

# **Why is Decision-making to be Improved?**

## **The Case of a Light Rail Transit Project in Country Z**

With the expectation that a sound city development strategy would be necessary for sustainable development, a decision was made by the Cabinet of Ministers on the end of September, Year 1, giving approval for a reconfiguring of the South Area City Plan to suit the change in circumstances that had come to prevail by Year 1. As a consequence of this decision, the South Area City Plan was established. This plan envisioned positioning the South region of Country Z as the foremost metropolitan hub in the South Sea and that efficient, reliable, and modern transportation would be crucial and integral to the overall success of the plan. One feature of this master plan that was accorded considerable priority was to introduce alternative transport systems to overcome the problems of excessive traffic density in Capital City A, a metropolitan region. It was with this in mind that the Transport Planning Team of City traffic (Western Region) conducted a careful review of studies on transport issues in capital city A, and from this developed the Transportation Master Plan addressing this and associated issues.

Accordingly, key features of the transport strategy outlined in the South Area City Plan included the following:

- Public transport improvement (including railway electrification and rapid transit systems);
- Road infrastructure improvements;
- Transport demand management;
- Environmentally sustainable transportation

### **The Current Situation Regarding Public Transport Provision in the South Region of Country Z**

The South Region of Country Z consists of three administrative districts: capital city A, neighborhood city B, and city C, giving a combined total of over 20 local-secretariat divisions, and making up 6.5 % of the total land area of the country. The Resettlement Process Plan for the Light Rail Transit (LRT) project indicates that more than 80% of people and cargo transport in Country Z depend on the road network. Furthermore, over 35 % of the gross domestic product (GDP) and 27 % of the population is centered on capital city A. Indeed, ever since the

end of the 30-year civil war, the South-Region, wherein capital city A is located, has achieved solid economic growth. Data highlights that over 1.4 million people commute daily into the center of capital city A in order to fulfill their day-to-day requirements, and that, not surprisingly, this resulted in severe traffic congestion in the city and its surroundings. The number of people, vehicles, buses, bicycles, and three-wheelers flowing into capital city A on a daily basis has drastically increased in the recent past, resulting in such severe traffic congestion that travel speeds of vehicles in the city and its surroundings have become limited to 20 kmph or even 10 kmph, representing capacity saturation of the transportation network as traffic volumes reach maximum levels.

Given this situation, along with restrictions on the possibility of further expansion of the road network in capital city A, a study was carried out to identify alternative solutions, and a long-awaited proposal for an alternative passenger transport system was put forward by the government. This was introduced as the South Area City Plan in Year 1.

### **Decision to go with LRT as a solution**

The South Area City Transport Planning Team's pre-feasibility study looked into options for Monorail, Light Rail Transit (LRT), and Bus Rapid Transit (BRT) systems. It also made sure to take studies by an international organization into account, along with studies from the university of 'M'. Only then did it recommend the LRT as the most suitable mode of transport for capital city A, along the seven identified corridors. Further, the South Area City Plan states that the LRT would be cheaper than the monorail plan in terms of maintenance costs. And indeed, it was only after considering all technical and financial aspects that the Cabinet Committee on Economic Management made an informed decision to proceed with the LRT.

Having reviewed all the aspects mentioned above, the Cabinet was informed by Note to the Cabinet at the beginning of October, Year 1 that the following activities were to be implemented:

- Engage with an international organization to carry out a feasibility study for all the LRT networks, including RTS (Rapid Train System) 1 to RTS 7 (Proposed LRT Networks), as proposed in the South Area City Plan.
- Engage with an International Organization to prepare detailed feasibility, design, and tender documents for RTS 1 and RTS 4.
- Obtain Official Development Aid (AID) from an international organization for the implementation of RTS 1 and RTS 4, subject to getting approval for special terms and financial requirements through nominations.
- Appoint the Secretary of City and South Area Development as the lead counterpart of this project.

- Proceed with the land acquisition process for the implementation of RTS 1 and RTS 4 on a priority basis.

Accordingly, an international organization decided to conduct a feasibility study for RTS 1 and RTS 4 by the date of October, Year 1. However, as per the Project Memorandum signed at the end of April, Year 5 by three parties (the Ministry of City Development, the Department of External Resources XYZ, and the international organization), it was RTS 4 -the line from M town to the port, which was given priority, on the basis of minimizing traffic congestion.

According to the final report of the "Preliminary Investigation on City Transport Project in Capital City A" appointed under the direction of the Ministry of City Development in Year 4, the following factors had affected the choosing of an LRT system in preference to a monorail system;

- Only a limited number of monorail manufacturers exist, which limits the competitiveness of the bidding process.
- With the monorail system, it is difficult to expand the lines to meet future requirements, and there are difficulties with the increase in the number of cars.
- Inability to introduce monorail to the Rapid Transit System (RTS) in suburban areas.

## Proposed LRT Networks

Accordingly, seven LRT lines were proposed by the South Area City Transport Master Plan as listed below (Table 1).

**Table 1. Rapid Transit System Network Proposed in South Area City Plan:**

Line Name	Area Covered	Length
RTS 1	Port – K town – B town – B2 town - Union area – M town	7 miles
RTS 2	Port – M town – M2 town – P town	3 miles
RTS 3	D town – B 2 town – K 1 town – H Town – B town	5 miles
RTS 4	B 2 town – M3 town	5 miles
RTS 5	M3 town – K2 town	4 miles
RTS 6	M3 town – K3 town	4 miles
RTS 7	P town – K4 town	8 miles

## Expectations for LRT Project

According to the preparatory survey on the project establishment of a new rail transit system in capital city A, the South Area City Plan highlighted three goals:

- To alleviate the congestion pressure of urbanization;

- To create a grand strategy to become a developed nation;
- To leverage the current global technical and economic environment for national development.

According to the Resettlement Process Plan of capital city A new LRT project, the following objectives were expected to be achieved by this project:

- Reducing traffic congestion in capital city A metropolitan region
- Reducing the travel time of passengers (public transport users) by at least 30 minutes (from M 3 town to capital city A port), and certifying the travel time
- Enhancing connectivity between the regions
- Developing corridors to the main roads
- Enhancing the number of passengers, their convenience, and their trust in the public transport system
- Reducing environmental pollution and minimizing emissions of harmful gases

### **Reasons for “Line 4” (M 3 town corridor) Getting Priority Designation**

Out of these seven lines it was RTS 1 and RTS 4 which were chosen as priority lines in the City Plan. Likewise, in the preparatory survey, conducted with financial support from an international organization in Year 0 and Year 2, among the seven rail-road networks it was the "M 3 town Corridor" that had been highlighted as most urgently requiring policy intervention on account of several factors including:

- Data revealed it had the lowest travel speed recorded
- It recorded the highest traffic volume
- It had the highest proportion of private vehicle mode transportation
- It would enable the establishment of new administrative and commercial capitals along the corridor
- It suffered from being a narrow road section network
- It lacked any connection to a railway service

The “M 3 town corridor” is also without a rail-based transport system. The prevailing transport system being unable to handle the increasing passenger demand due to the relocation of government offices to the B 3 town area, including the D complex, the Department of IE, the Department of RP, and so on. Therefore, the Port - M 3 town corridor has been recognized as an urgent policy intervention to shift private mode users to public mode.

### **Nature of the Project**

The proposed LRT system of RTS 4 is an electric rail system constructed on a platform created by concrete columns and steel beams. This railway line would connect not only important places but also important transport centers such as B2 and B 3area, located on the route from capital city A to M3 town. The proposal envisaged constructing this platform parallel to and above the center line of the main road. In addition, there was a railway yard in M 3 town West for parking, repair, and other uses, along with the 16 other railway stations that this line would connect.

According to the aforementioned Note to the Cabinet of a day in September Year 2, from among all LRT networks suggested in the South Area City Transport Plan, it had been decided that initially RTS 1 and RTS 4 would be built. The construction was scheduled to be completed in seven packages.

### Feasibility of the Project

**Economic Analysis:** An economic cost-benefit analysis was carried out by the committee appointed under the persuasion of the Ministry of City Development. This analysis took Year 2 as the base year, and 5 years (Year 3 to Year 7) as the evaluation period. It identified an Economic Internal Rate of Return of 25 percent and an Economic Net Present Value of Local Dollar 900 billion. Hence, this project has been identified as beneficial to the national economy of the country. Moreover, it has been identified that this project would still be beneficial even if the economic benefit were to decrease by 10 percent and the economic cost increases, and even if both situations were to happen together. (Table 2)

**Table 2: Economic Cost Benefit Analysis**

	Basic Analysis	7.5% decrease in the Economic Benefit (Percent)	7.5% increase in the Economic Cost (Percent)	7.5% increase in the Economic Benefit and 7.5% Decrease in the Economic Cost (Percent)
Economic Internal Rate of Return (%)	25	19	20	16
Economic Net Benefit Rate (USD million)	900	750	800	600

**Financial Analysis:** The financial analysis that had been carried out took Year 3 as the base year, and assumed a life time for the rolling stock of 40 years. Further, the exchange rate for this evaluation had been set at 1 USD being equivalent to 113 JPY, or 153 Local Dollar, with 1 Local Dollar equivalent to 0.739 JPY. Further, this analysis was carried out for 4 different scenarios, where “situation 4” had been identified as most beneficial, and in such a case, the financial internal rate of return thereof was 27 percent, exceeding the cost-benefit ratio of 8.87 percent. Moreover, this meant a net cash flow of Local Dollar 50,185 million.

**Environmental analysis:** The Environmental Impact Assessment (EIA) report for this project and approval were granted by the Environmental Authority of country Z in Year 4, confirming that the environmental impact due to this project was at a minimum level. The report further indicated that levels of noise pollution and vibrations that would occur, given the technical methodologies involved in carrying out the project, would not actually be at a significant level. Moreover, the report pointed out that electric trains do not cause air pollution, and the reduction in the use of motor vehicles that would come about due to the LRT system, means a net reduction in air pollution that would otherwise be caused by motor vehicles. Further to the LRT's possibility of providing a solution for the traffic congestion in the 'M 3'-town-to-capital-city-A-port corridor, the EIA report highlighted that the LRT would provide both mental and physical relief to passengers due to improved travel comfort.

## **Project Financing**

Initially, during his visit to large Asian country X in Year 2, the Minister of Country Z had discussions about the possibilities of investing in Country Z's transport sector. This resulted in both countries discussing an Economic Cooperation Policy at the end of February, Year 2, at which the government of country Z officially requested financial support for the Light Rail Transit project from the government of country X.

In response, country X's international organization agreed to provide financial assistance for this project under concessionary credit conditions. Accordingly, an international organization agreed to provide a credit facility for re-paying such a loan over a period of 50 years, which includes a 15-year grace period at an interest rate of 0.1 percent per annum. After taking into consideration several advantages and favorable justifications, at the end of March, Year 2 the Ministry of NAP requested the embassy of country X to obtain loans under concessionary conditions for the LRT project.

## **Project Cost**

According to Project Memorandum, the total cost of the project had been identified as 2500 million USD, of which 2000 million USD had been planned to be obtained from an international organization and 500 million USD from other sources. This project memorandum was signed at the end of April, Year 5 by the Secretary to the Ministry of City Development, the Director General of the XYZ on behalf of the Ministry of Finance, and on the same day by the international organization where the agreement for the loan had been entered into.

Construction of RTS 4 was given priority as per the Memorandum of Understanding related to this project, and was planned to be constructed and implemented under the 7 packages. Moreover, out of the said loan facility, a sum from country X of 300 million USD had been allocated for package 1 (rolling stock). Moreover, out of this sum of 300 million USD, the sum of 250 million USD was proposed to be utilized for civil works and the production of equipment at an annual interest rate of 0.1%. Further, the sum of 50 million USD was allocated for the consultancy services at 0.1% p.a. A sum of 600,000 USD, representing 0.2% of the loan amount

of 300 million USD, is required to be paid as a front-end fee. The payment of this loan and interest thereon need to commence after a grace period of 15 years, and the loan repayment period, including the grace period, is 50 years.

Further, the contract for the consultancy services had been awarded to a global consulting company of country X with the concurrence of paying 67 million USD excluding 15% VAT for the remunerations, reimbursements, temporary funds, and uncertainties.

### **Consultancy Service of the Project**

The Cabinet Advisory Board for Procurement had granted its approval to publish all the documents, including the Terms of Reference (TOR), Expression of Interest (EOI), and shortlisting criteria for this project, which had been prepared by the Technical Evaluation Committee (TEC), consisting of six members. Accordingly, two EOIs from two institutions were received in response to this subject, namely:

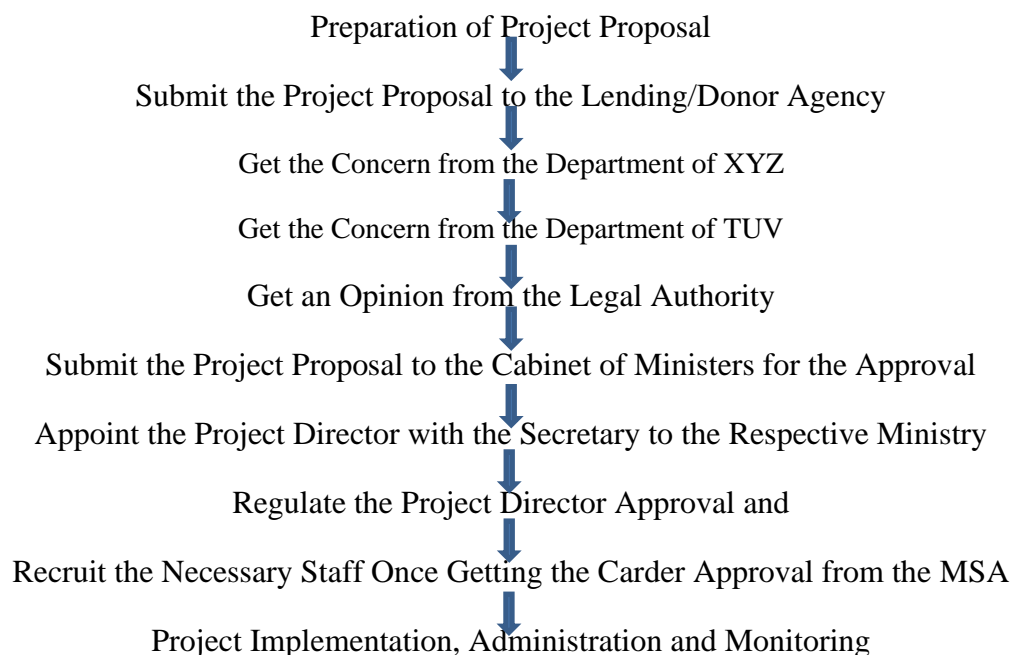
- A global consulting company of country X;
- A supporting company of country X.

Accordingly, technical proposals were received from the two companies, and both have scored marks above 75 percent. Hence, the Cabinet Advisory Board for Procurement had granted approval for the next step, called financial evaluation. A global consulting company of Country X won first place by scoring 82.25 marks. Accordingly, the Cabinet granted approval at the beginning of April, Year 5 to award the consultancy contract to the global consulting company of Country X.

### **Implementation of the LRT**

There were several steps to be followed as per government procedure under the foreign-funded projects in country Z (Figure 1), and as per the agreement between the parties, the LRT project commenced at the end of April, Year 5, including the establishment of the Project Management Unit (PMU).

As of the beginning of December, Year 7, the loan amount granted for the project amounted to 29 million USD, including an advance of 5 million USD, which had been paid to the consultancy company. Further, a sum of 9 million USD had been paid as management expenses, including funds from the government budget. A sum of 38 million USD had been incurred as expenses by the end of, Year 7.



**Figure 1: Project Approval Procedure (in General)**

## **Termination of LRT Project**

Despite the fact that the international institution's financial and economic research had shown this LRT project to be cost effective, the government of country Z decided unilaterally to terminate this project after just two years from its date of commencement on the end of April, Year 5. By the time of termination, it had already paid 38 million USD as expenses.

### **Termination Direction**

On a day in February, Year 6, the Secretary to the Ministry of City Development initially requested a reappraisal of this project from the Project Director of LRT, stating eight concerns, including the total consultancy fee being higher than the acceptable norms for international consultancies, the number of foreign experts being higher than desired, increasing the number of local experts would be beneficial, the unit cost of rolling stocks is high compared to the current world market, etc. These points associated with the project were obtained through discussions held by expert panels and societies. However, as a response to the said request by the Secretary to the Ministry of City Development, the Project Director gave a detailed explanation, stating that this project was nationally important and the cornerstone of the public transportation system, and hence asked for assistance to continue with the project.



Following the aforementioned explanation, Secretary to the Ministry of HEP then sent a letter after seven months to the Secretary of the Ministry of Transport, directing him to terminate this LRT project.

The Minister of Transport has submitted a unilateral memorandum seeking approval to suspend the project, based on the direction given by the Secretary to the Ministry of HEP as stated above, despite being obligated to submit a joint memorandum. Accordingly, this unilateral memorandum stated that:

- As per the Director General of XYZ, observations have been made that this project is not suitable due to it not being cost-effective; and
- As per the direction given by the Secretary to the Ministry of HEP, the project should be terminated and the project office needs to be closed with immediate effect, and action needs to be taken to work out a suitable solution.

The Ministry of Finance has expressed its concurrence with all the matters for which approval was sought by the Minister of Transport without mentioning any matters whatsoever. Further, the Cabinet of Ministers granted approval at the beginning of September, Year 4, for all the matters specified in the Memorandum, including the termination of the project and the closing of the project office, making the following objections:

- The cost of the LRT system appears to be much too high.
- It could cause a serious impact on the environment.
- A large number of houses and other buildings would have to be demolished, and as such, a huge cost would have to be borne for the payment of compensation for the land acquisition for this purpose.
- The proposed LRT system would not provide the expected level of comfort to attract people as an alternative solution for traveling to capital city A for their employment in place of people using their own private vehicles.
- If the LRT system is implemented, a huge operational cost would have to be incurred.

Subsequently, the Department of XYZ informed an internal organization on the end of November, Year 6 regarding the termination of the project. Also, the Ministry of Finance informed the international organization at the beginning of December, Year 6, regarding the decision taken to terminate the LRT project. Further, the letter highlights that this project has been terminated with a view to allocating required budgetary provisions to boost priority sectors due to the fiscal challenges faced by the government of country Z under the COVID-19 pandemic.

## Project Progress up to the Date of Termination Decision

- **Agreement with the City Electricity Board (CEB)**

A sum of 0.5 million USD had been paid to the CEB as mobilization advances based on the agreement entered into in Year 6 for initiating material processing for the utility line shifting from M3 town to B3 town, and underground cable tracking within capital city A.

- **Acquisition of Lands**

The following actions had been completed by the date of the termination decision with regard to the land acquisition:

- I. Approval had been granted for the payment of incentives to the officers in charge of the relevant subject in the responsible institutions who engage in the land acquisition activities, namely: the Land Acquisition Division of the Ministry of Land; the Department of Printing; the Valuation Department; and the Local Secretariats and Survey Department.
- II. The Ministry of Fuel Resources Development and the Ministry of City Development decided to jointly request the Ministry of Finance for a budgetary provision of 50 million USD in order to expand the road from K5 town junction to C town junction. (Table 3)
- III. Stages from stage 3 (exhibition of notice on lands proposed to be acquired by the Local Secretary) to stage 13 (making a decision on the title by the Local Secretary) as per Section 2 and Section 10, respectively, of the Land Acquisition Act No. XX have been completed.

**Table 3: Ways of Allocating Budgetary Provisions**

Activities	Total (USD million)	Allocations of Provisions (USD million)					
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cost of Acquisition of Lands	420	180	240				
Improvements to be Made to the Road with Expanding	200				20	100	80
<b>Total</b>	<b>620</b>	<b>180</b>	<b>240</b>		<b>20</b>	<b>100</b>	<b>80</b>

## Post Effects of Termination Decision

Even though the project started its work in March Year 4, in the later part of Year 5, the Government Z decided to terminate the project, highlighting that it is not the most appropriate and cost-effective transport solution.

The country X's International Cooperation Agency has initially rejected the request for the termination of the loan agreement made by the Department of Resources XYZ.

As the main consulting company, the global consulting company claimed 31.0 million USD under 3 categories as follows from the Ministry of Urban Development and Housing as payments upon termination of the contract as per the contract agreement (Table 4).

**Table 4. Claim upon Termination of Contract:**

Category	Description	Amount (USD million)
1	Arrears of value of invoice and interest on late VAT payment	3.1
2	Cost of Demobilization and associated overhead cost due to the termination of the project	1.9
3	Loss of Profit	26.0
	Total	31.0

Further, Cabinet approval had been granted to appoint a committee comprising of 11 officers for negotiation with the purpose of reducing the amount claimed by the global consulting company of country X.

The Ministry of Environment had requested to resettle the aforementioned unutilized amounts of 0.2 million USD and 0.05 million USD, respectively, which had been paid to the global consulting company of country X. However, the total amount of the aforementioned advance of 0.2 million USD had been identified as project expenditure in the financial statement as of the end of December, Year 7.

Moreover, the loan agreement entered into with the international organization at the beginning of April Year 5 had not been cancelled up to the end of November, Year 8.

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