development of serviced parking areas and wayside facilities, and cover consulting services for design and supervision and civil works. The facilities to be provided include (i) paved parking, (ii) emergency repairs, (iii) restaurants, (iv) refueling, (v) prayer area, (vi) overnight accommodation, and (vii) emergency medical services. The facilities will be leased out to private operators on a long-term basis.

2. Institutional Strengthening of NHA

44. The Investment Program will undertake implementation of identified policy reform actions agreed with NHA and the Government (paras. 23–34). Areas identified for policy and institutional development include (i) formulation of an NTP, (ii) enhancement of PPP in road infrastructure development, (iii) institutional capacity building of NHA including network/business planning and transparency and accountability policies, (iv) national highway road safety, and (v) road maintenance. In addition, the implementation of a computerized management information system for daily traffic flow analysis will be undertaken as part of improvements for road operations. The policy reforms to be undertaken during the second phase (2009–2015) will include a review of the outcomes from the first phase, updating of the RSDF, and formulation of second generation reforms to be implemented during the second phase.

C. Special Features

1. Subregional Development

45. The majority of the project corridors form part of the Asian highway network and the trade corridors identified by the Central and South Asian Transport and Trade Forum. Together with ongoing and planned road projects in Afghanistan, the Investment Program supports subregional cooperation through physical and nonphysical improvements of critical sections of N25, N50, and N70, which all form part of the transport corridors for Afghanistan, Iran, and India. In addition to providing improved access to ports in southern Pakistan, the Investment Program will facilitate the economic and social development of the corridor areas through improved access and easier movement of people and goods; these help reduce poverty and support pro-poor economic growth.

2. Capacity Building for Environmental and Social Assessments

46. NHA lacks staff, expertise, and capacity to carry out environmental and social assessment requirements. To address these constraints, NHA has agreed to establish separate organization cells for these assessment activities. To assist NHA to fulfill the requirements, a program with actions to enhance in-house capacity will be developed and implemented under the Investment Program. A consultant team on environment and social development will be recruited as part of the project management office to help NHA prepare and implement the capacity-building measures.

3. Multitranche Financing Modality

47. Under the MFF, the amount and timing of financing requests will be at the discretion of the Government, subject to meeting the terms and conditions of the FFA, and be mainly determined by the progress achieved under preceding individual loans approved under the MFF and NHA's readiness for new subprojects. The MFF provides NHA with the confidence that financing of the agreed Investment Program is now undertaken with certainty and financial efficiency, because financing will only be made available when the projects are ready. As a result, only projects ready for implementation will be financed, thereby reducing borrowing costs and speeding up implementation.

D. Cost Estimates

48. The total cost of NHDP is \$2.3 billion, out of which the Investment Program is estimated at \$966.8 million equivalent, inclusive of taxes, duties, and interest and other charges on the loan during construction (Table 3; Appendix 9 provides details).

Table 3: Cost Estimates
(\$ million)

Item	Total
1. National Highway Improvements ^b	
1.1 Batch 1 Subprojects	207.4
1.2 Batch 2 Subprojects	288.2
1.3 Batch 3 Subprojects	439.5
1.4 Other Costs	5.1
2. Interest during Construction	22.6
3. Institutional Strengthening of National Highway Authority	4.0
Total^a - Investment Program	966.8
4. Other Projects to be undertaken by NHA	1,341.5
Total NHDP Program	2,308.3

^a In 2005 prices, inclusive of taxes and duties (\$47.6 million).

^b Including price contingency and 10% physical contingency.

Source: Asian Development Bank estimates.

E. Financing Plan

49. The Government has requested financing for up to an equivalent of \$770 million from ADB's ordinary capital resources to help finance the Investment Program. The Investment Program will be financed by utilizing the MFF¹⁷ under which separate multiple loans will be extended to finance a range of subprojects under the Investment Program subject to submission of related periodic financing requests (PFRs) by the Government. The Government and NHA have entered into a FFA with ADB. The FFA satisfies the requirements set forth in Appendix 4 of the *Pilot Financing Instruments and Modalities* (see footnote 17). The Government is required to comply with the FFA requirements. The Government intends to finance NHDP by submitting five PFRs by 31 December 2011. Pursuant to the FFA, the Government has submitted to ADB the first PFR in the amount of \$180 million. The first PFR is presented to the Board, together with the FFA. The investment capacity of NHA was determined by its financial capacity after

¹⁷ ADB. 2005. *Innovation and Efficiency Initiative: Pilot Financing Instruments and Modalities*. Manila (Doc. R194-05).

taking into consideration commitments to ongoing projects and future investment program. The ADB loans will finance civil works, consulting services, land and resettlement costs, project management, incremental costs, and interest and other charges on the loan during construction.

50. The proposed ADB loans will have an amortization period of 25 years, including a grace period of 5 years, with interest determined in accordance with ADB’s London interbank-offered rate (LIBOR)-based lending rate system. The Government has provided ADB with (i) the reasons for its decision to borrow under ADB’s LIBOR-based lending facility on the basis of these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB. The Government has the option to choose between eligible currencies and the interest rate regime for each loan. The specific terms of each loan will depend on the circumstances of the related PFR within the parameters of the LIBOR-based loan window.

51. In addition, the Government requested a loan of \$3.0 million equivalent from ADB’s Special Funds resources to finance the institutional strengthening component. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan and project agreements.

52. For all the loans, the Borrower will be Pakistan, which will pass on the proceeds of the loan to NHA, the Executing Agency, in local currency in accordance with the Government’s policies in this regard. The financing plan is in Table 4.

Table 4: Financing Plan for the NHDP
(\$ million)

Source	Total	Percent
Asian Development Bank: Ordinary Capital Resources	770.0	33.4
Asian Development Bank: Special Funds Resources	3.0	0.1
Government of Pakistan	193.8	8.4
Total Financing – Investment Program	966.8	
Government and other agencies	1,341.5	58.1
Total	2,308.3	100.0

Source: Asian Development Bank estimates.

F. Implementation Arrangements

1. Investment Program Management

53. NHA will act as the executing agency for the national highway improvement and institutional strengthening components of the Investment Program. An investment program coordinating committee, chaired by the NHA chairperson, will be responsible for monitoring the use of loan funds and overall implementation performance. The committee will meet at least quarterly. Two project management offices will be instituted: one for the institutional strengthening of NHA component and the second for implementation of the national highway improvements. Members of the investment program coordinating committee and the two project management offices, and the implementation arrangements are shown in Appendix 10. The policy formulation and coordination office will be headed by the NHA member (planning) and the

investment program management office by the NHA member (ADB-NHDSIP). The principal coordination officer reporting to the general manager (NHDSIP) has been appointed.

54. NHA will establish a PIU for each subproject. The PIU will be adequately staffed within 2 months of loan effectiveness or before the award of civil works contracts, whichever is earlier. Each PIU will be headed by a project director (at the director level) and in addition to NHA staffing, the unit will be complemented with an externally recruited construction supervision team. They will be assisted by deputy project directors for each civil works contract package. NHA has advanced project preparation activities by appointing project directors for the batch 1 subprojects. For subprojects involving land acquisition, resettlement activities, and handling of grievances filed by the public including project-affected people and nongovernment organizations, and environmental impacts, NHA will provide the necessary expertise from the construction supervision consultant team or from NHA staff resources. An accountant/administration specialist will be assigned to each PIU. Sufficient administrative authority will be delegated to the PIUs for effective and timely project implementation. The PIU implementation arrangements are in Appendix 11.

2. Implementation Schedule

55. The Investment Program will be implemented over 10 years, inclusive of procurement and preconstruction activities, and is expected to be completed by 30 June 2015. Under the national highways improvement component, civil works will be bid out in three batches. The first batch of subprojects is at an advanced project preparation stage, and mobilization of construction supervision consultants and civil works are expected to commence in March 2006 and June 2006 respectively. For batch 2 and 3 subprojects, NHA will develop detailed implementation plans at the time of the submission of the PFRs. The implementation schedule will allow for acquisition of land free from encumbrances; resettlement; and clearance of all utilities, trees, and any other obstructions from the land to be used for construction. For the policy reform component, implementation will be undertaken in two phases (para. 44). The implementation schedule is in Appendix 12.

3. Procurement

56. Procurement financed from the ADB loan will be done in accordance with ADB's *Guidelines for Procurement*. To ensure a competitive bidding process, international competitive bidding contract packages will be encouraged. Civil works contracts will be procured through international competitive bidding among prequalified bidders. Civil works contracts with an estimated value less than \$5 million will be procured using local competitive bidding. Supply contracts will use international shopping for contracts with an estimated value of \$100,000–\$500,000, and direct purchase arrangements for contracts of less than \$100,000. The Government agreed to include the relevant sections of ADB's *Anticorruption Policy*¹⁸ in all bidding and contract documents.

57. Subproject batches 1 and 2 involve nine international competitive bidding contract packages for road improvement civil works. The contract packaging takes into account the need for a balance between (i) minimizing administration by consolidating works in larger contracts, and (ii) designing package sizes that will enable international contractors to participate. Indicative contract packages are in Appendix 13. Determination of the remainder of the subprojects and accompanying civil works packages will be done during project implementation. Considering that the civil works are standard, and the works have been packaged to enable

¹⁸ ADB. 1998. *Anticorruption Policy*. Manila. Available at <http://www.adb.org/work/Policies/Anticorruption>.

bidders to prepare their proposals quickly, the period for submission of prequalification applications is 45 days and the bidding period 60 days.¹⁹

4. Advance Procurement Action and Retroactive Financing

58. ADB management approved (i) advance action for procurement of civil works and recruitment of consultants, and (ii) the request to seek ADB Board approval for retroactive financing for the PFRs under the MFF—up to 20% of the proceeds of the individual loans under the MFF—provided that expenditures are incurred in accordance with agreed procedures and during the 12 months before the signing of the corresponding individual loan agreement and loan effectiveness under the MFF. Retroactive financing is sought for eligible expenditures including land acquisition and resettlement costs, business opportunities seminars, incremental costs, consulting services, and civil works. The Government has been informed that approval of advance procurement action and retroactive financing does not in any way commit ADB to finance the subprojects.

5. Consulting Services

59. International and domestic consulting services will assist NHA in implementing the Investment Program. The terms of reference for all loan-financed consulting services will be subject to prior ADB approval. International consultants recruited as a consulting firm will be engaged using ADB's quality- and cost-based selection procedures according to ADB's *Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers*. For international consultants, recruitment will be done in accordance with ADB's *Guidelines on the Use of Consultants*, and for domestic consultants, arrangements satisfactory to ADB.

60. For the batch 1 and 2 subprojects, three ADB-financed consulting services packages will provide support for the bidding process and construction supervision of civil works for highway improvement. The consultants will help with construction supervision of the nine civil works packages covering the eight subprojects located in different areas in the country. Consulting services for batch 3 subprojects will be prepared during implementation of the Investment Program. Detailed engineering design and feasibility studies for the batch 2 and 3 subprojects will be undertaken by locally recruited consultants and financed from NHA resources. A summary of consulting service packages for batch 1 and 2 subprojects is in Appendix 14 and the outline terms of reference for consultants for construction supervision is in Supplementary Appendix B.

61. In addition to the recruitment of consultants through firms, NHA will engage individual experts as follows: (i) a locally based resettlement specialist to prepare resettlement plans for all subprojects; undertake land acquisition and resettlement activities; and conduct training of NHA staff for strengthening the capacity of overall planning and implementation of land acquisition and resettlement activities; (ii) an international social monitoring specialist for independent monitoring, evaluation, and reporting of the progress of activities associated with land acquisition and resettlement; (iii) international environment expert to oversee environmental compliance of ADB's *Environment Policy* (November 2002) and safeguard measures for all subprojects; and (iv) a contract specialist to assist NHA in the process associated with engaging consultants and procuring civil works. All domestic consultants will be engaged through arrangements satisfactory to ADB. Terms of reference for the three consultants in (i)–(iii) are shown in Supplementary Appendixes C, D, and E, respectively.

¹⁹ However, requests for extension from bidders will be favorably considered up to 60 days and 90 days, respectively.

62. For the institutional strengthening of NHA, international consulting services (financed from the Special Funds resources loan, para. 51) will be recruited to assist NHA in implementing policy reforms as agreed with NHA. ADB's quality- and cost-based selection procedures and ADB's *Guidelines on the Use of Consultants* (April 2002) will be used. The terms of reference are in Supplementary Appendix F. In addition, individual expertise including contract administration specialists and financial advisers, as required by NHA, will be recruited in accordance with arrangements acceptable to ADB.

6. Anticorruption Policy

63. ADB's *Anticorruption Policy* (1998) was explained to and discussed with the Government and NHA. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Investment Program. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and the bidding documents for the subprojects. In particular, all contracts financed by ADB in connection with the Investment Program will include provisions specifying the right of ADB to audit and examine the records and accounts of NHA and all contractors, suppliers, consultants, and other service providers as they relate to the Investment Program.

7. Disbursement Arrangements

64. Loan disbursements will be in accordance with ADB's *Loan Disbursement Handbook* (January 2001), and *Disbursement Guidelines for Disbursement Operations, LIBOR-Based Loan Products* (July 2002), as amended from time to time. Direct payment procedures will generally be used for large civil works contracts and consulting services. NHA will establish an imprest account for the Investment Program at the National Bank of Pakistan, with an initial advance equivalent to the estimated eligible project expenditures for the next 6 months or 10% of the loan amount, whichever is lower. The imprest account will be established, managed, and liquidated in accordance with ADB's *Loan Disbursement Handbook*, and detailed arrangements agreed to by the Government and ADB. Statement of expenditure procedures will be used to reimburse eligible expenditures, or to liquidate and replenish the imprest account for any individual payment under \$100,000.

8. Accounts, Audit, and Reports

a. Accounts and Audit

65. NHA and the PIUs will maintain separate project records and accounts adequate to identify the goods and services financed from the loan proceeds, financing resources received, expenditures incurred for the project, and use of local funds. These project accounts and related financial statements will be audited annually in accordance with sound auditing standards by an independent auditor acceptable to ADB. NHA will submit annual audited reports and related financial statements to ADB within 6 months after the end of each fiscal year. The audit of the imprest account and statement of expenditure will be carried out as part of the regular annual audit. The auditor's opinion of the examination of the imprest account and statement of expenditure should be separately set out in the auditor's report.

b. Reports

66. NHA will prepare and submit to ADB monthly and quarterly progress reports on investment program implementation, the form and content of which will be agreed with ADB. NHA will monitor project preparation and implementation in accordance with the implementation schedule, and will keep ADB informed of any significant deviations from the schedule. The quarterly report will summarize the information in the detailed reports, including basic data, utilization of funds, achievement of immediate development objectives, compliance with covenants, implementation progress, land acquisition, resettlement progress, and major issues and problems.

67. Within 3 months of physical completion of the subprojects, NHA will provide ADB with a project completion report providing a detailed evaluation of the project design, costs, contractors' and consultants' performance, social and economic impact, economic rate of return, and other details as may be requested by ADB. In addition, within 3 months of each loan closing date, a loan completion report is to be provided. At the end of the MFF period, a facility completion report is to be provided within 3 months.

9. Investment Program Performance Monitoring and Evaluation

68. NHA will establish a capability for systematic investment program performance monitoring and analysis throughout the life of the Investment Program, integrated with their management information system. Initially, a baseline for performance monitoring will be established and thereafter, surveys will be conducted annually. The scope of the survey, quantity and quality of data, and frequency for collection will be guided primarily by the project management's need for progressive rapid feedback on implementation status, as well as early warning of impending situations that might jeopardize attainment of the development objectives. The key indicators and assumptions outlined at the impact and outcome levels in the design framework (Appendix 1) will form the core of the data required for rapid assessment.

10. Investment Program Review

69. In addition to regular reviews by ADB staff, the individual loan agreements extended during the MFF period will include a requirement for a detailed midterm review for the respective three subproject batches. Two months prior to the midterm review, the Government will submit to ADB a detailed progress report on the progress of the Investment Program. Terms of reference for the midterm review will be included in the MFF administration memorandum to be prepared by ADB's inception mission for the Investment Program.

IV. INVESTMENT PROGRAM BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS

A. Economic Analysis and Sustainability

70. Economic analysis was performed by evaluating subproject investments considering capital and recurrent costs in addition to benefits derived from savings in road user costs and passenger time for the with- and without-project cases. The economic analysis was performed for the initial 20 years of project operation. The main quantifiable benefits of the subprojects are (i) savings on vehicle operating costs and passenger time for existing and diverting traffic, and (ii) savings for traffic generated by improved accessibility and distance savings. In addition, subregional benefits arise from improved connectivity and from upgrading the N50 to a through route.

71. The eight subprojects identified for batches 1 and 2 support reconstruction, improvement, and increasing the capacity of some 836 km of national highway. Of the eight subprojects identified, batch 1 comprising three sample subprojects with combined length 376 km has been evaluated. The three include (i) the southernmost 85 km section of N25 (Hub–Uthal), complementing ADB’s ongoing project on the northernmost section of the route (Kalat–Quetta–Chaman); (ii) 255 km of the key east–west N50 (Khanozai–Zhob) currently unsuitable for through traffic, necessitating a very long detour; and (iii) construction of a 2-lane dual carriageway for 36 km of N70 (Multan–Muzaffargarh), including an urgently required Muzaffargarh bypass. The three sample subproject sections are part of important interprovincial routes (i) Sindh–Balochistan, (ii) NWFP–Balochistan, and (iii) Punjab–Balochistan, respectively. They are also key subregional connectivity links (i) Pakistan–Afghanistan and on to the Central Asian republics, (ii) Iran and Afghanistan to the People’s Republic of China and India,; and (iii) Iran and Afghanistan–India.

72. The economic analysis shows that the three subprojects (batch 1) are viable, with economic internal rates of return of (i) N25—16.5%, (ii) N50—21.0%, and (iii) N70—37.8%. Their direct benefits primarily comprise reduced vehicle operating costs and passenger time savings. The three proposed bypasses (Muzaffargarh, Muslimbagh, and Zhob) will provide much needed relief for local communities heavily impacted by through traffic. During construction, employment opportunities will be created for thousands of workers and in the case of N50 in areas where little alternative employment is available, providing a substantial stimulus to local communities. The sample three subprojects will facilitate marketing of agricultural produce and improve people’s access to social services in poverty areas, while also contributing to regional trade between Afghanistan and Pakistan. Fruit and vegetable distribution from poverty-affected areas will be facilitated by the three subprojects. In the medium to long term, the three routes are expected to play leading roles as subregional connectors and trade facilitators, with widespread economic benefits for Pakistan, the subregion, and central Asia. Appendix 15 provides the economic analysis.

73. The financial sustainability of NHA and the NHDP was assessed by taking into account the financial capacity of NHA based upon past Government contributions to its investment program and projected Government contributions. NHA’s road maintenance program is adequately covered by Government contributions and toll receipts from sections of the national highway network. Overall, NHA is able to maintain financial sustainability of the Investment Program. The financial management assessment reveals that NHA’s overall system of financial internal control is reasonably satisfactory. However, the status of completion of auditing of financial accounts is behind schedule. NHA has agreed with the World Bank and ADB to appoint external auditors to clear the backlog with clearance of 2003/04 financial accounts by 30 January 2006.

B. Social Impacts

1. Poverty Reduction and Socioeconomic Impacts

74. The overall poverty levels in Balochistan and Punjab are reported at 39% and 30% respectively, 44% and 34% in rural areas and 30% and 24% in urban areas respectively. Poverty impact ratios were calculated by distributing vehicle operating costs and time benefits to beneficiary groups and estimating the share of the poor in each group, based on survey data. The poverty impact ratios of the batch 1 subprojects (N25, N50, N70) are estimated at 13%, 32%, and 33% respectively.

75. The batch 1 subprojects will create significant employment opportunities for skilled and unskilled labor during their implementation. Unskilled labor will be employed directly in road construction, rehabilitation, and maintenance; and indirectly in providing materials and services for contractors. The subprojects will generate approximately 26,000 person-months of unskilled labor employment, generally at higher wage rates than otherwise obtainable in the local job market. The N50 subproject will generate employment in areas where no other job opportunities exist. The subprojects' impact on poverty will be enhanced by encouraging contractors to engage local workers in subproject areas and to provide first priority to the poor and disadvantaged during construction. Long distance traffic diverting to the N50 highway will bring passing trade and tourism to some of the most disadvantaged areas of the country. The summary poverty reduction and social strategy is in Appendix 16. Social analysis for the sample subprojects revealed that the subprojects will contribute to better living standards for the poor, generate off-farm employment opportunities, reduce commuting times, and provide improved access to services (Supplementary Appendix G).

2. Gender

76. The Investment Program will benefit women by providing them with easier access to markets, better delivery of services, and improved access to better quality health care facilities and higher education. The Investment Program will ensure (i) civil work contracts include legally mandated provisions for health; sanitation; and appropriate working conditions, including accommodation, where appropriate, for construction workers at campsites during the construction period; and (ii) that civil works contractors comply with all applicable labor laws, including elimination of gender-differentiated wages. People (men and women) directly affected by the subprojects will be given priority for employment. Contractors must not vary the wages of men and women employed for work of equal value. A specific clause will be included in bidding documents, and compliance will be strictly monitored during implementation. Potential risks of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDs) and women/children trafficking threats may be aggravated by the increased connectivity of the project areas. NHA will employ qualified domestic consultants under construction supervision to address these issues through its mitigating measures.

3. Land Acquisition and Resettlement Aspects

77. The subprojects are to be developed with a view to avoid or minimize the need for land acquisition and involuntary resettlement. The construction of the project highways will largely follow the alignment within the existing right-of-way. Urban congestion points are being bypassed with new sections of road, for which land will have to be acquired. For the three batch 1 subprojects and associated bypasses (N25, N50, and N70), a full census for resettlement planning was conducted of all the affected people, land, and structures/assets on the right-of-way. In addition, a 20% socioeconomic sample survey was conducted. Batch 1 subprojects will require acquisition of approximately 105 hectares for the three national highways, and will likely affect about 606 households as a consequence of land acquisition. Widening and improvement will affect 145 structures (100 shops or small business enterprises, 35 residential houses, and 15 community structures). The estimated cost for land acquisition, compensation, implementation, and monitoring is approximately \$16.40 million equivalent. A summary resettlement plan is presented in Supplementary Appendix H. The entitlement matrix and an announcement on the availability of the resettlement plan in local and regional offices was published in the local newspaper on 30 June 2005; and copies of the resettlement plan were placed at local/union council offices, teshil headquarters offices, government schools, Deputy

District Officer Revenue's offices and NHA's regional offices at Multan and Quetta. NHA will distribute the summary in local language and English to those affected. The summary will be placed on the ADB website after loan approval. The complete plan will be publicly available at NHA, and at ADB's Pakistan Resident Mission. Batch 2, comprising five subprojects, and batch 3 subprojects will be designed using the criteria for the batch 1 three sample subprojects. The requirements of ADB's policy on involuntary resettlement²⁰ for preparing the Investment Program necessitated the preparation of a resettlement framework (Supplementary Appendix I) for all subprojects. A resettlement plan for batch 2 and 3 subprojects will be prepared and approved by NHA and submitted to ADB for approval.

4. Indigenous Peoples

78. The batch 1 subproject areas are each characterized by distinct population groups, languages, social organizations, and cultures that comprise their respective mainstream populations. These populations are all integrated into the cultural and economic mainstreams of their respective regional, provincial, and federal structures. No separate disadvantaged groups that differ from the dominant local population are likely to be adversely affected by the Investment Program. Thus preparation of an indigenous people's development plan is not required. Nonetheless, the Investment Program will have a monitoring and evaluation system that monitors adverse impacts on potentially vulnerable groups (households living below the recognized poverty line; households headed by women, the elderly, the disabled) and initiate measures to mitigate such adverse impacts through resettlement plans.

5. HIV/AIDS and Human Trafficking

79. According to the World Health Organization and Joint United Nations Program on HIV/AIDS (UNAIDS), Pakistan has a low prevalence but is a high-risk country for the spread of HIV infection. Considering the risk of possible presence of laborers not from the immediate project area for road construction works and long-distance truck drivers, NHA will employ qualified domestic consultants as part of the construction supervision contracts to conduct an information and education campaign on the risks of HIV/AIDS and women/children trafficking, targeting construction workers at campsites, truck drivers at truck stops, and local communities along project highways, particularly rural women. The consultants will work closely with the relevant district agencies and other existing networks dedicated to the prevention of HIV/AIDS and human trafficking.

C. Environmental Impact and Measures

80. The overall Investment Program is classified as environment category "A," however; the subprojects vary as "B" and "A" type activities. The environmental impacts of the batch 1 subprojects were assessed by undertaking an initial environmental impact assessment for (i) N25: Hub-Uthal and N50: Kuchlak-Zhob; and (ii) an environmental impact assessment (EIA) for N70: Multan-Muzaffargarh. The first two subprojects involve the widening and improvement of the existing road to 2-lane national standard road. The N70 subproject involves expanding the existing road to 4-lane national standard and construction of an approximately 15 km bypass. The studies found that the environmental impacts associated with these subprojects are mostly related to construction, such as increased dust, noise, volatile gas due to hot-mix plants, disruption of existing traffic movement, loss of roadside trees, and increased suspended solids in the water bodies. These environmental impacts are temporary and reversible, and the mitigation measures to minimize them are manageable. None of these subprojects will influence

²⁰ ADB. 1998. The Bank's Policy on Involuntary Resettlement. In *Handbook on Resettlement*. Appendix 1. Manila.

ecologically sensitive areas or will impinge on cultural or archaeological sites. However, the construction of a new bypass as part of N70 will affect a number of private properties, and therefore require land acquisition.

81. Although the environmental impacts associated with the three sample subprojects are insignificant and manageable, implementation of the environmental management plan (EMP) needs to be monitored continuously, and the semiannual report on EMP implementation submitted to ADB and relevant Government agencies. NHA will be responsible for overall implementation of the EMP and its updating, as well as for implementing the environmental monitoring plan. The contractor will be responsible for implementing the required mitigation measures during construction. Considering the wide range of NHA's responsibilities in addressing environmental concerns related to the Investment Program, a consultant will be hired to assist NHA in (i) ensuring that all necessary mitigation measures are included in the contract document for civil works, (ii) supervising and monitoring implementation of mitigation measures during construction, and (iii) implementing the EMP, environmental monitoring plan, and environmental assessment review procedure framework. The terms of reference for the consultant are outlined in Supplementary Appendix E. The environmental impact assessment of batch 2 and 3 subprojects will be prepared and reviewed by adopting the environmental assessment and review framework attached in Supplementary Appendix J. The summary environmental impact assessment incorporating the impact assessment studies for the batch 1 sample subprojects was submitted to the Board and disclosed to the public through ADB's website on 30 June 2005. The SEIA was circulated with title PAK: Proposed Subregional Transport Connectivity (Pakistan) Sector Project and through ADB's website, the change in title was informed to the public on 31 October 2005.

D. Investment Program Risks

82. To avoid the risk of the Investment Program not being sustainable due to inadequate maintenance, for each of the subproject road improvements, the Government will be required to enter into long-term operation and maintenance contracts, to be awarded to private contractors on the basis of competition. Implementation progress for the provincial road projects has been slower than anticipated. For Punjab,²¹ the provincial government, after much delay in ensuring compliance of bid documents and evaluation procedures in accordance with ADB procedures and guidelines, has finally appointed the project management consultants. For the Balochistan Road Project (footnote 16 above), implementation is progressing satisfactorily after the recruitment of project management consultants. Prequalification of civil works contractors have been completed and bid evaluation is in progress; civil works contracts are expected to be awarded by the end of 2005. For the NWFP Road Project (footnote 5 above), subsequent to initial delays in gaining approval of the Government's project pro forma document, the recruitment of the project management consultant and preparation of bid documents are at an advanced stage; civil works are expected to commence by mid-2006.

83. The risk of initial implementation delays as experienced in the NWFP project is being addressed by having NHA act as the executing agency for the Investment Program. NHA has substantial experience with implementing major national highways and motorway development projects in all provinces, and has additional legal powers to support project land acquisition and resettlement. For land acquisition and resettlement activities, delays will be minimized by augmenting NHA's capacity for land acquisition and resettlement by providing consulting

²¹ ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Islamic Republic of Pakistan for the Punjab Road Development Sector Project*. Manila (Loan 1928-PAK, for \$150 million).

services to support implementation of the resettlement plan. Due to the early appointment of the project directors, advance work has commenced in preparation of land acquisition activities. The risk of delays due to slow procurement activities is being addressed by (i) early ADB approval of batch 1 subproject documents for recruitment of project supervision consultants and bidding documents for civil works, (ii) early commencement of advance recruitment and advance procurement actions, (iii) a business opportunities seminar for international contractors to partake in civil works construction of batch 1 and 2 subprojects, (iv) two dedicated ADB workshops for NHA staff on ADB procurement procedures, (v) preparation for the early recruitment of a procurement adviser, and (vi) establishment of the project management offices and appointment of the principal coordinating officer and the project directors for the batch 1 subprojects. In addition, NHA has obtained internal Central Development Working Party approval of the project pro forma document, thereby ensuring early loan effectiveness.

84. The economic analysis of the batch 1 sample subprojects suggests no significant economic risks. Sensitivity tests and risk analysis show that the sample subprojects will be economically viable even under a combination of adverse scenarios. The risk of adverse social and environmental impacts has been addressed through the mitigation measures included in the resettlement plan, EIA, and EMP, and through associated conditions and assurances of the project loans. For the Investment Program, the subprojects will be required to comply with the eligibility criteria (Appendix 8) before becoming eligible for ADB financing.

85. Use of a new financing modality, over the 10-year implementation period, poses a risk for both Pakistan and ADB. ADB program teams must be on standby to offer advice and guide NHA on specific issues and problems pertaining to operations under the MFF. The Government and NHA are providing ADB with a set of warranties and representations on these fronts and may need real time support prior to making formal submission of PFRs under the MFF. ADB will handle this requirement in two ways. Firstly, it will strengthen the human resources of its Pakistan Resident Mission, and will ensure the development of additional capacity in procurement and safeguard compliance activities in the resident mission's operations. Secondly, headquarters staff responsible for the Investment Program will utilize the processing time savings to supervise and monitor the Investment Program. This is clearly one of the advantages of the MFF. NHA has the capacity and willingness to adhere to the framework facility understandings, but from time-to-time the parties in the field will require special assistance. ADB will position itself to give it.

86. The fiduciary risk under the Investment Program will be addressed mainly through the arrangements made in the areas of procurement, accounting, and reporting. Financial management, better budgeting, management and information system improvement, and strengthened financial planning will form part of the capacity-building program. The longer term objective, however, will be to leave in place systems, people, and procedures that can outlive the Investment Program itself. The Government and NHA are especially keen on this approach and accordingly will work with ADB toward this endeavor.

V. ASSURANCES

87. In addition to the standard assurances, the Government has given the following assurances, which are incorporated in the legal documents.

88. **Subproject Selection Criteria and Approval Process.** In selecting subprojects to be undertaken within the Investment Program, the criteria set forth in Appendix 8 will be adhered to.

89. **Land Acquisition and Resettlement.** NHA will ensure that land acquisition and resettlement proceed in accordance with applicable laws, and ADB's policy on involuntary resettlement (footnote 20), as well as in accordance with the resettlement framework and resettlement plans. The resettlement plan for batch 1 sample subprojects is set forth in Supplementary Appendix H, and the resettlement framework for batch 2 and batch 3 subprojects is set forth in Supplementary Appendix I.

90. NHA will (i) prepare and implement resettlement plans, in accordance with ADB's policy on involuntary resettlement (footnote 20) with the principles and procedures laid out in the resettlement framework and agreed between the Government and ADB prevailing (ii) disclose subproject resettlement plans to affected people in a form and language easily comprehensible to APs prior to submission to ADB for review and approval before award of the related civil works contracts or a similar milestone, (iii) monitor and submit the quarterly progress and completion reports on land acquisition and resettlement, (iv) appoint an independent monitoring expert prior to commencement of land acquisition and resettlement activities, and ensure that reports are simultaneously submitted to NHA and ADB.

91. The resettlement budget will be revised based on any new data collected, and any additional land acquisition and resettlement cost that may be required will be borne by the Borrower. If there is any change in the scope of the investment program subprojects, the resettlement plans will be revised and submitted for ADB approval prior to award of civil work contracts.

92. NHA will ensure that (i) compensation for land and structures will be provided to affected persons in full at replacement value including financial assistance/grants, if any, prior to taking possession of their assets; and that essential public infrastructure affected by land acquisition and resettlement are replaced appropriately and expeditiously; (ii) acquire or make available on a timely basis (i.e., strictly in accordance with the schedule as agreed under the related civil works contract) the land and rights in land, free from any encumbrances; and (iii) clear the utilities, trees, and any other obstruction from such land, on a timely basis (i.e., strictly in accordance with the schedule as agreed under the related civil works contracts), as required for construction activities relating to each section of the related civil works contract under the Investment Program.

93. **Environment.** NHA will implement mitigation measures and the EMP for the batch 1 three sample subprojects as described in the initial environmental examination, EIA, and summary EIA reports in accordance with the Government's and ADB's environment policies. NHA will implement the Environmental Assessment and Review Framework for the batch 2 and batch 3 subprojects.

94. NHA will obtain all necessary national and provincial environmental statutory clearances such as environmental clearance, forest clearance, and nonobjection certificates prior to commencing any civil work. NHA shall ensure that all conditions attached to these clearances will be implemented and monitored. NHA will develop and implement EMP and submit semiannual reports to ADB and relevant agencies on the implementation of the EMP, conditions of clearance for "A" category subprojects, and annual reports for "B" category subprojects as part of the progress report on investment program implementation.

95. NHA will report to ADB any change of road alignment or "as change" in a project component that occurs after the EIA report was approved by ADB. ADB's prior approval will be

required before putting into effect any such changes, where in the opinion of ADB, additional environmental assessment will be made. NHA will prepare a semiannual report on implementation of the EMP as part of the progress reports on investment program implementation. NHA will provide the contractors with the environmental assessment study reports including the EMP, and ensure that the contractors implement the mitigation measures and EMP as described in these reports. NHA will update the EMP for Muzaffargarh bypass as part of the detail engineering work and submit it to ADB for review prior to commencing civil works.

96. **HIV/AIDS and Human Trafficking.** NHA will ensure that civil works contracts under all the subprojects incorporate provisions requiring contractors to (i) carry out HIV/AIDS and women/children trafficking awareness and prevention programs for laborers; (ii) not employ or use children as laborers; and (iii) follow and implement legally mandated provisions on labor (including equal pay for equal work), health, safety, sanitation, and working conditions. NHA will engage qualified locally based consultants under construction supervision contracts to carry out the HIV/AIDS prevention and anti-trafficking component as agreed with ADB. The PIUs will supervise the consultants and work closely with Pakistan's National AIDS Control Program and other networks dedicated to preventing sexually transmitted infections, HIV/AIDS, and women/children trafficking; and to the empowerment of women and children.

97. **Road Maintenance.** NHA will develop in consultation with ADB and have its executive board approve a road maintenance plan for the fiscal years 2007/11 by 31 March 2007, which will, among other things, provide funding modalities to finance the maintenance of relevant roads acceptable to ADB.

98. **Policy Development and Investment Plan.** The Government will ensure that by 30 June 2007 or as agreed with ADB, an NTP, as endorsed by ADB, will have been promulgated.

99. By 30 June 2007, NHA will have established a fully functional road safety cell within it with a mandate, among other things, (i) to analyze road safety risks and their consequences, (ii) develop recommendations for reduction of risks in existing and to be constructed roads, and (iii) develop a program for raising the awareness of the risk factors. The phrase "fully functional" in the preceding sentence will mean that all core staff for the road safety cell will have been appointed and activities launched. The road safety cell will also have the capacity to undertake safety audits of road designs as well as prepare work zone safety plans.

100. NHA will establish a policy formulation and coordination office as soon as possible but no later than 90 days after the date of loan effectiveness to provide guidance and monitor the overall implementation of the agreed policy reforms.

101. The Government will ensure that by 30 June 2007, an updated NHA Investment Plan for fiscal years 2007/11, to be prepared in consultation with ADB is approved.

102. **Investment Program Management.** The Government, in order to ensure continuity, transparency, efficiency, and good management, will cause NHA to consult with ADB on all significant matters relating to management and implementation of the Investment Program. All matters relating to selection or appointment, or any changes to such selection or appointment, of any project director or deputy project director, will be duly notified to ADB along with the qualifications of the incumbents and the departing officers and reasons for such changes. The appointment of a project director or deputy project director cannot be terminated or terms of such appointment altered in any material way until the third anniversary of such appointment

unless a determination of gross dereliction of duty or such other serious misconduct is made through due process.

103. To provide an open channel for registering grievances of any type regarding NHA's management of the Investment Program, a dedicated website will be established. Such a dedicated website will be established to be available in English and Urdu, and provide an easy method for seeking redress of grievances. The website will be hosted by the Vigilance Committee. The Vigilance Committee will keep an accurate record of all grievances files and responses and other actions taken. The establishment of the website shall be widely publicized through all English and Urdu media. Each office of NHA and all offices of the NHA contractors will prominently display information on the website and ways to use it. The Vigilance Committee will report to the NHA Executive Board and to ADB every quarter on progress toward resolution of grievances filed through the website and any other means. The website will be maintained properly and in the event of any failure to keep it functional for more than 7 consecutive days, ADB will be promptly informed.

104. **Capacity Development.** The Government will cause NHA to accelerate recruitment of professional staff and reduce unfilled vacancies of approved posts as they stand on the date of loan effectiveness to no more than 10% of such approved posts for each department within 2 months of the loan effectiveness date, unless otherwise agreed with ADB, all posts of grade 16 and above will be considered professional posts for the purpose of this provision.

105. The Government will cause NHA to design, develop, and adopt a comprehensive training program, including management training, for enhancement of skills of all newly recruited and other staff so that they meet at least the minimum levels of competencies required for their positions. The Human Resources Department of NHA will be entrusted to undertake the requisite training needs analysis and based on such analysis a two-year- training calendar will be prepared by 30 June 2006 or as agreed with ADB, by the department showing the scope, length, and location of each training to be offered. An annual external evaluation of the training program will be carried out within 45 days of the training program of the calendar year.

106. **Institutional Reform and Development.** The Government will cause NHA to complete an institution reform program in consultation with ADB and begin execution of such plan by 30 June 2007. ADB will be periodically consulted on progress and direction of all reforms initiated under the aegis of this program.

107. The Government will cause NHA to prepare and install in consultation with ADB a financial management system. Such financial management system will include key performance indicators and monitoring and reporting mechanisms. Within 9 months of the implementation of such financial management system, an external evaluation of its robustness will be carried out. The report and recommendations of the external evaluation will be shared with ADB and the agreed recommendations will be duly adopted as promptly as possible.

108. **Labor Laws.** The Government will cause NHA to ensure that the civil works contractors comply with all applicable labor laws and regulations and do not employ child labor in the construction activities. The Government will cause NHA to encourage civil works contractors to hire women and minorities, including Gypsies wherever possible. The Government will ensure that NHA provides equal opportunity for women for road construction activities, as well as requires contractors to not differentiate wages between men and women for work of equal value. The Government, through NHA, will ensure that a specific clause to this effect is included in all relevant bidding documents, and compliance is strictly monitored and documented during

Investment Program implementation. Recognizing the challenges in recruitment of women for such employment, a reputable private organization will be appointed to independently monitor, develop suggestions and guidelines for improvement of performance in each of these areas and on a quarterly basis, and report on all such matters to ADB through NHA.

109. **Midterm Reviews.** A comprehensive midterm review, the timing to be determined in agreement with ADB and NHA for each batch of subprojects, will be undertaken jointly by ADB and NHA to review all aspects of project implementation, including procurement financing and scheduling matters.

110. **Performance Audit.** The Government will cause an annual performance audit for each of the subprojects of the Investment Program to be completed pursuant to the terms of reference to be developed by ADB. All costs incurred in connection with such performance audits will be paid out of the Investment Program funds.

111. **Condition for Effectiveness.** As an additional condition for effectiveness for the loan from ADB's Special Funds resources, the first ordinary operations loan under MFF will have become effective.

VI. RECOMMENDATIONS

112. I am satisfied that the proposed multitranche financing facility and proposed loan would comply with the Articles of Agreement of ADB, and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve:

- (i) the provision of loans under the multitranche financing facility in an aggregate principal amount not exceeding \$770,000,000 equivalent to the Islamic Republic of Pakistan for the National Highway Development Sector Investment Program from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's LIBOR-based lending facility, and such other terms and conditions as are substantially in accordance with those set forth in the Framework Financing Agreement presented to the Board; and
- (ii) the loan in various currencies equivalent to Special Drawing Rights 2,080,000 to the Islamic Republic of Pakistan for the National Highway Development Sector Investment Program, from ADB's Special Funds resources, with an interest charge at the rate of 1% per annum, during the grace period and 1.5% per annum thereafter; a term of 32 years, including grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Project Agreements presented to the Board.

Joseph Eichenberger
Vice-President (Operations 2)

16 November 2005

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
<p>Impact</p> <p>1. Improved and sustainable economic growth</p>	<p>1.1 Gross domestic product increases maintained on a sustainable basis</p> <p>1.2 Transport cost for goods and passenger reduced, thus increasing the efficiency of economic activities in Pakistan</p>	<ul style="list-style-type: none"> • Government economic statistics and reports • Transport surveys undertaken by National Highway Authority (NHA) • ADB project performance audit report 	<p>Assumption</p> <ul style="list-style-type: none"> • Continued Government commitment for upgrading of national highway network (Assumption) <p>Risk</p> <ul style="list-style-type: none"> • Continued political stability
<p>Outcome</p> <p>1. National Highway Network: Improve road sector efficiency on the main transport corridors in Pakistan.</p> <p>2. Institutional capacity building of NHA</p>	<p>1.1 Average travel time on the project highway sections for freight traffic reduced by 10%</p> <p>1.2 Systematic road network operation and maintenance sustained (i.e. IRI<4 “good standard”). From: 5.4 IRI To: 4.4 IRI (per World Bank National Highway Investment Project)</p> <p>1.3 Average unit transport cost on the project highway sections reduced by 10%</p> <p>1.4 Average unit fares/prices on the project highway sections reduced by 5%.</p> <p>2.1 Improvement of transport efficiency by</p> <ul style="list-style-type: none"> • Strengthening NHA to perform its core role of strategic management and planning of the national highway network • Enhancing public-private partnership (PPP) in provision of road transport infrastructure • Investing in priority sections of the network with focus on subregional connectivity 	<ul style="list-style-type: none"> • NHA traffic surveys on the project sections • Road network maintenance monitoring surveys conducted by NHA • Asian Development Bank (ADB) review missions • ADB project completion reports • Consultant’s final report • ADB review missions • NHA Policy Reform Office reports 	<p>Assumption</p> <ul style="list-style-type: none"> • Continued normal economic growth • Continued provision of counterpart funding <p>Risk</p> <ul style="list-style-type: none"> • Continuing political will to undertake policy and institutional reforms

Design Summary	Performance Targets and Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
<p>Outputs</p> <p>1. National Highway road network infrastructure and operations improved.</p> <p>2. National Highway Authority Institutional Strengthening</p>	<p>1.1 Construction supervision consultants mobilized as follows: Batch I: by 30 Jun 2006 Batch II: by 31 Dec 2008 Batch III: by 31 Dec 2010</p> <p>1.2 By 30 June 2010, batch 1, three sample subprojects (N25, N50, and N70) totaling 376 kilometers (km) are substantially completed.</p> <p>1.3 By 31 December 2012, approximately 460 km (batch 2) of national highway length is completed.</p> <p>1.4 By 31 December 2014, batch 3 subprojects are substantially completed</p> <p>2.1 By 30 June 2007, adoption of national transport policy by Cabinet (milestone: M1)</p> <p>2.2 By 31 July 2006, complete identification of PPP projects and financing plan 2007–2011 (milestone: M2-1)</p> <p>2.3 By 31 July 2008, prepare projects to the value of PRs60 billion for bidding (milestone: M2-2)</p> <p>2.4 By 31 January 2007, prepare NHA investment plan 2007-2001 (milestone: M3-1)</p> <p>2.5 By 30 June 2007, federal Government endorsement of NHA investment plan 2007–2001 (milestone: M3-2)</p> <p>2.6 By 30 June 2007, establish grievances website (milestone: M3-3)</p> <p>2.7 By 30 June 2007, establish road safety cell in NHA (milestone: M4-1).</p>	<ul style="list-style-type: none"> • Consultant's final report • ADB review mission • ADB project completion report • Resettlement monitoring reports • National transport policy document • PPP projects pipeline and financing plan • PPP projects pipeline • NHA Investment Plan 2007–2011 • NHA Investment Plan 2007–2011 endorsed by federal Government • Transparency and accountability policy document • Road safety cell in NHA 	<p>Assumption</p> <ul style="list-style-type: none"> • Sufficient number of experienced and skilled contractors available and willing to work in project areas <p>Risk</p> <ul style="list-style-type: none"> • Sustained Government and NHA commitment to policy reforms

Design Summary	Performance Targets and Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
2. National Highway Authority Institutional Strengthening (cont'd)	<p>2.8 By 30 June 2007, implementation of pilot study recommendations for national highway (milestone: M4-2)</p> <p>2.9 By 30 June 2006, complete road maintenance plan (2007–2011) and funding modality (milestone: M5-1)</p> <p>2.10 By 30 June 2007, federal Government endorses road maintenance plan and funding requirements (milestone: M5-2)</p> <p>2.11 By 30 June 2010, second generation reforms for implementation during remaining period of the Investment Program are agreed to by ADB and NHA/Government</p>	<ul style="list-style-type: none"> • National highway safety pilot study plan • 2007–2011 road maintenance and funding plan • Approved 2007–2011 road maintenance and funding plan • Updated policy reform position paper including recommendations • Continued monitoring during reviews of periodic financing requests 	
Activities with Milestones		Inputs	
<p>1. Implement Sample Subprojects</p> <p>1.1 Batch 1</p> <p>1.1.1 Civil works procurement (including land acquisition and resettlement) by 30 June 2006)</p> <p>1.1.2 Recruitment of consultant services by 31 March 2006)</p> <p>1.1.3 Completion of civil works by 30 September 2009)</p> <p>2.1 Batch 2)</p> <p>2.1.1 Civil works procurement (including land acquisition and resettlement) by 31 December 2006)</p> <p>2.1.2 Recruitment of consultant services by 30 September 2006)</p> <p>2.1.3 Completion of civil works by 30 June 2010)</p> <p>2.2 Batch 3)</p> <p>2.2.1 Civil works procurement (including land acquisition and resettlement) by 31 December 2010)</p> <p>2.2.2 Recruitment of consultant services by 31 December 2010)</p> <p>2.2.3 Completion of civil works by 30 September 2014)</p> <p>3. Other Activities</p> <p>3.1. Institutional Strengthening of National Highway Authority</p> <p>3.1.1 Recruitment of consultants by 30 June 2006)</p> <p>3.1.2 Consulting services by 30 September 2009)</p>		<p>) ADB: \$174.5 million</p> <p>) Government: \$43.63 million</p> <p>)</p> <p>) ADB: \$232.0 million</p> <p>) Government: \$58.0 million</p> <p>)</p> <p>) ADB: \$340.9 million</p> <p>) Government: \$85.2 million</p> <p>)</p> <p>) ADB: \$3.0 million</p> <p>) Government: \$1.0 million</p>	

ROAD SECTOR ANALYSIS

A. Road Network and Administration

1. Transport contributes about 10% of gross domestic product (GDP). Road transport is the dominant mode, accounting for 91% of passenger traffic and 96% of freight traffic. Road transport services are largely in the private sector, which handles some 95% of freight traffic, and is subject to strong competition. During the 1990s, the overall demand for road transport grew at 7–8% per year, compared with average gross domestic product growth of 4–5%. The number of registered motor vehicles in 2004 was 2.94 million (20 per 1,000 population), with a further 3.01 million motorcycles and rickshaws. The combined fleet is growing at 9% annually. The total length of the road network is some 250,000 kilometers (km), 60% of it paved. The national highway network comprises about 8,320 km of national highway and 710 km of motorways, and carries 75–80% of commercial traffic. The main domestic artery is concentrated along the 1,670 km Karachi–Lahore–Peshawar corridor. This serves 80% of the urban population and carries over 55% of intercity traffic. A detailed condition survey carried out in 2001 indicates that 50% of the national highway network was in poor to very poor condition. Some deteriorated sections are located on important interprovincial and subregional routes (N25, N50, and N70), connecting Pakistan with Afghanistan and providing access to southern ports.

2. The National Highway Authority (NHA) under the Ministry of Communications is responsible for the operation, maintenance, and development of the national highway system. It is an autonomous highway agency with a functional structure and decentralized implementation through regional provincial offices. The Asian Development Bank (ADB) and the World Bank have provided assistance¹ to reorganize and commercialize NHA, shifting its focus to a network operator and service provider role and strengthening financial management systems to improve governance. However, NHA has internal capacity constraints, such as limited in-house capability in strategic planning, project and asset management, and network operation. NHA, under the World Bank-financed National Highway Improvement Project, is incorporating on an institutional basis the use of modern road asset management and maintenance systems (including HDM-4) for operation and maintenance and integrating them in day-to-day operations.

3. In the past NHA suffered from poorly justified investments, began too many new projects, and did not pay sufficient attention to network conservation. The situation led to the deterioration of road conditions along some of the more heavily trafficked highway sections, caused project delays, increased project costs, and reduced the headroom for new high-priority initiatives as well as conservation of the network. Encouraged by ADB and the World Bank, NHA has reprioritized and reprogrammed the investment program with more attention and resources for conserving the national highway network. Thus, the federal Government and NHA have initiated a five-year PRs138 billion National Highway Development Plan covering rehabilitation, resurfacing, and improvement of some 9,000 km of the national highway network, based on a condition survey and a network-level prioritization study.

¹ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Islamic Republic of Pakistan for the Road Sector Development Program*. Manila (Loan 1891-PAK approved on 19 December 2001 for \$50 million) and World Bank-financed Highway Rehabilitation Project.

B. National Highway Revenues and Expenditures

4. The NHA Act of 1991 permits NHA to receive funds from various sources including loans and grants from the federal Government; income from tolls; foreign aid; grants and other receipts (lease money, fees, rentals, fines, etc.); as well as funds from floating bonds, shares, etc. At present, the bulk of NHA's receipts come as budgetary allocations from the federal government. These are received as (i) cash development loans from the Ministry of Finance for the Public Sector Development Program to fund capital development, (ii) annual maintenance grants from the Ministry of Communications to fund operation and maintenance expenditures, and (iii) annual establishment grants from the Ministry of Communications to cover NHA establishment costs (Table A2.1).

Table A2.1: Summary of NHA Annual Allocations and Expenditures by Category
(PRs million)

Fiscal Year	2003/04	2004/05	2005/06^a
Total Expenditures	19,254	18,059	21,244
Construction (PSDP)	17,347	14,382	15,963
Maintenance	825	900	1,200
Establishment Charges	32	39	44
Foreign Loans Repayment	1,050	2,738	4,037
Maintenance as % of Total Expenditures	4.2	4.9	5.6

NHA = National Highway Authority, PSDP = public sector development project.

^a Budget estimates.

Source: National Highway Authority.

5. Recently, NHA has increased its direct revenue as a result of the introduced fee-for-service concept. This has been achieved by expanding its toll network, revising toll rates, and promoting commercial use of its rights-of-way. Net revenues from toll collections and commercial use of right-of-way are credited to a dedicated road maintenance account, plus the annual Government maintenance grant. NHA is committed to periodically reviewing and modifying the structure and level of its road user charges to reflect the (i) extent of road use, (ii) damage caused to the road network by individual vehicle categories, and (iii) level of service provided. A summary of NHA direct receipts is shown in Table A2.2.

Table A2.2: Summary of NHA Receipts
(PRs million)

Fiscal Year	2003/04	2004/05
Gross Toll Revenue	3,358	3,679
Collection and Operation Charges	993	1,086
Net Toll Revenue	2,365	2,593
Other Receipts	790	868
Total Deployable Revenue	3,155	3,461

NHA = National Highway Authority.

Source: National Highway Authority.

6. The financial management assessment undertaken revealed that NHA's overall system of financial internal control is reasonably satisfactory. However, the status of completion of auditing of financial accounts is behind schedule. NHA has agreed with the World Bank and

ADB to appoint external auditors to clear the backlog with clearance of 2003/04 financial accounts by 30 January 2006.

C. Subregional Connectivity

7. Pakistan's location makes it ideally placed to act as a hub for subregional transport and to take advantage of the subregion's rapidly improving political situation for the development of transit and cross-border trade and commerce. Pakistan's road corridors offer the shortest route to the sea by several hundred km for landlocked Afghanistan, Central Asia, Xinjiang province of the People's Republic of China, and for parts of the Russian Federation. Moreover, Pakistan has traditionally been the bridge between east and west Asia; the recent improvement of relations with India and the opening of new transport links open up the eventual possibility of Iran/Afghanistan–India links through Pakistan, in addition to a wealth of cross-border opportunities. However, physical, institutional, and other constraints currently prevent Pakistan from taking full advantage of its location. The potential for increased trade through improved trade facilitation, rehabilitated transport links, efficient cross-border movements, and increased efficiency at ports is highly significant for the economy. Pakistan has an opportunity to play a catalytic role in the development of such transport initiatives, thereby enhancing subregional cooperation in addition to promoting its domestic development.

8. A period of substantial progress in subregional cooperation expected. For example in 2005 alone (i) Pakistan and Afghanistan have agreed to increase the number of border crossing points and to begin operating a number of cross-border bus services; (ii) Pakistan and India have agreed to the operation of bus services in Kashmir and to reopening cross-border rail links; and (iii) the People's Republic of China has agreed to support the further deepening of Gwadar port. All the countries in the subregion have expressed a political commitment to improved trading links. Rapidly expanding national economies will provide further impetus to this process.

9. Clearly, deepening subregional cooperation is a continuous process involving many stakeholders and not all the interests concerned necessarily support the process. Nevertheless, improving transport links and facilitating border crossing is an essential prerequisite and provides a catalyst for improving other aspects. With the evident political goodwill in place and growing pressure from consumers in the subregion for improved access to international markets, the stage is set for a transformation in the trading pattern, with particularly beneficial prospects for Pakistan.

D. Road Sector Issues

10. **Definition of National Highway Network.** The national highway network currently excludes many routes whose primary purpose is interprovincial. NHA and the provinces have proposed routes for conversion to national highways (federalizing), but the process is constrained by administrative and budget issues. A redefinition of the network is required, identifying key national corridors and accelerating federalization to optimize road investment.

11. **Road Infrastructure and Maintenance.** Based on assessments of road conditions, about half of the national highway network and a large proportion of the provincial road networks are in poor condition. Deterioration levels on provincial roads are relatively severe compared with those on national highways. The Government has initiated a program for rehabilitating priority highway sections with assistance from the World Bank and ADB in addition to Government resources. For the provincial highways and district roads, ADB is financing

sequenced interventions in each province to rehabilitate and improve road networks. To ensure sustainability, these projects also support policy and institutional reforms and capacity building for the road agencies. NHA receives Government resources that are supplemented by toll revenues. NHA's road maintenance fund, established in 2000, is financed by Government grants and through increasing toll revenues as the tolling operations are expanded throughout the national highway network. Annual revenues collected in 2004/2005 were about PRs3.6 billion.

12. NHA recognizes that increasingly greater emphasis and more spending on road maintenance will be necessary to preserve the national road infrastructure asset base. NHA has increased its spending on routine and periodic road maintenance; government grants for routine maintenance increased from PRs825 million in FY2003/04 to PRs900 million in FY2004/05, but further increases are necessary to reduce the backlog of maintenance. Latest estimates place the annual maintenance requirement to be approximately PRs6.3 billion. In addition to the annual government maintenance grants, NHA receives toll receipts and other sundry revenue from ROW activities which substantially covers the major maintenance programs. Maintenance is increasingly being contracted out to private civil works contractors. The ongoing expansion of the road network, growth in traffic volume, and increase of the road asset base indicate that increases in budget allocations for maintenance will be required.

13. **Vehicle Overloading.** Vehicle overloading is a major cause of premature pavement deterioration and an impediment to the sustainable development of the highway network. Overloading reduces the economic benefits of road projects and increases maintenance costs. A study by the National Transport Research Center² has shown that some 43% of vehicles exceed the legal 12-ton axle-load limit mandated by the Road Safety Act 2000. Two-axle trucks contribute most to overloading, which is increasing at about 2.6% annually. Although the proportion of two-axle trucks in the fleet is declining, they still account for over 50% of truck traffic. To prevent pavement damage, overloaded vehicles need to be monitored and axle-load control enforced by weigh stations using static and weigh-in-motion measuring devices. NHA is implementing a nationwide axle-load program with 30 weighbridges on national highways. The enforcement of rules needs to be strengthened.

14. **Road Safety.** Road traffic accidents result in over 10,000 fatalities per year (over 30 per 10,000 vehicles) and 150,000 injuries, high levels compared with Southeast Asia, although better than in Bangladesh and India.³ Road improvements increase the risk of severe accidents due to speeding. Without road safety initiatives, accidents will increase. Economic losses are estimated at over 2% of gross domestic product, although no centralized data collection and analysis of provincial traffic accidents and deaths is available. Accidents result from high speeds, lack of road safety measures, poor discipline and enforcement of rules, and poor condition of vehicles. Road safety audits are not conducted routinely for new and improved roads. The road safety problem is exacerbated by lack of awareness and poor knowledge of road safety matters among the general public and road users. National and provincial efforts and coordination are not concerted, and responsibilities and accountability among the institutions and provincial departments are unclear. Extensive efforts in education and training of drivers, coupled with awareness building, are required to address the high fatality rate. The Government's National Highway Safety Ordinance (September 2000) provides the legal basis

² National Transport Research Center. 1994. *Axle-Load Survey*. Islamabad.

³ Pakistan had 18.69 fatalities per 10,000 vehicles in 1992. This was lower than those for Bangladesh (85.58) and India (25.27) but higher than those for Southeast Asia (5–15 fatalities per 10,000 vehicles) and far above the countries with the lowest number of fatalities, such as the United Kingdom (1.60) and Japan (1.74). Source: ADB. 1995. *Regional Initiatives in Road Safety*. Manila.

for establishing the National Highway and Motorway Police (NHMP) under the federal Ministry of Communications. This measure expands the role of the very successful motorway police to the national highway system, in a phased manner.

15. To date, road safety initiatives have been confined to the motorways and national highways. Preliminary information from initiatives taken by NHMP shows that enforcement coupled with engineering improvements and vehicle monitoring has significantly reduced traffic accidents and deaths. NHMP has successfully installed systems to improve road safety along the motorways (412 km) and national highway N5 (1,760 km) in phases. NHMP services along the motorways include ambulances with paramedics, mobile workshops with mechanics, emergency telephones along the road, and briefing to commuters at entry points of motorways. They use modern traffic enforcement and emergency relief equipment such as laser guns, video radar, video cameras, rescue vans, and emergency signboards. Through effective training and proactive organizational reforms, NHMP has been able to achieve a highly motivated and dedicated team of officers at each patrol post, commanded by a chief patrol officer. The officers register violations without actually disturbing traffic as the documents and fines are not collected at the site. The successful performance of NHMP has been recognized and the plan is to expand its operations to cover the entire national highway network.

16. **Private Sector Participation.** A large investment in road infrastructure is needed to support accelerating economic growth, which is necessary to reduce poverty and unemployment. The existing resource base is inadequate to meet the road development needs, and private sector investment will be necessary to fill the resource gap. Although several initiatives, mostly at the national level, have been taken to attract private sector investments in the road sector, few were successful primarily because of lack of (i) an enunciated policy on private sector participation, (ii) appropriate institutional structures and processes, (iii) established systems and procedures, and (iv) capable staff. The capacity to promote infrastructure projects is limited. In addition, lack of financial expertise leads to difficulties in packaging projects that could be successfully offered for private sector financing. ADB is providing technical assistance for preparing a public-private infrastructure financing facility⁴ to help design appropriate mechanisms for accelerating infrastructure development by increasing private sector participation. Private investors have approached provincial authorities about investing in road development, but lack of policies and an enabling environment are major impediments. As part of policy reform and the institutional strengthening component, assistance needs to be provided to overcome barriers to private sector participation in road development.

17. The role of the private sector in road contracting and providing engineering services is fairly well developed. This could be increased by contracting out maintenance and gradually introducing network management and performance-based contracts for maintenance. NHA is pursuing opportunities for private sector participation in road infrastructure projects. Projects include the Lahore and Karachi bypasses, which are being prepared on a build-operate-transfer basis. NHA needs, however, to step up its efforts to increase private sector participation.

⁴ ADB. 2004. *Technical Assistance to the Islamic Republic of Pakistan for Facilitating Public Private Partnership Initiatives in National Highway Development*. Manila (TA 4508, approved on 20 December, for \$150,000).

NATIONAL HIGHWAY DEVELOPMENT PLAN (2005/2006 TO 2009/2010)
(PRs millions)

Project Name	National Highway	Estimated Cost 1 July 2005
1. Improvement Qila Saifullah-Loralai-Bewata ^b	N70	1,468
2. Multan-DGKhan-Sakhi Sarwar-Bewata (incl Muzaffargarh Bypass) ^a	N70	6,195
3. Kuchlak-Zhob ^a	N50	3,551
4. Dualization of Hasasanabdal-Abbottabad-Mansera ^b	N35	2,995
5. Improvement from Sukkur to start of Jacobabad ^b	N65	1,445
6. Improvement Sibi - Quetta Section	N65	1,595
7. Sibi - Nari Bank River	N65	895
8. Jhalkad-Chillas Road		1,245
9. KHH - Skardu Road (President Directive)		1,145
10. Sindh Coastal Highway (Thatta-Badin-Nagarparkar)		4,325
11. Rehabilitation and widening of existing road Lala Musa-Gulyana Thotha Rai Bahadur		55
12. Interchange of Kot Sarwar for Hafizabad		70
13. Larkana Bridge	N65	2,495
14. 2nd Bridge on Indu at Gazi Ghat	N70	495
15. Ghaggar Phatak Bridge to Kotri	N50	2,845
16. Improvement /Upgradation of Kohala-Muzafarabad		995
17. Muree-Kohala Road		1,000
18. Nowshera-Chakdara-Dir-Chitral	N45	1,600
19. Hub-Uthal ^a	N25	1,600
20. Hyderabad-Mirphukhas-Khokhropar		2,960
21. Mughalkot-Zhob Section ^b	N50	2,100
22. Tarnol-Fatejang-Kohat Road ^b	N80	4,400
23. Rehab/Improv/Widening of KKH		18,500
24. Land Acquisition for Lakpass Tunnel Project	N65	10
25. Land Acquisition for Addl. Carriageway of Lodhran-Khanewal Section	N50	10
26. Dhakpattan Bridge		520
27. Others		73,986
Subtotal		138,500
PPP Projects (see Appendix 4)		30,796
Total		169,296

^a Identified Batch 1 subprojects of Investment Program.

^b Identified Batch 2 subprojects of Investment Program.

Source: National Highway Authority estimates.

PROJECTS IDENTIFIED FOR PUBLIC PRIVATE PARTNERSHIP

Item	Amount (PRs millions)
1. Lakpass Tunnel	679
2. Rawalpindi Bypass	3,088
3. Additional Carriageway for Lodhran-Khanewal Section of N-5	1,500
4. Faisalabad - Multan Motorway M-4	20,000
5. Tarnol Interchange N-5	450
6. Peshawar Northern Bypass	3,045
7. Shadara Flyover N-5	2,034
Total	30,796

Source: National Highway Authority estimates.

EXTERNAL ASSISTANCE FOR THE ROAD SECTOR

Project	Funding Source	Amount (\$ million)	Year
Farm to Market Roads Project	ADB	38.00	1986
Second Farm to Market Roads Project	ADB	113.00	1990
Provincial Highways Project	ADB	165.00	1992
Flood Damage Restoration Project	ADB	78.00	1993
Sukkur Bridge Project	ADB	45.00	1994
Rural Access Roads Project	ADB	123.00	1996
Road Sector Development Program (Sindh)	ADB	200.00	2001
Punjab Road Development Sector Project	ADB	150.00	2002
Balochistan Road Development Sector Project	ADB	185.70	2003
NWFP Road Development Sector and Subregional Connectivity Project	ADB	301.20	2004
Subtotal		1,398.90	
Indus Highways, Phase I	JBIC	71.00	1989
Indus Highways, Phase II	JBIC	173.00	1991
Rural Roads Construction	JBIC	95.00	1993
Indus Highways, Phase IIB	JBIC	152.00	1993
Kohat Tunnel Construction (I)	JBIC	45.00	1994
Kohat Tunnel Construction (II)	JBIC	34.00	2001
Subtotal		570.00	
First Highway Project	World Bank	17.00	1964
Third Highway Project	World Bank	50.00	1980
Fourth Highway Project	World Bank	152.00	1987
Transport Sector Project	World Bank	184.00	1991
Karachi Port Modernization	World Bank	91.40	1992
Trade and Transport Facilitation	World Bank	3.00	2001
Highway Rehabilitation Project	World Bank	200.00	2003
Subtotal		697.40	
Total		2,666.30	

ADB = Asian Development Bank, JBIC = Japan Bank for International Cooperation, NWFP = North-West Frontier Province.

Source: Asian Development Bank.

SUMMARY INVESTMENT PROGRAM OF SUBPROJECTS

No.	Item	Length (km)	Preparation Status
A. Batch 1 Sample Subprojects			
1.	Hub–Uthal (N25) Rehabilitation/improvement	84.5	(i) ADB consultants and fact-finding mission visited site and traffic counts completed (ii) Social impact assessment completed (iii) Initial environmental examination completed (iv) Economic analysis done (v) Detailed design and costing substantially completed
2.	Multan–Muzaffargarh (N70) Additional carriageway and Muzaffargarh bypass	36.5	(i) ADB consultants and fact-finding mission visited site and traffic counts completed (ii) Detailed design substantially completed (iii) EIA completed (iv) Economic analysis completed (v) Social analysis completed
3.	Khanozai–Zhub (N50) Rehabilitation/improvement and Muslimbagh bypass	255.0	(i) Muslimbagh bypass alignment resolved (ii) ADB consultants and fact-finding mission visited site and traffic counts completed (iii) Initial environmental examination completed (iv) Social Impact analysis completed (v) Detailed design substantially completed
Total		376.0	
B. Batch 2 Subprojects			
1.	Zhub–Mughal Kot (N50) Rehabilitation/improvement including Zhub bypass	78.0	(i) ADB consultants and fact-finding mission visited site and traffic counts completed (ii) Initial environmental examination completed (iii) Social impact analysis substantially completed (iv) Detailed design ongoing
2.	Hasan Abdal–Manshera (N35) Improvement and additional carriageway	90.0	(i) Design works ongoing and to be completed by 31 December 2005 (ii) Other project preparation works will be carried out during implementation
3.	Sukkur–Jacobabad (N65) Rehabilitation/improvement	65.0	(i) Design works ongoing and to be completed by 31 December 2005 (ii) Other project preparation works will be carried out during investment program implementation
4.	Jand–Tarnol (N80) Rehabilitation/improvement	103.0	(i) Design works to start during investment program implementation (ii) Other project preparation works will be carried out during implementation
5.	Qila Saifullah–Wiagum Rud (N70) Improvement	124.0	(i) Design works to start during investment program implementation (ii) Other project preparation works will be carried out during implementation
Total		460.0	

ADB = Asian Development Bank, km = kilometer.
Source: ADB Mission.

SUBPROJECT REQUIREMENTS AND APPROVAL PROCEDURES

A. Subproject Requirements

1. The following are the requirements for each subproject:
 - (i) The subproject will be part of the 2005–2010 National Highway Development Plan (NHDP) and any subsequent changes thereafter, with priority given to the subregional connectivity corridors except as otherwise agreed to by the Asian Development Bank (ADB).
 - (ii) The subprojects will be technically sound, and a feasibility study and preliminary design will have been prepared. The National Highway Authority (NHA) will ensure that the detailed subproject report will be prepared within no more than 5 months of subproject approval. A road safety audit will be conducted during project design.
 - (iii) The subprojects will be economically feasible and financially sustainable, and their estimated economic internal rate of return equal to or higher than 12%, based on the economic analysis to be conducted in accordance with ADB's *Guidelines for the Economic Analysis of Projects* (1997).
 - (iv) Environmental screening in accordance with ADB's *Environmental Assessment Guidelines* (2003) will be conducted for all subprojects. The subprojects will not pass through or be within or less than 1 kilometer (km) from protected areas as designated by the Government, including sanctuaries or national parks. For each subproject, an environmental assessment report will be prepared, including an environmental management plan, in accordance with the environmental assessment and review framework.
 - (v) The subprojects will be socially sound and include measures to mitigate any possible social impacts. For each subproject, an initial poverty and social assessment will be conducted in accordance with ADB's *Guidelines on Initial Poverty and Social Assessment*.
 - (vi) Resettlement plans for the subprojects will be prepared in accordance with the resettlement framework and ADB's policy on involuntary resettlement.
 - (vii) If any indigenous peoples or scheduled tribes are likely to be affected significantly by a subproject, an indigenous people's development plan or special action will be prepared following the measures set forth in the indigenous people development framework.
 - (viii) All necessary federal and provincial government approvals will be obtained.
 - (ix) Sufficient Government counterpart funding will be allocated to implement the subprojects.

B. Procedures

2. Each subproject will be prepared and processed in accordance the following procedures:
 - (i) A feasibility study for subprojects will be conducted by consultants engaged by NHA, who will fill out checklists for initial poverty and social assessment, involuntary resettlement, indigenous people, and environmental screening. These documents will be sent for review to ADB, which may require revisions.
 - (ii) Upon completion of the detailed design, NHA will prepare and submit to ADB a summary appraisal report for each subproject, together with the required attachments, including a resettlement plan, environmental assessment, summary poverty reduction and social strategies, and indigenous people development plan or special action if required.
 - (iii) NHA will translate into the local language each subproject resettlement plan and disclose it to the affected people before submitting it to ADB. NHA will revise the resettlement plan if required, based on comments from the affected people and ADB.
 - (iv) NHA will disclose each subproject summary environmental assessment for “A” category projects to the public 120 days before submitting it to ADB.
 - (v) ADB will review the summary appraisal reports, together with the required attachments. If it finds that the subproject does not satisfy eligibility criteria and procedures, or does not comply with ADB's policies, ADB may advise NHA to modify the subprojects. In addition, NHA will prepare draft pro forma (PC1) reports and simultaneously forward them with the appraisal reports to ADB.
3. Based on ADB's approval, and subject to any modification and remedial measures required by ADB, NHA will implement the subprojects. NHA will ensure that ADB has access to all documents related to the subproject proposals and approval process. These documents should be kept for 5 years after approval.

C. Organizational Arrangements

4. NHA will appraise the subprojects, while ADB will advise NHA to comply with the eligibility criteria and procedures and to follow other relevant policies.
5. The project management office, assisted by the technical audit team (formed from experts within the project management office and NHA) will process the subprojects for quality control of subproject preparation and contract implementation. This team will review and examine all technical reports, including feasibility studies, preliminary design reports, environmental assessment reports, resettlement plans, and detailed design reports, to ensure that Government and ADB requirements are fully met.
6. The technical audit team will evaluate the viability of each subproject and prepare a summary appraisal report to be submitted to ADB for approval. This report will require clearance from the NHA chairperson, before it is submitted to ADB along with all necessary attachments.

DETAILED COST ESTIMATES AND FINANCING PLAN

(\$ million)

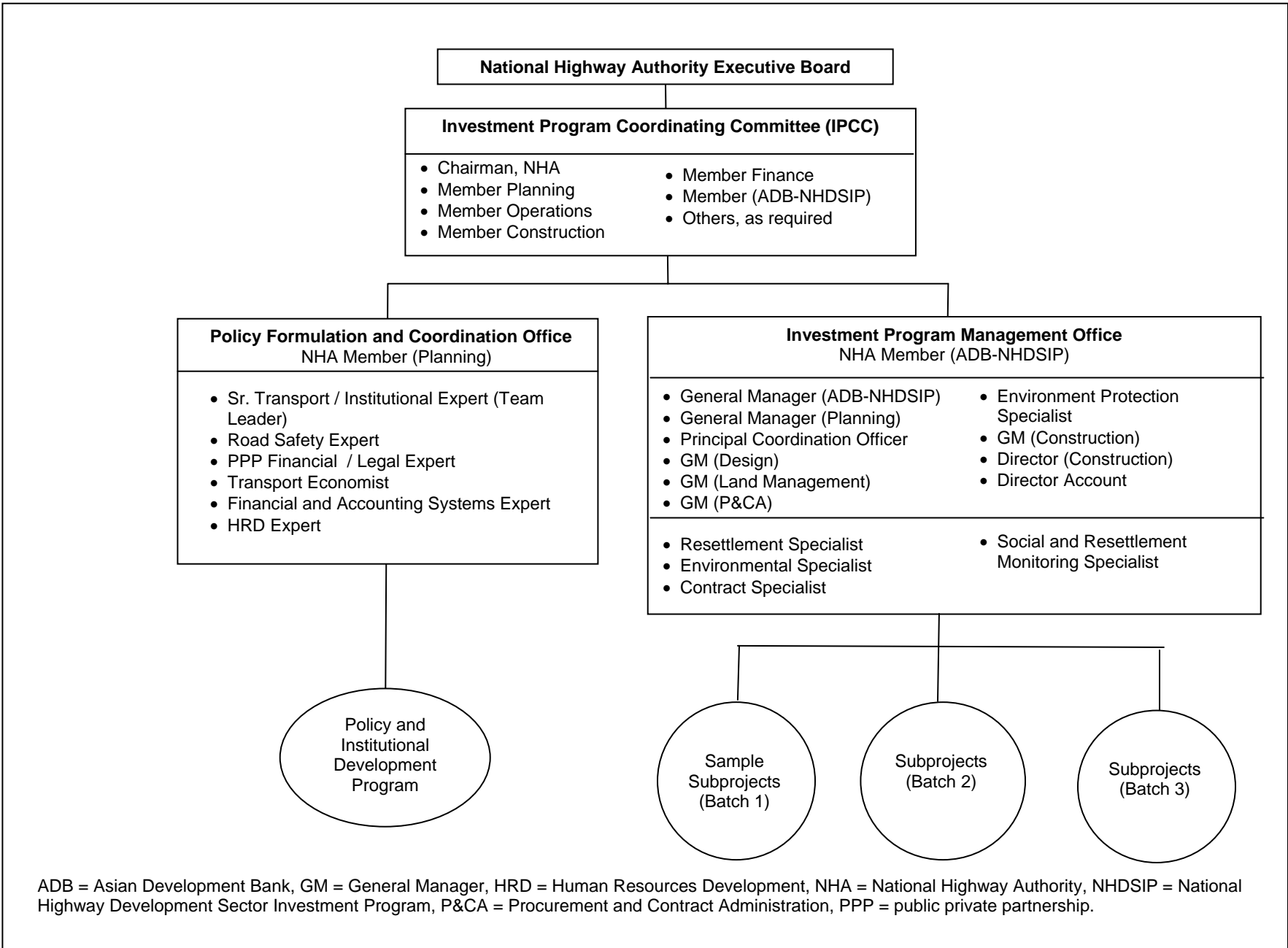
Item	FX	LC	Total Cost	ADB Financing (%)	ADB	Gov't
A. Base Cost						
1. National Highway Improvements						
a. Batch 1 Subprojects						
i. Land Acquisition and Resettlement	0.0	6.3	6.3	0	0.0	6.3
ii. Civil Works	96.8	64.5	161.3	79	127.4	33.9
iii. Environmental Management and Monitoring	0.5	0.3	0.8	78	0.6	0.2
iv. Consulting Services	4.5	4.8	9.3	100	9.3	0.0
v. Physical Contingency	9.2	10.1	19.3	100	19.3	0.0
vi. Price Contingency	2.7	7.7	10.4	100	10.4	0.0
Subtotal (a)	113.7	93.7	207.4	77	167.1	40.3
b. Batch 2 Subprojects						
i. Land Acquisition and Resettlement	0.0	8.8	8.8	0	0.0	8.8
ii. Civil Works	141.5	94.3	235.8	79	186.3	49.5
iii. Environmental Management and Monitoring	0.7	0.5	1.2	78	0.9	0.3
iv. Consulting Services	6.2	6.7	12.9	100	12.9	0.0
v. Physical Contingency	13.3	7.0	20.3	100	20.3	0.0
vi. Price Contingency	3.9	5.3	9.2	100	9.2	0.0
Subtotal (b)	165.6	122.6	288.2	77	229.6	58.6
c. Batch 3 Subprojects						
Subtotal (c)	262.7	175.8	439.5	79	345.6	93.9
d. Project Management Consulting Services	0.2	1.0	1.2	100	1.2	0.0
e. Incremental Cost	0.0	3.9	3.9	100	3.9	0.0
Subtotals	542.2	397.0	940.2	77	747.4	192.8
2. Institutional Strengthening	2.8	1.2	4.0	75	3.0	1.0
Total Base Cost	545.0	398.2	944.2	77	750.4	193.8
B. Interest during Construction	22.6	0.0	22.6	100	22.6	0.0
Total ^a	567.6	398.2	966.8	80	773.0	193.8

^a Includes duties and taxes totaling \$47.6 million.

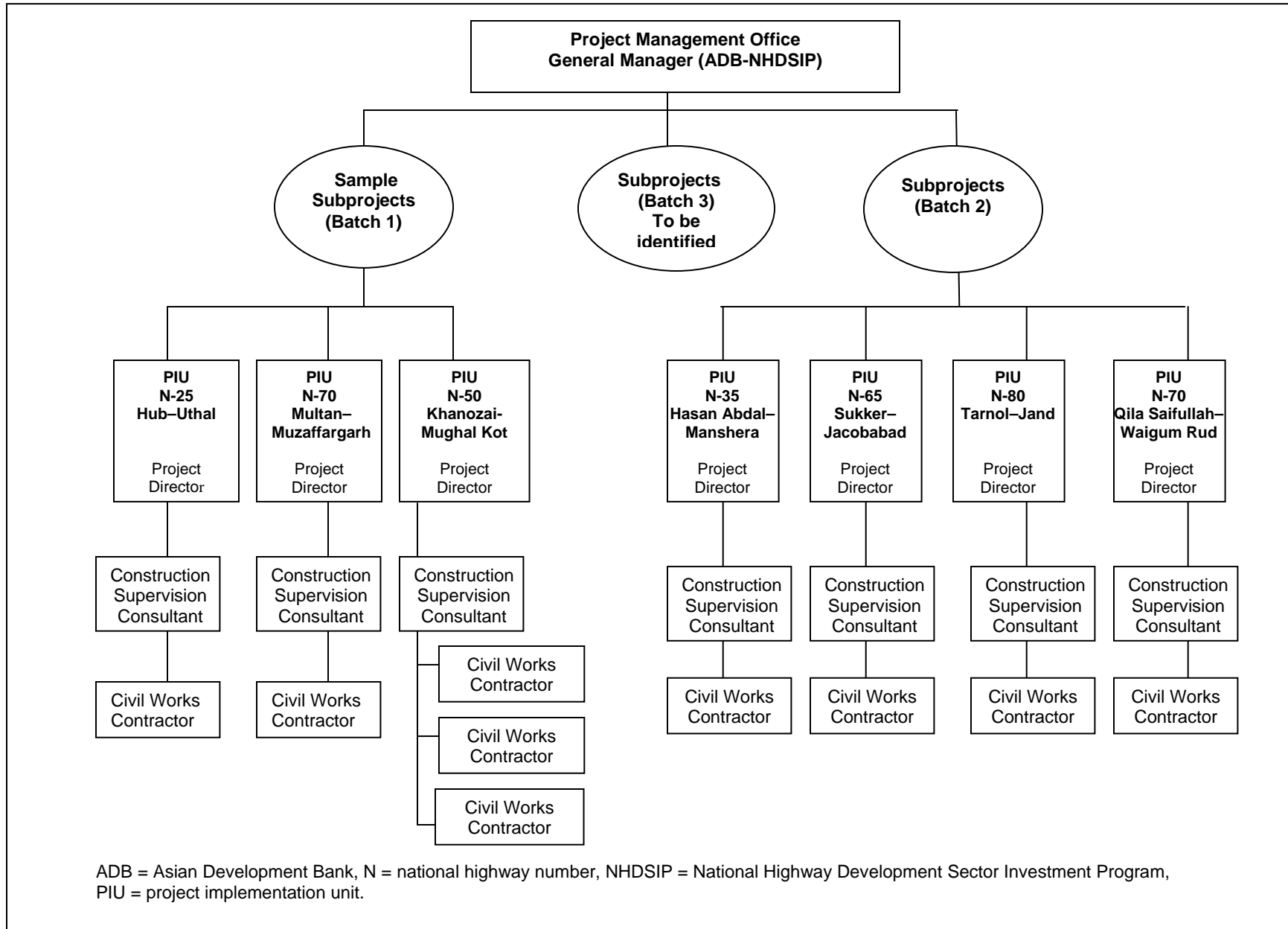
FX = foreign exchange, Gov't = government, LC = local currency.

Source: Asian Development Bank estimates.

Implementation Arrangements for the Investment Program



Implementation Arrangements for the National Highway Improvement Component



IMPLEMENTATION SCHEDULE

Project Component	2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015	
	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
1. National Highway Improvement																						
Sample Subprojects (Batch 1)																						
Detailed design																						
Land acquisition and resettlement																						
Supervision consultant selection																						
Civil works procurement																						
Construction																						
Subprojects (Batch 2)																						
Feasibility study / detailed design																						
Land acquisition and resettlement																						
Construction supervision																						
Civil works procurement																						
Construction																						
Subprojects (Batch 3)																						
Feasibility study / detailed design																						
Land acquisition and resettlement																						
Construction supervision																						
Civil works procurement																						
Construction																						
2. NHA Policy Reform and Institutional Strengthening																						
Consultant selection																						
Implementation																						

H1 = first half calendar year, H2 = second half calendar year, NHA = National Highway Authority.

INDICATIVE CIVIL WORKS CONTRACT PACKAGES

Package No.	Road Section	Approx. Length (km)	Construction Duration (months)
Sample Subprojects (Batch 1)			
ICB 1	N-25 Hub-Utal	84.5	24
ICB 2	N-70 Multan-Muzaffargarh	36.5	30
ICB 3A	N-50 Khanozai-Qila Saifullah	100.0	24
ICB 3B	N-50 Qila Saifullah-Zhob	155.0	24
Total		376.0	
Subprojects (Batch 2)			
ICB 3C	N-50 Zhob-Mughal Kot	78.0	24
ICB 4	N-35 Hasan Abdal-Manshera	90.0	36
ICB 5	N-65 Sukkur-Jacobabad	65.0	30
ICB 6	N-80 Tarnol-Jand N-80	103.0	36
ICB 7	N-70 Qila Saifullah-Waigum Rud	124.0	36
Total		460.0	

ICB = international competitive bidding, km = kilometer, N = national highway number.

Note: The costs include environmental mitigation costs.

Source: National Highway Authority estimates.

INDICATIVE CONSULTING SERVICES PACKAGES

Package No.	Type of Service	Target Agency Road Section	Number of Civil Works Contracts	Type of Consultant
Batch 1 and Batch 2 Subprojects				
CSP 1	Construction Supervision	N50 Muslimbagh–Zhob N50 Zhob–Mughal Kot N70 Qila Saifullah–Waigum Rud	4	International and domestic
CSP 2	Construction Supervision	N25 Hub–Uthal N70 Multan–Muzaffargarh N65 Sukkur–Jacobabad	3	International and domestic
CSP 3	Construction Supervision	N35 Hasan Abdal–Manshera N80 Tarnol–Jand	2	International and domestic
CSP 4	Sector Reform Institutional Strengthening	National Highway Authority	—	International and domestic

— = not available, CSP = construction supervision package, N = national highway number.
Source: Asian Development Bank estimates.

SUMMARY ECONOMIC ANALYSIS

A. Methodology

1. The batch 1 subprojects to be financed under the National Highway Development Sector Investment Program have been analyzed. The subprojects will reconstruct, improve, and increase the capacity of 340 kilometers (km) of national highway in Balochistan (N25 and N50) and of 36 km of national highway in Punjab (N70). The economic analysis examined the expected contribution of the sample subprojects to the provinces and country and to improving subregional connectivity.

2. The sample subprojects comprise existing paved roads in various states of repair. For the without-project case, the quality of service will gradually deteriorate. For the with-project case, routine and periodic maintenance is provided to maintain an international roughness index of 2.0–5.0 over the cycle from construction to overlay.

B. Road Condition and Traffic

3. **Road Condition.** A National Highway Authority (NHA) survey assessed the existing condition of the road sections in late-2004. The results are summarized in Table A15.1

Table A15.1: Road Condition Data

Road Section	Roughness Index (m/km)
N25 Hub–Uthal (84.5 km)	6.7
N50 Khanozai–Zhob (255 km)	6.5
N70 Multan–Muzaffargarh (36.2 km)	4.5

km = kilometer, m = meter.

Source: Zeeruk Engineering Associates.

4. **Traffic Volume.** Traffic surveys were carried out over 4 days on N70 and for 1 day at various locations on N25 and N50. Survey results were converted to average annual daily traffic applying daily and seasonal adjustment factors. Surveyed volume on N70 was adjusted to remove traffic temporarily diverting to the route due to construction work on the N5. The classified base year traffic data are given in Table A15.2.

Table A15.2: 2005 Traffic Data

Section	M/C	Car	Wagon	Bus	Trucks			Total
					2-axle	3-axle	>3-axle	
N25	64	147	186	175	368	188	195	1,324
N50 ^a	183	350	189	28	159	33	6	948
N70	633	3,973	2,812	608	2,580	1,291	874	12,771

M/C = motorcycle, N = national highway number.

^a Sections vary, distance-weighted average volume.

Source: National Highway Authority surveys.

5. **Traffic Growth Rate Assumptions.** The traffic growth rates (Table A15.3) are estimated based on an analysis of recent trends and forecasts of gross domestic product, population, and vehicle ownership for Pakistan.

Table A15.3: Traffic Growth Rates

Vehicle Type	Growth Rate (percent per annum)				
	2005–2009	2009–2014	2014–2019	2019–2024	2024–2028
Motorcycles	9.6	7.7	6.3	5.5	5.0
Cars	8.6	7.7	7.3	7.2	7.4
Buses	4.9	4.3	3.8	3.5	3.4
Agricultural Trucks	4.0	4.0	4.0	4.0	4.0
Other Trucks	7.1	6.4	6.1	5.7	5.7

Source: Asian Development Bank Consultants' report.

C. Costs

6. **Vehicle Operating Costs.** The economic cost of representative vehicles was developed by deducting taxes and duties from market prices, as given in Table A15.4. The assumed vehicle usage, typical values applied in studies in Pakistan, is given in Table A15.5.

Table A15.4: Representative Economic Cost of Vehicles

Vehicle	New Vehicle (PRs'000)	Fuel (PRs per liter)
Car	777	29.6
Wagon	1,784	29.6
Minibus	2,237	21.1
Bus	3,517	21.1
2-Axle Truck	3,179	21.1
3-Axle Truck	3,796	21.1

PRs = Pakistan rupees.

Source: National Engineering Services Pakistan (NESPAK).

Table A15.5: Vehicle Usage

Type	Hours Used Per Year	Life Years	Kilometers Per Year
Car	550	12	30,000
Wagon/Minibus	1,200	10	54,000
Bus	1,200	10	60,000
2-Axle Truck	1,750	10	70,000
3/3+ Axle Truck	1,750	12	70,000

Source: Asian Development Bank consultants.

7. **Road Construction and Maintenance Costs.** Project implementation costs were developed by the design consultants, applying 2005 unit rates for labor and materials. An implementation period of 2–3 years was assumed, varying by subproject. Maintenance costs were based on current NHA data, as given in Table A15.6.

Table A15.6: Maintenance Costs
(PRs/square meter)

Operation	Financial	Economic
Edge Repair	200.0	170.0
Patching	179.0	152.0
Crack Sealing	12.0	10.0
Overlay 50 millimeter	360.0	306.0

Source: Zeeruk Engineering Associates.

8. Financial costs, including taxes and duties, have been converted into economic costs using an average conversion factor of 0.87, with the exception of unskilled labor for which a shadow wage rate factor of 0.7 has been applied, as used in similar studies in Pakistan.

D. Benefits

9. The main quantifiable benefits of the subproject investments are (i) vehicle operating cost savings for existing traffic, and (ii) time savings for existing passengers; and for N50 (i) benefits to generated traffic and (ii) benefits to diverted traffic. The benefits to generated traffic are assumed to be half those for normal traffic. The value of time was taken as 25% of the average hourly wage rate. Vehicle operating cost benefits are conditional on adequate maintenance of the project roads over the study period. NHA developed a computerized maintenance database of the national highway network in 2005, based on condition surveys. A large increase in maintenance expenditure is planned and future maintenance will be programmed to achieve specific roughness targets. Time savings based on differences in operating speeds between the with- and without-project cases are escalated over the analysis period by the forecast increase in real per capita income. Generated and diverted traffic is particularly significant for N50, which with the project will become the through route for Balochistan–Punjab/North-West Frontier Province traffic, avoiding a lengthy detour. The large distance savings achieved will also benefit subregional traffic from Afghanistan and Iran to the People's Republic of China and India.

E. Results of Economic Evaluation and Sensitivity Analysis

10. **Economic Evaluation and Sensitivity Analysis.** The results of the economic analysis and sensitivity tests for changes in key input values are given in Tables A15.7

Table A15.7: Summary of EIRRs with Sensitivity Analysis
(%)

Road Section	EIRR	SA1	SA2	SA3	SA4
N25 Hub-Uthal	16.5	14.2	13.7	11.6	15.1
N50 Khanozai-Zhob	21.0	18.4	17.7	15.5	18.1
N70 Multan-Muzaffargarh	37.8	33.8	33.0	29.5	34.2

IRR = economic internal rate of return, N = national highway number, SA = sensitivity analysis.

Note: SA1: cost +20%, SA2: benefits -20%, SA3: cost + 20% & benefits -20%, SA4: Excluding time savings

Source: Asian Development Bank Consultants' report.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Contribution of the sector or subsector to reduce poverty in Pakistan:

Based on an analysis of the determinants of poverty, Pakistan's poverty reduction strategy explicitly recognizes that while economic growth and service delivery are crucial for poverty reduction, infrastructure development (aviation ports, railways, and roads) is critical as a catalyst for generating economic activity, employment, and accelerating growth; and for providing better integration of Pakistan's various provinces and regions. Increased trade with neighboring countries, facilitated among other means through highways, contributes to macroeconomic stability and reduced risks of shocks for the vulnerable poor.

Through consultations with local communities during poverty reduction strategy formulation, improved connectivity and access to markets through the provision of rural roads emerged as a key area and major priority for the poor; the provision of electricity was another. Rural urban linkages promoted through improvements in highways and roads contribute to supporting greater stability of income and increased nonfarm employment in rural areas where the majority of Pakistan's population and the poor reside. In support of the Government's poverty reduction strategy, ADB recognizes the potential of Pakistan's complementarity in resources and markets to its neighbors, and the potential to be gained from subregional cooperation through development of transportation links. Transportation is expected to contribute to macroeconomic growth and increase revenue to the national exchequer and indirectly lead to an increase in social spending that benefits the poor, who have a disproportionate interest in public social spending. In addition, improved accessibility helps reduce the urban rural gap and leads to increased economic activity generating off-farm employment for the poor. Yet macroeconomic growth in Pakistan does not necessarily translate into reducing the social gap.¹

B. Poverty Analysis

Poverty Classification : General intervention

What type of poverty analysis is needed?

The number of poor² in Pakistan has more than doubled in the 1990s, increasing to 45 million in 1999, of which 33 million or 73% (4.7 million households) are estimated to live in rural areas. Moreover, Pakistan ranks poorly in major social indicators: infant mortality in rural areas is 106 per 1,000 live births; malnutrition of children under 5 is 39%. An important feature of poverty in Pakistan is the clustering of incomes around the poverty line, as 40.5% of the nation's population falls in a narrow income range around this line. Approximately 12.2% of the total population may be classed as chronically or extremely poor. According to Social Policy Development Center assessment in the 1990s over a 10-year period the disposable income of the top income quintile grew in real terms by 23%, while that of the lowest quintile grew by 3%, increasing the gap between the rich and the poor.³ Factors that affect the livelihood of the poor include (i) low literacy; (ii) lack of access to appropriate technologies, government extension services, off-farm employment opportunities, and formal credit; (iii) social exclusion; (iv) gender discrimination; (v) exclusion from benefit of development projects; and (vi) poor service delivery.

Participatory rural appraisals (average 200 households in each sample subproject areas) conducted during social assessment surveys of the three sample subproject areas revealed that 50% of people in the catchments around the Hub-Uthal section of N25 live below the poverty line, as do 20% living around the Multan-Muzzafargarh sections of N70 and 30% of those in the communities around the Kuchlak-Zhob section of N50. During the participatory rural appraisal, the majority of the primary stakeholders acknowledged the positive impacts of the various elements of the project especially (i) the benefits due to better accessibility of social services and market places; and (ii) improved local employment prospects during project construction. The sample subprojects will create significant employment opportunities for skilled and unskilled labor during implementation. Unskilled labor will be employed directly in road construction, rehabilitation, and maintenance, and indirectly in providing materials and services for contractors. The sample subprojects will generate approximately 26,000 person-months of unskilled labor

¹ World Bank. 2002. *Pakistan - Poverty Assessment*. Washington DC.

² The official poverty line is estimated at 2,350 calories/day/adult, equivalent to Rs750 per month in 2002-PRSP. This was calculated at prices of 2000-2001. Estimated inflationary changes at prices of 2004 raise it to Rs850 per adult equivalent per month (Economic Survey of Pakistan 2004).

³ Social Policy Development Center Annual Report 2001.

employment, generally at higher wage rates than otherwise obtainable in the local job market. The N50 subproject will generate employment in areas where no other job opportunities exist. The subprojects' impact on poverty will be enhanced by encouraging contractors to engage local workers in subproject areas and to provide first priority to the poor and disadvantaged during construction. Long distance traffic diverting to the N50 will bring passing trade and tourism to some of the most disadvantaged areas of the country. The poverty impact ratios of the sample subprojects (N25, N50, N70) are estimated at 13, 32, and 33% respectively.

C. Participation Process

Is there a stakeholder analysis? Yes No
Is there a participation strategy? Yes No

Participation, consultation, and information dissemination were incorporated at several levels during planning of the three sample subprojects while (i) conducting poverty and social assessments in communities of proposed road catchments and in the immediate corridor of impact; (ii) validating principles on which entitlements for compensation and compensation levels specified in the entitlement matrix for the project are based; (iii) forming committees of people affected during the census surveys; and (iv) minimizing adverse impacts, exploring alternate alignments, and restricting design to adjust to available space.

The National Highway Authority (NHA) will ensure that essential participation focuses will be adhered to during implementation that will involve local groups in (i) preparing final compensation listings and individual claim files and in the payment of compensation for acquired land and loss of assets and livelihood; (ii) consultation with displaced APs and host communities on relocation options, if relocation is necessary; (iii) AP's and Citizens Liaison Committees (ACLC) that will also include representatives from NHA and serve as liaison with the Project for compensation matters, technical design and construction issues and participate in any grievance redress; and (iv) the M&E process during implementation of the Resettlement Plan.

D. Gender And Development

Women will be able to benefit from the Project through improved access to basic services such as health, education and clean water. Additional assistance to female headed households will be provided as part of the resettlement plan. There are potential risks of HIV/AIDs and women/children trafficking threats that may be aggravated by the increased connectivity of the project areas, however the project aims to address these issues through its' mitigating measures.

Has an output been prepared? Yes No

E. Social Safeguards and other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	Road improvement will occur mainly along existing right-of-way and will involve mainly strip acquisition where required. A total of 606 Affected Households have been identified by a census in all three sample subprojects where land will be acquired and livelihoods impacted ranging from eviction of squatter from their existing space to total demolition, partial damage and minor loss of permanent commercial and residential structures for which resettlement plan (Supplementary Appendix F) has been prepared. The land acquisition process will be conducted under the Land Acquisition Act 1894 (LAA), which provides for compensation to be paid, in a fair and transparent manner according to market value. Other losses will be compensated according to the entitlement matrix developed for the Project, in keeping with Pakistan laws and ADB safeguard policies, where the absence of a formal legal title is not a bar to compensation. For all additional subprojects that entail resettlement, the EA will prepare resettlement plan s on the basis of the resettlement framework (Supplementary Appendix G) prepared for the Project.	<input checked="" type="checkbox"/> Full <input type="checkbox"/> Short <input checked="" type="checkbox"/> RF prepared

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	The development of the roads will reduce transport costs and increase the mobility of the local population in the project areas.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	No job losses will occur. The project is expected to generate employment opportunities for local communities during the construction and maintenance phase.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	The project will benefit all the population groups and consequently not differentially or adversely affect any groups. It has been welcomed equally by all.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Considering the possible presence of laborers not from the immediate project area for road construction and long distance truck drivers, NHA will employ qualified domestic consultants under construction supervision to conduct information and education campaigns on the risks of HIV/AIDS and human trafficking, targeting construction workers at campsites, truck drivers at truck stops, and local communities along project highways, particularly rural women. The consultants will work closely with the relevant district agencies and other existing networks dedicated to the prevention of HIV/AIDS and human trafficking.</p> <p>Also NHA will ensure that the contracts for civil works require contractors: (i) not to employ or use children for labor; (ii) to disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (iii) to follow and implement legally mandated provisions on labor (including equal pay for equal work), health, safety, sanitation, and working conditions.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No