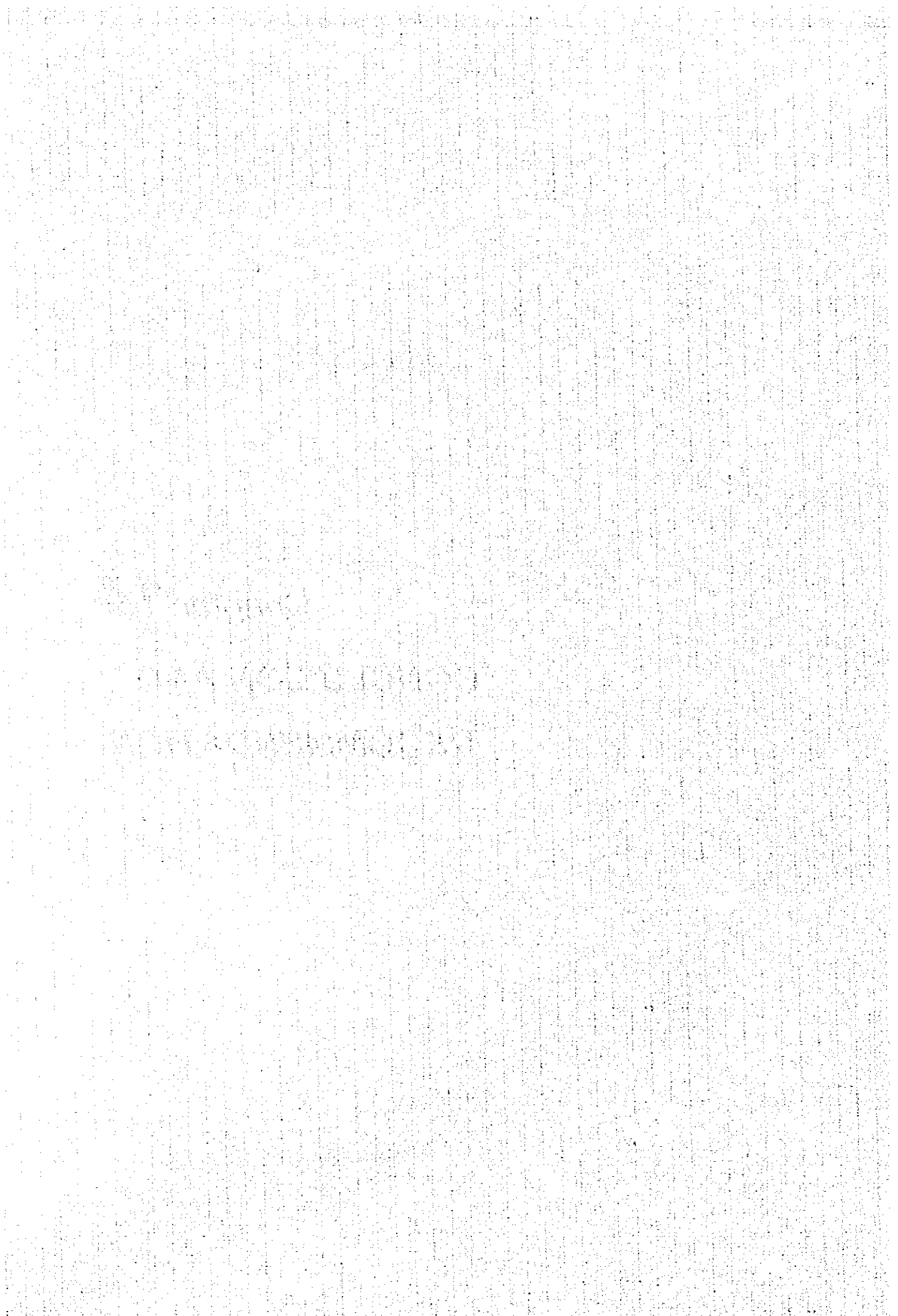


Chapter **14**

CONCLUSION AND RECOMMENDATION



CHAPTER 14 CONCLUSION AND RECOMMENDATION

14.1 Necessity of the Project Road

Rapid economic growth in Malaysia targeting to achieve a developed nation status by 2020 has been stimulating urbanization and motorization. Especially the Klang Valley Region including Kuala Lumpur has played a significant role as the administrative and economic growth pole. Putra Jaya project and KLIA project located outside the present Klang Valley region are creating new development pressures in the region, forming the Greater Klang Valley Region.

The rapid economic expansion followed by the urbanization and motorization in the region justify the necessity of the KLORR expressway to form a favourable network configuration both inter and intra region. As was revealed by the economic evaluation, the tremendous amount of economic benefit derived by the project road will contribute the national economy.

It can provide bypass route for the traffic which does not have origin or destination in Kuala Lumpur or is intending to detour the central congested area. It can contribute to minimize wasteful problems such as traffic congestion, road bottlenecks and air and noise pollution.

14.2 Conclusion

Klang Valley region including Kuala Lumpur will continue to expand to year 2020. In the Study it is estimated that population of Kuala Lumpur will increase 2,408 thousand population by 2020, 3.9 times that of 1995 and for Selangor it will increase 2.2 times to 5,937 thousand population in 2020.

GDP will increase for Kuala Lumpur 3.9 times to RM 60,895 million in 2020 and for Selangor State 5.4 times to RM 131,751 million. Traffic demand will also increase to 2,597 thousand trips in 2020, 1.8 times bigger than in 1995 in Kuala Lumpur, whereas in Selangor State it will increase to 4,377 thousand trips.

In the Study corridor, there are many environmental sensitive areas. By the PEIA study the impact by the development of the project road to these area and their mitigation measures are studied. The PEIA was approved by DOE, but further request was made to study the impact of water quality, soil erosion and geology.

The three alternative route were set up and studied. The route B was selected as the most preferable route through environmental, technical and economical evaluations. The preliminary design was conducted for the route on the topographic map of 1:5,000. Thirteen interchanges are designed to connect with existing expressways and highways.

The project is summarized in Table 14-1.

Table 14-1 Summary of the KLORR

Section Items	Unit	Section 1	Section 2	Section 3	Total
		NSE (Kuang) ~ KL - Karak	KL - Karak ~ Jin. Semenyih (Kajang)	Jln. Semenyih (Kajang) ~ NSCL Exp. (Kuala Langat)	
Length (Cut and Embankment) (Bridges and Viaduct) (Tunnels)	m	22,830	37,580	28,500	88,910
	m	13,220	22,580	22,390	58,190
	m	6,050	9,270	6,110	21,430
	m	3,560	5,730	-	9,290
Right of Way	m	60	60	60 ~ 100	
Number of Lanes	Lane	6	6	6	6
Geometric Design Standard	-	R6 (M)	R6 (M)	U6 (I)	-
Design Speed	km/hr	80	80	100	80 ~ 100
Minimum Radius	m	800	800	800	800
Maximum Grade	%	4	4	3	3 ~ 4
Type of Pavement	-	Asphalt Concrete			
Interchange	-	4	3	6	13
System Interchange (A)	-	1	-	2	3
System Interchange (B)	-	2	2	2	6
Service Interchange	-	1	1	2	4
Project Cost (RM)	million	1,379.1	1,973.4	1,293.4	4,645.9
Average Traffic Demand (in 2020)	Seg. 1	veh/day	41,200	89,800	74,900
	Seg. 2		68,600	101,200	

14.3 Evaluation of the project

The economic indicators for the whole length of the project road are;

- i) Cost/Benefit Ratio 3.05,
- ii) Net Present Value RM 5,498.5 million,
- iii) Internal Ratio of Return 22.7%.

This means the project road is highly feasible in sense of national economy. The financial evaluation, however, indicates that it will be necessary to charge higher toll rate than the existing project to make it financially feasible.

14.4 Recommendation

14.4.1 Implementation Plan

It is recommended to implement the KLORR according to priority section/segment that has the highest economic benefit. Segment 2 of section 3 has the highest priority followed by segment 1 of section 3 and lastly segment 2 of section 2. The proposed schedule is shown in Chapter 13, Table 13-5.

The financial plan for the privatization of the KLORR is shown in Table 14-2. To amortize the loans toll rate should be 18.9 sen/km in 2000, and it will be raised up by 6% every 10 years.

Table 14-2 : Financial Plan

Items	Amount (million RM)	Share
Equity	1,045.35	25
Commercial loans	2,299.70	55
Government soft loans	836.28	20
Total	4,181.33	100

14.4.2 Recommended Actions

The following actions are recommended to be considered while implementing the KLORR project.

- (1) To reserve a ROW (Right of Way) for the project including environmental preservation areas such as buffer zones.
- (2) To prepare/review the land use plans along the project, introducing preferable developments for the expressway corridor. In addition, natural preservation areas such as forest reserves and water catchment areas should be controlled from any development.
- (3) To conduct a detail geological and geotechnical study and prepare environmental preservation countermeasure for the soil erosion and slope failure, as well as for the vibration caused by the tunnel construction commented by the DOE.
- (4) To formulate a common tolling system with other privatization concession company to avoid an desirable influence on traffic flow and users' comfort on the expressway network system.
- (5) To review and prepare an urban primary/expressway road network development plan in line with the KLORR including the proposed Ampang Bypass extension and East-West Link extension.

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