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Road infrastructure development and investment in Kosovo : [presentation given November 17, 2010]

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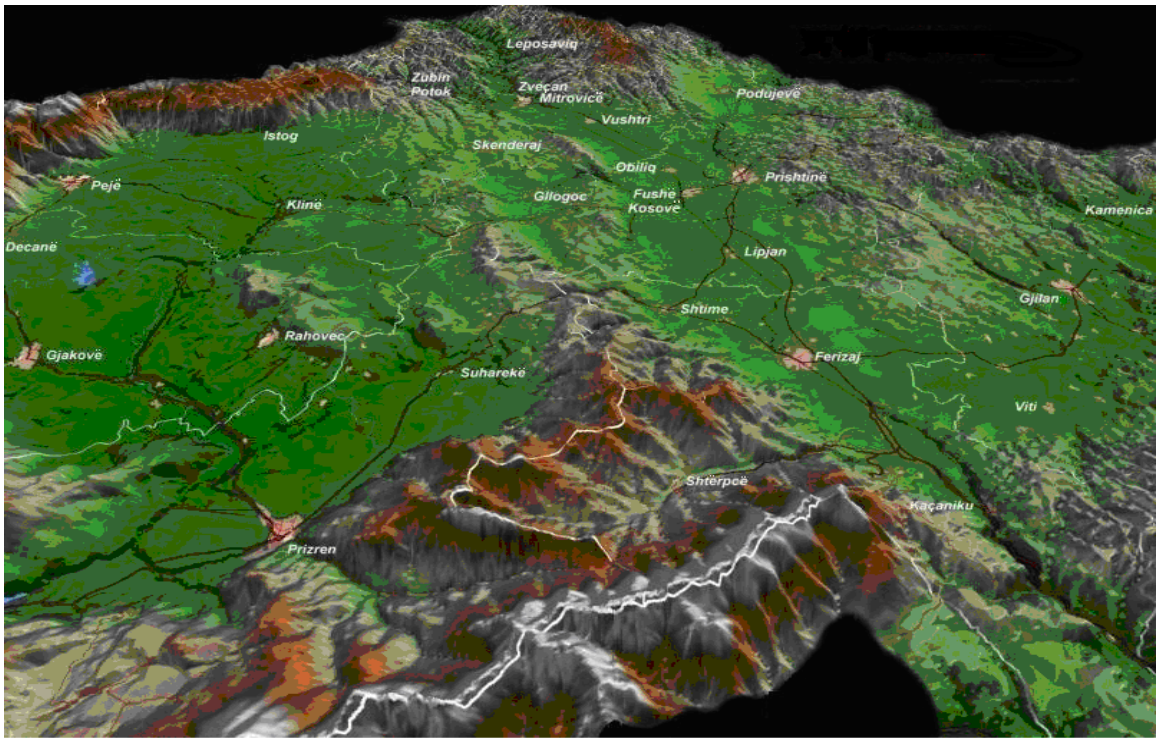
Capstone Project

Road Infrastructure Development and Investment in Kosovo



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Prepared by: Vedat Jashari
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The United States Government for their generosity and financial support to my Master studies.

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GLOSSARY OF KEY ACRONYMS

AADT	Average Annual Daily Traffic
DIR	Directorate of Roads
DOR	Department of Roads
ECLO	European Commission Liaison Office
EU	European Union
GDP	Gross Domestic Product
GIS	A database mapping system
GVW	Gross Vehicle Weight
HGV	Heavy Goods Vehicles
IFIs	International Financial Institutions
IRU	International Road Union
IRR	Internal Rate of Return
MTC	Ministry of Transport & Communications
MFE	Ministry of Finance and Economy
MTEF	Medium Term Expenditure Framework
NPV	Net Present Value
PPP	Public Private Partnership
SEETO	South East Europe Transport Observatory

Executive Summary

After decades of rule under the socialist system and after two years of war, in 1999, Kosovo was one of the countries in Europe with the most undeveloped and under-invested road infrastructure. Despite, the increased investments in road infrastructure, in the recent post-war years, it still lacks behind in comparison to the regional and European countries. The under-investment and poor road infrastructure network has severe consequences for the overall economic development in increasing unnecessary costs, impeding time productivity, road safety and so forth.

However, Kosovo's network has good potential for development and investment. Two major routes 6&7 which are part of a wider South Eastern Europe Core Network linking the region with the EU, transit through Kosovo. The government has already begun in 2010r with construction of Route 7. Majority of main and regional roads have been developed and upgraded, several sections to motorway standards, and in several more the works are ongoing. Regarding the local roads, their condition still remains poor and the municipalities in general, the smaller ones in particular, alone, will not make it far.

However, since 2008, a major investment program by the government in cooperation with the municipalities was undertaken in improving the local roads, changing significantly the overall situation of local roads, with over 800 km of new additional local roads.

As other countries in the world, Kosovo too, is facing budgetary restrictions in terms of road infrastructure investment. A major issue in this regard represents the proper funding and manners of finding the funding required for development of road infrastructure. Finding the ways of funding for the Kosovo road infrastructure will remain a challenge in several more years to come, since the traffic projections show a dramatic increase of road utilization, and, since Kosovo it is territorially a very small and land-locked country, it is the only transport mode affordable, easily accessible and feasible internally, comparing it to other transport modes (rail, inland waterways, maritime).

The current government plans in investing over 1 billion euro in road infrastructure by the taxpayers' collections, in the next three years, present an unbearable undertaking for Kosovo's budget and economy. Actually, the government has already begun with reviewing their development plans and adjusting them to current investment ceilings. In other words, they are cutting down the works to keep the costs at the anticipated levels.

The recommendations resulting from the various analyses and studies in this project, indicate that the government should, instead of reducing quantities of works, look out for off-budget funding alternatives for its major road infrastructure, as it is the case of Route 6-Section Prishtinë-Macedonian border, take the lead in improving the local roads network in Kosovo and be extremely cautious in further expenditures in road infrastructure projects.

1. CHAPTER ONE

Road Infrastructure in Kosovo

Kosovo as a country was part of the former Socialist Federal Republic of Yugoslavia, the most undeveloped among all other constituencies of Yugoslavia. Given this fact, and the regime during the 90's and 1998-1999 War in Kosovo, road infrastructure development was very poor in all aspects possible.

Roads are a very important matter for any country trying to maintain its economic growth and most significantly for the developing countries. The funding of these roads, due to very high costs of this specific infrastructure, always presents a major challenge for any government.

Road infrastructure administration, in Kosovo in general, is carried out by central and local level. Administration, development and categorization of roads are regulated by the Kosovo Assembly[1], meaning that roads connecting two or more municipalities and/or cities are under responsibility of central level or the Ministry of Transport and Communications, whereas, roads within the municipality boundaries are under responsibility of the local level or given municipality.

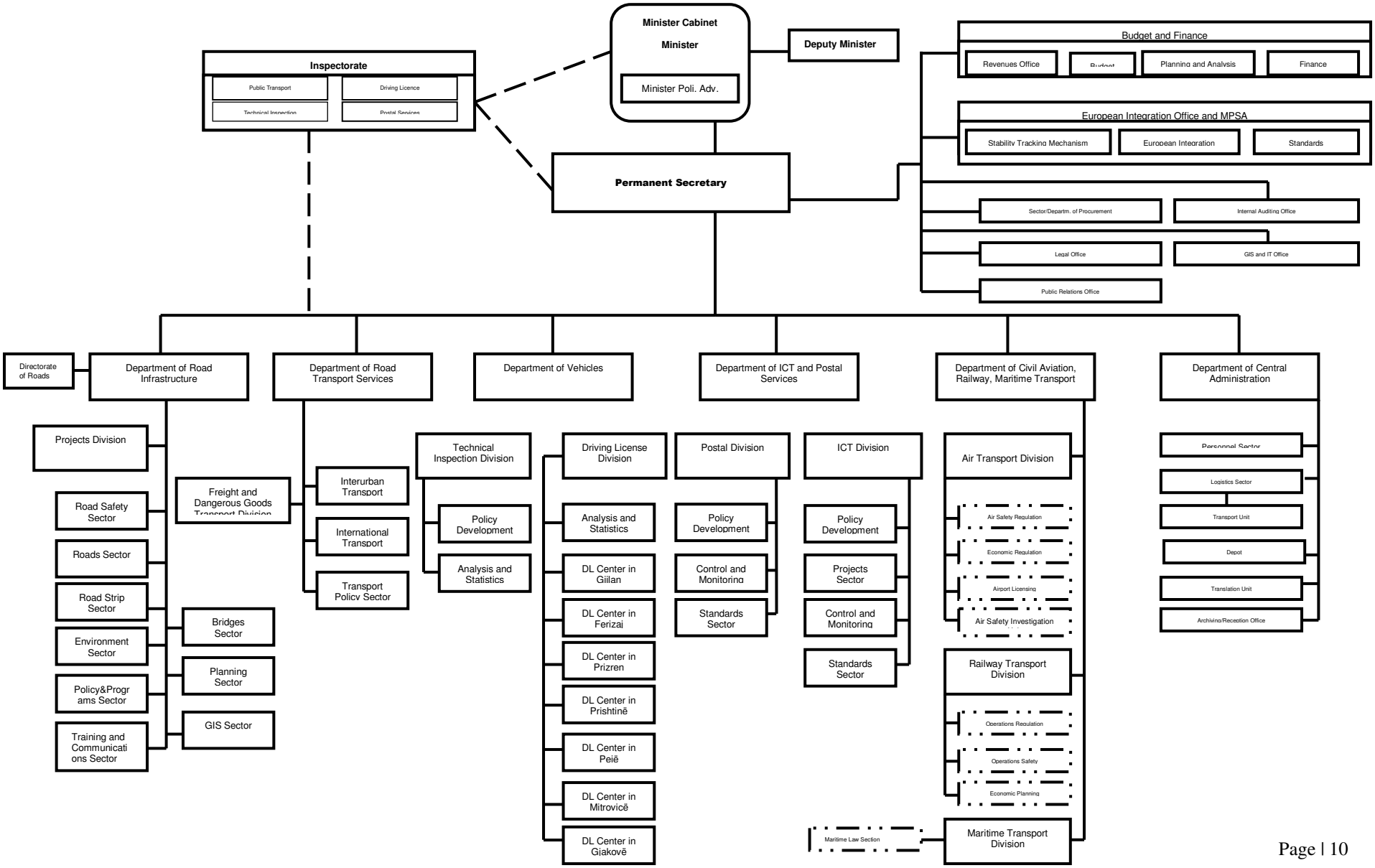
Table 1.1: Is / Is Not Project Scope Worksheet

	IS	IS NOT
Geographic	Kosovo	Region, Europe
	Ministry of Transport and Communications, Municipalities – Directorate of Urban Development	Ministry of Trade and Industry, European Commission
Road infrastructure	Highways	Corridors
	Main and Reg. Roads	Agricultural roads
	Local roads	
Process	New construction, rehabilitation, funding	Maintenance, economic viability
Metric	Coverage, cost	Quality, time

Due to significance of the Ministry of Transport and Communications in developing road infrastructure, below has been provided the organizational chart of the Ministry aiming to show the current organizational structure from the management & administration point of view.

[1] Law on Roads 2003/11 adopted by the Assembly of Kosovo, 29 May 2003

Figure 1.1: Organizational Chart of the Ministry of Transport and Communications



1.1 Kosovo Road Network within region and EU

The region of Kosovo is located right in the centre of the Balkan region, and the Kosovo plane is surrounded by medium to high mountains, making infrastructure access and communications more difficult.

The Regional Core Network established by SEETO (South Eastern European Transport Observatory)[2] has been adopted in 2005 based on REBIS (Regional Balkans Infrastructure Study) proposals. It divided the main arteries into the European Corridors and supplementing Routes.

Please look below Figure 2 showing the South Eastern Europe Core Network and the two routes running through Kosovo within the South Eastern Europe Core Network.

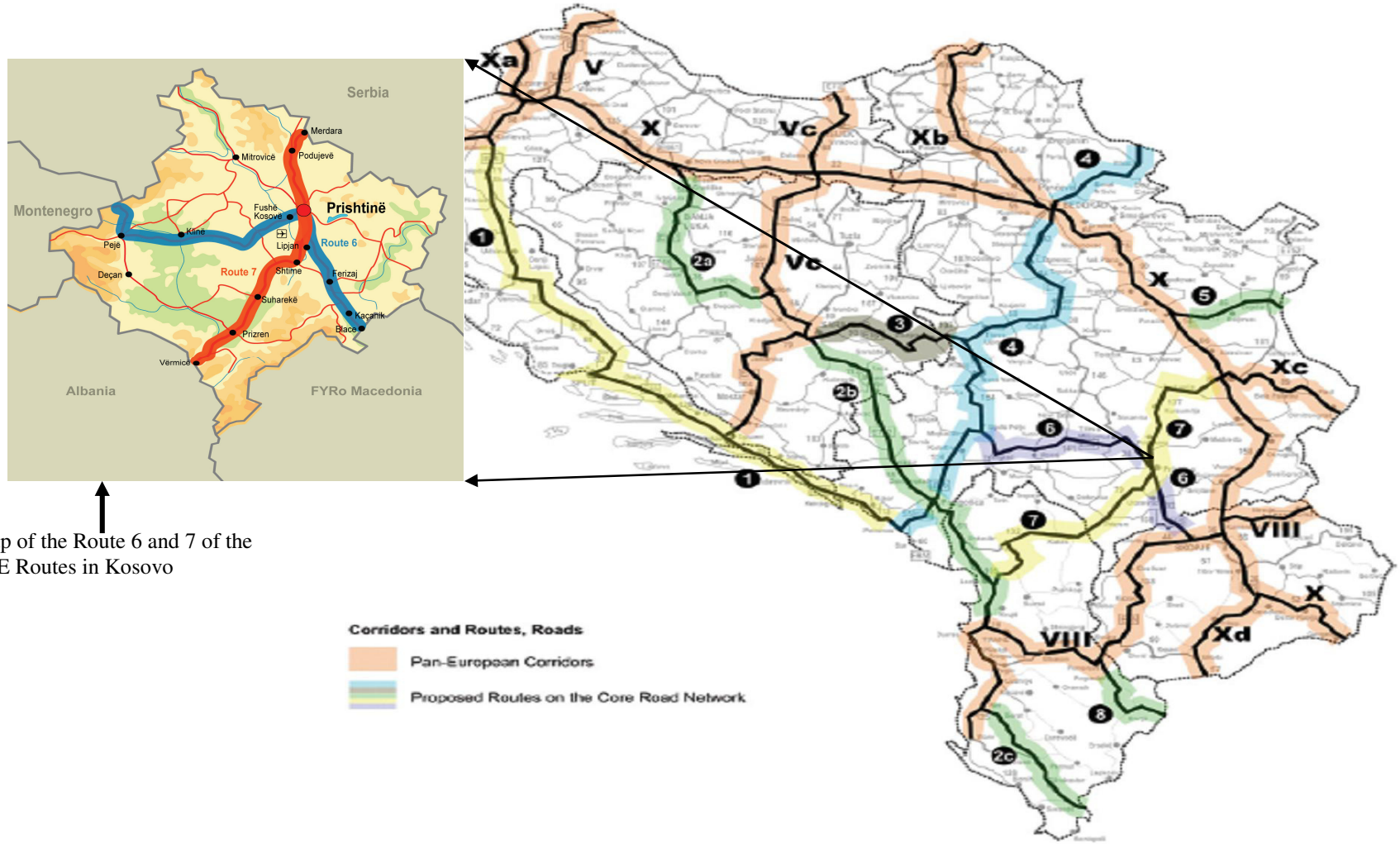
None of the corridors pass through Kosovo, but 2 routes, 6 and 7, cross the country in North- South and East-Western direction, linking Prishtina to the main cities and capitals in the region:

- Route 6: goes from Border FYROM near Corridor X North through Pristina and Peje to the border with Montenegro and there connects to Route 4.

- Route 7 goes from the border with Albania through Prizren and Pristina to the border with Serbia, and then connects to corridor X.

[2] Memorandum of Understanding for the development of the Core Regional Transport Network (MoU) signed 11th June 2004 by the Governments of Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Montenegro and Serbia and the United Nations Mission in Kosovo and the European Commission

Figure 1.2. South East Europe Corridors and Routes known as South Eastern Europe



Map of the Route 6 and 7 of the SEE Routes in Kosovo

1.2 Main and Regional Road Network

The road network in Kosovo is classified into Main (national) and Regional roads, under administration of the Ministry of Transport and Communications, and the local roads, including urban and rural roads, under administration of the municipalities.

The Network consists of the approximated road length shown in the table below.

Table 1.2: Current Road Network in Kosovo[3]

	Paved (km)	Unpaved (km)	Total (km)
MTC	**1690**	**261**	**1951**
Main	625	7	632
Regional	1065	254	1319
Municipal	**1071**	**5500***	**6571**
Urban	571		571
Rural	500	5500*	6000
Total			**8522**

*=estimated

Adequate development and maintenance of the road network in Kosovo has been an issue since the 1970s. While the road network has been developed, road maintenance has been persistently under-funded. This has resulted in a continuous deterioration of the road network[4].

"Historical traffic counts reveal strong demand growth. According to a recent forecast, traffic is projected to grow at nearly 9 percent per annum up to 2015. At approximately 90 vehicles of all types per thousand inhabitants, vehicle ownership is less than a quarter of that of Western Europe. It follows that, as incomes and employment rise, there is likely to be a significant boost to transport demand from increased car ownership and use" – cites a quote in the Kosovo Quarterly Economic Briefing, Road Infrastructure in Kosovo, January – March 2007.

Official Improving of Secondary and Tertiary Roads, produced by World Bank experts provides very useful information about the level of development of road infrastructure at a regional level.

Please find below two figures which compare the Western Balkan countries:

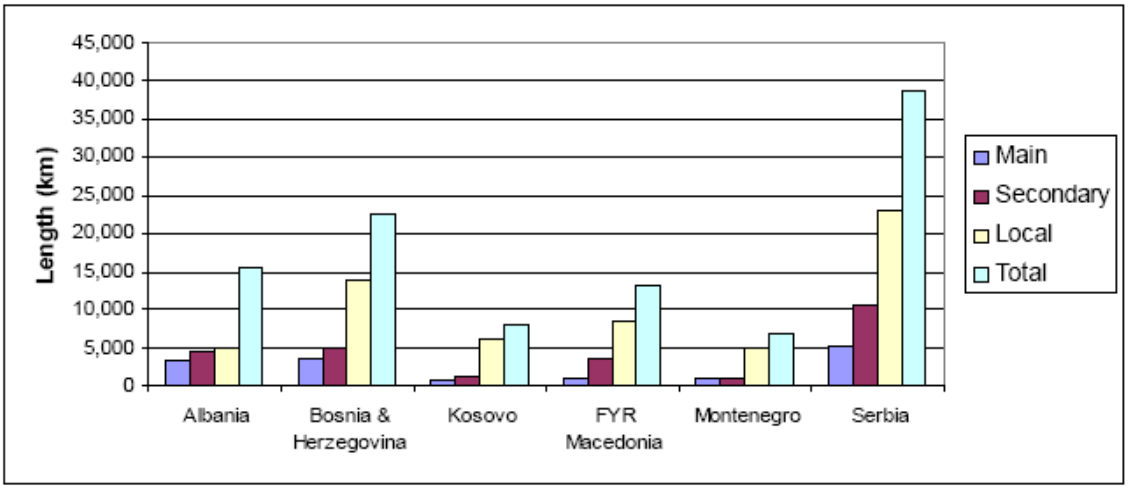
[3] Ministry of Transport and Communications, 2007

[4] Project Appraisal Document on a Grant for a Kosovo Urgent Road Project, World Bank, July 25, 2000, Report No 20555 KOS

Table 1.3: Road Infrastructure Coverage (Latest Observations 2004)

Country	Road Density km/1000 km^2	km/1000 inhabitants
Albania	**657**	**3.5**
Bosnia and Herzegovina	**427**	**5.6**
Czech Republic	1646	12.5
Croatia	**506**	**6.4**
Estonia	1320	41.2
Hungary	1733	15.7
Kosovo	**780**	**3.3**
FYR Macedonia	**513**	**6.4**
Montenegro	**500**	**11.1**
Serbia	**500**	**5.2**
Slovenia	1007	10.2
Europe and Central Asia	580	8.6
Upper middle income	1076	9.2
Lower middle income	328	4.9
High income: OECD	1340	17.3

Figure 1.3: Total Road Network Distribution in the SEE Countries[5]



The information provided shows Kosovo as the last country in the region in terms of road infrastructure development, falling behind of all the countries.

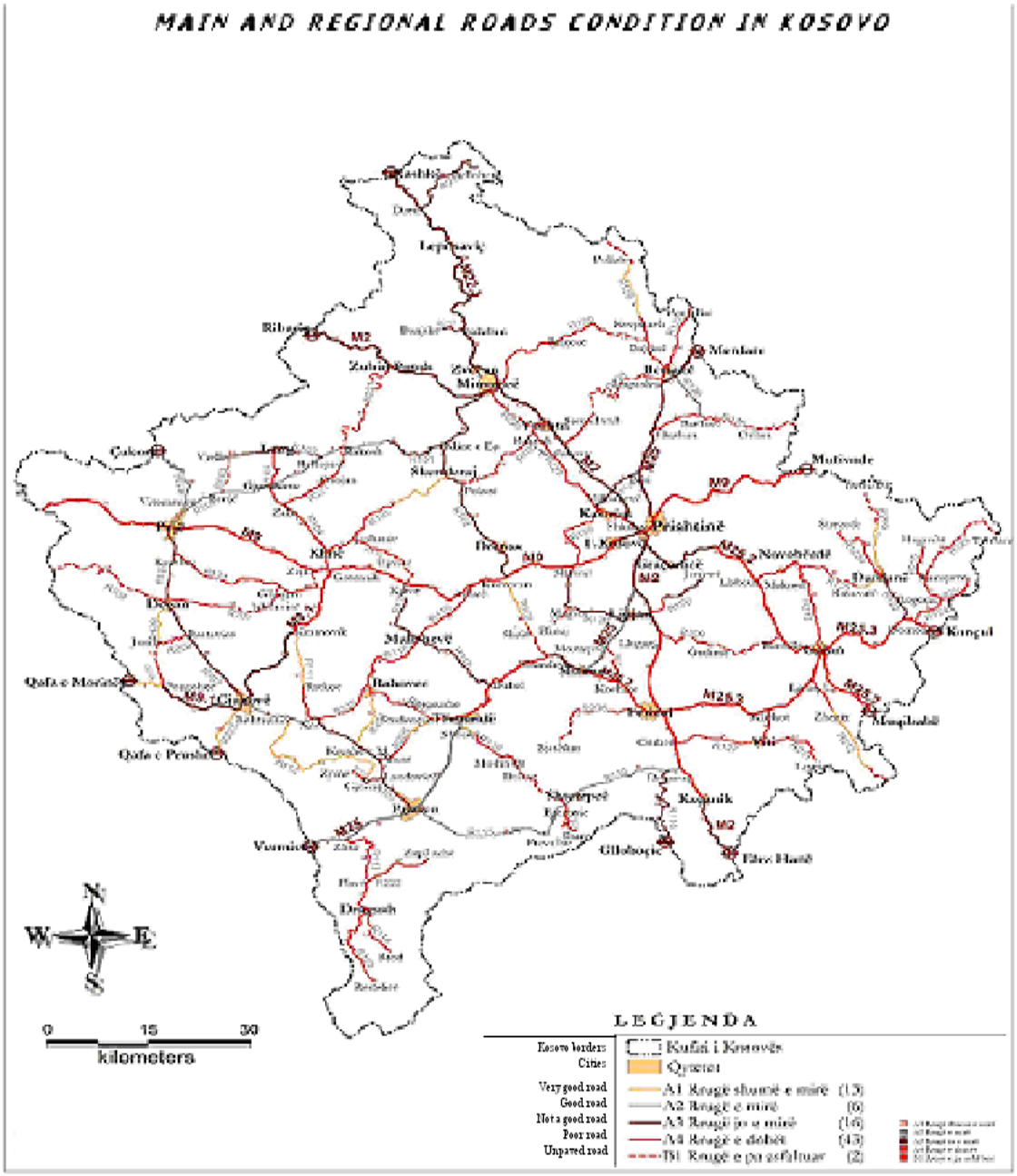
Apart from the regional level standpoint, more particularly, the situation of Kosovo's Main and Regional Roads is a bit different. The main and regional roads, which make up almost 2000 km, a great majority of them are paved.

[5] Excluding uncategorized roads

Table 1.4: National road network in Kosovo[6]

	Length (km)	% paved
Main roads	632	99%
Regional roads	1319	81%
Total	1951	87%

Figure1.4: Classification of main and regional roads network condition



[6] Directorate of Roads, Ministry of Transport and Communications, February 2007

1.3 2010 Budget and Medium-Term Expenditure Framework

Road infrastructure projects are the most expensive ones in Kosovo. Since 2008 the Government undertook a major program to build and improve the roads and bridges in Kosovo. However, though according to 2010 budget and 2010 Medium Term Expenditure Framework there are enormous amounts of money planned to go for the road infrastructure, majority of the allocation will be spent in building the new Route 7 motorway. However, the allocations for the roads ranges from 11 % in 2010 to 27 % of total Kosovo budget and increasing.

Table 1.5: 2010 Budget (approved in January) & 2010 Reviewed Budget (in Euro)

No	Economic category	2010 Budget	2010 Budget Reviewed
1	Operational Expenditures	13,088,712	12,393,110
2	Capital Expenditures	111,404,257	202,495,665
	Total:	124,492,969	214,888,775

Table 1.6: 2010 Budget& and MTEF 2011-2013 (in Euro)

No	Economic category	2010 Budget Reviewed	2011 Estimation	2012 Estimation	2013 Estimation
1	Bridge construction	2,661,998	2,583,000	2,000,000	2,000,000
2	Road rehabilitation	47,530,122	24,211,093	27,000,000	24,500,000
3	Road signalization	1,591,796	1,500,000	2,000,000	2,000,000
4	Co-financing with Municipalities	13,872,994	15,000,000	12,000,000	13,000,000
5	New Road Construction	12,892,501	11,375,907	4,000,000	8,000,000
6	Highway Construction	123,701,126	225,000,000	276,800,000	258,100,000
	Total	202,495,665	265,320,000	312,450,000	295,250,000
Total MTEF 2011-2013				873,020,000.00	

Table 1.7: MTEF Additional funding requirements above budget limits 2011-2013

No	Economic category	2010 Budget Reviewed	2011 Estimation	2012 Estimation	2013 Estimation
1	Operational Expenditures		3,882,720	4,855,367	5,270,187
2	Capital Expenditures		90,498,298	246,896,000	122,351,000
	Total:		94,381,018	251,751,367	122,351,000

Table 1.8: MTEF 2010-2012 (in Euro)

No	Economic category	2009	2010 Estimation	2011 Estimation	Total
1.	Motorway Merdare –Morinë	50,000,000	135,000,000	295,000,000	480,000,000
2.	Motorway R6 Prishtinë-Hani i Elezit	60,000,000	95,000,000	155,000,000	310,000,000
3.	Rehab. of main and region. roads	32,012,584	44,068,632	24,497,632	100,578,848

2. CHAPTER TWO

Comparative studies and analysis

In the course of analyzing a certain issue or project, the best manner to provide a clearer and a comprehensive picture in terms of what is actually about it is to make comparison with other similar undertakings.

Therefore, below there are several comparison analysis of road infrastructure development in terms of financial impact in the overall financial capacities.

2.1. USA Interstate Highway System[7] versus Kosovo Highway

2.1.1. US Interstate System vs Kosovo Highway – from the budget perspective

Planning for commonly called "The Interstate System," began in the late 1930's. In 1941, President Franklin D. Roosevelt appointed a National Interregional Highway Committee, headed by Commissioner of Public Roads Thomas H. MacDonald, to evaluate the need for a national expressway system. The committee's January 1944 report, *Interregional Highways,* supported a system of 33,900 miles, plus an additional 5,000 miles of auxiliary urban routes.

During 1952 – 1956 only few millions of dollars were invested in the construction of the system. However, under the leadership of President Eisenhower, the question of how to fund the Interstate System was resolved with enactment of the Federal-Aid Highway Act of 1956. Title II of the Act - entitled the Highway Revenue Act of 1956 - created the Highway Trust Fund as a dedicated source for the Interstate System of 41,000 miles or approximately 65,600 km.

Since 1957 till 1970 there were about 70 billion US dollars invested in Highway System, or approximately 5.38 billion US dollars annually. According to the US Budget allocations[8] for the years 1957 – 1970, the overall budget was about 1,673.7 billion US dollars. Based on these two figures we calculate in average the percentage of US budget invested in the highway system which is 4.18% annually.

Based on the 2009 and 2010 Kosovo Overall Budget and Budget Allocations to Roads Sector we have the following: 1.135 billion Euro, 138 million Euro respectively and 1.461, 111.4 million Euro respectively and under the 2010 budget review in June 2010 has benefited another 100 million Euro, or in percentage that is approximately 15% of the total budget. What is most concerning the budget forecasts for the road sector, particularly the Highway to Albania, under MTEF are 265 million Euro for 2011, and 312 million Euro for 2012& 295 million Euro for 2013, which in percentage will account approximately 20-25% of the overall budget of Kosovo.

[7] US Department of Administration, Federal Highway Administration, www.fhwa.dot.gov
[8] http://www.whitehouse.gov/omb/, Office for Management and Budget

Table 2.1: US and Kosovo highway investments

Country	United States	Kosovo
Years	1957 - 1970	2010-2013
Overall National Budget	1 673.7 billion US dollars	5.6 billion[9]
Overall Highways Budget	70 billion US dollars	700 million Euro
Budget per year in average	5.38 billion US dollars	175 million Euro
% of national budget allocated for highways	4.18 %	12.5 %
Overall national budget estimations for road infrastructure investment	N/A	1 135.00 billion
% of national budget allocated to road infrastructure (estimate)	N/A	20%

2.2. EU Countries vs Kosovo

2.2.1. Road investment vs Total public investment

Another aspect we will consider below shall be the comparison of road infrastructure investment portion in the total public investments in EU countries with Kosovo.

Focusing therefore on the quarter-century ending in 1995, the ESA79 data shown above comprise public investment in roads, non-commercial inland waterways and ports, and other transportation and communication. Road investment includes also bridges, tunnels and carparks, but only those for which no toll is charged. In the case of roads and inland waterways and ports, also maintenance expenditure is included. Other transportation and communication investment expenditure, in turn, comprises public investment grants and subsidies to these sectors. Consequently, the extent of public communication investment—which we would ideally want to exclude altogether—is rather limited, comprising indeed only grants and subsidies. Most of the total investment in communication infrastructure is thus recorded as private which, in turn, reduces the analytical problems caused by lumping the two sectors together in published statistics.

Transportation and communication investment accounted for about one-quarter of total public investment during most of the period 1970 -1995 in four largest EU countries (Germany, UK, France and Italy). However, there are considerable differences across the four sample countries. The share was well above 30 percent in Germany for most of the 1970s, but it fell to about 25 percent as transportation and communication investment fell more rapidly than total public investment. In France transportation and communication investment has accounted for some 15 percent of total public

[9] Kosovo budget for 2009 was 1.43 billion euro, 2010 budget proposal is 1.46 billion euro. Based on Ministry of Economy and Finance estimations the budget for the next three years will remain more likely the same, due to tax cuts and poor economic performance.

investment throughout, while in Italy its share fell from close to 30 percent in the early 1970s to 20 percent in the early 1980s, only to rebound to 25 percent and even above by the mid-1990s. Finally, in the UK transportation and communication investment accounted for some 15 percent of total public investment in the late 1970s, but that share increased to over 30 percent by the 1990s, thereby defying the steep downtrend in total public investment.

Kosovo's total public investments in 2009 were 629 million Euro[10], without subsidies and grants, 420 million Euro only. The MTC during 2009 has signed contracts in road infrastructure in value of approx. 162 million Euro, representing 38.5% share. During 2010, road infrastructure investments were over 200 million Euro, or almost 50% of the total of public investments.

Table 2.2: Transportation and communication investments in the total of public investment

Country	**Germany**	**UK**	**France**	**Italy**	**Kosovo**	
Years	1970 - 1995				2009	2010
% of share of public investments	30% - 25%	15% - 30%	15%	30% - 20%	38.5%	50%

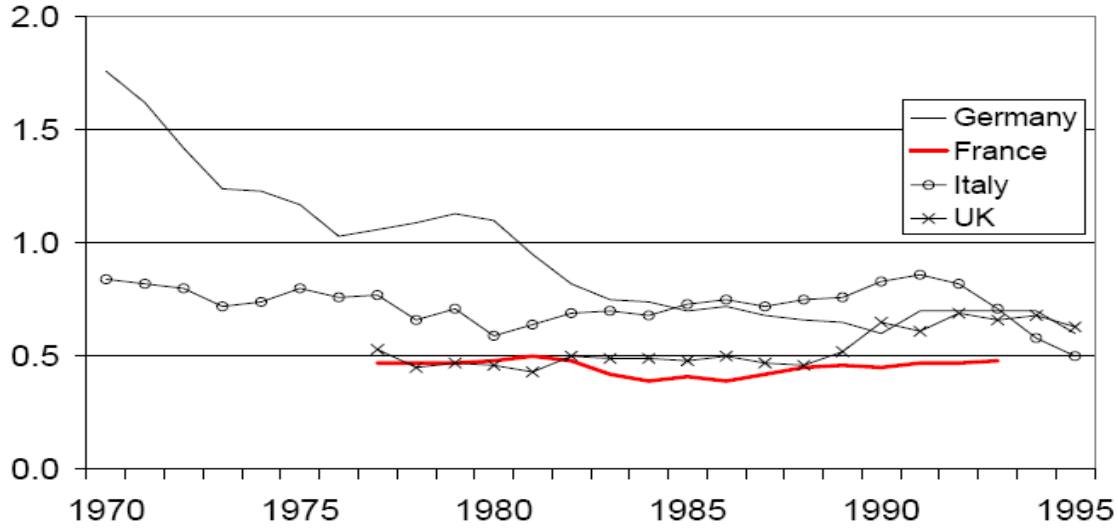
2.2.2. Road investment vs GDP

The evolution of public transport investment—including also public communication investment as no further disaggregation is available—in the four large EU countries during 1970-1995 is depicted in Figure #. There is a clear downtrend only in Germany, where public transportation and communication investment fell from 1.7 percent of GDP in the early 1970s to 0.6 percent of GDP by the mid-1990s. In the other countries, public transportation and communication investment remained stable at 0.5-0.8 percent of GDP.

It is important to acknowledge that there is no information to what extent movements in the composite variable have been driven by its two components (public transportation and communication investment). Consequently, all conclusions will only relate to the combination of public transportation and communication investment, as indicated in what is to follow. However, the fact that public communication investment only comprises grants and subsidies suggests that public transportation investment dominates the composite variable and that the problem may not be all that grave for the subsequent analysis.

[10] 2009 Kosovo Budget, approved by the Assembly of Kosovo

Figure 2.1. Gross capital expenditures in transportation and communication sectors by the general government in four large EU countries (in percent of GDP), 1970—1995[11].



For analysis purposes the table below presents portion of investment in road infrastructure per 2009 GDP for Germany and Kosovo. Kosovo's GDP in 2008 was 3.8[12] billion Euro increasing for 0.9 billion Euro since 2004, therefore our estimations for 2009 GDP is approximately 4.0 billion Euro, whereas total investment in road infrastructure in 2009 was 164 million euro. In 2009 Germany's GDP accounted for 2400 billion euros, whereas total investment in roads was as high as 8.3 billion euros[13].

Table 2.3. The portion of funds allocated in 2009 to road infrastructure in percent of GDP of Germany and Kosovo

Country	**Germany**	**Kosovo**
GDP	2 400 billion Euro[14]	4.0 billion Euro est.
Nominal amount invested in road infrastructure	8.3 billion[15]	164 million euro
% of GDP invested in road infrastructure	0.34 %	4.1%

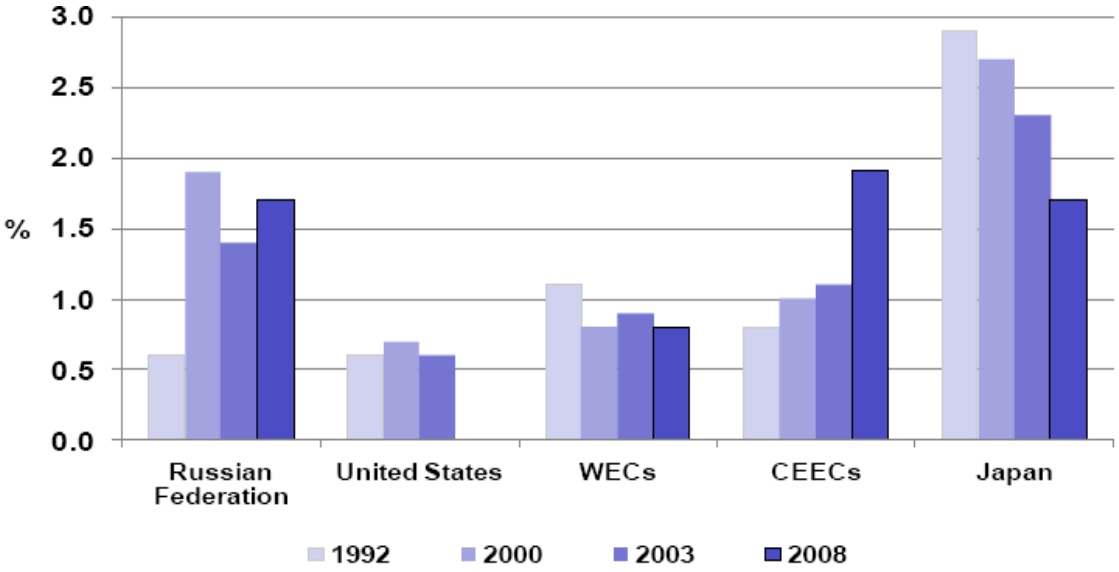
Hypothetically, in the event the Germany would have signed a contract heavy 20% of her 2009 GDP, the contract value would have been as high as 480 billion Euro.

[11] The source: Eurostat.
[12] Enti i Statistikave të Kosovës, *eng. Kosovo Statistics Office*
[13] Economic Stimulus Package II adopted by German government in the beginning of 2009 will provide additional 4 billion euro for transport infrastructure for 2009 & 2010. In this 8.3 billion figure 2 billion euro are included due to lack of information on further disaggregation of the funds allocated.
[14] World Economic Forum Global Competitiveness Report 2008-2009
[15] Transport Situation in Germany in 2009 Paper, United Nations Economic Commission for Europe, www.unece.org

The International Transport Forum[16], a body which carries out various analysis in international transport issues, in 2009 has published an analysis of transport infrastructure investment and percentages of modal shares in the total of transport inland infrastructure investments.

As the figures below show, different regions of the world invest different amounts of money in transport infrastructure. Yet, trends of investments in transport infrastructure differ in time frames from one region to another region.

Figure 2.2: Transport Infrastructure Investment as % of GDP



Source: ITF Investment in Transport Infrastructure. *Note*: CEECs and WECs in Euros, current prices and exchange rates. Japan 2008 refers to 2007.

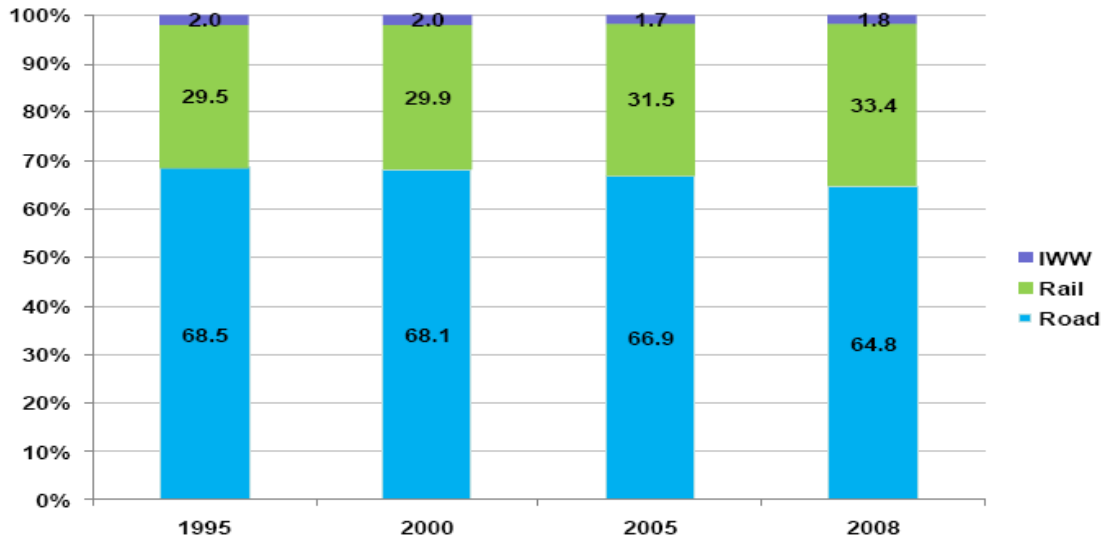
Still, the table below gives a picture at what level the GDP share of road expenditures portfolio stands in the countries surrounding Kosovo, all ex-constituencies of former Socialist Federal Republic of Yugoslavia.

Table 2.4: GDP share of road expenditures[17]

	Phare[18]	B&H	Croatia	Macedonia	Serbia & Montenegro
Expenditures	0.5-1.5%	0.9%	0.3%	0.5%	0.6%

[16] www.internationaltransportforum.org
[17] Strengthening the financial sustainability of the roads sector in Kosovo, Final Report, ECORYS Research and Consulting, August 2007
[18] Albania, Bosnia &Herzegovina, Bulgaria, Czech Republic, Estonia, Macedonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia

Figure 2.3: Transport Investment Modal Split in Western European Countries



Source: ITF Investment in Transport Infrastructure.

2.3. Motorway versus Local Roads Cost/Km Comparison

An interesting comparison to be drawn down indicating the enormous financial package is that of Morinë-Merdare Motorway costs versus local roads costs per kilometer.

Currently, the government has contracted little less than 103 km of Motorway for an amount as high as 700 million euros. Calculating costs of one kilometer of motorway it turns out that 700 million euros divided by 103 km equals to 6.79 million euros per kilometer of motorway.

To calculate the costs of one kilometer of local road the data from 2009 investment local road projects have been taken into calculations. For the purposes of this comparison, due to various technical features of local roads which result in different costs per one kilometer of local road, was calculated average cost out of a number of local roads. There are 9 projects of a total of 47.2 km with an overall cost of 10,134,001.00 Euro out of which the average cost of one kilometer of local roads equals to 214,703.40 Euro[19].

From these calculations results that in case the government had decided to invest 700 million of euros in local roads it would have been built 3260 km of local roads or over 50% of all local roads.

[19] The average drops down to 204,000.00 Euro if all the local road projects from 2009 list are included. However, for calculation purposes have been taken only several local road projects from the list due to some ambiguities for few road projects included in that list.

2.4. Motorway Cost-Time Comparison

While deciding about 700 million euros projects there are numerous factors taken into account before a green light is given. The question mark stands in that that whether was worth investing given amounts of money in a road shortening time it for a given period. In the existing main road which connects Prishtina with the Albanian border to any vehicle, under normal traffic conditions, would take one and a half to two hours of drive. In the future Motorway, having a design speed of 120 km/hr throughout most of the motorway, going from Prishtina to Albanian border will take a little less than an hour.

Albania, apart from the patriotism issue to connect Tirana with Kosovo, actually from the time point of view had every motive and reason to have the motorway build as soon as possible. Usually, from the Kosovo/Albania border it had been taking seven hours driving through a mountainous and dangerous area to reach Tirana with 30-45 km/hour driving speed. Today, a 170 km motorway, out of which 111 km build from the start, with a design speed of 80-100 km/hour, it takes only 2 hours drive to reach Tirana from the border, thus reducing 5 hours of time travel. The overall cost of Albanian Tirana-Morine Motorway was approximately 1 billion Euro.

3. CHAPTER THREE

Kosovo Roads[20] & Traffic Forecasts

Having in mind the budget restrictions and the budget forecasts for the next few years, there is a huge difference between the budget revenues and the spending in road infrastructure. While the Government budgetary forecasts and plans, according to 2010 MTEF-a Three Year Rolling Expenditure Budget Planning instrument-show a dramatic increase in road infrastructure investment, particularly due to investment in the new Kosovo Motorway connecting with Albania, Route 7 (under SEETO), budgetary revenues more less will remain the same, first due to tax cuts and secondly poor economic growth.

3.1 Needs Assessment Analysis

First of all, in any project a technical feasibility analysis is needed. Very importantly an estimate of the quantity of work and the costs of such works is needed. In our case, there will be performed a needs assessment analysis to the Kosovo road infrastructure and estimate what the cost of paving all the roads in Kosovo will be.

3.1.1 Coverage and funding sources

The proposals are transposing the MTC strategy and constitute a base for discussion with the relevant financial institutions.

Based on the outcome of the economic evaluation and the discussion about financing sources, possible scenarios for the investment plan have been proposed, under a Technical Assistance Project of the European Commission Liaison Office in Kosovo.

Projects that have negative IRR and are not strategic have been simply abandoned (like R113 or R114 extension), but other projects, such as Route 6 West part between Arrlat and Peje, or Route 7 have been maintained.

Five road development scenarios have been developed for consideration by the MTC:

- Scenario 1 including all identified priority projects with optimal design standards.
- Scenario 2 including all identified projects with reduced design standards.
- Scenario 3 excluding the most difficult mountain sections.
- Scenario 4 including all sections selected by MTC according to the planning of MTC
- Scenario 5 including all sections selected by MTC and adjusting the planning to get annual expenses of 50 Million Euros per year from the MTC budget.

[20] Refers to road network under administration of the Ministry of Transport and Communications (Motorways, Main and Regional Roads)

The final scenario to be adopted by MTC could be, of course, a combination or variation of these proposed scenarios.

Over the whole period (with projects from 2010 until 2025, although mainly until 2017), the total investment costs (Million Euros) of candidate projects would be as set out in Table 3.1 according to the 5 developed scenarios.

Table 3.1: Total Financing Needs in Kosovo for road projects with IRR > 10% or MTC priorities according to possible financing sources

Potential financing source	Amount (Million Euro) Scenario 1 (all projects)	Amount (Million Euro) Scenario 2 (all projects with reduced designs)	Amount (Million Euro) Scenario 3 (excluding mountain sections)	Amount (Million Euro) Scenario 4 (priority list of MTC)	Amount (Million Euro) Scenario 5 (priority list of MTC)
KCB	1 687 914	1 039 840	455 355	1 569 213	1 558 656
IFI loans or grants	398 795	306 059	306 059	306 059	306 059
PRIVATE	455 716	455 716	455 716	455 716	455 716
TOTAL	**2 542 425**	**2 045 543**	**1 217 130**	**2 330 988**	**2 320 431**

3.2 Route 6 and 7

The two routes are part of the South-East Europe Core Transport Network and these routes constitute the main links to the neighboring capital cities and to the regional transport network in South East Europe. At the same time, they connect some of the main cities and economic centers within Kosovo. However, we will focus on Route 7, since construction of this motorway already begun in April 2010

The two road axes through Kosovo are considered of prime importance to the Government of Kosovo:

- **route 6**: the Pristina – Blace (border to FYRO Macedonia) road (approximately 75 km) and the Pristina – Airport - Pejë – Montenegro border road (approximately 120 km).

- **route 7**: the Vermice (border to Albania) – Pristina – Merdare (administrative boundary to Serbia) road (approximately 120 km)

The 2006 Feasibility Report contained comprehensive data which indicated that the two routes should be built combining expansion of existing roads with new road construction in order to make these two routes economically viable with a total cost of 417 million EUR.

Table 3.2 shows the recommended investment package:

Table 3.2: Recommended investment package for Two Main Axes in Kosovo

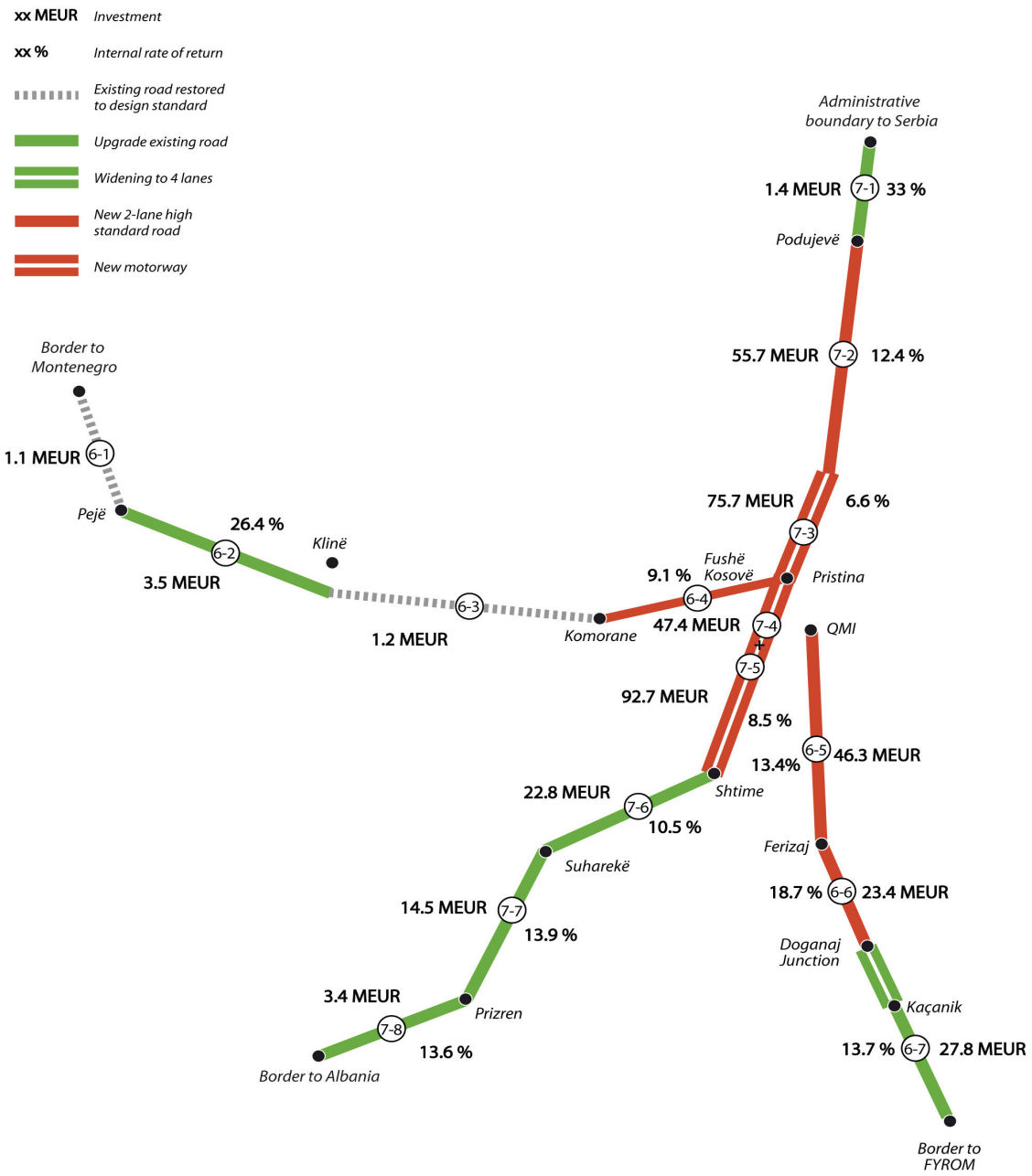
Section	Recommended intervention	Investment (million €)	Remarks
Pristina - administrative boundary to Serbia (route7)	Motorway close to Pristina, new 2-lane road between Podujevë and Besi and upgrade of existing road to the administrative boundary to Serbia	132.8 Euro	Motorway project should be closely co-ordinated with ring road project of Pristina
Pristina - Border to Albania (route 7)	Motorway between Pristina and Shtime and upgrade of existing road for other parts of route	133.4 Euro	Motorway design should be optimized including supplementary interchange at Lipjan
Pristina - Border to FYROM (route 6)	New high standard 2-lane road between Pristina and Doganaj, and upgraded existing road to border	97.5 Euro	-
Pristina - Border to Montenegro (route 6)	New high-standard 2-lane road from bypass at Fushë Kosovë to Komorane. Restoring design standards and smaller upgrading works on other parts of the route	53.2 Euro	Sections close to Pristina should be coordinated with construction of Fushë Kosovë bypass
Total		**416.9 Euro**	

The figure 3.1 below presents the recommended investment for each segment – together with the estimated construction costs and economic result (internal rate of return).

As it could be seen from the table (above) and the figure (below), the feasibility study was very detailed, thorough and comprehensive, providing viable option in terms of Kosovo budget combining loans from IFIs.

However, the general conclusion anyone could come to from the information provided in this study, is that Route 7 is not feasible from the economic point of view due to low internal rate of return, whereas Route 6 is feasible having a positive internal rate of return in Section Prishtina to Macedonian border throughout most of the section.

Figure 3.1: 2005 Estimated Construction Costs and Economic Results of Route 6 and 7



Regarding the Route 6, Kosovo Government has decided to use the recommended plan of 2006 Feasibility Report, whereas for the Route 7 has totally rejected the recommendation and went ahead with construction of an absolutely new highway. Despite that initial contract signed for construction of Route 7 (Kosovo section) is 700

Million Euro experience from similar projects (Albania particularly, the same Route 7, same company, etc.) shows that the costs were significantly higher than anticipated.

3.3 Toll and Traffic Diversion

The toll rates will have a high impact on the diversion from National Road to toll road. The means of payment (ETC, Credit-card, open or closed system) will also have an impact on the diversion, as the travel time gained should not be lost in waiting at toll gates. The toll rates should be compared to rates in other countries, with examples below:

Table 3.3: Toll rates in different countries (Euros/km)

Countries	Cars	Small trucks and Bus	Large trucks and bus
Macedonia	0.025	0.047	0.095
Croatia	0.04	0.135	0.27
France	0.075	0.122	0.255

The progression between categories cannot be easily compared between countries, as it depends mostly of the influence of truck associations and national strategies regarding other taxes on heavy goods vehicles.

The proposed examples from financial specialists have been taken here into account, with 4 categories of tolls, and the following rates. The diversion factor is the percentage of total forecast motorway traffic expected to use the motorway despite the toll.

Table 3.4: Proposed toll rates and progression for Kosovo

Category	Relativity	Toll in Euro	Diversion
Car	1	0.04	90%
Light goods vehicle	2	0.08	90%
Medium goods vehicle	3	0.12	100%
Heavy goods vehicle	5	0.2	100%

The base toll rate for cars has been taken as middle value (comparable to Croatia), and should be sufficiently low to attract most users to the motorways. The toll rates recommended by SEETO are around 0.025 Euro/km, therefore slightly lower, as was the rate used by an earlier study (0.02 E/km).

However, a higher level was taken into account for several reasons:

- When running the financial model, the low level of toll does not allow reaching any bankability, or additional important government sources need to be sought.

- The average revenue in Kosovo have increased since 2004, date where these values have been fixed.

- The target user group of the motorway is not the middle household in Kosovo, but the car owner category. This group as higher income which should be considered.

- The progression for heavy goods is lower then in other countries, and the traffic model gives very low parts of HGV in the total traffic, meaning the most important part of the revenue should come from personal cars.

The progression has been set lower than in Croatia, as this progression seems very high. Obviously, the lower the toll rates are, the higher the diversion will be. In this case, assumption of very optimistic diversion, consistent with the "high willingness to pay" option will be considered, namely due to lower levels in comparison to the region and EU.

To ease the traffic through the settlements and improve the flow and safety, also heavy goods vehicles would be restricted to the use of the motorway, excepting the local deliveries. This is a common measure in place in many EU countries. This would increase HGV flow significantly in the motorway.

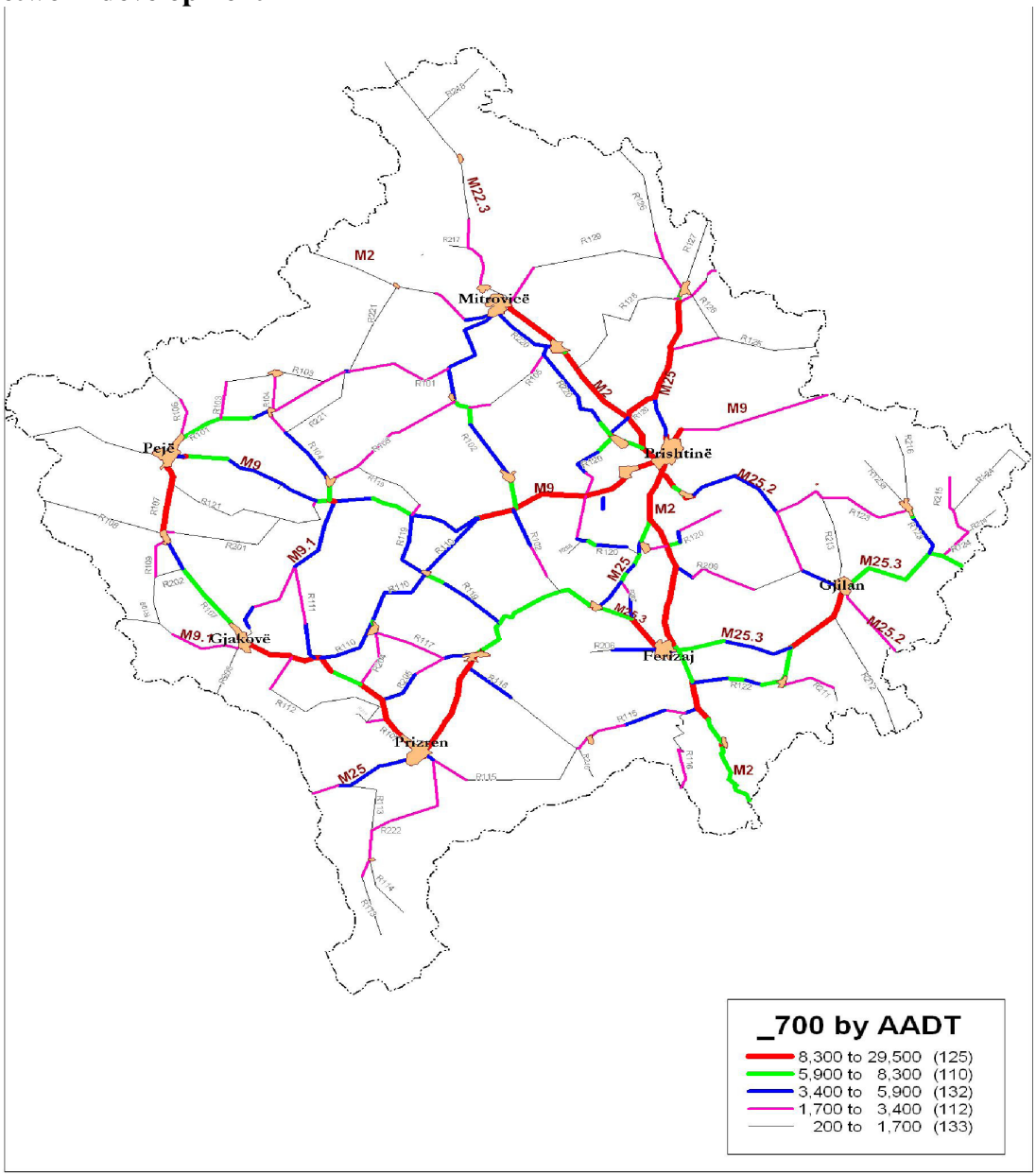
To have free increase of traffic according to the growth rates forecasted by the transport demand model, the capacity of the motorways has been set at 45000 veh/d. This is also a very favourable assumption, as 2-lane motorways have generally capacity of 35000 veh/d before congestion starts.

3.4. Traffic Forecasts by 2025

3.4.1. Main and Regional Network

Since 2008, Kosovo has established a traffic counting system, which is a most advanced one and therefore from the current traffic counting system there are quite accurate estimates of what is the level of traffic increase in Kosovo roads. Taking few other indicators into account such as economic growth, young age of population entering into the vehicle market and so forth there could be ensure pretty good traffic forecasts and estimates.

Figure 3.2: AADT on the main and regional network, 2007, situation without network development

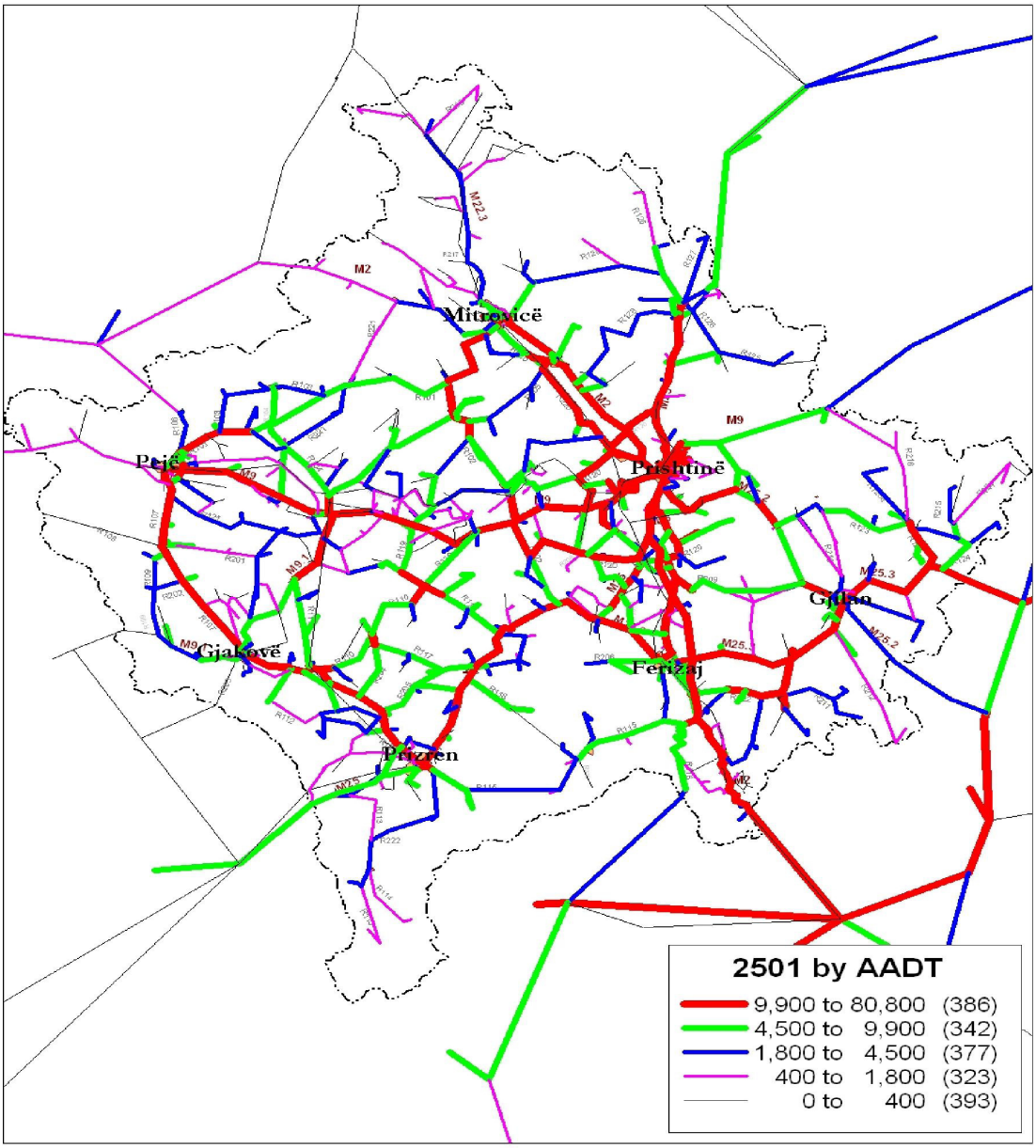


The demand for road infrastructure and travel by personal cars as well as public transport is structurally very high in Kosovo, as can be seen from the important increase in the number of vehicles (cars and other vehicles), and the traffic volumes. There are currently no accurate data[21] available on the number of registered vehicles, but the informal numbers obtained ranged from about 210.000 in 2002 to 270.000 in 2005, which are still low volumes of car ownership. The car ownership and annual usage of cars is likely to increase further.

[21] Serb community in Kosovo uses former Yugoslav number plates which do not register under Kosovo system, however the Kosovo also lacks accurate information.

A 2009 traffic estimates study[22] has developed traffic forecasts (2007 – 2025) for each of the Five Scenarios referred above, available to Ministry of Transportation and Communications. After completing the necessary calculations came to very interesting results. Assuming that the MTC will have the necessary funding and by 2025 will manage to complete the entire Scenario 1 (including all identified priority projects with optimal design standards), the following figure shows the traffic estimates.

Figure 3.3: Traffic forecast results of Scenario 1 by 2025



[22] ECLO Technical Assistance Project, Egis BCEOM & COWI, 2009

4. CHAPTER FOUR

Kosovo Local Roads

Keeping in mind that almost 90% of the municipality roads are unpaved and this requires a particular attention when it is known that these roads make a part of 6000 km of roads. These un-paved roads need to start from scratch for building. Here will be pointed out the leading role the Ministry of Transportation should have in this part for several reasons: having the expertise - could ensure better standards of roads, coordination when a road interconnects two or more municipalities and so forth.

4.1 Current condition in South Eastern Europe countries (rural and tertiary roads)

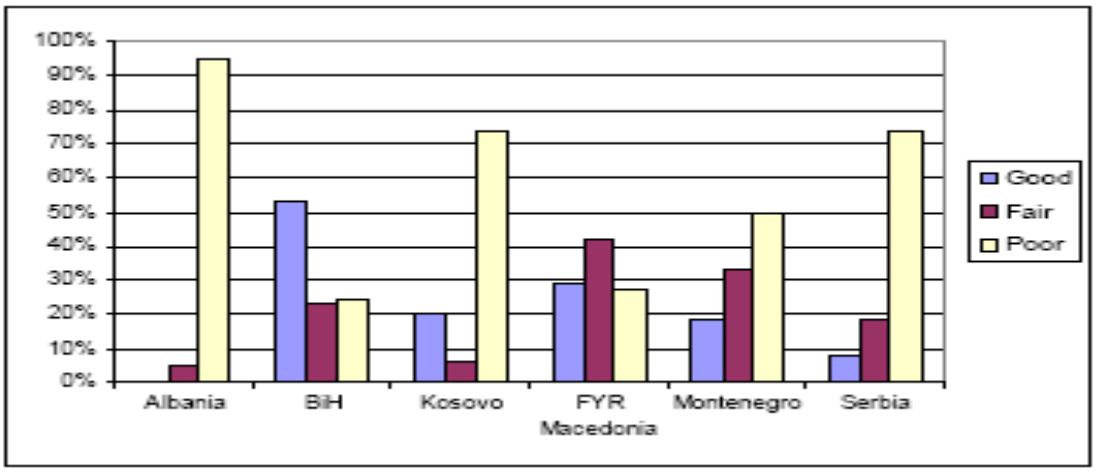
The recent survey results confirm that many of the secondary and tertiary roads in the Western Balkan countries are in poor condition. With the exception of Bosnia and Herzegovina and FYR Macedonia, more than half of the secondary and tertiary roads (rural roads) in the Western Balkan countries are in a poor or very poor condition. The situation is worst for tertiary roads in Albania and Kosovo where more than ninety (90) percent is in a poor condition.

Table 4.1: Summary Secondary/Tertiary Road Network Condition (Aggregated)[23]

Country	Road Condition		
	% Good	% Fair	% Poor
Albania	0%	5%	95%
Bosnia and Herzegovina	53%	23%	24%
Kosovo	20 %	6%	74%
FYR Macedonia	29%	42%	27%
Montenegro	18%	33%	50%
Serbia	8%	18%	74%

[23]Improving secondary and tertiary roads in SEE countries, World Bank, 2007

Figure 4.1: Summary Secondary/Tertiary Road Network Condition (Aggregated)



4.2. Kosovo local roads state of affairs

Rural and tertiary roads consist the highest percentage of the road network in Kosovo. As stated above, under-investment and under-development of country roads results in having 90% of country roads in Kosovo classified as in poor and very poor condition. This situation of Kosovo local roads affects negatively economic development, poverty alleviation and so forth.

The main reasons/problems which hamper delivery of better local roads coverage are the following:

i) **Unclear responsibilities**

ii) **Limitations in the planning framework**

iii) **Inadequate Local Capacity**

iv) **Insufficient and uncertain maintenance funding**

Since 2008 a huge investment co-financing program on local roads is taking place The Government has a large program of rehabilitation works (investment maintenance) in cooperation with municipalities, and this program has significantly been increased in 2008.The Government is acting like investor on the whole Kosovo network, as this seems to justify largely a possible re-classification of the network, including more roads under national responsibility and funding.

4.3. Local road analysis

Road infrastructure management and administration is very simple in terms of government level. There is a clear definition of authorities responsible for the roads in Kosovo[24].

Study analyses on local roads are scarce and the municipalities lack information over the roads they administer. Recently, World Bank study project on local roads[25] was conducted, which is a very thorough analysis of the local roads in the existing 32 municipalities at that time.

The study survey covered a network of 4500 km of local roads out of 6000 km estimated to be part of the Kosovo local roads, as the first phase of drive-through survey, aiming to identify local roads in the municipalities. After completion of the first phase, total kilometers covered resulted as follows:

Table 4.2: Length of local roads covered by drive-through survey

Type of local road	**Km of road**	**Percentage**
Asphalt	1935	43%
Gravel	2271	50%
Earth	294	7%
Total	4503	100%

4.3.1. Detailed Sample Roads Survey

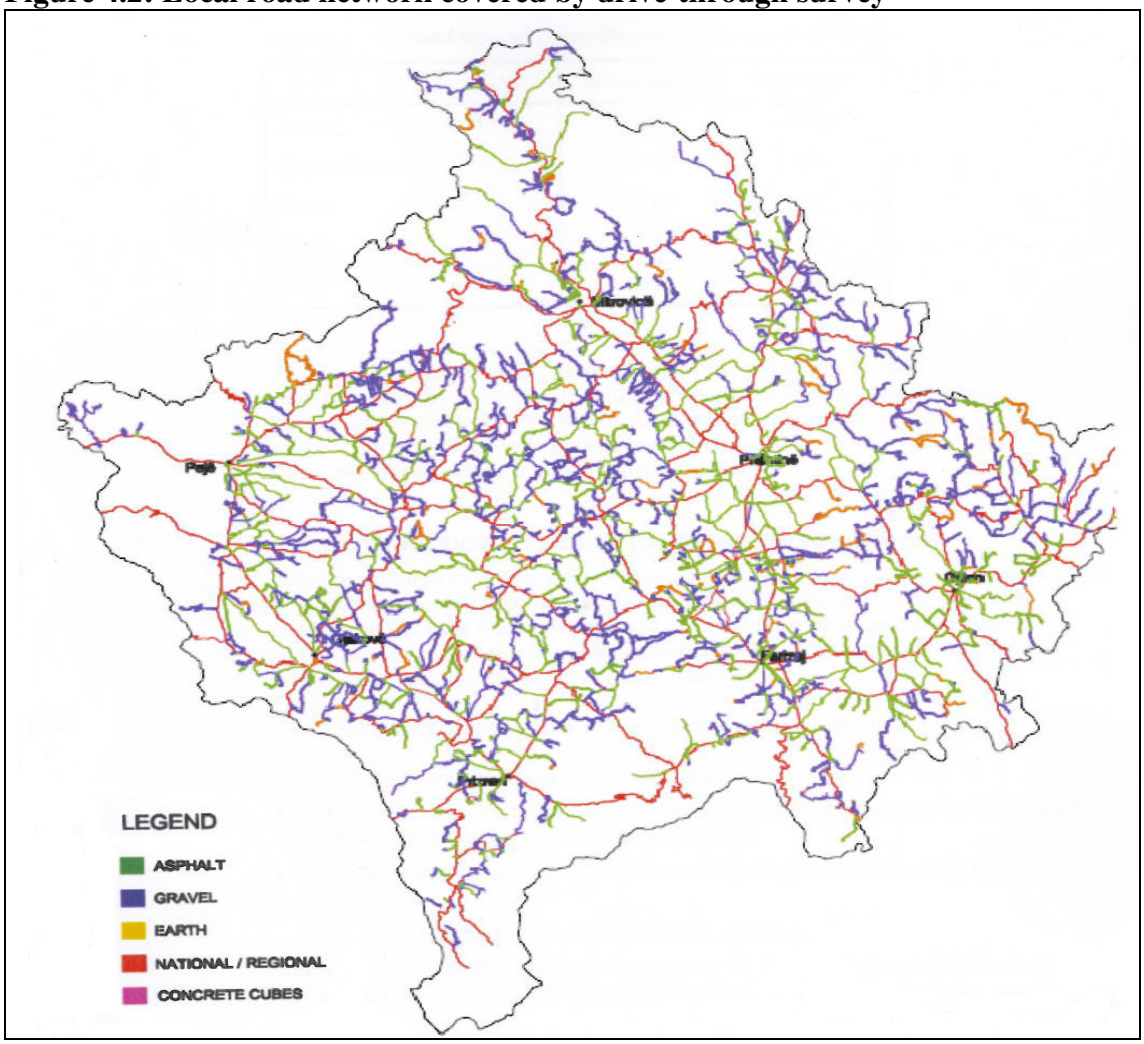
Table 4.3: Length and shares of road types of selected road network[26]

Road Type	Traffic	Length (km)	Length in percentage of road type	Length in percentage of survey network	Length of road type in percentage of survey network
Asphalt	Low	209	20.4%	13.4%	66.0%
	Medium	348	33.9%	22.4%	
	High	468	45.7%	30.2%	
Gravel	Low	189	38.0%	12.1%	31.9%
	Medium	265	53.5%	17.1%	
	High	42	8.5%	2.7%	
Earth	Low	18	54.7%	1.1%	2.1%
	Medium	9	27.3%	0.6%	
	High	6	18.0%	0.4%	
Total		**1,555**		**100%**	**100%**

[24] Law on Roads 2003/11, Article 5, adopted by Assembly of Kosovo (29.05.2003)
[25] Inventory of Local Roads in Kosovo, Final Report, April 2010, World Bank
[26] Inventory of Local Roads in Kosovo, Final Report, April 2010, World Bank

The forecasts for the local roads are very important in terms of prioritizing the roads to be built, otherwise local roads are not known of a very high traffic flow. However, the World Bank Technical Assistance Project, Inventory of Local Roads in Kosovo, provides such a generalized data on 1555 km of local roads, as shown under Table 4.3 and Figure 4.2.

Figure 4.2: Local road network covered by drive-through survey



The second phase of the study survey was consisting of a task to carry out a visual inspection of the "core local road network" in length of 1500 km, connecting important villages and settlements.

The criteria of road selection for visual inspection:

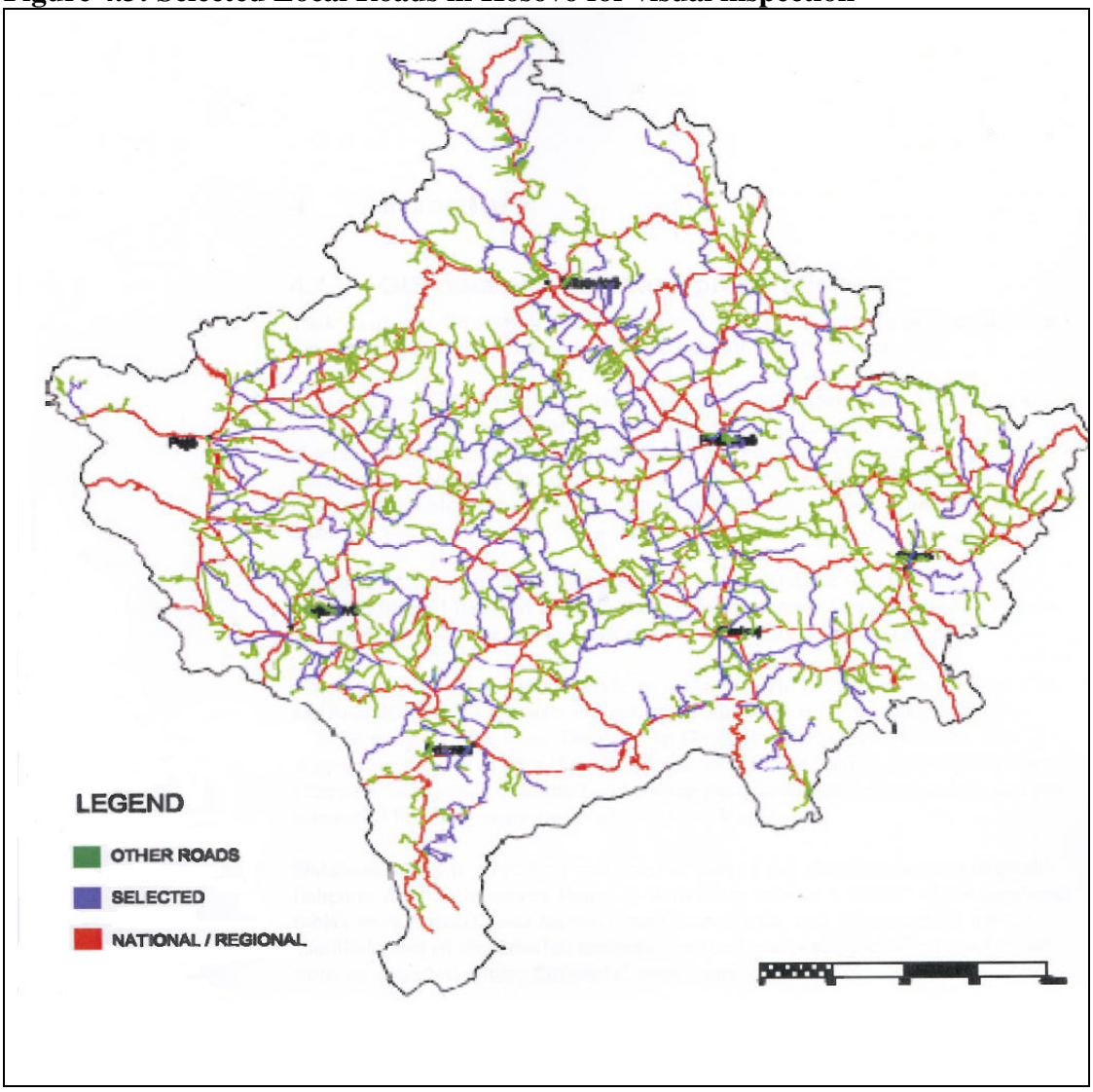
- local roads identified as roads of significant importance from Kosovo Spatial Plan;
- local roads connecting important villages and settlements to the national and regional network;
- consultations with 32 municipalties in Kosovo;
- observations made and information received during the driver-through survey.

Selected roads cover the entire Kosovo and all municipalities are included. The length of roads included the amount to the following:

Table 4.4: Length of roads (km) included in the detailed survey

	Km of road	Percentage
Asphalt	1,020	64%
Gravel	536	34%
Earth	32	2%
Total	1,588	100%

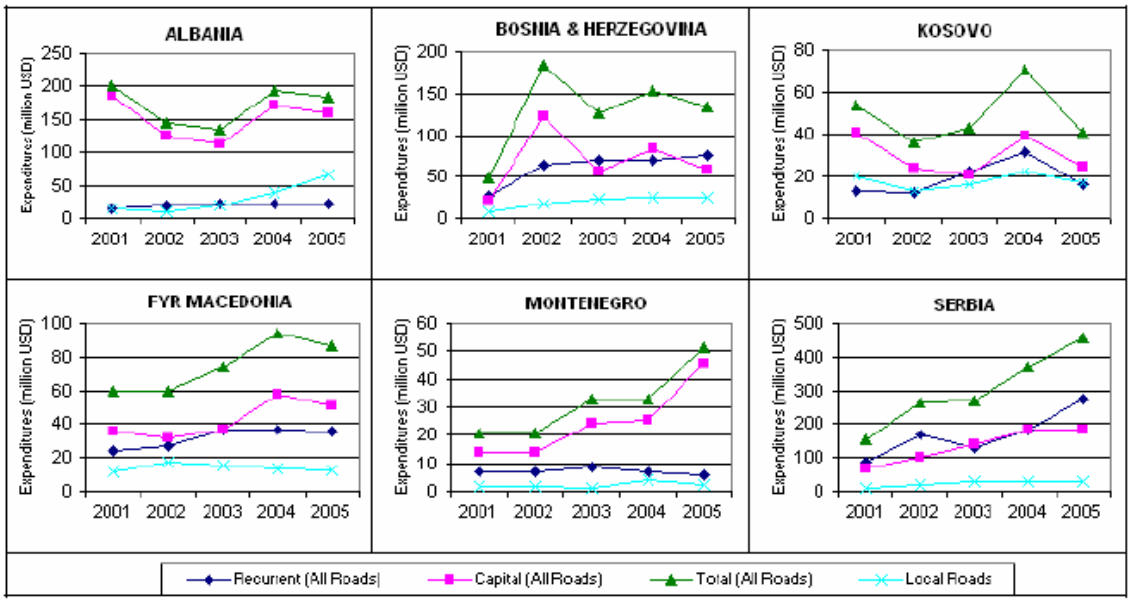
Figure 4.3: Selected Local Roads in Kosovo for visual inspection



4.3 Financial needs for local roads

As figure below shows, in terms of local roads and road infrastructure expenditures, Kosovo was no different than other regional countries.

Figure 4.4: Road Expenditures in the SEE Countries (2001-2005)[27]



Total expenditures on the entire road network, consequently on the local roads network, as a proportion of GDP is low in nearly all the countries of the SEE countries. Expenditures as a percentage of GDP at 2005 reference prices are: 2.1 percent in Albania, 1.3 percent in Bosnia and Herzegovina, 1.1 percent in Kosovo, 1.4 percent in FYR Macedonia, 0.8 percent in Montenegro and 2.1 percent in Serbia[28].

An analysis of the financing gap for expenditures on the local road network is more difficult, due to the lack of available data on both the spending requirements associated with unpaved access roads and the breakdown of budgeted municipal expenditure between capital and current spending.

Table 4.5: Road Expenditures in Kosovo (million US dollars)

Recurrent Expenditures	13.4	12.0	22.5	31.6	16.4	12.6
Capital Expenditures	40.8	24.1	20.5	39.3	24.4	25.3
Total Expenditure	**54.2**	**36.1**	**43.0**	**70.9**	**40.8**	**37.9**
Of which local roads	*20.1*	*13.2*	*16.1*	*22.0*	*16.8*	*29.2*

However, based on approximate estimations the financing gap of local roads, based on a World Bank Study on SEE tertiary roads from 2007, they have calculated as in the table below:

[27] Improving secondary and tertiary roads in SEE countries, World Bank, 2007
[28] World Bank ECA website, assorted recent PEIRs and UN Kosovo government website

Table 4.6: Annual Financing Gap for Local Roads

Country	Needs	Average Annual Expenditures (2001-2005)	Expenditures as % of needs	Gap
KOSOVO	**38.8**	**19.6**	**51%**	**19.2**

In raising additional revenues for roads, an option suggested is for municipalities with urban areas to follow the lead of Prishtina municipality and introduce on-street parking charges, which could result in revenues of up to €0.5 million per annum for each city[29].

4.3.1. Tentative overall estimation of local roads costs

On one hand there are very good estimations of the length of total local roads in Kosovo. On the other hand, under Motorway versus Local Roads Cost/Km Comparison above, has been calculated cost of one km of local roads, based on the 2009 contracted prices for local roads by Ministry of Transport and Communications, in average.

Therefore,

Total length of local roads = 2565 km (unpaved roads)
Cost per km of local road = 214,703.40 Euro

After multiplying the total length with the cost per km there is the approximate overall cost of local roads in an amount of:
= 550,714,221.00 Euro

[29] Kosovo Quarterly Economic Briefing, January – March 2007, World Bank

5. CHAPTER FIVE

Road Infrastructure Investment Plans

Currently, Kosovo either is in the implementation stage of its plans, as construction of the new motorway Morinë – Merdare, extension and upgrade of main roads network, paving a limited number of local roads and so forth, or at the designing stage.

The two Routes 6&7, part of the South East Europe Transport Network, are a top priority in the government agenda. Route 7 or as known in Kosovo, Motorway Morinë-Merdare have already begun with the implementation.

Route 6 Final Design Project has been completed and according to Ministry of Transport officials, they are intending to concession it. However, the final decision is pending.

Implication of the Private sector, as well as the IFI's is not likely to increase beyond the most limited scenarios, as none of the stakeholders will agree to invest massively in projects with poor economic and/or financial results. A possible exception could be Route 6 southern part, because of the strategic importance of that route, and the difficult conditions on the current main road.

This means that the additional effort will have to come from Kosovo Consolidated Budget, and it is not likely that the financing required is compatible with the possibility of the central budget, even though building of the routes is declared as a national priority.

There is a set of main and regional roads which either will be upgraded or rehabilitated, as well as local roads in cooperation with the municipalities to be newly built.

The money will not be an issue for the central government, as today things stand[30].

The list of all candidate sections was set up based on previous studies, in particular the Feasibility Study for Route 6 and 7, the PIP and the 3-year rolling programme of the Ministry of Transport, as well as during several working meetings with MTC.

The proposed candidate projects were completed by links, suggested by consultants, to improve connectivity of the existing network in view of spatial and regional development. The result was a list of 47 candidate sections. The list has been broken down into sections linked to Route 6 (18) sections including several solutions for the connection with Montenegro), Route 7 (9 Sections) and other links (20 sections).

[30] Medium Term Expenditure Framework 2011-2013 figures show a 1.0 billion Euro investment in road infrastructure by 2013.

Table 5.1: Sections with positive Economic Return

Project No.	Project description	Length (km)	Opening year	Investment Cost	IRR	NPV	NPV/C
2.2	New Route 6 4-lane Lipjanit- Babushi (part of section 6-5)	21.6	2012	127.224	20.5	127.989	1.01
20.3	New Section 7-5.1 Pristina -Lipjan junction	11.1	2015	26.993	28.5	91.24	3.38
9.1	Widening M9, Sllatinë-Komoran (part of section 6-4)	11.2	2011	26.392	41.1	87.42	3.31
28.0	New Construction route 7 Prishtina to Airport	6.2	2012	47.393	36	84.7	1.79
7.1	Widening Fushë Kosovë - Vragoli	4.2	2009	11.767	129.9	45.7	3.88
8.1	Widening M9 Vragoli - Sllatinë (part of section 6-4)	8.8	2010	25.008	129.9	45.7	1.83
20.2	New Section 7-4 North Pristina (Kastriot) - South Pristina (Caglavice)	6.7	2015	33.231	25.8	42.66	1.28
24.1	New Connection Route 6-7, "South Pristina" Caglavice-Route 7	4.0	2015	25.480	19.7	40.38	1.58
24.2	New Connection Route 6-7, "South Pristina" Route 7-Vragoli	3.7	2015	23.505	19.7	40.38	1.72
20.1	New Section 7.3 Besi - North Pristina interchange (Kastriot)	9.2	2015	42.450	21.8	38.85	0.92
26.0	Widening M2, Prishtinë- Milloshevë	9.2	2009	21.690	35.4	33.93	1.56
3.2	New Route 6 4-lane Babushi - M25-3 (part of 6-5)	11.6	2012	68.206	12.7	30.51	0.45
27.0	Widening M2, Vushtri- Milosheve	16.9	2010	39.837	17.83	26.263	0.66
48.0	Paving to finish connection 209 Gadime - Bresallc	11.8	2009	6.17	29.2	20.3	3.29
10.1	Widening M9, Komoran-Arrlat (part of section 6-4)	6.1	2012	14.319	22	13.14	0.92
31.0	New Road R216: Tuxhevce - Mutivode	12.6	2017	20.078	39.7	12.52	0.62
36.0	Upgrading R107 Gjakova - Peje	34.6	2012	40.817	12.4	11.33	0.28
32.0	New Road Prizren- border Macedonia - Tetovë	15.0	2022	31.025	27.8	11.25	0.36
35.0	Upgrading R107 Xerxe(R110) - Prizren	24.2	2012	28.625	12.6	8.61	0.30
3.3	New Route 6 4-lane M25-3 - Doganaj (6-6)	10.1	2012	59.489	8.2	4.575	0.08
20.4	New Section 7-5.2 Lipjan junction - Shtime	8.3	2017	49.137	9.2	4.41	0.09
46.0	New Road Leposavic - Pollate	27.4	2022	43.545	17.8	3.2	0.07
10.2	New Motorway along M9, Arrlat-Kijeve (part of section 6-3)	11.5	2017	61.180	8.5	2.93	0.05
19.0	New section 7-2 Podujeve - Besi	16.8	2017	102.826	7.7	2.58	0.03
11a	Widening Kijeve - Kline	12.5	2017	29.535	9.1	1.71	0.06
16.2	New connection to Montenegro	22.6	2017	8.142	21.2	1.02	0.13
25.0	Widening M2, Mitrovicë- Vushtri	9.8	2011	23.061	12.5	0.595	0.03
10.2a	Widening Arrlat - Kijeve	11.5	2017	27.172	7.8	0.59	0.02
34.0	Paving R118 Mushtisht - Vërbeshticë	26.3	2012	3.690	40.2	0.36	0.10

Table 5.2: Sections with Negative Economic Return

Project No.	Project description	Length (km)	Opening year	Investment Cost	IRR	NPV	NPV/C
13.0	New Motorway 6-2b Leshan - Kline	8.2	2017	43.518	7	-0.12	0.00
14.0	New Motorway M9, Pejë-Leshan, Route 6.2a	18.1	2017	96.132	7	-0.12	0.00
47.0	New extension R217 Ballaban - Zubin Potok	11.1	2022	17.61237	5.3	-0.36	-0.02
12.1	New Road Kline by-pass (2 lanes) from M9-R105	5.1	2022	8.098	0.8	-0.95	-0.12
12.2	New Road Kline by-pass (2 lanes) from R104-R105	3.6	2022	5.664	0.8	-0.95	-0.17
12.3	New Road Kline by-pass (2 lanes) from R104-M9	3.6	2022	5.744	0.8	-0.95	-0.17
43.0	Paving R108 Deçan -border Montenegro (Manastir - Bogaj)	24.1	2017	17.39	1.9	-2.2	-0.13
17.1	Widening M9 to 3 lanes from Peje-border	24.6	2022	29.062	-1.6	-2.24	-0.08
13-14a	Widening Kline - Leshan - Peje	24.0	2017	56.707	5.3	-3.03	-0.05
39.0	New extension R113 to border Macedonia	40.0	2022	82.732	2.8	-4.81	-0.06
18.0	New section 7-1 Merdare (border) - Podujeve	6.7	2017	35.484	0.4	-6.37	-0.18
4.2a	New Route 6 4-lane, Doganaj - border (staged)	17.8	2017	376.273	6.5	-8.35	-0.02
15.1	New Peje by-pass (4 lanes) from M9 to R107	3.0	2017	1.950	0.4	-9.87	-5.06
15.2	New Peje by-pass (4 lanes) from R107 to M9	7.0	2017	4.570	0.4	-9.87	-2.16
11.0	New Motorway along M9, Kijevë-Klinë (part of 6-3)	12.5	2017	66.500	1.9	-11.58	-0.17
22a	New 2-lane alternative Suhareke-Prizren	17.3	2017	100.080	2.7	-12.58	-0.13
40.0	New extension R114 to border Macedonia	11.0	2022	22.7513	-5.1	-13.36	-0.59
23.1	New Section 7-8.1 Prizren North - South	5.7	2012	36.004	0.1	-16.57	-0.46
22.0	New section 7-7 Suhareke Prizren North	17.3	2017	153.319	1.1	-26.69	-0.17
23.2	New Section 7-8.2 Prizren South - Vermice (Border)	11.5	2012	86.410	1.1	-28.71	-0.33
4.2	New Route 6 4-lane, Doganaj - border (6-7a)	17.8	2017	492.473	5	-44.18	-0.09
21a	New 2-lane alternative Shtime-Suhareke	24.7	2017	352.060	1.3	-50.366	-0.14
16.1	New section 6-1b Leshan -Deçan - border Montenegro	39.6	2022	354.204	-5.3	-57.35	-0.16
21.0	New section 7-6 Shtime - Suhareke	24.7	2017	586.766	0	-104.266	-0.18

5.1. Motorway Morinë-Merdare (Route 7)

5.1.2. Sectional Breakdown

The project is broken down into 9 Sections, going from the border of Albanian at Vermice to the North of Pristina. To take advantage of the M9 current infrastructure upgrade from a two lane to a four-lane road (to be completed by 2011), the Route 7 Motorway will defer Section 6 and utilize the M9 to reduce the overall initial project costs. The table sets out the length of each section and the planned construction start

Section	Length	Start Date
Section 1	12.2 km	1 May, 2010
Section 2	7.1 km	1 May, 2010
Section 3	14.8 km	1 October, 2010
Section 4	7.6 km	1 January, 2011
Section 5	19 km	1 March, 2011
Section 6	13.8 km	N/A
Section 7	14.4 km	1 May, 2011
Section 8	5.3 km	1 June, 2011
Section 9	8.6 km	1 July.2011
Total =	**89 km**	**w/o Sec 6**
	102.8 km	**w Sec 6**

Table 5.3: Motorway Morinë-Merdare Sectional Breakdown

5.1.3. Technical Data

The motorway will be a two dual-lane carriageway designed to International standards and specifications, with a design speed of 120 km/hr throughout most of the motorway. The alignment is based off the 2006 preliminary design with additional optimization to reduce project costs by diverting around the mountainous region, which eliminates the need for tunneling and additional large structures. The motorway will include:

Table 5.4: Motorway Morinë-Merdare Technical Specifications

Description	Quantity
Number of Bridges	23 ea
Length of Bridges	3,300 m
Number of Overpasses	17 ea
Number of Underpasses	20 ea
Excavation	19,600,000 m3
Structural Concrete	400,000 m3
Sub-base & CTB	1,340,000 m3
Asphalt	1,050,000 tons

Key Design Specifications

- Overall width of 27.5 meters
- 2 lanes at 3.75 wide
- 2.5 meter Emergency Lane with a 0.5 meter hard strip
- 4 meter wide central reserve
- Each bridge width of 11.5 meters
- 37 meter in length standard pre-cast U-beams with monolithic structures (piers)

5.1.4. Modifications/adjustments

Initial motorway plans of the government to built a totally new motorway from Morinë to Merdare, after just six months, are being questioned and reviewed. The heavy burden of the motorway cost in the Kosovo budget immediately started to emerge. By end of first half of 2010, almost 50 million Euros have been paid in advance to commence with the works in the first section of the motorway. Despite that there is no information regarding the cost of the motorway for the first section, the government may pay upfront as an advance payment a percentage of 25%[31] for capital investment contracts.

However, there is a very unclear fact. Is this 50 million Euro paid as advance payment for the Section 1, Albanian Border – Prizren, or for the entire contract for construction of motorway. Based on the above data, the conclusion is that the first option is much closer to be correct.

Therefore, assuming that the first 50 million Euros paid to the contractor is this 25% advance, the calculations equal with a 200 million Euros cost for the Section 1.

During 2010, by end of October 2010, there were a total of 93,710,519.50[32] Euro paid for to the contractor on the name of motorway construction costs as to date.

As a result of the high cost of the motorway, the Ministry of Transport is actually making plans to change the initial project planning, by excluding, at least one section (Section 6, 13.8 km).

See figure 5.1.

[31] Public Procurement Law 2003/17, adopted by Assembly of Kosovo, of 09.06.2004
[32] Department of Treasury, Ministry of Economy and Finance

Figure 5.1.: Motorway Morinë-Merdare Sectional Breakdown

	Start	Finish	Lenght (m)
SEC 1	0+000	12+200	12 200
SEC 2	12+200	19+300	7 100
SEC 3	19+300	34+100	14 800
SEC 4	34+100	41+739	7 639
SEC 5	41+739	60+739	19 000
SEC 6	60+739	74+500	13 761
SEC 7	74+500	88+865	14 365
SEC 8	88+865	94+174	5 309
SEC 9	94+174	123+361	8 650
TOTAL ALIGNMENT			102 824

JUNCTION LIST	
SEC 1	PRIZREN SOUTH JUNCTION
SEC 2	PRIZREN JUNCTION
SEC 3	SUHAREKË JUNCTION
SEC 4	DULE JUNCTION
SEC 5	MALISHEVË JUNCTION
SEC 5	M9 JUNCTION
SEC 7	SLLATINË JUNCTION
SEC 7	PRISHTINE SOUTH-WEST JUNCTION
SEC 8	PRISHTINE NORTH-WEST JUNCTION
SEC 9	PRISHTINE NORTH JUNCTION

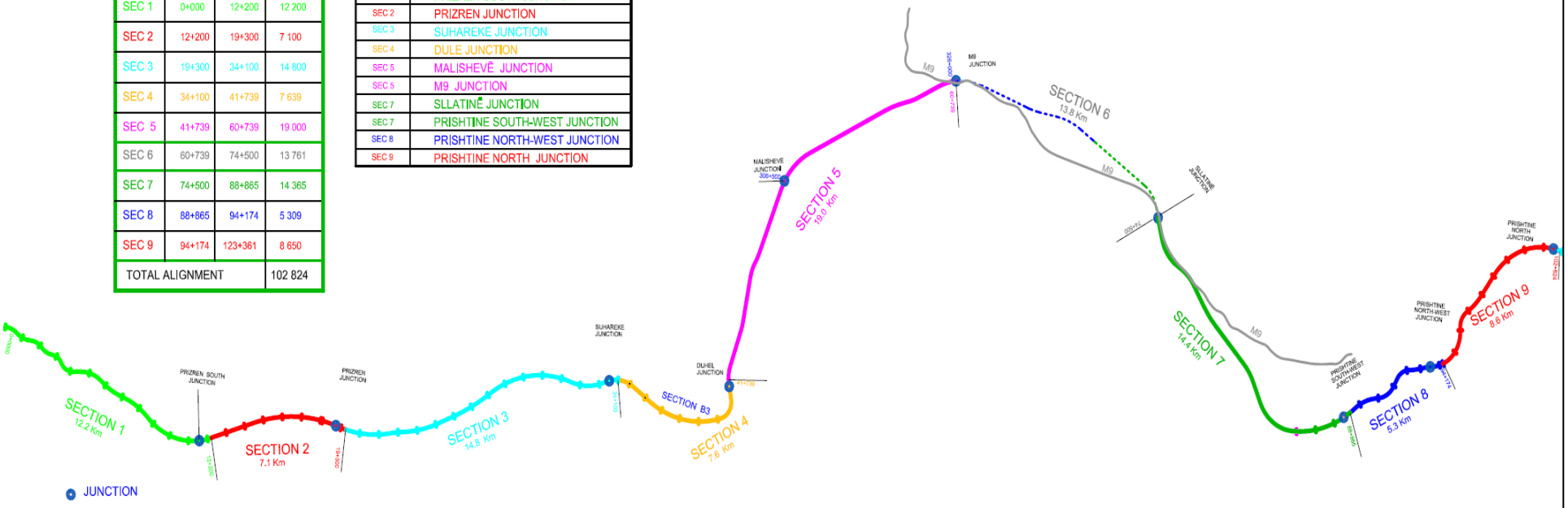
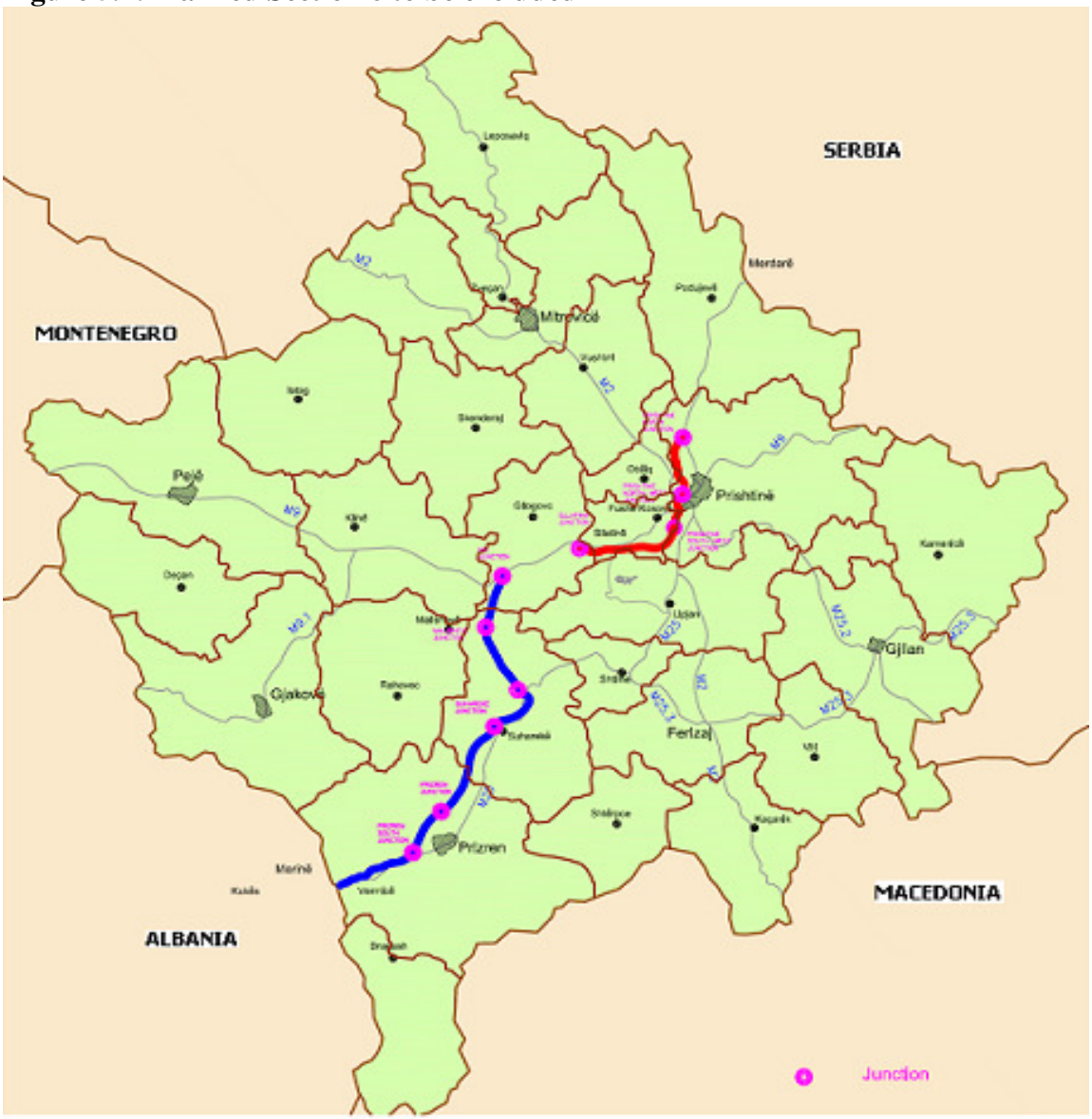


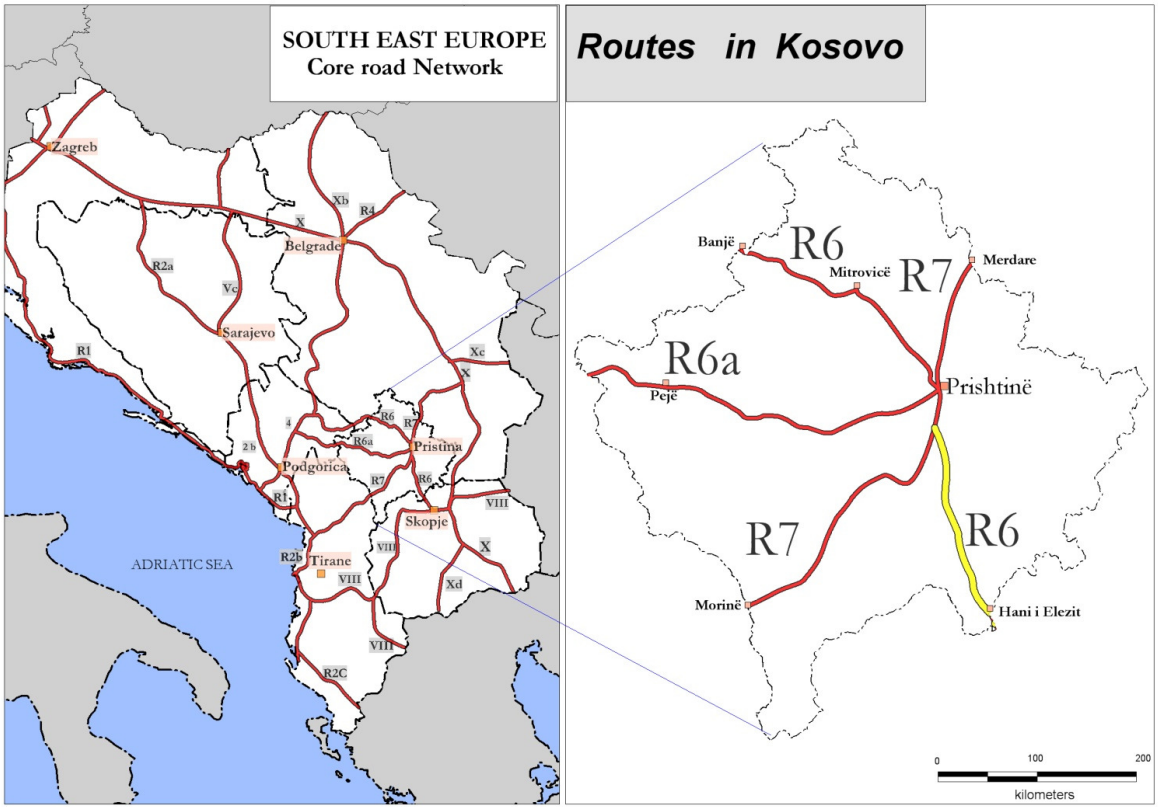
Figure 5.2: Planned Section 6 to be excluded



5.2. Motorway Prishtinë-Shkup (part of Route 6)

Route 6 as part of SEE Road Network connects Kosovo with main international routes and corridors. In the south connects Kosovo with Corridor VIII in Skopje, whereas in North connects with Route 4 linking Kosovo with Montenegro and wide. Total length of this route is 259 km. However, the main focus of Kosovo Government is section Prishtinë-Shkup in length of 57 km.

Figure 5.3: South East Europe Core Network and Route 6 Section Prishtinë-Shkup



Taking into consideration the recommendations made by COWI consultants, which conducted the feasibility study of the Two Main Road Axes in Kosovo and alternatives/options designed by COWI[33] for investment in this route, the Ministry of Transport and Communications believes that the best option for long-term investment in the Route 6 should be to build a new road of motorway parameters in the section Prishtinë - Macedonian border. The beginning of this project should be in Preoc (crossroad of Route 6&Route 7)

A significant obstacle presents the town of Kaçanik. The city can not be passed through due to high density in urbanism, therefore the government due to these reasons is making plans to By-Pass the town on the eastern side with a tunnel (by-pass tunnel).

This section will connect greatly Kosovo with Macedonia, Corridor VIII respectively and from there access to Corridor X is also made possible, countries such Greece or Bulgaria. Thus, the Motorway will serve not only for regional and local transport but international one as well. After this motorway is completed and the one already being built, countries such as Serbia and Macedonia will be able to use this for access to sea.

Since Motorway Section Prishtinë-Macedonian Border according to economic and financial analysis is viable for off-budget investments, the Ministry of Transport and

[33] COWI Consulting, a company specialized in transportation

Communications is looking for options such as concession or public-private partnerships in order to keep the Kosovo budget involvement out of this project

5.3. Local Roads

A significant part of Kosovo's road network consists of the local roads which are particularly important to everyday life of ordinary people moving around their towns and villages.

A much known fact in developing and investing the local roads is that without direct government involvement, the municipalities on their own will not do much. Therefore, Ministry of Transportation and Communications is making assessment and analysis how should approach to this problem.

Generally, municipalities, on annual basis, plan investments into their local road infrastructure. The MTC, should coordinate with municipalities, and base their decisions on important study-analysis such as Inventory of Local Roads in Kosovo.

The above mentioned study-analysis provides two potential alternatives for local roads development and investment for the Ministry of Transport, making a ranking list of priority roads according to given criteria. The alternatives relate to the "core lifeline network", consisting of 1500 km only, out of 4500 km of local roads studied.

Alternative 1 makes ranking of road types based on economic viability. The costs are lower, but higher annual maintenance. Alternative 2 makes ranking of road types based on a combination of economic viability and the present value of future road maintenance offering more durable asphalt solutions.

Therefore, both alternatives should be considered seriously by the government in order to assist the municipalities. The municipalities have full responsibility for the management of local roads within its territories. The municipalities do, however, generally not have sufficient capacities for this task.

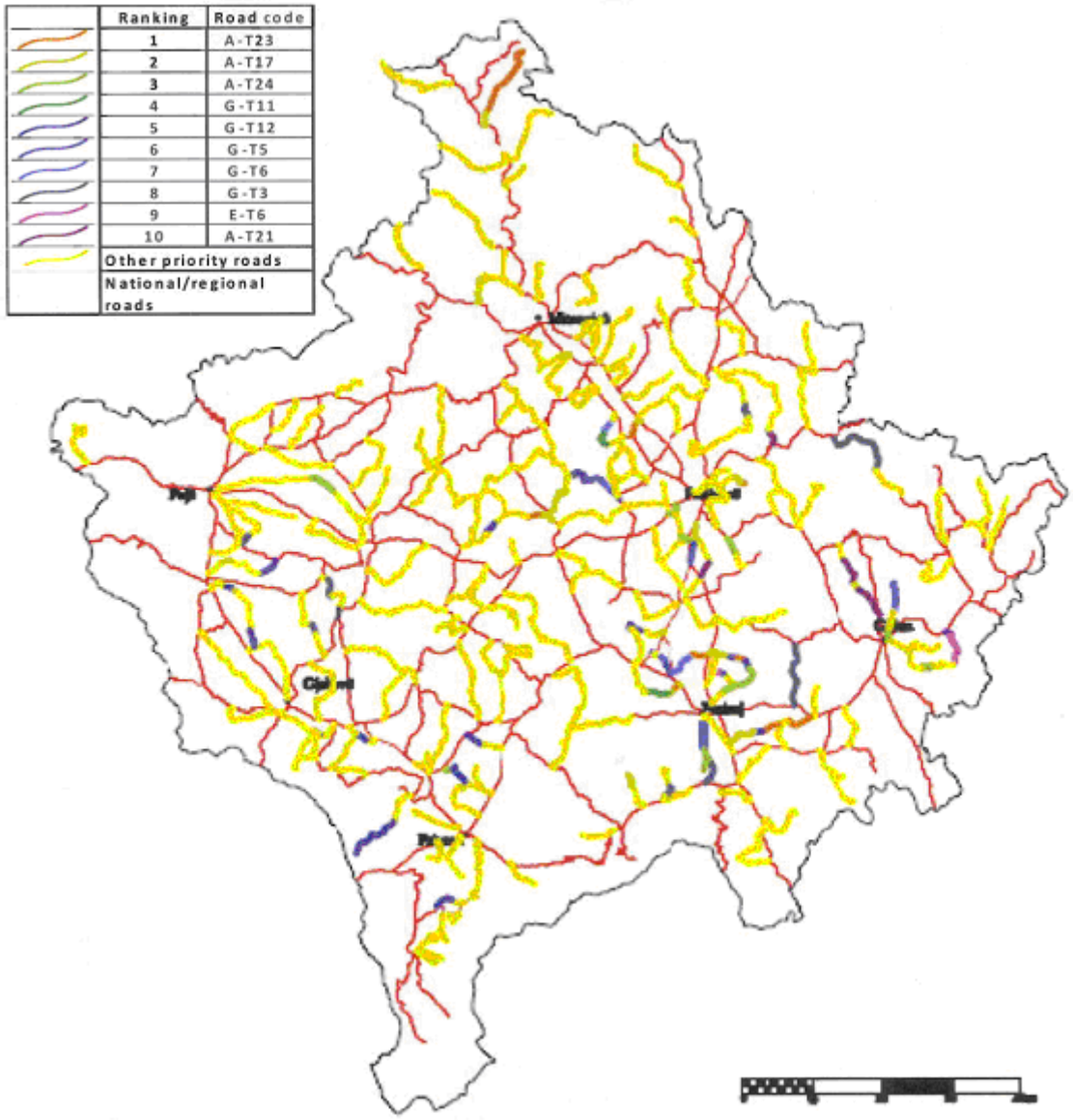
The following figure indicates the maps of location of top 10 highest ranked road types with interventions of Alternative 1. For complete list of ranked road types of Alternative 1 see Appendix.

Figure 5.4: Alternative 1, ***Maps with location of 10 highest ranked road types with intervention***

Total cost of road interventions are 232 million euro for Alternative 1. Major road interventions will be surface dressing interventions, however, maintenance of these roads shall burden the municipalities in the future.

The following figure indicates the maps of location of top 10 highest ranked road types with interventions of Alternative 2. For complete list of ranked road types of Alternative 2 see Appendix.

Figure 5.5: Alternative 2, ***Maps with location of 10 highest ranked road types with intervention***



Total cost of road interventions are 296 million euro for Alternative 2. Major road interventions will be more durable asphalt solutions, reducing maintenance cost of these roads in the future. However, costs of Alternative 2 compared to Alternative 1 are higher for a difference of 64 million euro.

6. CHAPTER SIX

Sources of funding

Funding requirements for road infrastructure derive from road use, depending on the level and growth of economy. Kosovo's core network is well developed, however remains far behind comparing it to EU and regional level in terms of road infrastructure development.

Any investment in whatsoever infrastructure requires financial means in order to implement such a project. For public investment expenditures the government always makes effort in what ever manner to charge everyone benefiting/using such undertakings or services.

In the case of roads all charges, taxes and contributions paid by road users for vehicle ownership, vehicle acquisition or infrastructure use are known in transportation terminology as Road User Charges.

6.1. Road User Charges

Typical Road User Charges/Taxes as sources of revenues from road users are:

- Taxes on acquisition (import duties, luxury tax);
- Taxes on ownership (annual vehicle registration fees);
- Taxes on use (basically fuel tax);
- User charges: payment for use of roads (vignettes);
- Road tolls;
- Other: transit fees, weights and dimensions, fines for overloading;

An important indicator for Kosovo is the GDP share of revenues and expenditures. EU Member States in average the revenues share is 2-4%, expenditures are 1-2%, whereas for Kosovo we have very irregular range in revenues and expenditures. While, until 2007, revenues from road user charges presented a GDP share of 6-7%, expenditures 1.1% respectively, since 2008 , while the revenues remained more less the same, expenditures increased drastically. Road expenditures in 2008 - 111.00 million euro (GDP 3.8 billion euro), (2.92%), 2009 - 160 million euro (4.0 billion euro) (4.1%), 2010 – 111.00 plus 100 million euro for Motorway Morinë-Merdare in a total of 211 million euro (GDP est. 4.4 billion euro), (4.79%).

In case the same calculations are carried out to future government plans on road expenditures, the numbers are much higher.

Table 6.1 : GDP share of road revenues and expenditures

	Revenues	Expenditures
EU	2 – 4 %	1 – 2 %
Kosovo[34]	6 – 7 %	1.1 %
Kosovo[35]	6 – 7 %	4.1%

By far the leader from the above listed road user charges/taxes in generating most of revenues from road users are excise fuel taxes, contributing in average 75-85% in Kosovo. This is typical for most of the countries.

6.1.1. Import duties

Import duties or excise tax paid for vehicles amounts 500 Euro for each imported vehicle into Kosovo. Customs Office information provided states that 24,800 "Customs cleared vehicles which paid the excise tax" were imported in 2005, generating 16.8 million Euro. The imports of 2006 were much lower with only 8,800 excise tax paying cars and a 4.4 million Euro.

6.1.2. Registration fees

Annual Registration Fees are:

- Light vehicle (< 3.5 tonnes) 20 Euro
- Heavy vehicle (> 3.5 tonnes) 40 Euro

The information obtained from the Ministry of Finance and Economy Treasury indicates revenues in an amount of 5.7 million Euro for the year of 2006.

6.1.3. Vehicle Road Tax

Vehicle road taxes have been introduced to Kosovo in 2005[36].This is a sort of vignette applicable to all vehicles on all roads in Kosovo. The Annual Taxes are:

- Light vehicle (< 3.5 tonnes) 40 Euro
- Heavy vehicle (> 3.5 tonnes) 90 Euro

There are no up to date numbers of vehicle fleet information and consequently making it impossible to come up with accurate information. However, if approximately there are 270,000 vehicles and multiplying with the lower road tax of 40 Euro, we come up with an amount of 10,800,000.00 Euro.

[34] By 2007, Ministry of Transport and Communications
[35] As of 2008
[36] UNMIK Regulation No 2005/14 on Vehicle Road Tax, of 20 March 2005

6.1.4. Excise Fuel Tax

In Kosovo Excise Fuel Tax is fixed to nominal value:

- Petrol 31 cents per liter
- Diesel 27.5 cents per liter

However, in July 2010, Ministry of Economy and Finance proposed to Assembly of Kosovo to raise excise taxes, among them, also excise tax on fuel, by 5 cent for both petrol and diesel. Upon adjustment of some minor interpretation issues, the Assembly agreed in principal to approve the new excise tax impositions. To this end, with the new stipulations in place, petrol and diesel excise tax will increase to 36 cents per liter, respectively to 32.5 cents per liter.

An interesting comparison is looking into the percentage of fuel tax revenues of total national revenue comparing with some countries from the region and the world.

Table 6.2: Fuel tax revenues as percentage of total state revenue[37]

Percentage	Countries
0 – 5	Russian Federation (1%)
6 – 10	Sweden, Austria, Denmark, Switzerland, Belgium, Germany, Norway, Finland, Ireland, Netherlands
11 – 15	France, Czech Republic, Slovenia, Bosnia & Herzegovina, Italy, Hungary, United Kingdom, Croatia
16 – 20	Spain, Slovakia, Turkey
21 – 25	Albania, **Kosovo (23%)**

However, in 2009 there were a total of 525,200,000.00 kilograms[38] of fuel imported in Kosovo. As the fuel tax is paid per liter, kilograms have to be converted to liters. As the weight of petrol liter depends from density, temperature, mode of refinery and so forth, the typical values for petrol are gasoline, 730 kg/m³, diesel, 840 kg/m³ (1 m³ = 1000 L).

Assuming that petrol/diesel proportion is 30/70, the calculations show the following numbers on excise fuel tax (approximate):

Excise tax for petrol:	74,343,379.00
Excise tax for diesel:	114,626,984.10
	188,970,363.00

Therefore, from calculations above, we may see that in 2009 the percentage in Kosovo has dropped down significantly in comparison to the total revenues of Kosovo reaching

[37] International Fuel Prices 2005, Gerhard P. Metschies
[38] Energy Trade Balance in Kosovo, QT2 2010, Kosovo Statistics Office, July 2010

an amount of 1.1 billion euro[39], falling down at the level of 16 – 20 percent with Spain, Slovakia and Turkey.

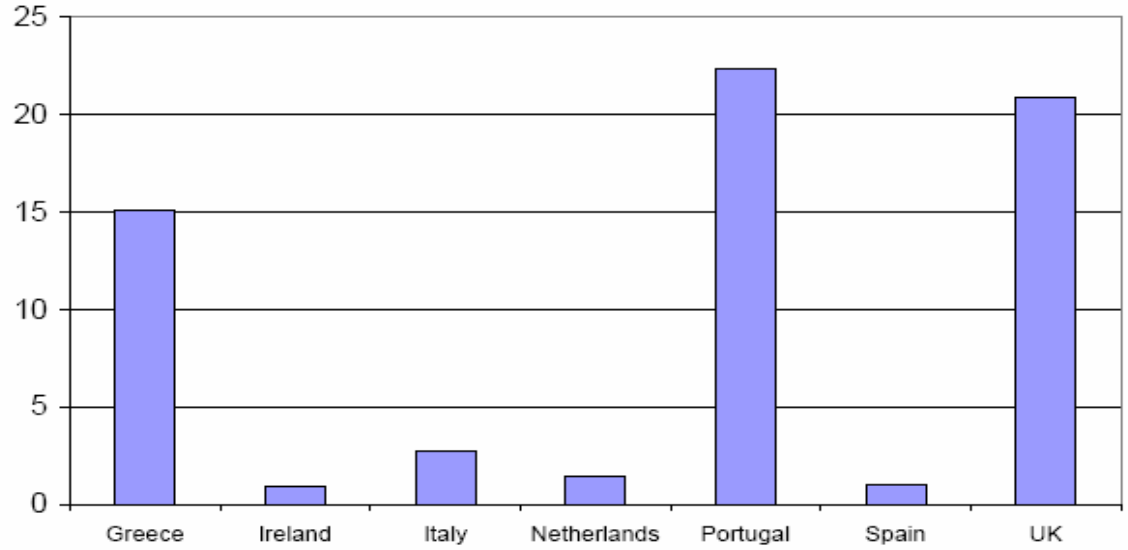
6.2. Off-budget financing

Off-budget financing nowadays is very frequent for road infrastructure projects. Among many types of off-budget financing, the two which have been mostly analyzed and seen feasible in Kosovo are Tolls and Public-Private Partnerships. In chapter 3 the Tolls are already elaborated in the context of traffic diversion. Tolls and PPPs are very similar, however, the public-private partnerships comply more to the project financing structure.

6.2.1. Public-Private Partnership

Speaking about private engagement in financing public investments, in the past two decades, public-private partnerships emergence has constituted a great deal in structural change, at least qualitatively rather than quantitatively. UK which is the frontrunner in PPPs structures for infrastructure provision, only 10-25 percent have been accomplished through PPPs out of the total annual public investments.

Figure 6.1. Signed value of public-private partnership contracts in percent of total public investment (average 1995-2003)[40]

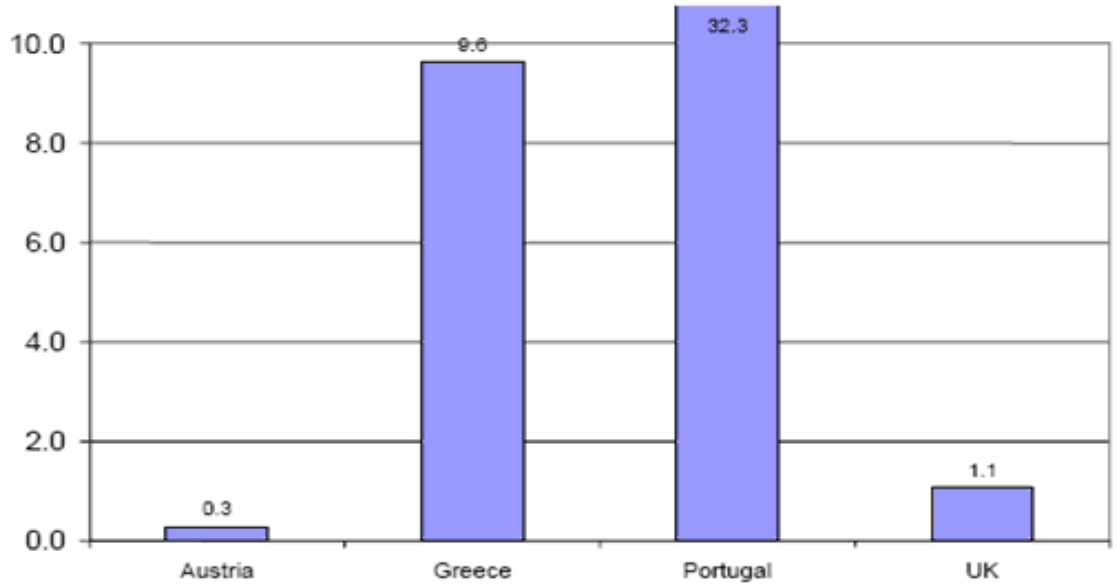


As we may conclude from figure # above, public-private partnerships remain a relatively small source of overall infrastructure finance in most countries, yet they are most frequently used in the transportation sector. UK is a separate story, where transportation

[39] 327 million euro in donations has been excluded. Source: Kosovo Statistical Office
[40] UK numbers exclude London Underground. Including LU would raise number to 32.6%, HM Treasury (UK),

sector is accounting only 20 percent[41] out of all public private partnerships projects. Other European countries' share is as high as 95 percent. From the total of PPPs in transportation sector, roads account for 50 percent. In other words, public-private partnerships, except in UK, account for almost half of the total value of all public-private partnerships.

Figure 6.2. Signed value of PPP contracts[42] in the road sector in percent of total investment in transportation, storage and communication (average 1995-2002)[43].



For Kosovo Government needs, under a technical assistance project, a Financial Model for testing potential of PPP projects was developed in December 2008. The model takes into account everything required for a Project Financing undertaking, such as rate of return on equity (ROE), loan payback period, interest during construction, ratio of debt to equity, grace periods, traffic forecasts, cost of the project and so forth.

After the model was developed, they carried out a test on the Lipjan-Babush Section (section of Route 6), out of which some interesting results came out. The length of this section is 10.8 km, at a total cost of 72.38 million euros. For this type of projects, the hurdle rate is 15.00% (below this figure there is no way that private sector involves). At

[41] In this percentage the Channel Tunnel Rail Link and London Underground projects are excluded. In case of their inclusion and accounting as transportation sector investment, the percentage would be as high as 57 percent.

[42] Bridges, tunnels and refinancing contracts are excluded, HM Treasury (UK), ProjectWare (other countries)

[43] The data available on road sector investment alone for the total economy is not consistent across countries. Transportation, storage and communication sectors are the lowest level available of disaggregation. This is a major drawback, particularly as there are good reasons to believe that different components of this measure (e.g. communication investment) behave very differently across countries.

0.11 euro/km toll, the Lipjan-Babush section is estimated to be financially viable, yielding a ROE of 16.6%, 1.5% above the “hurdle” rate.

7. CHAPTER SEVEN

7.1. Major Discussion

Kosovo's road infrastructure is of most significance importance for its economic growth and that's a fact. Because of this fact, road infrastructure should be kept on the top of government's agenda.

Another known fact is that Kosovo's road network generally speaking is in poor condition, despite a very optimistic and promising program for developing and upgrading the entire road network by the government launched in 2008, requires vast investments in order to raise it to an acceptable level if not to EU level. The latest data indicate that main and regional roads are in good condition, however due to high volumes of traffic, needs to be upgraded urgently. The government currently is upgrading and extending to two lane tracks in both directions, a significant part of main roads network, and rehabilitating also a major part of regional roads. Already plans are in place for other main and regional roads to be added to the list.

Local roads are in a different situation. Only 43%[44] of major local roads are asphalted and most of the municipalities may do little something or nothing in terms of paving and upgrading them.

The two major motorways (Route 6 and 7) part of the South East Europe Road Network connecting Kosovo with Albania through Route 7 and to Macedonia and Montenegro through Route 6, are the most expensive road infrastructure Kosovo will built. The Feasibility Study and Environmental Assessment for (these) Two Main Road Axes in Kosovo provided the most recent example of economic evaluation of road projects in Kosovo. The economic evaluation was carried out using the official cost benefit model of the Danish Ministry of Transport and Energy and was intended to assist the Ministry of Transport and Communications at a strategic planning level in assessing the viability of PPP as related to its plans for future developments in the highway sector, to help identify optimum methodologies and locations for injection of private sector money and know-how, and to assist in identifying impediments to such private sector involvement.

Although generally pessimistic about the potential for attracting private sector finance to the development of Route 6 or Route 7 in the medium-term, this study is nonetheless of interest in respect of future development of the two routes as toll motorways. However, for a part of the Route 6, Section Prishtina-Macedonia border, the data indicated very clearly that off-budget financing is viable in short to medium term.

Despite this, the Feasibility Study recommended that construction of the motorways should be a combination of existing road network with new motorway sections built from scratch, with a total cost of 416.9 million euro for both routes.

[44] 1500 km of local roads are not included in this percentage for the reason that the roads excluded are either agricultural roads or local roads linking only a small number of village houses very remote.

What the government did was ignoring completely the feasibility study recommendations and went ahead with the plan to build up a complete new motorway, with its own budgetary funds and on April 2010 signed a 660 million euro contract for Route 7. Route 6 remained pending a further decision.

The Government instead of seriously thinking on building the major motorways through off-budget funding (PPP, concession, etc.) due to enormous burden to Kosovo budget, impatiently to wait, through signing such a contract for motorway, heavily hit the Kosovo's overall public capital expenditures. While in all the countries studied and analyzed, the portion of transportation investments in the total of public investments ranged from 15% (France, UK) to 30 % maximum (Italy, Germany), in Kosovo the share was, in 2009 38.5% whereas in 2010 well over 40% due to payments for the motorway constructions started in May 2010.
Almost the same situation stands in budgetary aspect. United States of America during 1957-1970 undertook a major program for highways, building approximately 65 600 km of highways. US in average have spent 4.18% of the total national budget, while Kosovo, according to 2011-2013 MTEF, will spend in average 12.5% of the total national budget in one out of two motorways.
The data coming from agencies which collect revenues on behalf of the government, and statements by senior government officials, including Ministers, suggest that most probably the increase in budget will be modest if no increase at all and it will be hard to find the funds for this extra-investment of the government. If no other solution is found, probably the government will be forced to reduce investments from other budgetary categories such as health care, education, social welfare schemes, rule of law, security and so forth.

Road investments share in total of GDP is also an important indicator in terms of financial implications and macroeconomic standpoint. The analysis show that during the 40 years of history in investing in transportation infrastructure[45], EU countries such as Germany, France Italy and UK have never crossed 2% of GDP, staying at close to 1% throughout most the years. Further break down, road infrastructure investment in particular would have reduced furthermore the percentage of share in GDP. However, road investments in percent of GDP in Kosovo, in 2008 was near 3%, in 2009 4.1%, in 2010 probably remains as in 2009. Kosovo, also, leads in the world and the region in this regard. Apart from Japan which for a given period of time transportation investments percentage in total GDP was close to 3% falling below 2% later in the years, other countries such as Russian Federation, United States of America and so forth have never reached the 2%. In the region, Bosnia and Herzegovina 0.9%, Croatia 0.3%, Macedonia 0.5%, Serbia and Montenegro 0.6%.
Most significantly to mention in this course are 2010-2012 and 2011-2013 MTEF, a three year rolling budgetary planning mechanism, under which Ministry of Transport and Communications has requested for almost a billion euro by 2013. The experience has shown that what they have requested they have taken it.

[45] Further disaggregation was not possible to make from the data available since such a disaggregation was not in place for the period 1970-1995.

Most likely, all these percentages mentioned above will keep increasing in Kosovo in the coming three to four years.

Several needs assessment analysis either internal or external indicate huge financial amounts needed for developing and investing in Kosovo's road network. The latest analysis, for road projects of IRR over 10% or MTC priorities, for the period 2010-2025, (although mainly until 2017), present a total investment cost of 2,542,425,000.00 Euro. In order to reduce the costs, there are analysis of these priority roads, excluding mountain sections, which reduces in half to an amount of 1,217,130,000.00 Euro. Therefore, analysis suggests that the financial means should come from three sources, KCB, IFI loans or grants and private funding.
In order to make off-budget financing arrangements, traffic forecasts are crucial. 2007 traffic volumes recorded show that main roads have AADT of 8,300 – 29,500 vehicles. So, sections of this network already meet criteria for 2 lane motorways as such type of motorway have generally capacity of 35,000 veh/day before congestion starts. Assuming that the government by 2025 will built all priority projects, traffic forecasts for 2025 show three/four times increase in AADT of 9,900-80,800vehicles. Under such assumptions, motorways would be attractive for PPP or toll roads. PPPs are discussed later, but, toll roads, when analyzed, particularly toll rates taken into consideration, represented a major issue if the toll rates would have been set quite low, reducing attractiveness for private engagement, and if set to EU or regional level will the people be willing to pay such a toll.

The local roads in terms of development and investment have different predispositions against, motorways, main and regional roads in Kosovo. A major obstacle for their improvement is the current legal set-up, leaving under the administration of municipalities all local roads within their territorial boundaries. All the analysis and studies show a network in need for urgent investments. However, compared to regional countries, Kosovo with most of the regional countries is at the same level, such as the case with Albania and Serbia.
The main reasons/issues which hamper delivery of better local roads coverage are unclear responsibilities, insufficient funding, inadequate municipal capacities and so forth. However, since the 2008 governmental huge investment program in road infrastructure, the state of affairs of local roads has changed significantly. The survey of local roads during the second half of 2009 show that the main local roads network consists of 1935 km or 43%[46] of asphalted/paved roads comparing to the 2007 data of MTC of 1071 km of paved/asphalted local roads. A difference of 864 km of local roads built until 2009, of which MTC has build 400 km[47] of roads. Yet, the information from 2010 is still unavailable though the first indications suggest that only the municipalities have been active in paving new local roads, while MTC worked little in this regard due to commencement of works in constructing the motorway with Albania, thus reducing, if not re-allocating entirely, the funds. In terms of the core local road network, consisting of 1500 km, linking major villages and settlements to the main and regional roads network, the percentage of asphalted or in good condition local roads is as high as 64%.

[46] Out of the total of 4500 km of local roads surveyed.
[47] 2010-2012 Medium Term Expenditure Framework

The Kosovo local roads network needs are 40 million euro annually in order to keep improving the network in general. However, despite huge investments in the local roads in the last three years, the backlog created in the previous years, due to under-investment in this sector, still represents a major challenge for Kosovo. The estimations under this capstone project indicate that an additional amount of 550,714,221.00 Euro[48] approximately is needed for completing/building the entire major local road network in Kosovo.

For all these major road infrastructure investments planned, such as route 7, upgrade and expansion of main roads to two lane carriageways, the money seems to be no problem for the government, even though the financial implications/share in major road infrastructure development and investment indicators discussed above show that Kosovo's economy and budget is heavily and extremely burdened by the decisions the government has made. Furthermore, the 2010 EC Progress Report on Kosovo shows serious concerns on fiscal stability of Kosovo due to heavy road infrastructure investments. Only time will tell the possible positive and/or negative effects of these decisions.

The most expensive public investment project up to date the Motorway Morinë-Merdare as earlier mentioned, has a total cost of 660 million euro. Very interestingly is that any other environmental, archeological and so forth financial implications are left in silence by the government. Each relevant agency/ministry shall cover any emerging cost under their own budget and this is not still included in the governmental cost for the motorway. Yet, expropriation costs, accounted for at least 50 million euro, the government also haven't included in the overall motorway costs.
This is a total blackout in terms of information regarding the overall costs of motorway Morinë-Merdare, putting a capital question mark on the transparency and accuracy on the project.

With regard to transparency and accuracy there at least two more examples which demonstrate this in very simple terms.
Ministry of Transportation and Communications has made a huge campaign on their large extent investment in local roads, stating even percentages that MTC covered 75-80%[49] and that will build up a complete new motorway. However the data show quite different situation. Improved yes, but far away from what MTC is declaring. Regarding the local roads, 2009 survey shows only 43% of a total of 4500 km of local roads are paved, whereas the 1500 km of the core lifeline local roads network is 66%. Also, the government already is planning to cancel the section 6 of the motorway and use 13.8 km of M9 Main Road already in progress of upgrading to motorway standard design.

After only 6 months the government has begun feeling the heat from the heavy burden of road infrastructure projects cost. During September 2010, MTC already announced that will give on concession route 6, which according to various studies, is attractive for off-budget schemes. Another thorough and comprehensive study on local roads has provided two alternatives for interventions on local roads network, estimating 232 million euro for

[48] 2009 reference prices for local roads
[49] Minister Limaj statements on a TV interview, KLAN TV and Infopress Daily, September 1, 2010.

Alternative 1 and 296 million euro respectively for Alternative 2. Both alternatives provide a detailed list of local roads according to a priority-based ranking from different standpoints in terms of financial burden for 1500 km of core lifeline local roads network.

Financial sustainability of road infrastructure sector is of key significance. Several methods and manners for ensuring funding for road infrastructure currently are in place. However, the amount of funds collected under these revenue lines are significantly higher than spent due to large demands for public expenditures from other budgetary categories. The government just now has realized and is taking seriously the off-budget funding of major road infrastructure which is another way of sustainable approach to infrastructure investments in Kosovo.

7.2. Conclusions

Based on the analysis drawn up above the main conclusions deriving from this project are as follows:

- Access to the regional network and neighboring countries is most indispensable due to the landlocked territory of Kosovo;
- Major investments in the main and regional roads of Kosovo either have been completed or ongoing to be completed;
- Local roads improvements are significant though much more remains to be done;
- Road infrastructure investment implications have been underestimated;
- Total costs of the road infrastructure are very high and unbearable by the Kosovo Consolidated Budget and thus new ways of funding should be arranged;
- Financial viability, for off-budget undertakings, not necessarily means bankability. Bankability in today's terms means some sort of guarantee from the government (or IFIs). Under present financial circumstances, the criteria for bankability are very likely to be more stringent, however the government is most likely to accept;
- The Municipalities alone will not be able to cover and invest in the local roads, probably not even in long term;

7.3. Recommendations

Recommendation 1
Alternative funding for the major road infrastructure

The financial burden for developing Kosovo's road infrastructure is enormous. The current financial obligations deriving from contracts already signed by the government, for the next three year are ranging from 700 million Euro to 1 billion Euro.
Therefore, the recommendation coming out from our study is that the government should urgently find alternative off-budget funding and also increase road user charges/taxes already in place as they are lower than in any country in the region and EU.

Recommendation 2
The central government to take over local roads

The Government of Kosovo should very seriously consider establishing a Division of Local Roads under its current structures of Department of Road Infrastructure. The Division's major tasks would be identification of priority local roads and initiating procedure for execution of such a project. The recommendation is strongly supported for several reasons, among which: lack of appropriate expertise on projects of such a nature in the municipalities, the central government much easily comes to funding required, lack of municipality financial capacities and so forth.

Recommendation 3
Improving transparency and accuracy

The central government and the municipalities must open themselves towards the public for several reasons. First of all, it's a constitutional obligation of all public authorities to provide information to citizens on their undertaking. Secondly, in case of motorway construction contract heavy 700 million euro plus other road investments, we are talking roughly about 20% of Kosovo National Budget for the next three years. Yet, other expenditures such as for potential archeological sites, environmental and spatial assessments during construction of motorway will be covered by relevant Ministries, which have never been mentioned by the Government. Not to mention, expropriation costs.
Yet, the 93,710,519.50 Euro paid to contractor no one knows for what they have been paid of.

Recommendation 4
Attention to road infrastructure expenditures

The government should take due care and attention to budgetary expenditures on road infrastructure development for the reason of huge financial implications in the overall state budget. Several indicators show the enormous implications of road infrastructure in the Kosovo budget and even economy. This year so far have been paid to Bechtel & Enka (the company contracted for construction of the motorway) an amount of 93,710,519.50 Euro. This has straight away affected negatively the other budgetary lines, thus reducing significantly the number of construction/rehabilitation/extension projects in main and regional roads and the co-financing with municipalities, a very important budget line for

local roads development. While in 2009 there were 87 road projects carried out and contracted, in 2010 only few road projects have been tendered out.

Appendix 1-Alternative 1

Rankings	Conditions of Roads			Alternative (work measures)		Length of selected survey network			Inhabitants (ave.)	Vehicles (ave.)
	Road Type Code	Road Name	Road Type	Works Measure	Alternative	Length (km)	Length (%) of total network	Length (%) of road type	Inhabitants (ave.)	Vehicles (ave.)
1	G-T11	Poor GRAVEL surface, Good drainage, High Traffic	Gravel	SURFACE DRESSING	ALT8	6.4	0%	1%	1,669	929
2	G-T5	Fair Gravel surface, Good Drainage, High Traffic	Gravel	SURFACE DRESSING	ALT8	14.6	1%	3%	4,699	880
3	G-T12	Poor GRAVEL surface, Poor drainage, High Traffic	Gravel	SURFACE DRESSING	ALT8	13.8	1%	3%	1,749	111
4	G-T6	Fair Gravel surface, Poor Drainage, High Traffic	Gravel	SURFACE DRESSING	ALT8	7.6	0%	2%	1,974	1342
5	A-T23	Poor Asphalt, Good Drainage, High Traffic	Asphalt	OVERLAY	ALT1	31.2	2%	18%	3,840	1100
6	E-T6	EARTH road, Poor drainage, High Traffic	Earth	SURFACE DRESSING	ALT11	5.8	0%	3%	2,224	693
7	A-T17	Medium Poor ASPHALT, Good Drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	34	2%	2%	3,395	984
8	A-T24	Poor ASPHALT, Poor Drainage, High traffic	Asphalt	OVERLAY	ALT1	25.2	2%	3%	3,484	1414
9	G-T9	Poor GRAVEL surface, Good drainage, Medium traffic	Gravel	SURFACE DRESSING	ALT8	16.2	1%	9%	3,037	284
10	G-T3	Fair GRAVEL surface, Good drainage, Medium traffic	Gravel	SURFACE DRESSING	ALT8	42.6	3%	1%	1,627	327
11	A-T21	Poor Asphalt, Good Drainage, Medium traffic	Asphalt	OVERLAY	ALT1	15	1%	2%	1,814	290
12	A-T11	Medium Good ASPHALT, Good drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	22.8	1%	2%	2,958	1166
13	A-T15	Medium PoorASPHALT,Good drainage,Medium traffic	Asphalt	SURFACE DRESSING	ALT4	21.4	1%	36%	3,019	328
14	G-T10	Poor GRAVEL surface, Poor drainage, Medium traffic	Gravel	SURFACE DRESSING	ALT8	180.2	12%	3%	2,828	302
15	A-T22	Poor Asphalt, Poor drainage, Medium traffic	Asphalt	OVERLAY	ALT1	28.8	2%	5%	2,286	337
16	G-T4	Fair GRAVEL surface, Poor drainage, Medium traffic	Gravel	SURFACE DRESSING	ALT8	26.4	2%	3%	2,151	331
17	A-T18	Medium Poor ASPHALT, Poor drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	31.4	2%	3%	3,271	804
18	A-T13	Medium Poor ASPHALT, Good drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	1.8	0%	0%	764	134
19	A-T19	Poor ASPHALT, Good Drainage, Low traffic	Asphalt	OVERLAY	ALT1	12.2	1%	1%	2,726	155
20	E-T4	EARTH road, Poor drainage, Medium Traffic	Earth	SURFACE DRESSING	ALT11	8.8	1%	27%	3,665	348
21	A-T9	MediumGoodASPHALT,Good drainage,Medium traffic	Asphalt	SURFACE DRESSING	ALT4	22.4	1%	2%	2,280	328
22	A-T20	Poor ASPHALT, Poor drainage, low traffic	Asphalt	OVERLAY	ALT1	23	1%	2%	1,474	151
23	A-T12	Medium Good ASPHALT, Poor drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	15.6	1%	2%	7,330	920
24	A-T16	Medium PoorASPHALT,Poor drainage,Medium traffic	Asphalt	SURFACE DRESSING	ALT4	8	1%	1%	2,798	371
25	A-T7	Medium Good ASPHALT, Good drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	15.8	1%	2%	1,681	145
26	A-T14	Medium Poor ASPHALT, Poor drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	9.4	1%	1%	1,440	145
27	A-T10	Medium GoodASPHALT,Poor drainage,Medium traffic	Asphalt	SURFACE DRESSING	ALT4	15	1%	1%	1,981	327
28	G-T7	Poor GRAVEL surface, Good drainage, Low traffic	Gravel	ASPHALT	ALT9	23.2	1%	5%	1,536	109
29	G-T8	Poor GRAVEL surface, Poor drainage, Low traffic	Gravel	ASPHALT	ALT9	140.8	9%	28%	1,698	98
30	G-T1	Fair GRAVEL surface, Good drainage, Low traffic	Gravel	ASPHALT	ALT9	10.8	1%	2%	2,220	95
31	G-T2	Fair GRAVEL surface, Poor drainage, Low traffic	Gravel	ASPHALT	ALT9	13.8	1%	3%	1,749	111
32	A-T8	Medium Good ASPHALT, Poor drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	11.2	1%	1%	2,101	155
33	E-T2	EARTH road, Poor drainage, Low traffic	Earth	ASPHALT	ALT12	17.6	1%	55%	2,146	88
34	A-T5	Good ASPHALT, Good Drainage, High traffic	Asphalt	OVERLAY	ALT1	228.4	15%	22%	3,578	1105
35	A-T6	Good ASPHALT, Poor Drainage, High traffic	Asphalt	OVERLAY	ALT1	80.8	5%	8%	4,890	826
36	A-T3	Good ASPHALT, Good Drainage, Medium traffic	Asphalt	OVERLAY	ALT1	171.6	11%	17%	2,453	342
37	A-T4	Good ASPHALT, Poor Drainage, Medium traffic	Asphalt	OVERLAY	ALT1	66.2	4%	6%	3,113	367
38	A-T1	Good ASPHALT, Good Drainage, Low traffic	Asphalt	OVERLAY	ALT1	108.8	7%	11%	1,762	128
39	A-T2	Good ASPHALT, Poor Drainage, Low traffic	Asphalt	OVERLAY	ALT1	26.8	2%	3%	1,931	133

Appendix 2 – Alternative 2

Rankings	Conditions of Roads			Alternative (work measures)		Length of selected survey network			Inhabitants (ave.)	Vehicles (ave.)
	Road Type Code	Road Name	Road Type	Works Measure	Alternative	Length (km)	Length (%) of total network	Length (%) of road type	Inhabitants (ave.)	Vehicles (ave.)
1	A-T23	Poor Asphalt, Good Drainage, High Traffic	Asphalt	OVERLAY	ALT1	31.2	2%	3%	3,840	1,100
2	A-T17	Medium Poor ASPHALT, Good Drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	34	2%	3%	3,395	984
3	A-T24	Poor Asphalt, Poor Drainage, High Traffic	Asphalt	OVERLAY	ALT1	25.2	2%	2%	3,484	1,414
4	G-T11	Fair Gravel surface, Good Drainage, High Traffic	Gravel	ASPHALT	ALT9	6.4	0%	1%	1,669	929
5	G-T12	Fair Gravel surface, Poor Drainage, High Traffic	Gravel	ASPHALT	ALT9	13.8	1%	3%	1,749	111
6	G-T5	Fair GRAVEL surface, Good drainage, High traffic	Gravel	ASPHALT	ALT9	14.6	1%	3%	4,699	880
7	G-T6	Fair GRAVEL surface, Poor drainage, High traffic	Gravel	ASPHALT	ALT9	7.6	0%	2%	1,974	1,342
8	G-T3	Fair GRAVEL surface, Good drainage, High traffic	Gravel	SURFACE DRESSING	ALT8	42.6	3%	9%	1,627	327
9	E-T6	EARTH road, Poor drainage, High Traffic	Earth	ASPHALT	ALT12	5.8	0%	18%	2,224	693
10	A-T21	Poor Asphalt, Good drainage, Medium traffic	Asphalt	OVERLAY	ALT1	15	1%	1%	1,814	290
11	A-T11	Medium Good ASPHALT, Good drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	22.8	1%	2%	2,958	1,166
12	A-T15	Medium Poor ASPHALT, Good drainage, Medium traffic	Asphalt	SURFACE DRESSING	ALT4	21.4	1%	2%	3,019	328
13	A-T22	Poor Asphalt, Poor drainage, Medium traffic	Asphalt	OVERLAY	ALT1	28.8	2%	3%	2,286	337
14	A-T18	Medium Poor ASPHALT, Poor drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	31.4	2%	3%	3,273	804
15	A-T13	Medium Poor ASPHALT, Good drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	1.8	0%	0%	764	134
16	A-T19	Fair GRAVEL surface, Poor drainage, Medium traffic	Asphalt	OVERLAY	ALT1	12.2	1%	1%	2,726	155
17	G-T9	Medium Poor ASPHALT, Poor drainage, High traffic	Gravel	ASPHALT	ALT9	16.2	1%	3%	3,037	284
18	G-T10	Medium Poor ASPHALT, Good drainage, Low traffic	Gravel	ASPHALT	ALT9	180.2	12%	36%	2,828	302
19	A-T9	Medium Good ASPHALT, Good drainage, Medium traffic	Asphalt	SURFACE DRESSING	ALT4	22.4	1%	2%	2,280	328
20	A-T20	Poor ASPHALT, Poor drainage, low traffic	Asphalt	OVERLAY	ALT1	23	1%	2%	1,474	151
21	A-T12	Medium Good ASPHALT, Poor drainage, High traffic	Asphalt	SURFACE DRESSING	ALT4	15.6	1%	2%	7,330	920
22	G-T4	Fair GRAVEL surface, Poor drainage, Medium traffic	Gravel	ASPHALT	ALT9	26.4	2%	5%	2,151	331
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25	A-T7	Medium Good ASPHALT, Good drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	15.8	1%	2%	1,681	145
26	A-T14	Medium Poor ASPHALT, Poor drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	9.4	1%	1%	1,440	145
27	A-T10	Medium Good ASPHALT, Poor drainage, Medium traffic	Asphalt	SURFACE DRESSING	ALT4	15	1%	1%	1,981	327
28	G-T7	Poor GRAVEL surface, Good drainage, Low traffic	Gravel	ASPHALT	ALT9	23.2	1%	5%	1,536	109
29	G-T8	Poor GRAVEL surface, Poor drainage, Low traffic	Gravel	ASPHALT	ALT9	140.8	9%	28%	1,698	98
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32	A-T8	Medium Good ASPHALT, Poor drainage, Low traffic	Asphalt	SURFACE DRESSING	ALT4	11.2	1%	1%	2,101	155
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34	A-T5	Good ASPHALT, Good Drainage, High traffic	Asphalt	OVERLAY	ALT1	228.4	15%	22%	3,578	1,105
35	A-T6	Good ASPHALT, Poor Drainage, High traffic	Asphalt	OVERLAY	ALT1	80.8	5%	8%	4,890	826
36	A-T3	Good ASPHALT, Good Drainage, Medium traffic	Asphalt	OVERLAY	ALT1	171.6	11%	17%	2,453	342
37	A-T4	Good ASPHALT, Poor Drainage, Medium traffic	Asphalt	OVERLAY	ALT1	66.2	4%	6%	3,113	367
38	A-T1	Good ASPHALT, Good Drainage, Low traffic	Asphalt	OVERLAY	ALT1	108.8	7%	11%	1,762	128
39	A-T2	Good ASPHALT, Poor Drainage, Low traffic	Asphalt	OVERLAY	ALT1	26.8	2%	3%	1,931	133