



AsCAP
Asia Community Access Partnership



Scoping Study for Afghanistan

Final Report



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Cover Photo: *All-weather Roads Bring Tangible Improvements to Rural Communities in Daykundi Province.* World Bank Report. SHAHRISTAN DISTRICT, Daykundi Province. February 7, 2017. (Photo Credit: Rumi Consultancy/ World Bank)

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Abstract

The overall aim of ReCAP is to promote safe and sustainable rural access in Africa and Asia through research and knowledge sharing. Afghanistan’s history as a crossroads between Asia and the West combined with current rural road building initiatives by large donor partners ensures it will be an active contributor to ReCAP/AsCAP. This draft Scoping Study report builds on the early scoping study report (February 2015) completed by Airey & Edmonds that assessed the potential of the rural road sub sectors in six South/Central Asian nations, including Afghanistan. The report provides a current assessment of the sub sector based on more than 20 interviews with government, private sector and CSO officials. Six potential projects addressing capacity building, knowledge sharing and research in rural roads are detailed for review and consideration. President Ghani’s emphasis on tying infrastructure development to community development aligns with ReCAP goals and strategy. Strengthening research in rural roads in Afghanistan, with its challenging landscape and security issues, will also contribute to the emerging body of knowledge in the relationship of infrastructure development to peacebuilding.

Key words

Afghanistan, insecurity, job creation, geographical remoteness, market access, rural road development, Ministry of Public Works, Ministry of Rural Rehabilitation and Development, Ministry of Transport and Civil Aviation

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Acronyms, Units and Currencies

\$	United States Dollar (US\$ 1.00 ≈ provide conversion to local currencies)
£	GBP
ADB	Asian Development Bank
AFCAP	Africa Community Access Partnership
AIRD	Afghan Institute for Rural Development
ANDS	Afghanistan National Development Strategy
AREU	Afghanistan Research and Evaluation Unit
ARAP	Afghanistan Rural Access Project
ARTF	Afghanistan Infrastructure Trust Fund
ASCAP	Asia Community Access Partnership
ATEC	Afghan Transportation Engineering Centre
ATVI	Afghanistan Technical Vocational Institute
BRAC	Bangladesh Rural Advancement Committee
CNTF	Counter Narcotics Trust Fund
GIRoA	Government of the Islamic Republic of Afghanistan
GPS	Global positioning system
HARDP	Helmand Agriculture and Rural Development Programme
IRD	International Relief and Development Inc.
ISAF	International Security Assistance Force
MADERA	Mission d’Aide au Développement des Economies Rurales en Afghanistan
MoF	Ministry of Finance
MOI	Ministry of the Interior
MOLSAMD	Ministry of Labor, Social Affairs, Martyrs & Disabled
MOTCA	Ministry of Transport and Civil Aviation
MOUD	Ministry of Urban Development
MPW	Ministry of Public Works
MRRD	Ministry of Rural Rehabilitation and Development
NEEP	National Emergency Employment Program
NERAP	National Emergency Rural Access Project
NABDP	National Area Based Development Programme
NRAP	National Rural Access Program
NRIRCI	National Regional Integrated Resources Corridor Initiative
NSP	National Solidarity Programme
OSDR	Organisation for Sustainable Development & Research
PDCU	Programme Development and Coordination Unit
PRT	Provincial Reconstruction Teams
ReCAP	Research for Community Access Partnership

ASIA COMMUNITY ACCESS PARTNERSHIP (AsCAP)

Safe and sustainable transport for rural communities

AsCAP is a research programme, funded by UK Aid, with the aim of promoting safe and sustainable transport for rural communities in Asia. The AsCAP partnership supports knowledge sharing between participating countries in order to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources. AsCAP is brought together with the Africa Community Access Partnership (AfCAP) under the Research for Community Access Partnership (ReCAP), managed by Cardno Emerging Markets (UK) Ltd.

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1 Executive Summary

Afghanistan's history as a crossroads between Asia and the West combined with the current government's focus on rural roads network development ensures the AsCAP initiative is relevant and timely. Since 2001 and the rush to build/re-build the country's infrastructure, capacity building has often been an afterthought on large scale roads projects. This unsustainable situation has begun to change. The Government of the Islamic Republic of Afghanistan (GIROA) is now firmly committed to investing in the Ministries, academic institutions and local communities to build much-needed capacity and create jobs, particularly in rural communities.

The scoping study findings revealed that the roads infrastructure sector is growing, and with it, the rural roads sub-sector. The GIROA is partnering with World Bank, Asian Development Bank (ADB), US Agency for International Development (USAID) and others to design transport infrastructure projects that incorporate local community development, especially job creation, as a central component. ADB's transport portfolio in the country alone is over \$1 billion. Positive signs and strong evidence of usefulness of these investments, particularly roads, indicate that they stimulate economic growth and lower provincial disparities. President Ghani's emphasis on tying infrastructure development to community development aligns with ReCAP goals and strategy.

The sector overview completed for this scoping study shows that Afghanistan's transportation system comprises inland waterways, air, rail and road transport modes. The Ministry of Public Works (MPW) is responsible for provincial road works, while the Ministry of Rural Rehabilitation and Development (MRRD) oversees rural roads. The Ministry of Transport and Civil Aviation (MoTCA) is tasked with road safety, though primarily collects fees. The country's road network comprises about 3,300 km of regional highways, 4,900 km of national highways, 9,700 km of provincial roads, 17,000–23,000 km of rural roads, and 3,000 km of urban roads, including 1,060 km in Kabul.

The regional highway network consists of the 2,300 km Ring Road that connects Afghanistan's major regional centers (Herat, Kandahar, Mazar-e-Sharif, Maimana, and Sheberghan) with Kabul, and about 700 km of cross-border roads linking the Ring Road to neighboring countries. (See Annex 5 Afghanistan Road Corridors.) There are plans in place to upgrade roads infrastructure in Mazar, Jalalabad and Kandahar. Statistics show that Kabul-Kandahar, Salang and Kabul-Jalalabad highways are among the key transport routes in the country, and at least 30 percent of these roads are badly damaged.¹ The regional highway network is designed to foster regional trade and economic linkages between Afghanistan and Iran, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

Although there has been massive investment in the country's infrastructure over the past 15 years, 90% of transportation modes are unconnected and in poor condition. The findings from the scoping study showed that no nationwide mapping of roads has been completed; in fact, the road network numbers are estimates. Importantly, ministerial capacity is lacking at every level to manage the current road network and plan for future projects, particularly in rural and geographically remote areas. Other weaknesses identified in the study included lack of proper design codes, lack of skilled labor, corruption and insecurity.

In order to address the gaps in Afghanistan's rural transport infrastructure, six research areas, primarily focusing on capacity building, were identified by the Scoping Study Team,

¹ TOLO News, August 15, 2017, *Ministry Under Fire for Not Fixing Highways*.

with the advisement of the ReCAP Infrastructure Project Manager Les Sampson and ReCAP Team Leader Jasper Cook, as follows:

1. Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility
2. Capacity Building in Asset Management
3. Design and Development of “Low Volume Roads (LVR) Design Manual”
4. Using Intermediate Innovative Technologies to Support Local Communities’ Ownership of Rural Roads
5. Transport Services and the Movement of Goods and People: Understanding Costs
6. Support for Project Quality Assurance/Quality Control and Oversight

Strengthening research in rural transport in Afghanistan, with its challenging landscape and security issues, will also contribute to the emerging body of knowledge in the relationship of infrastructure development to peacebuilding. The new government, along with rural road building initiatives by large donor partners, ensures Afghanistan will be an active contributor to ReCAP/AsCAP.

Afghanistan’s environment poses both significant challenges as well as the opportunity for meaningful impact in rural roads and transport research. Although ReCAP/AsCAP’s PMU will be responsible for the management of the projects, ReCAP may need to consider in-country support to facilitate ongoing interaction with potential partner government departments, at least initially for the MOU, because of this challenging working environment. The lessons learned from “going innovative” on ReCAP/Afghanistan will inform projects in other ReCAP countries, as well as other DfID infrastructure interventions worldwide, particularly those in conflict-affected nations.

2 Background

The Research for Community Access Partnership (ReCAP) is a six-year programme of applied research and knowledge dissemination funded by a grant from the UK Government through the Department for International Development (DFID). The overall aim is to promote safe and sustainable rural access in Africa and Asia through research and knowledge sharing between participating countries and the wider community. Cardno Emerging Markets (UK) Ltd has been contracted by DFID to manage ReCAP. There are two components under ReCAP: Africa Community Access Partnership (AFCAP) and Asia Community Access Partnership (ASCAP). Afghanistan was identified by DFID as meeting their strategic criteria for inclusion in the AsCAP initiative. To accelerate the identification of research needs in Afghanistan it is intended that a project identification exercise will be undertaken, which is the purpose of this scoping study. As part of the AsCAP inception programme a preliminary scoping study on Afghanistan was undertaken and reported on in the ReCAP Inception Report (ReCAP, 2015).

3 Research Objective

The three main objectives of this Scoping Study are:

1. To identify potential AsCAP partners within Afghanistan;
2. To conduct stakeholder consultations for the identification of cooperation themes in rural transport; and
3. To compile a comprehensive list of potential projects for support by AsCAP.

In addition, there are three broad areas of identification included in the Scoping Study, as follows:

1. **Capacity Development.** To define local capacity development options necessary to sustain research outcomes, applications and benefits for the further advancement of

rural transport interventions under the AsCAP programme and other bodies in Afghanistan for the long term.

2. **Knowledge Transfer.** To identify topics of interest to local stakeholders that would benefit from the transfer of knowledge from other AsCAP or AfCAP country or regional programmes.
3. **Research.** To identify areas of rural road infrastructure and transport services research that would be of interest to local stakeholders in the longer term.

The central purpose of the Scoping Study is to identify potential GIRoA departments or research bodies that would be suitable and willing partners to work with AsCAP and to identify broad areas of cooperation with AsCAP within the rural road and transport service sector. Because of the specific security issues in Afghanistan, the initial focus of cooperation will be primary on capacity building and knowledge transfer with some support for in-country research, at a nascent stage at present. Six project areas are broadly presented and scoped through an outline country programme with an indicative budget and are compliant with the aims, outcomes and outputs of the overarching ReCAP strategy and logframe.

4 Methodology

Based on the purpose and objectives of this scoping study, the methodology was essentially participatory, whereby the study effort engaged all key stakeholders. Emphasis was placed on qualitative data gathering and analysis in order to more effectively determine research, capacity building and knowledge transfer needs in Afghanistan’s rural roads and transport sector, answering the “Hows” and “Whys” to address the key objectives and areas of identification in the ToR. Women’s rights and inclusiveness were a focus area of exploration, given the importance placed upon gender rights by the GIRoA and donor agencies.

The scoping study employed a variety of methods of data collection and analysis, including: 1) a literature review and desk study; 2) in-depth discussions with relevant stakeholders in rural roads infrastructure; and 3) a workshop in Dubai with ReCAP infrastructure research manager Les Sampson. (See 6 Workshop Results: Concept Map of Findings.) The participatory approach to this study was aimed at eliciting as much relevant data as possible to inform potential ways forward to support the overall AsCAP program. Qualitative methods comprised the chief means of collecting data. Substantial focus on qualitative approaches helped to ensure that the review and identification process was participatory, equitable, and open to unexpected information. Data collection consisted of reviewing key project documents, and conducting interviews, and, where it was relevant and possible, focus group discussions. (See Annex 1 for complete Methodology.) All the quotations in this Scoping Study Draft Report are taken from the interviews conducted in March - April 2017 for this Study effort.

4.1 Team Collaboration and Management

The Scoping Study team is comprised of a Team Lead, Dr. Kerrin Barrett, who is based in the US and has extensive experience managing capacity building projects in Afghanistan, including in the infrastructure sector, and an in-country team of highly experienced local nationals. Due to the security challenges at present in Afghanistan that limit travel for foreign nationals in country, a local national team was engaged to conduct interviews and gather data for the study. The team members have all previously collaborated with Dr. Barrett on other successful capacity building, infrastructure, and survey projects in Afghanistan. Importantly for the success of AsCAP/ReCAP in Afghanistan, due to his background as a roads engineer and as an academic in the field, Mr. Abdul Bari Rahimi has long-standing relationships with key Ministry officials overseeing roads infrastructure. Mr. Masud Roshan, as a Board Member of Afghanistan Technical Vocational Institute and CEO of

The Roshan Group, also has a strong background in roads infrastructure and transport services, as well as positive working relationships with decision-makers in the relevant ministries.

Based on the outcomes of those discussions and the review of the literature, the in-country consultants collaborated with Dr. Kerrin Barrett to:

1. Identify and prioritise research, capacity building and knowledge transfer needs in rural access and transport interventions in Afghanistan that are in line with the AsCAP Research Strategy and logframe; and
2. Identify possible overlapping project themes with the AsCAP region.

Additionally, Sahar and Roshan, together with Mr. Abdul Bari Rahimi (ATVI Faculty/Road engineer) support Dr. Barrett to:

1. Develop this draft scoping document for an AsCAP programme for Afghanistan suitable for presentation to a meeting of the AsCAP Steering Committee; and
2. Finalise the scoping document once feedback has been obtained from key stakeholders.

The table below summarizes the background and experience of each team member, along with their specific contributions to the Scoping Study.

Team Member	Role and Experience
Dr. Kerrin Barrett	Dr. Barrett is based in the US, remotely managing the Scoping Study. She has more than 30 years’ experience in international development and project management, with 7+ years’ experience managing programs and projects in Afghanistan, including in the infrastructure sector, with a focus on capacity building.
Mr. Abdul Bari Rahimi	A Civil Engineer and Professor at the Afghanistan Technical Vocational Institute, Mr. Rahimi’s specialty is roads engineering, in particular, building capacity in road building and transport services at the practical level in both the private and public sectors. Mr. Rahimi provides technical expertise and insight for the Scoping Study. He and Ms. Sahar conducted interviews of key stakeholders and gathered relevant data.
Ms. Nadima Sahar	Ms. Sahar is the CEO of Soft Power Solutions, a research and survey company based in Kabul, with more than 8 years of providing surveying expertise to donors and implementers throughout Afghanistan. Ms. Sahar is a research analyst, specializing in qualitative analysis of survey data (interviews and focus group discussions) and reporting. Ms. Sahar teamed with Mr. Rahimi to gather the data in-country, and collaborated with Dr. Barrett to develop the survey instruments and to manage the data gathering process.
Mr. Masud Roshan	Mr. Roshan is the CEO of The Roshan Group and Board Member of the Afghanistan Technical Vocational Institute, where he oversees a portfolio of more than \$10M USD in infrastructure projects and capacity building programs. Mr. Roshan provides management support for data gathering in-country and supports Dr. Barrett in strategizing a workable approach for project implementation.

5 Overview of the Rural Roads and Transport Sector in Afghanistan

5.1 Sector Overview

Afghanistan's transportation system is comprised of inland waterways, air, rail, and road transport modes. As a landlocked country with an estimated population of 25 million to 30 million dispersed across the largely mountainous terrain of 652,000 square kilometers (km²), and without many viable alternative transport modes, roads are the principal means of transport. Afghanistan's road network comprises about 3,300 km of regional highways², 4,900 km of national highways³, 9,700 km of provincial roads⁴, 17,000–23,000 km of rural roads⁵, and about 3,000 km of urban roads, including 1,060 km in Kabul. The regional highway network consists of the 2,300 km Ring Road that connects Afghanistan's major regional centers (Herat, Kandahar, Mazar-e-Sharif, Maimana, and Sheberghan) with Kabul, and about 700 km of cross-border roads linking the Ring Road to neighboring countries. (See Annex 5 Afghanistan Road Corridors.) The regional highway network fosters regional trade and economic linkages between Afghanistan and Iran, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. National highways extend regional highways to provincial capitals contributing to economic growth and national integration (Transport Sector Assessment 1). (See Annex 4 – Afghanistan Roads Length Calculation Spreadsheet.)

Inland waterways are limited to the Amu Darya and its tributaries with the only formal operating inland port at Shirkhan Bandar. The country has some 60 airports and airfields spread across the 34 provinces, including two international and 22 domestic airports, which meet International Civil Aviation Organization class 4 categorization standards (Transport Sector Assessment 1).

Until recently, the total length of railways was a mere 24.6 kilometers (km), comprising cross-border extensions from Turkmenistan and Uzbekistan to trans-shipment yards in Towraghondi and Kheyraabad. In mid-April 2011, the Asian Development Bank (ADB) financed Hairatan to Mazar-e-Sharif rail link (75 km) was completed; the first new railway in Afghanistan in over 100 years. Given its position in Asia, Afghanistan presents significant opportunities for future rail network development (Transport Sector Assessment 1).

"We need better management, research and capacity building in rural roads maintenance."
–Professor of Civil Engineering

At the end of 2001, after some 20 years of conflict, baseline assessments suggested that more than 90% of the transportation system was unconnected and in a poor condition. Since then, multilateral and bilateral development partners have helped improve key

² The purpose of Regional Highways is to reconstruct and to complete the ring roads and principal road connections with neighboring countries (Iran, Pakistan, Tajikistan, Turkmenistan and Uzbekistan) to a two-lane paved road standard, with certain four-lane sections, fostering regional trade and economic linkages between Afghanistan and the neighboring countries.

³ The purpose of the National Highways is to promote trade and economic linkages and extend Regional Highways to provincial capitals contributing to peace, security, stability, economic growth and national integration.

⁴ The purpose of these roads is to improve the administrative, trade and economic contacts between district headquarters and respective provincial capitals and between important district headquarters.

⁵ The purpose of these roads is to bring the hinterland in commercial contact with markets and seats of power.

transport infrastructure, especially priority roads such as the Ring Road. Collectively, these development partners have invested more than \$4 billion to improve transport infrastructure and subsector institutions in Afghanistan. ADB's transport portfolio in the country alone is over \$1 billion. Positive signs and strong evidence of usefulness of these investments, particularly roads, indicate that they stimulate economic growth and lower provincial disparities. The reduction in travel time due to the improved regional roads has reportedly increased the frequency of personal trips and domestic trade. The Ministry of Public Works (MPW) is preparing to create a road authority to function purely as a road network manager with all works outsourced to private contractors. With a newly operational railway, the establishment of a rail authority is also a necessity (Transport Sector Assessment 2).

Owing to these efforts, there are indications of positive development impacts. Regularly scheduled passenger and freight air services are provided by a state carrier and several private carriers. Two to three international flights are scheduled each day, in addition to daily domestic flights between Kabul and major regional cities. Rail services at Hairatan average 4-5 trains typically comprising 30 wagons each, hauling humanitarian aid and bulk commodities, particularly fuel. Operation of the new rail link from Hairatan to Mazar-e-Sharif is highly anticipated and will reduce the current congestion on the cross-border highway by increasing the number of transshipment points along the 75 km rail line in the north, allowing for more efficient shipment of goods farther into the hinterland. Demand for road transport is increasing evidenced by the supply of registered vehicles (Transport Sector Assessment 2).

“Some of the problems in the rural roads and transport sector include lack of coordination, lack of capacity building programs, lack of proper leadership, and lack of technical / qualified individuals. Also, no attention has been paid to quality. For example, the Kabul-Jalalabad road's quality is low because little to no attention was paid to it during its construction. Issues such as temperature and other factors were not taken into consideration.” –Ministry Official

“There have been capacity building programs with limited to no impact in some cases. I think an awareness program needs to be conducted as a first step in any rural project to ensure local buy in and support. As a second step, we need skilled and dedicated labor. A national capacity building initiative needs to be undertaken to ensure that the market needs are addressed and that the practical aspect of rural road and transport work are covered in addition to the theoretical ones.” –MPW Official

The vehicle population is increasing rapidly with an annual average growth over the last three years of 23% for cars, 15% for trucks, and 48% for motorcycles. The most descriptive statistic is the increased levels of trade with Pakistan, for which Afghanistan has established a cross border transit trade agreement. Since 2003, the level of imports and exports have increased by almost 250%, with an annual average growth rate of approximately 30% (Transport Sector Assessment 2).

Despite this progress resulting largely from infrastructure interventions, the transport network remains incomplete. With an

estimated density of only 4 km per 1000 km², Afghanistan's road network is far below the completeness levels achieved by its neighbors. (See Annex 6 ADB Transport Sector Assessment (2016)).

Furthermore only 7% of the roads are paved, and a key section of the Ring Road is not yet constructed. Four provincial capitals remain unconnected to the regional network, and thus lack access to domestic and regional markets, and more than 70% of the inter-provincial and inter-district roads remain in a poor state. Many roads are impassable by motor vehicles, and people in the mountainous central part of the country do not have all-season access to the main road network. Likewise, transport services are inadequate, of low quality, and expensive (Transport Sector Assessment 2).

Aside from additional infrastructure requirements, a number of challenging sector issues remain unresolved. For instance, the vast majority of funding for infrastructure construction continues to be financed by international donors through grant aid agreements. Similarly, government funding for maintenance of the implemented works in the transport sector network is lacking, which, if not resolved, will result in an unnecessary economic loss of the significant capital investments made to date. Truck overloading is another major problem that will reduce the engineering design life of the constructed roads. Rather than physical problems, these potential sustainability issues are nonphysical in nature and point to a lack of proper sector governance and cost recovery. The ADB's Transport Sector Assessment 2 recommended that the government must establish appropriate authorities to regulate the subsectors in a coordinated manner with mandates to generate revenue for maintenance funding. At present, the revenue generation system is now in place, and MoPW collects the cost of maintenance from vehicles based on type of vehicle and the truck load.

With respect to private sector participation, the security of contractors and consultants on remote project sites remains problematic. Furthermore, the continued inefficient use of government agency staff for undertaking works crowds out the growth of private sector service providers, limiting competition (Transport Sector Assessment 3).

(See Annexes 2 and 3 for additional details on the sector overview.)

5.2 Institutional Framework

Multiple government ministries are involved in the operation and regulation of the transport sector, namely: Ministry of Public Works (MPW), Ministry of Rural Rehabilitation and Development (MRRD), Ministry of Urban Development (MOUD), Ministry of Transport and Civil Aviation (MOTCA), Ministry of Interior (MOI), Ministry of Finance (MoF) and local authorities (Transport Sector Assessment 3).

5.2.1 Ministry of Public Works

MPW has been responsible for development, operation, and maintenance of regional highways, national highways, and provincial roads in the country. Given the lack of other agencies, MPW has historically played a significant role in the planning and implementation of infrastructure in the rail and air subsectors. MPW has an institutional footprint of a large engineering organization with staff stationed in every major provincial capital and carries out work through forced account. Over the years of conflict, MPW lost most of its trained staff (Transport Sector Assessment 3).

“The entities that have been involved in research are ATVI, Kabul Engineering Department, Polytechnic University and a few other ones. Their work has been mostly at a theoretical level. The area where no research has been undertaken is road maintenance. Water and other factors that affect the life / durability of roads need to be researched further.” – Road Building Engineer

Current staff levels consist of approximately 200 engineers and administrative staff, and 2,000 laborers at the regional maintenance centers and provinces. At present, much of

MPW's efforts focus on administering aid-financed projects and executing budget-financed minor construction and maintenance works. It is acknowledged that MPW staff require substantial skills enhancement to perform their current duties. In addition, a restructuring of the organization and a business plan are needed to upgrade MPW commensurate with the envisaged sector governance role (Transport Sector Assessment 3).

5.2.2 Ministry of Rural Rehabilitation and Development

MRRD is responsible for development of rural infrastructure, including rural roads. Administrative jurisdiction of rural road maintenance is under MRRD which works with Community Development Councils (CDCs) to rehabilitate and maintain rural roads. Most rural roads are currently being financed by donors. International NGOs facilitate the formation of CDCs and provide technical assistance with proposal preparation, the initial bank account set up and with book keeping. MRRD is one of the few ministries well equipped to manage and contract out all its projects. It also is currently one of the few ministries that involves private contractors and local communities in the implementation and maintenance of all its projects (Moldovan 4).

5.2.3 Other Ministries

- Ministry of Urban Development (MoUD) and local municipal authorities are responsible for the construction and maintenance of urban roads (Transport Sector Assessment 3).
- Ministry of Transportation and Civil Aviation (MoTCA) is charged with regulating the private sector transport industry. With a current staffing level of 1,180, MOTCA's primary function is coordinating agreements between private sector and international transporters and establishing offices in neighboring countries to facilitate international trade. MOTCA's private sector department sets technical standards for private commercial vehicles and inspects them for compliance during the licensing and renewal process. MOTCA is also charged with collecting fees from private trucks and inter-provincial private buses at national or provincial borders or on the outskirts of major cities and provides some passenger and freight transport services using state-owned vehicles (Transport Sector Assessment 3). The ministry also regulates axle load violations.
- Ministry of the Interior (MoI) is responsible for vehicle registration and for issuing driver licenses. The ministry distributes permits for commercial vehicles indicating their maximum load limit. MOI also provides traffic police, border guards and conducts registration of foreign nationals. Currently, the MOI is poorly structured, with departments carrying out functions shared with other ministries, as well as departmental duplication within the Ministry itself (Moldovan 5).
- Ministry of Finance (MoF) is responsible for managing and dispersing all funds. Presently the MOF has also taken on the responsibility of collecting road tolls on the major highways which has initiated a major debate. Critics argue that there are too many different actors involved in collecting road user fees, which creates inefficiency (Moldovan 4).

5.3 Regulatory Framework

Overall, the system of the legislation in Afghanistan relevant to the road sector is still in an immature stage. Although laws and regulations exist, the Road Act (Road Law), which defines the classification of roads, the road numbering, the responsibility of the roads and traffic and so on, and Traffic Regulation (defines the restrictions required to keep the

smooth traffic such as the permissible velocity and weight of vehicles etc.), are not being fully implemented and enforced.

Furthermore, it is a difficult task to identify applicable laws related to the road sector. None of the Ministries concerned has comprehensive information on the state of the law that governs them. Despite its institutional weakness, the Government has tried to improve its legal functions and has introduced a number of policies and strategies since 2002. Some of the most relevant ones include the following:

5.3.1 ANDS

Launched in 2008, the government's Afghanistan National Development Strategy (ANDS) is a Millennium Development Goals (MDGs) based action plan and road map for developing the country's transport sector. As described in Pillar 3, Infrastructure, the Transport and Civil Aviation Sector Strategy proposes a safe, integrated transport network that ensures domestic and international connectivity by moving people and goods reliably and at low cost.

In addition to a long list of infrastructure needs in all the transport subsectors, the ANDS provides a planning and policy framework, specific development targets and dates for achievement, and an overall strategic vision to guide investment and reforms in the transport sector until 2020. In 2010, the ANDS was refined and updated with a more specific list of priority programs and projects. One such identified program in the Economic and Infrastructure Development Cluster was Program 1: National Regional Integrated Resources Corridor Initiative (NRIRCI). Based on a recent NRIRCI report, current estimates of priority project demands versus estimated resources, indicate an estimated funding shortfall of approximately \$2.1 billion from the present to 2014.

Much of the ANDS and the subsequent refinement documents, focus on the road transport subsector with the following priorities to: (i) upgrade and maintain the Ring Road, (ii) provide improved cross-border roads to neighboring countries, and (iii) establish a fiscally sustainable system for road maintenance using private contractors as much as possible. The ANDS also calls for 40% of all villages to be connected by all-season roads to the national road system and 40% of all roads in municipalities to be improved to a good standard. The government envisages that the national road network will eventually be managed by an autonomous road agency, and its preservation and further

"A comprehensive assessment needs to be undertaken to identify what has been done (the amount of roads that have been built), in what condition are they now, what needs to be repaired, what needs to be maintained and in where. In other words, a proper inventorying of all that is there needs to be done. This also should look into road prioritization and determine which roads needs to be built or repaired first, based on their location and agricultural and economic contributions." –Ministry Official

development financed by road user charges, which are not part of the consolidated budget. Provincial and local roads will be managed by provincial and/or local road authorities, and a substantial part of their costs will also be financed by way of road user charges. A road fund will have been established to collect the road user charges and to serve as the procurer of road services from the road agency and local roads authorities, and hence, to serve as the regulator of the road subsector. Road works will generally be undertaken by contractors, including long-term contracts for maintenance. A substantial amount of work will be contracted out to small contractors using labor-based techniques.

5.3.2 Transport Sector Strategy

The national transport policy framework presented in the Transport Sector Strategy, and as amended by subsequent refinements, outlines the principles and vision of the transport sector through a holistic approach. Collectively, the strategy and the investment program form the basis for further policy making and reform for all modes of transportation under a unified sector-based approach.

“There is no system of sharing information – no database. There are coordination committees in some of the projects, where the entities involved get to share project related information with each other, but there is no other committee that could do this on a national level. In other words, coordinate everyone’s efforts, connect them all together and facilitate the sharing of information on a national level in this sector.”

–Ministry Official

The Transport Sector Policy emphasizes the private sector in rebuilding and developing the transport sector. The government’s view is that the private sector is a key to trigger development, while the existing public sector agencies are also required to ensure a balanced approach with adequate attention paid to public interest issues. Given the low capacity of the existing public sector agencies, strengthening these institutions, realigning responsibilities with changing priorities and conditions, and indeed creating new required institutions is mandated.

The challenge is formidable in view of the shortage of skills and the fact that the various ministries may be entrenched in conducting business the old way. To be able to move forward, the existing ministries will have to be cooperative in transitioning to an overall sector-based approach and be willing to implement change and reform.

5.3.3 MPW Sector Strategy Outline

Beginning in the early 2000s, roads infrastructure and transport has been a top priority for Afghanistan’s development efforts. In September 2005, a JICA-sponsored paper on sector strategy was prepared by the MPW detailing proposed measures aimed at addressing constraints, problems and causes of road deterioration and degradation⁶. The proposed measures were packages of solutions in roads improvement, including the following recommendations⁷:

- The MPW strategy is to engage the private sector in road maintenance and retain a capacity to carry out emergency repair.
- The MPW staff will be trained in contract management, supervision and monitoring of the operation and maintenance works as a part of the pilot project.
- The road funding system will combine toll and maintenance that will be privatized.
- The priorities for the MPW are listed in the following order:

⁶ These same recommendations are included in the ANDS Transport & Civil Aviation Strategy (1387-1391 (2007/8 to 2012/13)) Volume II, Pillar III Infrastructure.

⁷ The Project Formulation Study on Road Maintenance and Management Sector in Afghanistan: Final Report Main Text. November 2006. Japan International Cooperation Agency / Katahira & Engineers International.

- 1) Operation and Maintenance of Roads
- 2) Cost Recovery
- 3) Capacity Building in the MPW
- 4) The MPW Standard Reform

5.3.3.1 Policy Statement

The MPW developed a policy statement on June 2005 that defines its policy on operation and maintenance of road network, which includes, among others, the following:

- The MPW will produce on a plan to build up capacity in Afghanistan to carry out all the road maintenance.
- The MPW will build up its capacity to manage maintenance contract. The MPW acknowledges that, after the completion of the rehabilitation of the roads funded by international multilateral institutions, a number of these institutions are ready to maintain these roads through private sector contracts with full approval.

“The rural roads are in a very bad condition and due to insecurity, the government cannot assess them.” – Ministry Official

5.3.3.2 Action Plan on Roads

The Action Plan for Roads, which was prepared in April 2003, serves as the background document to the policy statement for the transport sector. The Action Plan comprises the following and drafted a proposal for the implementation of the policy recommendations.

- 3- Consultation, 1- Policy and 1- Information Papers; and
- A long-term investment plan and maintenance budget for national, provincial and rural roads.

5.3.3.3 Consultation Paper 2.1- the Organizational Structure of the MPW

- The MPW should retain a capability to carry out emergency repair and routine maintenance.
- The private sector should engage road construction and maintenance works.
- The MPW needs to transfer its construction units for private management and operation, initially starting with one or more commercial state-owned enterprises.
- The MPW should in the short-term retain a centralized organization structure for regulatory purposes.
- The airport design and construction function should be transferred to the Ministry of Civil Aviation and Tourism (MCAT).
- Rural roads, now under the Ministry of Rural Rehabilitation and Development (MRRD), should be transferred to the MPW.

5.3.3.4 Consultation Paper 2.2 - MPW Construction and Management Operation

- The main part of the staff of the MPW personnel should be transferred over to the private sector, to the extent possible.
- Part of the present MPW staff should be given training in labor-based road maintenance in order to be absorbed by the private sector. The rest of the personnel should be formed into units to perform emergency repairs and routine maintenance works.
- A clause on compulsory use and training of local subcontractors should be included in rehabilitation contracts.

5.3.3.5 Consultation Paper 2.3 - Reform, Restructuring and Strengthen of the MPW

- The MPW has decided to seek Priority Reform and Restructuring (PRR) status for one of its departments.

5.3.3.6 Policy Paper 2.4 - Financing of the Road Sector

- A system for imposition of tolls on rehabilitated national roads should be introduced in the near future.
- The toll revenues should be used to finance contracts for routine maintenance and operation.

5.3.3.7 Information Paper 2.5 - Long Term Institutional Agreement in the Road Sector

- One and the same ministry is made responsible for all national roads. The ministry will be concerned with policy, planning and monitoring, the management of the roads and funds are delegated to autonomous agencies.
- An autonomous Highway Agency will be responsible for the management of the road network, according to the policy and plan laid down by the ministry.
- Another autonomous agency will be responsible for management of Road Fund, to be responsible for the collection of revenues from road user charge and financing of operation and maintenance of the network.
- Commercial consultants and contractors will be responsible for the implementation of the required services and works through competitive contracting.

For the formulation of the institutional development plan within the transport sector, the mentioned policy guideline further indicates that Afghanistan will move toward an institutional structure where the following would be considered:

- Central government sets the policies and investment priorities, and monitors their implementation, but will not be the implementing agency.
- Provincial, urban and local government is made responsible for allocating revenues and managing expenditure within their own geographical areas.
- The provision of service and works will be contracted out to private sector contactors based on a competitive basis procedural system.
- A rational and equitable program of user charge will be introduced to generate funds that can be earmarked for the maintenance of the highway network system.

5.4 Donor Assisted Improvement and Maintenance Projects

5.4.1 The World Bank

5.4.1.1 National Rural Access Program (NRAP):

The World Bank is assisting road projects based on the programs encompassed in NRAP⁸. Under the NRAP program, road projects are categorized into 2 projects; the MPW project

⁸ The National Emergency Employment Program (NEEP), a flagship program for creating short-term employment through restoration of the dilapidated rural infrastructure, evolved into the National Rural Access Program (NRAP) from 2005 to now, with a strong focus on provision of year-round access to basic social services for the rural population. World Bank and other donors starting from relatively simple emergency funding with a primary objective of creating employment in rural areas supported those projects. And then working up to more extensive involvement in building institutional capacity in the two ministries responsible for the sector, the Ministry of Public Works for secondary roads and the Ministry of Rural Rehabilitation and Development for tertiary roads. The most recent of these projects,

and MRRD project. These projects are carried out for emergency employment in rural areas. There are three kinds of programs in NRAP, categorized as LIWP, NEEP and NEEPRA described below.

1. MPW Project (Provincial Road Project)

a. Labor Intensive Work Program (LIWP)

Road improvement and maintenance work programs utilizing labor intensive are being / have been carried out.

- Road project:
312 Projects (one road 279 projects, two road 33 projects) 3,899 km
(one road 3,486 km, two road 413 km)
- National Emergency Employment Program (NEEP)
Road improvement and maintenance work programs of National Highways / have been carried out.
 - Road project:
217 Projects (one road 183 projects, two road 34 projects)
2,187 km (one road 1,876 km, two road 311 km)
- National Emergency Employment Program for Rural Access (NEEPRA)
Road and bridge improvement and maintenance work programs of Provincial Roads are being / have been carried out.
 - Road project:
16 Projects (road 14 projects, road maintenance 2 projects)
279 km (road 249 km, road maintenance 30 km)
 - Bridge project:
705 Span - 10 Projects

2. MRRD Project (Rural Road Project)

MRRD projects are assisted by some international funding institutions. These projects are road improvement and maintenance works of DDR Roads, EC Roads, NEEPRA Roads, USAID Roads and NEEPRA Bridges in Rural Roads, but the quantity is not identified.

5.4.1.2 Emergency Transport Rehabilitation Project (ETRAP)

The objective of this Project (ETRAP) is to support implementation of emergency road maintenance by force account by supplying winter maintenance equipment. This project is under execution through financing of US\$2.0M at present. Supplied equipment is for Salang Pass and Northern Regions (Kunduz and additionally Mazar-e-Sharif).

NERAP, is currently in its fourth year and is expecting a 2013 completion. In continuation with NERAP, the Afghanistan Rural Access Project (ARAP) launched under the government's NRAP program. As such, this will provide quality rural roads and employment generation to rural poor.

5.4.1.3 Post-emergency Road Maintenance Project

The Project aims to achieve efficient and cost effective road maintenance and positive impact on poverty reduction by promoting employment generation and developing the local contracting market. The Project could include, but not limited to the following:

- a. Support for preparing a medium-term (5-10 years) Road Maintenance Master Plan (RMMP), based on the results of the on-going Road Improvement Master Plan funded by the ADB, for technical, schedule and sustainable financial plans for Afghan Regional & National Road Network
- b. Finance road maintenance works for selected national road rehabilitation sections for 3-5 year transition period toward local financing based on the RMMP
- c. Support for creating an Afghan Contractor Training Program (ACTP) for capacity building for local contracting industry including:
 - Providing training for bid/contract documentation and management
 - Providing on-the-job training for labor-based works methods
 - Providing financial support by revolving fund or access to credit facilities
 - Providing favorable measures and contract support for new micro-enterprises
- d. Establish simplified procedures for inviting bids, issuing contracts and making payments
- e. Support for creating a sustainable road inventory system in the MPW
- f. Strengthen road maintenance planning and management capacity for the MPW, including creation of dedicated Road Asset Management Directorate and setting up of a road asset management system, if necessary
- g. Strengthen ACTP management capacity for the MPW including evaluation of contractors' performance
- h. Supports for the MPW to allow contractors easy access to the MPW-owned equipment for hire/leasing arrangement

5.4.2 USAID

5.4.2.1 Secondary and District Center Road Project

This project was aimed at maintaining rural roads contracting with local contractors in order to develop the capacity of local contractors. A total of 300 km of rural roads in 2005 and 170 km as of April 2006 were being properly maintained. In this project, USAID aimed to maintain a total of 1,000 km of rural roads.

5.4.3 EU

5.4.3.1 Maintenance of Kabul – Jalalabad Road

This maintenance work was conducted on the rehabilitated section of the road between Kabul and Jalalabad over a length of 142 km, and was comprised of routine, emergency and winter maintenance. The bid date was scheduled on Apr. 26, 2006 and the 3-year contract was subsequently awarded to a private contractor. Five (5) MPW staff were expected to be employed at a salary of US\$180/month.

5.4.4 Donor Assisted Capacity Development Projects

5.4.4.1 The World Bank (co-financed by the Swedish International Development Cooperation Agency (SIDA))

The World Bank has taken the lead in the strengthening of the rural road sector and has introduced and piloted a number of steps to address challenges, but they have yet to be consolidated and generalised within the Ministry of Rural Rehabilitation and Development

(MRRD) and have yet to be decentralised to the lower administrative levels. In short, substantial strengthening of the Government of Afghanistan's (GoA) ability to manage and oversee the rural road sector is needed⁹.

1. Technical Assistance (TA) to the Administration Reform and Capacity Building Unit in the Ministries of Public Works and Transport

The TA will provide lead assistance to the MPW and MOT for developing, managing and implementing a program for administration reform and capacity building of the Ministries in line with the Public Administration Reform strategy of the Government of Afghanistan. The program will also include the strategy and framework for capacity building of the private contracting sector in the country. The TA will be co-financed by the Sida. The finance amount is US\$4M to the MPW and US\$3.5M to the MOT.

5.4.4.2 USAID

1. Ministry of Public Works Capacity Building Program (implemented by UNOPS)

In order to assess the dimension of required change and specialized training in human resources and in the departments of the MPW a needs assessment workshop was conducted on February 2005. Based on the needs assessment, the training programs below were conducted from March 2005 to January 2006.

- Quality control and engineering supervision course
- Management courses
- English classes
- Computer courses
- Other related training programs

Trainees were administrative staff, technical staff and engineers. These trainees are from public organizations of the MPW in Kabul and Mazar Region, IRD and Civil Service Commission (CSC).

2. Ministry of Public Works Capacity Building for Roadway Design and Construction Services in the Public & Private Sector (implemented by UNOPS)

The urgent need for capacity building in both public and private sector arises from the experience learned in the past three years of roadway rehabilitation and development in Afghanistan, where little or no participation from the private sector was recorded in many of the large roadway projects that were initiated. In this context, training programs below both for the MPW and private companies were executed for the following topics:

- Business Management in Road Building
- Road Design
- Road Construction
- Construction Inspection and Supervision

The total finance was US\$2.6M.

⁹ Airey & Edmonds, 2016. Scoping Report.

5.4.4.3 ADB

1. Technical Assistance (TA) Cluster to the Islamic Republic of Afghanistan for Capacity Building for Reconstruction and Development

In 2002, ADB provided this TA, through which a team of international and domestic experts was assigned to MPW of Afghanistan to compensate the lack of capacity to implement large scale projects, particularly to plan and manage projects. Under the series of road rehabilitation projects provided thereafter, the capacity of the project implementation unit established within the MPW to handle day-to-day project implementation has been gradually strengthened with the aid of project management consultants. Several MPW staff have been attached to the contractor and the supervision consultants to receive on-the-job training in project administration and implementation.

2. Technical Assistance to Afghanistan for Capacity Building for Road Sector Institutions

Although the TA above mentioned was met, the immediate need to train MPW staff to be involved in day-to-day project implementation was necessary and there is still a need to systematically build the capacity of the MPW to carry out its core function of planning, designing, and managing, and implementing road investments with sustainability. Recognizing this need, the Government requested ADB to provide this TA to strengthen the capacity of the MPW to plan, design, and manage and implement road investments.

Table 1. List of the programs for Capacity Development and its objective trainees supported by donors.

Training Program/TA		(1)	(2)	(3)	(4)	(5)	
Donor		ADB	USAID	USAID	ADB	WB, Sida	
Consultant			UNOPS	UNOPS			
Schedule		2002	Mar. 2005 ~ Jan. 2006		Mar. 2006 ~ Feb. 2007	2006 ~ 2009	
Trainee	MPW/ Other Public Organization	Administration/Finance	○	○	○	○	
		Planning	○	○ technical staff	○ technical staff	○ technical staff	
		Design					
		Construction Planning					
		Construction Work					
		Supervision	○				
		Capacity Building Unit				○	
	Contractor	Business Management			○		
		Design			○		
		Construction Planning			○		
		Construction Work					
		Supervision			○	○	
	Consultant	Business Management					
		Planning					
		Design					
		Supervision					

Note:

(1) Technical Assistance "Cluster to the Islamic Republic of Afghanistan for Capacity Building for Reconstruction and Development"

(2) Ministry of Public Works Capacity Building Program

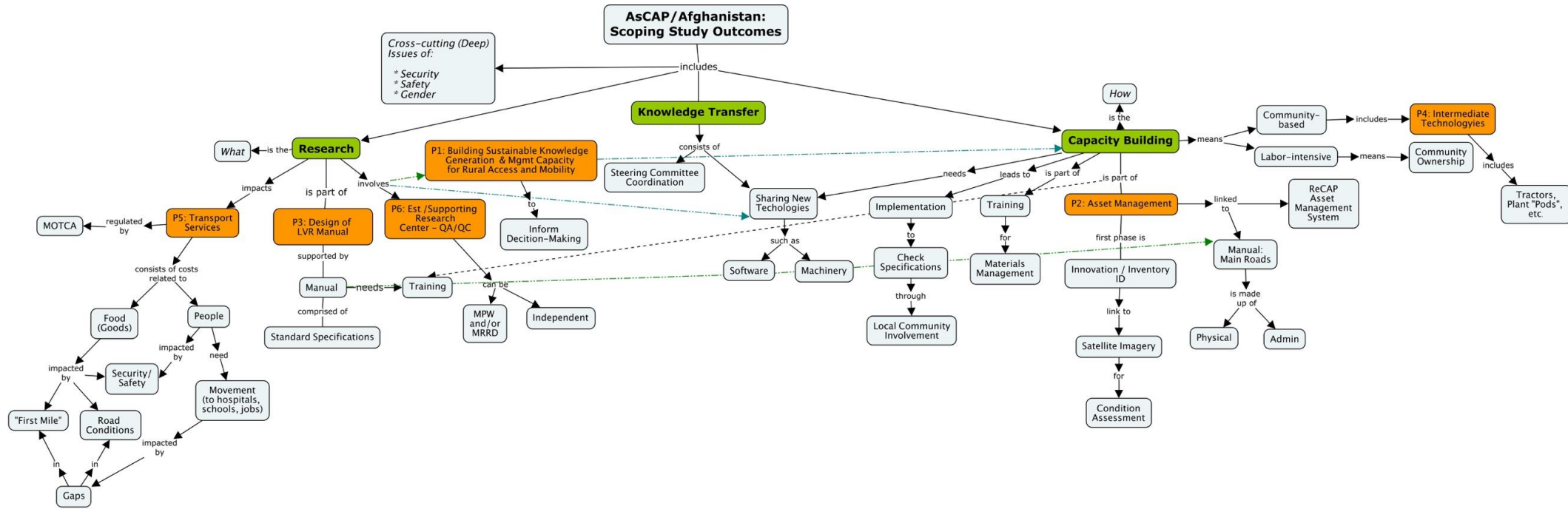
(3) Ministry of Public Works "Capacity Building for Roadway Design and Construction Services in the Public & Private Sector"

(4) Technical Assistance to Afghanistan for Capacity Building for Road Sector Institution

(5) Technical Assistance to the Administration Reform and Capacity Building Unit in the Ministry of Public Works

○: Covered subject

6 Workshop Results: Concept Map of Findings



7 Proposed Project Research Areas

Six potential research areas were identified during the first Dubai Workshop (April 2017), primarily focusing on capacity building. It was determined during the second Workshop in August 2017 to focus on Project 1 - Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility, as the kick-off project.

Figure 1 Proposed Research Areas

The 6 proposed project research areas:	
Research Area	Cost - GBP
7. Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility	£170,000
8. Capacity Building in Asset Management	£230,000
9. Design and Development of “Low Volume Roads (LVR) Design Manual”	£175,000
10. Using Intermediate Innovative Technologies to Support Local Communities’ Ownership of Rural Roads	£175,000
11. Transport Services and the Movement of Goods and People: Understanding Costs	£195,000
12. Support for Project Quality Assurance/Quality Control and Oversight	£345,000
Total	£1,290,000

7.1 Concept Map of Findings

Section 6: Workshop Results: Concept Map of Findings is a graphic representation of the outcomes of the first Dubai workshop (April 2017) that resulted in the six proposed projects. The three nodes in green – Research, Knowledge Transfer, and Capacity Building – are the three areas of ReCAP/AsCAP intervention. The six project areas are indicated in the orange nodes (e.g. P1 Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility, and so forth). Findings from the data gathering phase and linkages with other ReCAP research areas as they relate to each other and the projects are depicted in the light blue nodes and connecting lines. For example, the concept map shows that Capacity Building has the greatest number of nodes as compared to Research and Knowledge Transfer, indicating that in the case of Afghanistan, capacity building is the critical first step in developing rural roads research. As another example, the node Sharing New Technologies ties together all three areas as both new software and innovative machinery are needed for rural road building and maintenance.

7.2 Kick-off Project and Project Prioritization

Capacity Building emerged from the Scoping Study as the area most in need of ReCAP support in Afghanistan. To that end, three of the six proposed projects were considered as being integral to the capacity building effort in rural roads research: Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility; Transport Services and the Movement of Goods and People: Understanding Costs; and Support for Project Quality Assurance/Quality Control and Oversight. These three projects, which could be implemented individually or sequentially as a group, are all tied to regional programs (e.g. capacity building of decision markets for effective research uptake, establishing a research

center, and understanding transport costs of people and goods) and can be implemented in Kabul with minimum security risks.

Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility is designated as the kickoff project because it will 1) build the relevant knowledge management capacity needed for managing the proposed AsCAP projects, and 2) will also enhance the value of all proposed projects and enlist the relevant government institutions (MRRD and MoPW)’s support and buy in from the outset, before implementing the remaining five projects.

The second project, Support for Project Quality Assurance/Quality Control and Oversight, will build on and compliment the capacity building efforts of the first project through training around quality control and oversight and by establishing a research center. The research center, which could be an independent new research center or an existing one, could serve as the leading entity in rural roads and transport sector.

By the third project, Transport Services and The Movement of Goods and People, the new research center (or the existing research department of MoPW or MRRD) will have the necessary capacity to implement the third project (research on the movement of goods and people). In addition to implementing this project, the new or the existing research center, would also have the capacity to address all future research needs of the sector.

In all six projects, transfer of knowledge from other ReCAP countries will be a key aspect of fast-tracking Afghanistan’s rural roads research development.

7.3 Project 1 - Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility

The purpose of this kick-off project is to build knowledge management capacity in relevant stakeholders in the rural roads sub-sector, specifically in the area of research uptake. The primary project outcome will focus and manage research on rural roads & transport to inform decision making at the highest level, specifically in government institutions (e.g., MRRD, MoTCA and MPW). The project will incorporate analyses of different aspects of roads infrastructure including: location of materials; availability of materials; and determining topics for the research entity (ie., research institute).

This project will be supported by the Research Institute (Project 5). Both research and research uptake is lacking in Afghanistan and new strategies are needed to ensure top-level buy-in and continuing support for innovative ways of rural road design, building and maintenance. The project will develop curriculum, training and strategies for research uptake that are applicable to the Afghanistan context and leverage ReCAP’s lessons learned and content from similar projects.

Figure 7 Tentative Costs for Research Area 6

Item	Cost (GBP)
Survey of location of materials; availability of materials; and determining topics for the research entity	£50,000
Curriculum development	£75,000
Technical support for training and strategies for research uptake	£45,000
Total	£170,000

7.4 Project 2 - Capacity Building in Asset Management

7.4.1 Phase 1: Innovative Techniques for Inventory Identification and Condition Assessment Satellite Imagery (Link to existing ReCAP projects)

Phase one will inventory all roads in Afghanistan with a particular emphasis on rural roads. This inventory will inform the remaining five projects. At present, no complete inventory of Afghanistan’s road system has been conducted. It is unknown how many total kilometers of rural roads exist in the country. Some of the ministries such as the Ministry of Public Works has a GIS system, containing information about provincial and rural roads, but that is incomplete and inadequate to address the needs of the sector. Also, the existing database at MRRD should be expanded into a full-fledged database, with links to available GIS data.

7.4.2 Phase 2: Manual for road maintenance

Phase two of the project will create a manual for road maintenance. The proposed manual will build on current manuals and standard operating procedures and bring them into line with internationally recognized standards for rural road building and maintenance. There are two aspects to developing asset management in roads maintenance in Afghanistan. The first aspect is scheduling / prioritization. Currently, capacity in the ministries to schedule and prioritize rural road works is lacking. In general, planning itself is widely lacking in the ministries and in need of concerted efforts to build this specific capacity. The proposed manual will clearly address standards for scheduling and prioritizing road works. The second aspect of asset management is the physical undertaking of the maintenance works themselves. The manual will build on current knowledge about rural road works maintenance and align with good practice found in similar ReCAP countries. This project would require at least some on-the-ground assessment of the various road environments the manual has to accommodate. Due to the low literacy rate in Afghanistan, the proposed manual will be highly visual with many drawings and photographs to make it usable by local communities in rural areas who will ultimately be undertaking the roads’ maintenance. The manual will be translated into the two official languages in Afghanistan: Dari and Pashto.

Figure 2 Tentative Costs for Research Area 1

Item	Cost (GBP)
Mapping rural roads (includes leveraging ReCAP satellite mapping project and technical assistance)	£105,000
Expansion of current MRRD database	£75,000
Development of a standard rural roads maintenance manual	£50,000
Total	£230,000

7.5 Project 2 - Design and Development of “Low Volume Roads (LVR) Design Manual”

This research area consists of two phases: 1) the scope and development of the LVR design manual, which will include standard specifications and drawings for rural roads; and training on the LVR manual, to include developing course curriculum on LVR roads and use of the manual. The manual will tie to regional ReCAP manuals on design of LVR and customize to the conditions in Afghanistan. The manual will be designed for low literacy populations as are found in Afghanistan’s rural areas. As such, it will be highly visual with many photographs and drawings.

Figure 3 Tentative Costs for Research Area 2

Item	Cost (GBP)
Technical assistance for LVR design	£50,000
Design of LVR Design Manual	£75,000
Training on the LVR Design Manual	£50,000
Total	£175,000

7.6 Project 3 - Using Intermediate Innovative Technologies to Support Local Communities' Ownership of Rural Roads

Poverty and insecurity in Afghanistan’s rural areas poses special challenges for rural road construction and maintenance. The insecurity in many districts prevents outsiders from constructing and maintaining rural roads. Many districts in Afghanistan are controlled outside of the government by tribal chiefs and local warlords. Thus, it is critical that the introduction of new technologies is appropriate for non-engineers, and that the design of the road itself is approved by the local community as adding value to their need for movement of people and goods.

This research project proposes to explore how to use intermediate innovative technologies (e.g., tractor and plant “pools”) to support local communities’ ownership of rural roads. There have been numerous rural road projects over the past fifteen years in the country that have produced innovative approaches to building and maintaining roads in the rural areas. These efforts will be investigated to determine which technologies have proven most effective and efficient. Additionally, research will be conducted to determine which technologies from other ReCAP countries would be appropriate for Afghanistan.

Outcomes from this research area aim to ensure local labor is fully engaged in the road design and maintenance through integration of intermediate, innovative technologies to aid local communities in supporting rural road works in their various districts in Afghanistan. Critical to the success of any rural project is the involvement of local village head. Afghanistan has a very high unemployment rate in excess of forty percent, which creates the conditions for continued insecurity. Therefore, providing employment for local communities increases economic revenues while decreasing instability in the rural areas. The inclusion of the local village head will ensure that the road is continuously maintained and secured. Labor intensive rural road design will significantly contribute to both the economy and the longevity of the rural roads being constructed.

Figure 4 Tentative Costs for Research Area 3

Item	Cost (GBP)
Desk review and survey of intermediate innovative technologies for community involvement in rural road building and maintenance	£25,000
Technical assistance for guidance on relevant intermediate, innovative technologies	£50,000
Exchange visit	£25,000
Pilot project to implement tractor and plant “pool” and other intermediate technologies to determine good practice and scalability	£100,000

Total	£175,000
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7.7 Project 4 - Transport Services and the Movement of Goods and People: Understanding Costs

Afghanistan has some of the best quality fruits and nuts in the world. The country produces significant amounts of wheat and rice, as well. Yet many these orchards and crops are in rural areas, served by only a few roads plagued by poor quality infrastructure and not all of which connect to the Ring Road and other main provincial roads. Since 2002, a number of studies (e.g., feasibility studies, donor-produced roads infrastructure reports, etc.) have been completed that highlight the economic gains of building roads infrastructure. However, there is a gap in the reporting regarding food chain logistics for rural roads, in particular “first mile” roads that connect rural communities and their goods to the main highways. Additionally, lack of rural roads combined with poor quality roads has a significant negative impact on people living in rural communities, who as a result do not have access to health care, education, and free movement between communities.

This project proposes an in-depth research study to determine the economic impact of rural road availability and road condition on the movement of goods to market and on providing access to services for people living in rural areas. The role of the Ministry of Transport and Civil Aviation will be taken into consideration from a capacity building standpoint. The proposed study also includes an exploration of road safety, and will build upon a recent UNOPS study. The impact of ongoing insecurity in many provinces will of necessity also be investigated in order to determine the most effective means of securing rural roads during construction and to ensure regular maintenance. The study will focus on building much-needed capacity in rural roads research in MRRD and MPW through a strong collaborative effort.

Figure 5 Tentative Costs for Research Area 4

Item	Cost (GBP)
Desk review and survey of the economic impact of rural road availability and road condition on the movement of goods to market	£60,000
Desk review and survey of the economic impact of rural road availability and on providing access to services for people living in rural areas	£60,000
Capacity building technical support in transportation cost analysis	£75,000
Total	£195,000

7.8 Project 5 – Support for Project Quality Assurance/Quality Control and Oversight

The Scoping Study found that rural roads project QA/QC and oversight needs a concerted effort to determine relevant and appropriate solutions for the Afghanistan context and build needed capacity in the sub sector. The proposed research project is divided into two parts: 1) training around materials management; and 2) implementation challenges and solutions, to include determining innovative approaches in how to check road specifications when there are security issues, and how to effectively involve local communities in QA/QC and oversight.

This research area ties into the regional project, which aims to establish research centers. One outcome of this project could be to either establish an independent, new research center, or to build capacity in an existing research center, such as the research department

under MPW. There are advantages to both approaches, with an independent center free from governmental influence, while support for the internal department in MPW will build much needed capacity in QA/QC research Ministry-wide.

Figure 6 Tentative Costs for Research Area 5

Item	Cost (GBP)
Capacity building training on materials management	£30,000
Desk review and survey on good practice in determining road specifications in insecure conditions	£40,000
Technical support for capacity building	£50,000
Study on current research capacities	£25,000
Establishment of research center/capacity building of existing department	£100,000
Procurement of equipment for research center	£75,000
Exchange visit	£25,000
Total	£345,000

7.9 Cross-cutting Issues

Afghanistan has three cross-cutting issues in rural roads research that are also found in other ReCAP/AsCAP nations: 1) gender; 2) safety; and 3) security. The six proposed research projects will incorporate all cross-cutting issues as deemed appropriate in the project design. In Afghanistan, gender and security issues are especially challenging and require careful and thoughtful planning to ensure sought-after outcomes are met. Local community buy-in is essential to effectively address both these issues within project frameworks. ReCAP’s emphasis on local community involvement dovetails with this ground reality.

8 Program Partners and Steering Committee Membership

Potential partners were discussed during the initial Dubai workshop¹⁰, with the Ministry of Rural Rehabilitation and Development (MRRD) identified as the main AsCAP partner because of the Ministry’s focus on rural roads and community development. The Ministry of Public Works (MPW) was identified as a secondary partner, because its focus is primarily on regional roads, such as the Ring Road, rather than on rural roads infrastructure. The Ministry of Transport and Civil Aviation (MTCA) is the primary governmental body overseeing road safety. However, its primary aim has been fee collection, rather than technical input to roads construction and maintenance. Coordination and a holistic strategy are needed to ensure roads and transport research is supported by MRRD, MPW and MoTCA.

The Afghanistan Builders Association (ABA) was identified as the principal private sector association that could support ReCAP/AsCAP research areas, as it is the country’s largest association of builders, including road builders. The Association has had significant support from the donor community to increase professional standards for construction across the country.

¹⁰ Additional partners were identified in the Airey & Edmonds Scoping Study (2015) and listed here, as well.

Afghanistan Technical Vocational Institute (ATVI) was identified as an academic partner. ATVI, a two-year technical school, is primarily involved in capacity building. Recently, the Institute conducted a three-month capacity building project in MPW to build technical and managerial skills, funded by DfID. ATVI has trained approximately 7000 skilled youth and adults thus far, with at least 1,000 trained specifically in the roads sector. ATVI has also worked on four road building projects in Kabul, in addition to having worked with the MPW on other capacity building programs.

Other potential partners as identified in the 2015 Scoping Study by Airey and Edmonds are listed below as well.

Figure 8 Program Partners

Partner	Type of Institution	Description
Ministry of Rural Rehabilitation and Development (MRRD)	Government/Lead partner	Oversees rural roads
Ministry of Public Works (MPW)	Government/Secondary support partner	Oversees regional highways
The Ministry of Transport and Civil Aviation (MTCA)	Government/Secondary support partner	Mandated to oversee road safety, but primarily collects fees
Afghanistan Builders Association (ABA)	Private Sector Association	Afghanistan’s largest association of builders, to include road builders
Afghanistan Technical Vocational Institute (ATVI)	Academic partner	2-year technical training school, public (MoE) – private partnership, has a road building concentration and materials lab; Board member also sits on ABA
The Afghan Transportation Engineering Centre (ATEC)	Academic/research partner	Part of the Engineering Partnership Research and Service Organization (EPRSO) at Kabul University (linked with Ohio and Kansas State Universities)
Afghanistan Research and Evaluation Unit (AREU)	Research partner	Founded by donors as independent research body, conducted rural roads / communities research studies
Civil Society Organizations (CSOs)	Non-governmental organizations (NGOs) and others	Bangladesh Rural Advancement Committee (BRAC), CARE International and the Mission d’Aide au Développement des Economies Rurales en Afghanistan (MADERA), Afghan Public Policy Research Organization
Private sector organizations	Private sector businesses and other associations	Such as freight haulers, etc. – to be identified

8.1 Steering Committee Membership

Critical for ReCAP/AsCAP sustainability and success will be establishing a strong, viable Steering Committee. Based on ReCAP’s experience in other countries, membership should be limited to no more than 5 relevant stakeholders, with MRRD acting as Coordinator. Suggested Steering Committee members include representatives from the following institutions and organizations:

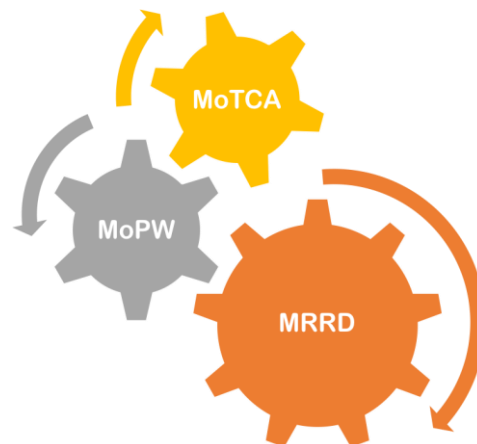
- a. Afghanistan Builders Association
- b. A University (e.g., Kabul University or the Polytechnic)
- c. Ministry of Public Works
- d. Afghansitan Chamber of Commerce and Industry
- e. Afghan Women Chamber of Commerce
- f. Ministry of Transportation and Civil Aviation
- g. World Bank Steering Committee for MRRD/MPW

The AsCAP Regional Technical Manager will approach the World Bank Steering Committee for MRRD/MPW to discuss how ReCAP can support and complement their committee, which includes the major donors DfID, World Bank, ADB, and USAID.

8.2 Obtaining Ministry Approvals and Buy-in

From the outset of the data collection (interviewing) for this Scoping Study, buy-in from key Ministry officials has been sought and the project aims have been socialized at all governmental levels. Since May 2017, efforts have been made by Eng. Abdul Bari Rahimi to conduct follow up meetings regarding ReCAP/AsCAP with all three ministries, as follows:

1. **MRRD:** While the MoU has been shared with, reviewed and commented by their technical team, it is yet to be approved by the Minister. By the end of August, the in-country team for this Scoping Study will obtain changes/edits to the MOU from MRRD officials, as well as meet with the MRRD Minister to secure his agreement for the MOU.
2. **MoPW:** Interest has been expressed by the Ministry to serve as a secondary partner and a follow up meeting will be scheduled in mid August to ensure that the approval process is expedited.
3. **MoTCA:** A meeting was scheduled and formed with the Minister. However, the minister resigned before the meeting could take place. Efforts are being made to schedule another appointment with the new Minister or his/her deputy.



Essential outcomes of this initial phase for ReCAP/Afghanistan are 1) a signed MOU, and 2) the appointment of an MRRD official who will serve as the ReCAP/AsCAP National Coordinator on behalf of the Afghanistan government.

9 Overlapping Project Themes with the AsCAP Region

Several AsCAP overlapping project themes were identified during the first Dubai workshop and integrated into the proposed research areas. These include:

- Capacity building in the design of low volume roads (LVR) and creation of an LVR manual together with training curriculum
- Leveraging ReCAP satellite imaging project to map rural roads
- Community-based/labour-intensive road building and maintenance
- Community-based maintenance in insecure areas
- Understanding transport costs of people and goods
- QA/QC and oversight of rural road building and maintenance
- Establishing a Research Center
- Building capacity in decision-makers for effective research uptake
- Cross-cutting issues of gender, safety and security

10 Logistical Considerations for AsCAP/Afghanistan

This section details the specific logistical considerations for projects being implemented in Afghanistan, as well as provides a suggested way forward for AsCAP.

10.1 Specific Environmental Challenges

Afghanistan's environment poses both significant challenges as well as the opportunity for significant impact in rural roads and transport research. The logistical challenges to operating a successful project in Afghanistan cannot and must not be underestimated. Although there are found a general set of project implementation challenges in just about all developing nations (e.g., corruption, lack of capacity, severe logistics difficulties, lack of telecom/internet, security, etc.), Afghanistan is a special case unto itself. The complexity of the operational environment in terms of tribal and ethnic differences, considerable and ongoing corruption, insecurity and conflicting foreign interests, all combined with lack of capacity at every level, makes Afghanistan extraordinarily difficult to operate in and achieve a measure of success.

10.2 Elements of Successful Projects

This does not mean that projects cannot be successful; in fact, there are many very successful projects that have achieved substantial outcomes and impact over the past 15 years of foreign aid. These projects all have, at their core, four main elements: 1) strong and agile leadership in-country, backed by strong and flexible home office support; 2) dedication and patience to build local national capacity on the project team and to extend that capacity building to the project's participants; 3) focus and planning with clear objectives and goals; and 4) solid buy-in from key stakeholders in Ministries and CSOs, as well as those at the local level, who are involved and valued throughout the project implementation. Perseverance and creative problem solving must underpin all actions and activities.

10.3 Proposed Project Management Solution

10.3.1 In-country Support for ReCAP and PMU

Most of the proposed six projects are in capacity building of institutions and local nationals, who are primarily located in Kabul. Therefore, even though slightly insecure, the security situation in Kabul is still manageable, as evidenced by over a dozen other entities that have and still are implementing similar projects across the country.

To ensure ReCAP/AsCAP's success in Afghanistan, it is suggested that ReCAP consider support from a small in-country Afghan national team who can freely travel in the country to assist ReCAP in the initial stages, in particular to ensure rapid progression of the MOU through ministerial channels. In Afghanistan, follow up is essential to ensure projects remain on track. Having in-country support for ReCAP will aid the PMU in being able to consistently follow up on all ongoing work to ensure milestones are met and any problems that arise are quickly managed. One option to consider is using in-country basic administrative and logistical support for the PMU, such as office space and transportation. Once ReCAP is established in country, the AsCAP Regional Technical Manager will assume responsibility for the project.

It will also be important to determine the most effective way of operating legally in Afghanistan, especially considering taxation issues for foreign entities. ReCAP's DfID partner will be consulted in this matter to find a way forward.

Lastly, the efforts of the country national team, Regional Technical Manager, and/or National Coordinator could be supplemented with cutting edge technology such as satellite imagery, GPS coordinates, and mobile-based platforms.

Navigating Security Challenges



10.3.2 Security and Foreign Nationals

Due to the continuing insecurity in the country, it is inadvisable to station a foreign national full-time, or even part-time, in Kabul due to the high cost of providing security (e.g., secure compound, armoured vehicle, driver, guards/close protection support, etc.) relative to the project budget and affordance of the limited technical support that could be provided given security and transportation concerns. Moreover, frequent visits and long stays in Kabul increase the risk of a security incident. However, short in-country visits will be important to provide technical assistance to the projects, show support and ensure Afghanistan is meeting ReCAP/AsCAP goals.

The estimated daily budget for security (full package consisting of driver, armed guards and armoured vehicle for 12 hours) is \$1650. This budget will be in addition to technical advisor daily rate and Life Support (secure accommodation). The lead in time for obtaining a visa is approximately 2 weeks, although if necessary, visas can be obtained in as little as 48 hours. It is suggested that all technical advisors obtain multiple-entry one-year visas in order to facilitate travel into Afghanistan without delaying ReCAP goals and deliverables.

10.3.3 Meeting Locations

Meetings with Ministry officials and other counterparts can take place in Kabul and outside Afghanistan in regional locations. The following meeting locations in the AsCAP region were determined to be relatively easy for Afghan nationals (without diplomatic passports) to obtain visas: India, Turkey, Indonesia, Thailand, Kazakhstan, and Tajikistan. It was determined that India and Thailand are the two most accessible and regionally relevant locations for ReCAP/AsCAP, with India the preferred location for future meetings, workshops, and trainings.

In Kabul, foreign nationals can safely stay at a secure private compound. These facilities are equipped with meeting rooms as well. Afghan colleagues can easily visit the facilities for meetings, and government officials will be able to park cars inside the walls. For meetings outside the compound at Ministries and other locations, an in-country support staff/person (e.g., Country Coordinator) could arrange low-profile secure transportation and armed guards, as well as meeting space at a secure location.

10.3.4 Providing Technical Support - Distance Education

In addition to face to face meetings and conferences, ReCAP also provides webinars and is planning to expand their technical curriculum offerings through distance education. This online solution will significantly lower risk for ReCAP technical advisors, while concomitantly increasing access to capacity building interventions for Ministry officials and others involved in AsCAP/Afghanistan projects.

11 Timeline

During the second Dubai workshop (August 2017), the following timeline was constructed for ReCAP/AsCAP Afghanistan as follows:

Date (2017)	Activity
August 16	<ol style="list-style-type: none"> 1. ReCAP Meeting with DfID: <ol style="list-style-type: none"> a. Determine security budget & logistics → determines whether Les Sampson and Jasper Cook can travel to Kabul to sign and discuss MOU with MRRD
By August 25	<ol style="list-style-type: none"> 1. MOU comments received from MRRD 2. Meeting with MRRD Minister <ol style="list-style-type: none"> a. Approval of MOU b. Discuss CC appointment with Minister 3. Identification of Country Coordinator (CC) 4. Formalize arrangement with CC (in order to quickly move forward with Uganda, project coordination, India, etc.)
By September 15	MOU agreed upon
September 20	Concept Note draft completed
By September 30	<ol style="list-style-type: none"> 1. Steering Committee Membership (no more than 5 relevant stakeholders identified with MRRD as Coordinator) determined 2. Issue invitations to Coordinator +1 for Uganda November 20 Meeting – by 30 September latest (ASAP due to visa issue)
October 15	Draft of Concept Note for kick-off project ready for MOU signing <ol style="list-style-type: none"> 1. Draft Project ID Document (completed during August workshop) 2. Concept Note draft – 20th September 3. TORs and Procurement (2 months) – 1 Dec (award)
By October 15	MOU signed
November 20	Uganda / Annual ReCAP Meeting
December 1	TORs and Procurement completed
TBD	Meeting in India (to be agreed upon)
December 31	Kick-off Project up and running

12 Conclusions, Recommendations and Next Steps

The Scoping Study team prioritized 6 research areas arising from the needs analysis conducted in March-April 2017 in Kabul, Afghanistan, in consultation with ReCAP Infrastructure Research Manager Les Sampson and ReCAP Team Leader Jasper Cook. Of the three ReCAP areas, the primary need for Afghanistan is in capacity building. Knowledge transfer and research will be outgrowths of the capacity building that is needed in the sub sector. Four of the six identified projects fall into existing ReCAP projects, enabling linkages and shared knowledge.

A kick-off project is identified, Building Sustainable Knowledge Generation and Management Capacity for Rural Access and Mobility, with a target date for implementation December 31, 2017. This project builds on ReCAP strategy overall, with the ultimate aim to create a self-sustainable research facility in Afghanistan. The Project Definition Form for this project was completed during the second Dubai workshop. The detailed Concept Note to follow will establish plans, determine funding, and describe the portfolio of projects and systems. Importantly, the Concept Note will show the project's initial benefit to Afghanistan, which will harness ReCAP knowledge to meet the country's needs. Next actions for the kick-off project will be to 1) discuss the proposed project with relevant Ministry officials at MRRD and the Steering Committee, which will inform the Concept Note development effort; and 2) initiate the procurement process.

Since April 2017, the in-country team has been socializing the standard MOU with MRRD and MPW deputy ministers to begin the process of obtaining buy-in for the project. By the end of August, the in-country team for this Scoping Study will obtain changes/edits to the MOU from MRRD officials, as well as meet with the MRRD Minister to secure his agreement for the MOU. Essential outcomes of this initial phase for ReCAP/Afghanistan are 1) a signed MOU, and 2) the appointment of an MRRD official who will serve as the ReCAP/AsCAP National Coordinator on behalf of the Afghanistan government.

The mapping, manuals development, technologies identification, transport cost determination, QA/QC and support for research uptake all build on current and previous donor-funded projects over the past 15 years in Afghanistan that have sought to establish roads infrastructure to link the country to its neighbors and provide access to the many geographically remote and nearly inaccessible areas in the 34 provinces. The new government is emphasizing rural community development and job creation at the same time as it is taking the first steps toward combatting endemic corruption. Thus, the timing for ReCAP/AsCAP to enter Afghanistan, albeit as the final country to join, is very positive.

The emphasis on capacity building is in line with roads infrastructure support needs. In the rush to build/re-build the country post-2001, capacity building was merely an afterthought, leaving behind poor road quality, disjointed and disconnected roads, if not altogether missing, and little Ministry capacity to manage it all. Although significant strides have been made to connect rural areas with the main provincial roads, much more research needs to be done to understand what works and what does not in this challenging environment.

The research areas will complement and strengthen ongoing donor-assisted improvement and maintenance projects, including the World Bank National Rural Access Program (NRAP): MRRD Project (Rural Road Project), and Emergency Transport Rehabilitation Project (ETRAP) Post-emergency Road Maintenance Project; the USAID Secondary and District Center Road Project; and EU Maintenance of Kabul – Jalalabad Road. In particular, the capacity building aspect of the projects will aid donor assisted capacity development projects, to include the World Bank's (co-financed by the Swedish International Development Cooperation Agency (SIDA)) Technical Assistance (TA) to the Administration Reform and Capacity Building Unit in

the Ministries of Public Works and Transport project and the ADB's Technical Assistance (TA) Cluster to the Islamic Republic of Afghanistan for Capacity Building for Reconstruction and Development and Technical Assistance to Afghanistan for Capacity Building for Road Sector Institutions.

Additionally, the proposed projects will extend and deepen knowledge about how rural communities in conflict-affected nations can contribute to building and maintaining roads that will enable them to transport goods and people to the urban areas. The projects will also facilitate knowledge transfer and research in the nascent rural roads sub sector in Afghanistan while contributing to other AsCAP nations in the areas of innovative technologies for road maintenance, low volume road design and good practice for promoting research uptake at the decision-maker level.

The suggested addition of local national support staff in-country assisting the PMU and ReCAP/AsCAP with managing the projects, at least initially, will ensure that milestones and AsCAP goals are met, and the program achieves intended research outcomes in Afghanistan.

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Annex 1 – Detailed Methodology

Based on the purpose and objectives of this scoping study, the methodology was essentially participatory, whereby the study effort engaged all key stakeholders. Emphasis was placed on qualitative data gathering and analysis in order to more effectively determine research, capacity building and knowledge transfer needs in Afghanistan’s rural roads and transport sector, answering the “Hows” and “Whys” to address the key objectives and areas of identification in the ToR. Women’s rights and inclusiveness were a focus area of exploration, given the importance placed upon gender rights by the GIRA and donor agencies.

The scoping study employed a variety of methods of data collection and analysis, including: 1) a literature review and desk study; and 2) in-depth discussions with relevant stakeholders in rural roads infrastructure. The participatory approach to this study was aimed at eliciting as much relevant data as possible to inform potential ways forward to support the overall AsCAP program. Qualitative methods comprised the chief means of collecting data. Substantial focus on qualitative approaches helped to ensure that the review and identification process was participatory, equitable, and open to unexpected information. Data collection consisted of reviewing key project documents, and conducting interviews, and, where it was relevant and possible, focus group discussions.

Data Collection

Two in-country local consultants with extensive experience in surveying and road transport, Nadima Sahar and Mr. Abdul Bari Rahimi (ATVI Faculty/Road engineer), respectively, supported by Masud Roshan:

1. Identified and created a list of key government staff responsible for rural infrastructure and transport services and other relevant stakeholders in Afghanistan; and
2. Conducted in-depth discussions with key government staff responsible for rural infrastructure and transport services and other relevant stakeholders (including academic institutions, funding agencies, and NGOs) in Afghanistan to identify stakeholder perspectives on the major challenges relating to rural access and transport development.

Document Review

Specifically, data collection included conducting a literature review and desk study to:

1. Review recent key government policy, plans and programmes that would influence rural transport research, capacity building and knowledge transfer programmes; and
2. Establish research concepts and ideas that will effectively serve to meet rural development objectives.

Documents were obtained through ReCAP colleagues, Internet searches and stakeholders/colleagues in Afghanistan’s Ministries, donor partners (e.g., DFID, USAID, World Bank) private sector organizations, CSOs and NGOs, where possible. The workshop in Dubai with Les Sampson, combined with an analysis and synthesis of those documents aided in eliciting possible research concepts and ideas that meet rural development objectives.

Interviews

Between 1 – 1 1/2 hours per respondent were allotted in the interview schedule, though this varied according to respondents’ time and availability constraints, as well as role. Interviews were conducted in local language and translated into English. Not all questions were asked of every respondent; rather, questions asked were pertinent to their role in the government and transport sector and type/location of organization. A second interview was needed in some cases where time did not allow completion of the questionnaire or an additional line of questioning was needed to

ascertain views in more detail. The questionnaires used for this study were qualitative, using open-ended questions.

The interview approach was designed to be flexible in terms of questioning and respondents, allowing for multiple viewpoints on each issue in order to triangulate the data during the analysis. The male/female team enabled us to gather data from a wider source of stakeholders, especially given gender norms in Afghanistan. The inclusion of CSOs, such as iNGOs and NGOs, provided a broad viewpoint of areas in which ReCAP-supported research and knowledge sharing could facilitate rural roads and transport projects that would have wider community support and impact in terms of job creation and local capacity building.

Data Analysis Methods

Due to the mainly qualitative nature of this review, the data analysis consisted primarily of content analysis and constant comparison of narrative data to validate emerging themes. Interview responses and observations will be coded to enable them to be aggregated and analyzed where possible via descriptive statistics (i.e., means/medians, percentages, cross-tabulations) and content analysis (qualitative). AtlasTi, a qualitative software analysis package, and cMap, a concept mapping software program, aided in the analysis. (See Section 6 – Concept Map of Workshop Findings.)

Dubai Workshop I

The Afghanistan ReCAP/AsCAP Scoping Study team conducted a one and a half day workshop in Dubai on April 24 and 25, 2017, to support the Afghanistan Scoping Study. Given the current security situation in Afghanistan, a remote workshop was the most practical way of bringing together the team to debrief findings, brainstorm ways forward for AsCAP in Afghanistan, and write the initial draft outline of the Study report, to include the proposed projects. Dubai is the closest venue outside of Kabul to host such an event, and affords a wide variety of cost-effective options for accommodation and conference rooms.

Attendees included Les Sampson (ReCAP), Dr. Kerrin Barrett (Team Leader), Ms. Nadima Sahar (Soft Power Solutions) and Eng. Abdul Bari Rahimi (Afghanistan Technical Vocational Institute).

The workshop design was highly interactive to engage all participants in thoughtful discussion on using findings from the in-country interviews and desk study to: 1) determine potential AsCAP partners; 2) identify cooperation themes in rural transport; and 3) compile a comprehensive list of potential projects for support by AsCAP. Sessions were collaborative in nature to draw upon the experiences and background of the participants. Les Sampson and Mr. Rahimi are roads infrastructure specialists, and contributed their subject matter expertise. Dr. Kerrin facilitated, while Ms. Sahar reported on interview findings and helped synthesize them under the three main areas of interest for ReCAP.

The workshop achieved its goal of producing a draft outline for the Scoping Report that considers the conflict-affected nature of Afghanistan. Areas were identified in which ReCAP can support Afghanistan in terms of shared cooperation themes and impactful projects, and potential partners were identified. On Day 2, a concept map was created depicting results of the workshop under each of the three ReCAP thematic areas, including ways forward to include six proposed projects (See Section 6 Concept Map of Workshop Findings). As anticipated, the primary need is in capacity building, followed by knowledge sharing, then research.

With key partners identified as a result of the needs assessment (Ministry of Rural Rehabilitation and Development (MRRD) and Ministry of Public Works (MPW)), the next step was to ensure that the

appropriate stakeholders are engaged and willing to sign an MOU. After the workshop concluded, the Afghanistan team returned to Kabul to meet with those key stakeholders.

Ethical Safeguards

Ethical safeguards have been pursued in all communications with respondents. Respondents were advised that their responses will be presented as anonymous and, if they wished, that their identities will not be recorded.

Limitations of the Methodology

Limitations of the methodology include the inability to reach some potential informants given the time constraints and security issues in country. Gathering of data from many different sources and then using triangulation in the analysis mitigated these limitations.

Team Collaboration and Management

Based on the outcomes of those discussions and the review of the literature, the in-country consultants collaborated with Dr. Kerrin Barrett to:

3. Identify and prioritise research, capacity building and knowledge transfer needs in rural access and transport interventions in Afghanistan that are in line with the AsCAP Research Strategy and logframe; and
4. Identify possible overlapping project themes with the AsCAP region.

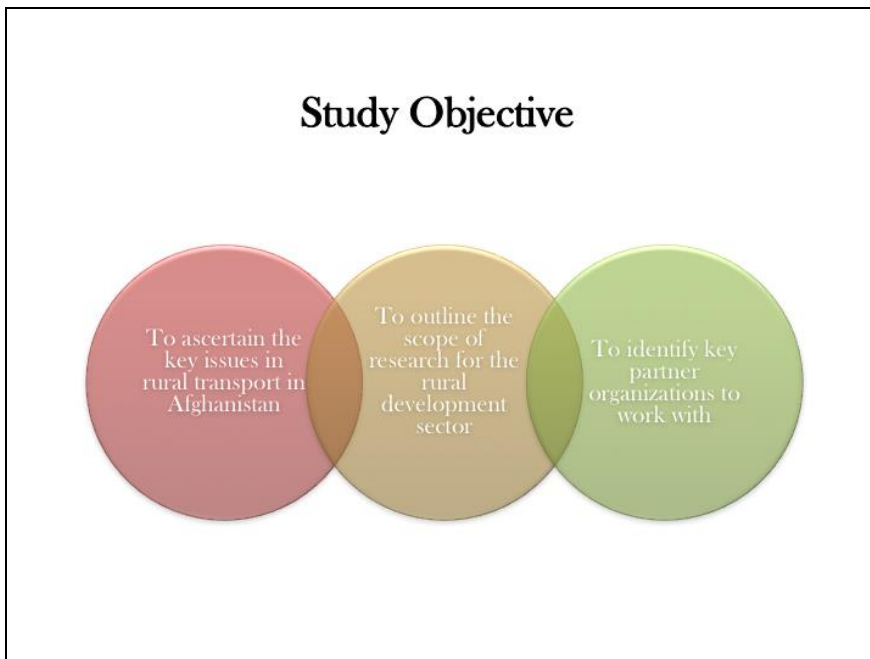
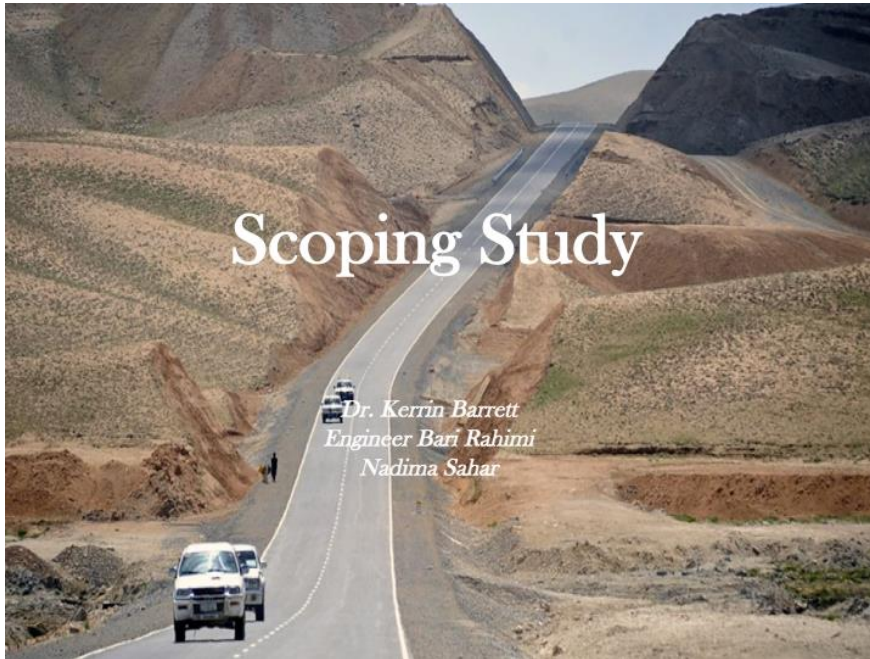
Additionally, Sahar and Roshan, together with Mr. Abdul Bari Rahimi (ATVI Faculty/Road engineer) have supported Dr. Barrett to:

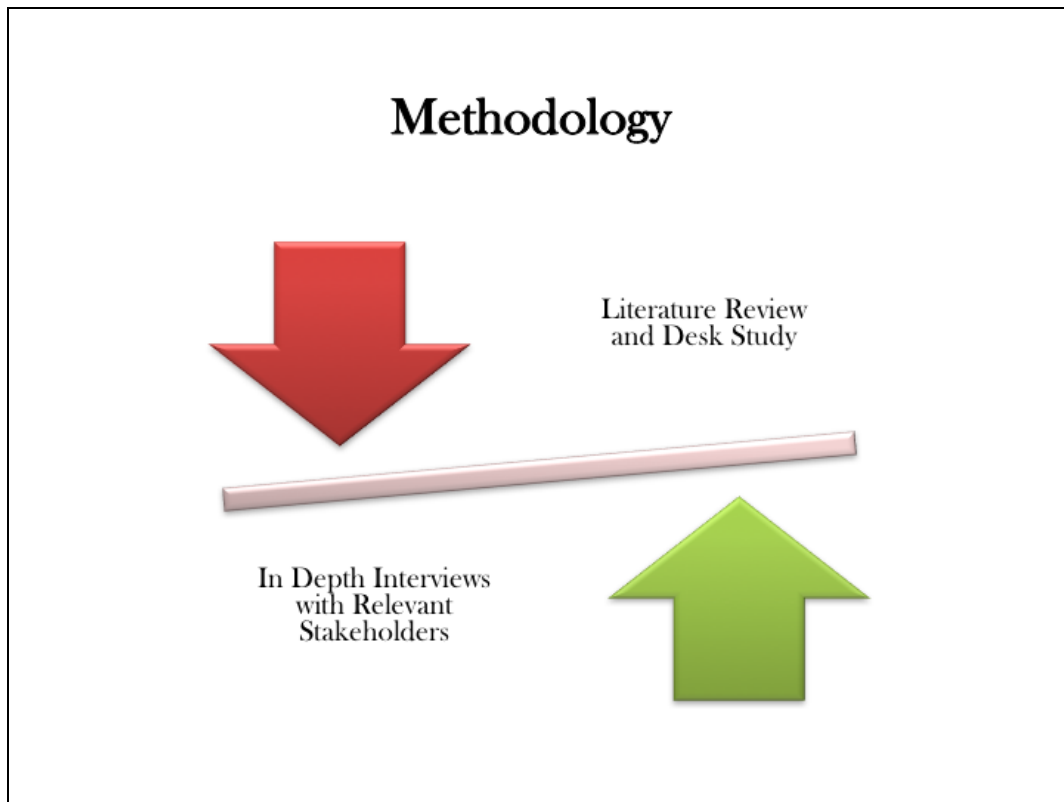
3. Develop this draft scoping document for an AsCAP programme for Afghanistan suitable for presentation to a meeting of the AsCAP Steering Committee; and
4. Finalise the scoping document once feedback has been obtained from key stakeholders.

The project was launched on 13 March 2017, and a start-up meeting with the team was held, with Roshan and Sahar commencing initial contact with the relevant GIROA Ministries and Cabinet officials between 13-23 March. Roshan was able to contact the senior person for infrastructure inside the GIROA, and identified a road engineer/project manager, Mr. Rahimi, to further assist the team in identifying need.

The project is remotely managed by Dr. Barrett, who is based in the US.

Annex 2 – Scoping Study Findings Presentation (Dubai Workshop)





Findings (*Sector Overview*)

- Transportation system comprised of inland waterways, air, rail and road transport modes
- Inland waterways limited to the Amu Darya and its tributaries with the only formal operating inland port at Shirkhan Bandar
- Over 60 airports and airfields across the country
- 2 international and 22 domestic airports, which meet International Civil Aviation Organization standards
- Mazar, Jalalabad and Kandahar planned to be upgraded
- 90% of transportation unconnected and in poor condition

Findings (Sector Overview)

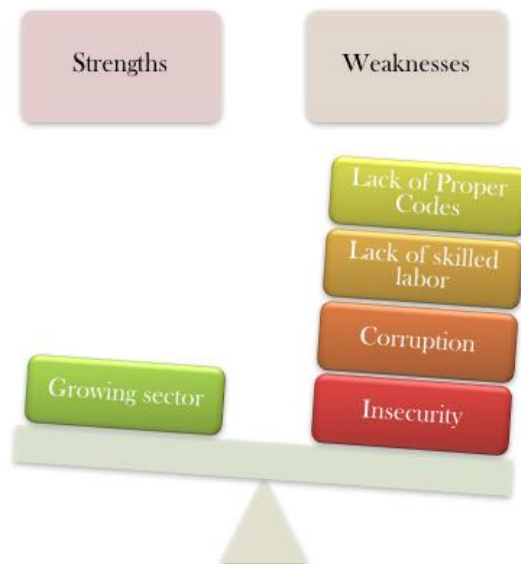
Road network comprises about 3,300 km of regional highways,

- 4,900 km of national highways,
- 9,700 km of provincial roads,
- 17,000–23,000 km of rural roads,
- 3,000 km of urban roads including 1,060 km in Kabul

The regional highway network consist of the 2,300 km Ring Road that connects Afghanistan’s major regional centers (Herat, Kandahar, Mazar-e-Sharif, Maimana, and Sheberghan) with Kabul, and about 700 km of cross-border roads linking the Ring Road to neighboring countries.

The regional highway network foster regional trade and economic linkages between Afghanistan and Iran, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

Findings



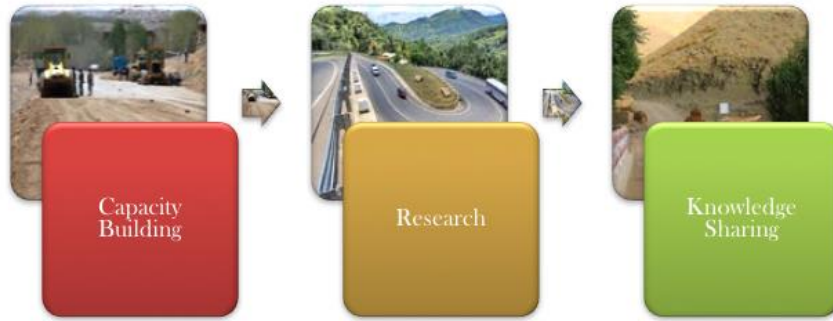
Findings (*Entities Involved*)



Findings (*Legal Framework*)



Recommendations



Annex 3 – Scoping Study Findings (interview participant key quotes by Research Area)

Interview Quotes

Capacity Building

- Some of the problems in the rural roads and transport sector include lack of coordination, lack of capacity building programs, lack of proper leadership, and lack of technical / qualified individuals. Also, no attention has been paid to quality. For example, the Kabul-Jalalabad road's quality is low because little to no attention was paid to it during its construction. Issues such as temperature and other factors were not taken into consideration.
- Capacity building is much needed in here, but an assessment needs to be conducted to better determine how those needs could be met.
- We need capacity building in quality assurance and control, safety plan, in conducting research and many others. No investments have been made in capacity building.
- There are environmental, design, construction and maintenance problems associated with most rural roads. Most of them are damaged by water post their construction. Capacity needs to be built in road maintenance as well as road construction and repair.
- The rural road conditions are really bad. We don't have any up to date data related to them.
- There have been capacity building programs with limited to no impact in some cases. I think an awareness program needs to be conducted as a first step in any rural project to ensure local buy in and support. As a second step, we need skilled and dedicated labor. A national capacity building initiative needs to be undertaken to ensure that the market needs are addressed and that the practical aspect of rural road and transport work are covered in addition to the theoretical ones.
- Public awareness programs need to be conducted so that the locals know that these roads are built for their own good and convenience and that they need to take ownership and responsibility if they would like to benefit from it. Capacity building needs to be done and more attention needs to be paid to the practical aspect of the rural roads sector.
- We need better management, research and capacity building in rural roads maintenance.
- ATVI could assist with capacity building in this sector. If we are looking at graduate level, then Kabul Engineering University and Polytechnic University are better positioned.
- Inaccurate costing (low / unrealistic cost estimates), lack of capacity and quality assurance are some of the weaknesses of the rural roads and transport sector. Projects are implemented by those in power and the implementing entity cannot oversee / monitor the project properly.
- There is no capacity. In some cases, a lieutenant has been appointed instead of an engineer (meaning appointments are not merit based, but connection based). For example, the deputy of the Ministry of Public Works is a doctor. There is also lack of coordination among all entities involved. Information should be shared with all technical personnel involved in road construction projects.

- Capacity needs to be built in design, survey, quality assurance and quality control, safety plan, maintenance and many others.
- Capacity building is a must as a first step towards building this sector. It should not be a symbolic effort, but a realistic one, where qualified individuals are valued and asked to participate actively in building, maintaining and repairing roads. Another aspect of this is also recruiting qualified individuals in the first place, which would diminish the consistent need for capacity building.
- Capacity building is required in survey, design, and quality assurance and control.
- We would like trainings in new technologies and construction softwares.
- Enhanced capacity leads to better quality. More investment in capacity building means better roads that are built correctly, systematically, and on time.
- There has been capacity building in the past, but that has been insufficient. Qualified trainers need to be recruited and there needs to be pre-and post tests to ensure that the knowledge has been transferred successfully. Also qualified individuals should be referred to participate in such trainings / programs.
- Capacity building needs to be done after a proper needs assessment, identifying where and in which areas do we need the most capacity building in. Also, locals in each province should be provided with capacity building trainings so that they are technically able and involved in the construction process. This will ensure not only ownership of the roads, but would also help them maintain it after it is built.
- ATVI is primarily involved in capacity building. We have conducted a three month capacity building project for DfID. We have trained around 7000 individuals so far, with at least 1,000 individuals in the roads sector. We have also worked on four roads in Kabul in addition to having worked with the Ministry of Public Works on other capacity building programs.
- ATVI works across Afghanistan and has worked previously on roads and materials testing, which was very effective. The only thing lacking in this sector was skilled labor, which ATVI addressed to an extent by training individuals in various areas such as engineering, design, management etc. Currently our graduates work with the municipality, Ministry of Urban Development and many others. I also want to add that this program (capacity building) needs to continue so that we fully address the skilled labor problem in future. We consider market needs and deliver trainings to meet those needs.

Research

- No research has taken place in this area (rural roads and transport sector). Research needs to be conducted in this area.
- No comprehensive research has taken place in this area (rural roads and transport sector).
- A research center needs to be established; one that could look into the challenges / problems facing the transport and rural roads sector.

- There is lack of supervision / oversight and research in this sector. There is no warranty post project completion. Axle weight needs to be researched and monitored. A system needs to be built to ensure weight management on the roads, especially low volume roads.
- A specific entity / center needs to be built to conduct research in this sector. Entities such as Ministry of Public Works, universities and ATVI could be involved in the process, but the prime responsibility for comprehensive, timely and accurate research should rest with the entity.
- Kabul University conducts research through its students in the Engineering Department, but no research has been undertaken on road maintenance.
- The entities that have been involved in research are ATVI, Kabul Engineering Department, Polytechnic University and a few other ones. Their work has been mostly at a theoretical level. The area where no research has been undertaken is road maintenance. Water and other factors that affect the life / durability of roads need to be researched further.
- A comprehensive assessment needs to be undertaken to identify what has been done (the amount of roads that have been built), in what condition are they now, what needs to be repaired, what needs to be maintained and in where. In other words, a proper inventorying of all that is there needs to be done. This also should look into road prioritization and determine which roads need to be built or repaired first, based on their location and agricultural and economic contributions.
- Research needs to be undertaken to determine what materials are available locally and what gets imported. This could be as part of a broader research program investing the sector; identifying its strengths, weaknesses and opportunities for growth.
- There is a research center / department within the Ministry of Urban Development that conducts research.
- I am not aware of any entities involved in research in this area.
- A center needs to be established within the Ministry of Public Works and Ministry of Urban Development that could focus on and research rural and provincial roads.
- There are at least 95% of areas where little to no research has taken place. There is a need for increased research and coordination in the rural roads and transport sector.
- There needs to be research initiatives on road maintenance, and quality and quantity of the existing roads.
- Coordination needs to be strengthened between universities and ministries. In terms of research, universities are better positioned and equipped to undertake research.

Knowledge Transfer

- ...a database (either a central one at the national level or many at provincial levels) needs to be developed to enable knowledge transfer and sharing between the entities involved in the rural roads and transport sector.
- Sharing information through online sources, like a database or GIS system that is connected to all entities, would be helpful.

- A central database should be built to allow flow and sharing of information between all entities involved in the rural roads and transport sector. Capacity needs to be built in managing and using the database since the overall technical capacity is low.
- There is no system of sharing information - no database. There are coordination committees in some of the projects, where the entities involved get to share project related information with each other, but there is no other committee that could do this on a national level. In other words, coordinate everyone's efforts, connect them all together and facilitate the sharing of information on a national level in this sector.
- There is a serious need for more coordination and knowledge sharing. A systematic effort needs to be undertaken. A steering committee / board or a central, but shared database, needs to be developed to address this challenge.
- Right now, there is no mechanism in place to share knowledge or information. For example, if we need a document from MRRD, we need to send someone to physically collect it, which is time consuming and ineffective. We have GIS systems in both ministries and if someone connected them such that we all could access non-confidential documents online without having to go there, that would be a lot more effective.

Coordination among Relevant Entities

- There is lack of coordination among the relevant government entities and donors. There have been problems in the past, especially those related to materials testing and overall budget needed for projects, due to poor coordination between the entities involved.
- Capacity and trust building needs to take place in order to strengthen coordination among the relevant government and donor entities.
- More coordination needs to take place between the government and the private sector in addition to proper planning, implementation, oversight and follow up.
- There has been lack of coordination and initiative on the government's part to ensure that all entities involved in this sector are connected and aware of each other's programs.
- There is no coordination between the government, donors, and contractors in this sector. This affects the quality as well. Gaps need to be identified and coordination needs to be strengthened between these entities.
- The problem is also with materials testing. Some companies provide unrealistically low prices and then use low quality materials to build the roads. This also reflects back to the coordination issue. If there is proper coordination, then most would know and acknowledge that there are flaws with the procurement process, valuing the lowest financial bid, and will make a collective effort to address it.
- No coordination exists between entities involved in the rural roads and transport sector. There is also a lot of corruption. Entities involved in this sector need to trust one another and the government should also help them. Local labor should be recruited.
- There is no coordination between the government entities and donors involved in the sector.

- Paghman and Deh Sabz drainage system is not built properly due to lack of technical capacity, control and coordination. The municipality does not have a presence in there and the Ministry of Labor, Social Affairs, and Martyrs doesn't have a role.
- There is no proper planning or coordination, which could lead to duplication of efforts and gaps in this area.

Challenges

- Lack of quality assurance and control during the design process, lack of local codes, use of international codes that may or may not be suitable to Afghanistan, the acceptance of lowest financial bids forcing the companies to submit unrealistic quotations are all challenges facing this sector.
- Road maintenance is non-existent. Daily supervision needs to take place. Also materials testing needs to happen in academic or government laboratories, not private ones where they could easily bribe them into producing the results that they want.
- The problem is that a lot of work happened, and it happened fairly fast and at a speed, at which we were not ready to receive and process. For example, so much happened post 2002 and it all happened so quickly, but as a sector, we were not ready to receive process it all. We did not have a proper system in place. We lacked proper planning, management, and a clear strategy. Our efforts were and still are uncoordinated. We lacked technical capacity in various areas and still do to this date. An example of this is the Kabul-Jalalabad road, which is still not repaired. This points to all the challenges that I highlighted earlier.
- The rural roads are in a very bad condition and due to insecurity, the government cannot assess them.
- Lack of security, public awareness, capacity and corruption are some of the challenges. Recruitment should be merit-based, not connection based.
- Lack of funding and bureaucracy has been a challenge. We needed a penetrating needle for a machine and it has been three years and we still have not gotten one. We also use our personal computers since the ministry does not have sufficient numbers to provide to all staff members.
- Security challenges, corruption, lack of government's control and oversight due to insecurity, lack of precise and accurate surveying during project implementation, lack of public awareness and maintenance post construction are the main challenges.
- One project gets subcontracted so many times that by the time it reaches the last subcontractor, there is barely any money left to properly implement the project.
- Lack of capacity, sufficient budget, and local standards are some of the challenges. There is also security and axle load problems.
- Challenges in this sector include lack of security, skilled / qualified labor and widespread corruption.
- Lack of laboratory for students to test materials and practically apply what they learn in classes is a challenge. Other challenges include lack of qualified teachers in the transport and rural roads sector who meet the necessary qualifications to teach. Lack of a library also affects

students' enthusiasm in learning more. Lastly, language is another barrier as most of them are unfamiliar with English and find it hard to learn technical jargons and terminologies.

- Some of the challenges in this sector include insecurity, lack of quality assurance and control, skilled labor and corruption in this sector.
- Till now, we do not have local codes in Afghanistan. We use international codes.
- Lack of a well-equipped laboratory, skilled / qualified labor, a standard library and public awareness are some of the challenges facing the rural roads and transport sector.
- Another challenge is understanding the textbooks properly due to the English terminologies used. As you are aware, we do not have a standard / national engineering curriculum used by all universities. Every entity or university has developed their own curriculum, some based on foreign curriculums with English terminologies that are difficult for local students to understand.
- People do not follow traffic rules / regulations.
- Corruption, design problems, lack of coordination, technical capacity and a transparent procurement process. There is also a lack of accurate study / assessment of the environment and feasibility studies in most cases.

Others

- Roads need to be assessed further in terms of their capacity / axel load, local materials used in constructing them, heat / temperature and other factors...other issues that need to be taken into consideration are strengthening the relationship and coordination between government and donor entities.
- Some policies exist in some of the ministries, but the problem is that they are not being used effectively. The reason behind this is weak leadership / administration. This area (policies) needs to be developed further.
- There is no one policy / manual used by all entities in this sector. Each ministry has their own manual that they use in constructing roads.
- The policies that exist in the rural roads and transport sector are those of the Ministry of Public Works (MoPW).
- We need to adjust the entire system; the way the ministries work in this sector. We need to have a comprehensive assessment to determine how they work, their level of output, how could their efforts be maximized further. We also need to move from this archaic system of manually recording everything. We need to computerize and update our way to working so that we are more effective, efficient and up to date with the rest of the world.
- 7,000 students have graduated from ATVI so far and around 60% of them have been in the construction sector.
- Kabul Polytechnic University has a specific department allocated to roads, which trains students on roads construction.

- If locals are recruited in projects, it will be very helpful in terms of security. For example, the implementers were unable to build the Paktya road for five years due to security issues. However, as soon as they hired locals, they were able to complete the project in one year.
- Strengthening the education sector and the curriculums at universities and institutes is needed.
- Conducting quality control and assurance post project completion is less effective compared to conducting it during project implementation.
- Unfortunately, we do not have any national policies or codes. We use the American codes (Ashto) and our curriculum was updated in Florida in the US.
- We use American codes to teach our students.
- The procurement system needs to be more transparent. Public awareness should be provided to ensure public ownership of roads. Projects should not be subcontracted and coordination between the government and implementing entities should be strengthened.
- Local labor should be used to encourage local ownership and maintenance of roads.
- We don't have a proper system. We don't have standards. We don't have geotechnical. There is a lot of load on the roads, more than it is built to bear and no system to enforce checks and balances. The law is the same old law. There is a lot of corruption and no supervision and oversight.
- There are oversight problems due to insecurity. Implementers and donors in most cases are unable to conduct regular supervision quality control due to security challenges in rural areas.
- Challenges include corruption, insecurity and weak capacity and management. Designs are also not done accurately and nor is the implementation done properly due to lack of capacity.
- Government and the international community are both equally involved in corruption.
- There is no coordination and that is the government's weakness that it hasn't ensured it.

Annex 4 – Afghanistan Roads Length Calculation Spreadsheet

Eslam Qalla														
1802														
1439	429	413												
1404	735	785	372											
1236	566	616	168	169										
1406	396	446	33	339	170									
1231	693	743	330	295	127	297								
1395	857	907	494	459	291	461	286							
242	1798	1848	1435	1400	1232	1402	1227	1391						
1581	571	271	142	514	345	175	472	636	1577					
1319	781	831	418	383	215	385	210	76	1315	560				
423	1979	2029	1616	1581	1413	1583	1408	1572	419	1758	1496			
1640	302	680	267	573	404	234	531	695	1636	409	619	1817		
1398	860	910	497	462	294	464	167	453	1394	639	377	1575	698	
447	1355	1405	992	957	789	959	784	948	443	1134	872	624	1193	951
804	1247	1297	884	849	681	851	676	840	797	1026	764	978	1085	843
1249	711	761	348	313	145	315	140	146	1245	490	70	1426	549	307
1467	335	521	108	400	231	75	358	522	1463	250	446	1644	173	525
1733	69	757	344	666	497	311	624	788	1729	486	712	1910	233	791
1562	552	388	123	495	326	156	453	617	1558	117	541	1739	390	620
1032	770	820	407	372	204	374	199	363	1028	549	287	1209	608	366
324	1478	1528	1115	1080	912	1082	907	1071	320	1257	995	501	1316	1074
1751	741	101	312	684	515	345	642	806	1747	170	730	1928	579	809
395	1549	1599	1186	1151	983	1153	978	1142	391	1328	1066	572	1387	1145
815	987	1037	624	589	421	591	416	580	811	766	504	992	825	583
681	1124	1174	761	726	558	728	553	717	674	903	641	855	962	720
1170	632	682	269	234	66	236	61	225	1166	411	149	1347	470	228
1513	503	339	74	577	277	107	404	568	1509	68	492	1690	341	571
1294	756	806	393	358	190	360	63	349	1290	535	273	1471	594	104
562	1287	1337	924	889	721	891	716	880	558	1066	804	742	1125	883
1600	202	640	227	533	364	194	491	655	1596	369	579	1777	100	658
1933	131	973	560	866	697	527	824	988	1929	702	912	2110	433	991
928	874	924	511	476	308	478	303	467	924	653	391	1105	712	470
677	1585	1635	1222	1187	1019	1189	1014	1178	673	1364	1102	854	1423	1181
123	1679	1729	1316	1281	1113	1283	1108	1272	119	1458	1196	300	1517	1275
1321	783	833	420	385	217	387	212	130	1317	562	54	1498	621	329
1413	875	925	512	477	309	479	304	170	1409	654	94	1590	713	471
1788	124	812	399	721	552	366	679	843	1784	541	767	1965	288	846
829	1272	1322	909	874	706	876	701	865	822	1051	789	1003	1110	868

The roads length between cities of Afghanistan (Salang, Kabul, Qandahar & Herat)

Ghazni
↓
For Example
Kabul

138

Cheghcharan														
1702														
1255	447													
1177	625	78												
1061	640	194	116											
928	774	327	249	133										
728	974	527	449	333	200									
554	1148	701	623	507	374	174								
444	1258	811	733	617	484	284	110							
395	1307	860	782	666	533	333	159	49						
300	1402	955	877	761	628	428	254	144	95					
423	1525	1078	1000	884	751	551	377	267	218	123				
419	1521	1074	996	880	747	547	373	263	214	119	242			
1491	682	236	297	430	563	763	937	1047	1096	1191	1314	1310		

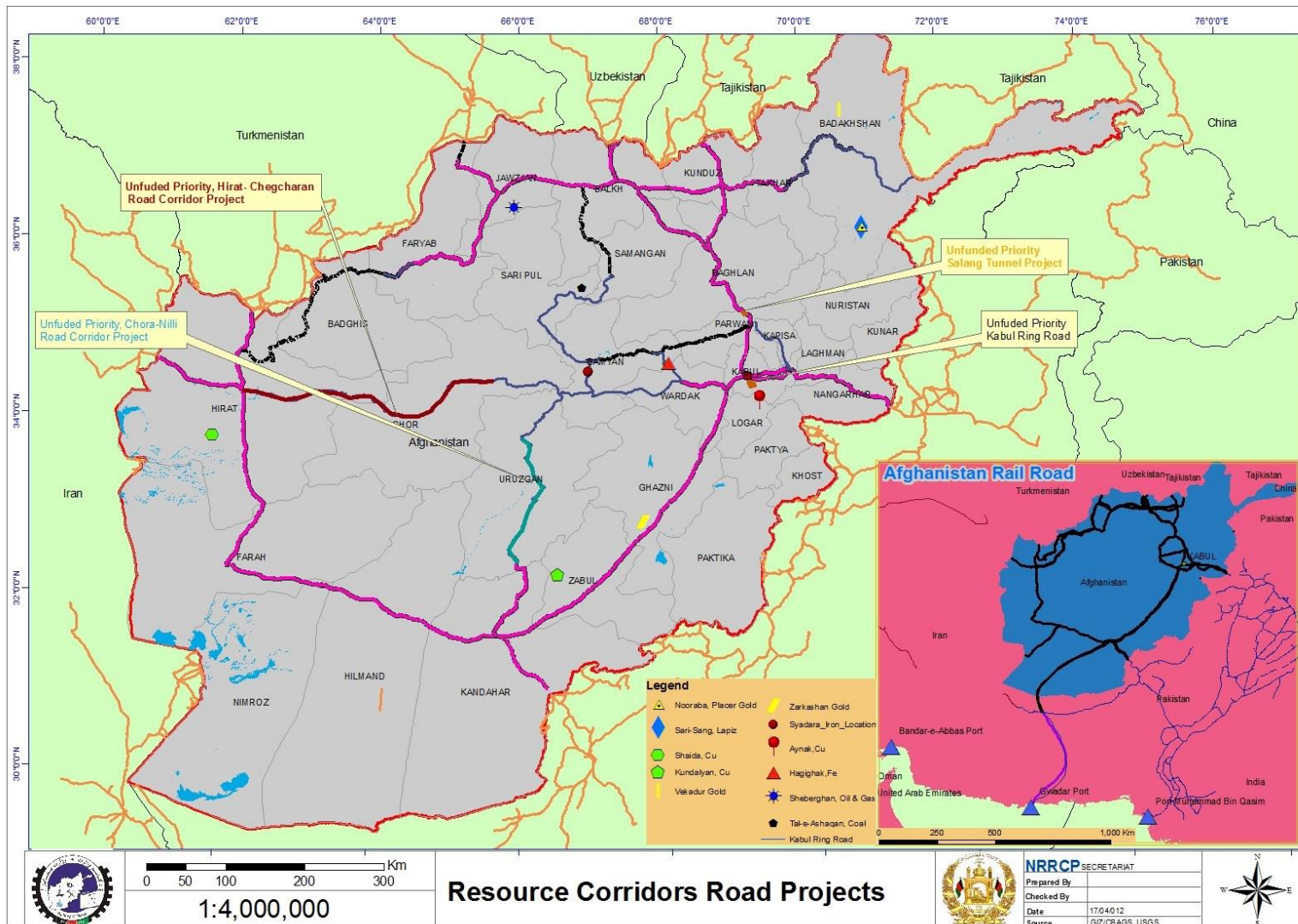
The roads length between cities of Afghanistan (Ishkashim, Pul-e khumri, Sabzack pass & Herat)

Hairatan
↓
For Example
Kabul

470

Prepared by: Engineer Mohammad Ewaz

Annex 5 – Afghanistan Road Corridors



Annex 6 – Asian Development Bank Transport Sector Assessment (2015)

Transport Network Development Investment Program
(RRP AFG 44482)

TRANSPORT SECTOR ASSESSMENT

A. Strategic Context

1. Afghanistan provides access to trade along north-south and east-west Asian corridors, through Central Asia. As a “geographic center of gravity”, the country has the potential to play a special role in the Central Asia Regional Economic Cooperation (CAREC) Program, which supports investments in roads, energy, and trade. Of the six identified CAREC Corridors, three traverse Afghanistan. Roads and rail links connect Afghanistan to the outside world and can connect Asia’s four different regions to each other. Internally, without other available transport infrastructure modes, roads predominantly connect Afghanistan’s provinces, cities, towns, and villages. Transport sector investments increase the impact of the other two sectors that ADB supports in Afghanistan, namely, energy and agriculture, by linking markets, products, and people. The development of a multimodal complementary relationship between road and rail infrastructure is crucial for supporting mine extraction industries and using the mineral wealth of the country to spur economic development.

B. Sector Performance, Problems, and Opportunities

2. Afghanistan’s transportation system is comprised of inland waterways, air, rail, and road transport modes. Inland waterways are limited to the Amu Darya and its tributaries with the only formal operating inland port at Shirkhan Bandar. The country’s has some 60 airports and airfields spread across the country including two international and 22 domestic airports, which meet International Civil Aviation Organization class 4 categorization standards.¹ By the end of 2011, Kabul International Airport and Herat Airport are expected to achieve full International Civil Aviation Organization international standards; and Mazar-e-Sharif, Jalalabad, and Kandahar are planned or in the process of being upgraded.

3. Until recently, the total length of railways was a mere 24.6 kilometers (km), comprising cross-border extensions from Turkmenistan and Uzbekistan to transshipment yards in Towraghondi and Kheyraabad. In mid-April 2011, the Asian Development Bank (ADB) financed Hairatan to Mazar-e-Sharif rail link (75 km) was completed; the first new railway in Afghanistan in over 100 years. Given its position in Asia, Afghanistan presents significant opportunities for future rail network development.

4. As a landlocked country with an estimated population of 25 million to 30 million dispersed across the largely mountainous terrain of 652,000 square kilometers (km²), and without many viable alternative transport modes, roads are the principal means of transport. Afghanistan’s road network comprises about 3,300 km of regional highways, 4,900 km of national highways, 9,700 km of provincial roads, 17,000–23,000 km of rural roads, and about 3,000 km of urban roads, including 1,060 km in Kabul. The regional highway network consist of the 2,300 km Ring Road that connects Afghanistan’s major regional centers (Herat, Kandahar, Mazar-e-Sharif, Maimana, and Sheberghan) with Kabul, and about 700 km of cross-border roads linking the Ring Road to neighboring countries. The regional highway network foster regional trade and economic linkages between Afghanistan and Iran, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. National highways extend regional highways to provincial capitals contributing to economic growth and national integration.

¹ Airports with runway length of 1,800 meters (m) or longer.

2. At the end of 2001, after some 20 years of conflict, baseline assessments suggested that more than 90% of the transportation system was unconnected and in a poor condition. Since then, multilateral and bilateral development partners have helped improve key transport infrastructure, especially priority roads such as the Ring Road. Collectively, these development partners have invested more than \$4 billion to improve transport infrastructure and subsector institutions in Afghanistan. ADB's transport portfolio in the country alone is over \$1 billion. Positive signs and strong evidence of usefulness of these investments, particularly roads, indicate that they stimulate economic growth and lower provincial disparities. The reduction in travel time due to the improved regional roads has reportedly increased the frequency of personal trips and domestic trade. The Ministry of Public Works (MPW) is preparing to create a road authority to function purely as a road network manager with all works outsourced to private contractors. With a newly operational railway, the establishment of a rail authority is also a necessity.

3. Owing to these efforts, there are indications of positive development impacts. Regularly scheduled passenger and freight air services are provided by a state carrier and several private carriers. Two to three international flights are scheduled each day, in addition to daily domestic flights between Kabul and major regional cities. Rail services at Hairatan average 4-5 trains typically comprising 30 wagons each, hauling humanitarian aid and bulk commodities, particularly fuel. Operation of the new rail link from Hairatan to Mazar-e-Sharif is highly anticipated and will reduce the current congestion on the cross-border highway by increasing the number of transshipment points along the 75 km rail line in the north, allowing for more efficient shipment of goods farther into the hinterland. Demand for road transport is increasing evidenced by the supply of registered vehicles. The vehicle population is increasing rapidly with an annual average growth over the last three years of 23% for cars, 15% for trucks, and 48% for motorcycles. The most descriptive statistic is the increased levels of trade with Pakistan, for which Afghanistan has established a cross border transit trade agreement. Since 2003, the level of imports and exports have increased by almost 250%, with an annual average growth rate of approximately 30%.

4. Despite this progress resulting largely from infrastructure interventions, the transport network remains incomplete. With an estimated density of only 4 km per 1000 km², Afghanistan's road network is far below the completeness levels achieved by its neighbors. Furthermore only 7% of the roads are paved, and a key section of the Ring Road is not yet constructed. Four provincial capitals remain unconnected to the regional network, and thus lack access to domestic and regional markets, and more than 70% of the inter-provincial and inter- district roads remain in a poor state. Many roads are impassable by motor vehicles, and people in the mountainous central part of the country do not have all-weather access to the main road network. Likewise, transport services are inadequate, of low quality, and expensive.

8 Aside from additional infrastructure requirements, a number of challenging sector issues remain unresolved. For instance, the vast majority of funding for infrastructure construction continues to be financed by international donors through grant aid agreements. Similarly, government funding for maintenance of the implemented works in the transport sector network, is lacking, which if not resolved will result in an unnecessary economic loss of the significant capital investments made to date. Truck overloading is another major problem that will reduce the engineering design life of the constructed roads. Rather than physical problems, these potential sustainability issues are nonphysical in nature and point to a lack of proper sector governance and cost recovery. The government must establish appropriate authorities to regulate the subsectors in a coordinated manner with mandates to generate revenue for maintenance funding.

9. With respect to private sector participation, the security of contractors and consultants on remote project sites remains problematic. Furthermore, the continued inefficient use of government agency staff for undertaking works crowds out the growth of private sector service providers, limiting competition.

A. Government Sector Strategy

1. Institutional and Regulatory Framework

10. Multiple government ministries are involved in the operation and regulation of the transport sector, namely: MPW, Ministry of Transport and Civil Aviation (MOTCA), Ministry of Urban Development (MOUD), Ministry of Rural Rehabilitation and Development (MRRD), Ministry of Interior (MOI), and local authorities.

11. MPW has been responsible for development, operation, and maintenance of regional highways, national highways, and provincial roads in the country. Given the lack of other agencies, MPW has historically played a significant role in the planning and implementation of infrastructure in the rail and air subsectors. MPW has an institutional footprint of a large engineering organization with staff stationed in every major provincial capital and carries out work through forced account. Over the years of conflict, MPW lost most of its trained staff. Current staff levels consist of approximately 200 engineers and administrative staff, and 2,000 laborers at the regional maintenance centers and provinces. At present, much of MPW's efforts focus on administering aid-financed projects and executing budget-financed minor construction and maintenance works. It is acknowledged that MPW staff require substantial skills enhancement to perform their current duties. In addition, a restructuring of the organization and a business plan are needed to upgrade MPW commensurate with the envisaged sector governance role.

12. MRRD is responsible for development of rural infrastructure, including rural roads. MOUD and local municipal authorities are responsible for the construction and maintenance of urban roads.

13. MOTCA is charged with regulating the private sector transport industry. With a current staffing level of 1,180, MOTCA's primary function is coordinating agreements between private sector and international transporters and establishing offices in neighboring countries to facilitate international trade. MOTCA's private sector department sets technical standards for private commercial vehicles and inspects them for compliance during the licensing and renewal process. MOTCA is also charged with collecting fees from private trucks and inter-provincial private buses at national or provincial borders or on the outskirts of major cities and provides some passenger and freight transport services using state-owned vehicles.

14. Recent high-level discussions between the government and development partners have focused on sector governance and transitioning to international best practices within an Afghan context such as: (i) restructuring the institutions and authorities, and (ii) increasing the use of private sector service providers through performance based contracts. Since 2009, the establishment of a commercialized Road Authority responsible for overseeing private sector contractors and service providers carrying out maintenance works and the establishment of a dedicated Road Fund for the collection of user fees for maintenance has been discussed. Now, with the completion of the Hairitan-Mazar-e-Sharif rail link, a similarly empowered Rail Authority is also urgently required.

2. Road Map

10. Launched in 2008, the government's Afghanistan National Development Strategy (ANDS) is a Millennium Development Goals (MDGs) based action plan and road map for developing the country's transport sector.² As described in Pillar 3, Infrastructure, the Transport and Civil Aviation Sector Strategy proposes a safe, integrated transport network that ensures domestic and international connectivity by moving people and goods reliably and at low cost.³ In addition to a long list of infrastructure needs in all the transport subsectors, the ANDS provides a planning and policy framework, specific development targets and dates for achievement, and an overall strategic vision to guide investment and reforms in the transport sector until 2020. In 2010, the ANDS was refined and updated with a more specific list of priority programs and projects.⁴ One such identified program in the Economic and Infrastructure Development Cluster was Program 1: National Regional Integrated Resources Corridor Initiative (NRIRCI). Based on a recent NRIRCI report, current estimates of priority project demands versus estimated resources, indicate an estimated funding shortfall of approximately \$2.1 billion from the present to 2014.⁵

11. Much of the ANDS and the subsequent refinement documents, focus on the road transport subsector with the following priorities to: (i) upgrade and maintain the Ring Road, (ii) provide improved cross-border roads to neighboring countries, and (iii) establish a fiscally sustainable system for road maintenance using private contractors as much as possible. The ANDS also calls for 40% of all villages to be connected by all-weather roads to national road system and 40% of all roads in municipalities to be improved to a good standard. The government envisages that the national road network will eventually be managed by an autonomous road agency, and its preservation and further development financed by road user charges, which are not part of the consolidated budget. Provincial and local roads will be managed by provincial and/or local road authorities, and a substantial part of their costs will also be financed by way of road user charges. A road fund will have been established to collect the road user charges and to serve as the procurer of road services from the road agency and local roads authorities, and hence, to serve as the regulator of the road subsector. Road works will generally be undertaken by contractors, including long-term contracts for maintenance. A substantial amount of work will be contracted out to small contractors using labor-based techniques.

12. Based on recent ADB technical assistance to Afghanistan's burgeoning rail system and with the start of NRIRCI in 2011, in which increased focus is on supporting private sector investment in mineral extraction and spillover industries, priority rail investments are also being planned.⁶

² Islamic Republic of Afghanistan. 2008. *Transport and Civil Aviation Strategy 1387–1391 (2007/08–2012/13), Pillar III, Infrastructure, Afghanistan National Development Strategy*. Kabul.

³ Hereinafter, the Transport and Civil Aviation Sector Strategy is referred to as the Transport Sector Strategy.

⁴ Islamic Republic of Afghanistan. 2010. *Afghanistan National Development Strategy, Prioritization and Implementation Plan Mid-2010–Mid-2013*, Volumes 1 and 2. Kabul.

⁵ Ministry of Mines. May 2011. *National-Regional Integrated Resource Corridor Initiative (NRIRCI)*. Kabul.

⁶ ADB. 2010. *Technical Assistance to the Islamic Republic of Afghanistan for Railway Development Study*. Final Report. Manila. (TA 7259-AFG)

3. Policy Framework

10. The national transport policy framework presented in the Transport Sector Strategy, and as amended by subsequent refinements, outlines the principles and vision of the transport sector through a holistic approach. Collectively, the strategy and the investment program form the basis for further policy making and reform for all modes of transportation under a unified sector-based approach.

11. The Transport Sector Policy emphasizes the private sector in rebuilding and developing the transport sector. The government's view is that the private sector is a key to trigger development, while the existing public sector agencies are also required to ensure a balanced approach with adequate attention paid to public interest issues. Given the low capacity of the existing public sector agencies, strengthening these institutions, realigning responsibilities with changing priorities and conditions, and indeed creating new required institutions is mandated. The challenge is formidable in view of the shortage of skills and the fact that the various ministries may be entrenched in conducting business the old way. To be able to move forward, the existing ministries will have to be cooperative in transitioning to an overall sector-based approach and be willing to implement change and reform.

IV. ADB Sector Experience and Assistance Program: Lessons Learned

12. ADB has several ongoing projects in Afghanistan and through coordination is keenly aware of the efforts of other development partners. Based on internal portfolio reviews and project performance reports prepared by country and sector teams, several lessons should be highlighted:

- (i) Project costs have been underestimated and most projects have been prone to cost overruns, due to slow procurement of works, security, and unresolved safeguard issues. Unstable government co-financing and poor project management have been recurrent problems affecting implementation progress.
- (ii) Most transactions failed to attract the interest of top quality consultants and contractors, largely due to the security situation and lack of additional margin or profit incentive to offset perceived additional risk. This has led to a lack of competition, higher-than-expected bid prices and financing gaps, and low quality products from service providers. More and better marketing of the business opportunities may help as well as larger packaging of works. The number of procurement packages should be minimized given the limited implementation capacity for project execution.
- (iii) Aid coordination through government-development partner consultative and advisory groups or other mechanisms is important to avoid duplication of efforts, miscommunication of intentions and responsibilities, and delays.
- (iv) Stakeholder consultation, especially with local communities, has been inadequate. The result is that some have not "bought into" the projects or welcomed foreign contractors. This has not helped the security situation for consultants and contractors and has likely resulted in increased costs and delays.
- (v) Executing agency capacity is low and has caused delays in implementation. Continued emphasis must be given to capacity building to improve planning, project design and implementation, safeguard issues, administration, and financial management.

