DATA COLLECTION SURVEY ON ROAD AND BRIDGE
IN KABUL CITY

Contents

Location Map
Photographs of Current Road Conditions
List of Figures & Tables

Chapter 1 General Conditions of Roads in Kabul ............................... 1-1
  1-1 Background of the Survey ................................................................. 1-1
  1-2 National Development Plan of Afghanistan ................................. 1-1
  1-3 Road Development Policy of the Kabul Municipality .................... 1-3
  1-4 Current Conditions of Existing Roads and Development Tasks .......... 1-4
    1-4-1 Current Conditions of Existing Roads and Bridges ................. 1-4
    1-4-2 Development Tasks ................................................................. 1-14
  1-5 Plans of Other Donors ................................................................. 1-16

Chapter 2 Conditions Affecting Road Projects ........................................ 2-1
  2-1 Organization of Kabul Municipality ................................................. 2-1
  2-2 Natural Conditions ....................................................................... 2-1
  2-3 Environmental and Social Considerations .................................... 2-3
    2-3-1 Related Regulations and Decrees ............................................ 2-3
    2-3-2 Environmental Impacts Assessment (EIA) System in Afghanistan ... 2-3
    2-3-3 Land Acquisition and Resettlement System in Afghanistan ......... 2-8
    2-3-4 Right of Way (ROW) in Kabul ............................................... 2-11

Chapter 3 Road and Bridge Improvement Project (Tentative) .................. 3-1
  3-1 Basic Principles for Improvement Project ....................................... 3-1
  3-2 Selection of Improvement Projects ............................................... 3-1
    3-2-1 Improvement Projects (Tentative) ......................................... 3-1
    3-2-2 Examinations of Saray Shamali Intersection ............................ 3-18
  3-3 Tentative Implementation Packages ............................................. 3-35
  3-4 Tentative Implementation Schedule ............................................. 3-38

Chapter 4 Suggestion for Realization of Project .................................... 4-1
Appendices

1. Summary of Traffic Volume Survey ............................................................... A-1
2. Application Form on EIA Screening .............................................................. A-4
3. Rough Plans of Improvement Projects ......................................................... A-6
4. General Drawings of ②Makroyan Bridge & ①Guzargah Bridge .................... A-32
5. Study Documents for ⑨Saray Shamali Intersection ...................................... A-35
   5-1 Rough Drawings for Overpass ............................................................ A-36
   5-2 Rough Drawings for Underpass .......................................................... A-39
   5-3 Disaster Prevention System for Underpass ......................................... A-43
   5-4 Ventilation for Underpass .................................................................. A-45
6. Rough Drawings for Southern Part of ⑤Proje Taimani Road ......................... A-47
7. Photographs for Each Improvement Project .............................................. A-50
Location Map

Islamic Republic of Afghanistan

Project Area
Photographs of Current Road Conditions

Traffic Congestion in Arterial Road
Pedestrians crossing road freely advance the traffic congestion.

Traffic Congestion in Arterial Road
Pedestrians crossing road freely advance the traffic congestion.

Traffic Congestion in Arterial Road
The road is closed by vehicles, and the traffic flow is stopped.

Traffic Congestion in Arterial Road
The traffic flow of major arterial road is stopped.

Traffic Congestion around Intersection
The vehicles entering main road disorderly cause traffic congestion.

Traffic Congestion around Intersection
The congested intersection is being bottleneck of arterial road.
List of Figures & Tables

Chapter 1
Figure 1-1 Total Length of Newly Constructed Roads................................................................. 1-2
Figure 1-2 Land Use Plan for Kabul Municipality 2025................................................................. 1-4
Figure 1-3 Road Management Boundaries for Kabul ................................................................. 1-5
Figure 1-4 Standing Snowmelt on Road Surface (Left) and Very Congested Trunk Road in Kabul (Right) ................................................................................... 1-6
Figure 1-5 Number of Lanes of Existing Roads.............................................................................. 1-7
Figure 1-6 State of Paving of Existing Roads ................................................................................. 1-8
Figure 1-7 Level of Traffic Congestion of Existing Roads .............................................................. 1-9
Figure 1-8 Existing bridge with masonry substructure (Left photo) and pedestrian bridge (Right photo) ................................................................................... 1-10
Table 1-1 Result of Visual Inspection of Bridge over Kabul River, supervised by UNOPS ...... 1-11
Table 1-2 Result of Visual Inspection of Flyover Bridge ........................................................... 1-13
Figure 1-9 Urgent Development Task-1 ....................................................................................... 1-14
Figure 1-10 Urgent Development Task-2 ..................................................................................... 1-15
Figure 1-11 Urgent Development Task-3 ..................................................................................... 1-16
Figure 1-12 Road Development Plans of Various Donors ............................................................... 1-18
Figure 1-13 Kabul Road Development Plan of the World Bank ...................................................... 1-19

Chapter 2
Figure 2-1 Organization Structure of Kabul Municipality ............................................................. 2-1
Figure 2-2 Examples of Traffic Problems Caused by the Topographical Features of Kabul ....... 2-2
Table 2-1 Related Regulations/Decrees on EIA ........................................................................... 2-3
Figure 2-3 Approval Process of EIA ............................................................................................. 2-5
Table 2-2 Relevant Agency and Role .............................................................................................. 2-6
Figure 2-4 Organization Chart of NEPA ......................................................................................... 2-7
Table 2-3 GAP between JICA’s Guidelines and Related Law/Rules in Afghanistan, and Proposed Gap-Filling Measures ...................................................... 2-9

Chapter 3
Figure 3-1 Location Map of the Improvement Project (Tentative) ................................................. 3-2
Figure 3-2 Intersection legs on the Saray Shamali Roundabout .................................................... 3-18
Table 3-1 Number of lanes ............................................................................................................. 3-19
Figure 3-3 Types of roundabouts by size and daily capacity ........................................................... 3-19
Figure 3-4 Connecting points and angles of intersection legs .......................................................... 3-20
Figure 3-5 Complication of traffic by crisscross intersection ............................................................ 3-21
Figure 3-6 Photo of crisscross intersection ..................................................................................... 3-21
Figure 3-7 Markets, temporary shops, and taxi parking areas around the Saray Shamali Roundabout ............... 3-22
Figure 3-8 Improvement plan of the Saray Shamali intersection ................................................................. 3-24
Figure 3-9 Estimated Traffic Volume by Direction (12 Hour Period) ......................................................... 3-25
Figure 3-10 Signal-Controlled Level Intersection ....................................................................................... 3-26
Table 3-2 Saturation Value at the Level Intersection .................................................................................. 3-26
Figure 3-11 Signal-Controlled Grade Separated Intersection .................................................................... 3-27
Table 3-3 Saturation Value at the Grade Separated Intersection ............................................................... 3-27
Figure 3-12 Standard Road Width at the Grade Separated Section ........................................................... 3-28
Figure 3-13 Standard Structure of the Underpass ...................................................................................... 3-29
Figure 3-14 Plan of the Underpass ............................................................................................................ 3-30
Figure 3-15 Cross-Section of the Underpass .............................................................................................. 3-30
Figure 3-16 Standard Structure of the Overpass ....................................................................................... 3-31
Figure 3-17 Plan of the Overpass ............................................................................................................. 3-32
Figure 3-18 Cross-Section of the Overpass ............................................................................................... 3-32
Table 3-4 Comparison of Alternative Saray Shamali Roundabout Improvement Plans ............................. 3-34
Table 3-5 Tentative Packages for Improvement Projects ........................................................................ 3-36
Figure 3-19 Location Map of Improvement Projects and Packages ............................................................ 3-37
Table 3-6 Implementation Schedules (Tentative) ...................................................................................... 3-39

Chapter 4
Figure 4-1 Study Flow ............................................................................................................................... 4-1
Figure 4-2 Overall View of Proje Taimani Road Improvement Plan ........................................................ 4-2
Figure 4-3 Plan of Proje Taimani Road Southern End ............................................................................. 4-3
Figure 4-4 Typical Cross-Section and Longitudinal Section ................................................................. 4-3
Chapter 1  General Conditions of Roads in Kabul

1-1  Background of the Survey

The population of Kabul has been rapidly increasing from some 2 million in 1999 to 3.3 million as of 2012 (Population Estimation 2012-13, Afghanistan Central Statistics Organization), exceeding the city’s capacity to absorb a population increase in an orderly manner. As it is expected that the current rapid population increase will continue for a decade or more, one estimate puts the city’s population in 2025 at 6.5 million. There are several reasons for this, including the inflow of people escaping the deteriorating public safety conditions in rural areas and the constant flow of people seeking employment in Kabul. Such a rapid population increase has inevitably aggravated all types of urban problems, ranging from lowering of the groundwater table and water, air and soil pollution to severe traffic congestion and worsening of the sanitary conditions. To combat these problems, one pressing task is the development of such social and economic infrastructure facilities as roads, bridges and a water supply system. It is feared that further population increase will have a number of negative impacts, including an increase of the urban poor, chronic water shortage and water pollution, spread of infectious diseases due to the deterioration of hygiene, environmental pollution due to traffic congestion and stagnation of the local economy.

The road transport sector in particular is suffering from very poor road conditions in terms of the travelling performance and traffic safety as even main roads which are prioritized to improve are often unpaved or severely damaged. Even though the World Bank and many donors have been implementing projects designed to improve roads as well as the traffic in Kabul, the overall development of roads and bridges has been unable to keep pace with the ever increasing traffic volume, further deteriorating the chronic traffic congestion.

Under these circumstances, the implementation of a project to effectively deal with traffic bottlenecks in Kabul is urgently required so that the improved road conditions eliminate traffic congestion to provide a smooth and safe travelling environment for road users.

1-2  National Development Plan of Afghanistan

There are three principal pillars for the Afghanistan National Development Strategy (ANDS) which are “security”, “governance, rule of law and human rights” and “economic and social development”. It was agreed at the Afghanistan Donor Conference held in Paris in June, 2008 that the international community would assist the reconstruction of Afghanistan in line with the ANDS. The National Priority Programs (NPPs) were announced at the Kabul International Conference on Afghanistan held in July, 2010 to achieve the objectives of the ANDS, calling for the re-organization of international support to conform to the government strategy and NPPs in Afghanistan.

The future vision for the road and transportation sector presented by this strategy and programs is described next.

(1)  Afghanistan National Development Strategy (ANDS)

The current national development plan of Afghanistan is the Afghanistan National Development
Strategy (ANDS) approved by the President and the National Assembly in April, 2008. This strategy states the future vision for the road transport sector in the following manner.

**Vision Statement:** A safe, integrated transportation network that ensures connectivity and that enables the low-cost and reliable movement of people and goods within Afghanistan as well as to and from foreign destinations. This will give impetus to economic growth and employment generation and integrating with the global economy.

<table>
<thead>
<tr>
<th>Expected Outcomes</th>
<th>Outcome Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Road infrastructure connecting provinces.</td>
<td>1. Road infrastructure connecting provinces.</td>
</tr>
<tr>
<td>2. Remote rural areas are linked with district and provincial capitals</td>
<td>2. Remote rural areas are linked with district and provincial capitals</td>
</tr>
<tr>
<td>3. Communication and transport improved with neighboring countries</td>
<td>3. Communication and transport improved with neighboring countries</td>
</tr>
<tr>
<td>5. Improved governance of the civil aviation and the road transport sector</td>
<td>5. Improved governance of the civil aviation and the road transport sector</td>
</tr>
<tr>
<td>6. Improved communication and transport linkages contribute to promotion of business climate, trade and commerce which generate revenue</td>
<td>6. Improved communication and transport linkages contribute to promotion of business climate, trade and commerce which generate revenue</td>
</tr>
</tbody>
</table>

Source: ANDS Annual Progressive Report 1389, Ministry of Economy

As clearly shown above, the development strategy of the Afghan government for the road and transportation sector emphasizes the development of wide area road networks consisting of ① inter-provincial roads, ② roads linking rural areas to provincial capitals and ③ international trunk roads linking Afghanistan with neighboring countries.

The Ministry of Public Works (MPW) is responsible for the construction and maintenance of roads in Afghanistan. The situation of road construction in recent years is shown in Fig. 1-1 as reported by the MPW.

![Rocks Construction (Km)](image)

Source: ANDS Annual Progressive Report 1389, Ministry of Economy

**Figure 1-1** Total Length of Newly Constructed Roads
(2) National Priority Programs (NPPs)
For the infrastructure development cluster which is one of the clusters to be served by the NPPs, the following road projects are designated in the National and Regional Resource Corridors Program as prioritized road projects for development of a national widespread road network in Afghanistan.

- East-West Road between Herat and Cheghcheran (335km)
- East-West Road between Cheghcheran and Gardan Dewar (330km)
- North-South Road between DaraiSuf and Yakawulang (182km)
- North-South Road between Chora, Nili and Yakawulang (350km)
- Kabul Ring Road (100km)
- Salang Tunnel Rehabilitation

Furthermore, the Urban Management Support Program was formulated in June, 2012 as the program for infrastructure development in an urban area including Kabul Province. This program calls for the infrastructure development of the road and transportation sector in the following manner based on the understanding that only 20% and 5% of the trunk roads in Kabul are paved and lit at night respectively.

- Construction of some 200 km of new roads in Kabul Province
- Construction of new bridges crossing Logar River, Bagrami River and Kabul River
- Construction of a flyover bridge at three sites in the city and also an underpass for pedestrians at three sites

1-3 Road Development Policy of the Kabul Municipality

In 1978, the Kabul Municipality (KM) formulated a 25 year master plan for urban development with Russian assistance. This master plan assumed a municipal population of 800,000 and 30,000 vehicles. The reality today is that the population is approximately 3.3 million and there are more than 600,000 vehicles, forcing some 70% of municipal residents to live in unplanned residential areas.

Under these circumstances, the JICA implemented a technical cooperation project entitled “Sub-Project for Revision of the Urban Development Master Plan” in 2011 to thoroughly revise the old master plan. According to information obtained from the Deputy Mayor of Kabul as part of this survey, the land use plan (Figure 1-2) in the revised master plan is scheduled to be approved by the cabinet in the near future. After approval, the KM is expected to determine the priority ranking of the planned new roads so that these roads will be constructed or improved in three phases (each phase lasting for five years) within the targeted 15 year development period. The road network shown in Figure 1-2 is the planned road network for Kabul with a target completion year of 2025.
1-4  **Current Conditions of Existing Roads and Development Tasks**

1-4-1  **Current Conditions of Existing Roads and Bridges**

(1)  **Existing Road Condition**

The Kabul Municipality which is responsible for road administration in Kabul manages almost all roads in the city except for parts of major trunk roads. These exceptions are trunk roads (shown by red lines in Figure 1-3) outside the future outer ring road (shown by a broken green line in Figure 1-3) which will be managed by the MPW.
In and around Kabul city there is no bypass route to pass south to north or east to west so that a driver can avoid traffic congestion in the central area. Therefore the driver is forced to inflow to the city center congested and this situation has been accelerating increase of traffic congestion in the city.

Furthermore, as already mentioned in 1-1, many donors are currently providing support for road construction/improvement projects as well as traffic improvement projects. However, the progress of such work is lagging behind the ever increasing traffic volume and road damage, causing perpetual deterioration of the roads in Kabul.

The traffic congestion at such bottlenecks as intersections and bridges has been worsening and the easing of such congestion is an urgent task for the KM. It must be reminded that the severe and chronic traffic congestion in Kabul is caused by multiple factors in need of improvement, including the lack of driving manners as evidenced by the forcible entry into the traffic flow at intersections and driving in the wrong direction. The arbitrary crossing of roads by pedestrians also causes the disorderly traffic flow of vehicles.

Meanwhile, the drainage function of the existing roads in Kabul is quite poor. Particularly during winter from December to March, melting snow becomes long-lasting standing water on unpaved road surfaces and the resulting muddy roads are a safety as well as health hazard.
Figure 1-4  Standing Snowmelt on Road Surface (Left) and
Very Congested Trunk Road in Kabul (Right)

Figure 1-5 through Figure 1-7 are maps showing the number of lanes, state of paving and level of
traffic congestion of the main roads in Kabul.
Figure 1-5  Number of Lanes of Existing Roads

Source: Prepared by Survey Team
Figure 1-6   State of Paving of Existing Roads
Figure 1-7  Level of Traffic Congestion of Existing Roads
(2) **Existing Bridge Condition**

Currently around a Kabul central area, at least 18 bridges including pedestrian bridges cross the Kabul River which runs west to east through the city. As a current problem, road width on some bridge is narrow comparing to connecting roads from/to bridges and the bottleneck occurs on such bridges. Plenty of existing bridges seem decrepit such as masonry of substructures has fallen off the pier and some bridges seem to be urgently needed to reconstruction.

![Masonry falling off piers](image)

**Figure 1-8** Existing bridge with masonry substructure (Left photo) and pedestrian bridge (Right photo)

In recent years existing bridges get older, some new bridges have been constructed by the assistance of international donors such as Japan and Turkey. In this context, the survey team conducted the visual inspection of existing bridges to overview recent technologies of bridge construction in Kabul.

Following Table 1-1 shows 2 bridges funded by Japan and constructed under supervision by UNOPS, and Table 1-2 shows the bridge funded Turkey. Furthermore, results of visual inspection are also indicated in the tables.
### Table 1-3 Result of Visual Inspection of Bridge supervised by UNOPS

| Photograph | SHER DARWAZA BRIDGE  
(Contractor: Local company) | OSMAEE BRIDGE  
(Contractor: Turkish company) |
|------------|---------------------------|--------------------------------|
| **Type of Superstructure** | 3 Simple spans of Reinforced Concrete T-shaped Girder Bridge  
$L \approx 15.0 + 15.0 + 15.0 = 45.0m$ | 2 Continuous spans of Pre-stressed Concrete Hollow Slab Bridge  
$L \approx 15.0 + 15.0 = 30.0m$ |
| **Feature of Superstructure** | Reinforced concrete.  
Concrete is stranger against compression force and easy to crack for weak against tension force. Reinforcement bar is stranger against tension force. Therefore reinforced concrete uses the characteristic both reinforcement bar and concrete. | Pre-stressed concrete.  
PC steel wire makes prestress force into concrete as compression force against tension force. So that prestressed concrete becomes stranger against tension force and possible to construction of long girder. |
| **Visual Inspection** | • Remarkable a space between girder and horizontal beam.  
• Exposure of reinforcement bar at cantilever beam  
• Remarkable left of form | • Finished surface concrete is better and no comparison of SHER DARWAZA BRIDGE  
• Impossible visual inspection of girder because of not visiting |
| Issue of Construction | • Roughness of finished surface concrete  
• Remarkable a space of concrete body | under girder within river |
|-----------------------|---------------------------------------------------------------------------------|-----------------------------|
| Proposal Improvement of Construction | • Rush construction job during winter informed by Kabul deputy mayor  
• Water in concrete is frozen and make a space in concrete body by winter construction  
• Roughness of surface concrete is made by frozen water before concrete solidification  
• Less covering depth of reinforcement bar and encouragement of corrosion  
• Less form works by roughness of surface concrete | - |
| Others | • Be careful to construct of concrete during winter season  
• Use effective vibrator during construction of concrete  
• Keep cover depth of reinforcement bar  
• Keep proper terms of construction (No rush construction job)  
• Complete maintenance of surface of form | • Better construction work by finished surface concrete  
• Possession of construction skill of bridge by this bridge |
| Others | • No anchor bolt against seismic at bridge seat  
• Issue of construction company’s skill than that of supervisor | - |
<table>
<thead>
<tr>
<th>Photograph</th>
<th><img src="image" alt="Photograph" /></th>
</tr>
</thead>
</table>
| **Type of Superstructure** | 3 Simple spans of Reinforced Concrete T-shaped Girder Bridge  
L = 32.8 + 34.0 + 32.8 = 99.60m |
| **Feature of Superstructure** | Pre-stressed concrete.  
PC steel wire makes prestress force into concrete as compression force against tension force. So that prestressed concrete becomes stronger against tension force and possible to construction of long girder. |
| **Visual Inspection** | ・Post tension prestressed girder (construction of girder at construction site)  
・Roughness of surface concrete of piers |
| **Others** | ・Confirmation of limited displacement concrete block against seismic |
1-4-2 Selection of Development Tasks from Analysis of Traffic Condition and Congestion Characteristic

In view of the general situation of road traffic in Kabul and the characteristics of traffic congestion at various points of the city’s road network identified by the field survey, the following three sites (areas) are in urgent need of road development for avoidance of much traffic inflow to the city to facilitate smooth traffic flow.

(1) Facilitation of Smooth Traffic Between the Southwest and East of the City, Easing the Traffic Congestion in the City Center

As shown in Figure 1-9, the traffic towards the city center from southwest, west and east Kabul using the existing roads causes much congestion in the city center. This congestion is aggravated by through traffic due to the absence of any alternative routes. Even though there are roads to the south of Kabul River, the narrow bridges constitute bottlenecks, making the existing roads to the south of Kabul River less useful for vehicles passing through the city center.

In view of the current situation, the following two measures are believed to be necessary to improve the traffic flow between southwest Kabul and east Kabul.

(a) Eradication of the traffic bottlenecks at bridges over Kabul River so that the existing roads to the south of Kabul River can form a functional bypass for vehicles trying to avoid the congestion north of the river.

(b) Improvement of the bottleneck sections of the existing roads linking the city center to east Kabul so that the traffic congestion in the city center caused by traffic destined to the city center as well as through traffic can be eased.

Figure 1-9 Urgent Development Task-1
Mitigation of Traffic Congestion at the Point Linking North Kabul with the City Center and Other Areas

As shown in Figure 1-10, all traffic heading from north Kabul to the city center converges on one intersection (Saray Shamali roundabout), causing severe congestion there. Easing of the traffic congestion at this roundabout is an urgent task. There is a strong need to facilitate smooth traffic flow, including the north-south traffic flow, in District 11 and District 15, both of which lie in the northwestern part of the city and which are densely populated areas. In view of the current situation, the implementation of the following improvement measures is desirable.

(a) Improvement of the Saray Shamali roundabout on which traffic from all directions converges to ease the congestion at this roundabout

(b) Improvement of the traffic control function at the intersection between Charikar Road and Airport North Road to facilitate smooth traffic flow between north Kabul and east Kabul which is likely to contribute to reducing the inflow traffic to the Saray Shamali roundabout

(c) Construction of a main north-south road running through District 11 and District 15 to improve the access from northwest Kabul to other parts of the city. As this new road will create a better harmonized road network over a wide area of the city, its effect of reducing the inflow traffic volume to very congested roads and intersections can be expected densely populated

Figure 1-10 Urgent Development Task-2

Development of a North-South Link in East Kabul

As shown in Figure 1-11, there is no north-south road linking Jalalabad Road and Kart-e-Naw Road, both of which are trunk roads heading east from the city center, in east Kabul at present. For this
reason, the traffic between Jalalabad Road and Kart-e-Naw Road and the traffic between the Dehsabz District in the north and Kart-e-Naw Road must take a detour through the city center, aggravating the severe traffic congestion in the city center.

At the Dispitury Intersection which is a very busy T-junction, there is no proper traffic control due to the absence of traffic lights. Vehicles leaving the city center and turning left towards Bagram are caught up with vehicles moving straight towards the city center on Jalalabad Road, creating much congestion.

The following measures are believed to be necessary to improve the situation.

(a) Construction of a north-south road linking Jalalabad Road and Kart-e-Naw Road to allow traffic between these two trunk roads without involving the city center

(b) Improvement of the Dispitury Intersection to a signal-controlled intersection

![Image of a map showing the traffic routes and the Dispitury Intersection]

Figure 1-11 Urgent Development Task-3

1-5 Plans of Other Donors

At present, the World Bank, Turkey, the USAID and the UAE are providing assistance for road improvement in Kabul and each of these has its own route improvement/construction plan. In addition to such support for the development of road infrastructure, Canada is implementing a project which is designed to educate local residents in regard to improving their driving manners. The planned components of this Canadian project include the (i) transfer of traffic control and vehicle guidance skills to transport police, (ii) facilitation of smooth traffic flow using road signs and markings, (iii) education for the drivers of public transport (buses and taxis) to improve their driving manners and (iv) education for the public in general in regard to good driving manners.
Figure 1-12 shows the current situation of the road construction/improvement work as well as plans of various donors.
Figure 1-12  Road Development Plans of Various Donors

Source: Kabul Municipality
According to a World Bank official in charge of the transport plan at its Afghanistan office, the World Bank is likely to commence the work for the routes shown in Figure 1-13 among the planned routes of the KURIP (Kabul Urban Road Improvement Project).

The same official disclosed that the World Bank is currently examining the feasibility of the BRT (bus rapid transit) routes also shown in Figure 1-13. For the realization of these BRT routes, the World Bank will conduct a F/S in response to a request by the KM, will organize a steering committee involving the Technical Deputy Mayor and representatives of the city’s transport division and will conduct a detailed examination of the desirable operation and management of the BRT system after its commencement.

In view of the on-going work and future plans of various donors, it is essential for Japan to continually gather information on the progress of the BRT and other projects in the road and transportation sector so that Japan can examine and implement traffic improvement projects in Kabul with medium to long-term ODA in collaboration with other donors.

Figure 1-13  Kabul Road Development Plan of the World Bank
Chapter 2 Conditions Affecting Road Projects

2-1 Organization of Kabul Municipality

The organization structure of the KM is shown in Figure 2-1.

Note: Relevant organizations to a road project are highlighted as above.
Source: Kabul Municipality

Figure 2-1 Organization Structure of Kabul Municipality

2-2 Natural Conditions

Afghanistan is an inland bordered by Pakistan, Iran, Turkmenistan, Uzbekistan, Tajikistan and China with a national land area of some 650,000 km² and a population of 34.39 million (2012: World Bank). The main ethnic groups are Pashtun, Tajik, Hazara and Uzbek and Hazara and Tajik are spoken among a number of local languages in addition to the two official languages of Dali (Afghan Persian) and Pashto.

The capital of Kabul is located at 35°N which is comparable to Tokyo and its elevation ranges from 1,800 m to 1,900 m above sea level. The city is surrounded by mountain ranges with an elevation of 2,000 m to 4,000 m in all directions. Even in the central area of the city, there are

2-1
high hills and mountains, including Asamai Mountain which has an elevation of more than 2,000 m (see Figure 2-2). Such unfavorable topographical conditions have forced Kabul to build its road transport infrastructure in a very restricted space, resulting in some bottlenecks with a heavy concentration of traffic. The chronic traffic congestion in the center of the city is aggravated by the fact that vehicles travelling between other cities have to pass through central Kabul.

Another important factor for intra-city transport in Kabul is Kabul River which runs from west to east through the city. Although there is busy traffic of people and goods between the north side and south side of the river, the construction of a new bridge(s) is required to facilitate smooth and more vigorous exchanges across the river.

Figure 2-2 Examples of Traffic Problems Caused by the Topographical Features of Kabul
2-3 Environmental and Social Considerations

2-3-1 Related Regulations and Decrees

Following are main regulations and decrees related to Environmental Impact Assessment (EIA)

Table 2-1 Related Regulations/Decrees on EIA

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Year of Enactment</th>
<th>General Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>National Environmental Impact Assessment Policy</td>
<td>November 2007</td>
<td>Legislative basis and outline of policy on EIA are presented</td>
</tr>
<tr>
<td>2</td>
<td>Environmental Impact Assessment Regulations</td>
<td>March 2008</td>
<td>Legislative basis on EIA procedure, detailed list of projects those need EIA reporting and process of EIA approval are presented</td>
</tr>
<tr>
<td>3</td>
<td>Administrative Guidelines for the Preparation of Environmental Impact Assessments</td>
<td>June 2008</td>
<td>Practical EIA procedure and format to be submitted to National Environmental Protection Agency (NEPA) are presented</td>
</tr>
</tbody>
</table>

2-3-2 Environmental Impacts Assessment (EIA) System in Afghanistan

(1) Outline of the EIA System

In Afghanistan, project proponent who has to carry out EIA is defined in the Environmental Impact Assessment Regulation (Official Gazette No. 939, dated 10 March 2008) which is based on the Environmental Law enacted in January 2007.

The proponent has to fill the Schedule II: Application Form, Environmental Impact Assessment Regulations, describing the outline of project and environmental impacts in the form and submits to NEPA who carries out the screening and decides if further EIA is required or not. The application form on screening is attached to the Appendices-2.

When the proposed project is a new road construction and classified as Category 1 activity: construction of national or provincial highways or major roads with a total cost of US $ 800,000 or more which might likely have significant impacts presented in Schedule I: Screening of Activities, the proponent (Kabul Municipality) has to provide required documents to NEPA and obtain a certificate of compliance prior to commencement of a physical road development activity. When the proposed project is categorized as “road widening project”, it is described that “it may require EIA”. Therefore, it is necessary to confirm NEPA whether EIA is required or not on each project basis in advance.
The EIA Process

When EIA is required, the proponent has to prepare EIA report and submit to NEPA for an approval. Information which should be described in the report are;

i) Outline of the project;

ii) Description of project site and situation of surrounding environmental society, characteristic of zone, characteristic of the project;

iii) Potential impacts;

iv) Alternatives;

v) Mitigation Measures (avoid, minimize, compensate);

vi) Environmental Management and Monitoring Plan;

vii) Information which NEPA requires; and

viii) Identify the related agency, affected people, commune and individual.

Following Figure 2-3 presents the approval process of EIA
Figure 2-3 Approval Process of EIA
(3) Stakeholder Meeting

“The National Environmental Impact Assessment Policy” defines that the project proponent have to carry out public consultation as a part of EIA process and the results must be reflected in EIA.

(4) Stakeholder Agencies

Project related agencies are listed in the following Table 2-2.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kabul Municipality</td>
<td>Play as an Executing Agency and the Project Proponent stipulated by EIA system in Afghanistan. Besides Kabul Municipality is responsible for liaison and coordination with other related agencies.</td>
</tr>
<tr>
<td>National Environmental Protection Agency (NEPA)</td>
<td>Play key role in environmental administration and work as a window of approving an EIA and concerned parties/agencies.</td>
</tr>
<tr>
<td>Ministry of Urban Development and Housing (MoUD)</td>
<td>Responsible for formulate the basic policy and administrative advice on the urban development activity.</td>
</tr>
<tr>
<td>Ministry of Public Works (MPW)</td>
<td>Responsible for traffic administration, construction, maintenance and management on main arterial roads other than managed by the Municipality.</td>
</tr>
<tr>
<td>Ministry of Energy and Water supply (MEW)</td>
<td>Responsible for water and power supply along main/community roads.</td>
</tr>
<tr>
<td>Ministry of Communications and Information Technology (MCom)</td>
<td>Manage the underground communication cable in main/community roads.</td>
</tr>
<tr>
<td>Ministry of Interior Affairs (MoI)</td>
<td>Responsible for maintaining/supervising the security by installing concrete walls along main roads.</td>
</tr>
<tr>
<td>Ministry of Defense (MoD)</td>
<td>Grant a survey activity in the Municipality.</td>
</tr>
</tbody>
</table>
NEPA was established in 2005, elevated from a department previously established in the Ministry of Irrigation, Water Resources and Environment. It is an organization independent from any other government organizations. The organization of NEPA is shown in Figure 2-4.

*1 Inter-ministerial Committee for Environmental Coordination
*2 National Environmental Advisory Council

Source: Progress Report, Capacity Building and Institutional Development Programme for Environmental Management in Afghanistan, August 2007, UNEP

Figure 2-4 Organization Chart of NEPA
2-3-3 Land Acquisition and Resettlement System in Afghanistan

The Land Acquisition Law (LAL) as a fundamental law on land acquisition has enacted in 2009 in Afghanistan. According to the law, the acquisition of a plot or portion of a plot for public purpose is decided by the Council of Ministers and is compensated at fair value based on current market rates. Besides, the Land Management Law (LML) has issued in 2008 stipulating all the regulations on land.

Only the legally residing affected persons with official government deeds are indicated in the Article 8 of Land Acquisition Law and Article 5 Land Management Law and they are qualified as eligible those to be compensated against loss of land/residence/structure/crop/tree. However, compensation is not presented against affected persons who are non-titled.

A comparison between then Afghan related Law and JICA’s Guidelines is presented in the table below to illustrate the gaps and to provide relevant recommendations to cover to the gaps and propose what should be provide for reconciliation.
<table>
<thead>
<tr>
<th>Item</th>
<th>JICA's Guidelines</th>
<th>Afghan related Law/Rule</th>
<th>Gap-filling Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acknowledgement as an eligible for compensation</td>
<td>All of the project affected persons (APs), whether legally residing or not, must be acknowledged as an eligible for compensation.</td>
<td>APs with (i) title, (ii) official deed, (iii) unofficial written deed, or (iv) declaration from Shura, Jirgas or village elders are eligible for compensation. The compensation will not be considered to those who cannot clarify the above criteria.</td>
</tr>
<tr>
<td>2</td>
<td>Support for non-titled people</td>
<td>People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by project proponents etc. in a timely manner.</td>
<td>Support for non-titled people is not considered.</td>
</tr>
<tr>
<td>3</td>
<td>Establishment of support system for vulnerable social groups</td>
<td>Appropriate considerations must be given to vulnerable social group which may have little access to decision making process within society.</td>
<td>Those their daily income is less than one United States Dollar are defined as the “poor”. However, the definition in terms of “vulnerable” is not set up yet.</td>
</tr>
<tr>
<td>4</td>
<td>Offering measure to the recovery of livelihood to APs</td>
<td>Proponent must make efforts to enable people affected by projects and to improve their standard of living, income opportunities and production levels or at least to restore these to pre-project levels.</td>
<td>Measures to recover the livelihood are not provided.</td>
</tr>
<tr>
<td>Item</td>
<td>JICA’s Guidelines</td>
<td>Afghan related Law/Rule</td>
<td>Gap-filling Measure</td>
</tr>
<tr>
<td>------</td>
<td>-------------------</td>
<td>-------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>5</td>
<td>Disclosure of information and promotion of citizen’s participation in the project implementation stage</td>
<td>Promote the participation of affected people and their community and their opinion must be incorporated into the decision making process.</td>
<td>Public participation/consultation is provided in the Environmental Law; however, women’s participation to the consultation is difficult due to the religious ritual.</td>
</tr>
<tr>
<td>6</td>
<td>Compensation for loss at full replacement cost</td>
<td>Compensation rate must be at full replacement cost as possible and must be paid before relocate the house.</td>
<td>Titled APs are eligible to be compensated by market rate. The compensation will not be considered to those who are considered as non-titled.</td>
</tr>
<tr>
<td>7</td>
<td>Grievance committee</td>
<td>Grievance committee must be established so that APs will not suffer a loss due to resettlement</td>
<td>Precise provision on The Grievance Redress Mechanism is not provided. Affected households those have complaints are forced to go to district court.</td>
</tr>
<tr>
<td>8</td>
<td>Implementation of monitoring</td>
<td>A monitoring plan must be implemented so that people can monitor such as with or without of things those are difficult to predict, implementation/effect on planned mitigation measures, and appropriate countermeasures must be undertaken during the project.</td>
<td>There is no monitoring system on progress or the process of implementing compensation/assistance or resettlement.</td>
</tr>
</tbody>
</table>
2-3-4 Right of Way (ROW) in Kabul
ROW which defines the public property had set up in 1978 when the Master Plan (M/P) of the Municipality carried out. However, ROW on some new roads those planned after the M/P has not defined.