Validation Report
December 2017

Pakistan: National Highway Development Sector Investment Program

Reference Number: PVR-521
MFF Number: 0002
Project Number: 37559-023, 37559-033, and 37559-043
Loan Numbers: 2210, 2231 and 2540

Independent Evaluation ADB

Raising development impact through evaluation

ABBREVIATIONS

ADB	–	Asian Development Bank
DMF	–	design and monitoring framework
EIRR	–	economic internal rate of return
km	–	kilometer
LARP	–	land acquisition and resettlement plan
MFF	–	multitranche financing facility
MTDF	–	medium-term development framework
NHA	–	National Housing Authority
NHDP	–	National Highway Development Plan
NHDSIP	–	National Highway Development Sector Investment Program
NTP	–	national transport policy
PIU	–	project implementation unit
PPP	–	public–private partnership
RAMS	–	road asset management system

NOTE

In this report, "$" refers to US dollars.

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PROGRAM BASIC DATA

Project Number	37559-023, 37559-033, 37559-043	**PCR Circulation Date**	9 Sep 2016	
Loan Number	2210, 2231, 2540	**PCR Validation Date**	Dec 2017	
Program Name	**National Highway Development Sector Investment Program**			
Sector and Subsector	Transport	Road transport (non-urban)		
Strategic Agendas	Regional integration Inclusive economic growth			
Safeguard Categories	Environment		A	
	Involuntary Resettlement		A	
	Indigenous Peoples		C	
Country	Pakistan		**Approved** ($ million)	**Actual** ($ million)
ADB Financing ($ million)	**ADF:** 3.00	**Total Project Costs**	491.70	407.44
	OCR: 770.00	**Loan**	413.00	334.25
		2210	3.00	0.68
		SDR equivalent	(2.08)	
		2231	180.00	123.12
		2540	230.00	210.45
		Borrower	78.70	73.19
		2210	0.00	0.00
		2231	40.30	36.50
		2540	38.40	36.69
		Beneficiaries	0.00	0.00
		Others	0.00	0.00
Cofinancier		**Total Cofinancing**	0.00	0.00
Approval Date		**Effectiveness Date**		
2210	13 Dec 2005	2210	14 Sep 2006	27 July 2006
2231	15 Feb 2006	2231	14 Sep 2006	27 July 2006
2540	26 Aug 2009	2540	2 Oct 2009	21 Sep 2009
Signing Date		**Closing Date**		
2210	14 Jun 2006	2210	31 Dec 2010	31 Mar 2011
2231	14 Jun 2006	2231	31 Dec 2010	19 Apr 2011
2540	2 Sep 2009	2540	31 Dec 2013	31 Dec 2014
Project Officers		**Location**	**From**	**To**
	S. Mitra	ADB headquarters	Aug 2009	Apr 2011
	D. Pyo	ADB headquarters	Apr 2011	Dec 2014
IED Review				
Director	N. Subramaniam, Director, IESP			
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ADB = Asian Development Bank, ADF = Asian Development Fund, IED = Independent Evaluation Department, IESP = Sector and Project Division, OCR = ordinary capital resources, PCR = program completion report.

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I. PROJECT DESCRIPTION

A. Rationale

1. The report and recommendation of the President (RRP)[1] indicated that the Government of Pakistan's Medium-Term Development Framework (MTDF) 2005–2010[2] had set out key projects prioritizing national highway network development and upgrading. The importance of the transport sector to Pakistan's economy was the basis for the program rationale. In 2005, transport contributed 10% of gross domestic product (GDP) where road transport accounted for 91% of passenger and 96% of freight traffic. In the 1990s, the overall demand for road transport grew at 7% to 8% per year, compared with an average GDP growth of 4% to 5%. The number of registered motor vehicles was also growing at 9% annually. In 2005, the national highway network comprised 8,320 kilometers (km) of national highways and 710 km of motorways, carrying 75% to 80% of all national traffic. A detailed 2001 survey reporting on the condition of the national highway network indicated that 50% of the network was in poor to very poor condition. This included some deteriorated sections located in important interprovincial and subregional routes connecting Pakistan with Afghanistan, that provide access to the southern ports. During program preparation, it was assessed that increasing the capacity of the main domestic corridors could generally improve road network performance and contribute to transport efficiency. In turn, this would not only improve the returns and sustainability of existing and future road assets, but likewise facilitate economic activities that depend on road transport services and regional transport connectivity and trade. In addition, an improved access to economic opportunities and services could contribute to poverty reduction.

2. The National Highway Authority (NHA) converted the highways component of the MTDF into a National Highway Development Plan (NHDP) and estimated its required expenditure at $2.3 billion[3] until 2015. To help meet this financing requirement, the Asian Development Bank (ADB) was requested to provide assistance through a multitranche financing facility (MFF). The MFF modality was considered appropriate with the government having a well-defined long-term investment program and a variety of projects. The National Highway Development Sector Investment Program (NHDSIP) required a flexible investment facility that could combine financing with reforms and adherence to ADB and government guiding principles on safeguards, fiduciary oversight, procurement, disbursement, administration, monitoring, as well as evaluation and reporting.

3. This report validates the MFF completion report[4] of the NHDSIP Project 2 and the program as a whole. The program's investment projects were drawn from the government's NHDP. NHDSIP Project 1 was designed to reduce transport costs and travel times including relieving congestion in urban and industrial areas on N25 and N70. In 2009, ADB approved the second tranche of the MFF to finance Project 2, which involved road construction and improvements on two highway sections—N65 Sukkur–Jacobabad (65 km) and N50 Qila Saifullah–Zhob (155 km). The institutional strengthening project of the program was designed to meet NHA's needs. As reflected in the MTDF, the project's design included policy reform and institutional development to (i) formulate a national transport policy (NTP); (ii) enhance public–private partnership (PPP) in road infrastructure

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[1] ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility and Proposed Loan to the Islamic Republic of Pakistan for the National Highway Development Sector Investment Program*. Manila (MFF 0002-PAK).

[2] Government of Pakistan. 2004. *Medium-Term Development Framework 2005-2010*. Islamabad. (The Medium-Term Development Framework replaced the centralized 5-year economic plan system which had been in effect since 1955.)

[3] The NHDP was a component of the Government of Pakistan's MTDF 2005–2010 approved on 27 May 2005.

[4] ADB. 2016. *Completion Report: National Highway Development Sector Investment Program in Pakistan*. Manila (Loans 2210-PAK, 2231-PAK, and 2540-PAK).

development; (iii) build capacity in the NHA, including network, business planning, and strengthening of transparency and accountability policies; (iv) improve national highway road safety; and (v) upgrade road maintenance. This project also aimed to implement a computerized management information system for daily traffic flow analysis.

B. Expected Impacts, Outcomes, and Outputs

4. The RRP's design and monitoring framework (DMF) stated the program's intended impact as 'improved and sustainable economic growth'. The program outcomes were (i) improved road sector efficiency on the main transport corridors in Pakistan and (ii) institutional capacity building of NHA. Its targeted outputs were (i) improved operations of the National Highway road network infrastructure and (ii) institutional strengthening of the NHA. Project 1 adopted the program's intended impact, outcomes and outputs but Project 2 had a separate DMF with 2009 baselines for the indicators set in the RRP. For NHDSIP Project 2,[5] the intended impact was improved economic performance along N50 and N65 while the stated outcome was efficiency gain for road users along N50 and N65. The project outputs were (i) 225 km of National highway N50 and N65 rehabilitated and upgraded; and (ii) NHA strengthened.

C. Provision of Inputs

5. In December 2005, ADB approved the MFF for loans of up to $770 million to support the implementation of NHDSIP (footnote 1). Project 1 of NHDSIP, approved in February 2006, was financed by a loan of $180 million[6] for capital investments. ADB also approved a loan of $3 million equivalent in December 2005[7] to strengthen the institutional capacity of the NHA. This loan was to be implemented in parallel with Project 1.[8] A periodic financing request (PFR)[9] for the second tranche of the MFF, Project 2, was approved in August 2009 (footnote 4).

6. At appraisal, it was planned that Project 1 was to be completed in June 2010, after 5.5 years, with loan closure in December 2010. Despite start-up delays, all three civil works contracts were substantially completed on time and Project 1, along with the institutional strengthening component of the MFF implemented together with Project 1, was closed in April 2011. Although planning and design activities proceeded as scheduled, limited implementation progress occurred in the first 2 years. Factors contributing to the delay included (i) late mobilization of contractors and consultants; (ii) insufficient staffing at consultant and contractor offices; and (iii) slow implementation of the land acquisition and resettlement plan (LARP). It was also planned, at appraisal, that Project 2's physical works were to be completed by December 2012 with loan closing in June 2013. Subproject N50 had two extensions and reached physical completion, with a 10-month delay, in October 2013. Subproject N65 with three extensions was closed in September 2013, 9 months delayed from the originally envisioned physical completion date. Project 2 loan closure was in June 2015 which was a 3-year delay from the original schedule. The overall planned consultancy inputs totaled $18 million and the actual amount disbursed was

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[5] ADB. 2009. *Loan Agreement for National Highway Development Sector Investment Program Project 2 between the Islamic Republic of Pakistan and Asian Development Bank*. Manila (Loan 2540-PAK).

[6] ADB. 2006. *Loan Agreement for National Highway Development Sector Investment Program Project 1 between the Islamic Republic of Pakistan and Asian Development Bank*. Manila (Loan 2231-PAK).

[7] ADB. 2006. *Loan Agreement for National Highway Development Sector Investment Program Project between the Islamic Republic of Pakistan and Asian Development Bank*. Manila (Loan 2210-PAK).

[8] ADB. 2011. *Completion Report: Pakistan: National Highway Development Sector Investment Program Project 1 in Pakistan*. Manila (Loans 2210-PAK and 2231-PAK,).

[9] ADB. 2009. *Periodic Financing Request Report: National Highway Development Sector Investment Program in Pakistan (Tranche 2)*. Manila.

around 33% less from the planned amount, at $12.1 million.[10] In the case of the institutional strengthening project (footnote 7), the limited expenditure was due to the delay in the recruitment of consultants attributed to NHA's non-commitment to support the project.

7. The cost of Project 1 at appraisal was estimated at $220.3 million for a 376 km of road improvement. The actual project cost at loan closing was $159.6 million for 166 km. The cost of Project 2, also at appraisal, was estimated at $266.9 million for a 218 km of road improvement. However, the actual project cost at loan closing was $247.1 million for 218.6 km. The reasons for the increased civil works cost of Project 1 were (i) the Hub–Uthal road which entailed the construction of an additional carriageway rather than the originally planned rehabilitation and improvement of the existing road, the construction of additional bridges and culverts, provision of guide banks for bridge embankments, road profile elevation by 3.5 meters in problematic areas, slope protection, and the profile of new roads elevation to accommodate the culverts needed for diverting high flood discharges; and, (ii) the Multan–Muzzaffargarh road which required additional works including the construction of loops, U-turns, bus bays, slope protection works, retaining wall structures for bridges and pipe culverts. Savings in Project 2 were partially achieved by Project 1 contractors and supervision consultants following on to Project 2, with consequent enhanced effectiveness and the civil works cost at approximately $20 million less than appraised.

8. The overall investment program is classified as environment category A, but the subprojects vary with categories B and A type activities. Project 2 was also classified as environment category A; while subproject N65 was classified as category A and subproject N50 as category C for involuntary resettlement.

D. Implementation Arrangements

9. NHA was the overall executing agency. An investment program coordinating committee headed by the NHA chairperson was responsible for overall implementation performance. A project implementation unit (PIU) was set up for each subproject under Projects 1 and 2, and four PIUs operated from the concerned NHA provincial offices. PIUs were coordinated by NHA headquarters, where a general manager and a director supervise ADB-funded projects. NHA managed the institutional strengthening project directly through a policy formulation and coordination office. It also recruited a national policy coordinator to monitor the activities of the consultants.

10. There was full compliance with 30 of 36 Project 1 loan covenants and partial compliance with the remaining covenants. The partially complied covenants were (i) a policy formulation and coordination office was set up in the place of a covenanted PIU for the institutional strengthening component ; (ii) the government did not promulgate the NTP by loan closing, but support was continued through a TA;[11] (iii) a road safety cell within the NHA was not fully functional and support was also continued through the same TA (footnote 11); (iv) an NHA investment plan was prepared but before adoption it was superseded by the NHA Comprehensive Business Plan 2000–2020; (v) a full complement of professional posts was not achieved because suitable candidates were not available; and (vi) the NHA installed a financial management system subsequent to the project and at the time of program completion report (PCR) preparation no external evaluation had been undertaken.

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[10] Footnote 4, Appendix 2.

[11] ADB. 2015. *Technical Assistance to the Government of Pakistan for Enabling Economic Corridors through Sustainable Transport Sector Development*. Manila (TA 8990-PAK, $15.41 million, approved on 17 November, financed by the Government of the United Kingdom).

11. All 27 covenants in the loan agreement for Project 2 were complied with (footnote 4). The improved performance reflected the fact that Project 2 was a standard construction project with realistic covenants, while Project 1 included ambitious initial efforts, with related covenants, to promote NHA capacity and implement policy reforms in terms of improving NHA's capacity to manage projects during the program as well as the capacity of contractors and consultants continuing to Project 2.[12]

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

12. The PCR rated the program relevant. The intended outcomes were consistent with the government's NHDP[13] which was based on the government's MTDF and aimed to increase the capacity of the main domestic corridors to improve overall performance of the road network and contribute to transport efficiency. This approach and prioritization and the associated institution and capacity building loan, were aligned with the ADB's Country Partnership Strategy for Pakistan for 2004-2006.[14]

13. This validation finds that the appraisal estimates of $770 million for 836 km of roads was overambitious given the 10-year time frame and the acknowledged low capacity of the NHA at appraisal. The design of Project 1 underestimated the security constraints to project preparation and implementation, especially in Baluchistan, which contained the largest proportion of project roads. Appropriate risks and assumptions were not adequately recognized until the $230.00 million loan was approved (footnote 8). Despite this, the validation agrees with the PCR that the institutional strengthening component was highly responsive to the operational deficiencies of the NHA. The design of this component, however, was much weakened by NHA's lack of commitment thereby causing delays and changes in its terms of reference and missing performance targets.[15] Closer collaboration with the NHA prior to loan approval could have strengthened this component. Furthermore, this validation acknowledges that the NHA addressed deficiencies in investment planning during Project 1 though the implementation of a Road Asset Management System (RAMS) and a system of annual maintenance planning during Project 2.

14. The MFF, through the NHDP, provided highly appropriate support to the implementation of the MTDF. The MTDF was developed by the Economic Coordination Committee of the Ministry of Finance and the Planning Commission to integrate policy, planning and budgeting within a medium-term perspective. It further provided a resource envelope, broad policy priorities and a bottom-up estimate of the current and medium-term cost of existing national programs and activities as well as an iterative process of decision-making that reconciles these costs with

[12] Although the institutional strengthening project did not achieve all its outputs (such as the progressive federalizing of key provincial highways in establishing an optimal national highway network and road users and the taxpayers being given a role in reviewing the needs, priorities, and effectiveness of road system management), it did provide a basis for the continued strengthening of NHA's capacity and the partnership between the NHA and ADB.

[13] The Federal Government and NHA initiated a five-year PRs 138 billion National Highway Development Plan from June 2005 to October 2009 covering the rehabilitation, resurfacing, and improvement of some 9,000 km of the national highway network. The plan was based on a condition survey and a network-level prioritization study. The subprojects were also selected from this NHDP.

[14] ADB. 2003. *Country Strategy and Program Update: Pakistan for 2004–2006*. Manila.

[15] The implementation of the financial management system was not completed because the NHA revised the consultant's terms of reference and reduced the duration of the assignment to avoid duplication with a World Bank–financed project. The revised scope could not be completed due to non-availability of suitable experts and the road safety component was dropped because a suitable consultant could not be recruited. Although the activities and policy reforms, referenced from the road sector development framework continued on to subsequent investments, these do not confirm the relevance of this program's design.

available resources. The long-term nature of the investment program and the variety of subprojects required the flexibility that a MFF provides, given that it combines financing with reforms and adheres to the guiding principles of ADB and the government.

15. In summary, the validation recognizes that the intended outcomes were aligned with the country's development priorities and with ADB's country and sector strategies. Nonetheless, it finds that the program design was overly ambitious that consequently obliged a change in the scope of physical works to correct the design weakness. Inadequate attention was given to the low capacity of NHA at the time of appraisal and a longer timeframe for outcomes achievement would have been appropriate. Security constraints to implementation in Baluchistan were also underestimated. Although the validation agrees that the institutional strengthening component was highly responsive to the operational deficiencies of the NHA, this component was much weakened by NHA's lack of commitment. Despite its design flaws, the program is reaffirmed as relevant.

B. Effectiveness in Achieving Project Outcomes and Outputs

16. The PCR rated the program highly effective. It indicated that the program was designed to complete three road sections totaling 376 km in Project 1, a further 460 km of road sections in Project 2, with scope for later identification of a further batch of road subprojects for an envisaged Project 3. The PCR also indicated that the three projects and provision for their construction supervision comprised the four Output 1 indicators, of which three were partially achieved. The program delivered 166 km of road improvements in Project 1 and 218.6 km of road improvements in Project 2, for a total of 384.6 km of road constructed or improved in five civil works contracts. This represented 45% of the targeted road construction with a shortfall of 210 km in Project 1, and improvement output performance measured in km. Although the PCR notes that the total kilometers of road were less than anticipated at design, the roads were completed at high standards, with additional design features responding to hydrology, community needs, and changes in traffic forecasts. For this validation, these features cannot substitute for road length outputs not achieved. The failure to construct or improve more than half of the road length originally targeted is much more significant than the traffic count and time savings outcome achievements on the road lengths improved or constructed by the program.[16] The success of the road lengths constructed and improved in terms of efficiency gains for road users, rather points to the reduced effectiveness of the program in these terms because of the significant reduction in scope.

17. The institutional strengthening component of the program was assessed effective in the PCR. While lower than envisaged outcomes resulted from a delayed start and reduced inputs, some of the key outputs were achieved, notably those concerning PPPs and road maintenance. With a significant reduction in the scope of the physical works and limited achievements of the

[16] The traffic count and time savings outcome achievements on the road lengths improved or constructed by the program included (i) Average travel time on the project highway sections for freight traffic reduced by 10% was achieved and the average travel time savings are estimated to exceed 10%. Speeds of freight traffic on N50 also increased from 25 km/hr in 2009 to 70 km/hr in 2015. (ii) Systematic road network operation and maintenance sustained (i.e., IRI<4 "good standard") from 5.4 to 4.4 (per World Bank National Highway Investment Project) was achieved with per km IRI data for every km of each road averaged 3.49 by 2015. (iii) Average unit transport cost on the project highway sections reduced by 10% (P2 2009 baseline was PRs17.25/km freight, PRs14.10/km passenger was partly achieved with the average perceived road user costs for passenger vehicles (excluding motorcycles) with the project are 15– 20% lower than those in the without project scenario. (iv) The average unit fares/prices on the project highway sections reduced by 5% was assumed to be achieved. No data was available on fares and freight rates but as the market is competitive, cost reductions can be expected to be reflected in prices.

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institutional and capacity building outcome, an assessment of highly effective is not appropriate. The change in scope reduced the outcome to less than half of that originally approved by the Board. On the whole, considering the reduced outputs due to scope changes and limitations with regard to institutional and capacity building affecting outcomes, this validation rates the program effective.

C. Efficiency of Resource Use

18. The PCR rated the program highly efficient. It indicated a reevaluation of the project economic internal rate of return (EIRR) of Project 2 which showed that the EIRRs by road were 19.6% for subproject N50 and 25.9% for subproject N65, with an overall EIRR of 22.2%. The PCR noted that project returns far exceeded the 12% threshold and the project has remained economically viable. In Project 1, the EIRRs by road were 29.6% for subproject N25, 13.7% for subproject N59 and 16.3% for subproject N70, with an aggregate EIRR of 20%. Project 1 PCR assessed the project as efficient. Although the project's aggregate EIRR was 20%, the efficiency of the implementation process was constrained by cost overruns for the outputs delivered, even if the project did not require additional funding due to the reduction in scope.

19. In addition, the PCR for Project 1 assessed the institutional project as *less efficient*. Although the actual consultancy contract cost was less than the allocated amount, the project did not completely deliver the required outputs with weaknesses in process efficiency like NHA's rejection of the members of the project team that caused the delay at the start of the project. Other constraints included visa issuance problems, security concerns and the refusal of consultants to travel, limited resources to field suitable staff arising from the contractor's undervalued financial proposal, and NHA's alterations of the terms of reference of consultants. Other process weaknesses included delayed counterpart funding in some cases due to the prevailing difficult fiscal situation. In response to and for Project 2, the government requested ADB to increase its share of the civil works funding from 80% to 85%.

20. An overall program EIRR was not calculated, but the evaluations of EIRR performance undertaken for Projects 1 and 2 show the economic efficiency of the projects, especially Project 2. The methodology for EIRR reevaluation is considered by this validation to be appropriate. With solid sub-project and project EIRRs, the weight to be applied to process inefficiencies is much less and the inefficiencies are, to some extent, incorporated into the EIRR calculations. This reassessment of the efficiency rating in the PVR confirms the highly efficient rating in the PCR given that it is well above the 12% threshold required for this rating.

D. Preliminary Assessment of Sustainability

21. The PCR considers the overall program likely to be sustainable. Roads in poor or very poor condition went from 50% of the network in 2014–2015 to 30% in 2015–2016. In these two periods, roads with poor or very poor roughness dropped from 84% of the network to 52%.[17] Roughness data for the program roads showed that between 2 and 5 years after completion, the average roughness remains at around level 4 (good).[18] However, concerns about the significant shortage in funding for road maintenance remain.[19] At program closure, maintenance funds,

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[17] NHA Road Asset Management System (RAMS) data for 2014-2015 and 2015-2016.

[18] NHA measures the International Roughness Index (IRI) to evaluate the road network such that a newly completed asphaltic surface may have an IRI of 2, and a newly completed concrete surface may have an IRI of 3 (very good).

[19] A road maintenance account has been set up and is being replenished from toll fees and the government's annual maintenance grant. The NHA applies technically sound practice on RAM and determines maintenance needs every year. Despite these efforts, an estimated funding gap of about one half of the total road maintenance financing needs

including income from toll roads, traffic infringement fines and concessions, plus a government budget allocation, were estimated to be at around 50% of requirements. Related aspects of the financial sustainability, as well as the problem of truck overloading, have been taken up under the TA project in 2015 (footnote 11).

22. It is noted that the institutional strengthening project within the program did not achieve all its outputs. The outputs that were not achieved were picked up in subsequent investments and it is noted that NHA's capacity to manage projects improved during the program. Some of the achieved outputs were significant and important, such as development of a system of annual road maintenance planning, work contributing to a national transport plan, identification of investments suitable for PPPs, piloting of intelligent highway systems, and capacity building in bridge design. However, the confidence expressed in the sustainability of the project is largely based on the continuing work in associated projects, thus increasing uncertainty which makes the assessment of the program less than likely sustainable.

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

23. The PCR provided an impact assessment for the physical investment project, deeming it likely to be significant due to its contribution to an increase in economic activities in the project areas. There is no overall assessment of development impact in the PCR.

24. In terms of economic development, annual GDP growth for 2011–2015 averaged 3.9% and was forecast to average 4.9% for the period 2016–2020.[20] It is likewise acknowledged in the PCR that it is difficult to draw a clear link between national GDP growth and project impacts.

25. Transport cost reduction leading to increased efficiency of economic activities was achieved. Traffic counts on subproject road sections of the national roads in 2011 for Project 1 and assessments of reductions in travel time and cost for Project 2 in 2014 indicate overall traffic growth as well as reduction in travel time and increased freight speed.[21] These outcomes lead to the impacts sought in the project (i) supported by link roads provided by the provincial government; (ii) sections of N50 have seen land value increases up to tenfold, and; (iii) increased localized economic activity, such as numbers of hotels, petrol stations, and other facilities.

26. With upgrades of various links in the highway network being scheduled, the accomplishments of this program are contributing to a much wider program of national connectivity, e.g., Karachi port to Quetta, Quetta to Peshawar, and others. An unanticipated positive impact was also found with subproject N50 which the NHA considers to have contributed not only to the Baluchistan economy but also enhanced peace and security in the area. In all subproject areas, there have been visible growth in local businesses, especially services, i.e., refueling stations, shops, and restaurants.

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remains. Roads managed by the provincial governments are not yet subject to the same RAM practices as the NHA. NHA's financial state remains inadequate to attract resources to finance necessary road expenditures.

[20] IMF figures provided in the 2016 PCR but with no reference.

[21] The reduction in travel time and increased freight speed by road subproject were (i) for N25, traffic growth at an average annual rate of 38.1% from 2007 to completion; (ii) for N50 Muslim Bagh–Qila Saifullah, an average annual growth from 2007 was 23.9%; (iii) for N70, the average annual growth from 2007 was 11.1%; (iv) for N65, reduction in travel time from 2.5 hours to under 2 hours (20%) with increase in traffic from 4,816/day to 21,780/day (352%) and an increase in freight speed from 27 km/h to 34 km/h (26%); and, (v) for N50 Qila Saifullah–Zhob: an increase from 1,801 to 6,553 vehicle movements per day (264%) with increase in freight speed from 25 km/h to >55 km/h (120%).

27. Although this was one of the aims of the MTDF and NHDP, there is no reference to the impact of improved access to economic opportunities and services on poverty reduction. Further monitoring and evaluation of the project's impacts will be useful. This should include the monitoring of negative impacts that may develop, especially in the areas of road safety, extraction of natural resources, outward migration and incidents of HIV/AIDS and human trafficking. Although the PCR stated that the program benefits envisaged at appraisal were achieved, there was no assessment of the impact of the completion of only 45% of the planned road construction and the potential benefits if the road construction and improvements had been fully achieved (in km). Beneficiaries identified at original appraisal included direct users of road transport, among them are owners and operators of trucks and various categories of passenger vehicles, laborers, and those benefiting indirectly because they live in the immediate area of influence of the project improvements as well as those employed in project construction. There could be a significant diminution of the overall impact of the project with only 45% of the planned kilometers implemented. Similarly, assessments of reduction in road user costs have not compared overall savings as planned with the 100% achievement of road construction and improvement targets with the 45% of road targets completed. Even if poverty reduction was not used as an indicator in either DMF, the diminution of achieved outcomes and the linked economic growth impact, could have a bearing on the scale of poverty reduction.

28. The institutional strengthening project did not fully achieve its outcome and did not completely contribute to the achievement of the transport cost reduction impact. The program helped the government draft the NTP to assist in long-term planning, but it was not adopted. The road maintenance plan and the PPP policy framework had longer-term impacts with benefits sustained at least to program completion. The experience gained in safeguards implementation and other project training built the capacity within NHA, including the establishment of the Environment, Afforestation, Land and Social Wing (EALS), although ongoing support remains necessary. Despite road safety being an important issue in Pakistan, the related project component was not implemented. It was, however picked up by a more recent investment project. Moreover, Projects 1 and 2 provided positive institutional impacts, i.e., on-the-job training for NHA staff. This improved the project management capabilities of staff members and raised awareness on safeguard issues.

29. Subproject N50 involved acquisition with 355 compensation claims paid and 120 landowners unpaid mainly due to the issue of communal land, with an exact number of shareholders yet to be defined by the deputy commissioner of Qila Saifullah.[22] Subproject N70 experienced an increase in the number of affected persons (APs) during implementation due to the division of a single landholding between multiple heirs on the death of the owners. Some of those affected also lodged a complaint with ADB's Office of Special Project Facilitator (OSPF) for resolution. Since land acquisition issues were delaying construction work, the original LARP was later divided into sub-LARPs. All the APs, including the complainants, were fully compensated. The satisfaction survey of OSPF confirmed the resolution of outstanding issues.

30. The initial impact performance target makes it difficult to establish any link between the program's outcomes and GDP increase. Hence, it has not been included in this assessment. The project has contributed to reduced transport costs for goods and passengers and to the achievement of the intended impact of increased efficiency of economic activities. The program's impact is assessed satisfactory.

[22] Of the unpaid PRs 125 million, the NHA managed to pay another PRs 118 million to 99 landowners, leaving PRs 7.0 million in the deputy commissioner's account for payment to 21 shareholders once the issue of shares in the communal land acquired is resolved.

B. Performance of the Borrower and Executing Agency

31. The PCR assessed the performance of the borrower satisfactory. Counterpart funding was delayed in some cases due to the prevailing difficult fiscal situation. In response to this and for Project 2, the government asked ADB to increase its share of the civil works funding from 80% to 85%. NHA designs of project roads were used during appraisal and were upgraded by project consultants to make the roads more suited to actual traffic and hydrology but still within the cost estimates. On this basis, the NHA implemented the two investment projects within the given time frame and within the budget, albeit with reduction in the scope—total kilometers—envisaged at program appraisal. The NHA significantly improved network management and planning capability through the implementation of a Road Asset Management System (RAMS). This PVR considers the performance of the borrower satisfactory.

C. Performance of the Asian Development Bank and Cofinanciers

32. ADB's performance is found satisfactory in the PCR. ADB staff regularly reviewed progress, recommended actions and helped the NHA address institutional weaknesses and implementation issues. ADB fielded 42 consultation and review missions, a pre-project completion and a project completion mission for both Projects 1 and 2. All of these facilitated the provision of advice on project planning, procurement, construction management, contract administration, resolution of issues, compliance with covenants, social safeguards, environmental mitigation measures, RAMS, training, and PPPs. ADB's Pakistan Resident Mission also improved the implementation of the LARPs. The Pakistan Country Partnership Strategy (2009–2013)[23] committed ADB transport sector operations to further combined physical and nonphysical investments, including policy and operational reforms, strengthening institutional functions, and improving financial resource management and planning in the NHA. The ADB resident mission increased human resources for transport and resettlement (one international and one national for each), based in Islamabad, to closely work with the NHA. This validation finds the performance of the ADB satisfactory.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

33. This validation finds the program successful. Although the design was overly ambitious, the program was relevant given that the intended outcomes were aligned with the country's development priorities and with ADB's country and sector strategies. The program was effective despite the change in scope that reduced the outcome to less than half of what was originally approved by the Board. The program was highly efficient with positive EIRRs for both constituent projects. Although the process efficiency was weak, it was outweighed by the very high EIRRs. The program is assessed less than likely sustainable particularly because the availability of maintenance funding remains uncertain.

34. The use of MFF for the program financing brought several advantages. As a financing instrument, it was highly efficient in terms of preparing a second tranche during the first project and in avoiding the time and costs associated with the TA preparation and government approvals. It allowed for flexibility to defer a road section to a subsequent tranche rather than dropping it

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[23] ADB. 2009. *Country Partnership Strategy: Pakistan (2009-2013)*. Manila.

altogether, which in turn, provided greater responsiveness to the borrower's long-term investment program.

Overall Ratings

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
Relevance	Relevant	Relevant	
Effectiveness	Highly effective	Effective	The much-reduced outputs due to scope changes combined with limitations with regard to institutional and capacity building affected outcomes, the program is assessed effective.
Efficiency	Highly efficient	Highly efficient	
Sustainability	Likely to be sustainable	Less than likely sustainable	Concerns remain about maintenance funding shortages. Given that the sustainability of the project is largely based on continuing work in associated projects, this adds increased uncertainty which makes the assessment of the program less than likely sustainable.
Overall assessment	**Successful**	**Successful**	
Preliminary assessment of impact	Not rated	Satisfactory	
Borrower and executing agency	Satisfactory	Satisfactory	
Performance of ADB	Satisfactory	Satisfactory	
Quality of PCR		Less than satisfactory	Paras. 42 and 43.

ADB = Asian Development Bank, IED = Independent Evaluation Department, PCR = program completion report.
Source: Independent Evaluation Department.

B. Lessons

35. **Results framework and methodology-level lessons**: The lessons identified in the PCR suggest that the absence of baseline data and excessive number of targets in the original DMF was the result of inexperience with the MFF modality. The management of DMFs throughout the life of a MFF was a lesson to be learned but the lessons did not include the way in which baseline data was applied and targets designed. These topics were not new to project DMFs. It is also suggested that the overestimation of what the program could achieve is also a lesson to be learned and one which might be expected in a pioneer application of the MFF modality.

36. **Program/Project-level lessons**: The $770 million appraisal estimate for 836 km of roads was overambitious given the 10-year time frame and the acknowledged low capacity of the NHA at appraisal. Project 1 design underestimated the security constraints to project preparation and implementation especially in Baluchistan which contained the largest proportion of project roads. Appropriate risks and assumptions were not adequately recognized by ADB until Project 2.

37. The institutional strengthening component was highly responsive to the operational deficiencies of the NHA. The design of this component was much weakened by NHA's lack of commitment which caused delays and changes to the terms of reference and missed performance

targets. Closer collaboration with the NHA prior to loan approval could have strengthened this component.

38. Other specific project level lessons learned include land acquisition problems experienced by NHA. This required working with provincial governments which have legal responsibility for land matters and going through the difficult experiences in harmonizing national laws and ADB's policy for social safeguards. An independent consultant engaged under the institutional strengthening project in 2007 identified and presented these issues in a written report.[24]

C. Recommendations for Follow-Up

39. The PCR recommends that future monitoring include sufficient maintenance of program roads, attention to axle loads, and continuous development of NHA capacity in planning, policy, and project management. It is also recommended that the remaining unmet covenants, especially those relating to institutional strengthening and policy development which were largely picked up in subsequent projects and those relating to land acquisition with actions in place for resolution, should be waived. This validation agrees with these recommendations with more emphasis on continued support to NHA in applying ADB's land acquisition and resettlement policy. Moreover, further monitoring of funding for and maintenance of program roads, including attention to axle loads, are required.

40. This validation emphasizes that in addition to the PCR's recommendations, further monitoring and evaluation of the program's impacts will be useful and should include monitoring negative impacts that may develop, especially in the areas of road safety, extraction of natural resources, outward migration and incidents of HIV/AIDS and human trafficking.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

41. As noted in the PCR, the original DMF for the MFF had no baselines for the indicators and had an excessive number of targets. The impact indicators in the DMF are rather broad—an increase in Pakistan's GDP and a reduction in costs of goods and passenger transport in the country. GDP growth was 1.7% in 2009 and 3.8% in 2010 (Project 1), and 4.2% in 2015 (Project 2). This validation agrees that the project's contribution to these increases is difficult to quantify.

B. Comments on Project Completion Report Quality

42. The PCR is consistent with the guidelines[25] and the main text is consistent with the appendixes. As with the evaluation of Project 1, the PCR tends to diminish the fact that the output performance fell substantially short of the output target as given in the DMF. With a significant reduction in the scope of the physical works and limited achievements of the institutional and capacity building outputs and outcomes, an assessment of highly effective, as recommended in the PCR, is not appropriate. Similarly, although Project 1's EIRR of 20.0% and Project 2's EIRR of 22.2% indicated very high economic efficiency, process inefficiencies led to delayed starts, cost overruns, and substantially reduced scope. The impact of the reduction in scope on beneficiaries of all types, particularly those directly contributing to achievement of the economic growth target, is not explained. The PCR is also too optimistic about sustainability with the funding shortages for

[24] Takahashi, K. 2007. *Policy and Institutional Strengthening of National Highway Authority*. Islamabad.
[25] ADB. 2016. *Guidelines for the Evaluation of Public Sector Operations*. Manila.

maintenance and the reliance on work to be undertaken in associated projects rather than on the projects under review.

43. Safeguard issues and covenants are adequately covered in the PCR. For this innovative MFF program, more lessons could be expected but the lessons and recommendations for follow-up are of little value to the design of similar ADB and government projects. Hence, this PVR finds quality less than satisfactory.

C. Data Sources for Validation

44. This validation is based on reviews of the RRP for the overall multitranche financing facility (MFF) and for loans of up to $770 million to support the implementation of NHDSIP, Periodic Financing Request Report, Tranche 2 (footnote 9), PCR for Loans 2210, 2231, and 2540, PCR for Loans 2210 and 2231 (December 2011) NHDSIP-Project 1(footnote 8) (and associated PVR), back-to-office reports, loan review mission reports, internal memos and the government's PCR. Reference was also made to ADB Pakistan Country Strategy and Program Update 2004–2006, ADB Pakistan Country Partnership Strategy 2009–2013, and Pakistan's MTDF 2005–2010.

D. Recommendation for Independent Evaluation Department Follow-Up

45. No IED follow-up recommended.