

CHAPTER 2

Construction and Maintenance of Road Over Bridges/ Road Under Bridges on Southern and South Western Railways

2.1 Highlights

- Funds provided during Budget Grant stage were not fully utilised and huge sums were surrendered at the Final Grant stage. The surrender of funds during the years 2000-01 to 2003-04 was to the extent of 84 per cent, 74 per cent, 74 per cent and 75 per cent respectively. In more than 37 per cent of the cases where funds were allotted, no expenditure was incurred and the entire amount was surrendered.

(Para 2.7.1)

Test check of budget provision made by Government of Tamil Nadu also revealed that allocated funds were not fully utilised on the State side. The asymmetrical progress of works on the State side and the Railway's side revealed a lack of commitment/ co-ordination between the Railways and the State Government in commencing or completing the works within a reasonable time frame.

(Para 2.7.2)

- Seven works were incorrectly taken up on cost sharing basis instead of the Road Authorities bearing the entire costs. This resulted in avoidable financial liability of Rs.32.11 crore.

(Para 2.7.3)

- Due to lack of clear norms regarding the length, additional facilities and width of approach roads for which Railways will bear the cost, the Railways has undertaken avoidable financial liability of Rs.19.10 crore (Rs.5.59 crore on four works in Southern Railway and Rs.13.51 crore on 15 works in South Western Railway) for extra width and Rs.4.27 crore (Rs.2.66 crore on one work in Southern Railway on one work and Rs.1.61 crore on one work in South Western Railway) for extra road length.

(Paras 2.7.4 and 2.7.5)

- In respect of two works on Southern Railway, due to change of scope of work from RUBs to ROBs, the Railway Administration incurred extra liability of Rs.9.05 crore.

(Para 2.7.6)

- In respect of seven works (three completed and four still in progress), South Western Railway is yet to realise Rs.2.72 crore towards State Government's share.

(Para 2.7.7)

- Due to non-levy of departmental charges/ handling charges, the Railways incurred additional expenditure of Rs.7.92 crore in

respect 11 bridges (four on Southern and seven on South Western Railways).

(Para 2.7.8)

- In the case of 15 ROBs/ RUBs constructed on deposit terms, maintenance charges to the extent of Rs.1.71 crore were not recovered.

(Para 2.7.9)

- Due to non-commencement/ delay in commencement of works in respect of 72 bridges (43 on Southern and 29 on South Western Railways), level crossings (LCs) continue to be operated resulting in avoidable expenditure of Rs.2.42 crore (Rs.1.19 crore–Southern and Rs.1.23 crore on South Western Railways).

(Para 2.8.1)

- 35 works were taken up, even when the preliminary works in these cases, such as finalisation of plans and estimates, approval of General Arrangement Drawings and sanction of material modification were not fully completed.

(Para 2.8.2)

- Due to non-completion of approach roads, the bridge portion already completed by the Railways in respect of seven ROBs remain idle. The idle investment in this regard is Rs.8.46 crore.

(Para 2.8.4)

- Deficiencies in contract management resulted in extra expenditure/ non realisation of charges amounting to Rs.2.37 crore.

(Para 2.8.7)

- In the absence of any agreement, the Railways could not claim reimbursement of Rs.7.15 crore (cost of bridge portion incurred by the Railways) from the State Government for the operation of three LCs in spite of opening of the ROBs for traffic.

(Para 2.9)

2.2 Introduction

Road Over Bridges (ROBs)/ Road Under Bridges (RUBs) are constructed with the main objective of eliminating level crossings (LCs), which in turn serve to improve the efficiency of the Railway operations and to ensure safety of the public travelling by road and rail.

As per the Railway Board orders, the Railways, at the time of construction of a line or within ten years thereafter, are to provide at their cost, adequate number of LCs and ROBs/ RUBs in consultation with the State Government. After this ten year period, the Railways share the cost of construction of ROBs/ RUBs in replacement of busy level crossings. The Railways share the cost to the extent of 50 per cent of the total cost of the ROBs/ RUBs excluding cost of the land. Proposals for ROBs/ RUBs for alleviating difficulties faced by the Road Authorities are required to be sponsored by the State

Government/ Local Authority to the Railways with an undertaking to bear the entire cost of construction.

2.3 Scope of Review

The review covers all aspects regarding the planning, financing and execution of ROBs/ RUBs that were completed during 1999-00 to 2003-04 and the ROBs/ RUBs that were in progress at the end of the review period i.e. 31 March 2004 on Southern and South Western Railways (forming part of Southern Railway till 31 March 2003).

2.4 Audit Objectives

As the ROBs/ RUBs are for the safety of the public travelling by road and rail and for improving efficiency of the Railway operations, proper and timely completion of the same becomes necessary. Keeping this basic objective of constructing ROBs/ RUBs in view, the following audit objectives were formulated:

- to verify the efficacy of the funding mechanism;
- to examine the adequacy of the planning process, which includes review of the preliminary works undertaken prior to sanction and execution of works;
- to review the efficiency in execution of the works, which included study of time and cost overrun, idling of assets, contract management; and,
- to verify the extent to which LCs were closed after construction of ROBs/ RUBs.

As certain codal provisions exist regarding the sharing of the financial liability between the Railways and Central/ State Governments, the objective of reviewing the funding mechanism was further sub-divided into the following sub-objectives:

- to verify whether the financial liability is borne by the Railways only to the extent provided in the codal provisions;
- to examine the sufficiency of the codal provisions in regard to safeguarding Railways' interest in bearing the financial liability;
- to examine whether there is proper co-ordination between the Railways and Central/ State Governments in identifying, prioritising and allocating of resources to various projects sanctioned; and,
- to verify whether the Railways have been providing for dues like departmental charges/ supervision charges/ maintenance charges etc. in the estimates, raising bills/ demands for the same and duly recovering them.

2.5 Audit Criteria

The rules and provisions contained in the Indian Railway Code for Engineering Department and the guidelines & instructions issued by the Railway Board from time to time on the construction and maintenance of

ROBs/ RUBs were used as the criteria against which the planning, execution and financial management of the works were assessed.

2.6 Audit Methodology

The policy files relating to construction of ROBs/ RUBs on cost sharing and on deposit terms, available in Construction Headquarters office were reviewed. The records relating to allotment and utilisation of funds, execution of works, recovery of maintenance charges were reviewed. The information regarding certain aspects such as assessment and realisation of maintenance charges were collected from Divisions. The State Government budget documents for the review period were also examined.

2.7 Financial Management

Up to 1999-2000, funds to meet the requirement for construction of ROBs/ RUBs were met from the Development Fund against the plan head 'Bridge works'. From 2000-2001 onwards, funds are being provided separately against the Plan head 'Road safety works/ROB/RUB' from the newly created 'Railway Safety Fund'.

During the period of review, construction of 48 bridges was completed and 146 bridges were under construction as on 31 March 2004 as detailed in the following tables:

Table I – Completed works (Rs. in crore)

Sl. No.	Railway/ Category/ State	Number of bridges	Railways share	Non-Railway share	Total sanctioned cost	Actual Expdr. – Railways (31 March 2004)
I. Cost sharing basis						
A.	Southern Railway					
(i)	Tamil Nadu	11	42.70	47.82	90.52	26.70
(ii)	Kerala	9	36.59	35.45	72.04	15.07
B.	South Western Railway					
(i)	Karnataka	5	10.18	102.57	112.75	56.32
	Total	25	89.47	185.84	275.31	98.09
II. Deposit works						
A.	Southern Railway					
(i)	Tamil Nadu	9	-	14.65	14.65	9.46
(ii)	Kerala	5	-	18.22	18.22	12.47
B.	South Western Railway					
(i)	Karnataka	9	-	23.53	23.53	16.95
	Total	23	-	56.40	56.40	38.88

Table II – Works in progress (Rs. in crore)

Sl. No.	Railway/ Category/ State	Number of bridges	Railways share	Non-Railway share	Total sanctioned cost	Actual Expdr. – Railways (31 March 2004)
I. Cost sharing basis						
A.	Southern Railway					
(i)	Tamil Nadu	33	157.77	121.23	279.00	12.02
(ii)	Kerala	47	742.36	49.00	791.36	10.63
B.	South Western Railway					
(i)	Karnataka	41	177.80	185.66	363.46	14.28
	Total	121	1077.93	355.89	1433.82	36.93

Sl. No.	Railway/ Category/ State	Number of bridges	Railways share	Non-Railway share	Total sanctioned cost	Actual Expend. -Railways (31 March 2004)
II. Deposit works						
A.	Southern Railway					
(i)	Tamil Nadu	7	-	52.14	52.14	9.20
(ii)	Kerala	4	-	1.81	1.81	0.00
B.	South Western Railway					
(i)	Karnataka	14	-	41.91	41.91	11.03
Total		25	-	95.86	95.86	20.23

A review of the Financial Management relating to undertaking of these works revealed a number of deficiencies and lapses as brought out in the succeeding paras.

2.7.1 Non-utilisation of funds allotted

Provision of funds and their utilization/ surrender during the review period is given in the following table:

Table III (Rupees in thousands)

Year	Budget Grant (BG)	Final Grant (FG)	Diff. Between BG-FG	Percentage of surrender of w.r.t. BC
Bridge works				
1998-99	100465	91959	8506	8
1999-00	141465	112691	28774	20
Road safety works				
2000-01	622424	99158	523266	84
2001-02	852424	216032	636392	74
2002-03	1032321	267436	764885	74
2003-04	921341	227350	693991	75

Note: The figures for 2003-04 include the provision of funds made for ROB/RUB in respect of South Western Railway also.

The above details indicate that the funds provided in the Budget Grant were surrendered heavily at the Final Grant stage during the years 2000-01 to 2003-04 (after introduction of new plan heads exclusively for ROBs/ RUBs). Surrenders during these years were to the extent of 84 per cent, 74 per cent, 74 per cent and 75 per cent respectively.

A notable trend discerned during the review was that in more than 37 per cent of the cases, where funds were allotted, no expenditure was incurred at all and the entire amount was surrendered as shown in the following table:

Table IV

Year	No. of ROBs/ RUBs for which funds allotted		No. of cases where no expenditure was incurred		Amount surrendered (Rs. in crore)	
	Southern	South Western	Southern	South Western	Southern	South Western
2000-01	83	35	26	31	11.88	11.86
2001-02	90	35	24	25	11.46	14.33
2002-03	106	38	29	24	10.60	6.23
2003-04	100	NA	22	NA	7.98	N.A.

A further analysis of the cases of surrender of funds in Southern Railway revealed that in respect of four ROBs/ RUBs the entire funds allotted during Budget Grant stage were surrendered consecutively for four years from 2000-01 to 2003-04. In respect of 15 ROBs/ RUBs the funds were surrendered for three years and in respect of 16 ROBs/ RUBs funds were surrendered for two

years. Similar analysis in respect of South Western Railway revealed that in respect of 21 ROBs/ RUBs the entire funds allotted during Budget Grant stage were surrendered consecutively for three years from 2000-01 to 2002-03.

2.7.2 Poor co-ordination with State Governments

Based on the past experience of the Railways in execution of ROBs/ RUBs in co-ordination with the State Governments, the Railway Board directed the Zonal Railways (October 1991) to include works in their Annual Works Programme only after satisfying themselves about inclusion of the works in the State Budget and after assuring commitment for adequate funds for commencement and completion of the works within a reasonable time frame.

Audit undertook an analysis of the allotments made by Government of Tamil Nadu and the Railways (for works being undertaken in this State) to examine the efficacy of the co-ordination efforts. It revealed that the Budget Provisions made, as in the case of the Railways, were not utilised and were surrendered towards the end of the financial year as brought out below:

State Government				
	2000-2001	2001-2002	2002-2003	2003-2004
Original Grant	119.75	36.05	96.28	57.39
Surrender	110.28	18.31	68.79	25.78
Final allotment	9.47	17.74	27.49	31.61
Railways				
	2000-2001	2001-2002	2002-2003	2003-2004
Original Grant	23.03	28.47	51.05	24.15
Surrender	16.46	19.70	45.78	18.53
Final allotment	6.57	8.77	5.27	5.62

Note: The above figures are for amounts related to ROB/ RUB works only and do not include figures relating to minor road improvement works etc. included in the State Budget.

Detailed analysis of budget allotment by the Railways and Tamil Nadu Government revealed that:

- In respect of 12 ROBs/ RUBs sanctioned in 2000-01 (Sl. Nos.12, 13, 15, 16, 18, 22, 25, 26, 27, 28, 30 and 41 of Annexure I) neither the State Government nor the Railways had made any financial/ physical progress during the review period and the funds provided were surrendered every year. This clearly shows that the priority initially accorded for these works were not maintained either by State Government or by the Railway Administration.
- In respect of four ROBs/ RUBs sanctioned during 2000-01 (Sl. Nos.10, 11, 17 and 24 of Annexure I), though there was progress of work by the Railways, the funds provided for by the State Government for these ROBs/ RUBs were surrendered by the State Government without much progress/ NIL progress as on 31 March 2004. On the other hand, in respect of four ROBs/ RUBs sanctioned between the years 1993-94 and 1999-2000 (Sl. Nos.1, 3, 4 and 29 of Annexure I), there was progress of work by the State Government, while the funds provided for by the Railways for these ROBs/ RUBs were surrendered, without much progress/ NIL progress as on 31 March 2004. This indicates

lack of co-ordination between the State Government and the Railways in assigning priority for execution of works.

- Though five ROBs/ RUBs sanctioned prior to 2000-01 remain incomplete (Sl.Nos.1, 3, 4 18 and 29 of Annexure I), 23 new ROBs/ RUBs were sanctioned in 2000-01 (Sl.Nos.6 to 17, 19 to 28 and 30 of Annexure I) and token funds of Rs.10 lakhs each was provided by the Railways. These token provisions were also surrendered, which clearly indicate the lack of commitment and funds to undertake these works. Though more funds were provided in later years, they were not sufficient to complete the works in the prescribed timeframe.

Similarly, though ROBs/ RUBs are required to be completed within 24 months, adequate funds were not provided keeping in view this timeframe. Audit review revealed that funds provided for were less than 25 per cent of the estimated cost in respect of 17 works (Sl.Nos.7, 12 to 17, 19 to 22, 25 to 28, 30 and 41 of Annexure I) consecutively for four years and seven works (Sl.Nos.6, 8 to 11, 23 and 24 of Annexure I) consecutively for two years. This resulted in non-completion of these works within the timeframe.

The above analysis brings out the fact that funds were spread thin over the years on more works due to which none of the works could be completed. As of 31 March 2004, there were 33 ROBs/ RUBs in Tamil Nadu under cost sharing basis sanctioned in or prior to 2000-01 which remained incomplete.

- On an average Rs.77.37 crore and Rs.31.67 crore were provided per annum by the State Government and the Railways respectively. There is, therefore, an imbalance in terms of the number of works that can be completed on the Railway side vis-à-vis the State Government side. Keeping the Railway's fund position, the average cost of an ROB/ RUB and the completion time of 24 months etc. in view, about 12 works only should have been provided in the Annual Plans. A reasonable number of works and a common priority list need to be drawn up keeping in view the resources available.

(Annexure XXI)

2.7.3 Avoidable financial liabilities due to construction of bridges erroneously on Railways' account

The Railways adopt a general criterion of 1 lakh Train Vehicle Units (TVUs) per day as minimum for provision of ROB/ RUB on cost sharing basis. The traffic density criterion is relaxed in respect of (i) suburban sections with high frequency of train services and (ii) near stations where detentions to road traffic are high due to shunting operations etc. However, for works undertaken purely on considerations of alleviating the difficulties faced by Road authorities, the financial liability should be appropriately borne by the Road Authorities of the State Governments/ Government of India. In the cases detailed below, the Railways have incurred/ agreed to incur avoidable extra liability as they were incorrectly approved/ sanctioned as cost sharing works.

➤ **ROBs in lieu of LC No.90 & 91 in Jolarpettai-Erode Section (Southern Railway)**

The above two ROBs were sanctioned in 2000-01. As these were within a distance of 0.4 Km only, the Railway Administration proposed a common ROB, which was not accepted to by the sponsoring authority. When the sponsoring authority insisted on two ROBs, the cost of one ROB should have been borne by them. However, both the ROBs were taken up on cost sharing basis resulting in increased liability of Rs.3.86 crore.

➤ **ROB in lieu of LC No.128 at Uthukuli in the Erode-Coimbatore Section (Southern Railway)**

The State Government sought for the ROB at a location 110 metres away from the LC citing heavy built up area and narrow width at the existing location. The Railway Administration was for having the ROB at the same location by increasing the road width as it was apprehended that the LC will not be closed after completion of ROB. In view of the doubts harboured, the ROB should not have been taken up on cost sharing basis. This resulted in extra liability of Rs.5.60 crore to the Railway Administration.

➤ **ROB at Valadi in lieu of LC No.234 km 321/6.7 (Southern Railway)**

The existing LC did not qualify for the construction of ROB on cost sharing basis, either on the basis of number of TVUs or on the basis of detention caused to road vehicles on account of multi directional receipt/despatch of trains or stabling of trains. Thus, the ROB was to be done on deposit terms. However, cost sharing was justified stating that ROB was near to the station, which is not factually correct. The extra liability on this account worked out to Rs.5.83 crore.

➤ **ROB at Thirupadiripuliur in lieu of LC (Southern Railway)**

Against the LC Nos 159 and 160, the State Government initially sought for a ramp over LC 159 for use by two wheelers and a ROB at LC 160. The Railways stated that the ROB at LC 160 could be taken up on Deposit terms. Later the State Govt. sought for a non standard limited use subway at LC 159 and a ROB at LC 160. The Railway Administration neither built a ramp nor a non-standard limited use subway as suggested by the State Government and instead constructed a ROB at LC 159 at an avoidable cost of 0.87 crore.

➤ **ROB in lieu of LC No. 101 at KM 251/13-15 at Kuppam (South Western Railway)**

LC No 101 in lieu of which the ROB was proposed was used mainly by two wheelers and pedestrians and did not fulfill the criteria for the minimum number of TVUs. Moreover, there already existed an RUB just 389 metres away from LC. The construction of ROB would serve only the Krishnagiri-Palamaner bye-pass Road that was being newly laid. Since the proposed ROB was solely for the benefit of State Authority, it should have been constructed on deposit terms. The Railway Administration's decision to close LC 101 and divert the traffic to the new ROB on the bye-pass road with a diversion road of 1.5 kms instead of connecting it to the existing RUB has resulted in avoidable expenditure of Rs.4.39 crore besides incurrence of annual maintenance charges.

➤ **ROBs in lieu of LC Nos. 138 and 139 at Banaswadi and Lingarajapuram (South Western Railway)**

LC No 138 and 139 were constructed as part of conversion of the SA-YPR line from MG to BG. These two LCs were, however, not opened for traffic, as there were strong protests from local residents demanding ROBs in lieu of LCs. The Railway Administration sanctioned ROBs at these two LCs on cost sharing basis at the request of the State Government, without assessing the requirement on the basis of TVUs. This resulted in avoidable liability of Rs.11.56 crore to the Railway Administration towards their share of the cost.

2.7.4 Extra liability due to sharing of cost of extra road width

Till 1969, the Railway Board's orders were that the Railway would bear the cost of bridge proper and the State Government the cost of approaches. In 1969, the Railway Board issued orders modifying the apportioning of cost on ROBs/ RUBs built on cost sharing terms stipulating that the Railways and State Authority share the total cost of bridges including cost of approaches in a 50:50 ratio excluding the cost of land.

As per the Railway Board instructions for construction of ROBs/ RUBs in replacement of LCs undertaken on cost sharing basis, the cost sharing would be limited to 7.5 m for bridges located on other than National Highways. For National Highways, this shall be 9.75 m. In urban areas where footpaths are provided, the same shall be 1.5 m on either side. It is also stipulated by the Railway Board, that in case additional width is to be provided exceeding the above said limits, the cost of extra width shall be fully borne by Road authority. Due to lack of any such norms regarding the width of the approach roads, the Railways have been taking on heavy financial burden on extra approach road widths provided mostly for improving road safety/ providing more facility for road users, than on grounds of safety and operational concerns of the Railways.

Southern Railway

Assessment made by Audit revealed that the extra liability due to sharing the cost of extra width of the approach roads beyond 7.5 m/ 9.5 m worked out to Rs.5.59 crore in respect of four ROBs on Southern Railway.

South Western Railway

Similar review by Audit in respect of 15 ROBs/ RUBs on South Western Railway, revealed that though the cost of extra width is to be fully borne by the Road Authority, the cost has been shared equally in ratio of 50:50 resulting in additional avoidable liability to the Railways amounting to Rs.13.51 crore.

(Annexure XXII)

2.7.5 Extra liability on extra length and additional facilities for approach roads

Not only were the Railways bearing extra liability on the extra width of the approach roads, they were also incurring heavy financial burden on sharing costs of the length of approach roads and the additional facilities like provision of ramps planned by the Road Authorities as no clear instructions/ provisions

exist regarding the extent/ limits of cost sharing. Some cases are discussed in detail below:

➤ **Tindivanam ROB in lieu of LC No.96 (Southern Railway)**

The ROB had been constructed (Feb 2001) with 3 ramps of 360m, 305m and 470m for approaches as against the normal requirement of 275m. Even though the cost of additional facilities were to be borne by the State Government as these were for meeting their requirement only, Southern Railway agreed to share the cost of additional facilities. The extra liability to the Railways on this account, as assessed by Audit amounted to Rs.2.66 crore.

➤ **ROB in lieu of LC No.18 between Tiruvallur and Kadambattur in the Madras-Arakkonam Section (Southern Railway)**

The work included construction of bridge across Cooum river for a length of 180m as part of approach road, in replacement of submerged bridge, on cost sharing basis. In one of their communications, the sponsoring authority (Highways department) laid a condition that the cost of Highways part of the work was likely to vary, which should be accepted for sharing by the Railways. The Railways without even knowing the extent of their financial liability agreed to share the extra liability. Since the work is still in progress, the quantum of extra liability to be borne by the Railways could not be assessed by Audit.

➤ **ROBs at Hebbal (South Western Railway)**

In respect of this ROB, the cost of the approach roads was 31 times the cost of the bridge proper (Rs.1.58 crore) and was unduly high. The inclusion of unreasonably higher lengths of approach roads resulted in extra liability to the Railways to the extent of Rs.1.61 crore.

2.7.6 Extra liability due to construction of ROB instead of RUB

➤ **LC No.85 between Palakarai and Tiruchy Fort (Southern Railway)**

The State highways (the sponsoring authority) in August 1998, had recommended construction of RUB. The consultants engaged by the Municipal Corporation of Trichy had also recommended the construction of light vehicular subway (RUB), which would be more economical than the construction of ROB. However, ignoring these recommendations, the work was carried out as an ROB and the bridge portion was completed in August 2001. The construction of the ROB instead of the RUB has resulted in extra liability to the Railway Administration to the extent of Rs.4.00 crore.

➤ **RUB in lieu of LC No.28. MIT Gate in the Chennai Beach-Tambaram Section (Southern Railway)**

The scope of the work was changed from RUB to ROB, for the purpose of improving the National Highways close to the bridge. The bridge portion was completed during December 2002. The plan for road approaches furnished by the State Government provided for elevated rotary and five approaches to rotary in both sides of the GST road, etc. This change over from RUB to ROB and the provision of extra facilities, to meet the specific request of the National Highways in cost sharing project lead to the Railways bearing extra

liability. The liability of the Railways in respect of bridge portion is only Rs.0.64 crore as compared to Rs.8.83 crore for the approach portion. The extra liability to the Railways on this account, as assessed by Audit, worked out to Rs.5.05 crore.

2.7.7 Non-realisation of Rs.2.72 crore towards State Government's share (South Western Railway)

Out of 46 ROBs/ RUBs in progress/ completed on cost-sharing basis, the Railway Administration was executing eight ROBs/ RUBs in which both bridge proper and approach roads were being executed/ completed by the Railway Administration. Fifty per cent cost of the ROBs/ RUBs should have been remitted by the State Government in advance to enable the Railway Administration to execute the work.

Audit review revealed that in respect of three works that were completed during the period between December 2002 and February 2003, Rs.1.99 crore was deposited by the sponsoring authorities against their estimated share of Rs.2.89 crore and the actual expenditure share of Rs.2.56 crore. Balance amount of Rs.0.57 crore is yet to be realised by the Railways.

Similarly, in four cases, where work was still in progress, Audit review revealed that the State Government had deposited Rs.3.90 crore only against the estimated share of Rs.18.37 crore due from them. The total amount booked against these works was Rs.12.10 crore (31 March 2004). Thus, the amount outstanding from the sponsoring authorities, based on the actual expenditure incurred so far, worked out to Rs.2.15 crore.

(Annexure XXIII)

2.7.8 Non-levy of departmental charges and handling charges

Southern Railway

The estimate prepared by Highways department for the construction of bridges contains Agency Charges at the rate of 19 per cent, Supervision charges, quality control charges and contingencies. However, the Railways had not levied departmental charges and handling charges in respect of bridge portion. As these charges are leviable on reciprocal basis, the non-inclusion of these charges in the detailed estimate prepared by Railway Administration is thus not in order. Non-levy of these charges in respect of four bridges mentioned below has been assessed at Rs.4.14 crore.

Sl.No.	Location	Additional Expenditure incurred by Rly. Admn. (Rs. in crore)
1.	ROB at LC No.84	0.92
2.	ROB at LC No.85	1.40
3.	ROB at LC No.241	0.92
4.	ROB at LC No.246	0.90
TOTAL		4.14

South Western Railway

During the period of review, 46 ROBs/ RUBs works were executed/ taken up for execution on cost sharing basis. As per extant orders, the construction of bridge proper and approach work is to be executed by Railways and State

Authority respectively. However, in respect of eight ROBs/ RUBs, the Railway Administration is executing both bridge proper and approach road.

In terms of Para 1829 E, whenever the Railway Administration undertakes works on behalf of outside bodies, departmental charges at 12.5 per cent of the cost of the work should be levied. It is, however, observed from the estimates that departmental charges at the rate of 12.5 per cent were not levied in respect of 7 ROBs/ RUBs (for the remaining one ROB the Railway Board had waived off the charges). The total amount thus not realisable worked out to Rs.3.78 crore.

(Annexure XXIV)

2.7.9 Non-recovery of maintenance charges for the ROBs/ RUBs constructed on deposit terms

In terms of provisions contained in Para 1851 of Indian Railway Code for the Engineering Department, all deposit works in railway premises should be maintained by the Railway Administration at the cost of the parties who applied for them. As per extant orders, for ROBs/ RUBs constructed on deposit terms, annual maintenance charges at 2.5 per cent/ 3 per cent per annum are leviable on the share of cost borne by the sponsoring authority. In case the Road authority concerned is agreeable, the capitalised value of the maintenance charges (30 per cent as per present orders) may be recovered.

To ensure recovery, the Railway Administration should enter into an agreement with the sponsoring authority covering the details of liability with regard to the initial cost of construction, rate of maintenance charges to be recovered etc.

All works completed by Construction Organisations have to be taken over by the Open line organisation with the least possible delay within three months of their completion for maintenance. Accounts department is responsible for effecting correct recovery of maintenance charges in respect of deposit works. On receipt of intimation from Construction Organisation regarding completion of a work for which maintenance charges are to be recovered from a party, the Accounts Officer should issue a provisional bill on account of maintenance charges subject to final adjustment after verification and sanction of completion report.

Southern Railway

It was noted that six ROBs/ RUBs were constructed and completed on deposit terms during the period between 1999-2000 and 2002-03. The Completion Estimate for the works were yet to be drawn. The agreements for maintenance of the bridges are also yet to be executed with the parties.

South Western Railway

It was noted that nine ROBs/ RUBs were constructed and completed on deposit terms during the period between November 2000 and January 2004. The Completion Estimate for the works were yet to be drawn. Moreover, none of the ROBs/ RUBs were handed over to the Open Line Organisation and the agreements for the maintenance for the bridges are yet to be executed with the parties.

In respect of these 15 completed works, the Railway Administration should have issued provisional bills pending finalisation of Completion Reports. Failure to do so, resulted in non-recovery of the annual maintenance charges at the rate of 2.5 per cent/ 3 per cent of the total cost of the ROB/ RUB amounting to Rs.1.71 crore (Southern Railway – Rs.0.64 crore and South Western Railway – Rs.1.07 crore) as on 31 March 2004.

(Annexure XXV)

2.8 Execution of works

Review of the execution of works of ROBs/ RUBs by the Railways revealed cases of non-commencement of works, commencement of works without completion of preliminaries, time overrun, idle investment, poor contract management, non-drawal of completion reports etc. Some illustrative cases are given in the succeeding paragraphs.

2.8.1 Non-commencement/ delay in commencement of works

Non-commencement of bridge works leads to continued operation of LCs and the consequent avoidable expenditure on their operation, apart from compromising Railway safety.

On Southern Railway, it was observed that as of 31 March 2004, construction of 43 bridges was delayed for periods ranging from 15 months to 87 months. This resulted in avoidable expenditure of Rs.1.19 crore towards the establishment expenses in respect of gatemen required to man the LCs.

[Annexure XXVI (a)]

Similarly, on South Western Railway, construction of 29 bridges was delayed for periods ranging from 39 months to 99 months. This resulted in continued operation of LCs and avoidable expenditure of Rs.1.23 crore towards the establishment expenses in respect of gatemen required to man the LCs.

[Annexure XXVI (b)]

2.8.2 Works taken up without the completion of preliminaries

As per instructions contained in para 703 of the Indian Railway code for the Engineering department and Railway Boards' orders on the subject, preliminary works such as sanction to the estimate, finalisation of plans/estimates and drawings, finalisation of initial and recurring costs, etc have to be completed before taking up the works for execution. A review in this regard indicated that 35 works estimated to cost Rs.319.01 crore (Southern Railway – Rs.87.34 crore and South Western Railway – Rs.231.67 crore) were taken up, without proper sanctions of the competent authority. The inadequacies included non-finalisation of General Arrangement Drawings (GAD)–16 cases, non-preparation of estimates–7 cases and non-receipt of sanction for material modification–4 cases. Inclusion of works without completion of preliminaries resulted in material modifications and increase in the financial liabilities of the Railways.

2.8.3 Time over run

As per instructions of the Railway Board, there should be proper coordination between the Railway Administration and the sponsoring authorities so as to ensure that the ROB/ RUB works are completed within a period of 18 to 24 months of their sanction.

A review of the progress of the on going works indicated that, out of the 48 works, 26 works were three to four years old, eight works were four to five years old and seven works were more than five years old.

It was noted that there was poor monitoring and coordination resulting in considerable delays in the execution of these works.

2.8.4 Idle investment

The Railway Administration provides ROB/ RUB on cost sharing basis with a view to improve safety standards and operational performance of the system. Hence, non-completion of the approach road work/ non-closure of LCs defeats the very purpose of providing ROB/ RUBs. Keeping this in view, the Railway Board stipulated in October 1991 that prior to inclusion of bridge works in Annual Works Programme, the Railway should obtain commitment from the sponsoring authority to commence the work on approaches and complete it more or less simultaneously with the completion of the bridge proper by the Railways. A review of works indicated that in six works in Southern Railway and one work in South Western Railway, the approach road works were not completed, resulting in the idling of assets worth Rs.8.46 crore (Southern Railway – Rs.7.99 crore and South Western Railway – Rs.0.47 crore).

(Annexure XXVII)

2.8.5 Non-drawal of completion reports

In terms of para 1701 of the Railway Code for Engineering Department in the case of Railway projects costing over Rs.one Crore, the completion estimate should be prepared at the end of one of the first three financial half years after the date of opening viz., the date on which the project fulfils the purpose for which it was sanctioned. The completion report should be prepared within 18 months after the end of the financial half year in which the completion estimate is prepared.

During the period under review, 34 ROB/ RUBs on Southern Railway and 14 ROB/ RUBs on South Western Railway were completed. As per the codal provisions, a maximum period of three years after the date of completion is provided for, for the drawal of completion report. The completion report for 19 ROB/ RUBs (Southern Railway – 17 and South Western Railway – two) were not drawn, even though the period of three years after their completion had already lapsed.

Even in the case of four ROB, where the works had been completed long back (during 1986 to 1994), completion reports had not been drawn. Non drawal of completion reports in respect of cost sharing and deposit works will

have an adverse effect on the settlement of accounts and recovery of Railway dues from the parties concerned.

2.8.6 Review of ROBs/ RUBs entrusted to RBDCK

In terms of Para 1816-E the portion of the work within Railway limits (Bridge Proper) is required to be constructed by the Railways and the portion of the work in road approaches is required to be constructed by road authorities.

In deviation from the codal procedure, it was decided to hand over construction of bridge portion of 20 ROBs/ RUBs in Kerala to an agency of State Government viz., Roads and Bridges Development Corporation of Kerala (RBDCK), without obtaining the prior sanction of the Railway Board. The anticipated advantages of handing over the work to State Government agency were stated as:

- Early completion i.e the works were proposed to be completed by 12 months.
- The economy in overhead and construction costs.

Railway Board while according post facto conditional ratification to the above proposal had taken a serious note of the procedure adopted by Southern Railway resulting in its becoming a 'fait accompli'.

Out of the 20 ROBs/ RUBs handed over during 2000-01 only 5 works have been completed so far. The works in respect of 3 ROB/RUBs are yet to be taken up (31 March 2004). The progress in respect of the remaining works (12 ROBs/ RUBs) ranged from 0 per cent to 69 per cent in respect of bridge portion and 0 per cent to 96 per cent in respect of approach portion. Thus, the objective of handing over the work of construction of ROBs/ RUBs within the Railway limit also has not been achieved since none of the bridges was completed within one year as contemplated.

Further, as per Railway Board's instructions, the extent and level of supervision shall be the same as if the work is got executed by the Railways through its own contractor. This resulted in the Railway's carrying out the supervision and bearing the corresponding expenditure in addition to bearing the supervision charges of 12.5 per cent passed on by RBDCK to the Railways. Thus, far from achieving economy in overheads and construction costs, the Railways have ended up agreeing to bear 12.5 per cent agency charges to RBDCK and have also been incurring a further amount for the supervision done by them over and above the supervision done by RBDCK. In respect of ten works for which figures were available, Audit assessed that the Railways had incurred additional financial liability of Rs.0.59 crore.

In respect of two works taken up by RBDCK that were entirely funded by Kerala Government, MOU provided for the recovery of 6.25 per cent for supervision, as against the Railway Board's orders for recovery of 6.25 per cent for supervision and 12.5 per cent for departmental charges in such works.

Thus, by inclusion of a peculiar clause in contravention of Board's orders, the Railway Administration will be foregoing approximately Rs.0.26 crore.

Reservations have also been expressed by the Railway Board over the performance of RBDCK in terms of cost as well as standards of construction. Quoting the recent collapse of one bridge constructed by RBDCK, the Railway Board directed that before entrusting more works to the Corporation, the expected financial advantage and adequacy of technique involved in the works entrusted and completed by RBDCK are required to be established in concrete terms. The wisdom of entrusting the construction of ROBs/ RUBs to RBDCK, therefore, needs to be reviewed.

2.8.7 Poor Contract Management

A review of the works contracts relating to the ROBs/ RUBs revealed poor contract management resulting in avoidable expenditure as detailed hereunder:

- Delay in finalisation of the negotiated rates and delay in the removal of obstructions by the Railway Administration resulted in extra expenditure of Rs.0.66 crore (ROB No.55A at Guindy)
- Non utilisation of speed restriction by the contractor causing a loss of Rs.0.27 crore (ROB No.55A at Guindy)
- Grant of extensions under clause 17(2) despite poor progress by the contractor. Rejection of claims for Rs.0.22 crore by the Arbitrator (ROB No.46 between Villivakkam and Korattur).
- Special conditions in respect of a contract prescribed grant of extensions under clause 17(4) in cases of delay in execution, but these were granted under clause 17(2), resulting in non levy of liquidated damages amounting to Rs.0.41 crore (ROB in lieu of LC No.76, 83, 84)
- Hire charges for the utilisation of steel cribs amounting to Rs.0.07 crore not recovered (ROB in lieu of LC No.84, 85, 241, 246)
- Non availability of vitiation clause in a contract leading to non recovery of Rs.0.16 crore (ROB in lieu of LC N0.12)
- Award of contract on single tender basis at the extra cost of Rs.0.58 crore for the purpose of speedy execution of works. But the purpose was not achieved because of non completion of approaches. (ROB in lieu of LC No.84, 85, 241, 246)

(Annxure XXVIII)

2.9 Non-closure of level crossing

As per one of the conditions of Standard Agreement, there should be an agreement between the Railways and the sponsoring authorities to the effect that in the event the existing LC being required to be kept open after the ROB/ RUB is opened to traffic, the entire expenditure incurred by the Railway Administration for the construction of ROB/ RUB and its approaches shall be borne by the road authorities and reimbursed to the Railways. In the case of LCs No.406 (near Sankaralingapuram station), 11 (near Saidapet station) and 15 (near St. Thomas station) on Southern Railway, the same were not closed after completion of ROB/ RUB work. There was no agreement between the parties in these cases for reimbursement of Railways share of cost in the

ROBs/ RUBs. As a result, the Railways could not make any claims for reimbursement of Railways share of cost amounting to Rs.7.15 crore.

In addition, non-closure of LC has resulted not only in continued maintenance of 3 LCs (LC No.406, 11 and 15) at the cost of Rs.0.10 crore (March 2004) for periods ranging from 12 to 32 months, but the main purpose of closing the LC by providing ROB, viz, safety concerns of Railways has been compromised.

2.10 Conclusion

Provisioning and utilisation of funds for construction of ROBs/ RUBs has been poor. There is little co-ordination between the Railways and the State Governments in identifying, providing budget and executing the works resulting in idle investment and time delays in completion of works.

Railway Administration in execution of the works of ROBs/ RUBs have not followed the existing orders and codal provisions with the result, that there have been extra expenditure, non-recovery of due charges, escalation in cost, non-commencement of work in substantial number of cases and consequent loss due to operation of posts of gatemen at LCs, idle investment, etc. Further, due to ambiguity in the extent of financial liability to be borne by the Railways and the State Government, the Railways are incurring heavy financial burden on providing extra width, length and additional facilities to the approach roads.

2.11 Recommendations

- A formal system should be introduced for holding co-ordination meetings between the State Governments and the Railways before finalisation of the Annual Plans of the State Governments and the Railways to arrive at a common priority list of works proposed to be included and amount of funds required for the execution of the works.
- Taking into account the cost of construction and the prescribed time frame of 24 months for completion of works in respect of ROBs/ RUBs and the budget allotments made over the years by the Railways, the number of ROBs/ RUBs being approved for each Annual Plan should be restricted (for example, in the case of Tamil Nadu to about 12), instead of spreading thin the resources to several projects, which results in non-completion/ delay in completion of works. An embargo needs to be placed on the recommendation/ inclusion of any more ROBs/ RUBs in the Annual Works Programme till such time the ongoing works are completed.
- The Railway Board should consider drawing up clear and specific norms for the length and width of approach roads for which the Railways will be liable to bear cost, with upper monetary limits for the share to be borne by the Railways.
- Staff responsibility should be fixed for deviating from normal cost sharing arrangements without specific prior sanction of the competent authority.