

**ASIAN DEVELOPMENT BANK**

**COMPREHENSIVE NEEDS ASSESSMENT  
FOR  
REHABILITATION AND RECONSTRUCTION  
IN THE  
TRANSPORT SECTOR**

**AFGHANISTAN**

**August 2002**

## CURRENCY EQUIVALENTS

(as of 30 April 2002)

Currency Unit	-	Afghani (AFA)
AFA1.0	=	\$ 0.00003125
\$1.0	=	AFA32,000

## ABBREVIATIONS

ADB	-	Asian Development Bank
AACA	-	Afghan Assistance Coordination Authority
CNA	-	Comprehensive Needs Assessment
IAA	-	Interim Afghan Administration
ICAO	-	International Civil Aviation Organization
ILO	-	International Labor Organization
MCAT	-	Ministry of Civil Aviation and Tourism
MOT	-	Ministry of Transport
MPW	-	Ministry of Public Works
MRRD	-	Ministry of Reconstruction & Rural Development
NDF	-	National Development Framework
PNA	-	Preliminary Needs assessment
SIDA	-	Swedish International Development Coop Agency
SOEs	-	State Owned Enterprises
UNDP	-	United Nations Development Programme
WB	-	World Bank

## NOTES

- (i) The fiscal year (FY) of the Government ends on 21 March.
- (ii) In this report, "\$" refers to US Dollars.

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# AFGHANISTAN COMPREHENSIVE NEEDS ASSESSMENT

## TRANSPORT SECTOR

### I. EXECUTIVE SUMMARY

1. The development of infrastructure in Afghanistan was curtailed by the late 1970s due to successive conflict conditions that existed till very recently. Lack of resources and capacity prevented maintenance that led to major deterioration and in some cases loss of infrastructure. In a landlocked, country that relies essentially on surface and in some cases air transport, this poses a major constraint in recovery and development. The situation is compounded by lack of capacity of the Government institutions that are responsible for managing the transport infrastructure.

2. This comprehensive needs assessment (CNA) report follows the earlier joint donor efforts, undertaken in December 2001 – January 2002 for preliminary assessment of needs and largely reflects the findings of the joint donors mission in March 2002 for a more comprehensive assessment of the transport sector. The CNA report benefited from the guidelines provided in the Afghan National Development Framework, and was prepared in close consultation with the Afghan Assistance Coordination Authority (AACA), the Ministry of Public Works, Ministry of Transport, Ministry of Civil Aviation and Tourism and Ministry of Reconstruction and Rural Development.

3. The report includes input from the staff consultants who undertook condition survey of a large section of the primary road network consisting of the Kabul-Kandahar-Herat-Mazar Sharif ring road and international links and reviewed the existing institutions in the transport sector. Security conditions and other constraints restricted accessibility to a large part of the country and prevented detailed assessment, particularly of the secondary and tertiary road networks and airports. However, the report identifies the priority needs for rehabilitation, reconstruction and development in the transport sector over a five-year horizon. The report focuses on:

- Rehabilitating and reconstructing key sections of the primary road network and removing bottleneck such as damaged bridges/culverts, tunnels and other structures. This will result in reduced transportation cost and provision of easy access to the growing traffic of humanitarian aid, returning refugees and necessary trade.
- Improving international road links to neighboring countries, resulting in cross border trade and investments that will considerably improve with easy movement of goods and people.
- Building capacity and institutional restructuring of the ministries involved in the transport sector for implementation of the recovery and reconstruction initiatives. This will result in effective and efficient executing agencies that are able to develop, plan and manage implementation of the proposed projects in the transport sector. The capable government agencies will play a key role in brining about the policy reforms in the sector.

- Implementing a program for improving and constructing key secondary and tertiary roads to provide access to each district and connect it to the primary road network. A labor based approach will result in a large public works program that will provide employment opportunities for the rural poor, returning refugees and ex-combatants.
- Re-opening of the Afghan airspace for safe international over flights, improving communication links between Kabul and other airports, and rehabilitating and improving major airports.
- Promote private sector development through: (i) capacity building of the local consulting and contracting industry involved in the transport sector; (ii) creating enabling environment, through appropriate legislation and other means, for the Afghan origin private sector that moved to neighboring and other countries during the conflict period; and (iii) initiating a privatization program starting with the state owned enterprises.
- Gradually initiating necessary sector reforms such as road safety, axle load controls, sustainable funding for maintenance and others.

4. The report outlines short term priorities over a period of two and a half years and medium term needs of up to five years. The summarized cost of these investments and technical assistance activities is as follows:

	Investment Projects	T A Projects	Total
Short Term (0-2.5 years)	653.3	6.3	659.6
Medium Term (2.5-5 years)	660.3	7.5	667.8
Long Term (5-10 years)	832.0	0.0	832.0
Total:	2,145.6	13.8	2,159.4

5. The draft CNA report was shared in May 2002 with AACCA and other development partners active in the transport sector in Afghanistan. Since then the Swedish International Development Cooperation Agency (SIDA) has confirmed financing (i) the road design of the Kabul-Jalalabad-Torkham highway; (ii) emergency rehabilitation involving heavy grading of 90 km section between Kabul and Jalalabad; and (iii) provision of temporary Bailey bridges for the Kabul-Doshi highway. SIDA is also financing technical assistance for a Transport Sector Review involving policy and institutional reforms and long term development needs in the road and civil aviation subsectors. It is also understood that the World Bank plans to provide financing for (i) improvement of the Kabul-Doshi and Pule Khumri-Kunduz-Shir Khan road sections including the Salang tunnel; (ii) improvement of the Kabul International Airport; (iii) rural roads improvements; and (iv) studies for new highways. Further developments in the transport sector can be incorporated in future updates of the CNA report.

## **AFGHANISTAN COMPREHENSIVE NEEDS ASSESSMENT**

### **TRANSPORT SECTOR**

#### **II. INTRODUCTION**

1. To assist Afghanistan in recovery and reconstruction after two decades of conflict, the Asian Development Bank (ADB), the United Nations Development Programme (UNDP) and the World Bank (WB) undertook a preliminary needs assessment during December 2001. The preliminary assessment was aimed at outlining strategic choices for reconstruction and development, present the donor community with indicative funding requirements, and identify initial priorities supported by cost estimates. The preliminary assessment covered immediate needs, short-term options and long-term development initiatives.

2. The preliminary needs assessment report was finalized in January 2002 at the ADB headquarters in Manila. Owing to short time frame and other constraints, consultations were held only with Afghan civil society representatives in Islamabad and members of Interim Afghan Administration (IAA) in Kabul. The Report was presented at the Ministerial Meeting of the Steering Committee in Tokyo on 20-21 January 2002 where the donors pledged about \$4.5 billion.

3. At the Ministerial Meeting in Tokyo it was agreed that sectoral missions will be mobilized to undertake the comprehensive needs assessment (CNA). Accordingly a transport sector mission, jointly led by the Asian Development Bank (ADB) and the World Bank (WB), visited Afghanistan during 1-14 March 2002. Other agencies participating in the mission included Swedish International Development Cooperation Agency (SIDA), International Labor Organization (ILO) and International Civil Aviation Organization (ICAO). Under the overall guidance of IAA represented by the Afghan Assistance Coordination Authority (AACA), the Mission undertook extensive field visits and held discussions with the concerned line ministries and other stakeholders. In order to reflect the immediate needs, the Mission focused on the road and civil aviation sub-sectors. The Mission's findings including the list of projects that were identified as immediate needs and were discussed and agreed with AACA are reflected in this document.

4. ADB mobilized consultants in March 2002 to assist the CNA mission and undertake condition surveys of the primary road network and major airports. The consultants also collected relevant data from the line ministries and reviewed the current institutional setup in the transport sector. The consultants worked closely with the AACA and MPW and continued to advise them on operational and technical matters.

5. A draft of the Afghanistan National Development Framework (NDF) was prepared by IAA for the first Donors' Implementation Group meeting held in Kabul during 10-11 April 2002. The draft is based on the directions provided by the Chairman IAA and efforts of the Ministry of Planning, Ministry of Reconstruction and AACA. The draft reflects the aspirations of the Afghan people, articulates the lessons learned from international assistance in conflict areas and outlines the development strategy that is based on three pillars: (i) humanitarian and human and social capital; (ii) physical

reconstruction and natural resources; and (iii) private sector development. Specifically on the transport sector, the draft NDF states, "The goal in the program for transport is to have an efficient, affordable transport system enabling people, commodities, and ideas to move and connect."

6. This CNA report is prepared based on updating the preliminary needs assessment report, the aide memoire of the CNA mission, consultants' input and the guidance provided in the draft NDF. The CNA focuses on roads and civil aviation. Railway and waterway transport are to be undertaken as part of the long-term strategy for the transport sector (see para 54). Urban transport is covered under the CNA for urban development being carried out by another group.

### III. PRESENT CONDITIONS

#### A. Transport Sector Institutions

##### 1. Roads

7. The Ministry of Public Works (MPW) is currently responsible for operations and maintenance of the primary and secondary road networks in the country. In addition, MPW has a multitude of other responsibilities such as construction of airports, housing, water supply, city planning and collection of road tolls. MPW is also involved in maintenance of the airport pavements and managing several state-owned construction units for housing, roads and airports.

8. MPW has 15 departments of which five have administrative functions, two are for technical planning and remaining six are operational involving construction and maintenance of roads, airports, housing and water supply. At least three of the operational departments are state owned construction enterprises that in the past have been involved in construction of roads, airports, commercial and industrial buildings and housing. MPW is headed by a Minister who is assisted by two Deputy Ministers and three advisers. Appendix 1 provides details of the present institutional set up of MPW.

9. With over 6,000 staff that are ill equipped to perform their duties, MPW finds it difficult to carry out its responsibilities. Though the staff is experienced, but in the absence of any substantial road construction and maintenance activity over the last two decades, many of them need re-orientation training and updates on modern technology. During the conflict period, some of the staff including skilled operators and drivers moved to the neighboring countries and elsewhere and have, therefore, acquired skills based on mechanized road construction methods. The present institutional capacity as well as a shortage of funding to undertake even regular routine maintenance<sup>1</sup> of the road network needs to be addressed to sustain the maintainable road network and strengthen MPW.

10. The Ministry of Transport (MOT) manages the government-owned vehicle fleet and regulates the private sector transport industry. Appendix 1 gives the current organizational structure. Of the 2,500 trucks MOT owned in the early nineties, only 200 are presently available and operational. The same applies to the fleet of 1,000 buses of

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<sup>1</sup> sealing of surface cracks, repair of guardrails, cleaning of draining structures, pot hole and edge repairs, and removal of vegetation and other obstructions to improve sight distances and safety.



which only 100 are now operating. This reduction in fleet has forced MOT to cut down its transport enterprises from 9 to 3. With a current staffing level of 1,100, MOT is coordinating agreements between private sector and international transporters and has established eight offices in neighboring countries to facilitate international trade. Like other government agencies, lack of trained manpower, furnished offices, equipment, vehicles and other resources are a major impediment in restoring the functioning of these two ministries.

11. The Ministry of Rural Development (MRD) is responsible for development of rural infrastructure including rural roads. In addition, MRD also has the responsibility for provision of health, education, and other rural social services. Very few villages have been provided all weather access, and no tradition exists in community-based maintenance of rural roads infrastructure. Rural roads financed by international donors and implemented during the conflict period as food for work programs through NGOs have rapidly deteriorated due to lack of maintenance.

## **2. Civil Aviation**

12. The Ministry of Civil Aviation and Tourism (MCAT) is responsible for operation and maintenance of the country's two international airports at Kabul and Kandhar, four major domestic airports and sixteen regional airports providing access to extremely remote areas. In addition, MCAT owns the national airlines and major hotels and is also responsible for promoting tourism industry and providing related services. Reporting to the Deputy Technical Minister, MCAT is divided into eight presidencies dealing in operations, meteorology, technical, administration and finance, documents and licenses, planning, law and regulations and Kabul international airport (see Appendix 1). The current staffing level is about 1,200. MCAT also manages the country's only airline (Ariana) and two major hotels in Kabul aside from its responsibilities to promote tourism. The deterioration in infrastructure has led to inadequate capability of MCAT to provide an air traffic control service for the Afghanistan airspace. It is not possible with the existing qualified controllers and technical support staff, and with the available communication, surveillance and navigation systems to assure safety of flights. Urgent attention needs to be given to bridge the safety gap. At present, due to the lack of trained personnel, it will be necessary to recruit international qualified controllers and technical support staff to operate and maintain an air traffic control system nationwide. In the event the international forces withdrew their present level of airspace management, which does not include providing air traffic control services beyond the vicinity of the airfields they operate, a serious flight safety situation will exist.

## **B. Sector Description**

### **1. Roads**

#### **a. Network**

13. The road network comprises of about 6,000 kilometers (km) of national roads of which 3,300 km are primary highways including 2,400 km roads that were originally paved. The national primary road network largely consists of the ring road (Herat-

Kandahar-Kabul-Mazaresharif-Shibergan-Maimana-Herat) and the six international links<sup>2</sup> to neighboring countries. The 615 km Shibergan-Herat section of the ring road is only partly constructed and is generally unpaved. The remaining network comprising of 2,700 km secondary national roads and 15,000 km provincial roads is either gravel or earthen. The coverage and condition details of tertiary road network consisting of village access roads is not known<sup>3</sup>, except that these roads are all unpaved. Though the road density of 0.03 km of road per square km and 0.88 km per thousand people is far lower than most developing countries, the road network touches all the major population centers and reaches to a certain extent to remote areas. The recorded traffic during the pre-conflict period on the primary network varied between 250-1,000 vehicles per day. Recent field visits have confirmed that the traffic levels were improving and in some cases exceeding these figures.

#### b. Condition

14. More than two decades of conflict combined with a prolonged lack of maintenance has resulted in damages to long sections of roads, critical structures, bridges and the snow galleries on the approach to the Salang tunnel. The 2.8 km tunnel itself has some localized damages and lacks ventilation and lighting. Overall, the road network has been rendered only partially usable and that too at a significantly high transportation cost. According to the last condition survey<sup>4</sup> undertaken in 1994, 17 percent of the network was in good condition, 35 percent in fair condition and the remaining 48 percent in poor condition. The situation has deteriorated since then. While the percentage of national roads in good condition is more or less the same, only 26 percent remains in fair condition and the poor condition has increased to 54 percent. Large sections of the roads in south (Kabul-Kandhar-Spin Boldak) and east (Kabul-Jalalabad-Torkhum) have been lost. The concrete road in the west (Kandhar-Herat-Torghundi) is only partly traffic-worthy due to joint failures and other damages. Only the road to north (Kabul-Pulekhumri-Kondoz-Mazarsharif) is generally in a better condition after the Salang pass. Between Kabul and Salang pass, it requires replacement of 13 bridges, reconstruction on some sections and deep patching and strengthening on other sections. The Salang pass at 3,300 meter elevation is a major constrain as the road is badly damaged and only useable for one way operation over about 10 km section that includes the tunnel.

Table 1: Major Road Network

Road Classification	Length (km)
National Primary	3,280
National Secondary	2,785
Sub-total	6,065
Province Primary	8,882
Province Secondary	6,043
Sub-total	14,925
Total	20,990

<sup>2</sup> The international links are to Iran(1), Pakistan(2), Tajikistan(1), Turkmenistan(1) and Uzbekistan(1).

<sup>3</sup> According to rough estimates this is about 15,000 to 20,000 km.

<sup>4</sup> Afghanistan Road Condition Survey (ARCS) database, 1991-94, by Afghanistan Construction and Logistics Unit (ACLU) and USAID.

15. Though the pavement structure have been severely damaged, the road embankment has withstood reasonably well despite two decades of neglect and conflict conditions. The effect of the military actions are more pronounced in the form of damaged bridges<sup>5</sup>. Some road improvement activities were undertaken during the Taliban period (1996-2001). This includes asphalt overlay on a 50 km section of the Kabul–Kandahar road beginning from the outskirts of the Kabul city. Although all 50 km received the base course, the wearing course could only be laid on some 40 km. Similarly about 195 km of the concrete Kandahar - Herat road was repaired in terms of sealing the transverse cracks to provide a better riding surface. It was also noted that patching and minor repairs works were being undertaken by enterprising transporters in the absence of any Government financed initiative, particularly on the Kandahar - Spin Boldak road to reduce vehicle-operating costs.

16. The condition of road is also reflected in terms of travel time. During field visits in March-April 2002, data was collected on actual travel time taken by a four-wheel drive vehicle on major road sections. The following table summarizes this information.

Table 2: Travel Time on Primary Road Network

Road	Length (km)	Travel Time (hours)	Average Speed (km/Hr)
Kabul-Torkham	227	6.5	35
Kabul-Kandahar	506	20	25
Kandahar-Spin Boldak	105	2.5	42
Kandahar - Herat	560	8.5	64
Kabul- Mazar-e-Sharif	399	15	27
Mazar-e- Sharif - Heraitan	57	2	38
Pule-Khumri-Shir Khan Bandar	164	12	14

17. Based on road condition surveys undertaken during March and April 2002 (see Appendix 2), the following road improvement needs were identified: (i) Kabul - Kandahar road: 127 km need reconstruction of embankment, 281 km needs sub-base reconstruction, 296 km of road need base, and 462 km require asphalt overlay; (ii) Kandahar - Spin Boldak road: 42 km need reconstruction of base and the whole length of 105 km needs asphalt overlay; (iii) Kandahar - Herat: 154 km road is fair and need repair of only transverse joints, the balance of about 200 km requires other treatments including replacement of some sections, and six bridges need rehabilitation/reconstruction on urgent basis (iv) Kabul – Jalalabad – Torkham: 12 km need sub-base, 42 km need base, and 84 km require asphalt overlay besides repairs to existing asphalt surface from Jalalabad to Torkham; (v) Kabul – Mazaresharif: requires approximately 9,000 square meters (sqm) of deep patching and 5,000 sqm of light patching on urgent basis, about 3000 cu m of retaining walls, urgent repair of snow galleries and the Salang tunnel, and replacement of 13 bridges; (vi) Mazaresharif – Hairatan: the condition is very good and only requires bulldozing of sand off the road at several locations; (vii)

<sup>5</sup> For example, 11 bridges have been damaged on Road Kabul-Mazaresharif, one on Road Kabul-Torkham and 2 on Kandahar-Spin Boldak

Pulekhumri – Shirkharbandar: the road is in good condition up to Baghlan, but requires reconstruction after the first 32 km and all the way up to Kondoz, and onwards to the border needs deep patching and asphalt overlays. A summary of the road conditions and rehabilitation/reconstruction costs is included in Appendix 2.

### **c. Cost Recovery**

18. Achieving a higher degree of cost recovery is critical to both ensuring efficiency in resource allocations, as well as to the long-term sustainability of road sector investments. In this context, MPW has already revived toll collection activities through its Toll Department staffed with 374 personnel including those manning 73 toll stations in four of the provinces: Ghazni, Wardak, Samangan, and Jowzjan. The present rates for the 6 categories of vehicles being tolled are: passenger cars - AFA110/km, mini buses - AFA150/km, micro buses – AFA170/km, trucks and large buses - AFA250/km, multi-axle vehicles - AFA450/km and articulated truck-trailers - AFA500/km. The original practice of MPW was to utilize these resources on road maintenance. However, at present the collected toll amounts serves as a revenue source for the cash strapped provinces though there is a certain amount of leakage in the system and the full toll amount is not passed on to the provinces. There is a move to reach an acceptable arrangement between the provinces, MPW, and the Ministry of Finance (MOF) for enhancing the toll rates and using it for road maintenance activities. However, MOF is contemplating diverting the toll revenues to the central treasury. The situation remains very unclear at the moment. Moreover, no details are available on the total toll revenues being collected at present.

19. The traffic police department is responsible for collecting annual vehicle licensing fees and fines on traffic offences. The Ministry of Transport (MOT) collects charges on outstation travels for passengers and freight, and on initial registration of vehicles. No record is available on the collected revenues.

### **d. Role of Private Sector**

20. A number of Afghan road contractors, transporters and equipment suppliers have relocated to neighboring Pakistan and Iran over the past decade as a consequence of the prolonged state of conflict, where they continue to pursue their respective business activities. There are some 24 small Afghan road construction contractors<sup>6</sup> operating in these two countries and are now keen to return to Afghanistan in view of the potential for major development activities. However, their equipment capabilities are limited, and they will need access to financing and capacity building in contract management to gradually take up major road construction contracts directly. Since the beginning of 2002, several of these contractors have returned and established offices in Afghanistan in anticipation of the upcoming development activities.

21. Very few domestic private road construction or maintenance firms have been actively engaged in Afghanistan in recent years. However, several donor financed 'food for work' and 'cash for work' programs have undertaken construction or improvement of small-scale (community level) road and drainage infrastructure mostly through

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<sup>6</sup> With an average annual turnover of about \$1 million each, these contractors are mostly working as subcontractors for civil work activities related to earthworks, aggregate and equipment supply, and some base course and sub-base course works.

international and local NGOs. These agencies typically retain a cadre of engineers and technical staff that gives them the capacity to identify; design and implement simple infrastructure works using labor intensive methods.

22. Afghans have traditionally had a very strong presence in the road transport business. A large number of privately owned trucks are registered within Afghanistan<sup>7</sup>. In addition, a considerable number of Afghan transporters who have relocated to Pakistan over the past decade have in the past been actively engaged in goods transport within Pakistan as well as across the border to various destinations in Afghanistan. Their business has been facilitated by easy availability of competitively priced used European trucks and spare parts, low priced (smuggled) fuel, almost non-existent road use charges, low labor costs, a flourishing re-export market and lack of competing transport modes. Given the sharp increase in transportation needs associated with the reconstruction of Afghanistan, it is expected that the private sector transporters will greatly benefit.

23. Presently with the returning refugees and substantial inflow of goods across the borders overloading of trucks has become a serious problem. Many shippers are also reluctant to pay for loads above the theoretical capacity of the trucks due to increased risks. The truck tariff system operates on fixed rates between cities based on a full one-way load and empty return irrespective of the weight of the goods being transported. MOT is responsible for regulating axle load limits and vehicle size and dimensions, but is constrained by lack of resources for enforcement and, more importantly, lack of enabling environment for such enforcement. However, this is a critical issue that need to be highlighted as plans are underway for reconstruction of the road network.

#### **e. Demining**

24. In terms of impact, Afghanistan is the most mine and unexploded ordinance (UXO) affected country in the world with 732 square kilometers (sq km) of known mined area, an additional 100 sq km suspected to be mined and about 500 sq km of UXO contaminated battle area. The actual presence of mines in strategic corridors is a constraint to highway rehabilitation. It is essential that mine survey and necessary clearance be undertaken on the core highway network on a priority basis (in addition to the ongoing mine clearance program), to allow the rehabilitation work to proceed without much delay. Mine survey and clearance would need to cover sufficient width along the network to carry out rehabilitation activities, while also allowing for temporary redirection of traffic and detour roads. Additional areas will need to be cleared as well to allow access to construction camps, site facilities, material storage, and other site infrastructure.

25. Minefield survey and clearance work, known as the mine action program for Afghanistan (MAPA), is being done under UNOCHA supervision through 15 implementing partners (8 Afghan and 4 international NGOs and three other organizations) with 5,000 personnel in the field. Actively funded by several bilateral donors, it is anticipated that additional mine survey and clearance groups will be inducted to provide the increased need of the demining support for a variety of

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<sup>7</sup> Nationwide statistics are not available, but approximately 35,000 trucks are reported registered in Kabul province alone.

infrastructure development activities. One option would be to include the demining work within the overall scope of the highway rehabilitation contracts.

26. During meetings and discussions with AACA and other concerned IAA agencies, it was agreed in principle that the de-mining should remain humanitarian based and that the Government may take responsibility for clearing of all road sections that were to be included in donor funded programs before any contracts were let and contractors moved onto the sites. This would mean clearing a sufficiently wide corridor (of about 50 meters) from the centerline both sides of the road. Any additional de-mining required by the contractor, for example in sites of quarries and work camps, would be at the cost and responsibility of the contractors. This does appear to be a reasonable and equitable approach though the modalities for guarantees of clearance and continuing safety concerns have to be agreed with the Government.

## **2. Civil Aviation**

### **a. Infrastructure**

27. Afghanistan as a land locked country and with large mountainous regions relies significantly on the civil aviation sector for international and domestic passenger movement as well as for the supply of much needed goods to the remote communities. There are two major gateways, Kabul International Airport serving the capital and Kandahar International Airport serving the South West of the country. The two airports were operated in the past under Instrument Flight Rules (IFR) with day and night operations. Five smaller domestic airports<sup>8</sup> with airside pavements and IFR operations provide air connection to the major cities. In addition there are 15 regional domestic airports<sup>9</sup> spread over the country serving the smaller more remote areas. These airports have mainly gravel paved airside facilities and Visual Flight Rules (VFR). The civil airport infrastructure is administrated, developed, operated and maintained by MCAT. However, the design and construction of pavements was undertaken by MPW.

### **b. Safety**

28. The prolonged state of conflict in Afghanistan has resulted in large-scale deterioration of the civil aviation infrastructure and depletion of the skilled manpower. In addition to lack of maintenance, the deterioration was further accelerated by the heavy damage inflicted during the recent military operations. The deteriorating conditions of the major airports and their operation/maintenance were regularly monitored by ICAO and UNDP, through several technical missions during 1991-2002. To bring up the airports and MCAT so that it complies with the international standards and recommended practices set by ICAO and the international civil aviation, a massive rebuilding effort is required. Detailed rehabilitation needs for the Kabul and Kandhar airports are given in Appendix 3.

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<sup>8</sup> At Mazar Sharif, Herat, Jalalabad, Konduz, and Chakcharan.

<sup>9</sup> At Shiberghan, Maimana, Qilae Naw, Farah, Zaranj, Bost, Bamyan, Tereen, Khost, Khojaghar, Faizabad, Khwahan, Darwaz, Kron Monjan and Sheghnan.

## IV. DEVELOPMENT AGENDA

### A. Objectives and Strategy

#### 1. Objectives

29. The Interim Administration's development objectives are reflected in its aspirations that international assistance will be an instrument to reduce poverty, re-establish sovereignty and national unity and lay a foundation of sustainable prosperity. To achieve these objectives AIA has proposed in its National Development Framework three pillars of developmental strategy. These are: (i) to use humanitarian assistance and social policy to create the conditions for people to live secure lives and lay the foundations of sustainable human capital; (ii) to use external assistance to build the physical infrastructure that lays the basis for a private sector-led strategy growth that supports human and social capital; and (iii) creation of sustainable growth where competitive private sector becomes the engine of growth and instrument of social inclusion through the creation of opportunity.

#### 2. Strategy

30. The strategic focus of rehabilitation and reconstruction in the transport sector, particularly road sub-sector, is to facilitate humanitarian aid, returning refugees and necessary trade, improve access to remote areas, develop private sector, create employment opportunities, build capacity of the line ministries and enhance international cross border trade. More specifically these are:

- Rehabilitating and reconstructing key sections of the primary road network and removing bottleneck such as damaged bridges/culverts, tunnels and other structures. This will result in reduced transportation cost and provision of easy access to the growing traffic of humanitarian aid, returning refugees and necessary trade.
- Improving international road links to neighboring countries, resulting in cross border trade and investments that will considerably improve with easy movement of goods and people.
- Implementing a program for improving and constructing key secondary and tertiary roads to provide access to each district and connect it to the primary road network. This will result in a large public works program that will be labor intensive to provide employment opportunities for the rural poor, returning refugees and ex-combatants. The economic activity in rural districts will lead to a more uniform development in the country and will curb urban migration. The communities will be trained as local contractors in their districts and provinces and will be engaged for the maintenance and development works. With experience, these contractors will grow and form the base for the local contracting industry.
- Re-opening of the Afghan airspace for safe international over flights, improving communication links between Kabul and other airports, and rehabilitating and improving major airports.

- Building capacity and institutional restructuring of the ministries involved in the transport sector for implementation of the recovery and reconstruction initiatives. This will result in effective and efficient executing agencies that are able to develop, plan and manage implementation of the proposed projects in the transport sector. The capable government agencies will play a key role in bringing about the policy reforms in the sector.
- Promote private sector development through: (i) capacity building of the local consulting and contracting industry involved in the transport sector; (ii) creating enabling environment, through appropriate legislation and other means, for the Afghan origin private sector that moved to neighboring and other countries during the conflict period; and (iii) initiating a privatization program starting with the state owned enterprises.
- Gradually initiating necessary sector reforms such as road safety, axle load controls, sustainable funding for maintenance and others.

## **B. Policy and Institutional Framework**

### **1. Roads**

#### **a. Institutional Development and Capacity Building**

31. In accordance with the guidelines provided in the preliminary needs assessment, the role of the Government in the transport sector should be limited to that which is necessary to fulfill national and social objectives. This includes: (i) establishing and implementing appropriate policy, legal, and regulatory functions for the sector; (ii) planning and monitoring the implementation of programs and facilitating the mobilization of resources; (iii) monitoring the performance and efficiency of transport systems, including tariff charges levied by public enterprises and private monopolies; and (iv) licensing transport services for the purpose of ensuring that acceptable safety and environmental standards are met. The institutional structure of the existing road agencies need to be reviewed based on these principles and work plan prepared for gradual implementation of the institutional reforms.

32. Three areas have been identified for immediate reforms in MPW. Firstly the current practice of road maintenance by force account should be gradually replaced by contracting out maintenance to the private sector. Secondly the state owned enterprises (SOEs) responsible for construction of roads, airports and housing should be gradually privatized. And lastly, functions of the transport sector that are currently spread over several ministries need to be consolidated into one ministry (called the Ministry of Transport) with departments dealing with each subsector such as Department of Roads, Department of Civil Aviation etc. In all instances, care should be taken to avoid unemployment by ensuring that the affected staff is either adequately compensated or re-employed by the private sector institutions including providing them skills to work as local community contractors. Appropriate legislation may be needed before undertaking any institutional reforms.

33. A generation of professional expertise has been lost due to over twenty years of conflict. In almost all Government agencies, knowledgeable professional staff is



reaching retirement age and there is a major capacity building effort required to train the younger generation to take their place. The knowledge base of the experienced staff is outdated and even they require refresher training. Hence there is a need to develop a human resource development plan to address the capacity building needs of the road sector agencies for the immediate and long-term future.

34. To compensate for the current lack of capacity and to undertake planning and implementation of projects identified as immediate needs, MPW will be initially assisted by a team of international and capable domestic experts to develop its capacity to coordinate with AACA in reviewing the donors' project proposals under the overall road sub-sector development framework, monitoring and implementation of approved projects, initiating and coordinating data collection activities, establishing an archive of the available documents, overseeing programs for capacity building of the local private sector (consultants and contractors) and ensuring a gradually increasing involvement in road sub-sector reconstruction efforts. The role of international experts will gradually reduce as the local staff takes on more responsibilities.

35. For long-term needs of professional manpower, formal education of is essential. A significant engineering output from the University of Kabul and the Polytechnic Institute is planned for the medium and long-term. This will be coupled with refresher courses for engineering graduates. The University of Kabul is considering offering 1-3 months refresher courses in the road engineering disciplines. Another possible approach to address the serious institutional deficiencies in the longer term could be via a twinning arrangement with the road agencies in other countries. Experience of other road agencies operating under similar conditions and moving away from the policy of reliance on force-account methods for all road services would be beneficial.

#### **b. Decentralization of Network Management**

36. The current centralized operations of managing the road network by MPW need to be reviewed to ensure responsiveness to the local needs, improved utilization of local resources and overall efficient mode of operations. This requires creating a functional balance between the central office in Kabul and the provincial offices during initial stages by delegating them responsibilities of the roads within the province. This may not be fully viable in provinces with low capacity and as an alternate this can be covered with regional offices with responsibility of roads in more than one province. For strategic considerations, the primary network consisting of ring road and international links will continue to be managed centrally. Providing gradual autonomy to the provincial/regional offices will be the next step in the decentralization process and should coincide with Government's decentralization program.

#### **c. Sector Financing and Cost Recovery and Sustainable Maintenance**

37. To protect the major investments envisaged for reconstruction of the road sub-sector, it is critical that sustainable means of financing is available for operations and maintenance. This requires preparation of a plan for cost recovery from road users by means of localized tolls on specific sections of the primary network or through levies on fuel to generate an adequate level of resources necessary to sustain the network. The cost recovery plan need to be articulated early on to enable enough lead time for

development of legislative cover and initiating implementation to provide full financing for the sub-sector from road users.

38. Legislative basis appears to exist for levying tolls on specific roads and collecting vehicle license fees and fuel levies. While MPW collects tolls that are usually earmarked for road maintenance, the traffic department of the Ministry of Interior mission collects the vehicle license fees. The fuel levy is not currently being collected. Though overall annual revenue figures from these sources are not available, the cost recovery for the road transport sector appears to be low.

#### **d. Private Sector Development**

39. As articulated in the Preliminary Needs Assessment report, the Government is committed to increased private sector involvement in all sectors, including the road and road transport sectors where such scope is significant. The involvement of the private sector will assist in mobilizing resources and facilitate the adoption to changes in the economic environment and technology. Privatization of SOEs will help make the best possible use of existing assets, improve efficiency and promote flexibility in the management of organization and personnel. In most cases, private sector will foster these characteristics much more than SOEs. There is an urgent need to create an enabling environment appropriate for private sector operations to facilitate growth of a local construction industry and attract the indigenous private sector that left the country during the conflict period, but is willing to return home to contribute towards the recovery and reconstruction. Current conditions within Afghanistan are likely to deter some international contractors, and this is another factor that may help the local construction industry to get an appropriate share of the reconstruction program works.

40. IAA is keen to seek role of major international firms in rebuilding the transport sector in Afghanistan, and has expressed interest in exploring the possibility of build-operate-transfer (BOT) type concession arrangements for reconstruction of the primary road network. Owing to the current conditions in the country, there is a need to explore the feasibility of this effort and other options and develop recommendations for public-private partnership in short and long-term development needs.

41. It is also important to develop a program for capacity building of the local consulting and contracting industry in the transport sector to enable them gradually take lead and play a needed role in recovery and reconstruction of Afghanistan.

#### **e. Employment Generation**

42. The scope for generating employment opportunities in the road sector is considerable because the nature of work can facilitate the deployment of a large labor force. Utilizing labor based contracting and labor-intensive methodologies for rural roads construction will further enhance this scope. Improved access to wage earning opportunities will assist in the demobilization of ex-combatants and help others that have been adversely affected by the conflict, including single parent families, to reintegrate into society. The reconstruction and maintenance programs will therefore create sustainable job opportunities, facilitate skill development and encourage community involvement.

#### **f. Community Participation**

43. Involvement of communities to harness the energy of Afghans to address their recovery and reconstruction needs is one of the guiding principles outlined in the preliminary needs assessment. The role of communities will be much more pronounced in improving the rural access road network where they will be directly involved in reconstruction and maintenance efforts. The communities will supplement the current low capacity of the local contracting industry. Local Community Contractors (LCC) in a combined program aimed at generating employment as well as developing a private sector construction industry. In this context, the non-governmental organizations (NGOs) will play a critical role in mobilizing communities and building their capacity to undertake road related responsibilities. It is important to make the point for establishing a local construction industry capable of working in other sectors for the overall reconstruction effort, and in the future, after the initial reconstruction works are finished, this industry should take over the maintenance of the rural road network thus enabling more permanent employment opportunities. This supports sustainability road maintenance and the Governments stated aim to let the private sector initiatives drive the reconstruction process in the country.

#### **g. Impact on Vulnerable Groups**

44. Improved access in rural areas can have a dramatic effect on the lives of poor people. With good access, usually through improved or new roads and transport services, poor people are better able to send their children to school, visit health centers improve nutrition through better access to markets for buying a wider variety of food and selling their own produce. Good access also has a significant social impact, as people are better able to interact and participate more in the democratic processes of government. Local level transport planning and consultation processes are therefore an essential part of rural road network planning. There are numerous, well established local level integrated rural access planning methodologies that can be used to ensure that the access being provided meets the needs of all groups within the target population.

#### **h. Role of NGOs:**

45. The critical role played by the NGOs during the long period of conflict need to be recognized and expanded to allow them to fully partner in the reconstruction effort. Though the NGOs role in road construction and maintenance had been limited, they will be needed for social mobilization of communities to plan and participate in implementation of rural access road projects. To this end the NGOs can develop and implement a major capacity building program to create skills in the communities to either work for the local contractors or take on a larger responsibility of managing the road section themselves under contract with the road agency.

#### **i. Environment**

46. Arresting and reversing environmental degradation and ensuring that environmental consideration are integrated into the planning and development of the projects is the cornerstone of the reconstruction and recovery effort, particularly for infrastructure including roads. Most of the proposed projects are focusing on repair, rehabilitation, and reconstruction of the damaged and worn-out roads, bridges and

drainage structures of critical importance to the economy. Considering the nature and magnitude of potential environmental impacts from large scale reconstruction works, the proposed operations are likely to be classified as category 'B' and would have to comply with donors' environmental and social safeguard policy requirements. This may imply the requirement to carry out limited environmental impact analysis before the project is approved for financing. Therefore, before appraisal, the executing agency (MPW in the case of roads) would have to agree to apply the minimum standards during implementation. These are: (i) inclusion of standard environmental codes of practice (ECOP) in the repair and reconstruction bid documents of all sub-projects financed; (ii) review and oversight of any major reconstruction works by supervision specialists; (iii) implementation of environmentally and socially sound options for disposal of excess materials and debris; and (iv) provisions for adequate budget and satisfactory institutional arrangements for monitoring effective implementation.

#### **j. Resettlement**

47. Given the nature of the reconstruction related projects, it is not expected that there will be a need for land acquisition or involuntary resettlement in project areas. A resettlement action plan is, therefore, unlikely to be needed before appraisal and approval of financing. It seems that the existing legislation protects project affected people and communities in that full compensation is offered for loss of land or livelihood. This applies to acquired or expropriated land and structures. It is, however, necessary to carry out a limited sector environmental and social review of current policies, practices and institutional capacities in this area as a basis for donor support and the inclusion of appropriate capacity building to strengthen the management of environmental and social issues in the sector.

#### **k. Sector Reforms**

48. With the restoration of the primary and key secondary and tertiary road networks, there will be a need for road sector reforms involving road safety and accident prevention, controlling vehicle overloading to ensure that the road pavements lasts their designed life, and to sustain the restored network through devising mechanisms for developing a maintenance management system and continued availability of adequate resources for maintenance.

#### **l. Cross Border Trade Facilitation**

49. As a land locked country Afghanistan relies heavily on the road transport to meet its trade needs. In addition by virtue of its location, Afghanistan sees itself as a center of trade and commerce in the region providing a land bridge between Central and South Asia and between East and West. With the prospect of peace in the region, Afghanistan would like to play this role through encouraging regional cooperation and economic integration. Hence, there is a need to identify the barriers to this vision in the transport sector and prepare a program for meeting the infrastructure and policy reform needs.

## **2. Civil Aviation**

### **a. Institutional Structure and Decentralized Management**

50. MCAT is responsible for management, implementation, operation and maintenance of the civil aviation infrastructure. For certain maintenance works relating to pavement and terminal buildings, implementation is undertaken by MPW. MCAT's responsibilities also extend to the national airline (Ariana Afghan Airline), Inter-continental Hotel and other hotel enterprises and tourism. With diversified responsibilities, centralized management and low capacity, MCAT is unable to meet the desired mandate resulting in a negative affect on the recovery effort. Two areas of immediate reforms have been identified. First, the SOEs, such as airline and hotels, need to be commercialized and privatized as early as possible. Second, a human resources development program need to be prepared to rationalize the staff nearing retirement and undertake a major training initiative for the remaining staff and new entrants.

### **b. Cost Recovery**

51. There are two main sources of revenues for the civil aviation sub-sector. Aviation revenues are generated through services provided to airlines and non-aviation revenues involve fees and concessions for catering, car parking, cargo handling, warehousing and so on. Due to lack of record it is difficult to assess if the revenues are adequate to cover the costs. An assessment of expenditure and potential revenues as well as rationalization of revenues is needed to start the cost recovery process.

### **c. Role of Private Sector**

52. There is a major role for the private sector to participate in the recovery and rebuilding of the civil aviation sub-sector. Almost all services, including maintenance of the infrastructure and operations and maintenance of equipment can be privatized. Same is the case with non-aviation services at the airports that can also be easily privatized or offered under a concession agreement.

### **d. Capacity Building**

53. Like all the other line ministries, MCAT needs a human resource development program to build the capacity of the existing and new staff in operations and maintenance of the airports in the country, starting with the Kabul, Kandhar and Mazar Sharif and eventually covering the other four major and 15 minor airports.

## **C. Sector Development Needs**

54. Based on the assessment undertaken to date, the short-term priorities (0-2.5 years) are quite clear and the medium term needs (2.5-5 years) can be fairly well defined. However, owing to the constraints that limit access to most areas of the country and the prevailing security environment, it is difficult to formulate a long-term (5-10 years) development framework. The projects identified for immediate needs assessment will serve the purpose of restoring the primary road network, building capacity of the road agencies to start functioning and initiating efforts to provide access to remote population to reduce exclusion. However, to direct the sector and mould the

agencies to meet the challenges and vision of the new Afghanistan, there is an urgent need to develop a long-term strategy for the transport sector. This requires, among others, developing a policy framework and institutional restructuring supported by appropriate legislation and preparation of a sector development master plan. Privatization of SOEs, increasing partnership with the private sector, study of other transport modes<sup>10</sup> and cross border trade facilitation are some of the aspects that would be included in the long-term strategy to be formulated by 2004. A proposed development framework is enclosed as Appendix 4.

## **1. Roads**

### **a. Short Term Priorities (0-2.5 years)**

55. The immediate objective is to facilitate the growing traffic of humanitarian aid, returning refugees and necessary trade, remove bottlenecks on the primary road network and enhance accessibility to remote villages. To achieve this, the proposed projects focus on the primary network involving improvement and reconstruction of key road links, repair and replacement of damaged bridges and tunnels, and emergency road repair program to reduce travel time and prevent damages to vehicles. The immediate priorities also include construction of secondary and tertiary access roads to rural areas that facilitates employment opportunities using labor intensive methods for rural poor, returning refugees and ex-combatants. Technical assistance is needed for urgent restoration of the management, project preparation and implementation capacities of MPW and advice on cross border transit trade facilitation. Capacity building is also proposed for MOT, MRD and MCAT and is also planned for the local consulting firms and construction contractors to contribute towards recovery and reconstruction of the road sub-sector.

56. The proposed short-term investment and TA projects are identified as follows:

#### Investment Projects:

- Rehabilitation/reconstruction of Kabul-Jalalabad-Torkhum road (227 km) to facilitate trade, humanitarian aid, reconstruction efforts, and returning Afghans;
- Improvement of Kabul-Khenjan (170 km) in the north to rebuild 13 bridges and failed road sections and restore two way traffic on the 108 km road between Jabalus Saraj and Khenjan;
- Repairs and resurfacing of Khenjan-Pul-e Khumri-Mazar-e Sharif-Hairatan (225 km) including border road connecting Afghanistan with the bridge to Uzbekistan, the railway and the river port of Termez. This road is critical for all trade from the neighboring countries to the north, enabling smooth access to northern provinces and facilitation humanitarian aid from Uzbekistan;
- Restoration of the Salang Tunnel (2.8 km). This project would repair damages to the approach galleries (about 850 meters are missing), minor damages to the tunnel itself and provide mechanical ventilation and permanent lighting of the tunnel;
- Replacement of damaged bridges on the primary road network to remove bottlenecks, facilitates all weather access and smooth flow of traffic, and allow reconstruction effort over a large number of provinces;

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<sup>10</sup> Railways and waterways.

- Reconstruction and rehabilitation of the highly trafficked Kabul to Khandhar highway (500 km), now largely functioning as a poor gravel road due to total disintegration of the pavement, thereby improving the north-south connection and improving integration of the country. The project can be constructed in three road sections: Kabul-Ghazni (124 km); Ghazni-Qalat (218 km) and Qalat-Khandhar (132 km);
- Rehabilitation and reconstruction of the Khandhar-Spin Boldak (108 km) highway linking Pakistan and the port of Karachi to the southern and western parts of the country facilitating humanitarian aid and trade;
- Repairs, rehabilitation and partly reconstruction of the Kandahar-Herat-Torgundi border road (680km). This road was constructed with cement concrete base course/surfacing and is severely deteriorated due to old age and lack of timely maintenance. The project would reduce the travel time from several days to one day only for all traffic, and facilitate humanitarian aid coming through Pakistan as well as trade with Turkmenistan and Iran;
- Rehabilitation and reconstruction of the Pule Khumri-Shir Khan (176 km) border road facilitating trade with Tajikistan. The Baghlan-Konoz section requires reconstruction and the Konoz-Shir Khan section needs resurfacing and some reconstruction;
- Initiate rehabilitation of key secondary and tertiary roads to address the current isolation of Provinces not currently served by the primary road network. These roads will also serve the rural communities. Initially about 1,000 km roads will be undertaken using labor-intensive methods to provide employment opportunities to the rural community, returning refugees and ex-combatants.

#### Technical Assistance Projects:

- TA for capacity building and institutional strengthening/reforms of the ministries responsible for the transport sector to restore their functions and enable them manage and develop the sector to promote international trade and cross border trade facilitation, and play a central role in the transport sector over short and long-term;
- TA to develop a transport sector master plan and an agreed framework for sector development including institutional structure, cost recovery and financing;
- Develop capacity of the roads directorate in the MPW possibly through twinning with the roads agency in a donor country;
- TA for capacity building of the local consulting and contracting industry. The TA will also address training of local community contractors consisting of returning refugees and ex-combatants;
- Labor Based Demonstration Projects to introduce sustainable job creation in the road sector and demonstrate cost-effectiveness and provision of adequate quality of works using LB methodologies. The approach facilitates the re-integration of returning refugees and ex-combatants into civil society as well as providing employment opportunities for the wider rural community;
- TA to develop and promote cross border facilitation for transport of passengers and goods.

## Emergency Maintenance

57. These actions will take time and given the current conditions of the road network, immediate actions are needed to facilitate the increasing flow of traffic. This involves temporary maintenance of the highly deteriorated sections of the road used by the traffic and winter maintenance over mountain passes, and emergency maintenance for landslides, washouts and avalanches. A two-pronged approach should be considered whereby on the one hand MPW will undertake some of these works with own/or donor provided equipment, at the same time some of these works are gradually awarded to develop the local contracting industry. The following TAs are proposed to undertake more detail work and prepare recommendations:

- TA and equipment to establish winter (and emergency) maintenance capability for key mountain range crossings;
- TA and funding to provide intensive maintenance to improve the current driving conditions on failed road sections on the primary network where the traffic presently uses alternative routes, until such time that these road sections can be rehabilitated or reconstructed;

### **b. Medium Term Needs (2.5-5 years)**

58. The following activities are proposed for implementation during medium to long term period:

- Construction of the Herat-Shiberghan road link to complete the ring road and improve communication between the western parts of the country with the north;
- Construction/improvements to the Central Afghan Highway (Herat-Chaghcharan-Kabul);
- Construction of secondary and tertiary road network providing access to all major population centers and rural communities;
- Initiate concessions for transport sector infrastructure operations and maintenance.

## **2. Civil Aviation**

### **a. Short Term Priorities (0-2.5 years)**

59. Immediate investment priorities for the civil aviation sub-sector includes reopening the Afghanistan airspace for safe international overflights, improving communication links between Kabul, Kandhar, Herat and Mazar Sharif, and improving and restoring operations of all airports in the country. The TA projects focus on capacity building and reviewing organizational framework and proposing restructuring of the civil aviation sub-sector. The proposed TAs also includes expertise on resuming commercial operations of major airports including negotiating landing rights.

## Investment Projects:

60. The following investment and TA projects have been identified as priority to address the immediate needs in the civil aviation sub-sector:



- Reopening of Afghan airspace for safe international overflights;
- Re-establishing communication links between air traffic controls at Kabul, Kandhar, Herat, and Mazar Sharif;
- Rehabilitation and safety improvements at the Kabul and Kandhar international airports;
- Rehabilitation and safety improvements at the Mazar Sharif, Herat, Jalalabad, Kunduz and Chakcharan domestic airports; and
- Improvement of pavements at 15 secondary airports.

#### Technical Assistance Projects:

- TA for institutional assessment of MCAT and preparing recommendations for providing autonomy to operations wing;
- TA for capacity building of existing and new staff in managing operations and maintenance and safety and security of the airports;
- TA for reviewing and preparing recommendations for commercialization of airports including expertise to assist negotiating international agreements including landing rights; and
- Assistance from ICAO member countries to establish fees and tariff structure.

#### b. Medium Term Needs (2.5-5 years)

61. The following activities are proposed for implementation during the medium to long term period:

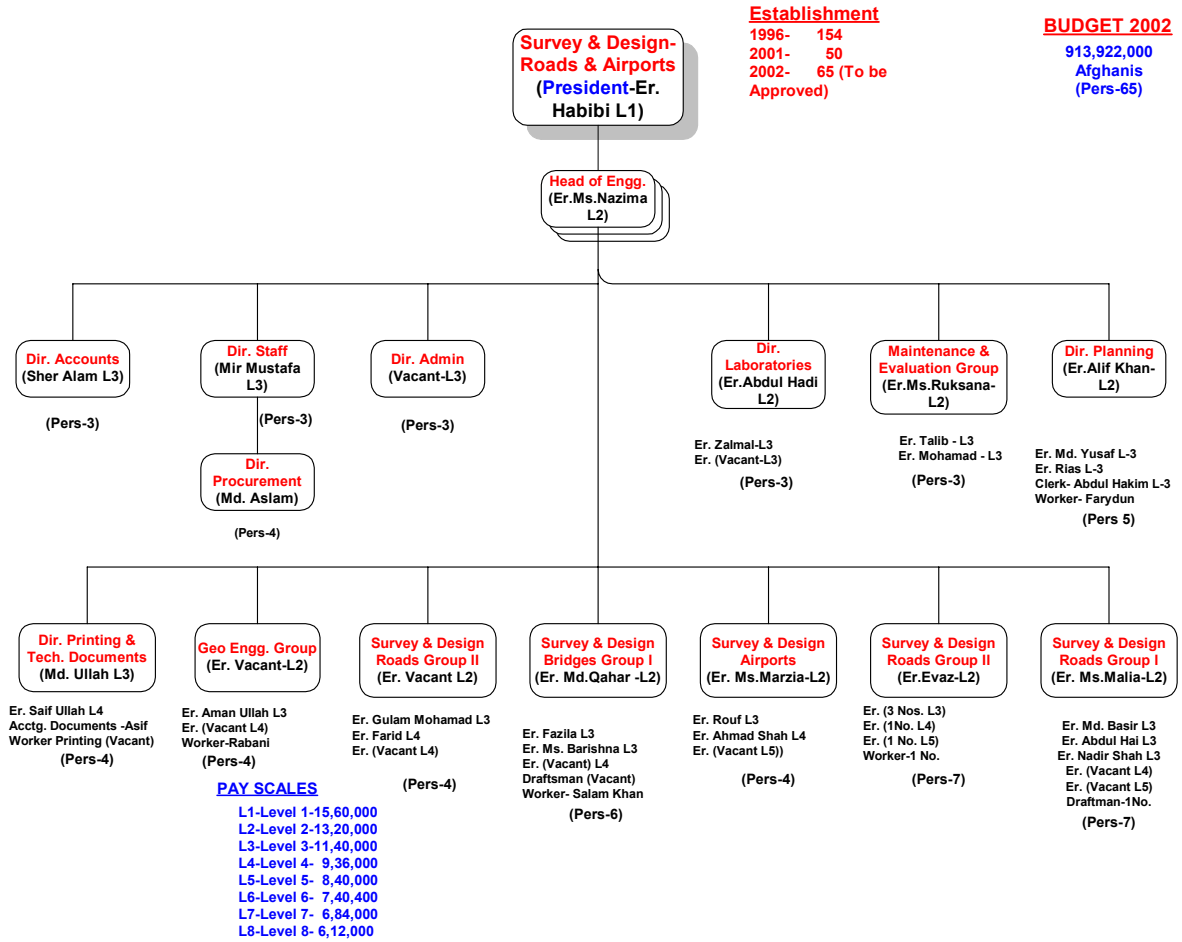
- Improvement of international airports and rehabilitation of major domestic and smaller regional airports;
- Expansion of international and other major airports;
- Privatization of the SOEs.

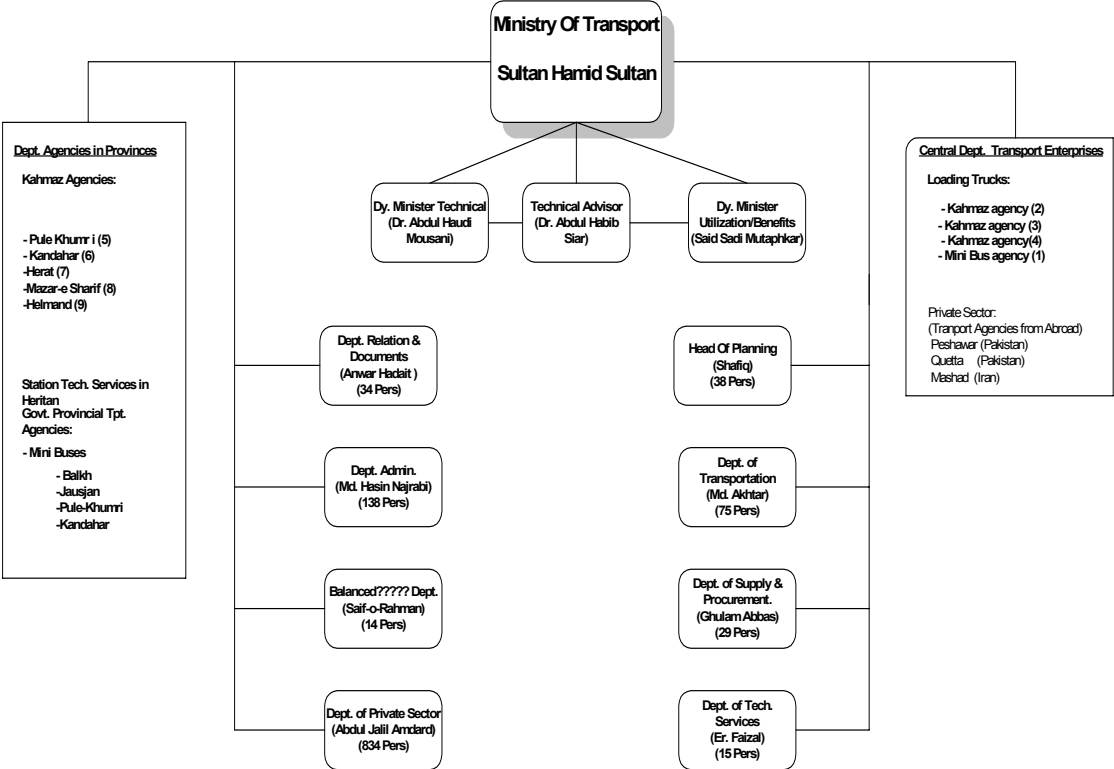
### 3. Summary Cost

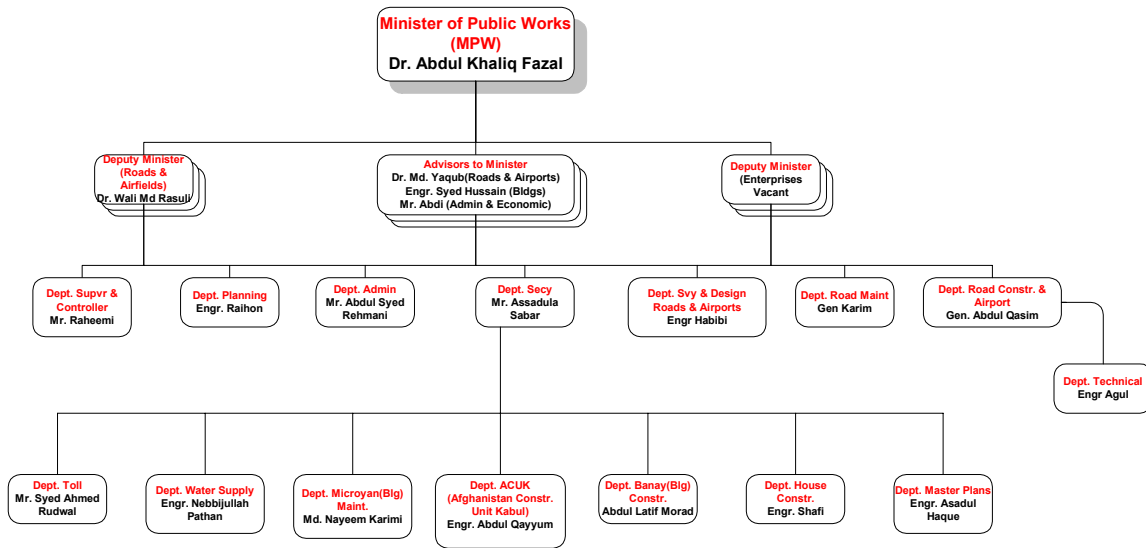
62. The following is a summary of the cost of investment and TA projects under the short and medium term needs. Detailed cost is given in Appendix 5:

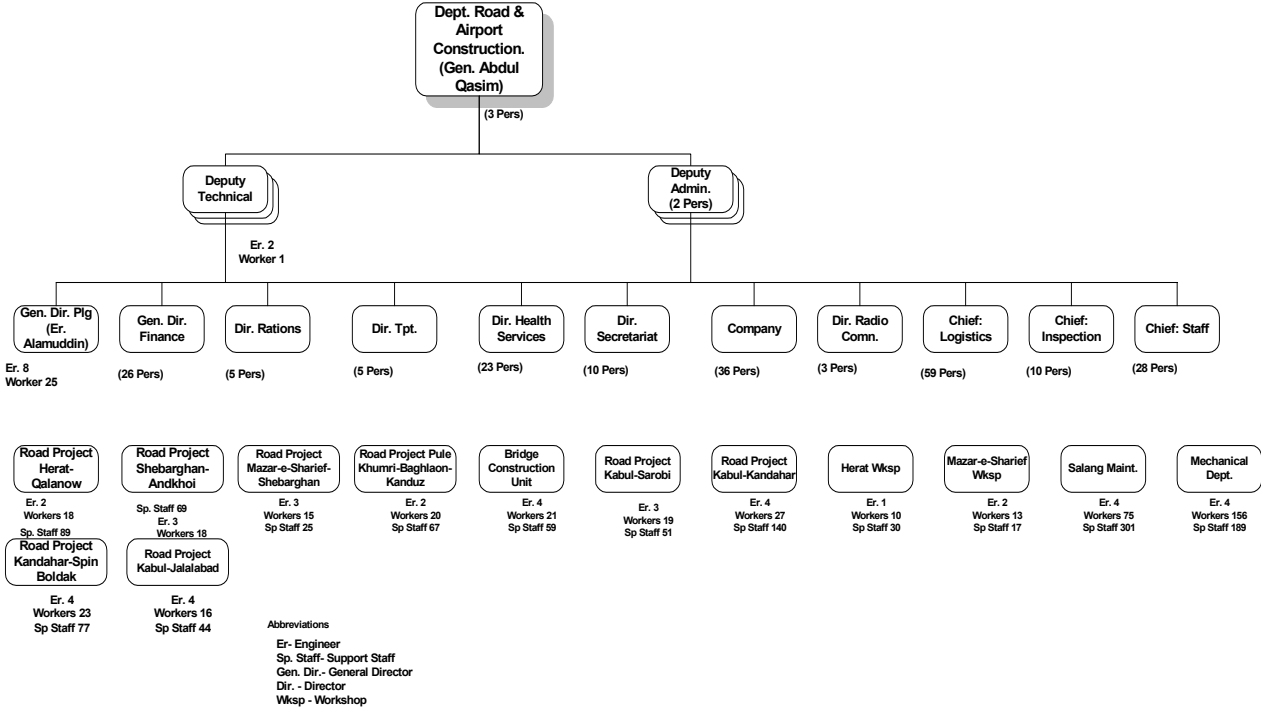
	Investment Projects	T A Projects	Total
Short Term (0-2.5 years)	653.3	6.3	659.6
Medium Term (2.5-5 years)	660.3	7.5	667.8
Long Term (5-10 years)	832.0	0.0	832.0
Total:	2,145.6	13.8	2,159.4

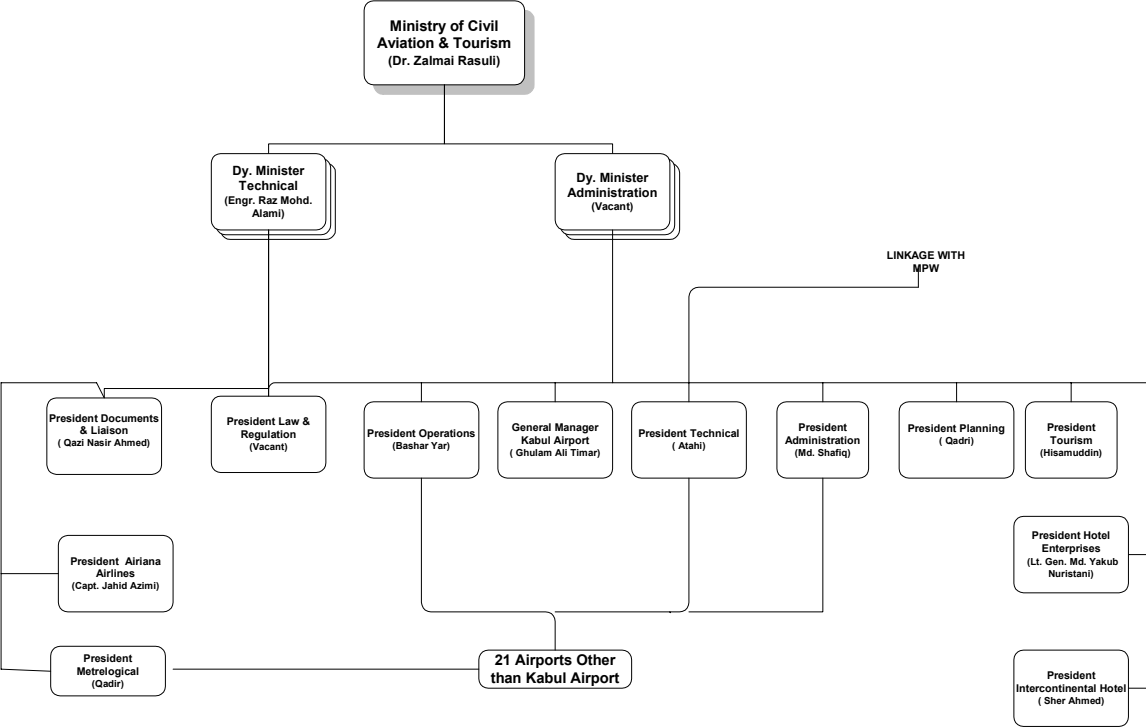
(\$ Million)











## AFGHANISTAN

### CONDITION SURVEY OF THE PRIMARY ROAD NETWORK

#### KABUL-GHAZNI-QALAT-KANDAHAR SECTION

##### Description

1. The road Kabul-Ghazni-Qalat-Kandahar (510 km) forms the part of the core road network of Afghanistan. It connects Kabul with Kandahar passing through the important towns of Ghazni and Qalat. The road passes through hilly terrain though most of its length is through desert terrain. The road alignment passes through two provincial capitals; (i) Ghazni, and (ii) Qalat. A number of important provincial roads take off from this ring road. A few of these<sup>11</sup> were also traveled upon for 15 to 20 kms each from the main axis to assess a representative condition of these. Other important landmarks on this road are, (i) Kabul University at km 10.6 (ii) Shekhabad at km 67, (iii) River Tarnek at km 391.5.

##### Present Road Condition

2. Starting from Kabul (Presidential Palace) the road has existing asphalt surface for about 50 km. The road is a two lane road with 7m wide asphalt wearing surface and 1.5 m shoulder provision on either side. Most of this portion (up to 42 km) had been resurfaced a year or so ago (as per the MPW engineers) but the shoulders require immediate paving/maintenance to ensure longer life of the pavement. A good asphalt road stretch of about 7 km also exists between km 230 and 237 which will also need routine and periodic maintenance. In addition about 140 km of road has a fair asphalt riding surface, but it is already showing signs of distress at most places and needs to be attended to immediately. The balance of the road is in bad shape and requires reconstruction. The drainage is practically non-existent. There are a large number of culverts and causeways which are damaged or needing urgent maintenance. No road signs exist throughout.

3. The road in spite of its bad condition is carrying heavy traffic, both in numbers as well as in loading. Overloaded trucks and buses besides multi-axle vehicles with multi axle trailers are plying on this road. However, the condition of most of the road stretch is not congenial for carrying such heavy vehicles and a large number of vehicles were found stranded with their axles broken or tyre bursts etc.

4. There are a total of 50 bridges on this road. Of these 6 are damaged. A culvert which has been badly damaged due to flooding has now to be replaced by a new bridge as the waterway has increased since the damage. Most of the other bridges have a bad riding surface due to damaged wearing course and/or damaged railings/parapets.

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<sup>11</sup> Road Sayedabad-Pule Alam, Road Kote Ashro-Panjab

### **Proposed Reconstruction Works**

5. Out of 510 km of road from Kabul to Kandahar, about 127 km requires reconstruction of embankment; 281 km requires reconstruction of sub base, 296 km of base and 458 km of asphalt works besides regular and periodic maintenance and immediate paving/maintenance of shoulders to prevent damage to the resurfaced 52 km of the road.
6. The road requires drainage and shoulders for about 462 km of its length.
7. Most of the bridges require the railings/parapets to be replaced, 6 require complete or partial reconstruction (Annexure II refers). One culvert at 317 km which has been badly damaged requires to be replaced with a bridge of about 60m span. Damaged causeways and culverts at various locations need repairs/reconstruction besides regular and periodic maintenance.

### **KANDAHAR-SPIN BOLDAK SECTION**

#### **Description**

8. The road Kandahar-Spin Boldak (105 km) connects Kandahar with the international border with Pakistan at Spin Boldak. It is one of the six radial cross-border links. The road traverses all along its length through Kandahar province. The Kandahar airport is also situated along this road.

#### **Present Road Condition**

9. This road is in a satisfactory state and has about 42 km of length where the asphalt surface does not exist. While pothole repairs and other maintenance activities were being carried out by the department labor nearer to Kandahar (km18-19), a grader from a Pakistan based contractor was found grading the damaged base course stretch at km 42-43. The effort had produced a fairly good riding surface from km 43 to 55 (with some watering and rolling effort this could be maintained for longer duration).
10. Stone crusher and an asphalt plant are available at km 10 belonging to the MPW and on enquiry it was found that these are in working order and require some repair and maintenance efforts to be fully functional. Good brick kilns also exist along the route especially at km 95.
11. Out of the 4 bridges on this road, two bridges, (i) Arghistan Bridge and (ii) Mail Bridge are badly damaged and need reconstruction.
12. The road took about 2.5 hours of travel from Kandahar to Spin Boldak by a 4-wheeled drive vehicle. It carries a very good numbers of vehicles from and to across the



international border. It was noticed that in duration of 3.5 hours a total of 423<sup>12</sup> vehicles plied on the road (count for one direction only).

### **Proposed Reconstruction Works**

13. Of the 105 km of road, about 42 km requires reconstruction/repairs to the base, while the complete length of 105 km needs to be surfaced/resurfaced with a 350 mm asphalt wearing course after carrying out pothole patching and attending to some areas of cracking/settlement of pavement in the balance 63 km in a few stretches.

14. The road is devoid of drainage and shoulders for the complete length of 105 km which needs to be put in place immediately to avoid further deterioration. It also has no road signs or lane markings.

15. Of the four bridges, two<sup>13</sup> are badly damaged needing partial reconstruction after ascertaining the soundness of undamaged portions and the other two needs to be maintained and one of these needs a replacement of railing.

## **KANDAHAR-HERAT SECTION**

### **Description**

16. The road Kandahar-Herat (545 km) forms the part of the core road network of Afghanistan. Besides being the important link of the primary core road network (Afghan ring road), it provides connectivity to three important international links; (i) Kandahar-Spin Boldak with Pakistan in the south, (ii) Herat-Islam Qilah with Iran in the west, and (iii) Herat-Torghundi with Turkmenistan in the north. The road traverses through rolling hilly terrain along river Grishak and other rivers besides some length through desert and plain terrain. The road alignment passes through the provinces of Farah and Lashkargarh apart from Kandahar and Herat. A number of important provincial roads also take off from this part of the ring road.

### **Present Road Condition**

17. Starting from Kandahar (Provincial Office of Kandahar as Km 0) the road has existing rigid pavement (cement concrete surface) throughout its length of 545 km. Compared with other roads traveled on in Afghanistan, the overall condition of this road is fair to satisfactory. (It takes about 8.5 hours to travel from Kandahar to Herat in a 4 wheel drive vehicle.) Large stretches of this road have been maintained in the past, in that the transverse joints and cracks have been sealed, providing a good riding surface. Another 154 km are in fair condition, requiring sealing of joints. About 200 km of the road is in maintainable, poor or bad condition, requiring filling up of joints and treatment to cracks and spalling besides some of the portions needing replacement of the pavement

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<sup>12</sup> 423 vehicles comprised, 170 trucks including multi-axle trucks along with multi-axle trailers, 112 busses and 141 cars.

<sup>13</sup> (i) Arghistan Bridge at km 24.5 – 130m of the bridge is damaged out of the total span of 310m and (ii) Mail Bridge at km 59.2 – both the abutments and 3 mid spans and decking are damaged of this 190m long bridge.

all together. Because of the inherent longevity of life of rigid pavements, the damages even after about 30 years of construction are not very high given the circumstances that hardly any regular or periodic maintenance has been carried out on this road for a number of years except about 195 km which have been maintained.

18. There being comparatively more water availability in Herat and Farah provinces, the land in these areas is now under cultivation.

19. A number of bridges, culverts and causeways are damaged and need reconstruction. No road signs exist throughout. There are a total of 34 bridges on this road. Of these 9 are damaged (6 needing reconstruction wholly or partially and 3 requiring complete replacement of decking). 3 culverts which have been badly damaged due to flooding have now to be replaced by a 3 new bridges as the waterway has increased since the damage. Most of the other bridges have damaged railings/parapets.

20. The road is carrying heavy traffic, both in numbers as well as in loading. Overloaded trucks and buses besides multi-axle vehicles with multi axle trailers are plying on this road. A large number of these are goods and passengers from and to across the borders. A total of 1059 vehicles were counted for one direction in 8.5 hours while moving from Kandahar to Herat during the condition survey. 499 of these were trucks including multi-axle trucks with trailers (some of them plying between Iran through Islam Qilah to Pakistan through Spin Boldak as ascertained from the truck drivers), 305 buses (some carrying new cars on the top), as against 255 cars.

### **Proposed Reconstruction Works**

21. Out of 545 km of road from Kandahar to Herat, about 58 km is badly damaged and cracked requiring complete reconstruction as concrete pavement or replacement by asphalt road stretches; 93 km is poor wherein the pavement has cracked/cracking requiring reconstruction/heavy repairs; about 200 km can be saved for another 5-10 years by carrying out sealing of joints, attending to spalling and cracking that has taken place over the years followed by periodic maintenance. The balance of about 195 km of the road is in good condition or has been maintained by filling up the joints and transverse cracks providing a good riding surface. (In fact about 4 km stretch from km142-145.9 has been maintained in this manner for half its width before the maintenance activities seized to be existence.) This 195 km stretch will, however, require periodic maintenance.

22. Most of the bridges require the railings/parapets to be replaced. Of the 9 damaged bridges, 6 need reconstruction and 3 require complete replacement of decking. 3 culverts which have been badly damaged due to flooding would now require replaced by 3 new bridges as the waterway has increased since the damage. (Annexure III refers). Damaged causeways and culverts at various locations need repairs/reconstruction besides regular and periodic maintenance.

23. The reconstruction of damaged bridges and cross drainage works besides repairs to the transverse cracks in about 140 km stretch should be undertaken on this road on priority as immediate needs.

## KABUL-JALALABAD-TORKHAM SECTION

### Description

24. The road Kabul-Jalalabad-Torkham (227 km or 213.5 km from Pule Charkhi) connects Kabul, the capital of Afghanistan with the international border with Pakistan at Torkham. It is one of the six radial cross-border links. Passing through the hilly terrain, the road alignment is along River Kabul from Pule Charkhi, 13.5 km from the Presidential Palace in Kabul.<sup>14</sup> River Sorkhakon meets River Kabul at km 142.5 from Pule Charkhi. The road passes through two provincial capitals; (i) Sorobi, and (ii) Jalalabad. There are 9 tunnels through which the alignment traverses. Other important landmarks are, (i) Sorobi dam at km 49.4 (ii) electric junction at km 53.2 and (iii) Jalalabad airport at km 137 (Annexure I<sup>15</sup> refers).

### Present Road Condition

25. The road goes along the meandering Kabul River with good existing geometrics for a hill road. The permanent works; (i) retaining walls, (ii) breast walls, and (iii) parapet walls besides the river training works wherever existing are of high quality. Tunnels are in good condition though some maintenance efforts are required for the drainage inside the tunnels besides the surfacing (asphaltic) for 6 of the 9 tunnels. There are a large number of culverts and causeways on this hill road of good quality. Wherever these have been damaged or completely missing, the pavement has deteriorated because of the water flowing on the pavement over the years (Annexure I refers) and are mostly in the zigs and curves. There are no road signs throughout.

26. The road from Jalalabad to Torkham about 78 km is in reasonably sound condition and inspite of heavy traffic<sup>16</sup> on this road stretch, a car can cover the distance in 1 hour.

27. Road has a total of about 27 bridges of which 1 is completely destroyed, abutment of one is damaged, 2 are partially damaged being of longer lengths while 2 of smaller spans are damaged.

### Proposed Reconstruction Works

28. Of the 213.5 km of road from Pule Charkhi to Torkham, about 12 km requires reconstruction of sub base, 42 km of base and 84 km of complete asphaltic works

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<sup>14</sup> The Presidential Palace at Kabul is considered as the start (km 0) of all roads emanating from Kabul and the provincial capital offices as the terminating/start point of roads terminating/starting from the Provincial Capitals.

<sup>15</sup> Annexure I depicts the condition reconnaissance details carried out (exact dimensions of the damaged cross drainage works and permanent works could not be measured for reasons of safety from likely mines in the areas). 13.5 km of road passing through Kabul to Pule Charkhi on Road Kabul to Torkham, which is asphaltic road was not considered for the condition reconnaissance being within the city, however, the stretch has been included in the rough cost estimate.

<sup>16</sup> 312 vehicles were counted in one direction in 1 hour from Torkham to Jalalabad comprising mostly heavily loaded trucks and buses carrying goods and passengers including returning refugees

besides maintenance to include pothole excavation, and pothole patching for the balance of the road followed by a 350 mm of asphalt wearing course.

29. The road requires drainage and shoulders for about 60% of its length or 136 km length and about 63 km of the total road length from Kabul to Jalalabad requires permanent works at suitable places to reduce further deterioration.

30. Most of the bridges require the railings/parapets to be replaced, 6 require complete or partial reconstruction (Annexure I refers). One culvert at km 36.3 which has been badly damaged requires to be replaced with a bridge. Total length of about 1000 m of the damaged causeways at various locations needs repairs/reconstruction.

KANDAHAR-HERAT SECTION:									
Km	Place	Good/Repaired	Fair	Satisfactory	Poor	Bad	Shoulders	Condition of Brs.	Remarks
0	Kandahar								Concrete pavement
0-8.1		√					x		
8.1	Br. (157m)							ok	
8.1-10		√					x		
10-15.2		√							
15.2-30			√						Photo28&29- Cracks in
30-40				√			x		concrete pavement &
40-45			√				x		Kishmish
45-60.2				√			x		Photo30- Sheep mkt.
60.2	Br. (14.9m)							ok (railing broken)	photo31-curve & Conc.
60.2	Br. (72.3m)							ok (railing broken)	pavement at km 32
60.2-71		√					x		
71	Br. (44.1m)							ok	
71-92.5		√					x		
92.5	Br. (44.1m)							ok	
92.5-109.6		√					x		
109.6	Br. (34.2m)							good	Photo 32 - R. Grishak
109.6-111		√					x		
111	Br							ok	

	(44.1m)								
111-117		√							
117	Br. (58.2m)							Damaged	Abutment & 28m span
								(Photo33&34 - damaged pavement)	
117-119.6		√					x		
119.6	Br. (30m)							ok	
119.6-121.8		√					x		
121.8	Br. (44.1m)							Damaged	(Photo 35,36 & 37)
121.8-133.8		√					x		
133.8	Br (72m)							ok (railing broken)	
133.8-142		√					x		
142-145.9		√x0.5					x		Half width repaired
145.9	Culvert damaged & waterway increased to about 40m								New Br required(photo 12)
145.9-165		√					x		
Km	Place	Good/Repaired	Fair	Satisfactory	Poor	Bad	Shoulders	Condition of Brs.	Remarks
165-170				√			x		
170-175					√		x		

175-183.7				√			x		
183.7	Br. (43.6m)							ok (railing broken)	
183.7-190				√			x		
190-226.5			√				x		
226.5	Br. (273m)							Damaged	Backfill to Hirat side
									abutment & approach
									slab required.
226.5-244					√		x		
244	2 Culverts damaged & waterway now formed warrants 2 new bridges.								New Brs required
									(photo 11)
244-255					√		x		
255-277			√				x		
277	Br. (87m)							Damaged	1 span & abutment
									to be reconstructed.
									(photo 10)
277-298			√				x		
298	Br. (44.1m)							ok (railing broken)	
298-301			√				x		

301	Br. (58.2m)							ok (railing broken)	
301-313			√				x		
313	Br. (58.2m)							Damaged	9m approach slab
313-314			√				x		
314	Br. (44.1m)							ok (railing broken)	
314-322			√				x		
322	Br. (86.4m)							Damaged	1 pier & 2 spans to be reconstructed
322-331			√				x		
331	Br. (58.2m)							ok (railing broken)	
331-340			√				x		
340-351					√		x		Farah Road Jn. At 351 (Photo 9)
351	Br. (326.1m)							ok (railing broken)	
Km	Place	Good/Repaired	Fair	Satisfactory	Poor	Bad	Shoulders	Condition of Brs.	Remarks
351-370					√		x		
370-383			√				x		
383	Br. (58.2m)							Damaged	Decking damaged
383-389					√		x		
389	Br. (58.2m)							Damaged	Decking damaged
389-406					√		x		



406	Br. (44.1m)							Damaged	Decking damaged
406-412					√		x		
412	Br. (30m)							ok	
412-433						√	x		Shin Dand (old Russian camp-Photo7- 8)
433-440						√	x		
440	Br. (30m)							ok (railing broken)	
440-441						√	x		
441	Br. (72.3m)							ok (railing broken)	
441-455						√	x		
455	Br. (58.2m)							ok (railing broken)	
455-467.7						√	x		
467.7									Adras Khan Village
467.7-476		√					x		
476	Br. (100m)							ok (railing broken)	
476-482		√					x		
482	Br. (86.4m)							ok	
482-487		√					x		
487	Br. (58.2m)							ok	
487	Br. (72.3m)							ok (railing broken)	
487-517		√					x		Airport Hirat (Photo5-6)

517	Br. (72.3m)							ok	Mirdout Br.
517-540		√							
540	Br. (410.7m)							ok	Ashtoon Br.(Photo3&4)
540-545		√							(Photo1 &2 Avenue)
545									Herat
	Total Km	195	154	45	93	58			

## Note:

- (i) Good/Repaired                      Transverse joints & cracks sealed but some longitudinal joints to be repaired  
(ii) Fair                                      Sealing of joints required  
(iii) Satisfactory                          Some spalling & cracking to be attended to  
(iv) Poor                                      Pavement cracking  
(v) Bad                                        Badly damaged/cracked

## Traffic Count thro' moving vehicle:

7.30-8.30 AM (1 hr)  
8.30-9.30 AM (1 hr)  
9.30-10.30 AM (1 hr)  
10.30-11.30 AM (1 hr)  
11.30-12.30 PM (1 hr)  
12.30-1 PM (30 min)  
3-4 PM (1 hr)  
4-5 PM (1 hr)  
5-6 PM (1 hr)

Trucks	Cars	Buses	Total
58	115	115	288
40	50	50	140
50	40	25	115
75	22	15	112
40	25	10	75
6	30	10	46
60	12	25	97
70	7	4	81
100	4	1	105
499	305	255	1059

KABUL-GHAZNI-QALAT-KANDAHAR SECTION:									
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	Condition	Remarks
0	Kabul							2lane asphalt	Doud Rd.
7.1	Br. (166m) RCC							Railing damaged	Pule Mahrasod Khan
7.1-10.6	Kabul University 10.6 km							2lane asphalt	Doud Rd.
12.6	Jn. Quattes Sangir							2lane asphalt	Doud Rd.
12.6-16.1	Jn. At Km 16.1							2lane asphalt	Company/Pernal jn.
17.1	Crushers							2lane asphalt	Good material available
16.1-28.9								2lane asphalt	Good
28.9	Br (50m) PSC							Good	
28.9-34.8								Good	Resurf Taliban
34.8	Causeway							Good	
35.3	Tollway								Being est.
35.3-36.8								Good	
37.3	Check post								End Kabul Province
									Enter Maidan Province
37.3-38.3								Good	
38.3	Br. (123m) RCC							Railing damaged	
38.3-42.8						x	x	2lane asphalt	hilly & barren terrain

42.8-45.7					x	x	x	Fair	Asphalt cracking
45.7	Br (35m) RCC							okay	
45.9	Jn.								Ghazni- Bargan(right) jn
45.9-48					x	x	x	Fair	Asphalt cracking
48	Br (51m) RCC							okay	River to Kabul
48-50.7					x	x	x	Fair	Asphalt cracking
50.7	Durani Village								Problem on return
50.7-51.7								Fair	7m asphalt on 10 m
51.7								End of asphalt	
51.7-55			x	x	x	x	x	Reconstr reqd	
55	Br (17m) RCC							Damaged	To be replaced
55-63			x	x	x	x	x	Reconstr reqd	
63	Jn.								Chak Wardak/Ghazni jn
63-67			x	x	x	x	x	Reconstr reqd	Shekhabad - big town
									shops in containers at km 67
67-68.5			x	x	x	x	x	Reconstr reqd	
68.5	Jn.								Logar/Ghazni Jn.

68.9	Br. (136m) RCC							Good requires wearing course	Br over R. Logar
69-77.2		x	x	x	x	x	x	Reconstr reqd	
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	Condition	Remarks
77.2	Br (72m) RCC							Good requires wearing course	Syedabad
77.2-78		x	x	x	x	x	x	Reconstr reqd	
78	Br (186m) RCC							Good requires wearing course	
78-78.8		x	x	x	x	x	x	Reconstr reqd	Asphalt plant at 78.8km
									Good material available
78.8-84.9		x	x	x	x	x	x	Reconstr reqd	
84.9	Br (42m) RCC							Okay requires wearing course	
84.9-86.4		x	x	x	x	x	x	Reconstr reqd	
86.4	Causeway								300m damaged
87.4	Salar Village								Lunch halt

87.4-104.6		x	x	x	x	x	x	Reconstr reqd	
104.6	Br (47m) RCC							Good requires wearing course	
104.6-128.3		x	x	x	x	x	x	Reconstr reqd	Sloping terrain hilly
128.3	Jn.								Gardez/Ghazni Jn
136	Br (100m) RCC							Okay requires wearing course	Ghazni (stay night)
136-144.3		x	x	x	x	x	x	Reconstr reqd	Desert terrain flat mostly
144.3	Askar Kot								Good material available
144.3-146.5			x	x	x	x	x	Reconstr reqd	
146.5-148.5		x	x	x	x	x	x	Reconstr reqd	Bad condition
148.5	Kharob Village								
148.5-151		x	x	x	x	x	x	Reconstr reqd	Bad condition
151-180.7			x	x	x	x	x	Reconstr reqd	Poor condition
180.7-194.7					x	x	x	Fair asphalt	
194.7-195.7		x	x	x	x	x	x	Reconstr reqd	
195.7	Br. (51m)							Railing	ok

	RCC							damaged	
195.7-197.7					x	x	x	Fair asphalt	
197.7-217.6		x	x	x	x	x	x	Reconstr reqd	Bad condition
217.6-223.6					x	x	x	Fair asphalt	
223.6	Br. (34m) RCC							Railing damaged	ok
223.6-226.1					x	x	x	Fair asphalt	
226.1	Br. (26m) RCC								ok
226.1-229.9					x	x	x	Fair asphalt	
229.9	Br. (28m)								ok
229.9-237						x	x	good asphalt	
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	Condition	Remarks
237-250					x	x	x	Fair asphalt	
250	Muqur Village								Lunch halt
250-260					x	x	x	Fair asphalt	
260	Br. (25m) PSC							Railing damaged	ok
260-262.2					x	x	x	Fair asphalt	
262.2-280		x	x	x	x	x	x	Reconstr reqd	
280	Br. (35m)							Reconstr	Damaged

								reqd	(photo8)
280-283.9			x	x	x	x	x	Reconstr reqd	Pushkanda Br.
283.9	Br. (27m) RCC							Railing damaged	ok
283.9-286.2				x	x	x	x	Reconstr reqd	
286.2	Br. (25m) RCC							Railing damaged	ok
286.2-288.8				x	x	x	x	Reconstr reqd	
288.8	Br. (29m) RCC								ok
288.8-292.5			x	x	x	x	x	Reconstr reqd	
292.5	Br. (25m) RCC								ok
292.5-300.1			x	x	x	x	x	Reconstr reqd	
300.1	Br. (18m) PSC							Reconstr reqd	Damaged
300.1-310.3			x	x	x	x	x	Reconstr reqd	
310.3	Br. (22m) RCC								ok
310.3-311.8			x	x	x	x	x	Reconstr reqd	
311.8-313.8					x	x	x	Fair asphalt	
313.8-316.7			x	x	x	x	x	Reconstr reqd	
316.7	Br. (43m) RCC (Tazi							Reconstr reqd	Damaged



	Br.2)								
316.7-319.9			x	x	x	x	x	Reconstr reqd	
317.2	Existing culvert badly damaged and waterway increased to about 60m.								New Br.reqd. (Photo 9)
319.9	Br. (50m) RCC (Tazi Br.1)							Reconstr reqd	Damaged (photo 10)
319.9-329			x	x	x	x	x	Reconstr reqd	
329	Br. (25m) RCC								ok
329-330			x	x	x	x	x	Reconstr reqd	
330	Br. (25m) RCC							Railing damaged	ok
330-333.3			x	x	x	x	x	Reconstr reqd	
333.3	Br. (50m) RCC								ok
333.3-334.6			x	x	x	x	x	Reconstr reqd	
334.6	Br. (25m) RCC								ok
334.6-336.6			x	x	x	x	x	Reconstr reqd	

336.6	Br. (35m) RCC							Railing damaged	ok
336.6-344.1			x	x	x	x	x	Reconstr reqd	
344.1	Br. (34m) RCC								ok
344.1-346.8			x	x	x	x	x	Reconstr reqd	
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	Condition	Remarks
346.8	Br. (50m) RCC							Railing damaged	ok
346.8-370.8			x	x	x	x	x	Reconstr reqd	
370.8	Br. (41m) RCC								ok
370.8-375.4			x	x	x	x	x	Reconstr reqd	
375.4	Br. (28m) RCC								ok
375.4-376.6			x	x	x	x	x	Reconstr reqd	
376.6	Br. (25m) RCC								ok
376.6-380			x	x	x	x	x	Reconstr reqd	
380	Br. (60m) RCC							Railing damaged	Qalat
380-385				x	x	x	x	Reconstr reqd	
385-391.5			x	x	x	x	x	Reconstr reqd	

391.5	Br (50m) RCC							Good	Newly repaired in 2001
391.5-393.4				x	x	x	x	Reconstr reqd	
393.4	Br (25m) RCC								ok
393.4-395.5				x	x	x	x	Reconstr reqd	
395.5-405.4					x	x	x	Fair asphalt	
405.4	Br. (25m) RCC								ok
405.4-405.6					x	x	x	Fair asphalt	
405.6	Br (30m) RCC								ok
405.6-415.9					x	x	x	Fair asphalt	
415.9	Br (42m) RCC							railing damaged	ok
415.9-419.1					x	x	x	Fair asphalt	
419.1	Br (52m) RCC							railing damaged	ok
419.1-421.5					x	x	x	Fair asphalt	
421.6	Br (42m) RCC							Damaged	Reconstruction reqd.
421.6-425.5					x	x	x	Fair asphalt	
425.5-428.5				x	x	x	x	Reconstr reqd	
428.5-430.3					x	x	x	Fair	

								asphalt	
430.3	Br (25m) RCC							railing damaged	ok
430.3-434.9					x	x	x	Fair asphalt	
434.9	Br (35m) RCC								ok
434.9-436.9					x	x	x	Reconstr reqd	(Photo 16 - Traffic)
436.9	Br (50m) RCC							railing damaged	ok
436.9-438.5					x	x	x	Fair asphalt	
438.5-441.5			x		x	x	x	Reconstr reqd	
441.5-455.7					x	x	x	Fair asphalt	
455.7	Br (29m) RCC								ok
455.7-459.3					x	x	x	Fair asphalt	
455.7-459.3					x	x	x	Fair asphalt	
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	Condition	Remarks
459.3	Br (29m) RCC								ok
459.3-501.8					x	x	x	Fair asphalt	
501.8	Br (15m) RCC								ok
501.8-510					x	x	x	Fair asphalt	
510									Kandahar

Km		127	281	296	458	462	462		

## 1. Ghazni-Qalat stretch

Traffic count in moving vehicle:

	Trucks	Buses	Cars	Total
12.15-1.15 PM (1 hr)	40	15	18	73
1.15-2.15 PM (1 hr)	20	8	15	43
3-4 PM (1 hr)	40	35	45	120
4-5 PM (1 hr)	35	20	22	77
5-5.45 PM (1 hr)	30	10	15	55
	165	88	115	368

## 2. Qalat-Kandahar stretch

	Trucks	Buses	Cars	Total
6.45-7.15 AM (30 min)	30	1	5	36
7.15-9 AM (1hr 45 min)	55	27	65	147
9-10.30 AM (1hr 30 min)	45	23	40	108
	130	51	110	291

KABUL-JALALABAD-TORKHAM SECTION:										
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	X-drainage	Condition	Remarks
0	Pule Charkhi								2lane asphalt fair	along R. Kabul
0-2							x		Cracking at few places	
2	Br (12m - Arch)								Repairs reqd.	
2-5.2							x		Cracking at few places	
5.2	Causeway(30m)							x	damaged.	reconstr. Reqd.
5.2-8						x	x		Cracking at few places	
8	Tunnels 2 Nos. (20m each)								good	
8.2	Tunnel(30m)				x		x		ok	surfacing reqd.
9	Tunnel(60m)				x		x		ok	surfacing reqd.
9-10.1							x		Cracking at few places	
10.1	Curve (100m)			x	x	x	x		bad	
10.1-10.7					x	x	x			
10.7	Curve (100m)			x	x	x	x		bad	
10.7-11					x	x	x			
11	Tunnel(30m)				x	x	x		ok	surfacing reqd.
11-11.2	Curve(200m)			x	x	x	x		bad	
11.2-12.3				x	x	x	x		asphalt in patches (200m)	
12.3	Br (14m)								ok	
12.8	Br (10m)								damaged	reconstr.
12.3-13.5					x	x	x		asphalt gone	surfacing reqd.
13.5-15							x		deep patchwork reqd.	

15-15.9										100m reconstr.
15.9	Br (14m)								ok	
15.9-16.2				x	x	x	x		asphalt in patches (100m)	
16.2-20.2			x	x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
20.2	Downmaipar vill.									
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	X-drainage	Condition	Remarks
20.2-22.6									good	repairs to drainage
22.6-23.1					x	x	x			
23.1	Tunnel								ok	surfacing reqd.
23.1-25			x	x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
25-25.8								x	fair asphalt	
25.8-30			x	x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
30-31.4					x	x		x		surfacing reqd.
31.4	Br. (14m)								ok	
31.4-32					x	x		x		surfacing reqd.
32.3	Br (36m)								ok	
32.3-33					x	x		x		surfacing reqd.
33	Br. (36m) Arch								ok	
33-34.9					x	x		x		surfacing reqd.
34.9-36.3					x	x		x		surfacing reqd.
36.3									Existing culvert badly	replace by 14m Br.

36.3-36.6					x	x			x	damaged.	(New Br. Reqd)
36.6											surfacing reqd.
36.6-38					x	x			x		culvert reqd.
38											surfacing reqd.
											Zardat Khada
											Al Quida
											stronghold
38-39								x		fair asphalt	
39-40								x		fair asphalt	some patchwork reqd.
40-41.4					x	x			x		surfacing reqd.
41.4	Br. (14m)									ok	
41.4-42.7									x	fair asphalt	some patchwork reqd.
42.7	Jn.										Left rd. to Tagab-
											Nejrab No. 117.4
42.7-43.8					x	x			x		surfacing reqd.
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	X-drainage	Condition	Remarks	
43.8	Br.								ok		
43.8-45.6			x	x	x	x	x	x	bad	reconstr. Stretch	
										incl. X-drainage works & R/W etc.	
45.6	Br. Arch on curve								good		
45.6-46.8					x	x			x		surfacing reqd.
46.8	Sarobi Village										
46.8-47.5					x	x			x		surfacing reqd.
47.5	Br.(36m)								ok		
47.5-49					x	x			x		surfacing reqd.
49	Tunnel(100m)								good		surfacing reqd.
49-49.4					x	x			x		surfacing reqd.
49.4	Tunnel(100m)								good		surfacing reqd.



49.4-51					x	x		x		surfacing reqd.
51-53.5	Electric Jn at 53.2				x	x		x		surfacing reqd.
53.5	Br.(12m)								ok	
53.5-63					x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
63	Br.(60m)								ok	ACLU 1997
63-74.8					x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
68.5	Br.(20m)								ok	
74.8	culvert								good	
74.8-77					x	x		x	few patches of asphalt (500m)	surfacing reqd.
77-78.3							x		fair asphalt	some patchwork reqd.
78.3-79.7				x	x	x	x		poor	reconstr.
79.7-81.6									fair asphalt	some patchwork reqd.
81.6										Sarkunda Baba (foot br. to vill. on R. Kabul(Photo21)
81.6-82.8				x	x	x	x		poor	reconstr.
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	X-drainage	Condition	Remarks
82.8	Br. (40m)								completely damaged	diversion available
										vehs moving
82.8-86.5	Surakakhoa vill			x	x	x	x	x	bad	reconstr.

										Stretch
	at km 83.5									incl. X-drainage
										works & R/W etc.
86.5	Br.(75m)								damaged	reconstr reqd
86.5-87.6				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage
										works & R/W etc.
87.6	Causeway (80m)								broken	reconstr reqd
87.9-88.6				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage
										works & R/W etc.
88.6	Br.(20m)								ok	Railings etc. require
										replacement
88.6-89.6				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage
										works & R/W etc.
89.6	Br.(16m)								ok	Railings etc. require
										replacement
89.6-90				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage
										works & R/W etc.
90	Br.(12m)								ok	
90.2	Br.(12m)								ok	
90-92.6				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage
										works & R/W etc.

92.6	Br (32m)								one abutment gone	reconstr & detailed
										checking reqd.
92.6-94.4				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	X-drainage	Condition	Remarks
94.4	Culvert								ok	
94.4-95.7				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
95.7	Culvert (3 orifice)								good	
95.7-96.8				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
96.8	Causeway(100m)								repairable	repairs reqd
96.9-97.4				x	x	x	x	x	bad	reconstr. Stretch
										incl. X-drainage works & R/W etc.
97.4	Br. (40m)								deck & railings etc broken	repairs reqd
97.8	Br. 20m								ok	Japan aid & ACULU
97.8-108.8				x	x	x	x	x	bad	reconstr
108.8-119.2						x			paved but shoulders reqd	some patchwork reqd.
119.2	Tunnel & Dam								good	
119.2-120									good asphalt	enter Jalalabad

									rd.	at 120
										Km
123	Br (14m)								ok	
123-135.8									fair asphalt	some patchwork
										(exit Jalalabad 135.8 Km)
135.8-137						x			fair asphalt	some potholes
137	Jalalabad Airport									Heavily mined
137-142.5						x			fair asphalt	some potholes
142.5	Br. (30m)								partially damaged(12m)	R. Sorkhakon meets
									Recontr reqd	R. Kabul
142.5-176						x			fair asphalt	some cracking & pot holes
176	Shanwar Vill.									
176-178.6						x			fair asphalt	some cracking & pot holes
178.6	Br.(100m)								ok	Parapet reconstr.
Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	X-drainage	Condition	Remarks
178.6-180						x			fair asphalt	some cracking & pot holes
180-180.2				x	x	x	x	x	bad	reconstr
180.2-186.7						x			fair asphalt	cracking & potholes
186.7-186.9				x	x				bleeding	reconstr
186.9-188.2						x			fair asphalt	cracking & potholes
188.2-189.1				x	x				rutting	reconstr
189.1-213.5						x			fair asphalt	cracking & potholes
213.5	Br. (70m)								partially damaged(16m)	repairable

213.5-213.6						x			fair asphalt	
213.6	Tor Kham									Pakistan Border
Total km				12	42	84	136			

(ADD 13.5km from Kabul)

Note: (i) On this hill road the geometrics are good and the quality of permanent works (retaining walls R/W, breast walls B/W, parapet walls P/W) is very good. Quality of culverts is also very good. Most of the bridges which have been constructed after 1997 have been constructed by ACLU.

(ii) cars can speed upto 90 kmph in fair asphalt stretches, specially from Jalalabad-Tor Kham

(iii) 1 hr traffic count between Jalalabad-Tor Kham was 101 trucks & 215 cars in one direction

(iv) multi-axle trucks and overloaded single axle trucks are moving on the road in good numbers

(v) about 312 vehicles were counted between Kabul & Jalalabad in 5 hrs in one direction

**KANDAHAR-SPIN BOLDAK SECTION:**

Km	Place	Emb	Sub-base	Base	Asphalt	Shoulders	Drainage	Condition	Remarks
0	Kandahar								
0-10.5					x	x	x	Fair asphalt	Pothole repairs by MPW in progress. Stone crusher & asphalt plant at Km 10 of MPW
km 10.5	Br (50m)							ok	Railing damaged
10.5-21					x	x	x	Fair asphalt	
21-24.5				x	x	x	x		Reconstr required
24.5	Br (310m)							130 m damaged	Reconstr required. Arghistan Br.
24.5-55				x	x	x	x		Reconstr required (Motor Grader of a contractor deployed)
55-59.2					x	x	x	Fair asphalt	
59.2	Br (190m)							Both abutments, 3 mid spans & decking damaged	Reconstr required Mail Br
59.2-66.1				x	x	x	x		Reconstr required
66.1-93.4					x	x	x	Fair asphalt	
93.4	Br (34m)							ok	
93.4-95				x	x	x	x		Reconstr required Good brick kiln
95-105					x	x	x	Fair asphalt	
105	Spin Boldak								Border with Pakistan
	Total km			42	105	105			

Traffic count by moving vehicle:

11-12 Noon (1hr)  
12-2PM (2hrs)  
2-2.30PM (30 min)

Trucks	Buses	Cars	Total
60	55	75	190
60	50	50	160
50	7	16	73
170	112	141	423

**AFGHANISTAN**  
**Rehabilitation/Reconstruction of the Primary Road Network**

Road Section	Length (km)	Links to	Cost Est. (\$ Mil)	Rehabilitation Needs
<b>Ring Road:</b>				
1. Kabul - Ghazni - Kalat - Kandhar	506	-	110.2	Reconstruction of: 127 km embankment; 281 km sub-base, 296 km base and 462 km asphaltic overlay.
2. Kandhar - Herat	560	-	80.6	Repair of traverse joint in concrete pavement over 154 km and localized treatment including replacement of panels. Includes repair/replacement of six bridges.
3. Herat - Maymana - Shiberghan	615	-	177.1	This earthen road is the missing link in the Ring Road. New construction required.
4. Kabul - Jabalus Sairaj - Pule Khumri - Mazar Sharif - Shiberghan	546	-	84.2	Require patching and overlay of the entire length. Also includes repairs in the 2.8 km Salang Tunnel, reconstruction of snow galleries and replacement of 13 bridges.
<b>International Links:</b>				
1. Kabul - Jalalabad - Torkhum	227	Pakistan	49.0	Kabul-Jalalabad Section -- reconstruction of: 12 km sub-base, 42 km base and 84 km asphaltic overlay. Jalalabad-Torkham Section -- asphaltic overlay.
2. Kandhar - Spin Boldak	105	Pakistan	23.3	Reconstruction of: 42 km base and asphaltic overlay on entire length.
3. Pule Khumri - Kunduz - Shir Khan	164	Tajikistan	35.4	Reconstruction after initial 32 km.
4. Naibabad - Hairatan	57	Uzbekistan	6.2	Only periodic maintenance is needed.
5. Herat - Qila Islam	124	Iran	26.8	Require patching and overlay of the entire length.

6. Herat - Torghundi	116 Turkeman- istan	16.7 Require patching and overlay of the entire length.
7 Andkhovy - Imamnazar	40 Turkeman- istan	10.0 Reconstruction.
<b>Total: 3,060</b>		<b>619.5</b>



## KABUL INTERNATIONAL AIRPORT

### General

The civil aviation team member assessed the Kabul International Airport Airside Pavements and Visual Control Cabin on 06 March 2002. A second visit to assess the passenger terminal was conducted on 07 March 2002. A third visit to assess the airport support buildings was conducted on 10 March 2002. The buildings assessed received external and interior damages and were subject to looting of the fit-out and equipment.

### Airside Pavements

The airport has been built on the valley. The soil is a very fine clay settlement.

- Runway 11 – 29 (AIP 1990 published dimensions 3500 x 45 meter)  
The runway strip is de-mined according to the military present at the airport. The runway bomb craters have been repaired by concrete slabs (see chart). The runway pavements (MPW input) consists of (Royal Eng. 20cm sub base), concrete slabs 23cm (measured in the field) reinforced (Royal Eng. 30cm) a steel mesh wire on top of concrete and 12cm surface course (6 and 6 cm) (Royal Eng 18 cm). (The runway received probably an overlay at a later date of 6 cm).  
The runway shows reflection cracking and intermediate cracking, open lane joints, loss of fines (rough surface) and loss of more course material occurs. Cracks have been partly sealed with a bitumen which gets sticky at higher temperatures. The sealing material sticks to the aircraft tyres.
- Parallel Taxiway  
The parallel taxiway has the same construction as the runway.  
The // taxiway at the junction with taxiway Tango has a non-repaired bomb crater. The pavement shows similar defects as described for the runway.

Runway and taxiways require daily sweeping to avoid FOD to the aircraft.

- Apron  
The pavements have probably a similar construction as the runway and taxiways. The pavement shows similar aging defects as the runway and taxiways. The slab size is approx. 4 x 6 meter based on the reflection crack pattern. No sealing of the cracks.
- Service Roads  
Crash roads not available.
- Drainage  
Flow off is mentioned as a problem. Probably a retaining pond has to be installed.
- Airside Perimeter  
Fencing at airside exists.
- Visual Aids
  - Airfield Ground Lighting  
A temporary AGL is installed.  
A complete new AGL system as per ICAO standards is required.
  - The existing AGL building needs a rehabilitation and a new fit out.

**Airport Emergency Power Station and distribution network**

- an new airport emergency power station with diesel generator has to be provided with sufficient capacity as the main power supply is unreliable.
- The power distribution net work requires an overhaul to cope with the future demands.

**Navigational Aids**

- see ICAO report.
- Visual Control Cabin needs complete refurbishment including water proofing, glassing, sun screening, architectural, fixed and loose furniture, electrical and mechanical systems.
- Instead of upgrading existing Control Tower it should be considered to built a new up to date facility.

**DVOR/DME site**

- the site located at "TV Hill" accessible via a dirt mountain road received severely damages.  
The antennae are disappeared, while the concrete structure received a direct bomb hit.  
The structure has to be partly taken down to allow for the casting of a new concrete platform.  
The antennae and emergency power have to be completely renewed.

**Meteorological Equipment and building**

- the facilities were subject to heavily looting of the fit-out and equipment.
  - the meteo farm has to be re-equipped (see ICAO assessment report).
  - The balloon filling station and tracking facility needs repairs and re-equipment
- the meteo office building, stores and workshops need a rehabilitation and fit out.

**Air Traffic Control**

- for ATS equipment see ICAO assessment report).
- Visual Control Cabin, offices and support needs complete refurbishment including water proofing, glassing, sun screening, architectural, fixed and loose furniture, water, sanitary, electrical, communication and mechanical systems (HVAC / elevator).
- Instead of upgrading existing Control Tower it should be considered to built a new up to date facility.

**Rescue and Fire Fighting**

- The building requires a complete overhaul.
- The building requires an extension of at least 3 bays to comply with future ICAO Annex 14 Cat. 9 requirements as well as overhead water storage tank.
- The observation cabin needs a complete overhaul.
- The fit out shall be in compliance with ICAO Annex 14 Cat. 9 (see ICAO assessment report).
- an access road needs to be constructed for direct access to the runway to comply with ICAO annex 14 response time.

**Operational Equipment**

- The airport has to be re-equipped with all applicable operational equipment for winter service, maintenance, follow me and security.

**B. Aircraft Handling Facilities**

- The airport has to be re-equipped with all applicable handling equipment. This can be achieved through one or several concession(s). (fuel handling, aircraft/passenger handling, catering)
- aircraft maintenance to be provided through the home carrier Arianna or a concession.

**Airport Maintenance Building**

- a new facility has to be provided to provide first line maintenance as well as an airport vehicle fuel station.

**Water supply Station and Distribution Network**

The airport has two wells. There exist a shortage of water in the water bearing layer. No treatment is provided.

- a water supply and storage tank with a treatment facility has to be provided to guarantee the availability of potable water.

**Telecommunication Building**

- not assessed.  
It is assumed that this building and equipment experienced the same damage and looting of the interior and equipment as the other assessed buildings.

**Passenger Handling Facilities**

- The Passenger Terminal Facilities (int. and domestic) requires a complete overhaul. (waterproofing, glassing, architectural, water, sanitary, communication, electrical, mechanical, special systems, baggage handling, fixed and loose furniture. Some modifications might be required at the International Pax Terminal to improve the flow and capacity. (new well comers hall, redefine the pax flow by using the existing well comers hall and increase the waiting lounge and arrival hall, relocate the baggage handling departure and arrival).
- re-equip the building with hold and baggage screening x-rays, metal detectors and hand held detectors, CCTV (see also ICAO report).
- In the near future a substantial extension or a new facility should be considered.
- Office wing and operational wing of the terminal requires un overhaul.

**Fuel Farm**

The fuel farm needs some rehabilitation and cleaning of the system.

An oil company should be approached for a concession and the rehabilitation of the facilities.

**Cargo Warehousing**

Major repairs are required for the Cargo Warehousing.

A cargo handling company should be approached for a concession and the rehabilitation of the facilities.

**Civil Aviation Training Centre**

The CATC requires some rehabilitation and new fit out.

**Sewage Collection System**

It is understood that the military forces at the airport will conduct rehabilitation work on the sewage collection system.

## MAZAR-I-SHARIF AIRPORT

### General

The civil aviation team member jointed a cargo flight of UNHAS to visit the Mazar-I-Sharif Airport on 04 March 2002. The below assessment was carried out during a one hour stay at the airport only since the team member had to return with the same flight back to Islamabad for security reasons.

#### **Airside Pavements**

- Runway 06 – 24 (AIP 1990 published dimensions 3200 x 45 meter)  
The runway strip requires additional de-mining to comply with the ICAO Annex 14. The runway 24 has still non repaired bomb craters in the pavement and in the strip. A displaced threshold is marked approx. 550 feet from the bomb craters away with reddish markers in the strip to allow for a safe landing. Threshold 06 is marked with a white stripe across the runway and reddish markers in the strip.  
The runway pavements (MPW input) consists of compacted sub grade, 25cm base course and 10cm surface course (6 and 4 cm).  
The runway shows (over 20 years old??) aging cracks (block cracking), open lane joints, loss of fines (rough surface) and loss of more course material occurs. Cracks have been partly sealed  
The runway 06 has a depression just before the exit to the apron.  
Two bomb craters near the 06 end has been recently repaired with concrete.  
Some old bomb craters repaired probably with a surface treatment.
- Parallel Taxiway  
The parallel taxiway has the same construction as the runway.  
The taxiway is only available from RW 06 till the apron. The 24 – apron part is not built.  
The pavement shows similar defects as described for the runway.  
Furthermore at several locations near the edge of the pavement severe depression occurs.
- Apron  
The pavements (MPW input) consist of compacted sub grade, 25cm bas course and 12 cm asphalt surface course (7 and 5cm).  
One bomb crater has been repaired.  
The pavement shows aging cracks, open lane joints and some loss of materials.
- Service roads and fencing  
No airside service roads (approach, perimeter, R/FF) available.  
No perimeter fence available.
- Drainage  
According to the military present at the airport the drainage is functioning during rains occurred in the time of their presence.

#### **Visual Aids**

Some broken edge lights along runway. Remaining lights not seen.  
No visual aids available.

#### **Aircraft Pavement Marking**

Only R/W designation marking available.  
Temporary threshold marking available.

**Navigational Aids**

## Communication

A transceiver with a back up operated on 72 hours battery power is available in the Air Traffic Control Tower.

**Meteorological Equipment**

A meteorological yard exist. No equipment available.

**Air Traffic Control**

Air traffic control exist through a military source.

Civil air traffic control does not exist.

Visual Control Room needs to be renewed or replaced with a standard control tower adequate equipped for future operations.

**Operational Equipment**

Provided on a temporary basis by the military.

No civil operational equipment available.

**Aircraft Handling Facilities**

Provided on a temporary basis by the military.

No civil equipment available.

**Services**

## Power

Provided on a temporary basis by the military.

No city or stand by power available.

## Water

Existing well, pump and storage tank out of order.

## Sewage

Probably through soak-aways.

## Telecommunication

Only satellite communication by military and NGO's available.

- Passenger Handling Facilities  
The existing passenger terminal requires reinstallation for water proofing, glassing, architectural finishing, communication, electricity, water, sewage, fixed and loose furniture, security equipment and baggage handling.
- Cargo handling facilities  
No facilities exist.
- Airport and equipment maintenance  
The existing facility needs complete reconstruction.
- Airport Administration Facilities  
The existing facilities need a similar treatment as the pax terminal.
- Airport Staff Housing  
Not assessed
- Airport access / parking  
Gravel surface. Needs some regarding.

- Terminal area fencing  
Requires some rehabilitation

**AFGHANISTAN  
COMPREHENSIVE NEEDS ASSESSMENT - TRANSPORT SECTOR**

**DEVELOPMENT FRAMEWORK**

Policy	Strategy		
	Short Term	Medium Term	Long Term
Improve primary road network.	Rehabilitation of paved primary road network. Includes rehabilitation of the ring road, international links and replacement of damaged bridges.	Construction of the Herat – Shiberghan missing link in the ring road. Initiate feasibility study for the Central Afghan Highway between Kabul and Herat.	Construction of the Central Afghan Highway.
Improve cross border trade and transport facilitation.	Study regional transport and trade patterns and Identify needs.	Prepare drafts and reach agreements with the neighboring countries. Initiate construction of required infrastructure.	Full implementation of international trade and cross border agreements.
Improve secondary road network.	Rehabilitation of key secondary and tertiary roads to facilitate access to rural areas. Labor intensive construction is used to maximize employment opportunities for the rural poor, returning refugees and ex-combatants	Develop master plan for development of the secondary and tertiary road network and initiate first phase of implementation.	Construction of the secondary and tertiary road network providing access to all major population centers and rural communities.
Improve civil aviation infrastructure	Rehabilitation of the international airports at Kabul and Kandhar.	Improvement of international airports and rehabilitation of major domestic and smaller regional airports.	Expansion of international and other major airports.

Capacity building and institutional reforms in the Government agencies.	Capacity Building of IAA agencies in the transport sector. Identify institutional reforms.	Continue capacity building and introduce institutional reforms.	Fully implement institutional reforms.
Private sector development.	Capacity Building of private sector consulting and contracting firms in the transport sector. Identify state owned enterprises (SOEs) that need to be gradually privatized.	Commercialize operations of SOEs and initiate actions for privatization. Study feasibility of transport sector infrastructure development and operations through BOT or similar concession arrangements.	Privatize SOEs. If feasible initiate concessions for infrastructure development, operations and maintenance.
Sector reforms	Identify sector reform needs.	Develop legislation and approval of sector reforms relating to: (i) Road Safety; (ii) Resettlement; (iii) Sustainable Maintenance Funding; and Axle Load Controls.	Implement sector reforms.



**AFGHANISTAN - TRANSPORT SECTOR  
COMPREHENSIVE NEEDS ASSESSMENT**

Description	Length (km)	Estimated Cost (US\$ Mil)
<b>I. Short Term (0-2 years)</b>		
<b>1 Projects</b>		
1.1 Rehabilitation/reconstruction of Kabul - Jalalabad - Torkham road	227	49.0
1.2 Rehabilitation/reconstruction of Kabul - Khenjan road	170	36.7
1.3 Restoration of Salang Tunnel		6.0
1.4 Rehabilitation/reconstruction of Kabul - Kandhar road	510	110.2
1.5 Rehabilitation/reconstruction of Kandhar - Spin Boldok road	108	23.3
1.6 Replacement of damaged bridges		20.0
1.7 Repairs/rehabilitation and part reconstruction of Kandhar - Herat - Torghundi road	676	97.3
1.8 Rehabilitation/reconstruction of Khenjan - Pule Khumri - Mazar Sharif - Shiberghan road	320	81.2
1.9 Rehabilitation/reconstruction of Pule Khumri - Shir Khan Bandar road	164	35.4
1.10 Repair/rehabilitation of Naibabad - Hairatan road	57	6.2
1.11 Rehabilitation of Herat - Qila Islam road	124	26.8
1.12 Rehabilitation/reconstruction of Andkhoy - Imamnazar road	40	10.0
1.13 Rehabilitation/reconstruction of about 1,000 km key secondary/tertiary rural road		86.4
1.14 Rehabilitation of international airports at Kabul and Kandhar including equipment for communications, air safety and other key functions		60.0
1.15 Emergency maintenance of key road sections on the primary road network		1.2
1.16 Winter maintenance of key mountain passes including the Salang tunnel		3.6
	2,396	653.3
<b>2 TAs</b>		
2.1 Capacity building and institutional strengthening of transport sector agencies		2.46
2.2 Promote international cross border trade facilitation		0.50
2.3 Capacity building in transport planning		0.84
2.4 Transport sector master plan		1.80

2.5 Capacity building of local consulting and contracting industry		0.65
		6.25

### Medium Term (2-5 years)

#### 3 Projects

3.1 Construction and upgrading of the Herat - Shiberghan road	615	177.1
3.2 Construction and improvements of the Herat - Chaghcharan - Kabul (Central Afghan Highway)	800	230.4
3.3 Rehabilitation/reconstruction of about 2,000 km key secondary/tertiary rural roads		172.8
3.4 Improvement of international airports at Kabul and Kandhar		35.0
3.5 Rehabilitation of four major domestic and sixteen regional airports		45.0
	1,415	660.3

#### 4 TAs

4.1 Feasibility of medium term road rehabilitation projects		3.7
4.2 Private sector development		1.4
4.3 Prepare road sector policy/institutional framework and plan for implementation of recommendations		0.8
4.4 Road safety audit		1.6
		7.5

### Long Term (5-10 years)

#### 5 Indicative Projects

5.1 Rehabilitation/reconstruction of about 5,000 km key secondary/tertiary rural roads		432
5.2 Expansion of international and other major airports		100
5.3 Upgrading primary road network		300
		832