

# **KOSOVO\***

## **TECHNICAL BACKGROUND PAPER TRANSPORT SECTOR**

1 July, 2008

This technical background paper has been produced by experts funded by the European Commission and the World Bank, in consultation with other donors, and the Kosovo authorities.

The paper is intended to inform discussion at the 11 July Kosovo Donors' Conference by providing further information on this sector. The paper also aims to facilitate improved donor co-ordination and aid effectiveness at a sectoral level after the Conference.

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## Abbreviations and Acronyms

AADT	Average Annual Daily Traffic
AI	Administrative Instruction
CARO	Civil Aviation Regulatory Authority for Kosovo
DoR	Directorate of Roads
DRI	Department of Road Infrastructure
EAR	European Agency for Reconstruction
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECA	Europe and Central Asia, an administrative region of the World Bank
ECAC	European Civil Aviation Conference
ECMT	European Conference of Ministers of Transport (Part of OECD)
EIB	European Investment Bank
EU	European Union
FoMT	Freedom of Movement Train
FYR	Former Yugoslav Republic
FYROM	Former Yugoslav Republic of Macedonia
GDP	Gross Domestic Product
HDM - 4	Highway Development and Management Model 4
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency, World Bank Group
IFI	International Financial Institutions
KCB	Kosovo Consolidated Budget
KDSP	Kosovo Development Strategy and Plan
KR	Kosovo Railways
MAP	Multi-Annual Plan
MFE	Ministry of Finance and the Economy
MoU	Memorandum of Understanding
MTC	Ministry of Transport and Communications
MTEF	Medium Term Expenditure Framework
OECD	Organization of Economic Co-operation and Development
PEIR	Public Expenditure and Institutional Review
PEMTAG	Public Expenditure Management Technical Assistance Grant
PIA	Pristina International Airport
PISG	Provisional Institutions of Self-Government
PPIAF	Public Private Infrastructure Advisory Facility
PPP	Public Private Partnerships
REBIS	Regional Balkans Infrastructure Study
SAP	Stabilization and Association Process
SEE	South East Europe
SEETC	South East Europe Transport Community
SEETO	South East Europe Transport Observatory
TEN	Trans European Network
TEN-T	Trans-European Network - Transport
UNCITRAL	United Nations Commission on International Trade Law
UNMIK	United Nations Mission in Kosovo
WB	The World Bank

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# 1 THE CHALLENGES IN THE TRANSPORT SECTOR

## 1.1 INTRODUCTION AND THE REGIONAL DIMENSION

1. **The transport system has long been acknowledged to be a necessary component in facilitating economic development and poverty alleviation.** The modest size of Kosovo, the current narrowness of its current economic base, despite its endowment of minerals and natural resources, together with an official rate of unemployment, currently estimated to be running at around fifty (50) percent of the population of working age, and high poverty head count<sup>1</sup>, highlight the importance of developing an efficient and effective transport system to contribute to the generation of sustainable economic growth and poverty alleviation. In addition, its geographical location and landlocked status, and the impacts on trade, transport costs and growth,<sup>2</sup> underlines the importance of not only developing such a system, but also fully integrating it with those of neighboring countries and the region.

2. **The development of a core regional transport network is recognized as one of the most important objectives for the economic and social development of South East Europe.** In strengthening links with neighboring countries, by improving the flow of international trade and give better connectivity with the region's more remote areas. Core network development has been fully supported by the European Union through continuous engagement and support, starting with the TIRS study in 2001, the REBIS study in 2003, and the subsequent establishment of the South East Europe Transport Observatory<sup>3</sup> (SEETO) in 2005, to create a regional consensus to address the problems and develop a core transport network in the region comprising the TEN corridors in the region, and other strategic routes connecting national capitals, regional centers and the main ports and border crossings, in a manner consistent with the Common Transport Policy of the European Commission.<sup>4</sup> The SEETO Secretariat, composed of regional experts, is tasked with producing five year priority investment plans. The latest, the Multi-Annual Plan for the period 2009-2013,<sup>5</sup> is currently being prepared.

3. **The SEETO core network amounts to 5,980 km of roads, 4,584 km of railways, 1,185 km of inland waterways, 11 airports, 7 sea ports and 2 river ports.** Kosovo does not benefit from lying on any of the Trans European networks (TEN) but it is crossed by two routes on the SEETO core road network for a total of 310 km. The two SEETO routes in their entirety are: Route 6: Ribarevina (Montenegro) – Ribarice (Serbia) – Pristina (Kosovo) – Skopje (Former Yugoslav Republic of Macedonia) and Route 7: Lezhe (Albania) – Pristina (Kosovo) – Doljevac (Serbia) (The two routes crossing Kosovo are illustrated in the figure in Annex B). The SEETO core rail network in Kosovo comprises only Route 10 with a total of 148 km through Kosovo.

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<sup>1</sup> Estimated at 37 percent of the population in 2006 (World Bank, 2006).

<sup>2</sup> There is considerable evidence of the additional transport costs to access and egress landlocked countries (see Arvis, Raballand and Marteau, (2007) *'The Cost of Being Landlocked: Logistics Costs and Supply Chain Reliability'*, World Bank Working Paper 4258).

<sup>3</sup> The European Commission signed on June 11, 2004 a Memorandum of Understanding (MoU) with Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Serbia and Montenegro on the development of the South East Europe Core Regional Transport Network.

<sup>4</sup> See the White Paper *'European Transport Policy for 2010'* (see: [http://ec.europa.eu/transport/white\\_paper/documents/index\\_en.htm](http://ec.europa.eu/transport/white_paper/documents/index_en.htm)).

<sup>5</sup> SEETO (2007), South East Europe Core Regional Network Development Plan: Five Year Multi Annual Plan 2008 to 2012 – Common Problems, Sharing Solutions, The European Union's 2003 Regional CARDS Programme.

This route in its entirety runs from Kraljevo (Serbia) through Pristina (Kosovo) up to Gorce Petrov (Former Yugoslav Republic of Macedonia).

4. **The development of Routes 6 and 7 are seen as a development priority for the authorities in Kosovo.** The Government of Kosovo has underlined the importance of improving the transport network and fully integrating to the regional network in a recent Government statement of priorities.<sup>6</sup> The development of the two routes are seen to be of prime importance to Kosovo's economy and strategically within the region, constituting the main links within the regional transport network and neighboring capital cities, while simultaneously connecting the main cities and economic centers within Kosovo.<sup>7</sup> The construction of Route 7 is seen as the immediate national priority and work on the southernmost section between Morine and Prizren is scheduled to start in the summer of 2008. This will link with the construction of the new highway between Milot and Morine in Albania, which is scheduled to open in June 2009.

## 1.2 THE CURRENT INFRASTRUCTURE IS LIMITED IN SCOPE AND CONDITION

5. **Conflict and subsequent neglect has left Kosovo with a transport system that is inadequate for the needs of the country and incompatible with European standards.** The direct war damage, which destroyed or rendered unusable important components of the transport infrastructure, was largely addressed during the period between 1996 – 2003 when large-scale reconstruction took place of the main road and rail networks, bridges and tunnels, mostly through grants and favorable loans. However, the focusing of resources on post-war recovery operations that aimed, rightly, to rebuild the main road and rail infrastructure, together with the limited subsequent support from domestic sources, has resulted in inadequate maintenance operations. The result is a significant maintenance backlog on the road network, particularly on the secondary and local road network. By contrast, the rail network is in a slightly better condition, as after reconstruction, the limited traffic means that hastened deterioration due to inadequate maintenance has been less pronounced.

6. **The road network currently extends just over 8,000 km, but is limited in scope and quality.** Kosovo has 650 km of primary roads, 1310 km of secondary roads and about 6000 km of local roads (A map of the road network is provided in Annex D). The road network density of 0.78 km/km<sup>2</sup> is above the Western Balkans regional average of 0.56 km/km<sup>2</sup>. However, on a different measure of road density (road kilometers per 1,000 people), Kosovo lags behind regional comparators and other lower middle income countries.<sup>8</sup> A recent survey by the Department of Road Infrastructure (DRI) found that 88 percent of the primary road network and 74 percent of the regional road network are in good or fair condition. However, the remaining sections of the road network are in a poor or very poor condition.

7. **In addition, one recent study reported that 94 percent of inspected roads on the local network are in poor or very poor condition and in need of urgent reconstruction.**<sup>9</sup> It was also estimated that a number of bridges and structures on both magistral, regional and the local road network, are in need of urgent repair. A recent study undertaken by the World Bank in the region clearly indicates the link between good local roads and poverty alleviation in the local communities. Many of these communities and residents and face considerable obstacles in meeting their basic needs due to the poor condition of the local road network.

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<sup>6</sup> Government of Kosovo (2008) *Statement of Government Policy Priorities*, 12 March 2008.

<sup>7</sup> Ministry of Transport and Post-Telecommunications (2008) *Submission to the MTEF 2009-2011*- draft.

<sup>8</sup> Kosovo is at 3.3 km/1000 people compared to 8.6 km/ 1000 people in Europe and Central Asia.

<sup>9</sup> World Bank (2008) *Improving the management of secondary and tertiary roads in South East Europe*. Washington DC.

8. **The urban transport network is showing considerable signs of strain.** The population of Pristina has doubled over the last decade and is currently thought to be between 450,000 to 600,000 persons.<sup>10</sup> There are estimated to be approximately 80,000 registered vehicles in the city, and some 200,000 vehicles operating within the municipal boundaries on any given weekday. There is a severe parking shortage in city center, and only 15 intersections in Pristina are equipped with traffic lights, of which only 15 percent are currently working. Those that are functioning rely on a system originally designed in Russia, which is over thirty years old. The economic development in and around Pristina, and the associated growth in the motor vehicle fleet and its use, is placing a severe and increasing strain on the urban transport infrastructure.

9. **The urban public transport system offers a fragmented and low quality service and currently contributes little to the problem.** The public bus company, which is owned by Pristina Municipality, currently operates 12 lines with (theoretically) 44 buses and 3 minibuses. In practice, only 29 buses are available for service. Twenty private companies operate a further twenty two lines, with 47 buses and 60 minibuses. But the technical condition of the buses, operated by both the private and public companies, is very poor, resulting in unreliable and low quality service. In addition, buses stop to pick passengers anywhere, further exacerbating congestion and road safety conditions. There is also no coordination system between the various companies, no route integration, and no common ticketing or information system.

10. **Road safety is a major economic and public health problem.** Over the years 2003 to 2005, there was an average of 8,633 accidents (with an average of 152 fatalities) on an annual basis. However, this figure obscures that the number of accidents showed a steady increase over this period from 5,416 accidents in 2003 to 13,917 accidents in 2005. This trend is expected to continue with further increases in car ownership and use. The fatality rate per 10,000 vehicles (at 9.5) is over 9 times higher than the rate in the ‘safest’ European Union countries, and one of the worst in the region (see Figure 1). Moreover, the traffic accident figures in Kosovo are likely to be underestimated reflecting generic under-reporting problems. The economic cost of road traffic accidents has been estimated to amount to nearly 1.2 percent of GDP.

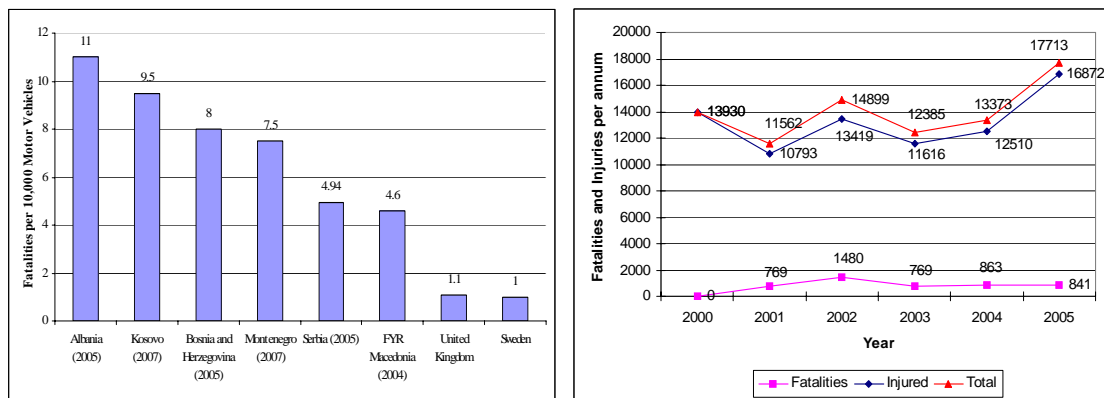


Figure 1: (a) Comparable Fatality Rates; (b) Trend in Accident Numbers in Kosovo 2000-2005

11. **The road network in Kosovo exhibits problems that are only found on the most dangerous sections of road within Western Europe.** This is in part due to their historic alignment and the recent growth in traffic, but also as a result of poor development controls and variable design and maintenance practices. A significant and increasing risk to road users comes mostly as a consequence of the uncontrolled linear development that has taken place and

<sup>10</sup> Population estimates for Pristina vary widely depending upon the source.

continues to take place along the strategic roads in Kosovo. Ideally ongoing development should be curtailed and legislation introduced to ensure development takes place in a planned, and where possible benign, manner.

12. **Kosovo has 333 km of single track non-electrified rail system with standard gauge, and despite limited maintenance, is mostly in good/fair condition due to limited traffic.** The track runs through many mountainous terrain areas necessitating numerous tunnels and bridges. Principally, there are two lines (North to South) and (North East to West). The North-South line traverses the country from the border with Serbia (station Leshak) to the border with FYROM (station Hani i Elezit) for a total of 148 km on the SEETO core route 10. It is the only line currently operational for both cargo and passenger services. The North East to West Line comprises three branches: the East Line from the border with Serbia (station Podujeve) to Fushe Kosove total 45 km; the West Line from Fushe Kosove to Peje total 81 km; and the West-South Line from Klina to Prizren total 58 km.

**Table 1: Location and length of railway lines in Kosovo**

<i>Line</i>	<i>Section</i>		<i>Length (km)</i>	<i>Status</i>
South	Hani I Elezit	Fushe Kosove	62.8	Open for cargo & passenger
North	Fushe Kosove	Lersak	78.5	Open for cargo & passenger
West	Fushe Kosove	Peja	81.2	Open for cargo, & passenger
	Kline	Prizen	58.3	No operation
East	Fushe Kosove	Bardosh	14.2	Open for cargo
	Bardosh	Medare	38.0	No operation
<b>Total</b>			<b>333.0</b>	

Source: Kosovo Railways Business Plan

13. **The rolling stock is generally old and in poor condition, except for some donated passenger coaches and locomotives, and some recent acquisitions.**<sup>11</sup> The entire fleet amounts to nine locomotives, four sets of Diesel Multiple Units (DMUs), and ten passenger carriages, and 70 freight wagons. Limited resources are currently being expended on maintenance and investment on the railway network, in large part due to sustained financial losses arising from low traffic levels on the network. However, the opening of strategic regional networks or the development of new extractive industries, and the need to move heavy bulk freight, are expected to realize increased demands for investment in railway infrastructure.

14. **Kosovo currently has one<sup>12</sup> international airport, Pristina International Airport, which is operating satisfactorily.** The airport currently has a runway of 2500 meters in length by 45 meters in width. The terminal building for the passengers has a ground area of 3500m<sup>2</sup>, while the airplane platform covers a ground area of 24,700m<sup>2</sup>, which can receive 5 medium sized airplanes at the same time. Operating revenues in 2007 are projected at Euro 15.6 million, against operating expenses of Euro 10.9 million, before investments and loan repayments. The projected equivalent figures for 2008 are Euro 21.9 million, and Euro 13.6 million, respectively. Completed and ongoing investments amount to some Euro 15.2 million, including the resurfacing of the runway and the extension of the apron, the installation of a perimeter fence, airfield electrics to permit 24 hour operation, and improvements to the terminal.

<sup>11</sup> The railway has recently purchased one new G1700 diesel locomotive and pre-owned Diesel Multiple Units (DMUs) from Sweden.

<sup>12</sup> There are plans to convert a former military airport at Gjakova into an international airport, but this is regarded as a long term objective.

### 1.3 MAINTENANCE EXPENDITURES HAVE BEEN INADEQUATE

15. **The recent MTEF (2006-2008) indicated that the maintenance and rehabilitation of the existing infrastructure is a key transport sector priority interest.** In 2006, the Government estimated a need for about €70 million for maintenance and rehabilitation compared to only €27 million that could be afforded in the budget. The local road network under the municipalities remains particularly susceptible to under-maintenance as a result of limited resources at the local level, inadequate capacity and competing budgetary interests. The majority of the transport funding is on the road sector. Between the years 2000 and 2005, €136 million was spent on road infrastructure investments.

16. **Without adequate maintenance, roads deteriorate at an increasing rate until reconstruction is necessary, at considerably greater expense than any short term saving in maintenance expenditure.** One report<sup>13</sup> notes that rehabilitating a paved road is three times more expensive than maintaining it, in current terms, and around 35 percent more in net present value terms. In addition, failure to maintain a paved road is estimated to increase user costs by a factor of three, in terms of additional time, fuel, and vehicular wear and tear. The signs of inadequate maintenance can be readily seen, with even some new, or recently rehabilitated, roads displaying premature signs of aging in the form of potholes and cracking (e.g. outside Pristina).

### 1.4 DEMAND CONTINUES TO GROW ON THE NETWORK

17. **Reliable data on the exact number of registered vehicles is not readily available.** According to the Statistical Office of Kosovo, the number of registered vehicles in 2002 was 215,504.<sup>14</sup> More recent estimates have been made suggesting that the fleet in 2005 comprised some 272,500 vehicles.<sup>15</sup> This has been estimated to include 231,000 passenger cars, which represents a rate of car ownership of 105 passenger cars per 1,000 persons. This compares to an average motorization index of 418 passenger cars per 1,000 persons in the EU 25 countries,<sup>16</sup> and a rate of 550 passenger cars per 1,000 head of population in the most motorized EU countries. Increases in income and employment are likely lead to a significant boost to transport demand from increased vehicle ownership and usage.

18. **The level and volume of traffic is growing at a significant rate with the highest levels on the primary road network around Pristina.** On Routes 6 and 7 annual average daily traffic (AADT) levels in 2006 range from 1,900 (on the road sections nearer to the border points) up to 27,200 vehicles (on the road sections near Pristina; where roads have reached capacity and heavy congestion is occurring).<sup>17</sup> The overall AADT on the main road network in Kosovo over the period 2001 to 2006 using available data is 8255 vehicles per day (vpd). The overall AADT on the regional road network for the same period has been estimated at 4257 vpd.<sup>18</sup> Traffic volumes on the local road network are at much lower levels. Recent work has estimated that these flows range from less than 100 vpd on many unpaved roads up to 2000 vpd on local roads leading up to a higher road in the network or urbanized area.

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<sup>13</sup> Heggie and Vickers (1998).

<sup>14</sup> Kosovo PEIR (2006) quoting Statistical Office of Kosovo.

<sup>15</sup> ECORYS (2007) Consultant's calculations based on base data from Customs and the Registration Centre of Kosovo.

<sup>16</sup> European Union Road Federation (2007), *European Road Statistics 2007*.

<sup>17</sup> COWI (2006) Feasibility Study and Environmental Assessment for two main road axes in Kosovo.

<sup>18</sup> ECORYS (2007).



19. **Kosovo is likely to continue experiencing rapid growth in vehicle ownership and use in a range of between 3 – 6 percent respectively.**<sup>19</sup> In line with observations in other European countries, passenger car traffic is likely to grow at much higher rates than commercial traffic. For the main and regional road network, using a base traffic set in 2006 of an AADT of 10,538 and 4,448<sup>20</sup> respectively, in the *moderate growth scenario*<sup>21</sup>, the AADT by the year 2020 will be about 19,500 on the main road network and 8200 on the regional road network respectively. For the sections where traffic will be heaviest (i.e. around Pristina), traffic forecasts made on the assumption that the two Routes (6 and 7) are completed by 2012 yield traffic flows in the range of about 25,000 to 50,000 vehicles per day by the year 2022.<sup>22</sup>

20. **In the railway sector, freight transport by volume has recently increased to 345,000 tons in 2006, and 588,000 tons in 2007.** The average length haul of freight is at 60 km. Around 80 percent of the total Kosovo Railways (KR) freight traffic is imports (mainly petroleum from FYR Macedonia, but also building materials and other general cargo); with exports amounting for the remainder. The increase in volume is entirely due to a new contract with one company, Ferronickel, to carry nickel ore, and is projected to increase to 1 million tons per annum, once a new siding has been constructed at the site of the mine. Ferronickel ore mining and metallurgical complex was set up in 1984 to produce ferronickel for exports. It produced and exported 6,800 tonnes of nickel per year before 1990 but after the conflict in 1998 the company was idle for three years. Now the plant has reopened and it is one of the largest nickel smelting and mining operations in Europe, with 13 million tons of nickel ore in three open-pit mines.

21. **Whilst passenger traffic volumes on the railway network have also recovered a little, the sustainability of the improvement seems questionable.** Passenger numbers have increased from approximately 400,000 in 2006 to 417,000 in 2007, but at the cost of a significant increase in subsidy. The main passenger service since 2001 has been the Freedom of Movement Train (FoMT),<sup>23</sup> a service providing an essential link between dispersed communities. Passenger services have also been reintroduced to Skopje and Peje, but heavy subsidy is required to keep these services running, as passenger volumes and revenues are insufficient. The intense and increasing competition with the road based modes, and the modest size of the country, suggests that passenger volumes are unlikely to return to anywhere near the pre-war levels.

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<sup>19</sup> REBIS (2003) quotes ranges for car growth of between 3.5% and 5.25%; and for trucks of 2.2% to 3.3% while ECORYS (2007) estimates range of 4-6% annual growth.

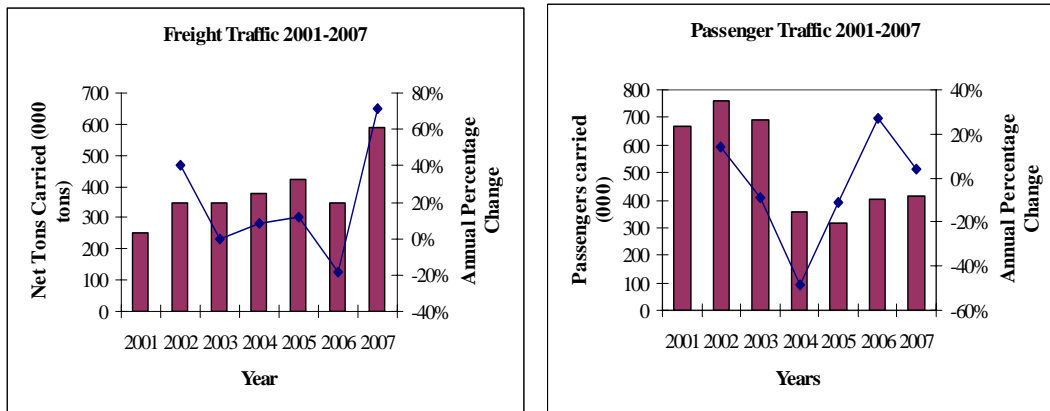
<sup>20</sup> Highest observed AADT on regional road network used because of insufficient data in 2006.

<sup>21</sup> Using linear annual growth rate of 4.5% for all vehicles.

<sup>22</sup> COWI (2006) Calculation assumes an 80%:20% split between passenger cars and commercial vehicles with a pcu unit equivalent of 1 and 2 respectively.

<sup>23</sup> FoMT provides safe transport between the Serb and Roma enclaves in Kosovo.

**Figure 2: Volume and Change in Freight and Passenger Traffic on Kosovo Railways 2001-2007**



22. **Making robust traffic forecasts is very difficult currently for the railway sector.** Given the uncertainties surrounding the viability of future operations and the increased preference from users for road transport, it is highly unlikely that any significant increases in the modal share split for the railway sector are likely in the short-to-medium term. Nevertheless, KR is trying to expand its passenger services: the line Pristina-Skopje was opened with a service priced to be cheaper than the alternative bus service; and plans are also underway to launch commercial passenger services to Peja. KR is also exploring the feasibility of operating an airport express train for the Pristina Airport.

23. **The situation is more optimistic in the rail freight sector tied to the resumption of the extractive industries.** For freight traffic, any significant increases in volumes will be highly dependent on the reopening of mining facilities in the region. Related to this is the privatization and reopening of Ferronikeli (as discussed above) that is expected to generate a four-fold increase in related freight traffic volumes. In addition, the potential for further reopening of old, but still viable extractive and basic industries is large, with an associated impact on freight volumes.

## 1.5 THE INSTITUTIONAL FRAMEWORK REMAINS WEAK

24. **There is currently no coherent policy or strategy to guide the development of the transport sector in Kosovo.** In a context of conflicting demands both within and across the sub-sectors and finite resources on the part of the authorities, determining priorities needs to be carefully considered within the context of a Sector Wide Strategy and Policy, agreed in dialogue with all stakeholders. Such a document would consider carefully the tradeoffs both within and cross the different sub-sectors, and produce an investment plan, reflective of both current and future demand on all modes, but also consistent with the fiscal envelope available to the Governments. The European Commission, via the European Agency for Reconstruction (EAR), is now funding the preparation of a comprehensive Multi-Modal Transport Sector Policy and Strategy. The first draft should be ready in the late summer of 2008.

25. **The Law on Roads correctly classifies public roads by function as: main roads, regional roads, local roads and residential roads.** Main roads are described as the public roads connecting major cities and also possibly serving as linkages to neighboring countries. Regional roads are defined as those connecting two or more major cities. Local roads are those connecting residential areas inside municipalities. The status of main roads and regional roads is not affected even when they cross urban areas. Outside of the public roads are the “uncategorized roads” which are owned by citizens or groups of citizens and outside the responsibility of the Ministry/Government. While the current classification within the Law is clear, the categorization of each

road is not, and often does not reflect the current usage, or function, of the road. A comprehensive inventory of the current road network is required, followed by an update of the length of road in each category. The MTC is proposing to undertake this exercise from their own resources.

26. **There are no consistent design and construction standards being used in Kosovo currently.** The current design standards used in the road sector are based on the old Yugoslav standards. New Design Standards for Road and Bridge Works, to harmonize with EU requirements and best international practice, were prepared in 2004, with support from the European Commission, via the European Agency for Reconstruction. However, the revised standards await formal approval by the Standards Agency. The result is that uniformity in application and quality remains an aspiration for all works on the network at this time.

27. **The Law on Road Safety was approved by the Kosovo Assembly in January 2008 and is awaiting promulgation.** In March 2007, an inter-ministerial working group on road safety was established and meets regularly, but there is currently no lead agency or Inter-Ministerial Road Safety Council to guide interventions. The new law allows for the establishment of a Road Safety Council (RSC) but it provides only limited information on the role, responsibility, composition and working arrangements for the RSC. There is a working group established in the MTC to identify and address 'accident blackspots' but a lack of reliable trend data on the location of accidents makes such a task difficult at this time.

28. Accordingly, the MTC are proposing to adopt, with the support of the World Bank, a Network Safety Approach, involving the risk mapping and safety rating of a large portion of the network to identify those links/locations with the highest risk of accidents to achieve the greatest benefit for any safety investment. A visual inspection of a large part of the primary network has already been conducted, and investment is expected to commence in budget year 2008 to start addressing the most egregious safety hazards. In addition, the use of risk auditing of all designs, and further risk inspections, will significantly improve the safety conditions on the network.

29. **The Land Expropriation Law was passed by the Assembly but remains to be tested.** The acquisition of land is an extremely important factor in the upgrading or development of highway construction projects, whether funded by public investment or by private finance. Kosovo's ability to improve the coverage and quality of infrastructure and to sustain those improvements, given the limitations imposed by fiscal constraints, will require a greater involvement of Kosovo authorities so that the private sector can gain confidence and can compete to finance, build or operate some of the infrastructure.

30. **The policy and regulatory framework for the railway sector also awaits clarification, as the mode and sector currently remains a 'reserved function.'** Based on the Constitutional Framework for Kosovo, the MTC does not currently have authority over the sector. There is currently no railway law, harmonized with the relevant European Union Directives. Kosovo Railways was incorporated as a joint stock company in 2005 to manage the railway infrastructure and operate both passenger and freight services in Kosovo. For planning purposes, it has prepared its own Business Plan. A recent analysis on the institutional framework in the railways sector has recognized the need to separate KR into an infrastructure division owned by the state and a transport division to be privatized in line with EU norms in the sector.<sup>24</sup> MTC is committed to developing the institutional framework for Kosovo Railways.

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<sup>24</sup> East West Consulting, Technical Assistance to Kosovo Development Plan and Strategy: Review of Sector Strategies (2007).

31. **Pristina International Airport (PIA) is still not licensed by the international civil aviation organization (ICAO).** A holding company was established as a Joint Stock Company in June 2005, entirely owned by the Kosovo Trust Agency (KTA), which took over the old liabilities, together with the assets and the operating liabilities, of the former publicly owned airport. A further JSC (Pristina International Airport JSC) was established one week later, endowed with the assets and the current operating liabilities, with 100 percent of the shares owned by the Holding Company. The intention is that the old liabilities now held by the latter would be repaid from dividends paid from the former. The current temporary/provisional operating license for the airport is issued by the Iceland Civil Aviation Authority, for which the airport pays Euro 4 million per annum. After responsibility for the sector has been passed back to the MTC, assuming that the airport meets the necessary criteria, a permanent license would be issued by an appropriate domestic regulatory body at considerably lower cost (the Kosovo Civil Aviation Regulatory Organization which is currently being established).

32. **Kosovo has signed onto the agreement that established the European Common Aviation Area (ECAA).**<sup>25</sup> The ECAA agreement is an extension of the Single European Sky under the umbrella “Single Sky *acquis*”. Implementation of the first phase of this agreement is currently underway. The Civil Aviation Regulatory Office for Kosovo (CARO) has drafted an Administrative Direction on insurance requirements for air carriers and aircraft operators. CARO has also submitted to UNMIK for approval an Aviation Security Training Program and an Aviation Security Quality Control Program for Kosovo. Both documents are in line with the *acquis* and with the European Civil Aviation Conference (ECAC) Document 30. CARO has also submitted a draft amendment on passengers' rights legislation. In March 2007, the Ministry of Transport and Communications established a working group to coordinate the work of external experts on drafting Civil Aviation legislation in cooperation with CARO and UNMIK Pillar IV. This legislation establishes the Kosovo Civil Aviation Authority and covers all areas of civil aviation activity in Kosovo in accordance with EU legislation.

## **1.6 THE SECTOR ORGANIZATIONS NEED FURTHER STRENGTHENING**

33. **In 2002, with the creation of the Provisional Institutions of Self Government (PISG), many transport sector functions were transferred from UNMIK.** These were split between the Ministry of Transport and Post-Telecommunication (MTC) and the municipalities. The MTC is the state authority in charge of road, railway, sea, river, air and combined transportation. More specifically, it has prerogatives over the policies and plans in the sector. Under provisions in the Law on Roads, the MTC is the public road authority for main and regional roads while the municipalities are the public road authority for local roads and residential roads. The MTC is also in charge of the categorization of all public roads and is obliged to maintain a register of the same.

34. **An endemic problem, despite improvements, is the limitation in the number and quality of human resources in the organizations of the sector.** The risk is that the proposed increase in capital expenditures in the sector, and the associated increase in recurrent expenditures, will not be fully expended due to capacity problems in the public sector bodies. A second and related problem is that limitations in public sector salaries, and the current constraint on hiring, means that suitable staff is simply unavailable to benefit from the currently modest levels of technical assistance and capacity building being provided to the sector. A significant

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25 The ECAA agreement was signed on 20 December 2005 with all the SEE beneficiaries as partners. It commits the signatories to progress convergence of their national aviation safety, regulatory and security standards to EU best practice. Support under the Instrument for Pre-accession (IPA) funding is anticipated for further work in this area.

increase in the provision of technical assistance without the freedom to hire suitable recipients will undermine the value of any future technical assistance.

35. **The Government of Kosovo recognizes the problems and has developed plans to address the potential implementation weaknesses.**<sup>26</sup> Firstly, an Action Plan has been developed to draft Terms of Reference for a “Quick Gains Study” and plans have been developed for a Government Task Force to work with the Public Procurement Agency to implement measures that will streamline procurement procedures, without comprising quality. Secondly, the MTC will take additional steps to ensure that budget funds are expended effectively and efficiently, by the following actions: (i) Tendering large, multi – year projects to a single internationally – qualified contractor; (ii) Providing Procurement Law Training to all MTC Project Managers; (iii) Providing Project Management Training to all MTC Project Managers; and (iv) hiring an international firm of consultants to act as supervising consultants for major civil works in the road sector.

36. **The Department of Road Infrastructure (DRI) under the Ministry of Transport and Post-Telecommunications (MTC) is responsible for the development of road strategy, management of budgets and issuing contracts for maintenance and development.** Supervision of works is undertaken by an implementing agency, the Directorate of Roads (DoR)<sup>27</sup>. Under the provisions of Administrative Instruction no. 4 (AI. 4), the DoR exercises its competences under the supervision of the DRI. The DoR is also responsible for preparing annual maintenance plans, collecting data on traffic and road safety, checking overloading and advising the municipalities on road management. The funding of the maintenance of the main network is an allocation to the MTC by the Ministry of Finance and the Economy (MFE) from the Kosovo Consolidated Budget (KCB). One peculiarity in the setup is that the contract management function is held by a special procurement department in the MTC and not by the DoR or DRI.<sup>28</sup>

37. **There is little consistent use of a robust Asset Management System.** Whilst significant progress was made during the 2006 budget process in the systematic use of economic analysis to evaluate investment projects, the use of asset management approaches in the transport sector remain limited. There is little regular monitoring of the condition of the infrastructure, although the measurement and incorporation of traffic volumes has started with the recent procurement of mobile and fixed traffic counters. In addition, technical assistance has facilitated the preparation of a network analysis to identify the rehabilitation priorities on the network, but the operational and institutional processes necessary to utilize this system consistently in future remain to be established.

38. **Whereas over three-quarters of the road network is under the responsibility of the municipalities, limited resources prevent them from fulfilling their responsibilities.** Municipalities receive a general grant from the KCB to cover a wide range of functions. Competing priorities for these funds exist among sectors; and within the infrastructure needs as a choice between capital or recurrent expenditures. At the local level, the end result is usually that maintenance loses out in favor of other sectors or in favor of new construction. There are also problems with capacity at the local level, mainly in terms of technical capabilities and financial planning. The MTC is commencing a significant program of capital works in 2008,<sup>29</sup> co-financed with the municipalities, to begin to improve the condition of the local road network, but sustainability remains an issue.

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<sup>26</sup> MTC (2008) Submission to the MTEF 2009-2011 – Draft.

<sup>27</sup> World Bank (2006), *Kosovo Public Expenditure & Institutional Review*: Transport Chapter.

<sup>28</sup> ECORYS, (2007) *Strengthening the financial sustainability of the road sector in Kosovo*.

<sup>29</sup> The 2008 budget allocation is €17.2 million.

39. **Capacity is also still weak in determining the appropriate priorities and types of interventions on maintaining the road network.** In the face of constrained resources, the need for the use of robust asset management systems and economic decision models is critical. This is to ensure that the funds are spent most effectively on those parts of the road network from which the greatest economic returns can be gained. The efforts to augment the Road Information Database and HDM-4 usage for the main and regional roads should be supported and followed through<sup>30</sup>. All related systems for collection of data including road condition surveys and traffic counting should be built into the whole planning process. On the local road network, similar efforts are needed but in a simplified manner.

40. **Kosovo Railways (KR) is the company that manages the railway infrastructure in Kosovo and operates both passenger and freight services on a commercial basis.** KR is a vertically integrated company headed by a Director General and governed by a Board of Directors. The Board has eight members: two from the KTA, two from management, one from UNMIK and three nominated by the PISG. KR was listed as one of the least productive railway companies in the SEE region. The company suffers from among other factors: the collapse of bulk traffic volumes following the conflict, the atomization of the former Yugoslav Railways and the fierce competition for passenger traffic from road transport. The main problems in the railways sector include old rolling stock, low level infrastructure, lack of finances for maintenance and modernization, and intense competition from the road sector that render the sector unviable on many fronts.

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<sup>30</sup> Current efforts in this regard include the consultancy services by BCEOM/DAVOS Invest to strengthen the Road Information Database and HDM-4 under MTC.

## 2 THE DEVELOPMENT OF THE TRANSPORT SECTOR

### 2.1 THE VISION FOR THE DEVELOPMENT OF THE TRANSPORT SECTOR

41. **The vision for the development of the transport sector in Kosovo has been expressed in the MTEF and the KDSP as the following:** “An integrated multimodal system of transport (road, railway and air) which is safe and accurate, sustainable, safe for environment and economic, and it will provide transport services of high quality for all users.”<sup>31</sup>

42. The recent submission of the MTC to the MTEF 2009-2011<sup>32</sup> identified the following four strategic initiatives/goals that derive from that Vision:

- (i) Integrate Kosovo’s transport infrastructure into the regional core network;
- (ii) Reduce transport costs;
- (iii) Maintaining and improving the current road network; and
- (iv) Enhance roadway safety.

43. **Other important interventions that are considered important or are directly related to the successful implementation of the main priorities above include:** (i) Strengthening the institutional framework for the operation of the transport sector, to ensure consistent with EU requirements, and effective and efficient organizations in the sector; (ii) Strengthen the institutional framework to facilitate the introduction of private finance in the transport sector; (iii) Develop a trained and effective cadre of public servants to ensure the effective and efficient functioning of the organizations of the sector; and (iv) continue the reform and undertaken necessary investments in the railway network and rolling stock, where justified by current or projected demand.

### 2.2 ENSURING SUFFICIENT MAINTENANCE AND CLEARING THE BACKLOG

44. **The annual expenditures necessary to address the maintenance backlog on the road network, including bridges, over the next five years is estimated at €117 million or about 2.8 percent of 2007 GDP.** The removal of the maintenance backlog is generally seen to be one of the first priorities in any transition economy, and empirical evidence shows that, on average, the economic returns to rehabilitation and reconstruction are generally higher than those appertaining to new construction. For magistral and regional roads, expenditure to clear the maintenance backlog is estimated at €2 million per year for 2009 and 2010, before declining to €8 million in 2011, €1 million for routine and winter maintenance, together with a further €9 million per year for periodic maintenance (see Table 2), reflecting the fact that the majority of those sub-networks are in a fair or good condition. These estimates reflect actual priorities on the networks, estimated by undertaking a network analysis using the information in the Road Database (The results of this exercise, the list of priority sections, the traffic level by section, the required investment and the benefits from the investment, are presented in Annex E).

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<sup>31</sup> Macroeconomic Unit, Ministry of Economy and Finance, *Medium Term Expenditure Framework, 2008 – 2010*, p. 23.

<sup>32</sup> MTC (2008) Submission to the MTEF 2009-2011 – Draft.

45. **These sums exclude the amount required for clearing the backlog of maintenance on bridges and the cost of paving key regional roads.** The former is estimated to amount to €5 million per year,<sup>33</sup> and the latter will require €5 million per year for 2009 and 2010, and €4 million in 2012. The priority sections for paving, the investment cost per section, and the estimated economic benefits, are summarized in the table in Annex F. For local roads, the expenditure required to clear the maintenance backlog is estimated at €1 million per year, €7 million for routine and winter maintenance, together with a further €5 million for periodic maintenance.

46. **The actual allocation in 2007 for normal maintenance was €11.5, below the amount required.** The 2007 allocation also included €24 million for ongoing capital projects, which were started the previous year. The total 2008 allocation is €111 million, comprising €62 million in ongoing capital projects, €3.7 million for the rehabilitation of bridges, €3.0 million for a program of horizontal and vertical signage, €17.2 million for the co-funding program with the local governments, primarily for capital investment, and €13.5 million for new investment. The planned allocation for normal maintenance remains at €1.5 million.

**Table 2: Estimated Annual Maintenance Expenditure Needs on the Road Network 2009-2013 (€ million, 2007 prices)**

	2009	2010	2011	2012	2013
<b>Addressing backlog Maintenance</b>					
Magistral/Regional Roads	12	12	8	4	4
Bridges on Magistral/Regional Roads	5	5	5	5	5
Local Roads	11	11	11	10	9
<b>Normal Maintenance</b>					
<b>Magistral/Regional Roads</b>					
Routine/Winter Maintenance	11	11	11	11	11
Scheduled Periodic Maintenance	9	9	9	8	8
Paving of Unpaved Regional Roads	5	5	4	-	-
<b>Local Roads</b>					
Routine/Winter Maintenance	7	7	7	7	7
Scheduled Periodic Maintenance	5	5	5	5	5
<b>Total</b>	<b>65</b>	<b>65</b>	<b>60</b>	<b>50</b>	<b>49</b>
The following assumptions were made for backlog maintenance estimation: For magistral and regional roads, it is based on the priorities identified from a network analysis conducted using HDM4 – the results of which are presented in Annex E. The priority regional roads for paving are identified in the table in Annex F. For local roads, only roads in poor condition are rehabilitated. All unit cost are based on actual empirical data from the region.					

### 2.3 IMPROVING INTEGRATION WITH THE REGIONAL TRANSPORT NETWORK

47. **The main priority of the Government in the sector is the upgrading of the two SEETO Core Routes 6 and 7 through Kosovo (with the primary emphasis on the Route 7**

<sup>33</sup> The MTC is planning to hire consultants to survey all bridges and calculate a more certain estimate of the scale of backlog maintenance on the 300 bridges on the magistral and regional network.



**project).** The long term objective is the construction of a new road to full motorway standard on both routes, in the latter case, linking the Durres-Morine motorway currently under construction in Albania, and Corridor X, part of the Trans-European Network in Serbia, near the city of Nis. In the former case, linking the FYR of Macedonia with Montenegro.

48. **A feasibility study and environmental assessment was carried out for the Route 6: Montenegro border – Pristina – Blace section and for the Route 7: Vermice – Pristina – Merdara section.** This study<sup>34</sup> recommended a combination of new construction and upgrading along both corridors in a phased implementation over a period commensurate with the resources and fiscal envelope available to the Government. Table 3 provides a breakdown of planned expenditures by the MTC and a provisional implementation schedule for priority sections, for the period 2008-2012. The proposed approach involves the construction of a full motorway on Route 7, starting south from Pristina and north from the Albanian border over this period. The most difficult middle section, between Shtime and Suhareke, is to be resurveyed and the detailed design amended to reduce the estimated cost of this 22km section.<sup>35</sup>

**Table 3: Planned Development Expenditures on Magistral Roads 2008-2012 (Eur Mill)**

	2008	2009	2010	2011	2012
<b>Highway Merdare - Morinë - R7</b>					
Construction of Section A1 Morinë - Prizren (18)	11	50	50	50	10
Construction of Section A2 Prizren - Junction North			20	20	15
Construction of Section C Prishtina South - Prishtina North (17)			20	20	30
Construction of Section D Prishtina North - Besi (20)				20	30
Construction of Section E Besi - Merdare (26)					35
<b>Sub-total</b>	<b>11</b>	<b>50</b>	<b>90</b>	<b>110</b>	<b>120</b>
<b>Highway Prishtina - Ferizaj - R6</b>					
Construction of Section A Prishtina South - Junction to Ferizaj (23)	18	30	30	30	
Construction of Section B Junction to Ferizaj - Doganaj (12)					30
Construction of Section C Doganaj - Kaçanik (35)					30
<b>Sub-total</b>	<b>18</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>60</b>
<b>Upgrading of Magistral Road M9 Prishtina - Peja</b>					
Upgrade of Road Prishtina - Peja Section Prishtina - Airport		20			
Upgrade of Road Prishtina - Peja Section Airport - Arllat			20	20	
<b>Sub-total</b>		<b>20</b>	<b>20</b>	<b>20</b>	<b>0</b>
<b>Grand Total</b>	<b>28</b>	<b>100</b>	<b>140</b>	<b>160</b>	<b>180</b>

Source: MTC, Pristina

49. **Due to the high cost of investment in the two main axes, a study was conducted last year to establish the viability of PPP participation in Kosovo**<sup>36</sup>. A summary of the conclusions from the study are: (i) there was no evidence that tolling was an option for Kosovo at this time, given the relatively low state of economic development and the low traffic volumes on much of the route; (ii) the institutional framework was sufficiently weak as to make a large PPP unlikely in the medium term, and that certain essential actions are necessary prior to the preparation of a pilot – including, amongst others, the undertaking and completion of an investment grade traffic study, a strengthened PPP framework, a strengthening of the legal framework, and improvements in the rule of law.

<sup>34</sup> COWI (2006) Feasibility Study and Environmental Assessment for Two Main Axes in Kosovo.

<sup>35</sup> Currently, this detailed design for this section includes 5 km of tunnels, and the total cost of the section is Eur 400 million.

<sup>36</sup> COWI (2007).

## 2.4 IMPROVING ROAD SAFETY IN KOSOVO

50. The previous paragraph noted the urgency in undertaking a significant road safety intervention on the existing network. The MTC proposals include, with the support of the World Bank, the undertaking of a Network Risk Analysis and risk rating for the entire road network, with targeted road safety investments on a section or location basis, for those sections/locations that will not be improved within larger rehabilitation or reconstruction schemes. The MTC also wishes to start a program to replace missing vertical signage, and introduce horizontal signage on the magistral and regional network. The estimated budget to allow these important programs to commence is **€5 million** in each budget year of the MTEF.

## 2.5 THE PRIORITIES IN URBAN TRANSPORT

51. With a growing economy and resulting rapid increase in number of vehicles, the average daily traffic on the main roads leading up to Pristina is very high. The key routes linking the north and south of the country such as the M2 and M25; and the key route linking the west, M9 all go through Pristina centre. This causes through traffic to merge with local traffic leading to heavy traffic jams in and around Pristina. The proposed solution was the construction of a ring road around Pristina, but the proposed function of this road and the motorway to be constructed on Route 7 overlap, hence this proposal becomes a long term consideration.

52. However, there are urgent investment needs in the urban sector. The most urgent investments are needed in the area of traffic management and control, capacity building and data collection, road safety, and urban public transport. The provisional estimate of needs is summarized in the following table for the short and medium term.

**Table 4: Summary of short term investment needs in Urban Transport**

Budget Heading	Specific Investment	Cost (Euros million)	Time table for Investment
<b>Traffic management and control</b>	(i) Design of new and improved intersections; (ii) Geometric improvements to intersections; and (iii) Upgrading traffic lights for 15 junctions.	€4.5 million	Short term (1-3 years)
<b>Capacity building and data collection</b>	(i) Develop modern geometric guidelines for roads and intersections; (ii) Develop traffic impact tools; and (iii) Data collection and capacity building.	€1.5 million	Short term (1-3 years)
<b>Improving Road Safety in Major Urban Areas</b>	(i) Introduce traffic calming; (ii) Upgrade accident investigation, reporting and analysis; (iii) Survey on road safety attitudes and perception, together with enforcement and education programs; and (iv) Public Campaigns	€3.0 million	Short term (1-3 years)

<b>Public Transport Infrastructure</b>	(i) Improving bus stop geometry and design; (ii) Identifying and implementing priority road improvements in centres; (iii) Installation of bus priority at all traffic lights; and (iv) Develop a public information centre.	€4.5 million	Short term (1-3 years)
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## 2.6 THE PRIORITIES IN THE RAILWAY SECTOR

53. **In terms of the railway sector, the following projects are considered to be priority projects in the short term (1-3 years):**

- Technical assistance to strengthen the institutional framework, develop the new law on railways and other legislation and establish the railway regulatory body and railway regulatory regime - **€1.5 million;**
- Repair of existing freight wagons - **€2.5 million;**
- Repair of existing locomotives - **€3.5 million;**
- Purchase of new diesel locomotives to replace life expired locomotives in the current fleet - **€6 million;**
- Essential repairs to infrastructure to reduce temporary speed restrictions and safety issues - **€6 million**

54. **The immediate expenditure needs of the railway sector in the short term amounts to some €19.5 million.** Given the current financial performance of the railway sector, further investment in infrastructure and rolling stock beyond this level will be undertaken only when shown to be economically viable, probably in conjunction with the opening/reopening of heavy or extractive industries.

55. **In medium term to long term (4-15 years), the following projects are considered to be suitable projects for capital investment in the railway sector, depending on robust assessment of current or projected traffic:**

- Construction of new locomotives and wagon maintenance workshops - **€3.5 million;**
- Purchase of new freight wagons to service regional freight market - **€9 million;**
- Additional new diesel locomotives to replace life expired locomotives in the current fleet - **€5 million;**
- Purchasing of second hand diesel multiple units for passenger service - **€7 million;**
- A “Vegetables Train Project” to serve the South West Kosova (river Drini I Bardhe) region which is one of the best farmers regions in the Balkans for vegetable products (peppers, tomatoes, water melons, melons, grapes among others). The project would include two new stations (Xerxe and Krusha e Vogel), two storage facilities and associated reparation, signaling and communications equipment for a total of **€3.2 million;**

- A Shuttle motor train from Pristina – Fushe Kosove – Pristina Airport. This would involve setting up a suburban and airport train shuttle service with the aims of combating congestion, reducing road accidents and reducing air pollution. It would necessitate rehabilitation of the railway track from station Bardhi i Madh to Pristina (10 km) and a new track from the entrance to the airport to the airport building for a total of **€3 million; and**
- The rehabilitation of the North – South main line. This would be a joint project running from Lapovo (Serbia) to Fushe Kosove (Kosovo) to Skopje (FYROM). Kosovo component would cost about **€30 million.**

56. **The total upgrading/development needs of the railway sector in the medium to long term are provisionally estimated to amount to some €60.7 million.**

## **2.7 THE PRIORITIES IN THE AVIATION SECTOR**

57. **Plans have also commenced to upgrade Pristina Airport.** A number of priority projects in the aviation sector have recently been implemented at an estimated cost of €8.8 million. These have included the establishing of an Aeronautical Ground Lighting System, a fire-Fighter’s Training Area and an Airport Perimeter Road II/ Parking Gate 4. Further investments in Pristina International Airport can be funded from the revenues of the airport, in conjunction with the development of a concession for the airport. The regulatory regime for the civil aviation sector remains a work in progress, and will need considerably capacity building. **The provisional estimate for the necessary technical assistance is €0.5 million per year over the 2009 to 2011 Budget years.**

### 3 THE EXPENDITURE NEEDS OF THE TRANSPORT SECTOR

#### 3.1 THE SHORT TERM EXPENDITURE REQUIREMENTS

58. The summary of short terms needs in the transport sector is displayed in Table 5 below. The estimates have been compiled on the assumption of a three year time-frame, consistent with the timetable for the Medium Term Expenditure Framework (2009-2011) currently under preparation by the Ministry of Finance. The total cumulative needs over the three year period amounts to an estimated €600 million (or on average about €200 million per year), or 4.8 percent of estimated 2007 GDP each year.

**Table 5: Total Estimated Transport Expenditure Needs (Recurrent and Capital) 2009 to 2011**

Sector	2009	2010	2011	Total (2009-2011)
<b>Road Sector</b>				
<i>Magistral &amp; Regional Roads</i>				
Maintenance – routine and winter	11	11	11	33
Maintenance – scheduled periodic	9	9	9	27
Maintenance backlog - roads	12	12	8	32
Maintenance backlog - bridges	5	5	5	15
Paving of unpaved roads	5	5	4	14
<b>Sub-Total</b>				<b>121</b>
<i>Local Roads</i>				
Maintenance – routine and winter	7	7	7	21
Maintenance – scheduled periodic	5	5	5	15
Maintenance backlog – local roads	11	11	11	33
<b>Sub-Total</b>				<b>69</b>
<i>Upgrading</i>				
Upgrades on the M9	20	20	20	60
<i>New Construction</i>				
SEETO Core Routes 6 and 7 <sup>37</sup>	80	100	120	300
<i>Road Safety</i>				
Network risk analysis/ capacity building	5	5	5	15
<b>Aviation Sector</b>				
Technical Assistance	0.5	0.5	0.5	1.5
<b>Urban Transport Sector</b>				
Traffic management and control	1.5	1.5	1.5	4.5
Capacity building and data collection	0.5	0.5	0.5	1.5
Improving road safety in urban areas	1.0	1.0	1.0	3.0
Improving public transport infrastructure	1.5	1.5	1.5	4.5
<b>Sub-Total</b>				<b>13.5</b>
<b>Railway Sector</b>				
Technical assistance/capacity building	0.5	0.5	0.5	1.5
Repairs to existing rolling stock	2.0	2.0	2.0	6.0
Purchase of new locomotives	2.0	2.0	2.0	6.0
Essential maintenance to track	2.0	2.0	2.0	6.0
<b>Sub-Total</b>				<b>19.5</b>
<b>Grand Total (Estimated Transport Expenditure Needs 2009 to 2011)</b>	<b>181.5</b>	<b>201.5</b>	<b>216.5</b>	<b>599.5</b>

<sup>37</sup> This annual sum includes a notional allocation of 2% for international consultant supervision of civil works.

### 3.2 THE PROPOSED CONTRIBUTION FROM THE BUDGET

59. **The principal sources of revenue in the sector are road user taxes, fees and charges.** In Kosovo, these include: fuel tax revenues, vehicle registration fees and vehicle import duties. As of the year 2006, official records showed fuel tax revenues contributing €104 million (85 percent), vehicle registration fees contributed €14 million (12 percent) and vehicle import duties accounted for €4 million (3 percent) for a total of €122 million. **However, using the historical transport expenditures as a guide, the average total on capital and recurrent spent over the period 2000-06 is €43.96 million, although the 2008 budget allocation is €111 million.** The realization of the expenditure plans of this scale will require a significant increase in the allocation from the budget, together with additional contributions from multi-lateral or bi-lateral donors. The availability of the monies does not imply that they can be expended, and the capacity constraints discussed earlier, represent a major impediment to these plans.

### 3.3 HOW CAN THE GAP BE FILLED?

60. Proposals for filling the financing gap include:

- (i) Exploring options for changing the scale or structure of road user charges;<sup>38</sup>
- (ii) Investigating possibilities for private sector financing in the form of Public-Private-Partnerships (PPPs);
- (iii) Exploring options for introducing charges on foreign registered trucks (charge of €20 per vehicle per day);and
- (iv) Loans or grants from multi-lateral or bi-lateral donors.

61. **Recent technical assistance, provided by the World Bank, has examined the options for increasing fuel taxation,** and introducing charges of foreign registered trucks, and these proposals are currently being considered by a joint working group of MTC and MOF representatives to consider and implement the proposals. At November 2006 prices, the Kosovo price of petrol per liter was US\$€7 below the benchmark while the price of diesel per liter was US\$€5 above the benchmark<sup>39</sup>. For the local road network needs, in addition to exploring options for parking charges (which are only feasible in the urbanized localities), possibilities could also be explored to establish extra sources of funding at the municipal level. These could relate to property taxes and roadside use taxation among other options.

62. **The possibility of attracting private finance is solution for the medium to long term.** All efforts to build an enabling legal, administrative, judicial, and stable political and economic framework ought to be pursued to make this a reality. Whilst the recent PPIAF funded work for the two main axes (Route 6 and 7) offers a solid start, the conclusions of that work clearly indicate that the expectation that significant amounts of private finance might be generated for investment in the highway network is premature at this time.

63. **Due to the large amounts of financing required, grants and loans will be an essential part of the financing plan.** These could be from the European Community (through the IPA funding instruments), supportive governments and International Financial Institutions. This help

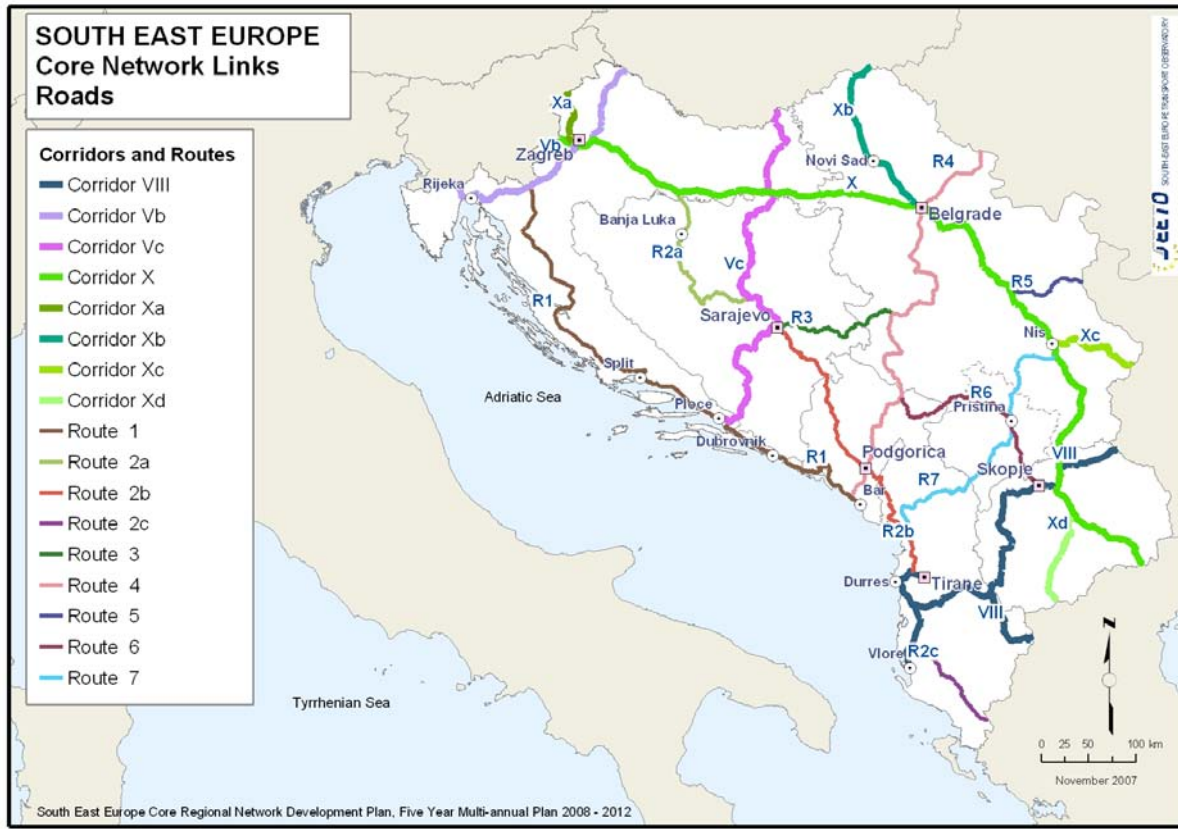
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<sup>38</sup> The Roughton study of 2004 recommended an increase of €1 per litre on petrol and €6 per litre on diesel); and more realistic updates may need to be derived.

<sup>39</sup> GTZ International Fuel Prices 2007 (2007)

can be direct financial support, technical assistance or even provision of guarantees in infrastructure projects where private investors feel the need for extra cover.

## Annex A – Map of the SEETO Core Road Network





Annex B – Map of Route 6 and Route 7 in Kosovo

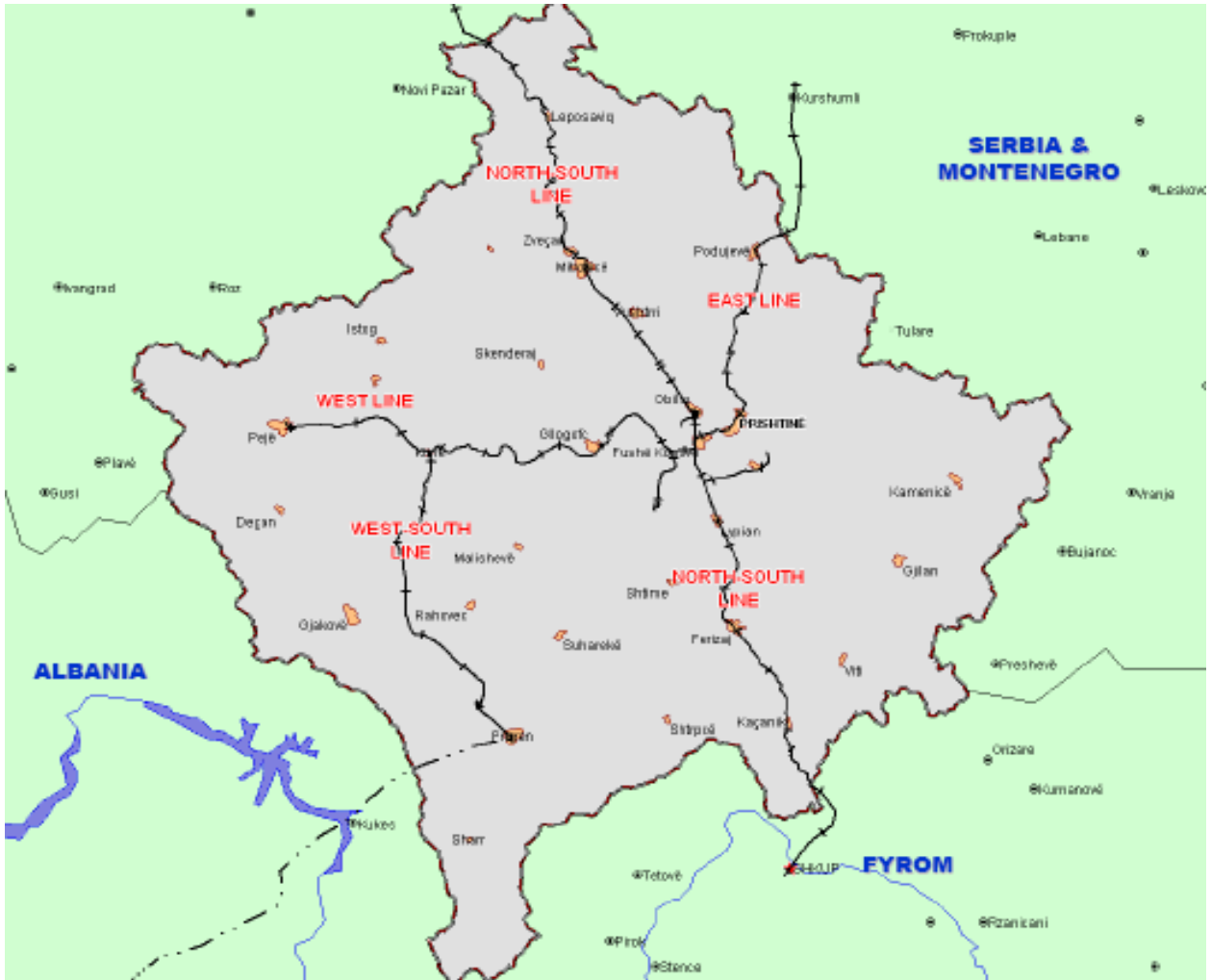
Figure 3: SEETO Core Road Network Routes in Kosovo



Source: COWI (2006)

Annex C – Map of rail network in Kosovo

Figure 4: Railway Network in Kosovo



Source: MTC/UNMIK

## Annex D – Map of road network in Kosovo



**Annex E – Priority Sections of Magistral and Regional Roads for Periodic Maintenance, Current traffic (AADT), Proposed Interventions, Estimated Economic Returns (NPV and IRR) and Cost (€mill)**

<b>Section</b>	<b>Length</b>	<b>AADT</b>	<b>Work Description</b>	<b>NPV/CAP</b>	<b>IRR</b>	<b>Costs (€Mill)</b>
Portion Mitrovicë-Mitrovicë	10.8	14676	OL10	42.0	194.8	0.9
Portion Llapllasellë-Lipjan	6.2	9730	OL5	32.8	158.0	0.3
Portion Vushtrri-Mitrovicë	1.0	17235	OL12	31.8	170.5	0.1
Lipjan-Hani i ri	5.2	9730	OL5	29.4	147.5	0.2
Hani i ri - Shtime	5.4	9730	OL7	26.4	164.7	0.3
Llapllasellë-Çagllavicë	7.7	23343	OL12	19.1	106.5	0.8
Shtime-Caralevë	7.1	6167	MR5	18.2	129.8	0.4
Portion Skënderaj-Klinë e Epërme	7.4	6167	OL7	18.2	123.6	0.4
Portion Arllat-Kijevë	12.0	20538	RECO2	12.3	88.6	1.7
Portion Kijevë-Gremnik	12.0	20538	OL12	9.0	73.5	1.3
Portion Mitrovicë-Zupq	12.4	2852	INLAY 10%	7.9	107.1	0.1
Shkabaj(Orloviq)-Milloshevë	5.7	17235	OL10	7.1	67.0	0.5
Milloshevë-Babimovc	3.7	17235	OL10	7.0	66.3	0.3
Babush-Llapllasellë	11.9	13616	OL10	6.7	54.3	0.9
Prizren-Landovicë	7.3	8927	OL10	6.5	62.7	0.6
Portion Mitrovicë-Klinë e Epërme	15.0	3920	OL7	6.4	64.8	0.8
Prishtinë-Shkabaj (Orloviç)	3.2	17235	OL10	6.3	73.6	0.3
Komarar-Arllat	6.0	20538	RECO2	5.9	67.0	0.8
Doganaj-Gërllicë	4.5	8998	OL10	5.7	56.6	0.3
Fushë Kosovë-Sllatinë e Madhe	7.6	20538	OL12	5.5	71.9	0.7
Sopi-Prizren	13.0	9913	OL7	5.4	50.6	0.7
Prishtinë-Fushë Kosovë	4.6	20538	OL10	5.4	59.1	0.4
Portion Gjakovë-Rastavicë	12.3	8103	OL10	4.7	59.6	0.9
Portion Zajm-Pejë	33.1	7667	OL7	4.5	48.2	2.0
Portion Lipjan-Lipjan	5.0	6618	OL7	4.4	48.6	0.3
Xërxë-Bishtazhin	3.8	8927	OL10	4.3	51.0	0.3
Besi-Milloshevë	5.5	8378	OL10	4.1	50.3	0.4
Portion Ferizaj-Kllokot	17.4	7421	OL10	4.0	44.5	1.2
Portion Runikë-Rakoshë	7.3	3670	MR5	4.0	47.7	0.3
Portion Gjilan-Muqibabë	13.6	1999	MR4	3.9	59.0	0.5
Portion Raushiq-Pejë	5.9	8103	OL10	3.9	49.8	0.4
Caralevë - Duhël	8.9	6167	OL7	3.9	52.5	0.5
Portion Shtime-Ferizaj	11.0	7421	OL10	3.9	45.1	0.8
Portion Deçan-Raushiq	9.0	8103	OL10	3.9	49.1	0.6
Portion Rastavicë-Deçan	4.3	8103	OL10	3.7	47.3	0.3
Duhël-Suharekë	7.6	6167	OL7	3.6	55.1	0.4
Gremnik-Kramovik	13.7	3732	MR5	3.3	39.8	0.7
Rahovec-Xërxë	7.3	5281	OL7	3.2	41.9	0.4
Portion Klinë-Zallq	10.0	4176	OL10	3.2	45.3	0.7
Portion R123-R124	2.0	7234	OL10	3.2	41.6	0.1
Suharekë-Sopi	2.7	9913	RECO2	3.1	60.2	0.3
Portion Pejë-Rugova	20.8	2924	MR5	2.8	39.0	0.9
Portion Gjilan-R123	17.0	7234	OL10	2.8	43.0	1.2

Portion Bajqinë-Kerpimeh	4.8	3007	MR5	2.7	37.6	0.2
Portion Kllokot-Gjilan	12.1	7421	RECO2	2.6	39.1	1.4
Çagllavicë-Mramor	15.7	4742	OL7	2.4	34.7	0.8
Arllat-Malishevë	12.6	5281	RECO2	2.3	38.1	1.4
Portion R124-Konçul	1.5	7234	RECO2	2.3	39.1	0.2
Malishevë-Rahovec	17.5	5281	RECO2	2.0	35.1	2.0
Podujevë1-Podujevë2	1.2	2024	RECO1	1.9	36.8	0.1
Sopi-Mushtishtë	8.6	2519	RECO1	1.9	37.5	0.5
Portion Gjonaj-Kuzhnin	15.0	2071	RECO1	1.5	28.5	1.0
Vushtrri-Bukosh	4.0	1114	RECO1	1.4	33.9	0.2
Portion Duhël-Malishevë	15.7	5281	RECO2	1.2	30.9	1.8
<b>Total</b>						<b>35.3</b>

**Annex F – Priority Sections of Regional Road Network for Paving, Estimated Economic Returns (NPV and IRR) and Cost (€mill)**

<b>Specific Section for Paving</b>	<b>Length (km)</b>	<b>NPV/C</b>	<b>IRR</b>	<b>Cost (€mill)</b>
Lumbardh-Jabllanicë	13.3	12.8	130.9	1.0
Bukosh-Polac	20.0	8.0	79.0	1.4
Portion Busavatë-Kamenice	11.1	6.3	64.5	0.8
Portion Kaçanoll-Bajqinë	7.7	5.5	60.0	0.6
Portion Nerodime-Jezerc	3.9	5.2	59.5	0.3
Portion Kijevë-Ujmir	7.5	5.1	59.5	0.5
Portion Samadrexhë-Llapashticë	6.0	5.1	54.8	0.4
Portion Frashër-Llamarina	4.5	3.1	39.2	0.3
Portion Gadimja e Eperme-Bresalc	15.9	1.7	28.6	1.1
Portion Osojan-Dren	13.3	1.7	29.8	1.0
Portion pollatë-Reçicë	18.4	1.7	28.2	1.3
Portion Dren-Zubin Potok	12.1	1.6	27.5	0.9
Portion Zubin Potok-Zubin Potok	14.7	1.6	27.5	1.1
Orllan-Bervenik	6.5	1.3	24.4	0.5
Shipashnicë-Tersten	13.6	1.1	23.5	1.0
Kamenice-Tugjec	10.8	1.0	22.0	0.8
Caralevë-Ura (lumi) në Shalë	8.3	0.7	19.3	0.6
<b>Total</b>				13.5