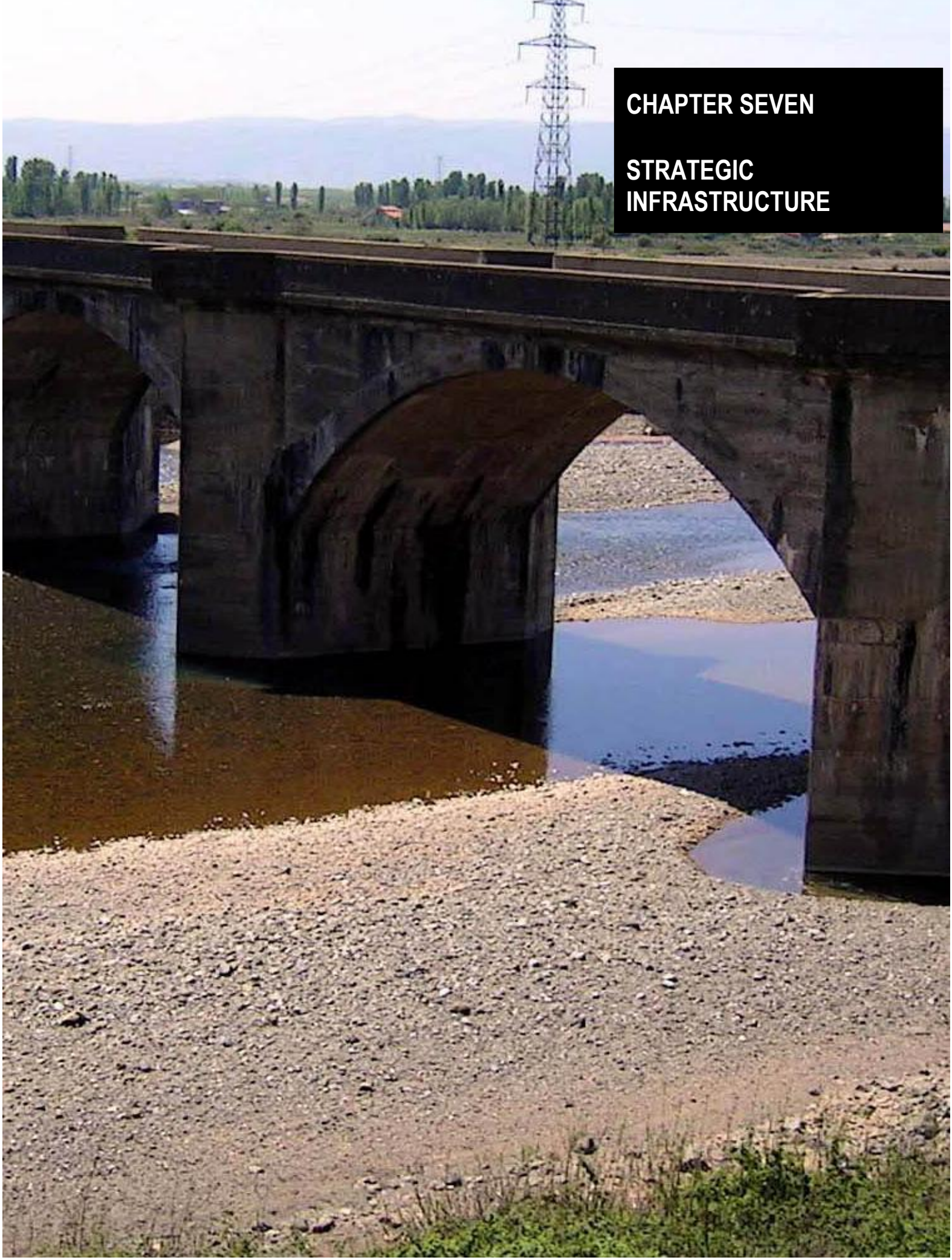

CHAPTER SEVEN

STRATEGIC INFRASTRUCTURE

CHAPTER SEVEN

STRATEGIC INFRASTRUCTURE

7.1 INTRODUCTION

This chapter discusses strategic infrastructure projects, covering water supply, sewerage, power, major roads and public transport. By 'strategic' we mean primary and secondary systems. The tertiary (or local) systems are covered in Chapter 6, (as part of the land delivery topic.) However, Chapter 6 deals only with new development areas, and the investment for upgrading of existing areas is covered by some of the projects scheduled here.

7.2 WATER SUPPLY AND SEWERAGE INFRASTRUCTURE

7.2.1 Summary

This stet considers the current structure of the water supply and sewerage systems within the development corridor of the planning area; the future need for expanded and upgraded water supply and sewerage systems to address the development and environmental concerns of this area; and the institutional issues that should be considered in working toward increasing the reliability and cost efficiency of this strategic infrastructure.

7.2.2 Description of the Water Supply Systems

Generally, in underdeveloped and developing countries, water supply and sewerage systems are fairly localized operational entities under the direct control of local government. In more sparsely populated areas, this is particularly true. The study area has a mix of urban systems, urban/peri-urban systems, and rural systems.

The Table 7.1 presents a tabulation of the systems in the development corridor of the planning area, with some specific data on each system. The systems under consideration in this section extend from the Lezhe system in the south through to the Malesi e Madhe systems in the north and eastward to include Vau i Dejes in the east of the planning area.

The more rural and mountainous planning area to the east of this development corridor, which includes the municipalities of Rreshen, Rubik, Puke, and Fushe Arrez, as well as a number of communes, is not addressed specifically in this section, since little or no growth is forecasted to occur in these areas. In the foreseeable future, it is expected that a portion of the local populations in these areas will continue to migrate either toward the west and the development corridor under consideration, or toward the capital region of Tirana.

In these more mountainous municipalities and communes in the eastern part of the overall planning area, it can be stated that there are sufficient developed water supply sources, largely operating as gravity systems, and that the nature of any future necessary investment would be more for rehabilitation and upgrade, rather than expansion for growth and development.

As supported by the data presented in Table 7.1, only 59% of the population in what has been identified the development corridor of the planning area receive water supply services. If this area is to develop as proposed, there will be a need for a higher level of water supply service coverage. A service coverage figure more like 80-85% of this area might be more appropriate.

Particular attention must be given to the future seasonal demand for water supply service in the two beach areas of Shengjin, which is part of the Lezhe system, and Velipoja, which is served by the local government.

Relative to ground storage reservoirs, the development corridor of the planning area has nearly 20 hours of average daily demand storage capacity, which is more than sufficient, with the normal standards for the industry at 8 to 12 hours.

7.2.3 Current Water Resources and Supply Source Development

It can be generally stated that there is no lack of water resources within the planning area, although there are locations where there is a need to access and supply an additional quantity of water to the public in the planning area.

Table 7.2 summarizes the sources of supply for each of the water supply systems and identifies where additional supply sources are needed.

Considering the population data in Table 7.1, and the stated objective of having 85% of that population receiving a water supply from a formal system, the average safe yield required from the various sources would be approximately 460 liters per second. This calculation is based on a per capita demand, for all categories of customer, of 175 liters per person per day, plus an allowance for real losses (technical losses) of an additional 20%.

As can be seen from the Table 7.2, the planning area has a current safe yield of 1,665 liters per second. As is also demonstrated by Table 7.2, all

Table 7.1

Water Supply Systems in the Development Corridor

System Name	Population	Population Served	Length of Network (kilometers)	Storage Capacity (cubic meters)
Shkoder Water Supply and Sewerage Company	100,000	80,000	220	7,800
Lezhe Water Supply and Sewerage Company	45,000	20,141	63	4,300
Vau i Dejes Water Supply Company	12,600	2,968	34	275
Malesi e Madhe Regional Water Supply Company	35,000	24.500	125	5,200
Bushat Communal Water Supply	21,451	4.068	80	700
Velipoja Communal Water Supply (non-peak season)	9,000	7,300	35	800
Total	**223,051**	**130,977**	**495**	**19,075**

Table 7.2

Sources of Water Supply in the Development Corridor

System Name	Type of Source	Number of Sources	Safe Sustainable Yield (liters/sec)	Future Added Demand (liters/sec)
Shkoder Water Supply and Sewerage Company	wellfield	11 wells	1100	None needed
Lezhe Water Supply and Sewerage Company	wellfield	2 wells	350	None needed
Vau i Dejes Water Supply Company	wellfield	2 wells	100	30
Malesi e Madhe Regional Water Supply Company	Natural Springs	1	60	30
Bushat Communal Water Supply	wellfield	3 wells	30	20
Velipoja Communal Water Supply	wellfield	1 well	25	50
		Total	1,665	130

Table 7.3

Capital Investment Needs for Water Supply

System Name	Nature of Investment (by priorities)	Estimated Cost (Euro million)
Shkoder Water Supply and Sewerage Company	1. Rehabilitation of the main pumping station and construction of a new suction tank (2000m3)	1.25
	2. Rehabilitation of the network, and installation of bulk, zone and consumer meters	2.4
	3. Network extension	15
	4. Remote control of pumping station, wells and network	1.5
	5. Institutional strengthening of the company (new offices, equipment for O&M, hardware & software for billing and collection etc.)	1.0
	Total	**21.15**
Lezhe Water Supply and Sewerage Company	A. Shengjin Commune	
	1. new main transmission	3.0
	2. extension of distribution network	1.5
	3. new additional reservoir by 2.500 m3	0.25
	4. new booster pumping station	0.5
	5. new distribution system for Ishull Shengjin	1.0
	B. Lezhe Municipality	
	6. extension of distribution network for Koder Marlekaj and the southeast quarter of the city	1.0
	7. new additional reservoir by 2000m3.	0.2
	Total	**7.45**
Vau i Dejes Water Supply Company	1. rehabilitation of the existing network	0.2
	2 .network extension	1.2
	3. rehabilitation of the wells and pumping stations	0.4
	4. rehabilitation of the existing 500m3 reservoir for the flat area	0.1
	5. construction of a new spring intake for 30 l/sec	0.3
	Total	**2.2**
Malesi e Madhe Regional Water Supply Company	1. extension of the distribution network	0.8
	2. construction of a new reservoir by 1000m3	0.15
	3. new main transmission	0.5
	4. new additional intake of natural spring for 30l/sec.	0.3
	Total	**1.75**
Bushat Communal Water Supply (for 6 villages)	1. two new wells (10 l/sec each one)	0.2
	2. main transmission	0.6
	3. two pumping stations	0.4
	4. new reservoir of 1000m3	0.15
	5. new distribution network	0.5
	Total	**1.85**
Velipoja Communal Water Supply (for the beach area)	1. five new wells (10 l/sec each one)	0.4
	2. main pumping station	0.4
	3. main transmission	0.6
	4. new distribution network	0.6
	5. new reservoir of 2.500m3	0.3
	Total	**2.3**
	Total Capital Investment	**36.7**

water is not always available for all demands, and therefore there is still a need for some added supply

source development in the smaller and more rural systems totalling 130 liters per second.

7.2.4 Need for Capital Investment in Water Supply Systems

The capital investments needed in the water supply systems within the planning area consist of a combination of upgrade and expansion projects. The nature of the capital investments, on a water supply system basis are presented in Table 7.3 and are presented in priority order.

7.2.5 Summary Description of the Sewerage Systems

Typically, the coverage of sewerage services in a service area is less, as a percentage, then that for water supply, both from a practical standpoint of investment and the options for "on-site" disposal of wastewater by means of cesspools or more formalized septic systems.

Table 7.4 summarizes the current sewerage systems in the development corridor of the planning area.

As supported in Table 7.4, the current sewerage service coverage is approximately 41% of the population in the planning area. As the water supply service coverage increases to the previously targeted 85%, it is reasonable to expect the sewerage service coverage to also increase. A target coverage of sewerage service in the order of 60-65% should be considered for planning purposes.

7.2.6 Need for Capital Investment in Sewerage Systems

The capital investments needed in the sewerage systems within the planning area consist of a combination of upgrade and expansion projects. The nature of the capital investments, on a sewerage system basis, is presented in Table 7.5.

Table 7.4

Sewerage Systems in the Development Corridor

System Name	Population	Population Served	Length of Network (kilometers)	Treatment System
Shkoder Water Supply and Sewerage Company	100,000	65,000	130	No (feasibility study being prepared)
Lezhe Water Supply and Sewerage Company	45,000	20,141	28	No (tender for construction underway)
Vau i Dejes Water Supply Company	12,600	-	-	No
Malesi e Madhe Regional Water Supply Company	35,000	5,000	14	No
Bushat Communal Water Supply	21,451	350	1	No
Velipoja Communal Water Supply	9.000	-	-	No
Total	**223,051**	**90,491**	**173**	

7.3 WATER AND SEWERAGE FINANCIAL IMPACT

7.3.1 Summary Budget

In Table 7.6, we summarise the budget for strategic water and sewerage projects, dividing them into three equal five year projects, awarding top priority to the two cities plus the two coastal resorts.

7.3.2 Capital Investment Cost on Per Capita Basis

One approach in considering capital investment cost planning is to calculate the capital cost per capita for the served population. In this case, the following table presents this costs per capita based on the developed capital cost estimates.

	WATER SUPPLY	SEWERAGE
Estimated Capital Cost (Euro)	39,000,000	31,000,000
Served Population	206,584	104,466
Capital Cost per Capita (Euro per capita)	189	297

Table 7.7 Cost per capita for Water and Sewerage Strategic Projects

The composite capital cost per capita, where both water supply and sewerage services would be received, results in an investment of 486 Euro. If an assumption is made that an average household has 4.5 people, then the cost per household would be 2,187 Euro. Of course, this approach to considering the cost (cost per capita) serves only as a means of developing an indicator, since the capital cost of such investments will ultimately be borne by all categories of users (customers), based on the amount of water consumed, with households being only one portion of that use.

7.3.3 Affordability Impact of Capital Investment

When considering the affordability impact of a long-term capital investment program, as is suggested for water supply and sewerage in the development corridor of the planning area, it is helpful to look at the impact that the capital cost (repayment) would have on the average tariff per cubic meter of water sold. In this case, it is assumed that sewerage costs are recovered along with the water sales, but in proportion to the population served.

The following table presents that factors that are considered in arriving at the average tariff impact. In establishing the data in the table, the capital investment is assumed to be provided as 100% credit at an interest rate of 3% and repaid over 25 years.

The water demand rate of 175 liters per person per day is very reasonable and standard for donor support in the Balkans. It can be expected that as the economy of the region improves that this demand rate will improve providing increased water sales and increased revenues from water and sewer sales. It is also expected that the population being provided sewer services will increase greatly with the new investments and therefore sewer sales revenues will increase thereby lowering the impact of the debt repayment for sewer capital investment.

Population Served	
Water	206,584
Sewer	104,466
Water Sold per Capita (liters per day) (all customer categories)	175
Water Sold per Year (cubic meters)	13,195,553
Sewer Sold per Year (0.8 of water) m3	5,338,213
Annual Loan Payments (Euro)	
Water	2,239,690
Sewer	1,780.260
Impact on Tariff (Euro per cubic meter)	
Water	0.17
Sewer	0.33

Table 7.8 Impact on Water and Sewerage Tariffs

Taking this analysis one step further to consider the impact on a household, we can again consider the assumption of 4.5 people per household and an accepted per capita domestic water demand rate of 80 liters per capita per day. This results in an average household monthly demand of 10.8 cubic meters per month.

For a household with both water supply and sewerage services, and based on the tariff impact in the table above, the debt repayment portion of the monthly household charge would be 5.40 Euro per month or 1.8% of the an average household income of 300 Euro per month. An equal allowance for operations and maintenance costs would suggest that the total cost of water supply and wastewater would be 3.6% of household income, which is well within the upper limit commonly applied by The World Bank of 7% of household income.

7.3 POWER

7.4.1 Power as a National Planning Issue

Electricity supply can only be viewed at the national level, because the regional supply is an integral part of the national system. We have therefore not proposed electricity projects as part of this regional plan.

7.4.2 Scope for a new Hydropower project

As discussed in Chapter 9, a new hydropower project has been considered. This could be a canal adjacent to the main river Drin from Vau Dejes towards Shkoder, yielding a small head and producing about 50 GWh per annum. It would not be appropriate to go into detail about this in a Regional Plan, but it should be noted.

7.4.3 Substations

All electric power supply sources in Albania are inter-connected through the national electric power grid. Electric power from this grid supplies substations ranging from 220 down to 6KV. The power supply in the planning area is distributed from these substations using transformers ranging from 20 to 0.4 KV.

Table 7.9 gives the distribution of the substations in the corridor area.

Table 7.9 Distribution of Substations in the Corridor Area

KESH Branch	Number of Substations
Shkoder	11
Lezhe	2
Lac	4
Malesi e Madhe	5

The power supply from the high voltage substations described in Table 7.9 is largely distributed by aerial lines with a small number by buried cables, up to the medium voltage transformers rated at 6 and 10KV.

Table 7.10 summarizes the annual power consumption by each KESH Branch in the area. The last column of the table shows the annual power consumption, to include the unaccounted-for-power (losses), which range from 30% to 38% of this total amount.

Currently, the Shkodra Branch is undergoing systems upgrades of the distribution system to convert the existing 6 and 10 KV transformers to 20 KV transformers. This upgrade will reduce technical losses by approximately 40% and increase the overall reliability of the system.

The details of investments in electricity sector at national level are given in the final report made on January 2003 by joint venture Companies DECON (Ge) and EDF (Fr). It is the policy of KESH to continue similar upgrades to 20KV transformers in each of the KESH branches in the planning area.

Table 7.10 Power Consumption Summary

KESH Branch	Population	Customers	Power Consumed (MKWh/yr)
Shkoder	186,600	54,000	340
Lezhe	105,095	18,000	180
Malesia e Madhe	55,321	30,000	210

7.4 STRATEGIC ROADS

7.5.1 Project Identification

This section identifies the twenty major investments in regional/national strategic road construction, which are scheduled in Table 7.11. This is based on the Concept Plan in Chapter 3. The priority is shown in the table on the basis that the first priority is likely to contribute most to the economic development of the region as a whole, whilst the second priority will be important for the development of the local area through which the road travels.

7.5.2 Programme 1: Tirana-Lezhe-Shkoder-Podgorica Spine

This route largely exists, but there are several inadequate elements.

- **Shkoder Bypass: (Project R-1)**
  A method of bypassing Shkoder is needed, so that traffic can connect from the existing Lezhe road.to the Hani Hotit-Podgorica road without entering the congested streets of the city.

- **Shkoder-Han i Hotit (Podgorica) link: (Project R-2)**
  The road from Shkoder to the Montenegro border at Hani Hotit is of poor quality relative to the aspirations of the 'PodShkod' concept. This problem will get worse if the Shkoder-Koplik corridor is developed in an unplanned manner, (as we have discussed in Chapter 6.) It is therefore important not only to maintain and widen this road, but also to ensure that adjacent development is not directly accessed from this road, but rather from subsidiary roads linked at widely spaced (e.g. one kilometre) intersections.

- **Shkoder North Link Road: (Project R-3)**
  The main business development land of Shkoder should be accessed from this by-pass (R-1) as well as from the railway. This is the purpose of the proposed 'North Link Road'

which connects the existing and proposed business land to the by pass.

- **Lezhe Western Bypass (Project R-4) and Tunnel (Project R-5)**
  The structural problems of Lezhe (and the congestion they cause) were mentioned in Chapter 6. We proposed a bypass to the north - west linking the Shkoder road near Balldren through the hill to the Tirana road at the existing roundabout. This will also access new development land.

7.5.3 Programme 2: Kosova Corridor

The Kosova-PodShkod corridor projects are identified as follows.

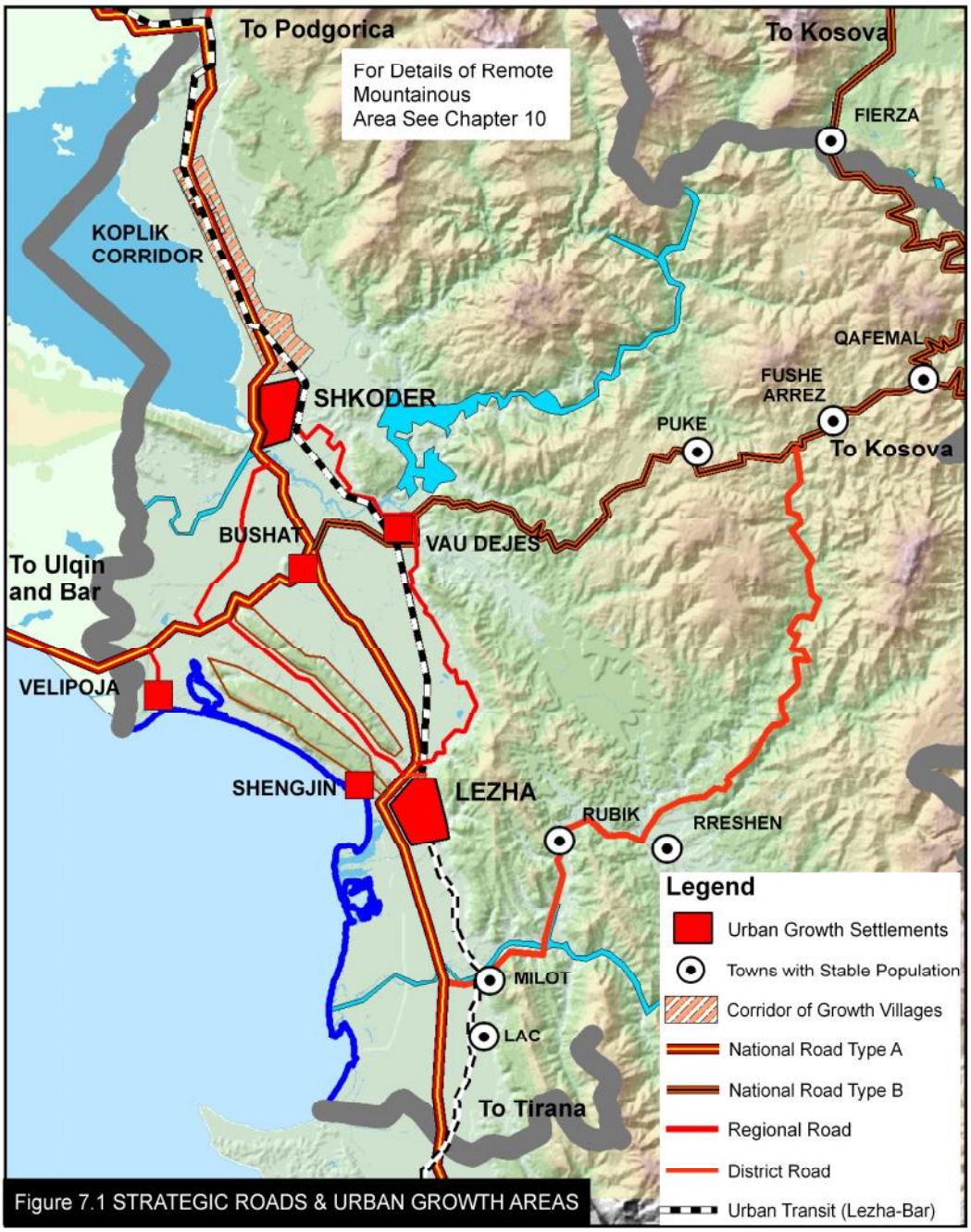

Figure 7.1 STRATEGIC ROADS & URBAN GROWTH AREAS

- **Vau i Dejes Bypass: (Project R-6).**
  The corridor enters the coastal plain at Vau i Dejes, and a bypass road is proposed, which provides access to the planned housing and business land. This is project R-6.

- **Vau i Dejes-Bushat Road: (Project R-7).**
  This is an existing road to be upgraded. It connects both the bypass of Vau i Dejes and Bushat. A roundabout will be needed where it crosses the existing Shkoder-Lezhe road.

- **Bushat Bypass: (Project R-8).**
  As proposed in Chapter 6, the route would follow the west bank of the River Drin around Bushat. This would be new construction.

- **Bushat-Velipoje Road: (Project R-9).**
  This leads from the Bushat bypass to Velipoje, partly along existing roads. It would lead to a new bridge five kilometres north of the coast, with a spur road to the town.

- **Buna Bridge: (Project R-10).**
  This bridge would link to Ulqin and thence to Tivar/Bar in Montenegro.

- **Vau i Dejes-Qafe Mali-Kukes and thence to Prishtina: (Project R-11)**
  This road (via Puke and Fushe Arrez) exists . But it needs radical improvement, including new tunnels, bridges and perhaps snow protection covers. It is included in the National Transport Plan of March 2005.

- **Qafe Mali-Fierze and thence to Bajram Curri, Tropoja and Gjakova: (Project R-12)**
  This is an existing minor road and its function as part of the Kosova corridor will entail major upgrading works. It will integrate the Tropoja region (which is beyond the boundary of this plan) into both the Shkoder-Lezhe region and into Kosova.

- **Milot-Rreshen-Poshqesh-Gjegjan-Fushe Arrez: (Project R-13)**
  This road exists and needs upgrading. This will have an important local access/development function as well as reducing the Durres-Kosova travel time. However, we see this as a lower standard than the PodShkod-Kosova link, and have accorded it lower priority. Within this project we also envisage a spur road via Burrel to Klos, where it would join a Tirana-Klos-Diber-Montenegro strategic road. This passes beyond the Shkoder-Lezhe region, however.

7.5.4 Programme 3: Minor Network within PodShkod

The function of this programme is mainly to enhance local development potential for villages and small towns as regards agribusiness and tourism. A second objective (related to this,) is to relieve congestion in Lezhe and integrate future urban growth areas with the city as a whole.

- **Shengjin Loop Road: (Project R-14)**
  It provides access to existing and planned development at Shengjin in the form of a loop road.

- **District Road Links; Shkoder-Vau i Dejes (Project R-15,) Vau i Dejes-Lezhe (Project R-16;) Lezhe-Velipoje (Project R-17;) Velipoje-Shkoder (Project R-18)**
  These four projects form a 'diamond' shape of minor roads connecting the main villages of the agricultural plain which lies between Lezhe and Shkoder. The purpose is to support the development of agribusiness and rural society. The roads need maintenance and some upgrading in places.

- **Shkoder-Lagjia Iliria Bridge (Project R-19)**
  This is an existing single carriageway steel truss brigde in bad condition linking the city to (a) the road to the border at Muriqan (via several important agriculture villages) and (b) the lakeside road mentioned below, leading to Shiroke and Zogaj. Both roads are in good condition but at a low standard.

- **Lezhe North Bypass (Project R-20)**
  This minor road connects project R-16 to the main Shkoder road and the tunnel entrance, diverting through traffic out of the city centre from the

Table 7.5
Capital Investment Needs for Sewerage Systems in the Development Corridor

System Name	Nature of Investment	Estimated Cost (Euro million)
Shkoder Water Supply and Sewerage Company	1. main collectors	1.0
	2. new collection system for the area of the city not covered by sewerage services	2.0
	3. three booster pumping stations	0.8
	4. rehabilitation of the existing collectors and collection network	0.3
	5. Treatment Plant	7.0
	Subtotal	**11.1**
Lezhe Water Supply and Sewerage Company	1. new collection system for 400 ha on the right bank of the Drini River	1.5
	2. new collection system for Shengjin and b each area	1.5
	3. four buster pumping stations	1.0
	4. rehabilitation of the existing collectors and the collection network	0.4
	Subtotal	**4.4**
Vau i Dejes Water Supply Company	1. new collection system	1.0
	2. main collector	0.5
	3. one buster pumping station	0.3
	4. Treatment Plant (oxidation ponds)	0.4
	Subtotal	**2.2**
Malesi e Madhe Regional Water Supply Company	1. new collection system	1.2
	2. main collector;	0.4
	3. one buster pumping station;	0.3
	4. Conventional Treatment Plant.	2.5
	Subtotal	**4.4**
Bushat Communal Water Supply	Individual septic tanks	No public investment
Velipoja Communal Water Supply (beach area)	1. new collection system	1.5
	2. main collector	0.6
	3. one booster pumping station	0.4
	4. Treatment Plant	1.5
	Subtotal	**4.0**
	Total	**26.1**

Table 7.6
Strategic Water and Sewerage Project Budgets

			Budget € mill / Phase			
Code	**Project**	**Priority**	**I**	**II**	**III**	**Total**
I-1	Shkoder Water Supply	A	10.60	10.60	-	21.2
I-2	Lezhe and Shengjin Water Supply	A	3.70	3.70	-	7.4
I-3	Vau Dejes Water Supply	B	1.10	1.10	-	2.20
I-4	Malesi e Madhe Water Supply	B	0.90	0.90	-	1.80
I-5	Bushat Water Supply	B	0.90	0.90	-	1.80
I-6	Velipoja Water Supply	A	1.20	1.20	-	2.40
	Subtotal		18.40	18.40	-	36.80
I-7	Shkoder Sewerage	A	5.55	5.55	-	11.1
I-8	Lezhe and Shengjin Sewerage	A	2.20	2.20	-	4.4
I-9	Vau Dejes Sewerage	B	1.10	1.10	-	2.2
I-10	Malesi e Madhe Sewerage	B	2.20	2.20	-	4.4
I-11	Velipoje Sewerage	A	2.00	2.00	-	4.0
	Subtotal		13.05	13.05	-	26.10
	TOTAL		**31.45**	**31.45**	**-**	**62.90**

direction of Kallmet and Hajmel. It requires new construction. It accesses the new housing develop ment area north of the city.

- **Lezhe South Bypass (Project R-21)**
  This new minor road links the Zejmen-Milot road to the Tirana road, relieving congestion in the city centre and accessing the new housing development area south of the city.

7.6 PUBLIC TRANSPORT

7.6.1 An Integrated-Modal Policy

Within the plan period, we expect serious congestion to arise in PodShkod even if all the proposed strategic road projects were built and a complete hierarchical road system were provided. As prosperity rises, car ownership (which is still relatively low in Albania) will grow. The plan's aim of focusing growth in relatively dense areas will tend to increase the potential viability of public transport, whereas the continuation of the trend for dispersal (and ultra-low density) will decrease it, (promoting congestion at key points. Also, the successful achievement of the 'PodShkod' concept will depend on efficient commuting between the various growth points, so that the labour market is effectively integrated. A reasonable modal split between private car and public transport should be achieved by 2020 and that is an important aim of the plan. What are the fundamental policies and projects needed to achieve this?

7.6.2 Four Basic Concepts

There are four key concepts here.

- ***The Rail-Bus PodShkod Loop.***
  The PodShkod 'loop' structure links the growth points together, (although the Bushat-Lezhe/Shengjin link is a 'tail' of the loop.) The Lezhe-Vau i Dejes-Shkoder-Podgorica-Bar railway forms the basis of this. However, a Rapid Bus Route on the Bar-Ulqin-Velipoje-Bushat-Vau Dejes route is needed to compete the loop. We propose strict coordination of train and bus timetables, and a direct physical connection of train and bus to maximize ease of transfer. Obviously, the passenger rail service must be recreated first, with new track, signaling and rolling stock, (capable of higher speeds, better acceleration/deceleration and frequent short stops appropriate to an urban commuter service.)

- ***Frequent Stations.***
  We envisage the provision of relatively frequent stations, probably at the following sixteen locations within Albania: Bajze, West Koplik, East Koplik, West Gruemire, East Gruemire, North Shkoder, Central Shkoder, South Shkoder, Gur I Zi, Juban, Vau i Dejes, Hajmel, Kallmet, North Lezhe, Central Lezhe, and South Lezhe.

- ***Modal Interchange: Train/Bus, Minibus and Taxi/Car/Cycle***
  'Interchange' is a key principle. At each station there should be a car park and a bus/minibus station. Also, the station should be the focus of other facilities, particularly retail, but also public and social facilities. Local planning should foresee this, and it should also ensure access to the station from a strategic road whenever possible. For example, where the rail line crosses the proposed North Lezhe Bypass and the South Lezhe Bypass we have proposed station sites.

- ***Coordinate Stations with Major Destinations***
  Stations should be the focal points of attractors of journeys whenever possible. This means, for example, that a station should be central to economic zones, and also that detailed planning should provide pleasant and convenient pedestrian routes. For example, the proposed North Shkoder station should have convenient, well-maintained and well lit walking routes to the Economic Development Zones envisaged for the north of Shkoder

7.6.3 Public Transport Projects

These fall into five categories. However, first, a serious consultancy study is needed. Then, the track, signaling and safety equipment is needed.

Secondly, rolling stock should be purchased. Thirdly, the provision of sixteen stations, (including platforms, station buildings, car parks and bus stations and other uses such as retail,) is needed. Finally, the rapid coach service (mentioned above) would require investment. See Table7.10.

7.6.4 Albanian-Montenegrin Joint Work and the Implications of the Border

Of course, the entire exercise must be carried out in close collaboration with Montenegrin Railways, because the rail service must in every sense be a perfectly integrated joint service. To set this up is the first challenge. The key issue here may prove to be the border (as regards passports and customs) itself. This will be part of the challenge of a cross-border economic region. However, the idea is entirely within the orientation of the E.C. and European institutions are experienced in such topics. We would be surprised to find any insuperable difficulties if the parties did not create them.

			Phase / Cost € million			
Code	**Project**	**Priority**	**I**	**II**	**III**	**Total**
R-1	Shkoder West By-Pass (New)	A	3.7	-	-	3.7
R -2	Shkoder-Hani Hotit (Upgrade)	A	8.0	-	-	8.0
R-3	Shkoder North Link (New)	B	0.7	-	-	0.7
R-4	Lezhe West By-Pass (New)	B	-	-	3.1	3.1
R-5	Lezhe Tunnel (New)	B	-	-	5.0	5.0
R-6	Vau Dejes By Pass (New)	B	-	3.6	-	3.6
R-7	Vau Dejes-Bushat (Upgrade)	A	-	1.1	-	1.1
R-8	Bushat Bypass (New) (Phase 1)	A	2.9	-	-	2.9
R-9	Bushat-Velipoje (Mixed)	A	3.3	-	-	3.3
R-10	Buna bridge	A	4.0	7.2	-	4.0
R-11	Vau i Dejes-Qafe Mali-Border (Upgrade)	B	-	5.7	-	7.2
R-12	Qafe Mali-Fierze (Upgrade)	C	-	6.7	-	5.7
R-13	Milot- Qafe Mali (Upgrade)	B	-	-	-	6.7
R-14	Shengjin District (Mixed)	A	1.3	-	-	1.3
R-15	Shkoder -Vau i Dejes (Upgrade)	C	1.4	-	-	1.4
R-16	Lezhe- Vau i Dejes (Upgrade)	C	2.0	-	-	2.0
R-17	Lezhe- Velipoje (Upgrade)	C	1.3	-	-	1.30
R-18	Shkoder-Velipoje (Upgrade)	C	1.2	-	-	1.2
R-19	Shkoder-Lagjia Iliria bridge	C	2.0	-	-	2.0
R-20	Lezhe North By Pass (New)	A	2.8	-	-	2.8
R-21	Lezhe South By Pass (New)	A	2.7	-	-	2.7
	Total		30.1	24.3	8.1	69.7

Table 7.11 Strategic Road Project Identification

			Budget € mill / Phase			
Code	**Project**	**Priority**	**I**	**II**	**III**	**Total**
PT-1	Track, signaling and safety	A	-	-	0.8	0.8
PT-2	Rolling stock (three sets)	A	-	-	1.2	1.2
PT-3	Stations (sixteen)	A	-	-	1.6	1.6
PT-4	Rapid Coach Vehicles	A	-	-	0.4	0.4
PT-5	Coach Stations	A	-	-	0.2	0.2
PT-6	Studies	A	-	0.4	-	0.4
TOTAL			-	0.4	4.2	4.6

Table 7.12 Public Transport Project Identification