

**PUBLIC ACCOUNTS COMMITTEE
(1977-78)**

(SIXTH LOK SABHA)

EIGHTEENTH REPORT

ROAD DEVELOPMENT IN FOURTH PLAN

MINISTRY OF SHIPPING AND TRANSPORT

**[Supplementary Report of the Comptroller and Auditor
General of India for the year 1973-74, (Part II) Union
Government (Civil)]**

Presented in Lok Sabha on 22-12-1977

Presented in Rajya Sabha on 22-12-1977



**LOK SABHA SECRETARIAT
NEW DELHI**

December, 1977/Agrahayana, 1899 (S)

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30-7-1976 (FN)
30-7-1976 (AN)
31-7-1976 (FN)
31-7-1976 (AN)
18-11-1977 (AN)

*Not printed. One cyclostyled copy laid on the Table of the House and five copies placed in the Parliament Library.

PUBLIC ACCOUNTS COMMITTEE

(1977-78)

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Shri C. M. Stephen

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SECRETARIAT

1. Shri B. K. Mukherjee—*Joint Secretary.*
2. Shri T. R. Ghai—*Senior Financial Committee Officer.*

*Elected with effect from 23 November 1977 *Vice* Sarvashri Sheo Narain and Jagdambi Prasad Yadav ceased to be Members of the Committee on their appointment as Ministers of State.

INTRODUCTION

1. Chairman of the Public Accounts Committee, as authorised by the Committee do present on their behalf this 18th Report of the Public Accounts Committee (Sixth Lok Sabha) on Supplementary Report of the Comptroller and Auditor General of India for the year 1973-74, Union Government (Civil) (Part II).

2. Supplementary Report of the Comptroller and Auditor General of India for the year 1973-74, Union Government (Civil) was laid on the Table of the House on 22-3-1976. The Public Accounts Committee (1976-77) examined these paragraphs on 30 and 31st July, 1976. Written information in regard to this Supplementary Report was also obtained from the Ministry of Shipping and Transport and other Ministries concerned.

3. The Public Accounts Committee (1977-78) considered and finalised this Report at their sitting held on 18 November, 1977. Minutes* of the sittings of the Public Accounts Committee form Part II of the Report.

4. A statement containing the conclusions/recommendations of the Committee is appended to the Report (Appendix 14). For facility of reference, these have been printed in thick type in the body of the Report.

5. The Committee place on record their appreciation of the commendable work done by the Chairman and Members of the Public Accounts Committee of 1976-77 in taking evidence and obtaining information for the report.

6. The Committee place on record their appreciation of the assistance rendered to them in the examination of the subject by the Comptroller and Auditor General of India.

7. The Committee also like to express their thanks to the officers of the Ministries of Shipping and Transport, Finance, Petroleum and Chemicals and Railways for the cooperation extended by them in giving information to the Committee.

NEW DELHI;

December 6, 1977

Agrahayana 15, 1899 (S)

C. M. STEPHEN,

Chairman,

Public Accounts Committee.

*Not printed. One cyclostyled copy laid on the table of the House and five copies placed in Parliament Library.

CHAPTER I

HISTORICAL EVOLUTION OF VARIOUS ROAD PLANS

1.1. The development of roads has been recognised all over the world as a basic and important infra-structure for economic development of the country. Roads not only provide important links between the rural and suburban areas of the country but also connect the country with other international centres of trade and commerce. While the demand for expansion of road net-work is generally derived from the needs of other sectors of the economy, to an extent, the road system also acts as a leading factor in stimulating socio-economic development. In fact, it acts as a catalyst for the development of backward and inaccessible areas. The importance of roads is still greater in a country like India where due to geographical and economic factors, industries and other producing units tend to concentrate in a particular region while the raw materials for the same and the finished goods for consumption have to be transported to and from the various parts of the country. This can be achieved more economically and efficiently, if good and wide roads are available. The Royal Commission on Agriculture in its report observed: "The road system links up the cultivator's holding with the local markets and the nearest railway station, while the railway provides the connecting links between the area of production and consumers of a distance, and between the manufacturer in the town and the cultivator who purchases his ploughs, his fertilisers and his cloth."*

1.2. At the turn of the twentieth century India possessed very few trunk roads, barring those built by the Moghul and British regimes essentially for military purposes. Rest of the network consisted primarily of cart tracks or bridle paths having no hard surfacing except in short reaches. Further, there was a preponderance of unbridged gaps which caused disruption of communications during almost every rainy season. Demand for better roads grew mainly during and after the First World War when there was a tremendous increase in the motorised transport. The deteriorating condition of roads led to the appointment of the Road Development Committee in 1927, with Shri M. R. Jayakar as the Chairman to examine the means of developing the road system in the country. Based on the recommendations of that Committee, a non-lapsable Central Road Fund was created by the Government in 1929 by levying an additional surcharge on the sale of motor spirit. The Fund was meant exclusively for road development and research and for several years acted as the mainstay of road programme

*Report of Royal Commission on Agriculture (1928), p. 312.

in the country. Even though growth of traffic continued unabated, for a number of years following the creation of Central Road Fund no substantial increase in road expenditure occurred. As a result, the condition of roads gradually worsened.

1.3. The situation reached a pitch during the Second World War and resulted in the first attempt to unify the road system on an all-India basis at the Conference of Chief Engineers at Nagpur in 1943, when a Road Development Plan commonly known as the "Nagpur Plan" was prepared. The Nagpur Plan was intended to serve the needs of the country for a period of twenty years and was estimated to cost Rs. 372 crores according to the prices then prevailing. This Plan classified the roads for the first time in the country into:

- (1) National Highways;
- (2) State Highways;
- (3) Major District Roads;
- (4) District Roads; and
- (5) Village Roads.

1.4. The Plan envisaged a balanced development of all types of roads in the country in such a manner as to increase the road mileage of surfaced roads from 88,000 to 1,23,000 miles and unsurfaced roads from 1,32,000 to 2,08,000 miles. The objective underlying the Nagpur Plan was that no village in a well-developed agricultural area should remain at a distance of more than 5 miles from a main road.

1.5. The implementation of Nagpur Plan started well. But soon after Independence all of a sudden, in 1948, the financial position of the country deteriorated and development works were stopped forthwith. Road development programme was one of the first to be axed. However, with the successive execution of Five Year Plans increasing emphasis was laid on road development in the country. The First Five Year Plan (1951—56) provided an expenditure of about Rs. 140 crores for roads out of a total plan outlay of Rs. 2,356 crores (about 6 per cent). This provision was utilised in full and the planning executive organisations were developed to tackle much greater volume of work in the Second Five Year Plan (1956—61), which provided a sum of Rs. 264 crores for roads development out of a total Plan outlay of Rs. 4,800 crores (5.5 per cent). But this increased provision for road development was also insufficient even for the immediate road needs of the country.

1.6. Since the road development programme in the first two Plans was formulated and executed in the perspective of the Nagpur Plan, the targets envisaged, in the Nagpur Plan had exceeded both in regard to surfaced

and unsurfaced roads ahead of schedule. By the end of the Second Plan period (1961), the mileage of surfaced roads in the country had risen to 141,000 and that of unsurfaced roads to well above 250,000. Despite this expansion of the road mileage over the ten years, the road network remained deficient in certain respects, such as unbridged river crossings, substandard surface, narrow carriage-way, etc. About 60 per cent of the total mileage consisted of earth roads only. Of the total road mileage in the country about 15,000 miles constituted the National Highways but only about 2,300 miles of these had a two-lane carriageway; the rest were only one-lane. There were also 100 miles of National Highways which had only one-lane water-bound macadam or low surface instead of cement concrete or bitumen surface. The National Highways as well as the State Highways had a crust thickness of nine to ten inches which according to technical experts was inadequate for the prevailing volume and intensity of traffic. Moreover, there were numerous missing bridges on the arterial routes. On the National Highways alone about 80 major bridges remained to be provided at the end of the Second Five Year Plan.

1.7. The rapid growth in traffic due to changed economic, industrial and agricultural conditions during the decade after Independence made it necessary to review the Nagpur Plan and to make a fresh appraisal of the traffic requirements in respect of roads to cater to the needs of the expanding economy. Another perspective Plan, popularly known as Bombay Plan, was accordingly drawn up by a Committee of Chief Engineers in 1958, for a period of 20 years, commencing from 1961-62, *i.e.*, the beginning of the Third Five Year Plan. The main objective of this Plan was to raise the total length of roads from 3,79,000 miles in 1961 to about 6,57,000 miles in 1981 *i.e.* an expansion of about 70 per cent. To implement the provisions of this Plan an outlay of Rs. 5,200 crores was envisaged. The targets laid down in the Bombay Plan (1961—81) are as under:

1. National Highways	32,000 miles
2. State Highways	70,000 miles
3. Major District Roads	1,50,000 miles
4. Other District Roads	1,80,000 miles
5. Classified Village Roads	2,25,000 miles
	6,57,000 miles

Or 10,52,000 K.M.

1.8. The broad objective laid down in the Bombay Plan is that no village in a developed and agricultural area should remain at a distance of more than four miles from a metalled road and more than 1½ miles

from any type of road. The Plan, as stated by Government, was "to provide a broad guide to the Highway authorities in the country for framing their five year Plans, keeping in view the availability of resources of the country, etc." Synchronizing with the formulation of the Bombay Plan, the Third Five Year Plan, followed by Fourth and Fifth Plans, covering the period upto 1978-79, came into being. The cost of the road development programme under the Third Five Year Plan (1961—66) was about Rs. 439 crores against a total Plan outlay of Rs. 7,500 crores (5.8 per cent). Despite this provision the road system had still large deficiencies by the end of the Third Plan. The National Highway system had over 400 k.m. of missing road links and 17 missing major bridges. Of the total length of 24,000 k.m. of National Highways, about two-thirds had single-lane width. The State road systems also suffered from various handicaps. Besides inadequate road length, the roads in many areas had substandard surfaces, narrow width and weak bridges. A number of roads originally meant for light traffic required to be strengthened for much higher intensities of traffic that had developed or were anticipated to develop. Many economically backward regions and hilly areas had poor communications. A large number of villages still lacked road links with market towns and with one another. In metropolitan cities, the development of the road system lagged far behind the growing requirements of traffic.

1.9. After the completion of the Third Plan in 1966 and before commencement of the Fourth Plan in 1969, the country had for the years 1966-67, 1967-68 and 1968-69, three annual Plans for the development of roads. Due to paucity of funds, very few new projects for the development of the existing National Highways system could be taken up during these 3 years. The result was that the existing National Highway System had more or less the same deficiencies as those existing at the end of the Third Plan.

1.10. The Fourth Five Year Plan (1969—74) made a provision of Rs. 871 crores for the development of roads in the Central and State sectors out of a total outlay of Rs. 15,902 crores for the Fourth Plan (5.5 per cent). At the time of formulation of the Fourth Plan, as mentioned earlier, the roads system in the country had already large deficiencies. As regards the National Highways, the Plan envisaged the completion of 16 major missing bridges out of the total number of 17 such bridges, the completion of all the missing links of roads, the improvement of all the low grade sections and the widening of all important sections of the National Highways to two-lanes. The progress on the central road programme was, however, slow during the Plan period due partly to constraints of financial resources and partly to certain other reasons such as the lack of advance investigatory action on schemes included in the Fourth Plan, organisational inadequacies, procedural delays, shortage of essential

road materials etc. The result was that a good number of schemes of the Fourth Plan spilled over to the Fifth Plan as continuing schemes in the Central Road Programme. The Road development during the Fourth Plan has been discussed in detail in the subsequent chapters as this forms the subject matter of this Report.

1.11. So far as Fifth Plan (1974—79) is concerned, main emphasis has been laid on completion of spill-over works of the Fourth Plan. Besides, provision has also been made for certain new schemes of essential character, particularly those relating to safety of the traffic.

1.12. The Draft Fifth Five Year Plan provided Rs. 1,774 crores (both for Central and State sectors) for roads, but after the mid-term review, this outlay has been reduced to Rs. 1,347 crores (3.4 per cent of the total Plan outlay of Rs. 39,303 crores), which includes an outlay of Rs. 445.44 crores for the central roads programmes, as under:

Programme	Revised Plan outlay (Rs. in crores)
1. National Highways	327.62
2. Strategic Roads	38.00
3. Roads of Inter-State and economic importance	30.00
4. Highway Research and development	2.00
5. Roads in sensitive border areas	10.00
6. Special Road/bridge works of National significance mainly for second Hoognly bridge at Calcutta	25.00
7. Tools and Plants	12.82
	Rs. 445.44

1.13. The road length per 100 sq. km. in some of the countries of the world is as follows:

Belgium	K. m. 300
Japan	275
Germany	167
Great Britain	145
France	142
USA	64
India	30

1.14. Asked during evidence, if Government had evolved a broad national Road Plan or a kind of mechanism where on a national basis a programme of road construction could be operated, the Director General (Roads) has stated in reply:—

“In fact, right from 1943 itself, even before we gained Independence, this system was there and in 1943, a Road Plan was evolved by an assembly of all the country's Highway Chief Engineers including the Central Highway authorities and the State Highway authorities and even experts in the Highway field outside. That was called the Nagpur Plan which was implemented from 1943 to 1956 or so. In fact, this was the first plan which gave a very important re-orientation to the Highways policies, Highway administration etc. That was when the concept of the National Highways was really born for the first time. This plan was successfully accomplished by the end of the first plan period and in the beginning of the second plan period.

The second attempt to prepare a further plan of action for the road sectors was taken up by the same kind of assembly of all India Highway Chief Engineers and this assembly produced around 1958 or so, what was called Bombay Plan. This carried the projections of the Highway requirements of the country for the next 20 years from 1961—81. In this, the Chief Engineers made a very, very well considered assessment of what the country would need, taking into consideration its dimensions, its terrain problems, its climatic and environmental conditions and all other aspects.”

1.15. Asked further as to how much of the Bombay Plan, which envisaged a twenty-year programme of road construction, has been fulfilled in practice, the Director General (Roads) has added:

“Actually, this Plan had two important aspects introduced therein. One was a formula by which they assessed likely requirements upto 1981. The population of various urban centres, villages and agricultural areas, the more developed areas and under-developed areas, etc. and such other factors were built into that formula—that by 1981 our objective would be to have every village of so and so, population within so much distance connected by some kind of road.”

1.16. According to the written information furnished to the Committee by the Ministry of Shipping and Transport, the table below indicates the targets laid down in the Bombay Plan and the progress made on 31 March

1976 in so far as financial expenditure is concerned and on 31 March 1975 in so far as physical aspects are concerned.

Targets as laid down in 1961-81 Plan

Achievements as upto 31-3-75 for physical/ 31-3-76 for financial

Scheme	Physical	Financial (Rs. in crores)	Physical financial		
			Total length	Surface (Rs. crores)	
	Kms.		Kms.	Kms.	
1. National Highways	52,000 (approx)	980.00	28,870	28,870	500.06
2. State Highways	1,12,000	1580.00	97,474*	89,501*	
3. Major Distt. Road	2,40,000	1360.00			
4. Other Distt. Roads	2,88,000	650.00	7,68,734*	2,91,114	1516.31†
5. Classified Village Roads	3,60,000	630.00			
Total:	10,52,000	5200.00	8,95,078	4,09,485	2,016.37

*Position as on 31-3-1975

† Upto 31-3-1976

1.17. It will be seen from above that there are shortfalls in the achievement of both the physical and the financial targets of the Plan. Clarifying the position regarding these shortfalls, the Ministry have further stated:

"It may be clarified that the Government of India are not committed to the aforesaid Plan as indicated on the first page of the Plan itself. This was only intended to provide a broad guide to the Highway Authorities in the country for framing their five year plans, keeping in view the availability of resources, various developments for the economic activities of the country, etc. The shortfalls cannot, therefore, be compared with the targets set out in the aforesaid Bombay Plan as the achievements are with reference to the availability of resources which have to be in any case the governing factor."

1.18. In response to a question whether any review of the working of the Bombay Plan was made, the Ministry have stated:

"Since the Government of India have not accepted the aforesaid Plan and the actual planning and programming has to proceed

on the basis of availability of resources, the question of Government of India reviewing the aforesaid Plan does not arise."

1.19. The shortfalls in the achievement of the Bombay Plan had also been pointed out by the Estimates Committee in their 75th Report (Fifth Lok Sabha, April 1975), wherein the Committee have observed:

"The Committee note that the Chief Engineers had in their Plan (1959) for the period 1961—81 had recommended that the road length in the country should be increased to 6,57,000 miles by 1981 but the present road length is only 3,94,270 miles and at the present rate, there is likely to be considerable shortfall in achieving the target. The Committee feel that every possible endeavour should be made to achieve the targets laid down in the Plan of the Chief Engineers by 1981."

1.20. The Director General (Roads) has conceded during evidence that "the statement of the Estimates Committee is almost correct because there is a definite shortfall. It has not been possible to keep to the target envisaged in the Plan obviously on account of lower allocations during the previous Plan period and for the current plan period."

1.21. The Committee note that the first attempt to unify the road system on all-India basis was made by the Conference of the Chief Engineers in 1943 when a Road Development Plan, commonly known as Nagpur Plan, was drawn up to cater to the traffic needs of the country for a period of 20 years. The Plan envisaged an increase in the road mileage of surfaced roads from 88,000 to 1,23,000 miles and unsurfaced roads from 1,32,000 to 2,08,000 miles. These targets were achieved by the First Five Year Plan (1956) i.e. within a period of 13 years of the commencement of the Plan. Although it augured well for the development of roads in the country, the Committee do not feel very enthusiastic about this accomplishment in as much as the Plan was formulated during the pre-Independence era and naturally had not envisaged the growth of traffic which was to come about in the post-Independence period on account of rapid changes in economic, industrial and agricultural fields. The Committee would, however, like to point out that Government did not take sufficient care to project the increasing traffic requirements at the time of formulation of the First and Second Five Year Plans with the result that after the completion of the Second Plan in 1961, the national highways as also other important roadways in the country were still deficient in several aspects, such as, unbridged river-crossings, substandard surface, narrow carriageway etc. Not only there were numerous missing bridges on the arterial routes but on the National Highways alone about 80 major bridges remained to be provided at the end of the Second Five Year Plan.

1.22. The Committee further note that the Bombay Plan drawn up by the All India Highway Chief Engineers in 1958 for a period of 20-years (1961—81) envisaged an increase of total mileage of roads in the country from 3,79,000 miles in 1961 to 6,57,000 miles (10,52,000 km) in 1981 at an estimated cost of Rs. 5,200 crores. The Committee are concerned to note that there have been marked shortfalls in physical and financial terms of the Plan as the total mileage of roads as on 31 March 1975 stood at 8,95,078 kms (which include 4,09,485 kms only of surfaced roads) and the expenditure incurred was Rs. 2,016.37 crores till 31 March 1976. The Committee note that similar shortfalls have been highlighted by the Audit in the Plan relating to various States, such as Assam, Bihar, Gujarat Maharashtra etc. Government have conceded that shortfalls. It was submitted by the representative of the Ministry during evidence that Government were not committed to the Bombay Plan and the projections contained therein were intended to provide for a broad guideline to the highway authorities in the country for framing their Five Year Plan. The Estimates Committee in their 75th Report (Fifth Lok Sabha, April 1975) too while pointing out the shortfalls had recommended that every endeavour should be made to achieve the targets laid down in the Plan.

1.23. The Committee consider that as building a network of roads capable of dealing with the growing traffic needs of the country is bound to take a long time, it was necessary for the Central and State Governments to have prepared a master plan with a schedule of priorities. This master plan had necessarily to cover not only national highways and other Centrally sponsored roads, but State roads, going right down to village roads. Had such a plan been approved and priorities determined, it would have been a comparatively simple task to determine what should be done during each Plan period, keeping in mind the resources available. If the Bombay Plan was not considered acceptable to the Central and State Governments it would have been amended or replaced. Lack of an approved plan to be implemented as such, unless changed by a conscious decision, has undoubtedly contributed to the present situation where roads (both Centrally financed and State) were apparently selected for construction or development without due consideration of their importance vis-a-vis other roads, roads and bridges sanctioned or under construction or improvement have languished for lack of funds while new works were taken up or projects given priority were not actually taken up.

The Committee would therefore recommend that a comprehensive plan should be drawn up. This need not be an entirely new exercise as the (yet un-accepted) Bombay Plan and plans made for National Highways and for State roads by certain State Governments would be available as a base. But it is essential that the Central and State Governments should consider and approve a plan, after considering technical, economic and social aspects. The Committee would emphasise that to get the full value of the road net

work it is essential that State Governments should participate fully in this drafting of the road plan and in approving it. The Central Government should take the lead not only because its role in overall planning but considering the outlays made and being incurred on National Highways, Central roads and the roads being built under other on going programmes and schemes.

1.24. The Committee concede that allocation of priorities and decisions on what should be built or improved in any given period are matters which need detailed consideration keeping in view changing requirements and availability of resources. However the Committee would recommend that the following guidelines should be accepted for reasons explained against each :—

- (i) Incomplete roads, bridges etc. should be given the highest priority, unless there is a conscious decision that the work in progress was to be abandoned or treated as complete without further outlay. This is necessary to ensure that resources are not blocked for long periods and incomplete assets do not deteriorate without use.
- (ii) Priorities once allocated should not be changed lightly or frequently. This is necessary so that the technical staff can do the preliminary work in an orderly fashion without fear of their work going waste. It is also anticipated that works will then not be started without the preliminary work (survey, soil tests, design estimation etc.) being done properly.
- (iii) While the long-term overall plan can be taken note of all our requirements, in the five year and annual plans only those works should be provided for which funds are likely to be available.

1.25. The arrangement for monitoring development of roads also needs strengthening. Detailed recommendations in regard to National Highways and Centrally financed roads are given in later chapters of this Report but, more generally, the Committee consider that monitoring the implementation of a programme should be accepted as an essential part of planning. It appears that the Union Government and some, if not all State Governments are not kept fully aware of what is actually being done to implement the plan made earlier. The situation is worsened by the inadequate attention apparently given to initial planning and to subsequent changes made. The Committee feel that while each Government is, and should be, directly concerned with corrective measures in regard to shortfalls, deviations etc. on roads under its control, it is in the interest of all, for the Government of India, to take a lead in ensuring the building up an adequate system for monitoring the implementation of earlier plans when later plans are discussed. While this is necessary for all plans, this is particularly so for development of roads, where haphazard development and incomplete, or delayed work can lead not only to blockage of funds to delay in general development of an area.

CHAPTER II

THE PLANNING PERSPECTIVE

- (i) *National Highways at the beginning of the Fourth Plan Projects spilled, over from the Third Plan.*

Audit Paragraph

2.1. In April 1947 the Central Government assumed responsibility for development of National Highways, which then numbered 34 and had a total length of about 21,440 kilometres (including missing links). By the end of the Third Plan the length of the National Highways had increased to about 24,000 kilometres comprising 45 National Highways (henceforth NHs). Expenditure on construction and development of NHs during the first three Plans was Rs. 27.32 crores, Rs. 42.84 crores and Rs. 128.83 crores respectively. In physical terms, this involved construction of 2,816 kilometres of missing links, improvement of 17,120 kilometres of low-grade sections to single lane blacktopped roads, widening of 4,800 kilometre to two-lane carriageway and construction of 140 major bridges (i.e. of length exceeding 200 feet each). In the three annual plan years 1966-67; 1967-68 and 1968-69 further amounts to Rs. 23.30 crores, Rs. 15.68 crores and Rs. 12.71 crores were spent on construction and development of National Highways involving construction of 105 kilometres of missing links, 1,728 kilometres of improvements and widening and 28 major bridges. Thus, in all, upto the end of March 1969, Rs. 250.68 crores had been spent on construction and development of NHs. In the Third Plan there was a sharp increase in the funds provided from Rs. 48.50 crores originally provided for development of NHs to Rs. 137.20 crores, due to special road development programmes having been taken up, these being the road works taken up under IDA credit (Rs. 28.57 crores), the emergency roads programme (Rs. 42 crores), the coal roads programme (to overcome the transport bottleneck in movement of coal) and the additional bridges agreed to by the Planning Commission for being taken up in the Third Plan.

2.2. Besides expenditure on NHs, expenditure of the order of Rs. 22.16 crores was also incurred on other Centrally-aided roads to the end of the Second Plan, and in the Third Plan further Rs. 39.34 crores had been provided. During the three annual plans 1966—69, an amount of Rs. 73.97 crores was provided.

2.3. The emphasis in the development of National Highways till commencement of the Fourth Plan was mainly on removal of basic deficiencies like construction of missing links and major bridges across the unbridged river crossings and improvement of low grade sections. Widening the carriageway to two lanes and strengthening of pavement was taken up only in limited lengths. At the commencement of the Fourth Plan, the road pavements of National Highways were generally 20-30 centimetres thick, and mostly single-lane, *i.e.* 3.66 metres wide black-topped surface. There were a large number of old bridges which had been designed with a maximum load-bearing capacity of 12.2 tonnes (the approximate weight of the heaviest road-roller). It was considered by Government that with increasing number of heavier vehicles coming on the major arterial roads the defects in the highway system needed rectification over the National Highway network.

2.4. On 1st April, 1974, there were in all 55 National Highways. The lengths of the following ten of them were more than 1,000 kilometres:

S. No.	NH No.	Route	Length in kilometres
1.	2.	Delhi-Agra-Kanpur-Varanasi-Calcutta	1,490
2.	3.	Agra-Indore-Nasik-Bombay	1,161
3.	4.	Bombay-Poona-Bangalore-Madras	1,235
4.	5.	Madras-Vijayawada-Baharagora	1,533
5.	6.	Dhulia-Nagpur-Sambalpur-Calcutta	1,645
6.	7.	Varanasi-Nagpur-Hyderabad-Bangalore-Kanyakumari	2,369
7.	8.	Delhi-Jaipur-Ahmedabad-Bombay	1,428
8.	15.	Pathankot-Bikaner-Barmer-Samkhiali (near Kandla)	1,526
9.	17.	Panvel-Panaji-Mangalore-Cochin	1,290
10.	31.	Barhi-Dalkola-Amingaon	1,125

Coming from Madras *via* Vijayawada, NH 5 meets NH 6 at Bharagora and, thus, that is the route to Calcutta. National Highway 6, coming from Calcutta, meets NH 3 at Dhulia and, thus that is the Calcutta-Bombay route. From the point of view of traffic intensity, National Highways 2, 3, 4, 5, 6, 8, 24 and 28 are the most important.

[Paragraph 1 of the Supplementary Report of C&AG for the year 1973-74
(Part II)—Civil]

2.5. Under the Constitution, the Government of India are primarily responsible for roads declared as National Highways and all roads other than National Highways in the States are essentially the responsibility of the States concerned. With regard to National Highways the position is that the total length of the National Highways in the country as on 1 April 1976 was 28,870 kms and a sum of Rs. 576.22 crores was spent since 1 April 1947 on the development of National Highways. The Plan-wise expenditure is given below:

	Rs. Crore
(i) Pre-plan period (1947-51)	6.00
(ii) First Plan period (1951-56)	27.32
(iii) Second Plan period (1956-61)	42.84
(iv) Third Plan period (1961-66)	123.58
(v) Interregnum period (1966-69)	48.96
(vi) Fourth Plan period (1969-74)	216.94
(vii) First two years of the Fifth Plan (1974-76)	111.18
Total :	576.22

2.6. The table below gives the length of National Highways at the beginning of each five-year Plan *i.e.* on 31-3-51, 31-3-56, 31-3-61, 31-3-69 and 31-3-74:—

Length of road as on 31st March	(In kms)
1947	21,440
1951 (1st Plan)	22,255
1956 (2nd Plan)	22,255
1961 (3rd Plan)	23,769
1969 (4th Plan)	24,000
1974 (5th Plan)	28,870*

*It includes 51 km on account of alignment of NH 17 between Kerkadi and B. narajapur.

Spill-over Works

2.7. The table below gives the information regarding the 4th Plan NH works which were not completed by 31 March 1969 and thus spilled over to the 4th Plan:

No. of jobs spilled over to 4th Plan	Anticipated estimated cost	Financial outlay required to complete the works in 4th Plan	Expenditure incurred during the 4th Plan	Percentage of expenditure with respect to total expenditure in 4th Plan	No. of works completed during the 4th Plan (1969-74)	No. of works spilled over to 5th Plan
1	2	3	4	5	6	7
	(Rs. crores)	(Rs. crores)	(Rs. crores)	(4th Plan)		
530 Nos.	70.10	38.00	22.73	10.5%	389	141 Nos.

2.8. One hundred and forty-one works which spilled over to the 5th Plan included 22 works that were physically completed during the 4th Five Year Plan period but could not be shown as completed because financial adjustment against them were still to be made. The various reasons furnished by the Ministry of Shipping and Transport for these spill-over works are:—

(1) Delay due to land acquisition where court injunctions, representations are involved.	38 Nos.
(2) Delay due to non-availability of labour and materials	6 Nos.
(3) Delay due to contractual difficulties	12 Nos.
(4) Delay due to non-settlement of accounts	27 Nos.
(5) Delay on account of constraints of funds	7 Nos.
(6) Delay due to change of scope of work such as alignments, designs and additional works etc.	28 Nos.
(7) Delay due to inter-departmental transfer of accounts	3 Nos.
Total	<u>141 Nos.</u>

2.9. Asked to state the status of these spill-over works, the Ministry in a written note have stated:—

“Out of these 141 works, 133 works were to be completed within the 4th Plan period and the remaining eight were to be completed by March 1975. As per the revised target dates it is

expected that most of these works will be completed by end of 1977. It may also be mentioned here that at present only 78 works are in progress and others are physically completed."

2.10. According to a subsequent note dated 2 May, 1977 received from the Ministry, the physical progress as on 31 December, 1976 of the 78 works is as under:

No. of projects	Completed			Position not indicated	Held in abeyance
	100 per cent	90-99 per cent	Below 90 per cent		
78	18	16	35*	5	4

*It includes 15 works in respect of which the progress is 50% or less.

2.11. The following outlays were provided in the 4th and 5th (revised) Plans for completion of spill-over works of the earlier Plans:

	4th Plan	5th Plan
		(Revised)
	(Rs. in crores)	
(1) National Highways	80.45	252.85
(2) Lateral Road Project	21.69	..
(3) Centrally aided State Roads of Economic or Inter-State importance	10.00	24.00
(4) Strategic Roads	8.00	33.00
	60.14	*909.85

*(This is against Rs. 404 crores provided originally in the draft 5th Plan.)

2.12. In the 5th Plan document, the main emphasis has been laid on the completion of the spill-over works of the 4th Plan. The Plan document has also envisaged that during the last two years of the Plan, work would be largely completed on such of those works which were in progress at the commencement of the 5th Plan.

(ii) Deficiencies in the National Highway system at the beginning of the Fourth Plan.

Audit paragraph

2.13. The Ministry of Transport (Roads Wing) undertook a survey of the NH system in 1968. The deficiencies were inventorised and, based on the survey, a programme of new works on NHs was proposed to be taken up during the Fourth Five Year Plan, i.e. 1969—74 (Table I). Some revisions were made due to reassessment of the financial resources likely to be available during the Fourth Plan and these have also been indicated in Table I. The classes of works in Table I have been shown in the order of priorities laid down by the Central Advisory Committee on Road Planning and the Standing Committee on Roads of the Transport Development Council.

2.14. By far the largest part of the proposed outlay was on the items of widening and/or strengthening of single-lane sections to double-lane sections, strengthening existing weak double-lane stretches, construction of missing links, and missing major bridges, which accounted for just over 59 per cent. It was expected that as a result of outlay of Rs. 293 crores on new NH works in the Fourth Plan, there would be no missing links or major missing bridges at the end of the Fourth Plan (except the Pamban strait bridge between the mainland and Rameshwaram island on NH 49), nor would there be any low-grade sections. From about one-third of NH's length being double-lane at the beginning of the Plan, it was expected that the full length of the existing NH system would be made fit for two-lane traffic by undertaking widening of a further 4,800 kilometres and by providing hard shoulders over 11,200 kilometres.

TABLE I

NEW WORKS ON NATIONAL HIGHWAYS PROPOSED TO BE TAKEN UP DURING THE FOURTH FIVE YEAR PLAN

Items of work ¹	Estimated cost (Rs. in crores)	Proposed ¹ originally	Proposed outlay in IV Plan (Rs. in crores)	Percentage of Col. 5 to total Plan outlay	As revised in July 1969 ²	Outlay revised in July 1969 (Rs. in crores) |	Percentage of Col. 8 to total Plan outlay	
1	2	3	4	5	6	7	8	9
<i>A. Removal of deficiencies in the system</i>								
1 Constructing missing links	21	440 Kms.	21.00	7.17	440 Kms.	12.00	4.10	
2 Constructing missing major bridges	18	17 Nos.	12.00	4.10	17 Nos.	12.00	4.10	
3 Improvement to low-grade sections	3	480 Kms.	3.00	1.02	560 Kms.	4.00	1.36	
<i>B. Replacement of existing structures</i>								
4 Reconstructing/widening weak existing major bridges	37	136 Nos.	21.00	7.17	100 Nos.	20.00	6.83	
5 Strengthening existing weak double-lane stretches	33	3,120 Kms.	22.00	7.50	See 3 below.			
6 Reconstructing/widening minor bridges	41	2,286 Nos.	22.00	7.50	2,000 Nos.	} 40.00	13.65	
7 Reconstructing/widening culverts	34	22,500 Nos.	20.00	6.83	13,000 Nos.			
<i>C. Additional facilities to cater for traffic needs</i>								
8 Replacing submersible bridges/Cause ways/dips with high level bridges	9	34 Nos.	5.00	1.71	40 Nos.	5.00	1.71	

	1	2	3	4	5	6	7	8	9
9 Widening and strengthening of single lane sections to two-lane			184	7,120 Kms.	90.00	30.71	Sec ⁸ below	70.00	23.89
10 Widening roads to two-lanes (without strengthening)			50	6,080 Kms.	28.00	9.55	Sec ⁸ below	80.00	27.30
11 Connecting by-passes around congested towns			32	125 Nos.	80.00	6.83	90 Nos.	15.00	5.12
12 Replacing railway level-crossings with over/under bridges			8	51 Nos.	5.00	1.71	80 Nos.	6.00	2.05
13 Widening roads to four-lanes			12	160 Kms.	4.00	1.36	480 Kms.	10.00	3.41
D. Miscellaneous Items									
14 Miscellaneous items			27	..	14.00	4.78	..	13.00	5.12
15 Road making machinery and equipment			6	..	6.00	2.06	..	4.00	1.36
TOTAL IV PLAN OUTLAY									
			453		293.00	100.00		293.00	100.00

1. Based on inventory of 1958.

2. Revised at beginning of IV Plan, based on availability of funds.

3. Revised as follows:

(a) Widening two-lane carriageway—4800 kilometres.

(b) Strengthening of weak pavements—600 kilometres.

(c) Provision of shoulders for two-lane traffic—1,200 kilometres.

2.15. Other Centrally-financed road development programmes were also included in the Fourth Plan. The road development in the Central sector was for Rs. 418 crores, composed of the following:—

	Fourth Plan outlay Proposed (Rs. in Crores)
(1) Carry-over works:—	
1. National Highways	20.45
2. Lateral Road Project (LRP)	21.69
3. Centrally-aided State Roads of economic or inter-State importance	10.00
4. Strategic Roads	8.00
	<u>60.14</u>
(a) New Schemes:—	
National Highways	
(i) Making up deficiencies in the existing NH system	293.00
(ii) New additions to the existing NH system.	15.00
(iii) Centrally-aided State Roads of economic or inter-State importance	15.00
(b) Strategic Roads:—	
New Schemes	33.00
	<u>418.14</u>
or say	418.00

2.16. Details of National Highways, missing links, and the missing major bridges are given in Appendices I, II and III. Of widening and/or

strengthening NHs, ninety-four works over a length of 6,938 kilometres of NHs were identified for being taken up on priority basis as follows:

No. of N.H.	Kilometres	No. of N.H.	Kilometres
2	737.6	22	81.6
3	723.2	24	321.6
4	473.6	30	32.0
5	996.8	31	115.2
6	152.0	32	75.2
7	454.4	33	116.8
8	526.4	34	174.4
9	600.0	40	48.0
10	211.2	43	251.2
11	129.6	46	110.4
12	107.2	47	499.2
			6937.6 or 6938

[Paragraph 2 of the Supplementary Report of C&AG for the year 1973-74 (Para II)—Civil]

2.17. At the instance of the Committee, the Ministry of Shipping and Transport (Roads Wing) have *inter alia* furnished the progress made up to 31 December, 1976 of the following schemes sanctioned during the 4th Plan:—

Category	Lengths planned	Lengths sanctioned	Lengths completed (1969-74)	Total lengths completed upto 31-12-1976
	Kms.*	Kms.	Kms.	Kms.
1. Constructing Missing Links	440	497*	21	111
*This includes 57 Kms. of Farraka Barrage approaches.				
2. Improvement to low grade sections	480	290	158	211
3. Strengthening existing weak double lane stretches	3120	2209	591	1177
4. Widening and strengthening of single lane sections to two lanes	7120	6251	1078	2022
5. Widening to two lanes (without strengthening)	6080	3765	1296	1985

2.18. The extent of deficiencies on the eve of the formulation of the Fourth Plan was assessed in the "Report of the Sub-Group on Roads requirements of the Central Sector under the New Fourth Five Year Plan (1969—74)" as under:—

"On most highways, the roadways and pavements are narrow, shoulders on single-lane roads are structurally weak, incapable of carrying heavy traffic. Many bridges and culverts are narrow and weak, needing replacement. Sections passing through towns are heavily congested. There are several unbridged river crossings and missing links even on the main road network. On National Highways alone, there are about 250 miles of missing links, 17 unbridged major river crossings (including the Pamban crossing on National Highway No. 49 Madras) besides numerous weak and narrow bridges and culverts. Further there are weak and inadequate pavements extending over long lengths in the National Highway system."

2.19. It will be seen from Table I that under the outlay of Rs. 293 crores for new works on National Highways, which were proposed to be taken up during the 4th Plan, the allocations were broadly made as under:—

	(Rs. in crores)
(i) Removal of deficiencies in Road system	28.00
(ii) Replacement of existing structures	60.00
(iii) Additional facilities to cater for traffic	186.00
(iv) Misc. items and Road making machinery and equipment	19.00
Total	<u>293.00</u>

For removal of deficiencies under (i) above, it was proposed to construct 440 Kms of road missing links, 17 missing major bridges and improvement to 560 km. of low-grade sections.

2.20. According to the information furnished to the Committee by the Ministry of Shipping and Transport, the deficiencies generally found in the 4th Plan period in the project estimates and execution of National Highway works (Roads and Bridges) are as under:

Road Works

A. Lapses and deficiencies in the formulation of road projects

1. Deficiencies in the drawings

- (a) Complete drawings not furnished with the project estimates.
- (b) Drawings not prepared to proper scales.

- (c) Details of horizontal and vertical curves not shown, HFLs etc. not indicated on longitudinal sections.
- (d) Infrequent cross sections leading to under/over assessment of quantities.
- (e) Levels not correlated to GTs bench marks.
- (f) Incorrect fixation of deck levels of culverts with respect to adjoining sections resulting in humps etc.
- (g) Confusing picture regarding subgrade levels/road levels etc.

II. *Deficiencies in the data for design*

- (a) Information with regard to HFLs, its determination; History of flooding data regarding water table etc. not given.
- (b) Information about terrain etc. for justifying selection of speed standards, vertical profiles etc. not furnished.
- (c) Soil investigation data to the required frequency and covering important parameters not furnished.
- (d) Hydraulic details for cross drainage structures not given.
- (e) Present condition and load carrying capacity of structures proposed for widening/reconstruction not given.
- (f) Traffic data in appropriate form not furnished.
- (g) Incomplete details of the existing pavement and the riding quality where strengthening is proposed.

III. *Deficiencies in the estimate*

- (a) Omission of important items and addition of un-necessary items.
- (b) Incorrect assessment of quantities and provision of quantities of items not conforming to specifications.
- (c) Incorrect assessment of the requirement of levelling course.
- (d) Rates not linked to current schedule.
- (e) Absence of analysis of rates for items not provided in the schedules.
- (f) Omission/under assessment of hire and running charges of equipment.
- (g) Incorrect provision of over head charges.
- (h) Provision of agency charges on land acquisition without the requisite ~~commitment~~.

B. Lapses and deficiencies in the execution of road projects.

- (a) Inadequate compaction of earth work.
- (b) Substandard materials collected.
- (c) Profiles both horizontal and vertical not upto the mark.
- (d) Departure from the approved specifications etc.

B. Bridge works

- 1. Inadequacy of Sub-surface and Hydraulic investigations.
- 2. Inadequate investigation for the Siting of Bridges.
- 3. Provision of Small spans with Intermediate Piers Across perennial Irrigation Canals.
- 4. Poor quality control of works.
- 5. Selection of contractors with adequate resources and technical know-how.

2.21. A Departmental Committee was constituted in 1973 by the Ministry of Shipping and Transport on the initiative of the Planning Commission to go into the economical and efficient execution of the construction and maintenance of highways in the country. The Committee submitted its report in 1974. Referring to the importance of the Report of the Committee, the Director-General (Roads) has stated during evidence:—

“This brings out what has been deficient or wrong with our Highway execution system. We are all serious as to what should be put in to increase the capability of Highway authorities to come to the expectation of the nation.”

2.22. Tracing the genesis of the present bottle-necks and deficiencies of highways in India, the Report *inter-alia* states:—

“Constraints of resources has been the major bottle-neck for this slow rate of progress. Due to the large backlog, accent in the post-Independence period has primarily been on consolidation and densification of the road network along old alignments, rather than on removal of geometric deficiencies along these. Another factor which has reinforced this state of affairs is the deliberate policy of stage construction practised since the last few decades, by which roads of pre-automobile era have been widened and strengthened at the same place as traffic on them developed. It requires little imagination that originally such tracks and roads were constructed hastily without bothering about the niceties of horizontal profile, design of pavement or other

geometric features. In days gone by, earth work was done with any soil available at sight and usually without any tests or compaction except that might have been provided by the running traffic. Result is that original deficiencies like poor riding surface, low grade-line weak shoulders and standard geometrics continue to plague the country's road system even though outwardly many roads have changed markedly as regards width and the quality of surfacing. Ignoring the few well-planned highways of recent origin, this applies as much to National Highways as to roads of lower categories such as State Highways and District Roads since basically all these have descended from a common heritage."

2.23. The above Committee on the basis of collective assessment of evidence has come to the conclusion that the following were the burning deficiencies standing in the way of good performance of roads in the country:

- (i) Organisational weakness.
- (ii) Lack of control.
- (iii) Inherent deficiencies of crust.
- (iv) Poor geometrics.
- (v) Abnormal increase in traffic and axle weight.
- (vi) Inadequate maintenance.
- (vii) Lack of finances.
- (viii) Badly organised contracting Industry.
- (ix) Slow pace of mechanism.

2.24. The Departmental Committee have made a number of valuable suggestions to effect economy and improvements in the construction and maintenance of roads in the country. Regarding the implementation of the recommendations of the Committee, the Ministry of Shipping and Transport, in a written note furnished to the Committee, have *inter alia* stated:

"Most of the recommendations relate to structure of State PWD organisations and the procedures of work adopted by them. To ensure implementation of such recommendations the report of the Committee was placed before the Transport Development Council at its Twelfth Meeting held at New Delhi on 28th June, 1975. On the decision of the Council, the report was forwarded to the State Governments for examination from different angles. Only a few State Governments have communicated their views so far. Periodical reminders are being sent to others to complete their examination and send their comments. On receipt of replies from all the State Govern-

ments, the recommendations would be further considered by TDC for measures to be taken to implement the report."

(iii) Magnitude of the Fourth Plan Road Development Programme.

Audit Paragraph

2.25. The Fourth Plan road development programme as originally conceived represented, both in financial and physical terms, an ambitious programme. Financially, the magnitude of the programme was larger than the combined outlays on road development in the First, Second and Third Five Year Plans and the three annual plans even after allowing for adjustments for expenditure evaluated at constant prices.

2.26. Following, as it did, successively reduced amounts provided in the three annual plan years for construction and development of NHs and other Centrally-aided road works, the Plan outlay envisaged Rs. 418 crores implied mounting a major effort in sanctioning of new road and bridge works as well as their execution in order to fulfil the physical programme. The works on NHs alone, *i.e.*, carry-over works (Rs. 20.45 crores), new additions to NHs (Rs. 15 crores) and new NH works (Rs. 293 crores), came to Rs. 328.45 crores or about 78.5 per cent of the total outlay envisaged. The Ministry, for achieving the targeted Plan outlay of Rs. 293 crores on new NH works in the Fourth Plan considered it necessary to sanction a total shelf of such new NH works estimates totalling Rs. 455 crores in all, *i.e.* about one and a half times the target outlay. This had Planning Commission's concurrence. Completion of the simpler road development works, from the time award of tender is approved, may take upto three years (according to Roads Wing's own estimates), and considerably more for complicated works like major river crossings, or in difficult soil conditions or in densely settled or cultivated areas (where land acquisition is usually a problem). In order to achieve, therefore, substantial success, a major effort of sanctioning works (upto and including award of tender stage) was needed in the first two years of the Plan so that from the beginning of the third year works would have been ready for entering upon the execution stage. In fact, however, the Roads Wing could sanction road work estimates (numbering about 600) totalling about Rs. 57.50 crores and bridge works estimates (numbering about 300) totalling about Rs. 13.90 crores in 1969-70 and 1970-71 (Appendix VI). Major road and bridge works costing over Rs. 25 lakhs each sanctioned in those two years numbered only 26 and 8 respectively, totalling Rs. 14.34 crores and Rs. 6.11 crores respectively. Therefore, in the first two years of the plan just about 16.4 per cent and 13.2 per cent respectively of the total required shelf of works for roads (Rs. 350 crores) and bridges (Rs. 105 crores) respectively were sanctioned, valuwise of which major works costing over Rs. 25 lakh were 4.1 per cent and 5.8 per cent respectively. In the following:

two years 1971-72 and 1972-73, road and bridge works estimated to cost about Rs. 173.50 crores and Rs. 38 crores respectively were sanctioned taking the totals of works sanctioned in the first four years of the Plan to about Rs. 251 crores and Rs. 52 crores approximately, i.e. 66 per cent and about 49.5 percent respectively of the total value of works requiring to be sanctioned. There was no restraint of availability of financial resources during the first four years of the Plan; the only constraint was inability to spend the budgeted outlay. In fact, in the first two years, there were savings 22 per cent and 15 percent (Appendix VII). In 1972-73, though the budget was for Rs. 70 crores, clearance had been given for outlay of upto Rs. 100 crores. Against this, Rs. 86.30 crores was spent. In the last year of the Plan the rate of sanctioning slowed down appreciably, to just over Rs. 31 crores and Rs. 10 crores respectively for road and bridge works.

2.27. An inter-State comparison of the road lengths of widening and/or strengthening of NHs to be taken up on high priority in the IV Plan and those actually sanctioned during the Plan shows (Table II below) that there were substantial shortfalls in Andhra Pradesh, Uttar Pradesh, Kerala, Madhya Pradesh, Maharashtra, Orissa and West Bengal. There are also significant divergences in the average cost per kilometre of the widening and strengthening works sanctioned, as will be seen from Table II below. The range of costs is Rs. 1.5 lakhs to Rs. 2.5 lakhs per kilometre. According to the Ministry some variation is bound to occur, because of varying soil and climatic conditions and costs of labour and material in different parts of the country. Kerala, West Bengal, Maharashtra, Uttar Pradesh and Bihar have highest cost per kilometre. The last-mentioned three States (and Tamilnadu) have had large numbers of works sanctioned on NH 2, NH3 and NH 7 (and on NH31 in Bihar in addition) which were originally planned to be financed from the second IDA credit for road-development (but which finally did not come through). These works had had detailed pre-estimate surveys and investigation carried out prior to the estimates being framed, and the estimates were checked carefully in the Ministry and higher standards of engineering design were incorporated into them, including the design of the road crust and geometrics' (both horizontal and vertical) design. The use of road-building machinery in their construction was stipulated by the Ministry. Though the DGRD had (in April 1972) clarified to the Bihar State Government that it was not correct that higher specifications were provided for in these (IDA) road development estimates, it was seen in audit, from an analysis of rates in tenders awarded for these works in Bihar, that there were, in fact, additional items of work involved compared to the usual Plan works of similar nature and also that higher rates had been approved for earth work and water-bound macadam as compared to other normal Plan

works alongside and on the same NHs. The estimated extra cost of improvements over the 263 kilometres of NH2 and 120 kilometres of NH31, in Bihar alone, is of the order of Rs. 7.6 crores. In the other three States also, where road works had been originally proposed for IDA financing, the costs per kilometre of these works ultimately sanctioned were higher than other Plan works on the same NHs. as brought out below:

	IDA Specification Works			Normal Plan Works		
	Length* (kms)	Total cost (Rs. lakhs)	Cost per km. (Rs. lakhs)	Length (kms)	Total cost (Rs. lakhs)	Cost per km. (Rs. lakhs)
Maharashtra	363*	1,120.48	3.09	459	1,002.46	2.18
Tamil-Nadu	166*	443.47	2.61	616	763.75	1.24
Uttar Pradesh	276*	755.63	2.74	368	664.75	2.10
Bihar	303*	987.52	3.26	312	600.68	1.93

*Works which included construction of by-passes have been excluded to avoid inflation of the cost per kilometre.

TABLE II

WIDENING AND STRENGTHENING WORKS ON NATIONAL HIGHWAYS SANCTIONED IN IV PLAN

State	Planned to be taken up in IV Plan (as revised)	Actually sanctioned	Excess (+) or Shortfall (-) of Col. 4 (Kms.) to Col. 2	Percentage of Col. 4 to Col. 2	Average Estt. cost/kms (Rs. in lakhs)	
1	2	3(a)	3(b)	4	5	
	Length (km)	Length (km)	Amount Rs. lakhs.		Cl. 3 (b) -3 (a)	
1 Andhra Pradesh	856	705	1,294.05	(-)-151	(-)-17.64	1.878
2 Assam	48	64	109.11	(+)-16	(+)-33.33	1.704
3 Bihar	604	655	1,588.50	(+)-51	(+)-3.44	2.427
4 Gujarat	259	304	492.35	(+)-45	(+)-17.37	1.620
5 Haryana	166	189	342.10	(+)-23	(+)-13.85	1.809
6 Himachal Pradesh	81	72	96.29	(-)-9	(-)-11.11	1.338
7 Karnataka	369	301	333.26	(-)-68	(-)-18.42	1.111
8 Kerala	312	145	363.80	(-)-167	(-)-53.52	2.509
9 Madhya Pradesh	598	398	560.41	(-)-200	(-)-33.44	1.408
10 Maharashtra	1,120	822	2,122.94	(-)-298	(-)-26.61	2.580
11 Punjab	105	89	147.42	(-)-16	(-)-15.24	1.656
12 Rajasthan	252	242	248.65	(-)-10	(-)-3.96	1.028
13 Tamil Nadu	814	782	1,207.22	(-)-32	(-)-3.93	1.544
14 Uttar Pradesh	700	584	1,420.38	(-)-206	(-)-26.07	2.432
15 Orissa	560	330	414.03	(-)-230	(-)-41.07	1.254
16 West Bengal	227	161	394.27	(-)-66	(-)-29.07	2.449

[Paragraph 4 of the Supplementary Report of C&AG for the year 1973-74. (Part II)—Civil]

2.28. A provision of Rs. 418 was made in the 4th Plan for the road development programme in the Central Sector. The programme provided for the following schemes:

(Rs. in crores)

S. No.	Item	Carry-over schemes	Road schemes	Total
1.	Improvement to the existing national highways .	20	293	328
2.	New National Highways		15	
3.	Roads of inter-state or economic importance .	15	10	25
4.	Lateral Road	22		22
5.	Special roads	8	35	43
	Total	65	353	418

2.29. Explaining the magnitude of the Fourth Plan in regard to roads development, the Director General (Roads Wing) has stated during evidence:—

“The Fourth Plan which has been under review had really thrown on the Ministry, a very gigantic task compared to the earlier plans. This Plan had an anticipated outlay of Rs. 418 crores, 2 1/2 times the size of the Third Plan. I find that in addition to that in this Plan, for the first time a large scale programme was drawn up for the improvements to be brought about in the National Highways system. It would be of interest for the Committee to know that this system—which is only 6.7 per cent of the entire surfaced network of roads in the country—is shouldering a burden of about 25—30 per cent of the entire road traffic in the country. So, this will show to you as an indicator that the National Highways are strained and are now looking up for considerable improvement in their capability whether in terms of the widening of the National Highways or whether it is in terms of strengthening the weak structure thereon. The Fourth Plan envisaged taking up the improvement of these deficient national highways in some measures. For instance, in 1968 we had estimated a requirement of Rs. 1200 crores to set these National Highways in perfect order by removing their inventorised deficiencies but with the programme of about Rs. 455 crores set in the Fourth Plan, we were just taking up the priority items and proceeding

with them. In the Fourth Plan, we were embarking on widening and strengthening the national highways to carry heavy traffic and quite a heavy investment for the first time was envisaged. It involved higher specifications and increased engineering inputs in the designing of the road sections, bridges etc. For instance, it may be very simple to say that any single lane road will be double laned—but for double—laning so much more comes in and the moment you do it, and so many other things come up fast, and unless improvement on sound technical lines on all allied fronts is done, we will be creating more hazards than bringing about an improvement.”

2.30 According to the Audit Para, the Ministry of Shipping and Transport, for achieving the targeted Plan outlay of Rs. 293 crores on new National Highway works in the Fourth Plan, considered it necessary to sanction a total shelf of such work estimates totalling Rs. 455 crores in all. This had Planning Commission's concurrence. Completion of the simpler road development works, from the time of award of tender is approved, may take up to three years (according to Road Wings' own estimates). It has been further pointed out by Audit that instead of making a major effort of sanctioning works in the first two years of the Plan, the Roads Wing could sanction road work estimates totalling about Rs. 57.50 crores and bridge works estimates totalling about Rs. 13.90 crores, which constituted about 16.4 percent and 13.2 per cent of the total required shelf of works for roads (Rs. 350 crores) and bridges (Rs. 105 crores) respectively. In the following two years 1971-72 and 1972-73 road and bridge works estimated to cost about Rs. 173.50 crores and Rs. 38.00 crores respectively were sanctioned, taking the totals of works sanctioned in the first four years of the Plan to about Rs. 231 crores and Rs. 52 crores approximately *i.e.* 66 percent and about 49.5 percent respectively of the total value of works requiring to be sanctioned. The Committee desired to know why the works could not be completed in three years after issuing sanctions in the first two years of the Plan so that in the third year the works could have been ready for entering upon the execution stage. In reply, the Director General (Roads) has stated during evidence:—

“For all planning, there has to be a lead time. The lead time is the time required for preparation of projects and the time taken for arranging preliminary stage of works before actual commencement of works. Preliminary works not only include invitation of tenders, settling of contracts by the States for starting the work and its execution, but also include so many other efforts like advance planning for procuring labour, material and equipments. All those things have to be arranged.

In fact in the Report of 1970-71, there is a definite recommendation that there should be lead time of almost a year or a year and a half, if any programme is to be efficiently and speedily implemented. In the Fourth Plan programme, we really started the preparation of the projects by the States and their sanction in the first year after the start of the plan-period itself. Then there was restriction because we were told by the financial authorities that we would be given only so much allocation and we should not take up a large number of projects..."

2.31. The Audit para points out that while there was no restraint of availability of financial resources during the first four years of the Plan, the only constraint was the inability to spend the budgeted outlays. Thus, while according to Appendix VII there were savings of 22 per cent and 15 per cent respectively in the first two years (1969-70 and 1970-71) of the Plan, Rs. 86.30 crores had been spent in 1972-73 against the clearance given for an outlay of upto Rs. 100 crores. Clarifying the position, the Secretary, Ministry of Shipping and Transport has deposed as under:—

"I submit that it is not a correct conclusion to draw. There were schemes which were investigated and kept ready for sanction. But on account of a higher policy decision they were not sanctioned. But the fact remains that there was certain effort put forward by the technical personnel at the Centre and at the State level and the time and energy spent on those works by the technical personnel. It is true that in the first two years, there has been shortfalls. But in those two years, a funny kind of situation has arisen, for example, when you have the sanction you do not have money and when you have the money, you do not have the sanction."

2.32. Elaborating the position, the Ministry in a note submitted to the Committee have stated:—

"The observation that there were no restraints of availability of financial resources during the first four years of the Plan is not correct as would be seen from the following position:

- (i) The 4th Plan included a provision of Rs. 418 crores for Central Sector Roads which was almost 2 1/2 times the provision in the 3rd Plan. For the proper implementation of the programme of this magnitude an annual provision of about Rs. 84.00 crores was required during each year of the Fourth Plan but funds far below this level were provided and serious restrictions were imposed on the issue of sanctions to estimates throughout the first 2 years of the 4th

Plan period and even in 1973-74. Funds as assessed by the Ministry of Shipping and Transport were not provided and severe cuts were imposed on the provisions suggested by this Ministry. This would be quite clear from the following position indicated to the Ministry (by the Planning Commission) in connection with their budget proposals for B.E. 1970-71:

'Taking the resources position into consideration a provision of Rs. 35.00 crores was made in B.E. 1969-70 for plan expenditure on roads with the approval of the Planning Commission. It may not be advisable at this stage to assume that the allocation admissible for Roads in the further years of the 4th Plan will be substantially in excess of the provision made during 1969-70. It may be reasonable to assume that the expenditure on continuing works and the expenditure on new works during the years 1970-71 may have to be kept at about this year's level, say, Rs. 35 crores for expenditure during the next year on works commenced during this year and to be taken up next year, allowing about Rs. 23.50 crores for expenditure on works continued from the year 1968-69.

All this indicates that we cannot hope to sanction road works this year which would cost more than about Rs. 35.00 to 40.00 crores. Even with this, we may not be able to assure budget provision next year to the full extent required. Roads Wing are, therefore, requested to re-examine the position and revise the list of works to be taken up during the current year so as to reduce the total cost of such works from Rs. 70 crores to Rs. 35.00 crores to 40.00 crores. Alternatively, the proposed list may be split up into high priority and low priority schemes in order of their importance and then referred to us for further consideration.'

This clearly brings out not only constraints on finances but also on sanctions.

- (ii) The position slightly improved in the Mid-Plan period. As a result, in 1972-73, an allocation of about Rs. 78.00 crores was originally provided and it was assured that the allocation could go upto Rs. 100 crores. In the meanwhile financial constraints again developed and the assured allocation of Rs. 100 crores was not allowed but a sum of Rs. 85 crores only was provided in the Revised

Estimates for 1972-73 against which the expenditure was to the tune of about Rs. 86.88 crores. Again year 1973-74 was one of very severe constraints."

2.33. The Ministry has further stated that the Plan provision in the first two years "could not be utilised fully because there were certain specific reasons as indicated below and not because of inability of the Ministry to spend the money:—

- (1) Serious restrictions on sanctioning of new works before and at the commencement of the Fourth Five Year Plan whereby no lead time with adequate bank of sanctions was available during the first few years of the Plan period. Any work would take 6 months to a year after sanction of estimates to start generating expenditure for tender settlement, L.A., arranging material and equipments etc.
- (2) Considerable time was taken in arriving at a final decision regarding the second IDA credit which actually did not materialise ultimately and resulted in holding up of the sanctions of a number of works. Negotiations for this IDA Credit was actually started in 1969-70 and the condition was that even though these works were included in the National Highways Plan in the 4th Plan as high priority works, they could not be sanctioned till the IDA credit was financed since these works were already under the consideration of IDA authorities.

Ultimately IDA credit did not materialise and all the works intended to be included in IDA programme were subsequently sanctioned as normal Plan works during the middle of the 4th Plan.

- (3) Organisational inadequacies both at the Centre as well as at State's level.
- (4) Shortage of essential materials like cement, steel, etc.

A natural corollary to all these causes was an unavoidable shortfall in the performance which the Ministry had been bringing to the notice of all concerned at all forms. It was in pursuance of this action alone that the allocations were stepped up in the mid-Plan period and sanction was also accorded for some step up in the organisational strength of the Roads Wing Headquarters in 1972. This obviously showed results in larger allocations during subsequent years and the position would have continued improving further but for deterioration in the financial position again in 1973-74 and subsequently."

2.34. The Ministry have further added that they were fully aware of the need for stepping up the pace of work and had not only been pressing for larger allocations but also had been taking separately a number of remedial measures in this connection as indicated below:—

- (1) Constant pursuit with the States regarding the creation of exclusive organisations for handling National Highways and other Central Sector Road Works. As a result, such organisations did come into being a number of States and helped in stepping up the tempo of activity.
- (2) Simultaneously, action was also pursued for the strengthening of the headquarters of the Roads Wing. As a result of these efforts, an *ad hoc* increase to the extent of about 60 per cent in the strength of head-quarters staff was agreed to in 1972 and recently some further strengthening has been agreed to under the restructuring scheme both at the headquarters and the Regional Offices. Coupled with larger allocations these activities are bound to bear fruitful results in the shape of increased pace of activity.
- (3) Commencement of the scheme of according separate sanctions for investigations by providing funds equal to 1½ per cent for regular staff and 1 per cent for field requirements. While this arrangement was got cleared in respect of 4th Plan National Highways works in 1971-72 itself, the concurrence of the Planning Commission and the Ministry of Finance was also obtained in regard to similar arrangements even for advance action for the 5th Plan. This helped considerably in improving the quality of projects by way of fuller investigations and complete backing by the required data.
- (4) At-the-spot review of the progress in States' headquarters by a team of senior officers of the Ministry specially deputed for the purpose which helped considerably in removing many of the bottlenecks and helped in stepping up the pace of work.

As a result of all these activities, the position was that in 1973-74 (*i.e.* last year of the 4th Plan), the States were actually poised for an expenditure of Rs. 140 crores and they would have maintained the same level even subsequently but for financial constraints which came into being again in 1973-74 and have since been persisting later on."

2.35. Stressing the need for advance planning in respect of resources like men and material for the projects to be included in a five year Plan, the Committee for "Suggesting measures to expedite the execution of Bridge

and Road Works" in its report (1972) has *inter alia* commented as under:—

"Lack of pre-planning led to serious relays at every stage. The case studies have revealed that the practice of taking up project preparation after inclusion in a plan contributed to considerable delays at every stage including increased costs. Inclusion in a plan brought out an urgency and sometimes led to half cooked, illinvestigated and incomplete projects being started with all consequential problems of high costs and delays. . . . Apart from the direct effect, the indirect effect of lack of pre-planning is manifest in the delays in planning and resources of men, and materials required, assessment of the size of a plan in relation to resources and in fixation of realistic target. The organisations have no resources of men to carry even a fraction of the work required for it and what is needed to be done in context of the needs of the Highways of this country."

2.36. It has been stated that one of the reasons for the shortfall during the first two years of the Plan was considerable time taken in arriving at a final decision regarding the second IDA credit which ultimately did not materialise. Explaining the reasons for this, the Director General (Roads) stated during evidence:—

"In 1969-70 and 1970-71, the Ministry was also required to prepare projects for presentation to the World Bank for their assistance. We got ready the projects to the extent of Rs. 120 crores in complete details for clearance by the World Bank. They were part of the Plan document. Negotiations with the World Bank entered a stage when they were insisting that they would like to impose foreign consultants for the supervision of these projects; they were also insisting that they would require exposing the works to international competitive and bidding which our country was not prepared to accept. So, the discussions went on at the highest level of the Secretary in the Ministry of Finance, Department of Economic Affairs with the highest bank authorities even. Discussions were also held with the President of the World Bank who happened to pay a visit here once or twice. And finally Government have this view, when the World Bank said that they would like to impose the foreign consultants for supervision of the projects and insist on international bidding not only in the road sector but also on other civil engineering works on the Agriculture, Irrigation or any other side; that this was not acceptable to Government."

2.37. Asked as to what were the special reasons or compulsions on account of which Government wanted and had actually waited for a long time for the IDA credit, the Ministry of Shipping and Transport in a written note to the Committee have stated:—

“The main attraction of an IDA loan is that the entire amount of loan is provided in free foreign exchange as distinct from ‘tied’ credit. The free foreign exchange so provided is, therefore, available to Government for utilisation on any project. In the case of road, the IDA loan becomes all the more important and advantageous because the foreign exchange required by roads, including bridges thereon, is comparatively a very small amount leaving the bulk of the loan provided by way of foreign exchange for utilisation on any other project. It is in the context of this basic advantage that Government are always anxious to explore the possibility of securing an IDA loan specially for projects like roads, where most of the expenditure is in local currency. The terms of repayment and rate of interest of IDA loans are also liberal.

The expenditure involved in the road schemes projected for IDA loan could certainly be met from internal resources. However, it was not earlier taken recourse to as the country would have got a very substantial amount of free foreign exchange in case the loan negotiations had materialised. The works under reference however did form a part of the normal Plan Programme and were proceeded with as such when IDA negotiations were getting delayed in finalisation.”

2.38. Asked further why the terms and conditions for such credits could not be settled in advance so as to avoid uncertainty in planning in case of failure of the negotiations, the Ministry explained the procedure in this behalf as under:—

“So far as the question of settling in advance the terms and conditions of IDA loans is concerned, the financial terms and conditions of loans provided by the IDA such as rate of interest, period of repayment, etc. are already known and need no settlement in advance. However, there are always and in every case certain situations which crop up during the negotiations and cannot be anticipated for settlement in advance. In fact, such demand of settling all the terms and conditions in advance may not be acceptable to IDA itself. The IDA authorities agree to enter into negotiations only when a list of works is projected to them in the first instance and they accept those projects in principle for likely IDA loan. After their acceptance of works in principle, the IDA authorities

hold a series of discussions with the representatives of the countries concerned for settling various matters of details governing the provision of loan by the IDA authorities for road projects. For instance in this case they raised and insisted on requirement of subjecting works to international competitive tendering and having consultants for supervision. In the circumstances it is obvious that if Government want an IDA loan, they have to abide by the procedure laid down by the IDA authorities for the grant of IDA loans or that settled by negotiation with them and no departure from that procedure may be possible.

It was in these circumstances that the Ministry had to carry out negotiations with the IDA authorities for the grant of loan assistance for certain selected National Highway Projects in the 4th Plan but which did not materialise."

2.39. The Director General (Roads) has further stated during evidence:—

"In the year 1974 we were again asked to take up another exercise for IDA finance. We made the position clear and said that unless we can be sure in regard to the flow of the funds, there is no point in having that exercise and make it lie waiting on the shelves. Ultimately, the Economic Affairs agreed with us. They said that in regard to the road sector we can wait and not bother about World Bank finance for the present."

2.40. It will be seen from Table II (Widening and Strengthening works on National Highways sanctioned in IVth Plan) that except in the case of Assam, Bihar, Gujarat and Haryana there were shortfalls in all other cases in regard to plans to be taken up (in Km. length) and those actually sanctioned. In the case of the following States the shortfalls were substantially heavy:—

State	Planned to be taken (km)	Actually sanctioned (km)	
1. Kerala	212	115	(54%)
2. Madhya Pradesh	508	398	(78%)
3. Maharashtra	1120	822	(73%)
4. Uttar Pradesh	790	584	(74%)
5. Orissa	560	330	(59%)

2.41. Commenting on these shortfalls, the Director General (Roads) has stated that "this table is in relation to the Rs. 455 crores programme

targeted for sanction. But we were able to sanction upto the 4th Plan Rs. 35 crores work of projects. . . . This is a shortfall in sanctioning the projects. But this is not the utilisation of the funds."

2.42. The Audit Para also refers to the range of unit costs for the improvement of National Highways which in various States is widely varying. For instance, the average cost per km. in Bihar, Kerala, Maharashtra, Uttar Pradesh and West Bengal is higher as compared to other States. Asked the reasons for this, the Director General (Roads) has clarified during evidence:—

"That is very obvious because in the element of unit cost per km. there are so many factors involved in regard to quite a lot of national highways. For instance it takes into account the traffic requirements, requirements of the pavement environmental condition and the kind of soil that is there and the kind of rainfall that is there, location of material sources, quarries, refineries etc."

2.43. The Secretary of the Ministry while supplementing the reply has stated:—

"My submissions is that the average cost is worked out depending on the type of location of the roads and the particular section. They are to be examined first. They are not comparable at all. But the cost of labour and material in different parts of the country is very widely different. In some places it may be more. If you take U.P., there the costs will be terrible for stone aggregates."

2.44. Asked further if the payments of charges for agency and advance investigations would not act as incentives for inflating the cost per km. to get more of these charges, the Secretary has stated as under:—

"In fact, the alternative is to have the actual calculations. In some States there are some good and bad areas. Environment factors are also there. It averages out as far as any State is concerned. We have not really come across the situation in which the agency charge per km. has gone up. The km. costs are subject to scrutiny on the basis of the designs. We do not think that this is really one of the factors."

2.45. Explaining further the reasons for variations in costs of construction of roads, the Ministry in a note have informed the Committee:—

". . . The cost of construction of roads depends upon a number of factors which vary from State to State and usually even from

one region of the State to the other. Some of the factors which affect the cost are: Cost of land acquisition, topography, environmental condition and soil type of the area, state of geometrics and condition of horizontal and vertical profile, specifications to be adopted for the construction which depends on the nature of the soil and volume of traffic likely to use the road, loads involved in the carriage of materials to the site of works and availability of labour and their wages. Besides these factors, there are other factors like inflation, duty increase etc. on which the executing agencies have no control. Thus figures of cost from year to year will not give a true picture of variation in the cost of the country as a whole."

2.46. The table below shows the estimated cost of construction per km. for various schemes of National Highways during the last 5 years. These figures are stated to have been worked out by considering a few sample cases of estimates sanctioned during each year.

Name of item	1971-72	1972-73	1973-74 Rs. in lakhs	1974-75	1975-7
1. Construction of NH (Missing links)					
(i) Land Acquisition	..	..	0.30 to 4.10	..	..
(ii) Road construction	..	..	3.70 to 9.20	} @/for 2-lanes excl. bridges	}
			1.50 to 6.80			@/for single-lane excl. bridges
2. Widening and strengthening single lane to 2 lanes					
	1.20 to 3.50	1.40 to 2.40	1.70 to 2.90	2.00 to 3.00	2.10 to 4.70
3. Strengthening of 2 lane sections					
	1.20 to 1.70	1.30 to 2.00	1.60 to 2.20	1.60 to 2.20	1.60 to 2.40
4. Widening to lanes without strengthening					
	0.40 to 0.80	0.70 to 1.40	1.00 to 1.70	1.10 to 1.50	1.20 to 2.10
5. Construction of by-passes					
(i) Land acquisition	..	..	1.20 to 9.10	..	..
(ii) Road construction	..	..	2.10 to 6.10	..	..

@In ghāt portion and difficult areas.

NOTE : The sanctioned cost per km. given for S. Nos. 1 and 5 more to in the lower ranges are based on old rates and will need revision.

2.47. The following table gives the construction cost per km. for different categories of roads, such as State Highways, Major District Roads, other District roads and Village roads:

(Figures in lakhs of rupees)

S. No.	Category of Road	1971-72	1972-73	1973-74	1974-75	1975-76
1. State Highway						
(i)	Plain area	0.84—1.95	0.84—1.95	0.90—2.54	1.07—2.54	1.28—3.32
(ii)	Hill area . . . . .	..	4.95—5.88	5.49—6.50	6.71—7.68	7.38—9.76
2. Major District Road						
(i)	Plain area	0.41—1.40	0.47—1.40	0.53—1.96	0.56—2.80	0.68—2.80
(ii)	Hill area	3.60—4.27	4.00—4.52	4.44—4.62	4.77—4.88	5.02—5.36
3. Other District Road						
(i)	Plain area	0.41—1.14	0.44—1.70	0.46—1.86	0.56—2.12	0.68—2.58
(ii)	Hill area	2.25—2.43	2.60—2.70	2.80—3.00	3.15—3.30	3.63—3.80
4. Village Road						
(i)	Plain area	0.27—0.56	0.27—1.30	0.28—1.00	0.41—1.10	0.45—1.29
(ii)	Hill area	1.62—2.25	1.80—2.60	2.00—2.80	2.20—3.15	2.42—3.86

NOTE : The above figures are based on the information supplied by few States and their exact item-wise break-up is not available.

2.48. In reply to a question the Ministry have stated that they have been making all possible efforts for reducing the cost of construction. Some of the steps taken in this direction are indicated below:—

- (i) All States have been requested to carry out initial investigations like, traffic, soil, material surveys, hydraulic surveys for proper design of bridges etc. before embarking on preparation of projects. The I.R.C. and Road Wing have issued a series of guidelines, standards etc. to bring about an improvement in the preparation of projects. In 1973, the Roads Wing had launched a programme of one week workshops at different centres in the country so that the PWD officers could be made more familiar with the expected techniques of surveys investigations, project preparation and execution of highway projects.
- (ii) Emphasis on use of locally available materials.

- (iii) Strengthening the Regional Offices in States for close co-operation with State officers and inspection of works.
- (iv) Constitution of Committee on "More Efficient and Economical Construction and Maintenance of Roads" in 1973, whose recommendations are under consideration by the States/Centre.

2.49. It is an established fact that maximum scope of economy in construction can be done at the planning stage. If a project is very well investigated, while ensuring technical soundness as important objective, it is bound to be economical. In this regard the Committee for "Suggesting measures to expedite the execution of Bridge and Road Works" in its report (1972) has stated:—

"Inadequate and incomplete investigations resulted in delays (1) in sanction of estimates (2) in award of work (3) in land acquisition (4) in approval of designs in the case of bridge works (5) in construction due to modifications in designs contemplated subsequently and in addition, led to large scale variations in the cost of projects. The Committee feels that it has largely been due to non-realisation of the extreme importance of adequate investigation and the reluctance to set apart proper and adequate staff for the purpose. The expenditure on this staff for investigation has, in the past, been grudging, very much and there has been a general reluctance allround to spending on engineering content of project though it is abundantly clear from the case histories that it has contributed to (a) abnormal delays and (b) even avoidable costs."

2.50. The Committee desired to know how the Ministry ensured that the works which, in the opinion of Government of India, were of high priority were sanctioned before works which were considered to be of lower priority were taken up. The Ministry of Shipping and Transport in a note has clarified the position as under:—

"For formulating the 4th Plan proposals, this Ministry got an inventory survey of all the National Highways conducted in 1968-69, which revealed that a total outlay of about Rs. 1200 crores (at least Rs. 1500 crores at present considering the price escalations since (1969) would be needed to remove the deficiencies in the National Highway system. The Draft

4th Plan for NH works programme for Rs. 455 crores—a **sober size for priority items**—was then circulated to the State Governments for their comments in the light of their knowledge of local conditions. On receipt of comments from the States, the proposals were further examined in the Ministry and then it was discussed in the Chief Engineers meeting during the Indian Roads Congress Session held in Simla in October 1969. The Draft Plan so finalised was then issued to include schemes estimated to cost Rs. 455 crores against an outlay of Rs. 293 crores. Besides the 4th Plan document Annual Plan documents were also prepared keeping in view the priorities and the funds available each year which was issued to respective States for taking up works strictly according to schemes mentioned in the Annual Plan. The State PWD by and large, did the preparatory work in the form of surveys, investigations etc. and forwarded detailed plans and estimates to this Ministry for obtaining financial sanction and technical approval for the schemes included in the Annual Plan Documents. This it will be seen that though the mechanism of 4th Plan and Annual Plans, this Ministry, by and large, ensured that the works of high priority are sanctioned first.”

2.51. The Committee further desired to know as to how the Ministry would ensure that funds provided each year for high priority works were **not pre-empted** by works of lower priority which might fortunately be sanctioned earlier or which were sanctioned later. In their note, the Ministry have explained the procedure as follows:—

“Budget proposals are received from State Governments on job-wise basis indicating the amounts sanctioned amount already spent and proposed to be spent during the year under report etc. These proposals are scrutinized in **detail** by technical officers concerned in this Ministry and a **critical work-wise review** is undertaken both with the State Chief Engineers and at the headquarters and importance of each scheme is considered before accepting or modifying the State’s demands for funds. A similar exercise is undertaken at the Revised Estimates stage. Through these exercises this Ministry ensures that the funds provided for high priority works do not get diverted to lower priority works.”

(iv) **Physical achievements**

* * * *

2.52. The physical programme of road development in the Fourth Plan undertaken, as set out in Table I, included about 470 road works in progress on 1-4-1969 over a length of 4000 kilometres of which about

3000 kilometres were completed, while out of 189 bridges in progress on that date 168 bridges had been completed. Work was in progress over about 1000 kilometres. In addition, work on 21 bridges including such major works as the Narmada bridge at Zadeswar on NH 8 and the Ganga bridge at Allahabad on NH 2 in Uttar Pradesh was in progress. Construction of the missing links was given the first priority in the Plan. Of the IV Plan road development works only, three kilometres of missing road links were completed and work was in progress over a length of 225 kilometres against the target of 440 kilometres. Progress of the road crust works in the 123 kilometres long Arrah-Mohania missing link on NH 30 varied from 2 to 27 per cent. Out of 17 bridges on that missing link, an estimate for only one was received (July 1974) and had not been sanctioned (January 1975).

2.53. In Orissa, on NH 6, there is a missing link of about 37 kilometres between Kanjipani and Kuntala. Due to this, road traffic between Bombay and West Bengal or Western Bihar has to detour either via Cuttack by diverting on to NH 42 from Sambalpur, and taking NH 5 beyond Cuttack (i.e. involving over 200 kilometres additional distance), or for Assam and northern part of West Bengal via NH 7 over Nagpur-Jabalpur-Varanasi Section and NH 2 east of Varanasi in which event the detour is very much more. Two small bridge estimates were sanctioned in March, 1973 and May, 1973 respectively; one is 12 per cent complete and the other 90 per cent complete. One road estimates (over 37 kilometres of road length costing Rs. 99.95 lakhs) was sanctioned in July 1971 on which work commenced in December 1971. This work is 82 per cent complete. In West Bengal, for the 32-mile missing link between Kolaghat and Haldia on NH 41, out of twelve bridges, nine bridge estimates were sanctioned between April 1969 and May 1971 and are mostly complete; one was sanctioned in September, 1973, with work commencing in April 1974 and reached 30 per cent of completion (September, 1974). Construction of two bridges on this missing link sanctioned in August 1974 has not been taken up so far (January 1975). Though land acquisition and road construction was sanctioned as far back as January 1968 and July 1969 respectively, land acquisition is held up in certain reaches while road construction is about two-thirds complete. Because of the delay in completing this missing link, difficulties were faced in movement of materials for construction of Haldia Port.

2.54. Of the 16 (out of 17) missing bridges slated for completion, three bridges had been completed, with work on the remaining 13 in various stages of progress. Work on the highest priority bridge, that across the Pennar on NH 7 in Andhra Pradesh, was only about 14 per cent complete (September 1974). The estimate for the second highest priority bridge, that across the Gangadhar river in Assam over NH 31, was approved

(September 1974). On NH 8B in Gujarat, the bridge across the Bhadar river was sanctioned in August 1969 but work commenced on it only in February 1972. The long delay was on account of the difficulties of selection of a suitable site and was on finalisation of design of the bridge. It was about 75 per cent complete. As for improvements to low-grade sections, while works over 300 kilometres out of the targeted 480 kilometres have been sanctioned at a cost of Rs. 2.53 crores, work was completed on about 93 kilometres only. For widening and strengthening of single lane sections of NHs to two-lanes, against 7120 kilometres targeted, work is reported by the Ministry to have been completed on 1550 kilometres only (upto June 1975) and on 467 kilometres, work had not been started, though sanctioned. Works costing Rs. 118.09 crores covering about 6670 kilometres had been sanctioned upto September 1975. Strengthening of existing weak two-lane NHs and widening of two-lanes without strengthening are reported to have been sanctioned over a length of 2120 kilometres and 3940 kilometres respectively (upto September 1975) against Fourth Plan targets of 3120 kilometres and 6080 kilometres respectively. Work was completed over 710 kilometres and 1150 kilometres respectively upto June 1975. Thus, for the three components of widening and/or strengthening, the total work completed was about 3140 kilometres, against the targeted 16,320 kilometres of these works which, as already pointed out earlier, formed (together with construction of missing NH links and major bridges) the major component of the upgrading of the NHs comprising about 59 per cent of the total proposed outlay on road development in the IV Plan. Against 125 by-passes originally contemplated, ninety two were sanctioned in all and twelve completed. Against the contemplated 51 over-bridges and under-bridges in replacement of existing railway level crossings, twenty-seven had been sanctioned and only three had been completed (December 1975). Of the weak and damaged major bridges due for reconstruction, not one of the eleven each costing more than Rs. 50 lakhs had been completed, while of those costing less than Rs. 50 lakhs each (numbering 119) seventyone were sanctioned and twenty-three completed.

[Paragraph 15 of the Supplementary Report of C&AG for the year 1973-74 (Part II)-Civil].

Missing Links

2.55. According to the Audit Para, although the construction of missing links was given the first priority in the Fourth Plan, only 3 K.M. of missing road links were completed and the work was in progress over a length of 225 K.M. against the target of 440 K.M. Giving the latest position in this regard, the Ministry of Shipping and Transport in a note dated 2 May, 1977 to the Committee have stated that upto December 1976, 111 K.M. had been completed and that the work on the remaining lengths was

in various stages of progress. The main reasons for delay in completion of the missing links are stated to be (i) difficulties in acquiring land; (ii) difficulties in fixing suitable contractors; and (iii) financial constraints. Explaining the various steps taken to expedite the completion of the missing links, the Ministry have stated:—

“While the problem connected with land acquisition and fixing of the contractors have been largely over-come, the most important difficulty about releasing adequate funds has recently been over-come on account of improved financial situation during the current year, although financial constraints prevailed from 1966 to 1969 and 1973 to March 1976.

So far as the allocation of high priority to this activity viz., construction of missing links is concerned, the Roads Wing has been repeatedly writing to the State Chief Engineers for their early completion. The latest in the series is a Demi-Official letter from Director General (Road Development) in March, 1976, followed by Demi-Official letters from the Union Minister of Shipping and Transport addressed to respective State Public Works Department Ministers and Chief Ministers in June, 1976. The importance has also been impressed upon in various State Chief Engineers meetings.

In our recent communication in May 1976 to the State Governments intimating budget allocations this year, we have specifically requested that allocations earmarked for completion of missing links and similar other activities should not be diverted to any other works of lesser importance.

The expectation is that at the present rate of priority in the allocation of funds for these missing links, a large portion of these will be completed by the end of the Fifth Plan period excepting perhaps some part length of Arrah-Mohania Road (National Highway No. 30) and some bridges of this missing link and of National Highway No. 12 (Deori-Tendukhada-Belkheda Road). The remaining works are expected to be completed in the first year or so of the Sixth Plan period.”

2.56. Amplifying the information, the Ministry in a further note have stated:—

“By March 1976 the 60 kms. length of missing links which have been completed pertain to the portions, where all the components required for the missing links have been completed. This does not mean that the work in other stretches have not yet been started. Works are in progress in the remaining

lengths of the missing links, but they may be at different stages of construction, i.e. in some portions the earth work for road crust might have been collected and the work on laying and consolidation may be in progress and in some cases, the work on the cross drainage structures may be in hand. Thus, there is sizeable progress on this scheme of missing links. If we consider the overall progress on the scheme, it can be stated that it may be of the order of 50 per cent or so."

2.57. The Committee desired to know if Government were in a position to assure that funds had not been diverted from higher priority works to lower priority works, the Director General (Roads) stated during evidence:—

"I would not be able to do so in that respect."

2.58. Asked how was it that the diversion of funds from works of higher priority to lower priority works had come to the notice of Government in 1976 and that no action was taken earlier in this behalf, the Director General (Roads) has stated during evidence:—

"The position is that even in the 4th Plan we had assigned priority to these missing links and missing bridges and low-grade sections. We were conscious of this priority. It was on the basis of this priority that the sanction of projects for various components was being pursued. In the year 1972-73 the activity on them and on the low grade sections was also quite at an intense level. If an activity is built up suddenly to the level of Rs. 100 crores in 1972-73 with the expectation that in 1973-74 we would spend Rs. 140 crores, you can try to appreciate the nature of the build-up mode to tackle this programme. In August 1973, however, we were told that during that year, instead of 100 crores, we should make do with Rs. 60 crores. In 1973-74, instead of Rs. 140 crores we had to restrict the activities within Rs. 60 crores or so. In addition, there was the escalation of prices including that of bitumen which went up to as much as twice the original cost. All that in physical terms bring down to 30 per cent to 40 per cent. When it happened, all that Rs. 340 crores worth of projects already launched and undertaken on ground had to be reviewed. In the Ministry, we were faced with the situation of having to send circular after circular to the States, asking them to have review meetings here or at their Headquarters, to see how to control the activity, how to restrict and slow down the work. In this process, the old concept of

giving priority for all these things and less priority for others, lost some emphasis for some time."

2.59. In relation to the apprehensions of the Committee that unavoidable delay had been caused by the diversion of funds to low priority works, a situation which was well within the knowledge of the Ministry, the Ministry of Shipping and Transport in a note have stated:—

"This Ministry all along was giving high priority to the missing links in the 4th Five Year Plan. But in the year 1973, all of a sudden, the financial constraints descended on the road sector, with the result that the road programme which was in hand, naturally had to be drastically slowed down. Not only an embargo was placed on new sanctions but even those works which were sanctioned but not started because of some preliminaries, were also kept in abeyance and also works in progress, where required, were slowed down. Considering this, in some States the in-progress works of double laning (strengthening the carriageway had to receive for these three years or so higher priority compared to missing links as work was scattered in various reaches and also carried heavy traffic without which the existing pavement would have suffered heavy damage. The missing links, obviously, were given slightly lower priority because on these sections, there was not much traffic and these were utilising the alternative temporary routes. Recently, with the slight improvement in the financial position we have again accorded high priority to these missing links and all the State Governments have been asked to complete the missing links as early as possible."

2.60. According to the Audit Para, the progress of the road crust works on the 123 km. long Arrah-Mohania missing link on NH 30 varied from 2 to 27 per cent and that out of 17 bridges on that missing link, an estimate for only one was received and had not been sanctioned. Asked to state the latest position in this regard, the Ministry in a note have stated:—

"On the Road works sanctioned for Rs. 560 lakhs on the Arrah-Mohania missing link of National Highway No. 30 in Bihar the expenditure upto 31st March 1976, is about Rs. 223 lakhs. The progress so far has been as under: land acquisition 44 per cent, earthwork 55 per cent, culverts 30 per cent and pavement 15 per cent. On the present reckoning the road works, exclusive of bridges which are covered separately are likely to be completed by June 1979. The progress has been slow because of obstructions in land acquisition, reluctance of contractors because of abnormal increase in prices and wages in the last five years to tender for the works and wherever tendered to

honour the agreements, and shortage of funds from mid-1973 to March 1976. Keeping in view the importance of completing early the missing links, priority in allotment of funds and in settling the outstanding issues has been given to this project and the State Governments have been asked to expedite completion. Union Transport Minister has also in this connection written to the State Chief Ministers and Public Works Department Ministers in June 1976."

2.61. In regard to the missing bridges, the position has been stated by the Ministry as under:—

"None of the 17 bridges required to be constructed on the missing link National Highway No. 30 (Arrah-Mohania) in Bihar has been completed. As a matter of fact detailed estimates for most of them are still awaited from the State Public Works Department.

Based on experience of such works in Bihar it is expected that, depending upon availability of funds, all 17 bridges could be completed in another 5 years' period including time for sanctioning proposals to be received from the States who have been reminded again to expedite submission of estimates and if needs be, ask for any further help they need from the Ministry."

2.62. Since detailed estimates for most of the bridges were stated to be "still awaited from the State Works Department," the Committee desired to know whether the bridges, being a part of a missing link of high priority on National Highway No. 30 (Arrah-Mohania), were not considered of equally high priority. In a note, the Ministry have stated:—

"It is true that the bridges on Arrah-Mohania Section of NH 30 are of equally high priority as the road. However, it may be mentioned that during the years 1973-74 to 1975-76 there was severe financial stringency which resulted in reduced allocations for even sanctioned and ongoing works and a bar on starting new works. During this period within the limited funds allotted to them, the State PWD could not make available funds for carrying out investigations for the various bridges on Arrah-Mohania Section. Even the work of investigations already taken up at some of the bridges sites had to be slowed down.

It may be mentioned that the work of preparation of estimates for the various bridges on the missing link of NH 30 has now been taken up in full swing by the Advance Planning Wing of the State PWD. A phased programme for submission of these

estimates has already been drawn up. According to this programme estimates for 7 bridges were to be submitted by the end of September 1976 (they have since been received) and the remaining 9 estimates are to be submitted within the next 6 months....”

2.63. Asked if he was satisfied with the progress of the Fourth Plan regarding works on the missing links and bridges on the Arrah-Mohania Road, the Director General (Roads) has stated:—

“I entirely agree with you that I am not satisfied with that.”

2.64. Another important missing link where there has been delay in the completion is the link between Kanjipani and Kuntala on NH No. 6 in Orissa. Due to this road traffic between Bombay and West Bengal or western Bihar has to detour either via Cuttack by diverting on to NH 42 from Sambalpur, and taking NH 5 beyond Cuttack (i.e. involving over 200 km additional distance).

2.65. In a note, the Ministry of Shipping and Transport have informed the Committee of the reasons for such delay as follows:—

(a) *Roads*

An estimate for Rs. 99,95,100 was sanctioned in July 1971 for the construction of Kanjipani-Kuntala missing link (earthwork, culverts and retaining walls) 35 kms. in length on National Highway No. 6. The work was divided into several reaches and awarded to different Contractors. The progress of road works upto 31st March 1976 was 94 per cent. The main reasons why the work could not be completed earlier are as under:—

- (i) the missing link passes through hilly terrain covered with thick jungles infested with wild animals;
- (ii) the quantity of blasting hard rock increased during actual execution than anticipated at the time of preparation of estimates;
- (iii) sufficient number of skilled labour required for blasting, construction of huge retaining walls and culverts could not be arranged in this undeveloped region;
- (iv) cement, steel and hume pipes needed for the construction of retaining walls and culverts were not easily available due to general short supply of these materials;
- (v) lot of delay took place in acquiring private land in certain reaches; and

- (vi) due to general rise in rates of materials and labour, number of Contractors slowed down the work and went in arbitration.

The increase in rates of materials and labour leading to contractual troubles, slow progress of work could not be foreseen while sanctioning of the estimate. The shortage of supply of steel and cement during the period of construction was a general phenomenon and could not be helped. With regard to the extent of blasting it may be mentioned that only an approximate assessment could be done at estimate stage. While executing the work, more hard rock blasting was found necessary due to peculiar geological formation of the hills through which road formation was to be cut. Further this Ministry had no knowledge about other development works being taken up in this area and could not, therefore, have foreseen shortage of labour which had impaired the progress of the work. The delay in land acquisition is reported to be because of special problem involved.

(b) *Bridges*

There are two minor bridges Bichakahani and Kuntala in this section. The estimates for these works were submitted to the Ministry in January/February 1973 and the same were sanctioned in March/May 1973. Bichakahani bridge was taken up in November 1973 and completed in September 1974. Thus there is no delay. In the case of Kuntala bridge tenders received being high, it took some time in fixing the agency for execution. Work was awarded on 30th April, 1974 and actually commenced at site after rains in October 1974. Work is now nearing completion. There has been delay no doubt. Part of it is due to lack of experienced and resourceful contractor willing to work in this remote area."

2.66. The Committee desired to know as to when the missing link would be completed. In reply, the Director General (Roads) has stated during evidence:—

"By and large most of the earth work has been completed. The actual pavement for the road structure is yet to be provided. The estimate for this has been framed. This was examined by the Ministry and the State PWD are re-costing it. One expectation is that we will be able to sanction that part of the project also within the next two or three months' period. Thereafter the monsoon season will be on and there will be no work

on the project. We hope that by the end of the next financial year, that is by March 1978, this work will be completed."

2.67. According to the Audit Para, there has also been delay in the completion of 32-mile important missing link between Kolaghat and Haldia on NH No. 41 and on account of this, difficulties were faced in movement of material for construction of the Haldia Port. In a note, the Ministry have stated the position in this regard as under:—

"(a) Roads

Estimates for land acquisition was sanctioned in January 1968 and for the road construction it was sanctioned in July 1969. Work on this road could not be proceeded with after obtaining paper possession only of arable land because land owners refused to give physical possession till compensations were paid to them. The State Government, therefore, proceeded with the work in bits wherever compensation could be paid by the Revenue authorities after observing all the formalities for land acquisition. This caused a set back in the programme of completion of the National Highway. Land Acquisition for the National Highway has since been completed. While sanctioning the project estimates the Ministry was given the impression, by the State Government that physical possession of land was available and, therefore, they could not foresee that the work would get stalled because of resistance from the land owners.

This Ministry has all along been pressing the State Government to complete the formalities of Land Acquisition on priority basis so that the tempo of construction of the National Highway could be accelerated. For transportation of materials to Haldia Port, an existing State Road was improved in 1969 under E&I Programme, for an amount of Rs. 45 lakhs, to the following specifications:—

Width of carriageway	18'-0
Pavement thickness	About 14"

(b) Bridges

Out of the three bridges mentioned, one is the bridge across Ganga-khali Canal sanctioned in September 1975, which has been completed in December 1975. The remaining two bridges are the overbridges at Mechada and Padampur. The estimates for these over-bridges were received in January 1974 and the same were sanctioned in August 1974. These works are to be executed by the Railways as a 'Deposit Works'. Complete funds

for these works have been placed at the disposal of the Railways during the financial year 1975-76 and they (Railways) have been requested to take up the execution of these works immediately.

It may be mentioned that in case of these over bridges, the clearances and the type of structures to be provided were first decided in consultation with the Railways. Thereafter the design proposals were evolved by the State Public Works Department, vetted by the Railways and then approved by this Ministry. Since the work was to be executed by the Railways, the detailed estimate was framed by the Railways and submitted to the State authorities who after their scrutiny sent to this Ministry for getting the technical approval and financial sanction.

In view of the very high road embankments involved in the approaches on both sides of these over bridges and the very low bearing capacity of the soil, detailed investigations had to be carried out to determine the height upto which the embankments could be constructed safely and the length over which the road would have to be carried over viaduct spans. These have since been finalised and the estimates for the viaducts for both these overbridges received in February/March 1976 from the State Public Works Department have been sanctioned in May 1976. The work of construction of these viaducts is likely to be taken up by the State Public Works Department shortly."

2.68. The Committee for "Suggesting Measures to Expedite the Execution of Bridges and Road Works (1972)" has, in their report, outlined the following reasons for the major delays in the completion of this Project:—

"Land Acquisition

1. The major reasons for delay in construction was acquisition of necessary land, for the work which has not yet been completed even though the L.A. proceedings were commenced as early as in 1968.

Construction

2. Collection of material was rather slow for want of railway siding facilities at Mecheda Railway Station.
3. Supply of bridges for construction of the National Highway had been delayed as the contractors had been facing difficulties in getting suitable land for setting up brick.

4. There was opposition from the local people to the movement of materials over the feeder road which connected the works sites with the State roads.
5. Labour strikes also led to some delays.”

Asked when the work would be completed, the Director General (Roads) stated during evidence:—

“Bridges are also there. The expectation is that by March 1978.”

2.69. The Audit Para also refers to certain important missing bridges which were to be constructed on National Highways during the 4th Plan period. It has been stated that of the 16 (out of 17) missing major bridges only three bridges had been completed during the 4th Plan period, with work on the remaining 13 in various stages of progress. The Committee desired to know the latest position in this regard. In a note, the Ministry have stated:—

“At the beginning of Fourth Plan, it was contemplated that out of 17 missing bridges provided for in the Plan, 16 will be completed during the Fourth Plan period itself and the remaining one, namely Pamban Bridge, would be spilled over to Fifth Plan. The list of missing bridges as given in Appendix III of the Audit Report and reference made to it in the Para includes the bridge across the river Gangadhar in Assam which is really not a missing bridge but was provided for in the Plan Document to be reconstructed in place of existing weak major bridge. Efficiency-Cum-Performance Audit Report omitted the Tera bridge from their list in Appendix III though according to the Plan Document that was also one of the missing bridges, thus maintaining the same number of 17 missing bridges both according to our Plan Document as well as in Appendix III of the ECP Audit Report.

Due to constraint on financial allocation of funds in the starting two years and the last two years of the Fourth Plan, we could complete only three bridges during the Fourth Plan Period. Upto 31-3-76 four more bridges have been completed.

Of the remaining bridges, two have not yet been sanctioned due to embargo on new sanctions except those of inescapable nature and one even though sanctioned has not been started and construction deferred as desired by the Planning Commission during the Annual Plan discussions for the 1976-77. This leaves the number of bridges as seven (including Pamban Bridge)

which are under various stages of progress and are likely to be completed during the Fifth Plan period."

The following table gives the completion position of the bridges as on 31-3-1976, as furnished by the Ministry of Shipping and Transport:—

S. No.	%age of completion till 31-3-76	Physical progress till 31-3-76	Target date of completion
1	2	3	4
1. Bridge across Pennar River (Andhra Pradesh-NH 7)	41	Foundation and Sub-structure in progress.	30-6-77
2. Bridge across Gangadhar river (Assam-NH 31) (This is not a missing bridge, but it is being reconstructed in place of an existing weak major bridge)	..	Tender for main bridge under examination. Boulder collection for guidebund in progress.	..
3. Bridge across Burhi Deling (Assam-NH 38)	100	Completed	..
4. Bridge across Bhadar river (Gujarat-NH 8B)	100	Completed	..
5. Bridge across Sindoor river (Madhya Pradesh-NH 12)	100	Completed	..
6. Bridge across Hiren river (Madhya Pradesh-NH 12)	35	Foundation in progress.	March, 1977
7. Bridge across Salakhara Nalla (Karnataka-NH 4)	100	Completed	..
8. Bridge across Hungund (Karnataka-NH 4)	Not yet sanctioned	..	..
9. Bridge across Krishna river (Karnataka-NH 13)	60	Sub-structure in progress.	31-3-77
10. Bridge across Malaprabha river (Karnataka-NH 13)	76	-Do-	31-12-76
11. Bridge across river Beas and Chakki (Punjab-NH 1A)	47	Foundation nearing completion.	March 77
12. Bridge at Govindgarh (Rajasthan-NH 11)	..	Deferred as directed by Planning Commission.	..
13. Deondasar Bridge (Rajasthan-NH 11)	100	Completed	..
14. Kalakboo Bridge Rajasthan-NH 11)	100	-Do-	..

1	2	3	4
15. Bridge across Pamban Strait (Tamil Nadu-NH 49)	11	Foundation and subcon- struction in progress.	31-10-78
16. Bridge across Yamuna at Kalpi (U.P.-NH 25)	42	Foundation in progress.	March, 78
17. Farakka Barrage-cum-bridge (West Bengal-NH 34)	100	Completed.	..
18. Bridge across Torsa river (West Bengal-NH 31)	Not yet sanctioned.		..

2.70. It will be seen from the above that besides 3 major bridges still not yet started, the progress on the remaining seven major bridges as on 31.3.1976 ranged between 35 per cent to 76 per cent. The Committee desired to know whether the Ministry has a system for analysing concurrently delays (or anticipated delays) to take timely and appropriate action. In this regard, the Ministry has informed the Committee as under:—

“A system for analysing the delays already exists in the Ministry. We are receiving quarterly progress reports for all the works wherein the progress achieved is shown against the targets thereof decided earlier. A check-List has been introduced which ensures that all aspects of the progress are checked from these reports and timely necessary action is taken for removing the bottlenecks. As regards analysing the anticipated delays and taking timely action to avoid them, efforts in this direction are also being made. We are trying to introduce the practice of preparing C.P.M./PERT charts for all important major works. So far, not much success has been achieved in this direction as the preparation of such charts depends on the active cooperation of the contractors, and also the resources available with them. However, for works to be taken up in future, it is proposed that a condition for preparation of such C.P.M./PERT charts would be incorporated in the contracts. This, we hope, will improve the situation to a large extent.”

(v) Additions to National Highway in the Fourth Plan

Audit Paragraph

2.71. A provision of Rs. 15 crores was made in the IV Plan for additions to the existing NHs system as at the beginning of the IV Plan. Proposals for such additions to NHs received from the State Governments

totalled about 32,000 kilometres. Since it was not possible to meet even a fraction of this demand within the limited financial provision, the proposals received were arranged by the Ministry in order of their *inter se* priority, keeping in view the criteria laid down for declaration of roads as National Highways, viz.,

- (i) they should be the main highways running through the length and breadth of the country;
- (ii) they should connect foreign highways;
- (iii) they should connect capitals of States;
- (iv) they should connect major ports and large industrial or tourist centres; and
- (v) they should meet strategic requirements.

2.72. In addition to the above criteria, emphasis was placed on economic considerations also. Accordingly, in July 1971 and in March 1972 routes of a total length of 4,819 kilometres which were high in the order of priorities were declared as National Highways (See Appendix 1). Subsequently, due to re-alignment of NH7, 51 more kilometres were added to the NH system, bringing this total to 4,870 kilometres.

2.73. After declaration of these roads as NHs, the States were requested to carry out detailed inventories and surveys of these roads with a view to identify the deficiencies and improvements required by the end of the Plan, inventorisation for development of these roads had been finalised and by May 1974, it was estimated that the new NHs required Rs. 58.50 crores for rectification of deficiencies and improvements as below:—

		(Rs. crores)
1.	Missing links	166 .. 8.00
2.	Missing major bridges	4 Nos. .. 6.00
3.	Improvement to Single-lane sections	1400 Kms. .. 20.00
4.	Reconstruction of weak bridges	140 Nos. .. 6.83
5.	Reconstruction of culverts	4,679 Nos. .. 7.37
6.	Widening roads to two lanes	185 Kms .. 5.50
7.	Payment strengthening	156 Kms. .. 2.00
8.	Misc. items . . . . .	.. 3.00
		58.50

2.74. Estimates amounting to Rs. 3.40 crores had been sanctioned, and estimates for Rs. 5.00 crores were awaiting sanction (December 1974).

2.75. Expenditure on these roads after they were added to the NH system upto the end of the IV Plan related only to the on-going works which had already been sanctioned for such of those roads as had been formerly financed from Central funds, e.g. former strategic roads and the former West Coast Highway (the new NH 17), which amounted to about Rs. 2 crores. Thus, the Plan provision of Rs. 15 crores remained largely unutilised.

[Paragraph 29 of the Supplementary Report of C&AG for the year 1973-74 (Part II)-Civil]

2.76. National Highways are the arterial routes running throughout the length and breadth of the country connecting State capitals, foreign highways, major ports, large industrial complexes and tourist centres. These highways also serve the strategic and economic requirements. The Roads Development Plan (1961—81) mentions that the total length of National Highways by 1981 should be about 52,000 Kms, keeping in view the future trends of road traffic pattern and developmental activity. The length of National Highways in 1961 was 23,770 Kms. but the total length was to be about 52,000 kms. by 1981. This meant, on an average, an addition of 1400 Kms. per year. At this rate the length by the end of the 4th Plan should have been about 42,000 Kms. Against this, the total length declared as National Highway upto the end of the 4th Plan was 28,870 Kms. There was thus a shortfall of about 13,000 Kms.

2.77. It will be seen from the Audit Para that 4,870 kilometres of roads were declared as National Highways during the Fourth Plan and that after their detailed inventories and surveys, deficiencies and improvements estimated to cost Rs. 58.50 crores were identified in May 1974. With the exception of about Rs. 2 crores spent on on-going works which had already been sanctioned for roads which were formerly financed from Central funds, no other works were executed and the plan allocation of Rs. 15 crores remained largely unutilised.

2.78. In this connection, the Committee desired to know the reasons for declaring the roads as National Highways with higher standards, when it was evidently not possible to provide these improvements for several years. In a note the Ministry of Shipping and Transport have stated:

“There have been numerous demands as regards the addition of roads to the National Highway system, from various quarters

including the State Governments. The matter has also been raised almost in every Budget Session of Parliament and during the question hours in both the Houses. Even the Members of the Consultative Committee of Parliament raised this issue at all the meetings of the Committee. The total demand received at the beginning of the 4th Plan for new addition to the existing National Highway system worked out to over 32,000 Kms. of roads. Obviously, it was not possible to consider such a huge demand. The Ministry, therefore, reviewed all those proposals and keeping in view the criteria laid down for the selection of roads as National Highway and the financial constraints and finally selected 11 routes having a total length of 4819 Kms. for inclusion in the National Highway system. Due to realignment of 1 route (National Highway No. 17) the total length was increased to 4870 Kms. It is important to note here that these 11 routes were finally declared as National Highways partly in July 1971 and partly in March 1972. This means that these roads were declared as National Highways after a lapse of nearly 2 to 3 years after the start of the 4th Plan. After declaration of these roads as National Highways the States were asked to carry out detailed inventorisation surveys of these roads with a view to identifying the deficiencies and improvements required. Some time was also spent in the preparation of the projects for removing the basic deficiencies in these 11 roads. Further, from middle of 1973, financial constraints came in the way. This explains why the amount earmarked for the development of new National Highways has remained largely unspent."

2.79. Explaining as to what has been done on these roads since April 1974 (Commencement of 5th Plan), the Ministry in a note dated 2 May, 1977 have stated that for improvement on the newly added routes, schemes have been sanctioned amounting to Rs. 16.26 crores upto 31st December 1976 and the expenditure incurred during this period is Rs. 8.25 crores.

2.80. As soon as a State Road is declared as a National Highway its maintenance becomes Centre's responsibility. If the road is not maintained to keep it going at the existing standard, the outlay needed for improvement at a later date will be much more than what will be needed if the road is kept maintained. Some of the roads declared as National Highway during the 4th Plan (such as National Highway No. 17, National Highway No. 15, National Highway No. 44 and National Highway No. 48) had already been developed to reasonable standards under other Central

Sector Programmes such as Strategic Road Programme and E&I Programme and therefore, after taking over, their maintenance from central funds was necessary in order to protect the investments already made from the central resources. The Committee desired to know in this regard whether the declaration of these roads as National Highways meant, in effect, an increased burden on the Central Exchequer on account of expenditure on their maintenance, thus reducing funds available for development. The Ministry have informed the Committee that "Expenditure on maintenance being non-plan expenditure it does affect the funds available for development which is a planned expenditure."

2.81. During evidence, the Director General (Roads) has stated that "the additions to the National Highways system in the Fourth Plan were considered very essential and even today they are considered essential". He has further added:—

"At the start of the Fourth Plan we had only 24,000 kilometres. It has been quoted here that when we took over the National Highways in 1947 we started with 21,000 kilometres. Over 22 years the National Highway kilometre had increased only from 2100 to 2400. In the previous three plan periods this aspect has been very seriously neglected. In the Fourth Plan we took up this for consideration. Out of the States total proposals totalling around 48,000 kms. there were many roads which had already been developed with Central Government investment. One is the West Bengal Road from Bombay Konkan to Kerala passing through the States of Maharashtra, Goa, Karnataka and Kerala. The other one was Pathankot, Jaisalmer and Kandla. Third one was Shillong to Agartala. While the Development expenditure in IV Plan involved could not be very sizeable, the position was that the declaration of these roads itself took us to the year 1972. When they were declared the States had to go about making inventory of deficiencies which normally a process which takes a year. While these projects were getting ready after investigations, in the mean time came the financial constraints. We had to keep content by just maintaining them. Up till now works for about Rs. 7 crores or so have been sanctioned. We will keep on improving them as funds permit."

2.82. As regards programme for the 5th Plan it has been stated by the Ministry of Shipping and Transport that Government has under consideration proposals to declare certain State Roads as National Highways during the Plan period against the plan provision of Rs. 20 crores in the original draft Plan. The proposals aggregating to a length of 43,000 Kms. have

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been received from the States. These have been examined in the Ministry and reduced programme of 10,904 Kms. was formulated for addition to the National Highway system during the 5th Plan period keeping in view the criteria and the financial constraints. Even with this addition the existing National Highway system would go up to 9 per cent of the total surfaced roads in the country and even then it will be far behind the average corresponding length obtaining in other countries which stands at 20 per cent of the total road surface. The gap will still be larger if the lane-width-kilometrage is taken into account in all the countries. This proposal was considered by the Planning Commission who pruned it down to 6178 Kms. estimated to cost about Rs. 100 crores. It has not been agreed to by the Ministry of Finance for the present due to current financial stringency.

2.83. The history of road development in the National Highway sector from the dawn of Independence upto the beginning of the 4th Plan presents a picture of unfulfilled promises of wide divergence between programmes and actions, gaping gulfs between estimates and actuals and the pronounced disparities between assurances and implementation. In April 1947 the Central Government assumed the responsibility for development of National Highway, which then numbered 34 and had a total length of about 21,440 kms. At the end of the Third Plan, followed by three Annual Plans i.e. April 1969, the total mileage of National Highway stood at 24,000 kms. This indicates that in a period of over 22 years a length of only 2560 kms. at an average rate of 116 kms. per year, was added to the total length of 1947. Against this, keeping in view the future trends of road traffic pattern and development activity, the length of National Highways under the Road Development Plan (1961—81) was to be raised from 23,770 kms. in 1961 to 52,000 kms. in 1981, which meant, on an average, an addition of 1400 kms. per year. At this rate, the length of National Highways in April 1969 should have been about 35,000 kms. as against the then existing total of 24,000 kms. Thus, there was a heavy shortfall of about 11,000 kms.

2.84. During the First Plan period 1951—56 no road was added and during the 8 years 1961—69 (end of 3rd Plan) only a small length of 230 kms. was added to the National Highway system. The Committee cannot help regretting Government's complacency in this regard—a fact which has also been conceded by the Director General of Roads who during evidence stated that in the preceding three Annual Plans this aspect has been seriously neglected.

2.85. In spite of heavy shortfalls in the National Highway mileage by the end of the Third Plan and the overwhelming demands from various quarters, both inside and outside Parliament, Government could add, dur-

ing the Fourth Plan period, only 11 roads with a total length of 4819 Kms., against the proposals to the extent of 32,000 kms. submitted by State Governments in this regard. The Committee are perturbed to note that even these 11 roads were declared as National Highways as late as in 1971-72, i.e. in the third year of the Fourth Plan, with the result that the outlay of Rs. 15 crores earmarked for the new additions during the Fourth Plan remained largely unutilised, the only expenditure having been incurred to the tune of Rs. 2 crores on the on-going works which had already been sanctioned for such roads from the Central funds before take-over of the roads. This speaks volumes about the inapt planning of the Roads Organisation, a situation which has not been adequately explained.

2.86. What concerns the Committee more is that though it was found that these roads needed Rs. 58.50 crores for rectification of deficiencies and improvement, no positive steps were taken to remove these deficiencies except that estimates amounting to Rs. 3.40 crores had been sanctioned. In this regard, the Committee would also like to emphasize that before any roads are finally decided to be added to the existing National Highways system, it should be ensured that they have been properly inventorised for determining their deficiencies and that they have been maintained by the State Governments at a reasonable standard and do not entail heavy expenditure on removal of deficiencies.

2.87. The Committee are further concerned over the fact that instead of accelerating the pace of development during the Fifth Plan, the Planning Commission has targeted for additions to the National Highway system of a total of 6178 kms. only against the proposals emanating from the States for a length of 43,000 kms. Even this modest programme has not yet been cleared by the Ministry.

2.88. The Committee would urge the Government to finalise the proposals with a schedule of priorities depending upon the importance of each road and availability of resources as long delays and indecisions may result in further deterioration of the roads involving more expenditure.

2.89. The Committee note that of the outlay of Rs. 293 crores provided for new works on National Highway during the Fourth Plan, 59 per cent was accounted for removal of deficiencies in missing links of roads and bridges and widening and/or strengthening of single-lane sections to double-lane sections etc. It was expected that at the end of the Plan, there would be no missing links of roads/bridges, nor would there be any low-grade sections and that the full length of the existing National Highway system would be made fit for 2-lanes traffic. The Committee however, note that all these expectations were belied as a large number of deficiencies were generally found in the Plan period in the projects estimates and execution of National Highway. The Committee note that the

physical programme of road development in the 4th Plan undertaken included about 470 road works in progress on 1 April 1969 over a length of 4,000 kms. of which about 3,000 kms. were completed, while out of 189 bridges in progress on that date 168 bridges had been completed. There was poor progress in the completion of the missing links of 440 kms. on important National Highways, such as Nos. 6, 30, 41 etc. and 17 major bridges. As regards improvements to low-grade sections, while works covering about 300 kms. out of the targeted 480 kms. had been sanctioned, work was completed on 158 kms. only during the Plan period and further on 53 kms. by December, 1976. For widening and strengthening of single lane sections of National Highways to two-lanes, against 7120 kms. targeted, work had been completed on 2977 kms. only (upto December, 1976). Similarly, strengthening of existing weak two-lane National Highways and widening of two-lanes without strengthening were sanctioned over a length of 2209 kms. and 3765 kms. respectively against 4th Plan targets of 3120 kms. and 6080 kms. respectively. Work was completed over 1177 kms. and 1985 kms. respectively upto December, 1976.

2.90. In this connection, the Committee on "More Efficient and Economical Construction and Maintenance of Roads" in its Report (1974) has inter-alia remarked that "the original deficiencies like poor riding surface, low-grade line, weak shoulders and standard geometrics continue to plague the country's road system even though outwardly many have changed markedly as regards width and the quality of surfacing. Ignoring the few well-planned highways of recent origin, this applied as much to National Highways as to roads of lower categories." The representative of the Ministry was not oblivious of these deficiencies as he had stated during evidence that "we are all serious as to what should be put in to increase the capability of Highway authorities to come to expectations."

2.91. What has perturbed the Committee more is the fact that although according to the Audit para the construction of missing links was given the first priority in the 4th Plan, only 3 kms. of missing road links were completed and the work was in progress over a length of 225 kms. against the target of 440 kms. As per information received from the Ministry on 2 May, 1977 the total length of missing links completed upto December, 1976 was 111 kms. The principal bottlenecks in the way of expeditious construction of the missing links have been identified by the Ministry viz. difficulties in acquiring land, difficulties in fixing suitable contractors and financial constraints. The Committee have been informed during evidence that these bottlenecks have been largely overcome and the Roads Wing has been repeatedly writing to the States authorities, including the respective P.W.D. Ministers and Chief Ministers, for early completion of the missing links. Despite all these efforts, the progress has not been satisfactory, as according to the information furnished by the

Ministry to the Committee the overall progress on the scheme is 'of the order of 50 per cent or so'. It has been apprehended that at the present rate of priority in the allocation of funds for missing links, the works are expected to be completed in the first year or so of the Sixth Plan.

2.92. The Committee have reasons to believe that one of the causes for the set-back in the completion of the missing links is that the funds earmarked for this purpose were diverted to other priority works as has been conceded by the Ministry in a note furnished to the Committee that "the missing links were given slightly lower priority because on these sections there was no traffic and these were utilising the alternate temporary routes." The Committee cannot but deplore the perfunctory manner in which the whole question of construction of missing links has been tackled. It is apparent that construction of missing links in the scheme of things was not given the importance that it deserved. Now that the Ministry have accorded high priority to this item, the Committee hope that concerted efforts would be made to complete them without further loss of time.

2.93. One of the items of works where the highway authorities faltered in the matter of missing links was the construction of 16 (out of 17) missing major bridges, out of which only 3 had been completed during the Fourth Plan, with work on the remaining 13 in various stages of progress. The Committee have been informed that as on 31 March 1976 four more major bridges have since been completed, while two have not yet been sanctioned and one, though sanctioned, has not been started yet. The progress in respect of the remaining 7 bridges ranges between 35 to 76 per cent, except in the case of one viz. Bridge across Pamban Strait (originally due for completion during the Fifth Plan), where the progress was 11 per cent. The Committee are unhappy over the slow progress and the long time taken in the completion of the missing major bridges and would like the Government to expedite their completion without further loss of time.

2.94. The Committee are also unable to appreciate the action of the Government in holding in abeyance the sanction of two bridges and to defer the construction of another bridge, particularly when these had been accorded necessary priority for completion during the Fourth Plan. They would urge the Government to review the position urgently in respect of them with reference to the availability of funds and prepare a time-bound programme for their early completion. The Committee would like to be informed of the action taken in this regard.

2.95. The Committee are constrained to note that the progress of the road crust works on the 123 kms. long Arrah-Mohnia missing links on National Highway 30 in Bihar varied from 2 to 27 per cent and that out

of 17 bridges on that missing link none had been sanctioned during the Fourth Plan period. The progress on this missing link varies from 15 per cent to 44 per cent on different items, such as Land acquisition, Earth Work, Culverts and Pavements.

2.96. On the present reckoning, the road works alone are expected to be completed by June 1979. The Director General (Roads) has conceded during evidence that he was "not satisfied with the progress on this missing link". The oft-repeated explanations for slow progress are the constraints of financial resources from mid-March 1973 to March 1976, obstructions in land acquisition, reluctance of contractors because of abnormal increase in prices and wages in the past 5 years. The Committee consider that all these difficulties could have been averted, if the highway authorities had taken sufficient care to take up and commence the execution of the works in the early years of the Fourth Plan. What was lacking was a time-bound programme and the proper phasing of the works within the resources available. But it appears to the Committee that matters were allowed to drift. The Committee would like this aspect to be gone into depth and at the same time urge that all-out efforts should be made to complete the works early by settling the outstanding issues expeditiously. The Committee expect to be apprised urgently of further action in the matter.

2.97. In regard to the 17 missing bridges on the Arrah-Mohania missing link, the Committee are concerned to note that they are still in the sanctioning stage, though they were scheduled to be completed in the Fourth Plan period. According to the present expectation, another 5 years would be needed to sanction and execute them. The Committee are led to the inescapable conclusion that these works were neglected in the beginning and are now being pursued at higher level, obviously after the receipt of the Audit para. In order that these are completed expeditiously, the Committee would like the Ministry of Shipping and Transport to draw up, in consultation with the State Chief Engineer P.W.Ds, a phased time-bound programme, stage-wise, for construction of the bridges and extend all possible assistance to the State authorities to ensure that the programme agreed upon is adhered to strictly. The Committee would like to be informed of the progress made in the matter.

2.98. Yet another important instance where unduly long time has been taken in completing a missing link is the 32 mile road link between Kala-ghat and Haldia on National Highway 41 in West Bengal which was sanctioned as far back as in July 1969 and according to the Audit para was about two-thirds complete and out of 3 bridges on that missing link one was 30 per cent complete and the other two, though sanctioned in August 1974, had not yet been taken up. Because of delay in completing this mis-

ing link not only difficulties were faced in movement of materials for construction of Haldia Port but the development of hinterland was also retarded for not generating the traffic in time. The Committee have been informed during evidence that this work is expected to be completed by March 1978. The main reasons for the delay in the construction has been adduced as delay in acquisition of necessary land for the work, though Land Acquisition proceedings were commenced as early as in 1968. The Committee are unable to accept the plea of ignorance of correct position at the time of sanctioning the project estimates and they feel that the system for monitoring the project and the supervision of the respective RO/ELO, to say the least, was wholly inadequate. The result of this heavy delay has been that the work on the road could not be proceeded with in time.

2.99. In regard to the remaining two over-bridges over Mechada and Padampur on the missing link, the Committee would like the Railways to accord necessary priority so that their construction synchronises with the completion of the road. The Committee would like the Ministry of Shipping and Transport to keep a close touch with the Railways in this regard keeping in view the imperative urgency of utilisation of the port facilities created at Haldia at enormous costs and the social and economic benefits that would accrue therefrom to the country as a whole. The Committee would urge the construction of these works on the missing link without further loss of time. The Committee has also referred to this project in their 33rd Report (Fifth Lok Sabha) on Haldia Dock Project.

2.100. The Committee would also like to emphasise the need for updating the inventory of 1968 in respect of National Highways so that the latest data are available before the commencement of the Sixth Plan. The Committee also suggest that the work of inventory making for National Highways should be streamlined and coordinated at the Central level, based on a standard form devised for countrywide application.

2.101. The Committee are unhappy to note that as many as 530 National Highway works of the pre-Fourth Plan period were spilled over to the Fourth Plan. While 389 of these works were completed during the Fourth Plan period, the remaining 141 works were further spilled over to the Fifth Plan, though 133 of them were targeted for completion during the Fourth Plan period itself. The present position, as indicated by the Ministry on 2 May 1977, is that 60 works are still in progress when the third year of the Fifth Plan is already over. Surprisingly enough, it includes 15 works on which the progress is 50 per cent or less. If precious and limited resources of the country are not to be frittered away, it is imperative that projects once included in the Plan should be executed within the Plan period itself and not allowed to be spilled over thereby adversely affecting the road development programme of the next Plan and escalating the

costs of labour and materials. If there are any on-going projects carried over to the next Plan, prudence demands that priority should be given to the completion of such projects over new works. The representative of Planning Commission has also conceded during evidence that "first priority should be given to important spill-over schemes, because before taking up a new scheme it is preferable to complete a spill-over scheme on which sufficient investment has already been incurred."

2.102. The Committee find that most of the delays in the execution of 141 works during the Fourth Plan which were mainly due to land acquisition, contractual difficulties and changes in the scope of alignments, design etc. could have been eliminated or reduced to a great extent if the Ministry of Shipping and Transport, in consultation with the State authorities, had completed the preliminaries sufficiently in advance of the actual execution of these works. Since the delays which led to the spill-overs to the 5th Plan are of recurring nature, the Committee would like the Ministry to study them in depth so as to take remedial action for future. The Committee expect to be informed of the results of such study and action.

2.103. The Committee find that against the total outlay of Rs. 418 crores for Centrally financed road works in the Fourth Plan, the works on National Highways alone i.e. carryover works (Rs. 20.45 crores), new additions to National Highways (Rs. 15 crores) and new National Highway Works (Rs. 293 crores) accounted for Rs. 328.45 crores or 78.5 per cent of the total outlay envisaged. The Committee note that a total shelf of Rs. 455 crores was required to be sanctioned by the Ministry to achieve the targeted provision of Rs. 293 crores on new National Highways works. Against this, works totalling an expenditure of Rs. 324.18 crores (about 71 per cent) were actually sanctioned during the Plan period. The shortfall in sanctions was particularly critical during the first two years (1969-70 and 1970-71) of the Plan when Road works totalling Rs. 57.50 crores and bridge works totalling Rs. 13.90 crores, which constituted about 16.4 per cent and 13.2 per cent respectively of the total required shelf for road works (Rs. 350 crores) and bridge works (Rs. 105 crores), were sanctioned. Since road construction takes anything upto three years from the time an award is made, it needs hardly any emphasis that a much more effort was needed to sanction the maximum number of works during these two years so that at the beginning of the third year, a larger number of works would have been ready for the execution stage. The Committee do not agree with the Ministry that this could not be done because of heavy constraints on sanctions. The proper course for the Ministry would have been to have the preparatory work completed in respect of a larger number of schemes, sanction them under two categories viz. high-priority and low-priority works so that schemes of high priority could at least have been completed first. The Committee are surprised to note that even the works of widening

and/or strengthening of National Highways which were accorded high priority in the Fourth Plan were ignored to a large extent. In some States such as Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh and Orissa, the gap between the works planned originally and those actually sanctioned was substantially large and the number of such works sanctioned ranged between 46 per cent to 74 per cent of the number of works planned. The Committee need hardly emphasise that in view of the limited resources available for road works the annual programme of the Plan should be so tailored and phased that urgently needed items of works invariably receive high priority and are completed in time.

2.104. The Committee note that apart from imposition of restrictions on sanctions, there have been heavy shortfalls even in expenditure on central road works during the first two years of the Fourth Plan as they find that against the Budget Estimates of Rs. 34.21 crores and Rs. 43.08 crores for 1969-70 and 1970-71 respectively, an expenditure of Rs. 26.52 crores and Rs. 36.53 crores was made during these years thereby showing a saving of 22 per cent and 15 per cent respectively. The magnitude of shortfalls in expenditure can be judged from the fact that as per total Plan outlay of Rs. 418 crores an expenditure of Rs. 83.60 crores was required, on an average, to be incurred during each year of the Plan. The Committee regret that for lack of proper planning, even the smaller amounts provided in the Budget could not be utilised.

2.105. One of the reasons advanced for the shortfalls in expenditure during the years 1969-70 and 1970-71 is the non-availability of Second IDA credit. The Committee regret that Government unnecessarily waited for a considerably long time in negotiating for the credit, which ultimately did not materialise and resulted in holding up of the sanctions of a number of road works. It would have been more prudent to make necessary funds available from internal resources and proceed immediately with the execution of the works, as soon as it became clear to the Ministry that foreign aid was not going to materialise. Evidently, the country had to pay heavily for lack of this fore-thought as the works had to be deferred for two years for non-availability of IDA credit and ultimately these were financed from internal resources.

The Committee are, however, glad that Government have learnt a lesson from this experience for not proceeding negotiations for the next I.D.A. credit proposed in 1974.

2.106. The other reasons for shortfalls in the expenditure during the first 2 years of the 4th Plan were (i) Organisational inadequacies both at Centre and State levels and (ii) shortage of material like cement, steel, etc. The Committee are constrained to point out that for the execution of an

ambitious 4th Plan of the magnitude of Rs. 418 crores, the highway authorities did not resort to any advance planning to assess the requirements of men, material and equipment that were needed for efficient and successful implementation of the Plan projects. This sorry state of affairs has been depicted by the Committee for Suggesting Measures to Expedite the Execution of Bridge and Roads in its report (1972) that "the organisations have no resources of men to carry out even a fraction of the work required for it and what is needed to be done in the context of the needs of the Highways in the country". The Committee find that it was only in the third year of the Plan, when things had gone away and works had already suffered for more than two years, that the authorities woke up and took some steps to augment the staff both at Centre and State levels. The Committee need hardly stress that there is need for detailed study of availability and capability of resources of men, material and equipment sufficiently in advance of the consideration of the projects to be included in any Five Year Plan so that there is no let up in the efforts to execute the projects within specified targets. Such a concept would facilitate Plan formulation on a realistic basis, both in respect of costs of works and availability of resources.

2.107. The Committee note that there were significant divergences in the average cost per kilometre in widening and strengthening of works on National Highways sanctioned during the Fourth Plan. The costs varied from Rs. 1.25 lakhs to Rs. 2.5 lakhs per Km. in the States. Bihar, Kerala, Maharashtra, Uttar Pradesh and West Bengal had the highest cost per Km. The cost of construction also varied from year to year, as for instance, the estimated cost of construction per Km. of widening and strengthening (single lane to 2 lanes) ranged from Rs. 1.20 lakhs to Rs. 3.50 lakhs in 1971-72 but rose to Rs. 4.70 lakhs in 1975-76. Similarly, the construction cost of roads of bye-passes ranged between Rs. 2.10 lakhs to Rs. 6.10 lakhs per Km. in 1974-75. The Committee agree that there are several factors like the cost of land acquisition, varying soil and climatic conditions, cost of labour and material in different parts of the country, which affect the cost of construction of roads; but they feel that there is still scope and need for effecting economy and improvement at various stages of construction. It is an established fact that maximum scope of economy in construction can be done at the planning stage by better selection of alignment and ensuring technical soundness. The Committee further feel that better utilisation and maintenance of machinery and equipment, reduction in earth work requirements, well-knit organisation for over-seeing the construction, maximum utilisation of locally available man-power and materials can go a long way in reducing the cost of construction. The Committee need hardly emphasize that the cost of construction should be kept under constant review both by the Director General (Roads) and the State Highways authorities so as to take concerted measures to effect economics without detriment to the quality of works.

2.108. The Committee have noted that as a result of the delay in the execution of the project, there has been invariably an escalation of the project estimates, non-utilisation of the facilities available and consequent loss to the country. The Committee have also noted that delays were also due to dearth of suitable personnel in the initial stages, lack of coordination between different authorities, defective terms of contract, non-supply of materials in proper time and absence of proper planning. The impression that is left on the mind of the Committee after a review of the physical achievements in respect of national highways is that the Ministry have executed the schemes without adequate planning in depth. The Committee desire that the Ministry should immediately introduce a P.E.R.T. Chart for every major project and issue instructions regarding its maintenance. Along with the maintenance of this Chart, the Ministry should devise an in-built mechanism for fixing the responsibility for delays in the execution of the projects. The Committee hope that the P.E.R.T. Chart would take care that there is proper synchronisation of the different components of the projects from the very beginning and that there is proper supervision in regard to the estimation of requirements, placement of indents and utilisation of materials.

2.109. The Committee would like to make the following further recommendations in regard to the execution of projects by the Central/State authorities:—

- (i) There should be a single authority in-charge of a National Highways and other Centrally Financed roads in each State which should coordinate, control and watch progress of all activities including land acquisition, construction, purchases of machinery and other allied matters.
- (ii) A separate organisation working under the overall control of the authority mentioned above should be responsible for framing accurate estimates as far as possible and for keeping accurate accounts of the expenditure incurred and to be incurred from time to time.
- (iii) The terms of contracts to be entered into with various parties should be carefully studied to ensure economy and adherence to the time schedule.
- (iv) The Ministry should satisfy themselves at all stages why a revision of the original estimates is necessary and whether the reasons adduced in support of revision do not lead to wasteful and unnecessary expenditure.
- (v) Immediately after deciding to start a project Government should ensure that preliminary and consequent steps, namely, the

acquisition of lands, placing orders for the purchase of plant, equipments, etc. are taken in hand and in proper sequence so that the original estimates do not become out of date.

2.110. The Committee understand that the Roads Wing and Indian Roads Congress have issued a series of guidelines, standards and circulars to bring about improvements in the preparation of projects for roads and bridge works. The Committee would like the Ministry of Shipping and Transport to collect and collate such instruction and circulars and bring them out in the form of a compendium for use of all Highway authorities.

CHAPTER III

IMPLEMENTATION OF ROAD DEVELOPMENT PROGRAMME

(i) Organisation for Implementation of Road Development Programme

Audit Paragraph

3.1. The Ministry of Shipping and Transport is responsible for overall national policies relating to road planning and development and for provision of funds from the Central Budget for outlay on National Highways and Centrally financed roads.

3.2. The Roads Wing is headed by a Director General (Road Development), an engineer with ex-officio status of Additional Secretary to the Government of India. He is assisted by two Additional Directors General who are senior engineers incharge of Roads Directorate and Bridges Directorate respectively. The Additional Directors General are assisted by Chief Engineers, Superintending Engineers, Executive Engineers, Assistant Engineers and Drawing officers. Each Chief Engineer (for the State he is in-charge of) has been delegated powers for technical scrutiny and technical approval of works estimated to cost between Rs. 10 lakhs to Rs. 50 lakhs each. While works estimated to cost more than Rs. 50 lakhs and upto Rs. 150 lakhs are approved at the level of the ADG's, and above Rs. 150 lakhs by the DGRC. Besides sanction of estimates, the Roads Wing prepare standard designs of road and bridges and publishes these for the guidance of the executing agencies. There are six regional offices of the Roads Wing, each under a Superintending Engineer (known as the Regional Officer or R.O.) and 16 Liaison Offices, each under an Executive Engineer (known as the Engineer Liaison Officer or E.L.O.). The Ros and ELOs function as the Ministry's local representative with the State PWD. The other functions of these Regional Officers and ELOs include, *inter-alia*, sending of such periodical reports on the progress of works and maintenance of NHs falling in their respective jurisdictions as directed by the Roads Wing, to prepare any special reports to Centrally-financed road works that the Ministry may call for. The sanctioned and actual working strength of engineers in the Roads Wing both at headquarters and in the regional offices at the beginning of each year of the Fourth Plan are given in Appendix IV.

3.3. The actual work of construction, development and maintenance of NHs and other Central road works is done by the respective State Government's Public Works Departments which have no powers to sanction original works for these roads. A State Government's PWD prepares estimates for works and forwards those through the State Governments to the Roads Wing for technical approval and financial and administrative sanction. The Roads Wing sanctions the work with or without modifications and after calling for such clarifications as it thinks are required both from the State Government and from its ROs. Technical notes by the Roads Wing also accompany each sanction for guidance of the executing agency and which set out special aspects deserving attention. Thereafter these works are put to tender by the State PWD and processed further. The State Governments themselves are competent to accept tenders even if the tender cost exceeds the sanctioned estimates upto the permissible limit referred to in paragraph below. Tenders exceeding the sanctioned estimate by more than the permissible limit or where there are major deviations from approved designs and specifications are forwarded with their recommendations by the State PWD to the Roads Wing for approval. The Roads Wing calls for such clarifications on these tenders as it considers necessary and thereafter sanctions the tender, after which the State PWD takes up actual execution of the work. For these services, the State PWDs are entitled to an "agency charge" of 7½ per cent of the estimated cost of works. From 1 October 1975, this has been raised to 9 per cent. For quality control they are further entitled to an additional one per cent of the estimated cost of works.

3.4. Upto July 1971 the State PWDs had powers to regularise excess expenditure upto 10 per cent over estimate or Rs. 25,000 whichever was less. In July 1971, this was raised to 10 per cent of the sanctioned estimate or Rs. 2.5 lakhs, whichever was less, provided the excess was caused by routine factors such as increase in the cost of labour or material during the period initially anticipated/stipulated for the work, and not arising from a revision in the scope or enlargement of the work or of specifications already approved, or due to extension of the time of completion of the work. This was the extent of the delegation throughout the rest of the Plan. In September, 1974 the above mentioned limits were raised to 15 per cent and Rs. 100 lakhs respectively, subject to the same provisos.

3.5. For routine maintenance and repairs of NHs no detailed estimates are required to be submitted by the States PWDs. Detailed estimates have, however, to be submitted for special repairs, including flood damage repairs. Approvals by State PWDs of excesses over maintenance and repair estimates are also subject to the same ceilings as operative for original works.

3.6. Road planning Boards have been set up in Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Madras, Maharashtra, Orissa, Karnataka, Punjab, Rajasthan, Nagaland, Manipur and Tripura. Uttar Pradesh had also elected in principle to constitution of such a road planning board; it already had a working group which had in it representatives of all authorities connected directly or indirectly with road development formulated by the State PWD. Certain States have set up either exclusive or joint organisations (primarily doing NH work) for Central and State Highway works (details of which are given in Appendix V). According to the Ministry's information (December 1975), a total of six Chief Engineers, forty-two Superintending Engineers and one hundred and sixty-one Executive Engineers had been provided by the end of the Plan by way of augmentation for the additional load of work arising in the Fourth Plan for development of roads. Ministry stated that information from certain States was awaited (December 1975).

[Paragraph 3 of Supplementary Report of C&AG for the year
1973-74 (Part II)-Civil]

3.7. The Committee set up by Government for "Suggesting Measures to Expedite Execution of Bridge and Road Works" in its report (1972) has observed that "the Roads Wing has hitherto not played an active role in the matter of construction of National Highway works. Lack of adequate personnel, both at the Headquarters office and at Regional Offices of the Roads Wing in order to achieve effective overseeing of the construction activities and inadequate system of reporting and analysis of progress of works both physical and financial, have mainly contributed to this passive and Frigid attitude of the Roads Wing towards construction of National Highway Works."

3.8. As mentioned in the earlier chapter, one of the reasons for shortfalls in the expenditure during the first two years of the Fourth Plan was organisational inadequacy, both at the Central and State levels. Asked what steps have been taken to remove the deficiency, the Director General, (Roads) has stated during evidence:

"In the States, we give a lot of attention not only at the ministerial level but at the Ministers' level also to see that the State PWDs were strengthened and augmented. In 1971, there was a high level meeting of State Secretaries of PWD and CE where we commended model charts and said that each State PWD should be of a particular model. Our Minister addressed the Chief Ministers of the States emphasising that for handling this programme and for improving things which will help in improving standards consequently on the State works also they should create exclusive organisations for central works of roads. This brought in a lot of dividends. Almost

60 per cent of the States, by the end of the year 1972-73, had created exclusive organisations for investigation and design. But unfortunately again in 1973 certain problems were created. That is a subsequent problem, but we had seen to it that the States really augment themselves."

3.9. Elaborating the position in a note, the Ministry of Shipping & Transport have further stated:

"So far as the inadequacies of the staff in the Roads Wing of this Ministry are concerned this will be clear from the fact that while the outlay under the 3rd Plan in respect of Central Sector Road Schemes was of the order of Rs. 162 crores only, the outlay in the 4th Plan initially was Rs. 418 crores which worked out to nearly 2½ times the outlay during the 3rd Plan. Yet the staff available with the Roads Wing in the beginning of the 4th Plan period was only 2/3rds of the staff allowed to during the 3rd Plan period. It was indeed a great anomaly that before the commencement of the 4th Plan which was known to be of the order of Rs. 418 crores, the process of shedding staff following the study made by the staff inspection unit of the Ministry of Finance started and resulted in reducing the staff of the Roads Wing by 1/3rd instead of augmenting that staff required to handle the increased work-load. The Roads Wing, however, constantly went on pressing the requirements of increased staff and it was only in the beginning of 1972 that an *ad-hoc* increase of about 60 per cent was agreed to.

Likewise in the States there were serious inadequacies in regard to the organisational structure in as much as most of the States had mixed staff handling all types of works at the Chief Engineers Headquarters and in the field where central projects lost their identity and adequate care was not possible in respect of standards, specifications, speed, etc. The Ministry brought this also to the notice of the States and as a result consequently succeeded in having exclusive organisations for National Highways created in several States.

3.10. The Regional officers (ROs) and Engineer Liaison Officers (ELOs) function as the Ministry's local representatives with the State PWDs. In the initial stages, the regional set up consisted only of Engineer Liaison Officer posted in each of the States. An advance was made when few Regional offices, headed by Superintending Engineer were established in some of the States. Since those officers were expected work in close liaison with the State PWD officers, the function of the Roads Wing in

overseeing the execution of the National Highways works was rendered simpler by this action. In order to derive this advantage further, the recently sanctioned proposal for the re-structuring of the Roads Wing envisages further augmentation of the regional set-up. As against the present 6 Regional offices at Calcutta, Patna, Lucknow, Jaipur, Bombay and Bangalore, Government propose to establish three more regional offices at Chandigarh, Gauhati and Madras headed by a Superintending Engineer. The Gauhati regional office will be headed by a Chief Engineer to be able better to deal with the special problems of the North Eastern Region. In addition to the State capitals where Engineer Liaison Officers are already posted, Government also propose to post Engineer Liaison Officers at some more stations such as Panaji, Jorhat and Imphal. Such augmentation is expected to have manifold advantage, such as closer association with field officers of States so that the projects are investigated thoroughly and the design is based on adequate data and facilitating closer overseeing of supervision by States of all construction and maintenance activities.

3.11. It has been brought out in the Audit para that certain States have set up either exclusive or joint organisations (primarily doing NH work) for central and State High-ways works. According to the information furnished in the statement at Appendix V, the staff position in the State Public Works Departments for National Highway works during the first (1969-70) and the last (1973-74) year of the Fourth Plan was as under:—

	Position during	
	1969-70	1973-74
Chief Engineers	1	6
Supdt. Engineers	1	42
Executive Engineers	11	161
Asst. Executive Engineers	49	618

3.12. It has been stated that the Ministry have been bringing to the notice of the State PWDs from time to time the requirement for setting up exclusive organisations in the States for National Highway Works including separate set-up for survey, investigations and project preparation and for ensuring quality control at various forums. e.g. periodical meetings of the Chief Engineers held in October 1967 at Kulu, in April 1970 at Darjeeling, in August and December 1970 at New Delhi and Madras and in March 1975 at Chandigarh, and meetings of the Transport Developments Council etc.

Emphasising the need for an exclusive organisation in the States for central works, the Director General of the Roads Wing has stated during evidence:—

“We first thought that our agents, viz., the State Governments in certain fields and their organisations must be augmented and brought up to the required level. For this our Ministry including our Minister made efforts at the highest level to tell the State Ministers suggesting to them that they better create an exclusive organisation in their PWD to tackle central works as we felt that with mixed up organisations, the State PWDs were not really able to come up to the expectation of the Central Ministry. It had really taken shape to a considerable extent and the States were well on their way towards such improvement. At least a majority of the States had created separate organisations for central works. Of course, later as things were improving, again in 1973 we had very serious financial constraint suddenly descended on us and things again got into disarray. Besides that, we also gave thought to augmenting the Central Ministry's Roads Wing itself to be able to shoulder its heavy responsibility.”

3.13. The Committee on “More Efficient and Economical Construction and Maintenance of Roads” in their Report (1974) have referred to the creation of a separate highway department in each State. In this connection, the Committee had observed:

“Indian Roads Congress, as the prime body in the country interested in road development, has been strongly recommending for the past, several years for creation of separate highway departments in each State manned by an exclusive cadre of officers in tune with the modern trend for specialisation. Roads Wings of the Ministry of Shipping and Transport has also been lending firm support to this suggestion. Despite these efforts the idea of separate highway department has not been implemented universally. Rather, the States where this has happened are too small in number. The Committee recommends that as basic tenet of sound engineering, all road works in a State should vest in a single authority having its own cadre of technical and non-technical staff. Where this is not immediately possible at least staff at certain levels, for instance Assistant Engineer, Executive Engineer and Superintending Engineer, should be set apart only for road works. The Committee feels that only by doing so could the standard of road construction in the country be raised and justice done to the everincreasing demands of passenger and freight transport.”

3.14. According to the information furnished by the Ministry of Shipping and Transport the following States have created separate organisations to look after the works of National Highways in the States:

Sl. No.	Name of State	Whether separate organisation set up	Remarks
1.	Andhra Pradesh	Yes	This organisation used to deal with National Highways, Central Road Fund Works and E&I Roads financed by Centre. Sometime back the State has dismembered this exclusive organisation at certain lower levels of Superintending Engineer and Executive Engineers.
2.	Assam	Yes	This organisation was up to Executive Engineers level only. Thereafter it was controlled by common Superintending Engineers and Chief Executive Engineers.
3.	Bihar	Yes	..
4.	Gujarat	No	Though the State Government do not have separate organisation for National Highways they do set up at times exclusive Circles etc. for Specific National Highway Circle.
5.	Haryana	..	The entire National Highway works are being handled by an exclusive National Highway circle.
6.	Himachal Pradesh	..	Reply is awaited. Set-up look ^s to be combined.
7.	Jammu & Kashmir	..	The main NH is with the Border Roads Development Board. A separate State Chief Engineer is however looking after NH by-passes at Srinagar and Jammu.
8.	Karnataka	Ye	Exclusive organisation, however had been dismembered since sometime past, and made largely combined organisation.
9.	Kerala	Yes	The organisation in Kerala deals with NHs and from 1974 onwards it has also been dealing, in addition to NHs, with the Central Road Fund and Economic and Inter-State Road Works.
10.	Madhya Pradesh	Yes	...

Sl. No.	Name of State	Whether separate organisation set up	Remarks
11.	Maharashtra	Yes	Recently reorganised on Zonal basis, up to Superintending Engineer are exclusive but Chief Engineers are combined.
12.	Manipur . . . . .	..	There is no separate organisation because the scope is small.
13.	Meghalaya . . . . .	..	The State Govt. have one NH Division exclusively for NH No. 40 in Meghalaya. A portion of NH No. 44 also passes through Meghalaya but there is no separate organisation for this NH. It is being handled by the Executive Engineer who is also in charge of other State roads.
14.	Nagaland . . . . .	..	The NHs are in charge of Border Roads Development Board.
15.	Orissa	Yes	..
16.	Punjab	Yes	..
17.	Rajasthan	No]	..
18.	Tamil Nadu	Yes]	..
19.	Tripura . . . . .	..	NHs are in charge of Border Roads Development Board.
[20.	Uttar Pradesh	Yes	..
[21.	West Bengal	Yes	Partly-Exclusive partly combined.
[22.	Goa	No]	There is no separate organisation but, they have a separate circle for National Highways with 3 Divisions. This Circle also deals with Central Road Fund works.
23.	Chandigarh . . . . .	..	There is no separate organisation.
24.	Delhi	No	..

(ii) Monitoring and reporting arrangements

Audit Paragraph

3.15. In August 1971, the Roads Wing had requested State Chief Engineers to send a monthly statement of works sanctioned since commencement of the Fourth Plan construction of which had not commenced, as these statements were not received from most of the States even

though the National Highway Rules, 1957 stipulated monthly progress reports. Not much progress was achieved in this regard and up-to-date information about progress, at various stages, of the central road projects sanctioned in the Fourth Plan was not available to the Ministry almost throughout the Fourth Plan. Failing to get needed response from the State PWDs, instructions were issued in January 1974 to Regional Officer/ELOs to furnish monthly reports in duplicate after undertaking frequent inspection of works falling in their regions and forward these to the Ministry by the seventh of the following month in respect of works inspected by them.

3.16. During the first four years of the Fourth Plan, the Ministry had no operative system or mechanism whereby for each NH, all developmental, ordinary maintenance and repair, special repairs and/or flood damage, widening and/or strengthening and/or reconstruction of culverts and other works could be continuously monitored for each stretch so as to give an idea of the investment/expenditure incurred on it over a length of time. Bar charts showing yearwise development/maintenance and repair works on each kilometre of NH were prescribed for the first time in February 1973 for submission from 1973-74 onwards, as a first step towards setting up such a system.

3.17. In February 1972 the headquarters staff of the Roads Wing was augmented by the addition of five Chief Engineers, 12 Superintending Engineers, 38 Executive Engineers and 38 Assistant Engineers among the technical staff. From Appendix IV it will be seen that save one post of Assistant Engineer allotted to a Regional Office, there was no augmentation of the strength of the Regional offices. As against 135 officers of the rank of Assistant Engineers and above in the headquarters on 1st April 1974, the number of such officers in the Regional Offices on that date was thirty seven.

3.18. The Ministry's Regional Officers and ELOs are in charge of long lengths of NHs as indicated below:—

Location of Regional Office	Location of ELOs Office	Length of NHs (Kilometres)
Bombay	Bombay and Ahmedabad	4,442
Patna	Patna and Bhubaneswar	3,759
Shillong	Shillong and Calcutta	3,756
Jaipur	Jaipur, Amritsar, Jammu and Chandigarh	4,944
Bangalore	Bangalore, Trivandrum, Madras and Hyderabad.	6,777
Lucknow	Lucknow and Bhopal	4,998

3.19. From the RO's and ELO's reports submitted between June and December, 1974 on the inspections they carried out on works on ten NHs and other Centrally-financed road works in the various States studied in Audit, it emerged that with the large areas of the States they were in-charge of and the long lengths of NHs and other Centrally-financed roads they were expected to report on regularly, they were experiencing difficulties due to lack of properly equipped offices, both in respect of staff and equipment. These deficiencies impaired the quality and effectiveness of monitoring the construction and activity of the State PWDs.

3.20. Whether by strengthening the regional offices delays in sanctioning estimates can be reduced seems to merit consideration.

(Paragraph 6 of Supplementary report of C&AG for 1973-74, Part II-Civil)

3.21. The Committee desired to know whether the Ministry had attempted any analysis of the reasons for the failure of the monitoring arrangements with a view to identifying the deficiencies and taking necessary remedial measures. In reply, the Ministry in a written note furnished to the Committee have *inter alia* stated:

"After the estimates are sanctioned, the State PWDs are required to send us Quarterly Progress Reports, indicating the physical and financial progress achieved. Many times we are not able to stick to the planned progress due to various difficulties like delay in land acquisition, shortage of cement and steel and also sometimes due to inefficient contractor. These progress reports are scrutinised here and every effort is made to remove the bottlenecks and ensure that the work proceeds as smoothly as possible commensurate with allotted funds. Officers of the Roads Wing also inspect these works and try to associate with and assist the States to remove the difficulties."

3.22. Asked if the progress reports were received regularly from the State Highway authorities, the Director General (Roads) has stated during evidence:

"The position is that the progress reports are expected in a pro-forma which is very exhaustive and we really look for all the information that we should have for monitoring these programmes. The receipt of these progress reports to the tune of 75 per cent is satisfactory. The delay is in about 25 per cent cases. The delay is by about one month or even more. We even told the States that your Executive Engineer can directly send it to the Ministry. We do not want it to be sent through the State Government."

3.23. Elaborating the above reply, the Ministry in a written note have stated as under:

"We still maintain that the receipt of progress reports, by and large is satisfactory because about 75 per cent of them reach us before the next quarterly reports become due and hence their utility is not lost. We would wish the progress reports to reach us by the stipulated time limit viz. 15th of the month following the quarter under report and do pursue with the States in the matter. But considering the difficulties facing the executive agency in the State PWDs, who have to furnish the quarterly progress reports, it is felt that as long as quarterly progress reports reach us before the next quarterly reports become due, the position need not be considered unsatisfactory."

3.24. The reasons for delay in receipt of the quarterly Progress Reports as identified by Government are mentioned below:

- (i) Pre-occupation of the executive staff of the Public Works Department Divisions with execution of work.
- (ii) Frequent transfer of Field Officers, closure of National Highway Divisions resulting in dislocation of proper functioning of Public Works Department field organisation. The merging of National Highway Works with other works in the PWD organisations instead of separate Divisions for National Highway Works is diminishing the importance, resulting in lack of attention to prompt monitoring of their progress.
- (iii) Absence of monitoring cell at the Headquarters of the PWDs organisations to deal effectively with this matter.

3.25. The Ministry have, however, stated that they are trying to remedy the situation by impressing upon the authorities concerned in the States not to lose sight of the important requirement of sending the progress reports well in time. This requirement is stated to have been highlighted in the meetings of State Chief Engineers held at New Delhi on 29 August, 1970, at Srinagar on 31 August, 1971, at New Delhi on 4 May 1974, at Hyderabad on 6 January 1976 and at Madras on 28 August 1976, where the States were advised to set up a separate monitoring cell under a senior officer so that a constant watch could be kept in this matter and steps taken to ensure that the delays are avoided and time schedules are adhered to. The matter has also been brought to the notice of Transport Development Council during their meeting held at New Delhi on 23 August 1976. The matter was also taken up by the Deputy Minister with the State PWD Ministers on 20 May 1976 highlighting this requirement.

3.26. It is stated that in the Roads Wing, a separate monitoring zone has been set up recently at the level of Chief Engineer (Monitoring) supported by two Superintending engineers, one for Roads Works and the other for Bridge Works.

3.27. The following table shows the overall percentage receipt of progress reports from all the States in respect of road and bridge works in respect of National Highways for the four quarters in 1976.

Quarter ending	Road works		Bridge Works	
	Total Nos. due	% age receipt	Total Nos. due	% age receipt
March 1976	1343	81	593	72
June 1976	1335	85	578	72
September 1976	1349	83	580	86
December 1976	1325	72	607	82

3.28. It will be seen from the above that the overall percentage receipt of progress reports varies from 72 to 86 per cent.

3.29. The Director General (Roads) has confirmed during evidence that the Regional officers and Engineer Liaison Officers have been asked to send their monthly activity reports showing *inter-alia* whether the States are sending quarterly reports regularly or not.

3.30. The Ministry have informed the Committee that as a further measure in this direction, they have also introduced towards the beginning of 1976 a system of 'Monthly Letters' to be written by State Chief Engineers to Director General (Roads) and *ex-officio* Additional Secretary regarding problems requiring urgent attention, etc. Such letters invite attention to projects of urgent nature requiring expeditious sanctions, etc. and are helpful in speeding up the sanction of works. The Committee desired to know whether the Ministry had ever considered the feasibility of redistributing the staff between the Headquarters and regional offices so as to ensure better control over the execution of works. In reply, the Ministry have stated as under:

"Since the available staff was not sufficient even for the headquarters requirements which is to cater to the bulk of the work-load

regarding planning, programming, scrutiny of estimates, examination of tenders, sanctioning of works, keeping a watch on implementation through progress reports, answerability to Parliament, etc., the question of redistributing the staff between the headquarters and regional offices did not arise and the Ministry had to work to the best of its ability within the framework of the existing staff. However, it is hoped that with the recent approval to some augmentation of the staff of the Roads Wing, both at the Headquarters and in the field some of the handicaps of the Regional offices of this Ministry in regard to supporting staff, office equipment, etc. would be removed."

3.31. It is seen from the Audit para that some Engineer Liaison Officers (ELOs) had long stretches of National Highways ranging from 3756 Km to 6777 Km in their jurisdiction. The Committee wanted to know how under such an arrangement, it was possible for the Regional Officers and Engineer Liaison Officers to inspect works in progress, regularly and frequently, as also the other stretches of the roads to report on their general condition. In reply, the Ministry have stated in a written note:

"With the drastic reduction in the staff of the Regional Offices as well as of the Headquarters by about the commencement of the Fourth Five Year Plan as a result of the recommendations of the Staff Inspection Unit, which conducted a study in 1967-68 when the outlay of the Roads Wing for the year was only Rs. 35.00 crores, it was not possible for the six Regional Officers assisted by nine Engineer Liaison Officers to do justice to their duties for the Fourth Plan works."

3.32. The Committee note that the Ministry of Shipping and Transport is responsible for overall national policies relating to road planning and development and for provision of funds from the central budget for outlay on National Highways and centrally financed roads. The actual work of construction, development and maintenance of National Highways and other Central roads works is done by the respective State Governments' PWDs who prepare the estimates and forward the same through the State Governments to the Roads Wing of the Central Ministry for technical approval and financial administrative sanction. For the services rendered by the State PWDs the Roads Wing pays them an 'agency charge' of 9 per cent of the estimated cost of works. Besides sanction of estimates, the Roads Wing also prepares standard designs of roads and bridges and publishes them for the guidance of the executing agencies. There are Regional Officers (ROs) and Engineer Liaison Officers (ELOs) who function as the Ministry's local representatives with the State PWDs. One of the functions of these ROs and ELOs is sending of periodical reports as directed by the Roads

Wing on the progress of works and maintenance of National Highways falling in their respective jurisdiction.

3.33. The Committee are concerned to note that while the outlay of Rs. 418 crores in the Fourth Plan was nearly $2\frac{1}{2}$ times of the Third Plan, the staff available with the Roads Wing in the beginning of the Fourth Plan period was only $\frac{2}{3}$ rd of the staff during the Third Plan period. What distresses the Committee more is the fact that a process of shedding off the staff started following the study made by the Staff Inspection Unit of the Ministry of Finance without taking an overall and judicious view of the work-load that would come up in the Fourth Plan. It was only in February 1972 that the headquarters staff of the Roads Wing was augmented on an *ad hoc* basis by the addition of five Chief Engineers, 12 Superintending Engineers, 38 Executive Engineers and 38 Assistant Engineers among the technical staff.

3.34. The Committee are not convinced that the study by the Staff Inspection Unit was carried out scientifically or realistically. Had that been done and the Team imparted a basic appreciation of the nation wide task in the matter of developing national highways, they would not have given the recommendations of the nature that had the effect of dismantling the organisation, and reducing its effectiveness at the supervisory and coordination level. At any rate, it was for the Executive to have taken effective action even after the receipt of the Report of the Inspection Unit and convinced the competent authority that a mechanical implementation of the recommendation would accentuate difficulties instead of achieving economy. The Committee need hardly point out that as soon as the difficulties in the matter of handling enhanced value of plan works came to notice, concerted measures should have been taken to put in position effective technical and supervisory machinery which would have proved equal to the task and made for its expeditious and timely completion. Had this been done in an imaginative and effective manner, the shortfalls in the achievement of targets in the Fourth Plan and the subsequent years would have been obviated to a considerable extent.

3.35. The position was even worse in the case of regional offices of the Roads Wing. From the statement given in Appendix IV, the Committee note that the sanctioned strength of 34 Assistant Executive Engineers and 40 Executive Engineers as on 1 April 1969 was progressively reduced to 9 and 27 respectively by 1 April 1974. As against the actual strength of 135 officers of the rank of Assistant Engineers and above in the headquarters on 1 April 1974, the number of such officers in the Regional Offices on that date was 37. Another disquieting feature was that most of the high grade officers were concentrated at the headquarters in Delhi and the need for keeping senior officers in the regional offices for technical coordination

and liaison work and to oversee its satisfactory and timely execution was not apparently realised.

3.36. How the organisational inadequacies and deficiencies, both at the headquarters and regional offices have affected adversely the central road works has been commented upon by the Departmental Committee set up for Suggesting Measures to Expedite the Execution of Bridges and Roads Works. That Committee has inter alia observed that "the Roads Wing has hitherto not played an active role in the matter of construction of National Highway works. Lack of adequate personnel both at the headquarters office and at the Regional Offices of Roads Wing in order to achieve effective overseeing of construction activities and inadequate system of reporting and analysis of progress of works both physical and financial have mainly contributed to this passive and rigid attitude of the Roads Wing towards construction of National Highway works."

3.37. The Committee note that lately some steps have been taken to strengthen the regional set-up of the Roads Wing. The recently approved proposals for re-structuring of the Roads Wing envisage augmentation of the six regional offices at Calcutta, Patna, Lucknow, Jaipur, Bombay and Bangalore by establishing three more regional offices at Chandigarh, Gauhati and Madras. In addition to the State capitals where Engineers Liaison Officers are already posted, Government also propose to post Engineer Liaison Officers at some more stations such as Panaji, Jorhat and Imphal.

3.38. The Committee feel that the essence of the matter lies in investigating, planning and execution of the construction and maintenance works for the national highways and other centrally sponsored roadways schemes in the most efficient and economical manner. The Committee feel that Government who have experience of nearly 3 decades should be able to have a set up which is both compact and expert in this technical field. It appears to the Committee essential that the regional offices which have to maintain an effective coordination with the State authorities which are entrusted with the execution of the works are manned by engineers of experience, technical standing and expertise and administrative skill to ensure that the work is got executed smoothly and in accordance with the planned targets.

3.39. The Committee stress that there should not be over-emphasis on numbers or a sense of complacency developed by talking of the percentage of expenditure incurred on the organisation as compared to the total turnover, for the Roads Wing have essentially to perform a limited but essential function of planning and overseeing while the actual work is being done through State agencies. The officers and supporting staff should be of the highest calibre, but minimum in number to achieve this objective.

3.40. The Committee are distressed to note that the position in regard to organisational set-up in the States to handle the National Highways and other central road projects during the Fourth Plan period was far from satisfactory. In fact, the Ministry of Shipping and Transport have conceded that there were serious inadequacies in regard to the organisational structure in as-much-as most of the States had mixed staff handling all types of works at the Chief Engineers headquarters and in the field where central projects lost their identity and adequate care was not possible in respect of standards, specifications, speed etc. Despite the efforts made by the Ministry at Ministerial level and other various forums, e.g. periodical meetings of the Chief Engineers held at Kulu, Darjeeling, New Delhi and Madras during the period from 1967 to 1970, the response of the State PWDs to set up exclusive organisations in the States for National Highway works including a separate set up for survey investigation and project preparation and for ensuring quality control has not been encouraging as according to the Ministry only about 60 per cent of the States had created exclusive organisations for investigation and design by the end of 1972-73. The Committee note from the information now furnished by the Ministry that there are a number of States Union Territories, e.g. Gujarat, Himachal Pradesh, Kerala, Manipur, Rajasthan, West Bengal, Chandigarh, Delhi and Goa which have not yet set up an exclusive organisation. There are certain other States, e.g. Andhra Pradesh, Karnataka, Maharashtra etc. where the exclusive set up of construction of roads has since been either dismembered or modified.

3.41. Since the road construction in the present day calls for an expertise and technical know-how in soil mechanics, traffic and transportation engineering, bridge engineering etc. it appears desirable to have a single full-fledged organisation in each State to deal with the specialised job of National Highway construction. Expertise should be developed in planning, designs, surveys and investigations, materials and plants, contracts and specifications, quality control, progress monitoring and evaluation etc. to ensure more efficient design, construction and maintenance of the highways. The Committee suggest that the Roads Wing may evolve a model set-up for handling the construction and maintenance of National Highways and other central road projects in the States and Union Territories more efficiently and economically. The Committee would like to be informed of the specific action taken in pursuance of these recommendations.

3.42. The Committee are distressed to note that even though the National Highway Rules 1957 stipulated the submission of monthly progress reports no up-to-date information about progress at various stages of Central road projects sanctioned was available to the Ministry almost throughout the Fourth Plan. Failing to get needed response from the State PWDs, instructions were issued to Regional Officers/Engineer Liaison Officers to furnish monthly reports in duplicate about the inspection of

works falling in their regions and forward the same to the Ministry by the seventh of the following month.

3.43. Likewise, during the first four years of the Fourth Plan, the Ministry had no operative system or mechanism whereby for each National Highway, all developmental works, ordinary maintenance and repair works, special repairs and/or flood damage, widening of culverts and other works could be continuously monitored for each stretch so as to give an idea of investment/expenditure incurred on it over a length of time. The Regional Officers and the Engineer Liaison Officers were in charge of large stretches of highways under their respective charge and they were experiencing considerable difficulties to report on account of lack of properly equipped offices. The cumulative effect of these deficiencies was that the quality and effectiveness of monitoring the construction activity of the State PWDs suffered.

3.44. The Committee have now been informed that after the estimates are sanctioned, the State PWDs are required to furnish to the Centre, Quarterly Progress Reports, indicating the physical and financial progress achieved. The Committee observe that even those reports are not being submitted regularly and in time as is evident from the fact that during 1976 (March—December 1976) alone the overall percentage receipt of these reports varied from 72 to 86 per cent. The Committee note that the need for sending these progress reports to the Ministry in time has been emphasised at the Chief Engineers meeting held at New Delhi, Srinagar, Hyderabad and Madras, where the State highway authorities were also advised to set up a separate monitoring cell. The Committee would like the Government to impress upon the State authorities the imperative need for sending these progress reports regularly and in time. The Committee would like to judge the success or otherwise of restructuring and the additional expenditure which has been incurred on augmentation of its staff by the results it achieves in expediting execution of work with greater efficiency and better economy.

3.45. The Committee feel that apart from the structural reorganisation with a view to lay more emphasis on the monitoring aspect, what is more important is the devising of the proforma which helps to feed back the essential information about progress made to the Head Office of the Roads Wing and enables it to take remedial measures without loss of time.

3.46. The Committee further note that in the Roads Wing a separate monitoring zone has been set up recently at the level of Chief Engineer and that the Ministry have also introduced in 1976 a system of "Monthly Letters" to be written by State Chief Engineers to the Director General (Roads) regarding the problems requiring urgent attention which would help in

receiving attention at the highest level both in the States and in the Ministry. The Committee have earlier recommended that the Ministry should immediately introduce a P.E.R.T. Chart for every project and along with it also devise an in-built mechanism for fixing the responsibility for delays in the execution of the projects. The Committee hope that these measures, with augmented staff in Roads Wing and at Regional Officers/Engineer Liaison Officers levels, would lead to timely submission of progress reports between the States and the Roads Wing on one hand and between the Roads Wing and the Regional Officers/Engineer Liaison Officers on the other.

(iii) Maintenance and repairs of National Highways

Audit Paragraph

3.47. With a view to rationalise maintenance grants for upkeep of NHs to State Governments, as well as to formulate suitable norms for their maintenance, a technical group headed by the Director General, Road Development, computed in 1968 the costs of maintenance per year as between Rs. 3438 to Rs. 6875 per kilometre for single lane and Rs. 4125 to Rs. 10,000 per kilometre for double-lane NHs, excluding repairs such as special repairs and special flood damage repairs. The differing rates for maintenance reflected the differing soils and climatic variations obtaining in four broad zones into which the Committee divided the country, as also the variations in rates payable for labour and material in the four zones. The group also recommended that with the increasing cost of materials and labour from year to year a fresh appraisal and recommendations for maintenance grants be made every two years. This re-appraisal, however, was not done throughout the Fourth Plan and allotments for maintenance and repairs continued to be made on the basis of those old recommendations. The expenditure incurred in the first three Plans on maintenance and repairs of NHs came to Rs. 20.28 crores, Rs. 24.39 crores and Rs. 33.95 crores respectively, while in the three annual Plans 1966-67 to 1968-69 the expenditure was Rs. 26.38 crores.

3.48. Though in absolute terms the outlay on maintenance and repairs has steadily risen throughout the Plan periods, in real terms it has fallen, especially in the annual maintenance costs per kilometre, since wholesale prices at the end of the Fourth Plan were (according to the Economic Survey 1974-75) nearly three times those of 1961-62 and have risen further since then. Thus, though apparently maintenance expenditure doubled from Rs. 2835 per kilometre per annum during the third Plan to above Rs. 5,700 per kilometre per annum in the Fourth Plan, in real terms the outlay per kilometre fell by about one-third (Table V Bring this out). This was despite the fact that the National Highways are carrying increasingly heavy traffic and also higher unit loads.

TABLE V

Maintenance Expenditure on National Highways

Plan period	Mileage at the end of Plan (Kms)	Maintenance & repairs outlay during Plan (Rs. crores)	Maintenance & repairs outlay per Km/annum (Rs.)
I Plan (1951-56)	22,255	20.28	1,882
II Plan (1956-61)	23,769	24.39	2,052
III Plan (1961-66)	23,948	33.95	2,835
Annual Plan			
(1966-67)	23,948	7.63	3,186
(1967-68)	24,000	7.36	3,065
(1968-69)	24,000	11.37	4,737
IV Plan (1969-71)	24,000	27.53	5,735
(1971-74)	28,819	48.78	5,642

N.B.—All expenditure figures are at current prices.

3.49. There are interesting variations in the Statewise expenditures on maintenance and repairs of NHs (Appendix VIII). Bihar accounted for the highest outlay of Rs. 10.09 crores during the Fourth Plan on maintenance followed by West Bengal (Rs. 7.74 crores) and Uttar Pradesh (Rs. 7.58 crores). These three States account for about one-third of the total outlay on maintenance and repairs expenditure of Rs. 76.31 crores in the Fourth Plan. Maharashtra (Rs. 5.90 crores), Gujarat (Rs. 5.72 crores), Madhya Pradesh (Rs. 4.64 crores), Tamil Nadu (Rs. 3.78 crores), Rajasthan (Rs. 3.70 crores) and Orissa (3.48 crores) accounted for another 35 per cent of the total expenditure on maintenance and repairs in that period. Percentage-wise, in terms of excess of actual expenditure on maintenance and repairs as compared to the allotments made by the Ministry, Assam and West Bengal led the States.

[Paragraph 21 of Supplementary Report of C&AG for the year 1973-74
(Part II)—Civil]

3.50. The year-wise expenditure on maintenance and repair of National Highways since 1961-62 (beginning of the 3rd Plan) and upto the end of the 4th Plan has been as under:

Year		Expenditure (Rs. in crores)
1961-62	} Third Plan	5.79
1962-63		6.19
1963-64		6.83
1964-65		7.36
1965-66		8.19
1966-67	} Annual Plans	7.65
1967-68		7.36
1968-69		11.37
1969-70	} Fourth Plan	12.97
1970-71		15.35
1971-72		16.61
1972-73		16.45
1973-74		15.72

3.51. It will be seen from above that the expenditure on maintenance of National Highways picked up from Rs. 11.37 crores in 1968-69 and rose to a peak of Rs. 16.61 crores in 1971-72 and then declined during the last two years (1972-73 and 1973-74) of the Fourth Plan.

3.52. In 1968, realising that the huge national investment in highways could be safeguarded only through adequate maintenance, the Ministry of Transport set up a Technical Group of Chief Engineers to suggest appropriate norms for assessing the maintenance requirements of National Highways and State Highways. Report of the Group became available in 1969. In essence, the Report laid down basic norms for calculating the year-to-year maintenance needs based on broad factors like traffic, rainfall, surface type, etc.

3.53. Referring to the norms set out in this report, the Director General (Roads) has stated during evidence as under:

“The Ministry of Finance was also good enough to agree with those norms and the allotment of grants was on the basis of those norms. But there is a need to review those norms every two

or three years. That review was undertaken and it showed that a further step-up in the grants was necessary particularly because the bitumen prices had gone up."

3.54. The Departmental Committee on "More Efficient and Economical Construction and Maintenance of Roads" in its report (1974) has pointed out that—

"Todate no standards have been evolved in relation to the level of service to be affered to the road-users. As a consequence maintenance needs are more or less arbitrarily determined on the basis of traffic, cost of materials, carriageway width, rainfall, terrain conditions and judgement of the supervising staff. For some categories of roads, maintenance programme is merely tailored to the money allotted for the road upkeep. Net result is that the level of service differs widely from State to State. Road users are particularly sensitive to the road surface conditions, *i.e.* evenness and the convenience and safety with which they can travel on a given section of the road, but these points are hardly being given a weightage in the development of maintenance standards."

3.55. Regarding allocation of funds, the above Committee has stated:

"Allocations for road maintenance in the country have always been meagre. This applied to arterial routes like National Highways as to other roads lower down the heirarchy. Like a poor relation, maintenance effort was regarded by administrators and engineers alike as a less worthwhile task than the establishment of new infra-structure. Result was that maintenance of roads kept on suffering. By 1968 the situation had reached a pitch."

3.56. The allotment of funds to States for maintenance of National Highways is dependent on the following factors:

- (i) Length and carriageway width of the National Highways.
- (ii) The intensity of traffic.
- (iii) The cost of stone aggregate. (This is dependent on the distance from the stone quarries and the available modes of transport).
- (iv) The type of terrain and the volume of annual rainfall.
- (v) Soil and drainage conditions.
- (vi) The degree and extent of the damages due to floods, earthquake etc.

- (vii) The extent to which the existing pavements are weak and substandard.

3.57. It will be seen from the statement (Appendix VIII) that there were variations in the State-wise expenditure on maintenance and repairs of National Highways during the Fourth Plan. Bihar accounted for the highest outlay of Rs. 10.09 crores followed by West Bengal (Rs. 7.74 crores) and Uttar Pradesh (Rs. 7.58 crores). According to Audit Para, these three States accounted for about one-third of the total outlay on maintenance and repairs expenditure of Rs. 76.31 crores in the Fourth Plan.

3.58. Asked if the Ministry had analysed the reasons for the variations in allotment/expenditure on maintenance and repairs of National Highways and taken necessary corrective measures, the Committee have been informed in a written note as under:

“The average yearly allotment of funds in the 4th Five Year Plan period for maintenance of National Highways, which besides ordinary repairs and surface renewals include special repair and flood damage repairs as well, has been Rs. 8,800/- and Rs. 8,200/- per Km. respectively in Bihar and West Bengal as against the all-India average of Rs. 5,000/-. The same trend has so far prevailed in the Fifth Five Year Plan period. The reasons for this trend mostly are as under:

- (i) The recurring heavy floods in the rivers Ganga, Gandak, Burhi Gandak, Bagmati and Kosi in North Bihar and the river Sone in South West Bihar and the consequent heavy damages practically every year to N.H. Nos. 28, 28-A (international road leading to Nepal), 30 and 31 which need repairing.
- (ii) Heavy wear and tear of the pavements of National Highway Nos. 2, 6, 34 and 35 in the deltaic region of West Bengal having drainage problem due to tidal effect of the river Hooghly and where besides heavy traffic, there is intensive rainfall, high water table, and clayey soil in the embankment and sub-grade which is weak in engineering properties. This heavy wear and tear calls for substantial special repairs and thicker surface renewals.
- (iii) Practically, the same conditions and demands as obtaining in the deltaic region of West Bengal prevail on Barauni-Purnea section of NH 31, in Bihar. Also NH No. 2 in Bihar is heavily trafficked among other things with coal movement.

- (iv) The National Highway No. 31 in West Bengal is often damaged by the flashy floods and meanders of the rivers Teesta, Torsa, Jalalra and Daduya. There is thus heavy demand of flood damage repairs and special repairs on this road.
- (v) Some of National Highways in Bihar and West Bengal are double lane compared to all India average which has greater percentage of single lane.

The national highways in the States of Bihar and West Bengal are also being gradually improved, augmented and strengthened as per the availability of funds and equipment resources etc."

3.59. It is noted that excess expenditure on maintenance and repair of National Highways administered by the Roads Wing has occurred during the last many years, as will be seen from the following table:

Years	Excess (Rs. in lakhs)
1959-60	13.97
1960-61	16.29
1961-62	11.15
1962-63	36.26
1963-64	15.99
1964-65	32.63
1965-66	39.17
1966-67	63.12
1967-68	35.80
1968-69	35.20
1969-70	84.60
1970-71	154.97
1971-72	258.03
1972-73	69.41

3.60. It has been stated in the 134th Report of Public Accounts Committee (Fifth Lok Sabha) that "in pursuance of the recommendations of the Public Accounts Committee in regard to the need for controlling the excess in the expenditure on the maintenance and repairs of National

Highways, the Central Government have taken a number of measures for a rigid control on the distribution of funds to the States and their utilisation by them as well as for enforcing rigid regulatory control over the various measures taken and the guidelines prescribed to streamline the procedure for the execution of the works on the National Highways. These measures are mentioned in the 96th Report of the Public Accounts Committee (Fifth Lok Sabha). As a result of these measures a good deal of success has been achieved. As against the excesses of Rs. 154.97 lakhs during 1970-71 and Rs. 258.03 lakhs during 1971-72 the excess during the financial year 1972-73 was Rs. 69.41 lakhs out of which an excess of Rs. 63.58 lakhs was in respect of West Bengal alone”.

3.61. The excess has persistently occurred in the case of West Bengal during the Fourth Plan as will be seen from the following figures:

Years	Rs. in lakhs
1969-70	0.37
1970-71	42.09
1971-72	52.85
1972-73	63.58
1973-74	30.67
1974-75	5.51

3.62. In a note furnished to the Committee the Ministry has clarified the position as under:

“In connection with the maintenance of National Highways in West Bengal the State Government, upto the level of Chief Minister, has been pressing this Ministry for special considerations for giving adequate funds in view of high intensity of rainfall, poor soil conditions, high cost of road materials, etc.,. Maintenance allocation on the basis of the Ministry's all India norms are reported to be found inadequate in view of the above mentioned reasons. The matter is under active consideration of the Ministry and the Regional Officers of the Ministry are jointly inspecting the National Highways with the PWD officers to make assessments of maintenance requirements. The State Government is also being continually pressed by this Ministry to restrict the expenditure within the allocated amount and there has been response to some extent in this direction from

1973-74 onwards, as may be seen from the above mentioned table.

With regard to the difference between allotment and expenditure in previous years, particularly from 1970 to 1973, the matter is under correspondence with the State Government. It may, however, be mentioned that some stretches of NHs linking Calcutta with North-West and South India badly required strengthening in view of inadequate thickness, poor subgrade soil, high water table, etc., and after field investigations conducted by the Central Road Research Institute the estimates in this regard have been sanctioned in 1973. Till the original works sanctioned by these estimates could be started, the State P.W.D. had incurred heavy expenditure for keeping these roads traffic worthy. As a matter of fact, FDR/SR estimates to the tune of about Rs. 86 lakhs were sent in this period to the Ministry for sanction. Settlement of the same is still pending because certain information clarifications are being awaited from the State Government and the matter is under active consideration."

3.63. It will also be seen from the Statement at Appendix VIII that in several States the expenditure on maintenance and repairs of National Highways during the Fourth Plan had exceeded their allotments. The excesses are more significant in the following States:

States	Allotment made	Expenditure made	Percentage of excess expenditure
			(Rs. in lakhs)
West Bengal	584.17	773.74	32.45
Assam	349.72	474.96	35.81
Himachal Pradesh	79.76	104.99	31.63
Nagaland	74.93	90.99	21.43

3.64. The Audit Report points out that although national highways were carrying increasingly heavy traffic and also higher unit loads, the outlay in real terms on maintenance and repairs per kilometre of national highway fell by about a third during the Fourth Plan as compared with that in the Third Plan. Asked whether Government should not allocate more funds for maintenance and repairs of the national highways, if good

value is to be obtained from those high roads, the Ministry have stated in a written note as under:

“In the Third Plan period when the index of wholesale price was 118 Av. (it varied in the Plan period from 100 to 136.3) annual expenditure on maintaining a kilometre of national highway was about Rs. 2,835/-. In the Fourth Plan period when the index was 213 Av. (it varied in the Fourth Plan period from 172 to 254) the annual expenditure was about Rs. 5,680/-. This shows that in the Fourth Plan period the annual expenditure per kilometre was not less, in real terms, from the annual expenditure in the Third Plan period. However, in the interregnum plan period 1966-69, the Ministry evolved maintenance rational norms which made maintenance control more systematised and helped in step up of maintenance grant for NHs from 1967-68 onwards. It is all the same agreed that in the Fourth Plan, more so in the second half, the allocation for maintenance of national highways did not fully take into account the increase in the average width of carriageway subsequent to the improvement works, substantial increase in the Price of bitumen in January, 1974 consequent to ‘Oil Crises’ and the needed updated requirements of the Norms laid in 1968.

Every efforts has been made and will continue to be made to get reasonable allocations for maintenance and repairs of national highways keeping in view the degree of the service required, the prevailing prices and wages, and the need to preserve the investment and to give an efficient and economical transport to the public.”

3.65. The Committee on ‘More Efficient and Economical Construction and Maintenance of Roads’ in its Report (1974) has made a number of recommendations/suggestions on highway maintenance. Some of these are mentioned below:

1. Pending the development of more rational maintenance criteria, a mechanism should be evolved by which the existing norms proposed by the Technical Group for National/State Highways are updated regularly.
2. As long term measure, for devising a better system of frequency of renewal together with maintenance norms along more scientific lines, a national committee should be set up by the Roads Wing with the support of State Highway departments.
3. State Highway departments should institute a suitable system of road data banks for the collection and analysis of basic

information pertinent to the determination of maintenance requirements.

4. Public Works Departments should subject their existing maintenance procedures to a thorough study from the angle of systems management so that better use is made of all the resources. As an immediate measure a maintenance Cell should be created in each Chief Engineer's office and in Roads Wing to plan the maintenance programme for the entire state.
5. Different categories of staff engaged on maintenance should be exposed periodically to training courses so that the techniques of maintenance improve.
6. A cost-benefit type approach for deciding the maintenance priorities though desirable is not achievable in the present state of the knowledge. This requires certain amount of research or the inter-relationship under the Indian conditions.

3.66. The Committee note that while the outlay on maintenance and repair of National Highway increased from 5.79 crores in 1961-62 (beginning of 3rd Plan) to Rs. 15.72 crores in 1973-74 (end of 4th Plan), registering an increase of 172 per cent, the annual expenditure per kilometre rose from Rs. 2835 in the 3rd Plan to Rs. 5680 during the 4th Plan, registering an increase of 100 per cent only. It is significant that this upward trend in road maintenance expenditure per kilometre came in the wake of the recommendations of the Technical Group of Chief Engineers which was set up in 1968 at the instance of the Ministry with a view to suggest appropriate norms for assessing the maintenance requirements of National Highways.

3.67. The Committee, however, regret that the recommendations of the Technical Group for a fresh appraisal of the maintenance grants every two years in order to off-set the increasing cost of materials and labour was not done throughout the Fourth Plan and allotments for maintenance and repairs continued to be made on the basis of those old recommendations. In this connection, the Committee would like to draw attention to the remarks of the Committee on 'More Efficient and Economical Construction and Maintenance of Roads' that the "maintenance needs are more or less arbitrarily determined on the basis of traffic, cost of materials, carriageway width, rainfall, terrain conditions and judgement of the supervising staff. For some categories of roads, maintenance programmes is merely tailored to the money allotted for the road up-keep". The Director General (Roads) has conceded during evidence that there was need to review those norms of the Technical Group every two or three years and that a review was in fact undertaken and it showed that a further step-up in the grants was necessary. The Ministry in a further note furnished to the Committee have admitted

that in the Fourth Plan, more so in the second half, the allocation for maintenance of national highways did not fully take into account the increase in the average width of carriageway subsequent to the improvement works, substantial increase in the price of bitumen in January 1974 consequent to oil crisis and the needed up-dated requirements of the norms laid in 1968. The Committee urge that a technical team may go into the matter thoroughly to find out whether the grants given during the 5th Plan for the maintenance and repair of national highways have been sufficient to meet the requirements and in the light of that study Government may re-fix the norms in consultation with the State authorities in order to obviate any feeling or ground that these have been fixed 'arbitrarily'.

3.68. The Committee are surprised to note the wide variations in the State-wise expenditure on maintenance and repair of national highways during the 4th Plan. Bihar accounted for the highest outlay of Rs. 10.09 crores, followed by West Bengal (Rs. 7.74 crores) and Uttar Pradesh (Rs. 7.58 crores) and these States accounted for about one-third of the total outlay on maintenance and repair expenditure of Rs. 76.31 crores during the 4th Plan. The Committee are not convinced at all by the reasons advanced in justification of heavy concentration of expenditure in these three States and would like the Government to direct the technical team to go into this aspect also in depth while reviewing the norms of expenditure on maintenance and repair of national highway as suggested earlier.

3.69. The Committee are concerned to note the excess expenditure over allotment for maintenance and repair of national highways over a decade or so. The excesses have fluctuated from Rs. 13.97 lakhs in 1959-60 to Rs. 69.41 lakhs in 1972-73, the peak having been reached in 1971-72 (Rs. 258.03 lakhs). According to Audit, the expenditure on maintenance and repair of national highways during the 4th Plan had exceeded the actual allotments in several States. These excesses are more significant in the case of West Bengal, Assam, Himachal Pradesh, Nagaland, Manipur and Karnataka where the expenditure exceeded from 10 per cent to about 36 per cent. The Committee would like to draw attention, in this connection, to the recommendations contained in 96th and 134th Reports of Public Accounts Committee (5th Lok Sabha) which inter-alia have dealt with in detail the expenditure on roads and stress the need for devising strict regulatory control over excess expenditure. The Committee would like to be informed of the measures taken and improvements effected in this regard.

(iv) Payment of Agency Charges

3.70 Under the Constitution, the Government of India are primarily responsible for maintenance and development of roads declared as National Highways. In terms of Sections 5 and 6 of the National Highways Act.

1956, the executive responsibility for development and maintenance of national highways is entrusted to the State Governments and Union Territories. The rules framed under the National Highways Act also provide that the State Governments and Union Administrations would act as the executive agents of the Central Government. As the State Governments perform this function on behalf of the Central Government it is necessary to reimburse to them in the shape of agency charges the organisational inputs which they deploy on the execution of the N. H. works.

3.71. The genesis of the payment of agency charges can be traced from the year 1945 when having regard to the fact that the Central Government were taking over from the then Provinces the financial liability of the Road Works included in the National Highways system, a view was taken that the rate of Agency Charges payable to the State Governments for execution and maintenance of National Highways should not exceed 7½ per cent. This view was communicated to the Provincial Governments in September 1945. However, a year later, in its meeting held in October that year, the Transport Advisory Council raised the rate to 10 per cent which was accepted by the Transport and Finance Department. This rate continued in force from the inception of the National Highways Scheme till the beginning of the financial year 1954-55. The relevant provisions for payment of agency charges were as under:

The Central Government will reimburse Provincial Governments in respect of establishment and tools and plants charges as follows:

- (i) Where the work or maintenance is carried out by the regular Executive Divisions of the Provincial Public Works Department, at a rate of 10 per cent on the works or repairs expenditure brought to account.
- (ii) In the case of major project, where the establishment charges can be isolated as in the case of large projects, the actual cost of establishment employed on the work without any allowance for Administration (Chief and Superintending Engineers and their offices) plus a fair allowance for wear and tear of tools and plants or 10 per cent of the cost of the work whichever is less.

3.72. The question whether the agency rate of 10 per cent was reasonable, came up before the then Deputy Finance Minister in 1953 while he was presiding over the Departmental Finance Committee and he felt that the rate was capable of reduction for the following reasons:

- (a) That the agency charges should not be a source of profit to the State.

- (b) The property in the Roads vested in the State Governments who were allowed to appropriate the revenues arising from Road Side Lands, Rest House, Betterment levy etc.
- (c) The conference of the Chief Engineers which suggested the creation of National Highways had recommended that supervision charges should not be paid at all since under the National Highways Scheme, the States were relieved of the cost of construction and maintenance of roads classed as National Highways in perpetuity.
- (d) It was believed that as a result of the increase in the volume of Civil Works in the various States, the Centage rates of establishment charges had generally come down in all the States.
- (e) It was held that after excluding expenditure incurred on Custodian Duties and on account of Administrative establishment, the percentage of expenditure, on executive establishment should not be more than 5 per cent to 6 per cent and over all rate of $7\frac{1}{2}$ per cent as establishment and tools and plants charges was quite reasonable.

3.73. Accordingly the revised rate of $7\frac{1}{2}$ per cent was adopted with effect from 1 April 1954 for all N. H. works irrespective of whether they were big or small.

3.74. Following representations from the State Governments for enhancement of the agency charges because of the increased costs of works and labour and higher sophistication in the standards and techniques in the N. H. system, a study of the organisation inputs of the State Governments in respect of N. H. works for about 12 years was undertaken by the Ministry and as a result of that study Government were convinced that:

- (a) The establishment expenses incurred by the various State Governments are much more than the amount received by them as agency charges.
- (b) Due to considerable increase in the attention required from the Supervisory Officers for the Road works due to complexity of problems and to the amounts of technical inputs now required as against the requirements a decade ago, it was no longer appropriate to exclude the expenses of the supervisory staff from the purview of the agency charges payable to the State Governments.

3.75. Keeping in view all these aspects, the agency charges were increased from $7\frac{1}{2}$ per cent to 9 per cent from 1-10-1975.

3.76. The scheme for payment of advance agency charges for investigatory works on National Highways was initiated in 1971 with the twin object of creating additional employment opportunities for educated unemployed, including engineers and technicians, and that of assisting the State Governments in providing adequate specifically earmarked staff for survey, investigations and project preparations in respect of approved 4th Plan N. H. Schemes, so that the projects could be finally approved and sanctioned without delay. Advance agency charges were also allowed during the years 1971-72 to 1973-74 in respect of National Highways schemes likely to form part of the Fifth Five Year Plan.

3.77. The amount of advance agency charges was intended to cover the cost of regular establishment for investigatory works and this was assessed to be about 1.75 per cent of the estimated cost of a project. These advance payments are to be adjusted against agency charges as and when a project is technically approved and financially sanctioned. In addition to the advance agency charges mentioned above a sum upto 1 per cent of the estimated cost of a project is also sanctioned against regular field survey estimate for meeting the field costs of investigations which cover works charged establishment, khalasies, cost of field equipment, stationery for project work, transport cost for survey, etc.

3.78. For quality control on N. H. works, State P. W. D.s are being given one per cent of the estimated works' costs.

3.79. The agency charges are included in the total estimated cost of the works while according technical approval and financial sanction to the estimates. Immediately after the issue of the sanction of the amount of the estimates, the State Governments stand authorised to incur expenditure including the agency charges by booking the expenditure against the Central Head of Account through the concerned Accountant General. Finally, the actual amount of agency charges is paid to the State Governments on the basis of the expenditure incurred progressively subject to the maximum permissible. The audit expenditure on each work is the sole basis for determining the amount of agency charges payable to the States.

3.80. Besides national highways, agency charges are also paid to the State Governments for execution of works under the strategic roads programme. The present rate of agency charges for these works is 7½ per cent.

3.81. It has been stated by the Ministry that in order to facilitate examination of the question of increase in agency charges, the State Governments were requested to furnish information about the expenditure incurred by them on establishment, tools and plants, etc, for a period of 10 years, from 1960-61 to 1969-70. The information so received is

compiled in Appendix X. The States of Andhra Pradesh, Assam, West Bengal, Jammu and Kashmir, Nagaland, Manipur and Karnataka did not furnish the information. The data so collected was further supplemented by calling additional information from the States from the years 1970-71 to 1972-73.

3.82. It will be seen from the Appendix that though the agency charges were admissible at 7½ per cent on the total outlay, the actual percentage of organisational expenditure on NH Works in majority of the States has been more than the rate fixed. This is evident from the following figures:—

States	Establishment expenditure Average%	Tools and Plant expenditure Average %
Bihar	11·40	3·90
Himachal Pradesh	12·15	2·45
Maharashtra	22·90	6·79
Orissa	16·22	4·99
Punjab	8·10	1·19
Tamil Nadu	10·10	8·88
Uttar Pradesh	8·08	1·56

3.83. The following table gives the amount of agency charges re-im-bursed to the State Governments for National Highways, Original and Maintenance works during each of the years from 1969-70 to 1975-76:—

	Rs. in lakhs
1969-70	166·56
1970-71	259·25
1971-72	396·38
1972-73	657·64
1973-74	596·05
1974-75	516·04
1975-76	531·75*
	3123·67

(Sav Rs. 312·4 millions)

*This does not reflect the increase in agency charges from 7½ to 9 % w.e.f. 1-10-75.

3.84. The Committee enquired whether the State Governments were paid similar charges in respect of other centrally sponsored projects. In reply, the Ministry have stated:—

“The Roads Wing has only one Centrally sponsored road and bridge scheme namely the Central Aid Programme of State roads of Inter-State and Economic importance. As a matter of policy, no agency charges/advanced/investigation charges are paid to States for schemes under this proposal. The pattern of assistance for this scheme since the beginning of the 4th Plan has been 100 per cent loan.”

Practice and Procedure followed in Britain

3.85. In Britain, under the Highway Act, 1959, the Ministry of Transport is responsible for all the Highways and Motorways in Britain and its functions are administered through the Ministry's Headquarters Highways Organisation, nine Divisional Road Engineers and six Construction Units.

3.86. Under the control of Divisional Road Engineers, the day to day work of maintaining and managing trunk roads is undertaken by local highway authorities acting as agents for the Ministry. The agents are normally County Councils and the larger Borough or Urban District Councils. They are subject to general guidance contained in circulars and memoranda issued by the Ministry. Most of the maintenance work is carried out by agent authorities' own direct labour organisations, but contractors are employed to some extent. Agent authorities receive an administrative fee of 6 per cent of the costs they incur on maintenance works. As agents, local authorities are also responsible to the Divisional Road Engineers for the development of new construction and improvement schemes costing less than £1 million. For road development and construction schemes, agent authorities also receive an administration fee, to cover their costs. It is calculated on a sliding scale, according to the cost of the scheme; for schemes upto £100,000 in cost, it is 7 per cent; for more expensive schemes it reduces, coming down to 4 per cent for schemes in excess of £1.25 m. The sliding scale applies whether the works are carried out by contractor or by direct labour. The fees do not cover expenditure on preliminary surveys and feasibility studies, which are re-imbursed at cost.

3.87. The Committee note that for executing the National Highway works on behalf of the Union Government, the State Governments are paid an agency charge which is a percentage of the cost of the projects undertaken.

In October 1945 the agency charge was fixed at 10 per cent but w.e.f. 1 April 1954 it was reduced to 7½ per cent and then raised w.e.f. 1 October 1975 to 9 per cent. The State authorities are, in addition, paid

1 per cent of the estimated cost of works for quality control. The Committee are unhappy to note that Government took no pains to review the agency charges for over two decades, from 1954 to 1975, particularly when during this period substantial investment was made on road development in the country.

3.88. The Committee further note that advance agency charge for investigation works on National Highways is also available to the State authorities at the rate of 1.75 per cent of the estimated cost of a project and such advance payment is to be adjusted against the agency charges as and when the project is technically approved and financially sanctioned.

3.89. The Committee find that during the Fourth Plan agency charges to the tune of Rs. 207.6 millions were paid to the States while during the last 2 years 1974-75 and 1975-76 the agency charges paid are about Rs. 104.8 million.

3.90. The Committee find from the data furnished (Appendix X) that the charges on account of overall establishment expenditure as also for tools and plants vary greatly from State to State. For example, while the charges for overall establishment expenditure are only 8.08 per cent and 8.10 per cent in the case of U. P. and Punjab, respectively, these rose to 22.90 per cent and 16.22 per cent in the case of Maharashtra and Orissa respectively. Similarly, while for tools and plants the average percentage expenditure in the case of Punjab and U. P. are 1.19 and 1.56 per cent respectively, these are 8.88 per cent and 6.79 per cent in the case of Tamil Nadu and Maharashtra respectively. The Committee are unable to appreciate this wide variation in the percentage of expenditure either on account of the overall establishment charges or tools and plants and they recommend that the matter may be looked into in depth by a team of technical experts which should have on it, inter alia, a representative of the Cost Accounts Branch of the Ministry of Finance, so that the agency charges are fixed on a more scientific basis. The Committee suggest that this exercise may be undertaken on a priority basis during the current Plan period so as to provide a firm basis for fixing the agency charges at least for the Sixth Plan period.

3.91. The Committee need hardly point out that in reviewing the agency charges, Government may also take into account the system obtaining in Britain and other leading countries where such charges are similarly reimbursed by the Central authority to the State and local authorities for execution of projects connected with National Highways.

3.92. The Committee would also suggest that the technical team may inter alia devise and recommend such institutional arrangement for reim-

bursement of agency charges which would provide an in-built check on timely completion of the works and ensure that these conform to quality specifications.

(v) Proposal regarding Central Construction Corporation

3.93. The Committee set up by the Ministry of Shipping and Transport for "Suggesting measures to Expedite the Execution of Bridge and Road Works" has in its Report (1972) observed that the construction of roads and buildings of special type or their construction in remote and difficult areas and construction of some special items of works such as bitumenous pavements, becomes a problem either with no suitable contractor available for the job or with excessively high tender rates. Most contractors neither own most of the equipment nor have the required technical know-how and the expertise. With the increase in the tempo of development the position is worsening and it is rather deteriorating faster. Therefore, there is a tendency towards monopoly and unrealistic high cost. There are often delays due to lack of adequate financial backing to Contractors. To obviate these and such other difficulties, this Committee as well as another Departmental Committee on "More Efficient and Economical Construction and Maintenance of Roads (1974)", have *inter alia* recommended that High-way Construction Corporations should be set up in the States and Central Sector to tackle bigger projects for which private contractors capable of mobilising the necessary resources are not available in sufficient number.

3.94. According to information received from the Ministry, a Central Construction Corporation is being set up primarily for undertaking road and bridge construction works abroad since recently there has been a spurt of road construction works in the Gulf and West Asia Region, North and West African countries, etc. consequent upon the emergence of "Petro-dollar Economy" and the possibilities of India getting a fair amount of work in the field of road construction in these countries. The Corporation could also undertake other civil engineering works (e.g. construction of earthen embankments, air-fields and ancillary buildings etc.) in collaboration with other construction corporations like National Building Construction Corporation, National Projects Construction Corporation Limited, National Industrial Development Corporation, E.P.I. Limited, W.A.P. Co., etc. Further, it would also be free to take up any such work within the country as well.

3.95. The Corporation will be a public sector undertaking and will function on the lines of any commercial organisation for the overall direction, guidance and policy formulation. In regard to the functions of the Corporation, there will be a Board of Directors consisting of 12 members. Initially, however, the following 10 members will constitute the Board and

the remaining 2 seats will be filled in due course so as to bring in the necessary skills and experience:—

- (1) Chairman and Managing Director of the Corporation.

Members

- (2) Director General (Road Development) and Additional Secretary.
- (3) Joint Secretary, Ministry of Finance (Integrated Finance Division of Shipping and Transport Ministry).
- (4) Secretary, Border Roads Development Board.
- (5) Director General, Border Roads.
- (6) A representative of the Ministry of External Affairs (ED) (Not below the rank of a Joint Secretary).
- (7) A representative of the Ministry of Heavy Industries—(Not below the rank of a Joint Secretary).
- (8) Engineer-in-Chief, C.P.W.D.
- (9) Managing Director, E.P. (I) Limited.
- (10) A representative of the Ministry of Commerce (Not below the rank of a Joint Secretary).

3.96. While all the Members will be *ex-officio*, the Chairman and Managing Director will be a whole-time officer. He will be assisted in his work by four wholetime Directors, viz. Director (Construction); Director, Project Management; Director, Finance and Director, Administration. This set up is, however, subject to such augmentation as may be found necessary in the light of actual working of the Corporation. Requisite Secretariat and technical support will be provided for the functioning of the Corporation.

3.97. When asked to state the latest position regarding the setting up of the Central Construction Corporation, the Ministry in a written note dated 12 April 1977 have stated as under:—

“All the formalities have been completed and Corporation was registered as a Company under the Companies Act, 1956 (No. 1 of 1956) on 20-12-1976. The Corporation has also started functioning and its Chairman-cum-Managing Director is now engaged visiting various Gulf countries for exploring the possibilities of securing contracts. Actually in one case the Corporation submitted a tender also for the Helmand Valley Development Road Project in Afghanistan in collaboration

with Helmand Valley Development Corporation which is a local Corporation wholly owned by the Government of Afghanistan. The tenders for this work were opened on 28-2-1977 when it was seen that the joint tender of the Indian Road Construction Corporation and the Helmand Development Corporation was not the lowest tender. Out of the three bidders, the aforesaid tender was second lowest. The Afghanistan Government are likely to take ten weeks to examine the various bids before deciding upon the firm to be actually awarded the work."

3.98. In reply to a question, the Committee have been informed during evidence that there are at present about seven State Corporations dealing with the National Highway work.

3.99. The Committee wanted to know the role of the Contractors in the construction of highways and whether this role could ultimately be done away with. Giving his reaction to the query, the Director-General (Roads) has stated during evidence:—

"The views which have crystallized over the time through our forums like the State Chief Engineers and Central Chief Engineers are that the approach would be two fold (a) to strengthen the contracting industry and make it more responsible and (b) to create at the same time supplementary arrangement for departmental construction units and State Construction Corporations. In fact the Central Government also acting on the same lines has been in the last six months moving on the idea of creating a Central Road Construction Corporation, a third in the series, the first two are NBCC and NPCC. The Cabinet has given clearance for this and very soon this Corporation will take shape."

3.100. Supplementing the above information, the Secretary, Ministry of Shipping and Transport has stated:—

"There are certain developments in the direction of increasing the role of public sector organisations in road construction. Several States have come up with the proposal for setting up their own corporation in the public sector and they are progressing satisfactorily in some places and not so satisfactorily in other places."

3.101. About elimination of the system of Contractors, he further added:—

"I do not think the time has come to say today that the contractors can be eliminated. As such but we have really to develop

these various bodies in different parts of the country and build up expertise and then state the experience; we will have to take a decision on that stage. The Central Road Construction Corporation at the Central level is really in the context of building up our own capability for foreign contracts. This is the direction we are going. This is not as if the government has not applied its mind to this kind of problem. Whether we should enter this field and build up units and expertise resources. I think we would require a little more experience before we can take this far reaching decision to eliminate the contractors."

3.102. Pleading for strengthening the contracting industry, the Director-General (Roads) stated during evidence:—

"Our effort to strengthen the contracting industry is that we want them to feel more responsible to the job they take. Presently, I find that the sense of responsibility is somewhat lacking. They should recognise the responsibility within themselves, should have some technical know-how in their managerial set up, who should be able to understand, what are the technical stipulations and translate them. In fact, they should be able to carry out some kind of tests themselves. We feel that there is a very big gap between the expectation and their capabilities in the matter of their having some kind of skill and mechanised resources with them in case of middle and lower level contracts. What happens is that they take some machinery from the department, the operators are departmental, but the contractor is handling it. It creates problems. If a contractor has some skill and mechanical equipment of his own, he is always able to manage it better and get more out-turn of the equipment. It paves the way for economical rates he is going to quote to the department."

3.103. Asked whether it would be possible to switch over to departmental working, if desired in future, the Secretary of the Ministry has expressed his views as under:—

"The Central Roads Organisation does not execute any work. It is essentially a designing and approving organisation and the execution rests with the State Governments. But, if, as you said on a hypothetical basis, the Central Government and the Parliament comes to a conclusion that the National Highways must be constructed departmentally and with their own engineers then the decision has to be implemented. Certainly an organisation will be built up whatever be the cost. Certainly our engineers are capable

of taking it up. Only question is that in that event the necessary facilities will have to be provided. All these decisions will be taken in that particular context."

3.104. The Committee are unhappy to note that although the Committee set up for "Suggesting Measures to Expedite the Execution of Bridge and Roads Works", had recommended as early as in 1972 the creation of a National Highway Construction Corporation for execution of all major highway and bridge projects in the country, with similar Corporations in the States, the Government moved in the matter tardily and a decision to set-up a Central Road Construction Corporation was taken only in 1976. According to the information furnished by the Ministry on 12 April, 1977, the Corporation was registered as a Company under the Companies Act, 1956 on 20 December, 1976, and has now started functioning. It has been set-up on the lines of any commercial organisation and is primarily for undertaking road and bridge construction works abroad besides taking up any such works within the country. The Committee have been informed that the Chairman-cum-Managing Director is now engaged in visiting various Gulf countries for exploring the possibilities of securing contracts. Actually, in one case, the Corporation has submitted a tender for the Helmand Valley Development Road Project in Afghanistan in collaboration with Helmand Valley Development Corporation, which is a local Corporation wholly owned by the Government of Afghanistan.

The Committee feel that if the objective was to avail of the opportunity available in the petro-dollar countries, the Corporation should have been set up several years earlier.

3.105. As far as construction work within the country is concerned, the Committee stress that not only there should be complete coordination in the matter with the National Buildings Construction Corporation, National Project Construction Corporation, Border Roads Organisations etc., but also with the State Corporations where these exist. The Committee would like to judge the functioning of the Corporation by the manner in which it executes the works connected with national highways etc. with greater efficiency, speed and lesser cost.

3.106. The Committee stress that Government should keep a close watch on the functioning of the Corporation from the very inception to ensure that it develops on the right lines, so as to subserve the objectives with which it has been conceived.

(vi) Central Road Fund

3.107. In 1929, on the recommendations of the Indian Road Development Committee (commonly known as the Jayakar Committee), the Government of India constituted a non-lapsing Central Road Fund. The Fund

was created by earmarking the additional revenue realised by the increase of the excise and import duties on motor spirit, from February 1929, for credit to the Fund. In 1931 the rate of accrual to the Fund was raised from 2 annas to 2½ annas per gallon of the customs and excise duty levied on motor spirit. That Resolution was amended in 1934 and the Fund was placed on a permanent footing. The Resolution was also adopted by the Constituent Assembly of India (Legislative) on the 19th November, 1947 and subsequently amended by the Assembly on the 8th December, 1949 and by the Parliament on the 14th April, 1950. Sometime back, the Planning Commission and the Ministry of Finance raised the question of the continuance or otherwise of the Fund and finally the Secretaries Committee (1973-74) recommended that the question of the continuance of the Central Road Fund could be discussed by the Transport Ministry with the Planning Commission and the Ministry of Finance, and the matter placed thereafter before the Cabinet. Accordingly after necessary action on the lines suggested by the Secretaries Committee (1973-74), the matter was placed before the Cabinet who at their meeting held on the 5 January, 1976 approved the continuance of the Central Road Fund and also gave their approval to the revised objectives proposed by the Ministry in the note for the Cabinet in the light of the discussions held with the Planning Commission and the Ministry of Finance.

3.108. The revised Resolution was adopted by Lok Sabha on 30 March, 1976 and by Rajya Sabha on 1 April, 1976. A copy of the Resolution as approved by Parliament is reproduced below:—

RESOLUTION

“In supersession of the Resolution on Road Development adopted by the Constituent Assembly of India (Legislative) on the 19th November, 1947 and as subsequently amended by that Assembly on the 8th December, 1949 and by the Parliament of India on the 14th April, 1950, this House hereby resolves that—

1. There shall continue to be set apart an amount not less than 3.5 paise per litre out of the duty of customs and of excise levied on motor spirit and the proceeds thereof shall be applied for the purposes of road development.
- 2.(1) The proceeds of such an amount so set apart in any financial year, reduced by duty attributable to taxed motor spirit used in aviation, during the same period, shall be credited as a block grant to a separate Road Fund to be maintained in the Public Account of India.
- (2) For the purpose of this Resolution taxed motor spirit shall mean motor spirit upon which the duty of customs or excise

shall have been paid and in respect of which no rebate of such duty shall have been given.

3. (1) The Road Fund shall be allocated as follows:—
 - (a) a portion equal to twenty per cent shall be retained by the Central Government as a Central Reserve, this percentage being applicable with effect from the allocation due for the financial year 1948-49.
 - (b) out of the remainder there shall be allocated by the Central Government a portion for expenditure in each State and Union Territory specified in the First Schedule to the Constitution as near as may be in the ratio; which the consumption of taxed motor spirit other than motor spirit used in aviation, in each area for which an allocation is to be made shall bear to the total consumption in the territory of India of taxed motor spirit, other than motor spirit used in aviation during the financial year concerned.
- (2) The portions allocated for expenditure in the various States and Union Territories shall be retained by the Central Government until they are actually required for expenditure in the manner hereinafter specified.
- (3) If in the opinion of the Central Government, the Government/ Administration of any State/Union Territory has at any time:—
 - (a) Failed to take such steps as the Central Government may recommend for regulation and control of motor vehicles within the State or Union Territory; or
 - (b) delayed without reasonable cause the application of any portion of the Road Fund allocated or re-allocated, as the case may be, for expenditure within the State or Union Territory the Central Government may resume the whole or part of any sums which it may at that time hold for expenditure in that State or Union Territory.
- (4) All sums resumed by the Central Government from the account of any State Government/Union Territory Administration as aforesaid shall be re-allocated between the credit accounts of State Government/Union Territory Administration and the reserve with the Central Government in the ratio of the main allocation for the financial year preceding the year in which the re-allocation is made.

Provided that the sums so calculated as the share of the State|Union Territory from whose account the resumption has been made shall be credited to the reserve with the Central Government.

- (5) Special additions to Road Fund for financing particular projects may be accepted from source other than mentioned in para 2(1) which shall be kept in a special Reserve and utilised for such projects.
4. The balance to the credit of the Road Fund or of any allocation thereof shall not lapse at the end of the financial year.
5. No expenditure shall be incurred from any portion of the Road Fund save as hereinafter provided.
6. The Central Reserve with the Central Government shall be applied first to defraying the cost of the administering the Road Fund and thereafter the balance of Central Reserve and Central Road Fund (Allocation) shall be utilised for financing such of the schemes connected with roads as the Central Government may approve and the sums allocated for expenditure in the States/ Union Territories from these sources may, subject to the previous approval of the Government of India to each proposal made, be expended upon any of the following objects, namely: --
 - (a) Road Research and Intelligence Schemes;
 - (b) Traffic Studies and Economic Surveys;
 - (c) Training arrangements for young Engineers;
 - (d) Schemes of all-India importance such as those leading to the removal of regional imbalance such as helping in the development of tribal areas, backward regions, promoting inter-State Communication facilities, helping in combating anti-social and criminal elements etc., promotion of tourism agricultural marketing areas links etc., part contribution to programme for setting up drivers, conductors' and cleaners' road side resting places and passengers wayside facilities on State roads etc., road/bridge works required for National, Projects like Atomic Power Stations, Industrial Undertakings etc., likely to be lost sight of by the road authorities concerned in the midst of other activities.

Provided that the amounts in the Special Reserve shall be applied only to the purposes for which they are earmarked.

7. No expenditure shall be approved by the Government of India to be incurred from Central Road Fund without the prior approval of the Union Minister of Shipping and Transport."

3.109. As for the provision of financial assistance from the Fund, the position is that the Fund has two main sub-divisions, namely:—

- (1) Central Road Fund Allocations Accounts;
- (2) Central Road Fund (Ordinary) Reserve.

According to the Resolution governing the Fund, 80 per cent of the accruals to the Fund go to the Central Road Fund Allocations Account and are distributed to the States on the basis of actual petrol consumption, subject of course to the availability of resources in the budget. This amount is usable by the States on schemes of road development as indicated in the Resolution governing the Central Road Fund from time to time with the approval of the Government of India. The remaining 20 per cent goes to the Central Road Fund (Ordinary) Reserve, which is retained by the Central Government for use for various purposes such as administration of the Fund, promotion of research, surveys and investigations, training of engineers and assistance for road schemes of all-India importance etc. No doubt Funds from this source are also provided to the States by way of grants-in-aid but these grants are based on merits of individual schemes and not on any fixed ratio.

3.110. In connection with the adopted of the revised Resolution, the then Minister of Shipping and Transport during the course of discussion in Lok Sabha on 30 March, 1976 had *inter alia* stated:—

“Further, the ‘revised objectives’ will now be common to both the Central Road Fund Allocations and Central Road Fund (Ordinary) Reserve. The main idea underlying the proposed revised objectives is to ensure greater attention to schemes of all-India interest as distinct from schemes of local character which could be easily attended to as part of the local development project.

“Originally, the part of the Central Government was only 10 per cent. Then it was increased to 15 per cent and later on, it was increased to 20 per cent. I briefly told the House that there was no need to bring about any change in the Resolution, but situation so developed that some controversy was raised that this road fund should be merged with the general budget. Why should it be there as a separate road fund? Our view was that this was the only fund on which the States could rely in their own discretion without much argument with the Planning Commission or the Ministry here.”

“This (Fund) has proved very useful. But in course of years, many States did not draw their funds with the result that their funds have been accumulating; sometimes, it was accumulated beyond

Rs. 1 crore. Suppose we accept this proposal that it should go to the general budget, there is no need or it should be merged with other items of expenditure, then in my own opinion the States would have been very much disappointed. This is the reason why we have brought this resolution before the House again and giving it a new objective was found necessary."

"I quite agree with one thing that this should not have been so much widened. The objectives are so many and diverse and these objectives which have developed around this small fund are very disproportionate. But I may assure them that we had no alternative but to cover it by these objectives so that this fund could be made available to the States. It is not necessary for the States that they should sub-divide their part of the money into as many heads as there are objectives. They can take the whole money even under one head."

3.111. The following table gives the Central Road Fund Allocation accruals during the 5 years 1971-72 to 1975-76:—

	(Rs. in lakhs)
1971-72	613·67
1972-73	806·18
1973-74	678·41
1974-75	678·41
1975-76	678·41

[It has been stated that the actual accruals for 1973-74 to 1975-76 have not yet been worked out. Hence accruals worked out on an average of the last 3 years figures]

3.112. The table below indicates the allocations made to the States/ Union Territories out of the Central Road Fund and the expenditure incurred by them during each of the last 5 years from 1971-72 to 1975-76:—

Year	Allocation	Expenditure
		(Rs. in lakhs)
1971-72	500·00	281·79 (56%)
1972-73	668·15	369·75 (55%)
1973-74	486·60	424·54 (88%)
1974-75	372·96	402·78 (108%)
1975-76	788·49	630·97 (80%)

3.113. Statements showing State-wise figures of the above allocations and expenditure are at Appendix XI. Based on these statements, the following table shows wide gaps between allocations made and expenditure incurred in respect of certain individual States from year to year.

Name of State	1971-72		1972-73		1973-74		1974-75		1975-76	
	Allocation	Exp.	Allocation	Exp.	Allocation	Exp.	Allocation	Exp.	Allocation	Exp.
Maharashtra	103.73	55.13	147.01	75.90	79.92	69.09	48.60	120.36	120.70	147.89
Assam	8.22	6.79	4.10	5.49	3.46	1.39	12.40	8.27	57.20	6.98
Haryana	9.17	9.65	20.44	16.82	7.48	14.76	1.60	NR	12.00	NR
U. P.	32.37	7.46	39.70	18.74	24.51	33.00	18.40	5.07	23.81	2.80
West Bengal	47.78	41.67	57.68	55.74	31.87	76.32	23.34	53.78	86.60	115.48

3.114. Programmes of road development works to be financed out of allocations from the Central Road Fund are called for by the Government of India from different States for every Plan period. No work can be financed from the Central Road Fund without prior approval of the Government of India. Payments to States are restricted to the amount of the provisions made in the Central budget. Once the programme of road development works to be financed out of allocations from the Central Road Fund is approved by the Government of India the competent authority in the State can accord technical sanction to the estimate for a work irrespective of the cost involved but within the amount approved by the Government of India.

3.115. Some cases of delay in execution of projects financed through the Central Road Fund have come to the notice of Audit. In this connection, attention, in particular, is drawn to the following cases mentioned in C&AG's Supplementary Reports for 1973-74 relating to respective States:—

Rajasthan

Seventy-five works financed from the Central Road Fund were in progress at the commencement of the 4th Plan. In addition, 21 new works were sanctioned during the Plan period. While a total of Rs. 103.41 lakhs were spent on these works, completion report had not been received in respect of any of them till February, 1975. It was noted by Audit that two works viz. (i) Road from Dausa to Toonga; and (ii) Village road from Baryana to Toratti were incomplete after 9-10 years of their start.

Karnataka

An expenditure of Rs. 103.28 lakhs was incurred by the State during the 4th Plan period, out of the releases from the Central Road Fund. No new work was taken up during the 4th Plan period. The amount released was utilised on 12 road works and 26 bridges estimated to cost Rs. 386.01 lakhs which were in progress in April 1969. Of these 11 road works and 22 bridges were completed during the 4th Plan period. The incomplete road was the Devangere-Arasikera road (28 km. long) which was sanctioned by the Government of India in 1958.

Bihar

The State Government could not furnish to Audit either the criteria for selection of roads to be developed from the Central Road Fund allocations or the complete list of roads and bridges taken up under this category. The records relating to two roads one from Barkagaon Tandwar

in Hazaribag district and another from Banka to Belharin Bhaipur district included by the Department in the category of Central Road Fund Works were reviewed by the Audit and it was found that the improvement of the former road was approved by Government in December, 1958, but 16 years after its improvement, it was still a fair weather road. Similarly works on the improvement of Banka-Belhar Road sanctioned by Government of India in 1962 were stopped in May 1975 and had not been resumed till August 1975.

3.116. The Committee note that the Central Road Fund was created by the Government of India in 1929 by earmarking the additional revenue realised by the increase of the excise and import duties on motor spirit. According to the revised Resolution, approved by Parliament in April 1976, 80 per cent of the accruals to the Fund go to the Central Road Fund (Allocation) Account and are distributed to the States on the basis of their actual petrol consumption. This amount is usable by the States with the approval of the Government of India. The remaining 20 per cent goes to the Central Road Fund (Ordinary) Reserve Account and is retained by the Central Government for use for various purposes such as administration of the Fund; promotion of research, surveys and investigations, training of engineers and assistance for road schemes of all-India importance, etc.

3.117. The Committee note with concern that there had been wide variations from State to State in the quantum of grants given out of the Fund during the last five years from 1971-72 to 1975-76. For example, in 1975-76 Maharashtra got highest (Rs. 120.70 lakhs) followed by West Bengal (Rs. 86.60 lakhs) and Assam (Rs. 57.20 lakhs) and these three States together accounted for nearly one-third of the total releases of Rs. 788.49 lakhs during 1975-76. The payments made to the State/Union Territories fluctuated from year to year. For instance, while Rs. 147.01 lakhs were released to Maharashtra in 1972-73 it was reduced to Rs. 48.60 lakhs in 1974-75 and then raised to Rs. 120.70 lakhs in 1975-76. A somewhat similar trend is noticeable in the case of grants to Uttar Pradesh, Haryana and Rajasthan where the releases had been widely varying from year to year. The Committee need hardly emphasise that releases from the "Allocation" portion of the Fund to the States/Union Territories should be regulated and paid strictly on the basis of specific norms which should be made known to the States.

3.118. The Committee further note that during the last five years, except for 1974-75 when the total expenditure had exceeded the total allocations, there have been shortfalls in the expenditure by the States during the remaining four years. The percentage of expenditure incurred was 56 per cent in 1971-72, 55 per cent in 1972-73, 88 per cent in 1973-74, 108 per

cent in 1974-75 and 80 per cent in 1975-76 of the total allocations made during each of these years.

3.119. In respect of some States (Appendix XI) the Committee find that the expenditure incurred was in excess of allocation; for example, in Maharashtra during 1975-76 it was Rs. 147.89 lakhs as against Rs. 120.70 lakhs allotted. Similarly, in the case of West Bengal, the expenditure incurred in 1975-76 was Rs. 115.48 lakhs against Rs. 86.60 lakhs allotted. From the heavy shortfalls and excess expenditure incurred it appears that no proper watch was kept over the execution of the works. The Committee urge the Government to see that allocations are made on realistic basis and that the approved schemes are progressed appropriately in accordance with funds allocated to obviate shortfalls and excesses.

3.120. The Committee note that the scope of objectives of the Fund under the revised Resolution has been widened considerably. The Committee would like special attention to be paid to projects for promoting inter-State road communication facilities, helping in the opening of new areas, providing funds for schemes of research and investigation etc.

3.121. The Committee are unhappy to note that after 1950 it was only in 1976 i.e. after a lapse of 25 years, that Government found it necessary to review the working of the Fund by bringing forward a revised Resolution before the Parliament and that too, when some controversy had arisen that this road Fund should be merged with the Central Budget. The fact that the Fund had not worked satisfactorily is evident from the statement of the Minister who had inter alia stated during the course of discussion in Lok Sabha on 30 March 1976 that "in course of years, many States did not draw their funds, with the result that their funds have been accumulating." Now that the objectives of the Fund have been revised and enlarged in scope, the Committee hope that Government would take adequate measures to ensure that States/Union Territories take due advantage of it in the coming years.

3.122. The Committee would like to make the following further recommendations in this regard:—

- (1) Government may ensure that there is no diversion of funds once allocations are made for particular projects.
- (2) Government may lay down clear guidelines/criteria for selection of projects.
- (3) Projects financed through the Fund are completed and not left incomplete, as has been the case in some States.

- ;4) The States are kept informed from time to time of the amount outstanding in their accounts of the Fund so that they may plan their works and expenditure thereon better.**

The Committee would like to be apprised of the action taken in pursuance of the above recommendations.

3.123. The Committee would also like the Government to comprehensively review the working of the Fund in the light of its revised objectives and inform Parliament of the results of such a review, before the commencement of the Sixth Plan. ..

CHAPTER IV

SANCTION OF ESTIMATES

(i) Lack of adequate pre-estimate surveys and investigations

Audit Paragraph

4.1. The surveys and investigations of local site conditions were often lacking in many major respects as a result of which the estimates, prior to their sanction by the Ministry, required clarifications (with consequent delays in sanctioning), or the essential data about which, even after sanction, had gaps. During execution the shortcomings had to be provided for by frequent revisions of the estimates. Some examples are given below:

- (a) On NH 2 in the Agra-Bhognipur stretch in U.P. (217 kilometres long) on which a major group of widening and strengthening works totalling Rs. 586.63 lakhs was sanctioned by the Ministry, major changes in the design of the road crust were proposed by the State PWD, one year after execution of work had commenced, due to the earlier soil data having to be substantially altered to reflect actual site conditions. The crust designs of this NH in other Divisions too had been prepared on the basis of similar incorrect soil data. According to the Ministry, delay was also due to difficulty in acquisition of machinery for soil stabilisation, bituminous macadam and semi-dense carpeting work.
- (b) Laboratory reports on sub-grade soil tests for improvements to the low-grade sections of the road between Keonijhar and Kanjipani on NH 6 in Orissa were furnished after the earth work was completed. A Chief Engineer of the Ministry reported that, as a result, an embankment had been built with black cotton soil even though good earth was available in the vicinity. The cost of rectifying the defect was estimated at Rs. 6.79 lakh, but the final cost will depend on the decision to be taken after receipt of full data from the State PWD.
- (c) For the work of widening mile 28/3 to 46/0 on NH 7 in Wardha district in Maharashtra, the Ministry pointed out to the State Government that its estimate did not include information on the highest and lowest water-tables below the road

formation, density and moisture of sub-grade soil and for determination of the bearing ratio of the soil at site. However, the Maharashtra Government went ahead with the work of this estimate amounting to Rs. 36.36 lakhs, inspite of the Ministry's observations.

- (d) Earthwork actually required for the approaches to a bridge over Gouri river on NH 31 in Bihar was 33.38 lakhs cubic feet against estimated quantity of 16.86 lakhs cubic feet, due to the incorrect levels shown in the State PWD's estimate. Construction according to the original estimate would have resulted in the road level being 8 feet below the level of the bridge. The Ministry stated that this was detected by the State PWD during execution. In the same Division a supplementary estimate for Rs. 9.67 lakhs (against the original of Rs. 3.29 lakhs) had to be prepared, as a gravel sub-base had been deleted by the Ministry from the original estimate. A culvert was proposed in mile 20 of NH 31 whereas the actual waterway required a minor bridge 60 feet long. Most of the culverts on NH 31 in a Division had been designed in such a way that their floor level was higher than the bed-levels of the water channels. According to the Ministry, bearing ratios of sub-base soil were generally not ascertained prior to formulating estimates of some works sanctioned on NHs in Bihar, but State PWD's were asked to check these during execution of works.
- (e) In all the above four cases, the necessary soil and sub-soil investigations had not been done or not done correctly.
- (f) Improvements for geometrics and reconstruction and widening of existing culverts were not incorporated in the estimates for widening and strengthening the Krishnagiri-Madurai section, of NH 7 in Tamilnadu. These had to be subsequently incorporated. Also, the estimates prepared by the State PWD were generally defective and changes had to be made due to inadequate field studies and investigations. Thickness of the road crust had to be determined, according to the Ministry's directions, for each kilometre but in the case of seven works in the Krishnagiri-Salem-Dindigul section, it was found that while the existing road crust thicknesses were between 15 cms.—40 cms., the road crust was improved even where the design thickness worked out to lower figures of 14—30 cms. Expenditure of the order of Rs. 11 lakhs was involved in this up-grading which, according to the Ministry (December, 1975), had to be sanctioned due to the poor riding surface and other

defects existing in the road. On the Dindigul by-pass, a railway-line crossing had been over-looked in the original estimate and the by-pass cannot be completed because of this.

- (g) Estimates for four by-passes on NH 31 at Koderma, Rajoult, Nawarah and Biharshariff, in Bihar, had to be revised upwards, ranging from 18 per cent to 157 per cent, partly due to defective original estimates, which necessitated changes in alignment and increase in quantities of work to be done. The revised estimates for these four by-passes had to be increased by Rs. 41.25 lakhs over the earlier figure of Rs. 100.99 lakhs. According to the Ministry, the estimates were based on inaccurate original data, and certain additional items of work had to be done according to requirements at site. Wages had also gone up.
- (h) Estimates of nine works on NH 28 in U.P. in Lucknow and Basti divisions had to be revised upwards ranging from 21 to 98 per cent, due to the original estimates being defectively framed.
- (i) For construction of a high-level bridge over river Jeera on NH 6 in Orissa, an estimate of Rs. 18.76 lakhs was sanctioned towards the end of 1969. Five wells were plugged at depths of 14 feet to 18 feet (without meeting rock) above the design depth of well foundations of 50.86 feet. Work has been held up, according to the Ministry, pending further investigations.

4.2. The Ministry stated (December, 1975) that the main reason for the inadequacy of pre-estimate surveys and investigations on the part of the States was their dis-inclination to create separate organisations especially for survey, investigation and project preparation.

[Paragraph No. 11 of Supplementary Report of C&AG for 1973-74, Part II, Civil.

(ii) Sanction of Estimates

Audit Paragraph

4.3. For major road works, each costing over Rs. 25 lakhs an analysis conducted by audit of the minimum and maximum times taken for sanctioning works on such major highways as National Highways Nos. 2, 3, 4, 5, 6, 7, 8 and 10 covering 173 works showed that the minimum time taken

for sanction of estimates ranged from two months to a maximum of 16½ months, as in Table III below:

TABLE III
MINIMUM AND MAXIMUM TIMES TAKEN BY THE MINISTRY TO
SANCTION MAJOR ROAD WORKS COSTING OVER RS. 25 LAKHS
EACH IN FOURTH PLAN

N.H. No.	State	No. of estimates costing more than Rs. 25 lakhs	Amount (Rs. in lakhs)	Minimum time taken (approx.) (months)	Maximum time taken (approx.) (months)
2.	Uttar Pradesh	35	1,445·98	4	16 1/2
	Bihar	21	1,041·26	10 1/2	14
	West Bengal	6	501·05	4	12
3.	Madhya Pradesh	7	464·75	4 1/2	9
	Maharashtra	17	746·16	12	12 1/2
4.	Maharashtra	16	801·22	12	13 1/2
5.	Orissa	3	83·27	8	10
	Andhra Pradesh	23	915·54	2	14
6.	Maharashtra	7	218·87	3 1/2	9
	Madhya Pradesh	1	40·19	5	5
	Orissa	1	99·95	10	10
7.	Tamil Nadu	12	559·18	7	13
	Madhya Pradesh	3	99·19	5	6
	Andhra Pradesh	3	96·37	6	9
8.	Gujarat	6	334·22	2	13
	Rajasthan	8	317·82	3	8
	Maharashtra	2	126·20	2	3
10.	Haryana	2	173·26	7	8

4.4. Similarly, the maximum and minimum times taken for sanction of 13 major bridges ranged from 6 months to 13 years, as in Table IV below:

TABLE IV
TIME TAKEN BY MINISTRY TO SANCTION SOME MAJOR BRIDGE WORKS

Sl. No.	Name of bridge	Estimated Cost (Rs. in lakhs.)	Date on which estimates first received in Ministry	Date on which sanctioned
1	Kalwa Bridge on NH 3 in Maharashtra	60.84	February 1971	December 1971
2	Kasheli bridge on NH 3 in Maharashtra	170.18	November 1970	November 1971
3	Rupnarayan bridge on NH 6 in West Bengal	112.15	October 1955	February 1956
4	Pamban bridge on NH 49 in Tamil Nadu	532.87	December 1965	March 1972
5	Ganga bridge at Allahabad on NH 2	Original Revised	September 1963 June 1973	November 1964 December 1975
6	Damodar bridge on NH 32 at Telmuchu	66.21	February 1965	July 1973
7	Bhadar bridge on NH 8B	Original Revised	12.87 195 25.79	August 1969
8	Narmada bridge on NH 8 at Zadeshwar	346.2	February 1964	February 1968
9	Kalinadi bridge on NH 17 in Karnataka	Original Revised	57.93 175.29 (Not available)	July 1965 November 1974
10	Krishna bridge	Revised to	49.94 79.41	February 1963 August 1969
11	Barak bridge at Badarpur	67.76	May 1966	October 1967
12	Narmada bridge at Khalghat	77.50	December 1969	March 1970
13	Ganga bridge at Kanpur	289.87	January 1964	December 1971

4.5. The Roads Wing had approved estimates even when soil and sub-soil investigation reports were not available gravel sub-base had been deleted from the estimate profile of a dowel bund (estimated cost Rs. 88.36 lakhs) had not been indicated and it knew that the soil-bearing ratio had been assumed notionally. How were the estimates sanctioned, when such important and material design data were lacking is not clear. According to the Ministry, where estimates lacked such data, the technical notes accompanying each sanction contained appropriate instructions for collection or verification of further data.

4.6. The above maximum and minimum times are only up to and including the stage of issue of sanction by the Ministry. Thereafter the issue of tenders, their screening by State PWD on receipt of the final award of work (where necessary with the approval of the Ministry) takes more time, the extent of which varies depending upon the complexity of the work and the number of times tenders are called, and the subsequent negotiations if any, at that stage.

(Audit Paragraph No. 8 of C&AG's Supplementary Report
for 1973-74—Part—II, (Civil))

Investigations

4.7. Surveys, site investigations, hydraulic studies and basic sub-surface investigations, in respect of bridge works, route surveys, soil and materials surveys in respect of road works are required to be undertaken by the State PWDs as the normal requirement of project preparation. Detailed guidelines for the type of investigations required to be conducted for the preparation of the preliminary project reports were issued from time to time both by the Roads Wing and by the Indian Road Congress. The expenditure for conducting preliminary surveys were agreed to be normally met by the State PWDs out of the Maintenance and Repairs Grants given by the Union Government for the national highways. Though for exceptionally large works separate surveys and investigation estimates are prepared by the State PWDs and sanctioned by the Roads Wing of the Ministry with a view to ensure proper and complete investigations and surveys for the preparation of projects during the Fourth Plan, the Union Government sanctioned, in advance, a part of payment of agency charges to the extent of 1½ per cent of the Project cost, for investigatory works so that the State Governments may provide exclusively earmarked staff for the purpose.

4.8. It has been pointed out by Audit that the surveys and investigation of local site conditions were often lacking in many major respects as a result of which the estimates, prior to their sanction by the Ministry required clarifications. During execution, the short-comings had to be removed by frequent revisions of the estimates. The Audit has highlighted several illustrative instances of the harmful consequences of lack of or absence of the pre-requisites for project preparation. The main reason for the inadequacy of pre-estimate surveys and investigations on the part of the States was their disinclination to create separate organizations especially for surveys, investigation and project preparations.

4.9. In this very context, the Committee on "More Efficient and Economical Construction and Maintenance of Roads" in its report (1974) had also observed:—

"Most of the States have unsatisfactory, or no arrangement at all, for preliminary soil surveys, traffic surveys, material surveys or sub-soil investigations. On top of it, several organisations do not possess a separate set-up for the preparation of designs. One rather disturbing feature is that generally the tendency is not to create a separate organisation specifically for investigation work."

4.10. Asked whether all the individual States, or at least those States through which the 8 most important National Highways (Nos. 2,3,4,5,6,8, 24 and 28) pass, have set up satisfactorily separate organisations for survey investigations and project preparations, the Ministry in a written note furnished to the Committee have *inter alia* stated that the requirement for

setting up exclusive organisations for handling National Highway works including separate set-up for survey, investigations and project preparation was highlighted on several occasions in periodical meetings of State Chief Engineers. Even a model organisational chart to serve the above requirements was circulated to the State P.W.D. authorities in the meeting of the Chief Engineers and Secretaries P.W.D. held at New Delhi in June, 1971.

4.11. In addition to the above persuasive efforts to make the States agree for setting up the required organisations, the following additional steps are stated to have taken by the Ministry:—

- (i) 1 per cent of the cost of project for field survey was also sanctioned;
- (ii) 1 per cent was sanctioned for quality control;
- (iii) States were insisting on increase in agency charges for meeting the cost of separate organisations for N. H. works. This has been increased from 7½ per cent to 9 per cent w.e.f. October, 1975;
- (iv) Some guide-lines for project preparation were issued in April 1970;
- (v) The Ministry's field formations (Regional Offices/Engineer Liaison Offices) were asked to associate themselves actively in the preparation of projects;
- (vi) Standard bridge and culvert and road junction designs were introduced so that their adoption could reduce the costs and delays;
- (vii) Standard N. I. T. documents for bridges and Roads were evolved for adoption to plug delays on account of variations in conditions in different N. I. Ts adopted earlier by States P. W. Ds and these documents before adoption are under consideration in consultation with M. O. F. & C. A. G.
- (viii) Financial powers of State P. W. Ds to approve tender excesses have been improved upon thrice which now stands at 15 per cent over the cost of the approved work based on current scheduled of rates;
- (ix) Lately, the State P.W.Ds have been insisted upon to adopt network techniques for major works for proper monitoring.

4.12. It is stated that the above efforts have yielded necessary results in as much as most of the major States like Tamil Nadu, Andhra Pradesh, Maharashtra, Uttar Pradesh, West Bengal and Bihar accepted the suggestions and set up separate organisations for survey, investigation and project preparation.

Preparation of Estimates

4.13. After investigations, the State PWDs submit the estimates for all works on the National Highways irrespective of their cost to the Roads

Wing of the Ministry. Detailed instructions in this regard were circulated by the Roads Wing to the State PWDs in October 1958. The estimates received in the Roads Wing are technically examined and any outstanding technical details are settled by the Roads Wing with the State PWD. Generally, in order not to delay the sanction of the estimates, all technical comments are brought out in a Technical Note to be settled before calling of tenders/commencement of work. Necessary Technical Approval and Financial Sanction are then accorded to the work by the Roads Wing in consultation with the Ministry of Finance, where necessary. The Ministry of Finance had delegated financial powers to the Roads Wing to accord Technical Approval and Financial Sanction to all estimates on National Highway works, the cost of which did not exceed a monetary limit of Rs. 2 lakhs (till March 1971), and only works costing more than this monetary limit were, therefore, referred to the Ministry of Finance by the Road Wing.

4.14. It was, however, noted by the Roads Wing that there was no uniformity of practice in the preparation of estimates and that most project estimates were not prepared in sufficient detail. In order to ensure collection of complete data and also a proper and thorough study and appreciation of the project, the Roads Wing circulated detailed Memoranda incorporating earlier instructions also, for preparation of detailed proposals/estimates to the various State P.W.Ds on April 2, 1970 for Roads Works.

4.15. It was, however, observed by the Roads Wing that there was a considerable time-lag between the sanction of a scheme and the actual commencement of work mainly due to the time lost in the preparatory work leading to the invitation and receipt of tenders and in examination and settlement of contracts thereafter. In order to reduce this time-lag somewhat, it was decided by the Roads Wing in January, 1971, that advance copies of the Technical Note accompanying the draft letter according Technical Approval and Financial Sanction to the estimate for the project might be sent to the State PWD in advance of the actual sanction which would be given in consultation with the Ministry of Finance wherever required. This was done with a view to enable the State PWD to go ahead with the preliminary works like settlement of technical details, invitation of tenders and keeping the same ready for a decision on the allotment of contracts after proper examination, etc. simultaneously, with the formal issue of Technical Approval and Financial Sanction to the work by the Roads Wing.

4.16. With the increased magnitude of road and bridge works on the National Highways and also to reduce the time required for sanctioning of the estimates, the Ministry of Finance had increased the financial powers of the Roads Wing to sanction estimates (in consultation with the Ministry's Internal Finance) in March 1971 from Rs. 2 lakhs to Rs. 10 lakhs and

only works costing more than Rs. 10 lakhs were referred to the Ministry of Finance (through the Internal Finance) by the Roads Wing. The Committee have been informed that these financial powers of the Roads Wing were further enhanced with effect from 12 July, 1974, to approve estimates up to Rs. 25 lakhs in consultation with the Internal Finance.

4.17. The Committee desired to know if there was any active participation of the Roads Wing of the Ministry in the preparation of projects so that the deficiencies like faulty investigations, specifications, etc. could be removed expeditiously. In reply, the Director General (Roads) has stated during evidence:—

“Regarding the participation that you have referred to, our Regional Officers in the field are all the time available and they do associate themselves with the States in this matter. From the Headquarters also, our officers are frequently going to the States and they have consultations when they go. This is the manner in which we are trying to associate ourselves and trying to improve the quality of the projects that the States what they us. And things have improved. If you compare what were were sending in the Fourth Plan period to what they are producing now, you will see that there is definitely an improvement.

The witness has added:—

“There is going to be the association of our regional officers from the field. They will also be knowing that such and such job has been authorised for advance investigation. They will also be keeping an eye on investigation.”

4.18. Enquired if there was any mechanism which ensured that 1½ per cent allowed as advance for investigation was well spent, the witness has further stated:—

“This amount of 1½ per cent is allowed to the States against the estimates for specific jobs. It is not that we give this in lump-sum and say that this is for the first year of the 5th Plan. They will send us the list that those are the plan projects according to the annual plan to be surveyed and investigated. They indicate the anticipated project cost and accordingly we authorise them 1½ per cent which is meant for investigation.”

Delay in Sanction of Estimates

4.19. It has been pointed out by Audit that for major road works, each costing over Rs. 25 lakhs, an analysis conducted by Audit of the minimum and maximum times taken for sanctioning works on such major highways as National Highways No. 2, 3, 4, 5, 6, 7, 8 and 10 covering

173 works show that the minimum time taken for sanction of estimates ranged from two months (23 works on NH No. 5 in Orissa—Andhra Pradesh) to maximum of 16½ months (35 works on NH No. 2 in U. P. Bihar).

4.20. Similarly, in the case of major bridges whereas the time taken to sanction the estimates was 4 months (October 1955 to February 1956) regarding Rupnarayan bridge on NH No. 6 in West Bengal, it was 13 years (1956 to 1969) in the case of Bhader bridge on NH 8B. Explaining this variation, the Ministry had intimated to the Audit, as under:—

“This variation in the time taken in sanctioning estimates differed from State to State depending on factors such as the problems involved in a particular project and time required for tackling those problems, extent of data collected, further clarifications, if any, needed, etc.”

4.21. The Committee are given to understand that the Administrative Reforms Department had at one stage suggested delegation of power to the States to sanction road and bridge—estimates upto Rs. 25 lakhs and Rs. 15 lakhs respectively so as to reduce on the time taken on sanctioning. Asked to state the steps taken in pursuance of the suggestion made by the Administrative Reforms Department, the Ministry have stated:—

“The Department of Administrative Reforms who in consequence of the discussion finally had said that they would be agreeable if the delegated power was restricted to Rs. 10 lakhs to begin with. Delegation of 25 lakhs/15 lakhs had been very carefully considered and for the following reason no substantial delegation to the State Governments has been considered desirable by this Ministry. The National Highways which are the main arteries of road communication system with only 6.7 per cent kilometerage of total road traffic, are being and have to be substantially improved to the worthy of their stature, thus involving heavy investment per Km. Improvements of a high order are involved. Scrutiny of the projects (estimates) at the second tier by this Ministry is, therefore, absolutely called for as flowing from the Constitutional responsibility of the Central Government for the central subject of National Highways. While the advantages of the second and final tier of scrutiny in the interest of technically sound and economical investment are obvious and over-whelming, it would be relevant to note that the time taken in the Ministry for sanctioning a project is 4 to 6 months in normal cases compared to the total gestation period of 4 to 5 years from conception to com-

prediction and is only 6 to 7 per cent which should be of no consequence at all compared to the resultant advantages.

The matter was considered by the Union Cabinet and the Ministry's view point was accepted. All the same the Ministry is considering delegation of powers to the State Governments to enable them to sanction estimates of projects upto Rs. 10 lakhs, with the hope that this delegation will induce them to produce comprehensive and better projects."

4.22. The Administrative Reforms Department in paragraph 23 of their report of July 1970 had identified 35 stages in the process of sanction of works estimates and had recommended reduction of the process to 21 stages. Asked if the Ministry had thought of reducing the number of such process, the Ministry have stated:—

"The National Highway projects are received direct from the State Public Works Departments, our executive agencies, and are examined taking into account the comments of the Ministry's regional officers generally received soon after who are also supplied with the copy of the project, by the State PWD. Thus really only one stage is involved in sanctioning the project. One of the main factors for time taken in sanctioning is that the projects prepared by the State Public Works Department are not up to the required standards and lack essential details and data backing which also lead to delay during execution. Inadequate investigations also result in unsound construction planning necessitating sometime deviations in specifications and scope of work. To obviate such problems, the Ministry has been making vigorous efforts, one on hand to build the capability of the States for proper project preparation, and on the other hand to keep them informed about the exact requirement of specifications, so that the objectives of sound and speedy execution are fully realised."

4.23. Referring to the cases mentioned in the Audit Para regarding the time taken in sanctioning the estimates, the Director General (Roads) has clarified during evidence:—

"We have got all the cases analysed. We have to take into account only the period taken after a project has been duly completed and sent on to us by the States. Supposing something comes incomplete, we will have to return it to the States Governments. They will have to look into it, complete the necessary data, fill in the gaps and send it back to us. Only from the data it comes to us in a complete form is the Roads Wing answerable for the time taken."

4.24. Asked further if the movement of plans and estimates and other documents between the States and the Centre could be minimised by reducing centralisation of almost the entire Roads Organisation in Delhi, the Director General (Roads) has stated:—

“We have actually thought over this question very seriously and it was considered that while the entire sanctioning process for projects above ten lakhs would be at the Headquarters, in regard to those up to Rs. 10 lakh powers could be delegated to the State Chief Engineers themselves. The question was considered at the highest level, that is, the Union Cabinet, audit was decided that, in the interests of proper scrutiny of investments, something should continue to be here in the Ministry. But, where there is a possibility of modifications in drawings and estimates etc. instead of its being processed at the Headquarters, it could be done at the Regional Offices which are a little closer to the States’ set-up. So, the question had been considered, but delegation to Regional Offices was found to be not really workable. This is because in the process of examination, there is a certain amount of expertise needed before a project can be given clearance. One project may have problems of soil; the other may have some other problem. If in each Regional Office, we start creating mini roads wing expertise to deal with these problems, it would become a kind of very unwieldy and uneconomic structure.”

4.25. In the same context, the Committee desired to know if the expertise and power at the Centre could be dispersed for better results, the Director General (Roads) has stated:—

“The feeling in the Roads Wing is that this scrutiny in the headquarters works better and more efficiently. The other alternative of delegating some of the powers to the regional offices will call for greater strengthening of the regional units which perhaps is not possible within the present means of our organisation. We will consider this later if the situation requires.”

4.26. Elaborating the position, the Secretary of the Ministry has stated:—

“May I intervene at this stage? The provision of much greater guidance and expertise at the local level, as the hon. Member has said, requires much more staff and organisation that we have been able to afford at the present moment. These 9 Regional Offices, with the addition of 3 that has been brought about recently, is a kind of compromise that has come about.

Now, the next thing I would say is that the points that have been made by the hon. Member that the expertise available at the Centre should be placed at the disposal of the States even earlier, i.e. at the stage of investigation, had been well taken. Actually, in regard to all difficult cases, particularly in the case of major bridges, selection of sites, progress if investigation, all these things are managed and then physically participated in by the experts from the Headquarters. I know of cases in which work has been actually going on, had gone and inspected. So, this point is very well taken note of and we will certainly ensure and see that in case of difficulties, the Hqrs expertise is made available to the States even at the early stages."

Call of Tenders and award of works

4.27. After sanction of estimates for road and bridge works on the National Highways by the Roads Wing of the Ministry, the State P.W.Ds execute works, generally by contracts which are settled by competitive tenders. The Audit has pointed out that the issue of tenders, the screening by State PWDs on receipt of the final award of work (where necessary with the approval of the Ministry) takes more time, the extent of which varies depending upon the complexity of the work and the number of times tenders are called, and the subsequent negotiations, if any at that stage.

4.28. The Committee on "Suggesting Measures to Expedite the Execution of Bridge and Road Works" (1972) had on the basis of study made by them of some cases also observed that after the estimates were sanctioned by the Roads Wing, it took 5 months to 40 months for the PWDs to commence actual construction in the case of bridge works and one month to twenty months in the case of road works. The main factors which contributed to this delay were:

- (i) Late finalisation of technical details;
- (ii) Delay in the preparation of Notice Invitation Tenders (NIT);
- (iii) Delay in settlement of tenders;
- (iv) Delay due to invitation tenders; on lump-sum basis for bridges;
- (v) Delay due to land acquisition;
- (vi) Delays due to transfer of Executive Agency.

4.29. Asked if there has been improvement during the 5th Plan in the control over technical aspects of execution by the State PWDs, the Ministry have stated:—

"As a result of steps taken, there has been marked improvement during the 5th Plan period in the preparation of projects,

including surveys and investigations. This has resulted in lesser time being taken in clearance of the estimates and putting the projects on the ground."

4.30. The Committee note that during the 4th Plan the surveys and investigations of local site conditions were often lacking in many major respects as a result of which the estimates, prior to their sanction by the Ministry, required clarifications or the essential data about which even after sanction, had gaps. During execution the shortcomings had to be removed by frequent revisions of the estimates. For example, on NH 2 in the Agra-Bhognipur stretch in U. P., one year after the commencement of widening and strengthening of the works, major changes in the design of the road crust were proposed by the State PWD due to the earlier soil data having to be substantially altered to reflect actual site conditions. Similarly, laboratory reports on sub-grade soil tests for improvements to the low-grade sections of the road between Keonjihar and Kanjipani on NH6 in Orissa were furnished after the earth work was completed. In the case of widening and strengthening the Krishnagiri-Madurai Section of NH 7 in Tamilnadu, improvements for geometrics and reconstruction and widening of existing culverts were not incorporated initially in the estimates prepared by the State PWD, which were generally defective due to the inadequate field studies and investigations. Likewise, estimates for 4 by-passes on NH 31 at Koderma, Jajouli, Nawadah and Biharsharif in Bihar and for 9 works on NH 28 in U. P. in Lucknow and Basti divisions had to be revised upwards ranging from 18 to 157 percent, due to the original estimates being defectively framed. According to the explanation of the Ministry the main reason for the inadequacy of pre-estimate surveys and investigations on the part of the States was their disinclination to create separate organisations, especially for survey, investigation and project preparation.

The Committee feel that as the State authorities are paid an advance at the rate of 1½ per cent out of the agency charges to meet preliminary investigatory expenditure, as also 1 per cent of the cost of project for field survey, it is but proper that the authorities be persuaded to have adequate technical organisation to prepare the project estimates.

4.31. The Committee note that the Ministry have been able to persuade a number of States like Tamil Nadu, Andhra Pradesh, Maharashtra, U. P., West Bengal, Bihar, etc. to strengthen the survey and investigation machinery and there has been considerable improvement in the preparation of projects for sanction by these States. The Committee would like the Ministry to follow it up with the remaining States and Union Territories who have not yet got adequate organisations for survey, investigation and preparation of project reports so that the position is brought to a satisfactory level.

4.32. The Committee stress that the regional offices should maintain close liaison with the State authorities in order to see that the investigations, surveys and project reports are prepared ab initio on sound and acceptable lines to facilitate the work of processing sanction and execution.

4.33. The model set-up, drawn up earlier by the Ministry, may be reviewed in the light of experience gathered, so as to commend an arrangement which would find acceptance by the remaining States. The stress obviously should be on the development of expertise at crucial stages of survey, investigation and project preparation in order to achieve the underlying objective of submission of a dependable and realistic scheme as per agreed guidelines to facilitate the work of processing and sanction.

4.34. The Committee note that the result of lack of essential details and data in preparing the project estimates has been that there was unduly long time taken in sanctioning the estimates at the Ministry's level. It is observed that for major road works, each costing over Rs. 25 lakhs, an analysis of the minimum and maximum times taken for sanctioning works on major National Highways showed that in case of NH Nos. 2, 3, 4, 5, 6, 7, 8 and 10, covering 173 works the minimum time taken for sanction of estimates ranged from 2 months (23 works on NH 5 in Orissa-Andhra Pradesh) to a maximum of 16½ months (35 works on NH 2 in U. P.-Bihar).

4.35. The position has been still worse in the case of sanctioning estimates of major bridge works. The Committee observe that whereas the time taken to sanction the estimate was 4 months (October 1955 to February 1956) in respect of Rupnarayan bridge on NH 6 in West Bengal, it was 13 years (1956—1969) in the case of Bhaider bridge on NH 8B.

4.36. The Committee regret that despite various measures taken to build up the capability of the State for proper project preparation, the position is far from satisfactory as the Ministry have conceded in a note to the Committee that one of the main reasons for long time taken in sanctioning the estimates is that the projects prepared by the State PWDs are not upto the required standards. According to Ministry's own calculations, the time taken for sanctioning a project is 4 to 6 months in normal cases.

4.37. The Committee consider that 4 to 6 months taken by the Ministry for processing of such cases is on the high side. They desire that concrete measures should be taken to streamline the procedure, lay down clear guidelines and check-lists, prescribe norms for processing at various levels (to be reduced to the minimum) so that the sanctions are issued in a period not exceeding 2 to 3 months of receipt of proposals from the State Authorities.

4.38. The Committee understand that in order to reduce the time taken on sanctions the Administrative Reforms Department at one stage had suggested delegation of powers to the States to sanction Road and Bridge estimates upto Rs. 25 lakhs and Rs. 15 lakhs respectively, but as a result of discussions had finally stated that they would be agreeable if the delegated power was restricted to Rs. 10 lakhs to begin with. According to the Ministry, this matter is currently under consideration.

4.39. The Committee consider it essential that Government should review de novo the existing financial powers delegated to the State Governments, Roads Wing and the Ministry of Shipping and Transport in consultation with the Ministry of Finance in the light of the experience gained during the 4th and 5th Plans (so far) so as to rationalise the issue of sanctions to the project estimates by various competent authorities.

4.40. The Committee need hardly point out that the delays noticed in the mere sanction of projects get further accentuated because of the tardy machinery and institutional arrangement for execution of projects involving calling of tenders (in several cases more than once), departmental screening of tenders, lengthy negotiations which all result in costly delays. The Committee note that some measure have been taken, particularly during the 5th Plan to effect improvement in the preparation of projects including surveys and investigations and as a result thereof lesser time is now taken in clearance of the estimates and putting the projects on the ground. The Committee desire that the Roads Wing should make all out efforts to bring about standardisation and uniformity of practice so as to cut down delays to the minimum at various stages of execution of works.

CHAPTER V

DEVELOPMENT OF ENGINEERING EXPERTISE

(i) Central bridge investigation and design organisation for large and technically complicated river crossings

Audit Paragraph

5.1. National Highways have to cross such major rivers as the Ganga, Yamuna, Narmada, Krishna, Gandak, Damodar and Chambal among others. The technical problems of investigation of possible sites and river-flow characteristics and thereafter of designing the bridge for the chosen site conditions are formidable.

5.2. It appears that while over the years the Indian Railways have developed a level of competence in bridge investigation, this needs to be improved for bridges on National Highways. The State PWDs handling such investigations, acting as agents of Governments of India do not yet possess the requisite skill and resources for tackling the problem in a satisfactory manner. The Ministry expects that the continued efforts put in by it will improve the situation. It was further stated that for difficult bridges, Roads Wing prepares outline designs and State Governments invite tenderers to submit, if they would so like, their own designs etc. with a view to exploring and utilising the design talent and equipment available with them and to evolve competitive designs to suit any particular type of bridge work, consonant with the actual site conditions of each major river crossing.

[Paragraph No. 9 of C&AG's Report for 1973-74 Part II, Civil]

5.3. It has been pointed out in the Audit Para that in the matter of bridges on National Highways the State Governments handling investigations, acting as agents of the Government of India, do not possess the requisite skill and resources for tackling the problem in a satisfactory manner. Since substantial amounts are being spent by the Central and State Governments on construction of bridges, the Committee enquired whether it would be desirable that Government should build up adequate bridge investigations and design capability which could be drawn upon by the Central and the State Governments. In reply, the Director General (Roads) has stated during evidence:

"So far as the design requirements of bridges are concerned, the steps which the Ministry have so far been taking is that stan-

standardization of bridges for certain span lengths has also been attempted and already, I think close to about 80 to 100 standards designs have been worked out and are available to the States. As for bigger span bridges, the Roads Wing very actively associates itself right from the stage of selection of sites, location, etc. and then in the very initial stages there are joint inspections to fix where the abutment should be and what should be the span arrangements and all that. Then depending on the anticipated situation with regard to the sub-stratum it is decided as to what kind of investigation should really be carried out. That being so, the State proceeds to carry out those investigations and get the whole idea and many times even before they put the whole thing in the form of a project report, they come over to Delhi to discuss with our people and also to the regional office and in that way collective effort on the project siting and finalisation is made. Therefore, the Central Design Organisation being staffed and established by really qualified personnel, no problems are faced by the States and the Central Government is satisfied that in regard to all major bridges the investigations are now proceeding satisfactorily and matters are further improving."

5.4. Elaborating the reply, the Ministry in a written note furnished to the Committee stated:

"In spite of the best efforts all these years, we have found that the data collected by the State P.W.D.s for preparation of detailed design and estimate of bridges has not always been very satisfactory. Therefore, we agree with the P.A.C. that there is an urgent need for constituting an expert organisation at the Centre with all equipments and facilities for properly investigating such big projects and also to render help, if necessary, to the State Governments for their major projects. There is also an alternative suggestion from some of the States that we should develop this expertise by encouraging private consulting engineering firms by entrusting them with such investigations on a turnkey basis. These alternatives are being examined and it is proposed to take a decision after discussions with the State Chief Engineers."

5.5. Asked if the advice of the Roads Wing was taken in the case of bridges which are exclusively in the States jurisdiction, the Director General (Roads) has deposed:

"There is no need for our expertise in the case of small bridges. Only in regard to national highways and the bigger bridges and bridges of large-size spans they seek our expertise."

5.6. Asked to state whether the Railways are somewhat better off in bridge construction, maintenance etc., the representative of the Ministry of Shipping and Transport (expert on bridges) has stated as under :

“Railways no doubt are a very big organisation but their bridges are mostly of steel and as far as the bridges in reinforced concrete and pre-stressed concrete are concerned they do not have much experience as we have.”

Speaking about designs, he added:—

“Most of these designs are being done here. Actually many of other bridges or nearly upto 80 per cent are all medium and minor bridges. For these, the standard designs are usually being used. The alternative designs which are sometimes submitted by the contractors are only for big bridges where on account of a certain advantage of equipment and particular know-how available with them they are better equipped to offer more competition bids.”

5.7. Asked about the quality of bridges and their bridge-building capabilities, the representative of the Ministry has stated during evidence:

“Since 1947 we have built nearly 260 major bridges and in some of these the spans are also very large, and some of our works are very much appreciated even abroad.”

5.8. Asked if the experience of the Railways could be utilised in regard to the second bridge over Hooghly and thus obviate the necessity of going in for foreign assistance, the representative of the Ministry has stated:

“Actually, the second Hooghly bridge will have perhaps the largest span of the type which we are going to build. It is a steel bridge about which I would say that neither the Roads Wing nor the State PWDs are having necessary expertise. If at all anybody could have any expertise in regard to steel bridges it is only the Railways. Even at that time of considering the tenders for this bridge such advice was taken from the Railways. This particular type of bridge however has a certain history behind it. Similar bridges constructed elsewhere had had some failures. So it was thought that it would be prudent to go in for better expertise and advice from outside. With that idea alone, these consultants were employed.”

5.9. The Committee learn that with the basic objective of intensifying the bridge construction, actually some States have set up bridge construction corporations. One such corporation was set up in U.P. about four years ago by augmenting the resources of the State Government through

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mobilisation of institutional finances. This Corporation had completed construction of 90 bridges till November, 1976. The State of Bihar has also set up a Bridge Construction Corporation to reflect the present monopoly construction system in the field of departmental construction in the next two years.

5.10. The Committee are concerned to note that the State authorities acting as agent of the Union Government do not yet possess the requisite skills and resources for tackling the problems like investigation, designing etc. in the matter of bridges. In fact, the Ministry have admitted in a note furnished to the Committee that in spite of the best efforts all these years the data collected by the State PWDs for preparation of detailed designs and estimates of bridges have not always been very satisfactory. It has been recognised during evidence that there is an urgent need for an expert organisation for designing larger and more complex bridges. The Committee note that some of the States have suggested that leading private consulting engineering firms may be entrusted with investigations and designing of complex bridges. The Committee would like the Government to examine thoroughly the matter in consultation with the State Governments which have a large number of complex and important bridges on national high-ways to construct and come to a final decision in the matter without further loss of time. The Committee would like to be apprised of the decision taken in the matter.

5.11. The Committee learn that some State Governments have already set up Bridge Construction Corporations with a view to speed up the Bridge construction programme. The Committee would like the Government to assess the functioning of these bodies in concert with the State Governments so as to encourage the setting up of suitable agencies in all the States for bridge construction works.

**(ii) Development of engineering expertise for roads and bridges work--
Measures to expedite the execution of roads and bridges**

Audit Paragraph

5.12. The engineers manning the headquarters and the regional and liaison offices of the Roads Wing are recruited through the UPSC as members of the Central Engineering Services Class I (Roads Wing). After recruitment through the UPSC, normally at Assistant Engineer level, they are posted at headquarters or in the regions and occasionally rotated between headquarters and regions at the Assistant Engineer, Executive Engineer, Superintending Engineer levels. (There are no Chief Engineers in any of the local offices). With the majority of engineers' posts being at headquarters, not all of the recruits have had a posting to the regional or liaison offices before they qualify for promotion to higher level posts.

5.13. While some of the recruits, before inducting into the service, have had actual field experience and though sometimes senior State PWD engineers are appointed on deputation, to some of the posts in the Roads Wing, the officers of the Roads Wing do not normally have opportunity of gaining field (i.e. construction) experience. Whether such opportunity should (or can) be provided to these officers through periodical mutual exchanges between them and State Government officers—with benefit to both—has not been explored.

[Paragraph No. 10 of Supplementary Report of Comptroller and Auditor General for 1973-74, Part II, Civil]

5.14. According to the Audit Para, some engineering officers of the Roads Wing do not normally have opportunity of gaining field experience. The Committee enquired whether, in such circumstances, it would be desirable to have a periodical exchange of such officers between the Roads Wing and the State PWDs. In reply, the Director-General (Roads) has stated during evidence:

“... The Roads Wing has been got augmented and the organisation has been built up since 1962. In 1962 we had Chinese aggression. We had to build emergent works and strategic roads. From 1962 to 1965 the expansion of the Road Wing has been of the order of 60 per cent to 100 per cent. All these officers were taken through UPSC by selection process and all these people came from the States or other Central organisations dealing with Roads. They had sufficient background of the work and they had sufficient experience.”

He has further added:

“They had been brought in at all levels. We took some Superintending Engineers, Executive Engineers and Assistant Executive Engineers. They had four to ten years' experience in the field organisation. People, i.e., Assistant Executive Engineers, who have been recruited directly in the Roads Wing and who had no exposure to the direct field responsibility, also get field exposure when they get posted in the Regional Offices. There they have works activities. Those who have largely been working at Headquarters, they also go on tour and spend week or ten days in the field. They get experience. The only little difference is that they may not be handling execution work, operation of contract and payments. But otherwise our experience goes on increasing. We do not feel any deficiency in the matter of field experience.”

5.15. In a written note furnished to the Committee, the Ministry have elaborated the position as under:

“The present personnel of the Roads Wing of this Ministry consists not only of the officers appointed through the Engineering Service Examinations and promotions, but also the officers in the various grades appointed through ‘Lateral recruitment’. The latter category includes a large number of officers possessing considerable field experience having worked in the State and Central Public Works Departments etc. before joining the Roads Wing. Officers have also been appointed on deputation basis in the Roads Wing from the States and the other Central Government Departments having considerable field experience. The posts in the grades of Director General (Road Development) and Additional Director General are filled through composite fields, which include the officers of the Roads Wing as well as the State/Other Central Government Departments with varied experience in the spheres of execution of Highway and Bridge projects. About 60 per cent of the existing officers in the Roads Wing have been appointed through lateral recruitment/deputation. All this is considered quite adequate for the Roads Wing, which is essentially a Consultant Organisation.

The Roads Wing has its Regional Offices and Offices of the E.L.Os. in the various States. The existing strength at the Headquarters and Regional Offices (including the Offices of the E.L.Os.) consists of one post of Director General (Road Development), 2 posts of Additional Director Generals, 13 posts of Chief Engineers, 32 posts of Superintending Engineers, 52 posts of Executive Engineers and 53 posts of Assistant Executive Engineers/Assistant Engineers at Headquarters, and 1 post of Chief Engineer, 13 posts of Superintending Engineers, 31 posts of Executive Engineers and 31 posts of Assistant Executive Engineers/Assistant Engineers in the Regional Offices etc. The Officers posted in the Regional Offices and the Offices of the Engineer-Liaison-Officers get ample opportunity for gaining the required field experience through inspections of the various projects under execution at investigation and execution stages in the States. The officers from the Headquarters are transferred very often to the Regional Offices, etc. and *vice-versa*, thus extending the opportunity to the officers at Headquarters to gain field experience in addition to the opportunity already available to them for gaining this experience

through inspections of the various projects conducted by them frequently. The Technical Officers of the Roads Wing are sent on foreign assignments, for foreign training and deputation to other organisations, during which they acquire sufficient field experience.

The Roads Wing have an in-built system to give opportunity to its officers for gaining field experience in the organisation itself in the manner stated above. There is, therefore, no need to send its officers on deputation to the States for gaining field experience. Moreover, taking the State PWD Officers on the strength of the Roads Wing while on deputation for acquiring field experience would not be possible. Keeping all these considerations in view, it is considered that a periodical exchange of officers in the Roads Wing and the Officers in the State PWD is not necessary. The State Government have, therefore, not been addressed in the matter."

5.16. The Audit has pointed out that (i) the majority of Engineers' posts being at Headquarters, not all the recruits have had a posting to the Regional and Liaison Offices before they qualified for promotion to higher level posts; and (ii) the Officers of the Roads Wing do not normally have opportunity of gaining field experience through periodical mutual exchanges between them and the State Governments. The Committee do not agree with the view of the Ministry that since 60 per cent of the existing officers in the Roads Wing have been appointed through Lateral recruitment/deputation there is no need to have a regular arrangement to depute its officers on deputation to the States for gaining field experience.

5.17. The Committee stress that suitable institutional arrangement should be devised which would make for two-way deputation of officers from the Roads Wing in the interest of ensuring that officers who have the requisite field experience are entrusted with the responsibility of scrutinising the projects and of overseeing their timely completion and what is more of ensuring quality during execution of the works.

This arrangement would also ensure that the points which the Roads Wing desire to be kept in view while carrying out survey and investigation in the field and preparation of estimates are ab initio complied with by the officers of the Central Government who would be working on deputation with the State authorities. This should facilitate and speed up the work of scrutiny and issue of sanctions.

5.18. The Committee have elsewhere in the Report dealt with the question of over-centralisation in the Roads Wing at Delhi. They have also

given recommendations that the regional offices need to be strengthened by suitably re-deploying the strength available at the Head Office. The Committee would like the Government to see that there is regular institutional arrangement for exchange of officers at various levels between the headquarters and the regional offices so as to make for continuous flow of experience from the field into the apex body and vice versa.

The Committee would like to be informed of the detailed institutional arrangements which are made in pursuance of the aforementioned recommendations.

CHAPTER VI

CONTROL OVER EXECUTION

(i) Quality Control

Audit Paragraph

6.1. In view of the heavy traffic, control of (a) quality of the materials used, (b) construction (for example, compaction, proper screening, bulk density and percentage of bitumen) and (c) post-construction (for instance, penetration, camber, waviness etc.) is required. For this purpose field laboratories are necessary.

6.2. For quality control on NH works, State PWDs are being given one per cent of the estimated works' costs. The IRC's printed handbook of quality control was issued only in 1973. Guidelines to the States, for promotion of quality control on NH works were issued in January 1974. From an examination of the reports of the Ministry's Regional Officers and ELO's, it emerged that quality control in execution of works was often not being attended to. Some examples are given below:—

- (a) In Madhya Pradesh, on NH 3 where seven major works had been sanctioned for Rs. 465 lakhs, quality control tests on morrum, road metal, density of compaction of water bound macadam (WBM) layers, and correction of camber were not being done. Thickness of WBM was less than that sanctioned in the estimate and, generally, all the works (particularly in Guna and Shivpuri divisions) being done on this important NH were sub-standard. This was pointed out by the DGRD, after an inspection in June 1974, to the State Chief Engineer.
- (b) The Ministry's officers pointed out that in two divisions in which widening and strengthening works over 100 kilometres and 14 kilometres respectively on NH 2 in Bihar were checked, the soil-bearing ratio was assumed notionally only, and in spite of Ministry's technical directions to redetermine the sub-grade soil strength during execution, no such reassessment was done. The Regional Officer further pointed out that road metal collected and stacked on Aurangabad-Raiganj and Dehri-on-Sone-Karmanasa sections had not been subjected to quality control tests before stacking. There was evidence that the stacks

of road metal contained dust and clay. Compaction tests of WEM layers was not being done. Departmental labour was using bitumen drums for heating bitumen resulting in incorrect percentage of bitumen being mixed, and due to aggregates used being over-sized the surface obtained on the Barhi-Chirkunda section had considerable percentage of voids and was not level.

- (c) For works on NH 2, 28 and 24 throughout U.P., it was reported by the Ministry's officers that quality control tests were generally not being undertaken.
- (d) It was reported by the Ministry's officers that quality control tests, prescribed by the Ministry on NH 6 and NH 7 in Maharashtra were not being carried out. The State PWD advanced the plea that as the printed handbook on quality control was available only in 1973, quality control tests or setting up of quality control organisation could not be taken up earlier.
- (e) For three major widening works undertaken on NH 28 in the Lucknow-Gorakhpur section estimated to cost Rs. 139.78 lakhs in all, no field laboratories had been established, nor were any quality control tests being done.

6.3. The Ministry stated (December 1975) that the tests prescribed are now being carried out.

[Audit Paragraph No. 12 of C&AG's Supplementary Report for 1973-74, Part II, Civil].

6.4. There cannot be two opinions on the need for ensuring quality control of the materials used in road construction. There are, of course, other factors which must be taken care of and these include effective supervision, use of standard materials, compliance with prescribed specifications etc. The Committee on More Efficient and Economical and Maintenance of Roads (1974) has observed:—

“Due to a combination of factors like the policy of improving highways in stages, inadequacy of quality control, staff and absence of clear norms for routine testing, quality control along scientific lines had not been receiving the full attention it deserves with the result that the desired standards of riding quality and performance were not always achieved. Gradually the idea to have exclusive staff for this purpose on National Highway works is gaining momentum, but it requires to be pushed further and a lot of leeway still to be made.”

6.5. It is recognised that satisfactory laboratory facilities, with the requisite man-power, are necessary for proper quality control. A satisfactory set-up for quality control on road works has two essential components, viz:

- (i) Testing, control and research laboratories; and
- (ii) Quality control units.

Laboratories corresponding to the first component have been set up in all the States except Nagaland, Meghalaya and Sikkim. Among Union Territories, such laboratories are being set up in Andaman and Nicobar Islands and Goa.

6.6. Roads Wing is stated to have been making a concerted effort since the last several years to create/strengthen testing, control and research facilities in the States. A model scheme for organising State testing and control laboratories prepared by the Central Road Research Institute was circulated among the States during 1957 and they were offered 50 per cent assistance from the Central Road Fund (Ordinary) Reserve to bring up their laboratories up to that level. During the Fourth Plan period, three States namely Himachal Pradesh, Andhra Pradesh and Kerala availed of matching grants-in-aid from the Central Road Fund (Ordinary) Reserve. During the same period, Punjab and Haryana made use of States' own Central Road Fund (Allocations) for setting up laboratories in their States. These approved works are listed in the following table:

S. No.	Name of work	Amount (Rs.)
1	Establishing soils and pavement Design Laboratory at Simla	1,20,100/-
2	Establishment of soil testing laboratory at Hyderabad	2,05,900/-
3	Establishment of a Testing and Control Laboratory for road and bridge works in Kerala	3,00,000/-
4	Setting up of a Highway Research Laboratory in Haryana	10,85,000/-
5	Setting up of a Research Laboratory for Punjab State at Patiala	8,40,200/-

6.7. The role of testing, control and research laboratories in the States has been to carry out investigations required in connection with highway projects, prospecting for locally available cheaper materials for use in road construction, finding solutions to problems posed by construction staff, research on local problems etc. These laboratories are not involved directly in field quality control except for specific jobs where special

expertise may be needed. Research findings emanating from these laboratories as also from the Central Government research institutions and Universities/I.I.Ts. are discussed for wider dissemination at the annual sessions of the Indian Road Congress.

6.8. Second essential component of quality control is adequate field staff to exercise check over the quality construction. The Ministry has been stressing this aspect repeatedly over the last few years. Through the active participation of Roads Wing Officers, a Handbook on Quality Control was published by the Indian Road Congress in 1973 though the draft of it was available with the State P.W.Ds. from 1971. This handbook contains guidance about organisation set-up of quality control units, minimum amount of testing for different constructions, and the range of equipment required for effective quality control over works. To meet the cost of vigilant quality control, a separate provision has been allowed in National Highway project estimates to the extent of one per cent which is meant to cover the cost of quality control field staff cost of equipment and tests, and the miscellaneous recurring expenses of the quality control units. Roads Wing also has issued several technical circulars giving instructions to the States in the matter besides frequent discussions in the Chief Engineers' meetings.

6.9. As a result of constant efforts by the Roads Wing awareness for proper quality control is stated to have considerably improved among the State P.W.Ds. It is stated that by and large, satisfactory laboratory facilities as a back-up to adequate field control have already been created.

6.10. Speaking regarding importance of Quality Control, Shri. in his Presidential Address to the 37th Annual Session of the Indian Road Congress Conference held on 5 December, 1976, has stated:—

“No road can offer the expected quality of service without adequate quality control during the stage of construction. On the other hand, without proper investigation during the design and planning stage, the project cost may be much higher than necessary, design may be defective and life of the road may be seriously cut short. It has been a policy now to allow one per cent extra for quality control in the works estimates for national highways. A special provision for survey and investigations is also available as part of agency charges to the extent of 1½ per cent with extra provisions of 1 per cent for field cost. This small expenditure of 3½ per cent is vital for the success of the project. This expenditure on investigation and quality control is a bare 2 per cent of the total cost of the project if the organisational over-head and

annual maintenance over 20-year design life is taken into account. Therefore, appropriate use of these special provisions in the estimates should be made through detailed survey and investigation before the work is started in the field and through quality control during construction. A neglect in these two aspects can be perpetually highly detrimental to highway durability and upkeep. Apart from national highways, it is desirable to spend similar amounts to ensure proper investigations and quality control in other highway works as well.”

6.11. The Handbook on Quality Control published by the Indian Road Congress in 1973 contains guidance about the minimum amount of testing for different constructions. The Committee enquired whether the norms laid down in the Handbook have been adhered to. In a note, the Committee have been informed as follows:—

“In the absence of any reports to the contrary, Roads Wing believes that the norms about minimum amount of testing as recommended in the Quality Control Handbook are by and large and gradually more and more being adhered to by the State P.W.Ds. on National Highway works. No specific difficulties in this regard have come to the notice of the Roads Wing.”

6.12. The Committee have noted from certain reports of the Comptroller and Auditor General relating to States for the year 1973-74, that no research work is being done in certain laboratories set up in certain States. In this connection, the Audit observations in the following cases are mentioned in particular:—

Andhra Pradesh

A quality control Division was established at Vijayawada in July 1974 to ensure that the standard of work executed was according to specifications, to alert the executive staff and contractors to condition them towards quality construction and to minimise unfruitful expenditure. The annual estimated expenditure on the Quality Control Division is Rs. 1.10 lakhs. No report on works done by the Division, since its inception in 1974, was available.

Assam

A Road Research Laboratory started functioning in December 1969 at Gauhati. Government stated in September 1974 that existing research and testing facilities were inadequate to meet present day requirements, facilities for field testing, essential for quality control, were almost non-existent.

Bihar

A Testing and Research Institute has been functioning at Patna from 1963. But the Institute has only been testing samples of soil, stone metal, cement, mortar etc. In the Fourth Plan, Rs. 2 lakhs were allotted for research and training. But the entire provision was utilised for training, testing of soil etc. No expenditure was incurred in research work.

Madhya Pradesh

There is a Central Research Laboratory and eighteen Circle-level laboratories. No research was undertaken on matters connected with traffic and highway engineering or, in particular, on problems encountered during construction of roads and bridges.

Role of Central Road Research Institute, New Delhi

6.13. Asked to state the role of the Central Road Research Institute in helping the laboratories in the States, the Director of the Central Road Research Institute has stated:—

“This has been taken up right from 1958 onwards. Whenever any request came from the States concerned regarding the setting up of the laboratories, the supply of equipments and the training and so on, we associated ourselves with the States and helped in organising such set-ups. The question of smaller units which are to be set up on the work-site is a separate exercise.”

The witness has further added:—

“As far as these laboratories are concerned, they are primarily entrusted with the task of quality control, preparation of the project reports and field investigation. This being the philosophy, there are two types of institutions in this country. I will come back to the Central Road Research Institute first. As far as their research programme is concerned, largely the Chief Engineers and the Director-General Road Development are the advisers in evolving research and promoting it at the Institute in cooperation with the concerned State Organisations. And also during the 20 years of its life, we have also realised in the Central Road Research Institute that whereas a certain amount of research in this country is important, implementation of the already known results in this particular field of Highway Engineering is of paramount importance. With this end in view, we started our task in different directions. One is to

organise quality control laboratories in the States. We are assisting in setting up these laboratories, training the personnel and equipping the State Testing Laboratories in a big-way. The Central Road Research Institute since 1958 onwards has been continuing its efforts in this direction. Secondly, we are also interested in that whatever techniques are developed at the Institute, these must be flown into the industry. We conceived one of the ways to bring up ambassadors to translate research results into the field by conducting in-service training courses for the service engineers. We have been conducting different types of courses for the last 12 years at the Central Road Research Institute for different categories of Highway Engineers right from the degree holder upto the Superintending Engineer and the departments of the States and the Centre take advantage of this particular facility. It is a routine function of the Research Institute to conduct three courses in a year spanning about 9-10 months in each year. We are also intimately connected with the Central Ministries and State Organisations in their committees' structure. When you examine the Committee structure of Indian Road Congress involving about 24 committees, you will find an element of the Central Road Research Institute in most of these committees."

6.14. When his attention was drawn to the observations of the Departmental Committee on More Efficient and Economical Construction and Maintenance of Roads (1974) that lack of adequate arrangements concerning R&D and dissemination of current information was acting as a serious handicap", the Director CCRI has explained:—

"As far as the first point regarding coordination of the R&D results is concerned, we had introduced a system of built-in mechanism as early as 1959. This is an yearly affair at the session of the Indian Road Congress. Every year, we discuss for half a day or for a full day the research results during the year under consideration. Every year, in this forum of the Indian Road Congress, the results not only of our laboratory but of the laboratories all over the country are brought forward and discussed with the engineers regarding their merits and demerits. Hence I would submit that there is a built-in mechanism, as far as coordination of research results is concerned. At the Centre, on the recommendation of the Planning Commission, about 12 years ago, we constituted an Assessment Committee headed by the Director-General of Road Development as the Chairman of this particular Committee. The function assigned to this particular committee is to critically examine wherever any

such developed technology is brought out for wide application. Once this national committee is convinced with the worthiness of such new technology, the same would be recommended to the entire country for wide application. They also guarantee to meet the cost of write off of any financial losses, due to the inherent defect of such technology. There are about 10 to 12 such techniques developed by the C.R.R.I. which are already made available to the field Highway Engineers in the country for large scale application in Highway building."

6.15. The Committee desired to know the research made by the Central Research Institute and the extent to which these have been put to practical use. The Ministry in a note have informed the Committee as follows:—

"Research conducted by the Central Road Research Institute can be broadly divided into the following categories:

- (i) Fundamental research;
- (ii) Applied research; and
- (iii) Solutions to specific problems on consultancy basis.

The research findings and recommendations of the CRRI as also of other research Institutions/universities/IITs in the country are discussed in the open forum for wider dissemination at the annual sessions of the Indian Roads Congress. Besides this, the Highway Research Board considers the on-going research in the country and periodically disseminates the research findings through its publications. Ministry's staff is intimately associated with Indian Roads Congress and the Highway Research Board. Depending on their feasibility application of new findings from research on NH works is always kept in view by the Ministry. Research is a continuous process and it takes considerable time before the findings can be applied widely. Results from laboratory have to pass through pilot and field trials first. The Ministry on its part, based on recommendations of the Central Assessment Committee, has advocated adoption of several new techniques to the States in the last few years which had been thrown up by research. Many of these techniques have emanated from research carried out by the Central Road Research Institute. To encourage new specifications, the risk involved in these works is undertaken by the Committee against a specially created Risk Fund."

6.16. The Central Assessment Committee has so far approved the following Techniques evolved for large scale adoption in the field:

- (1) Mechanically stabilised soil in sub-base.

- (2) Lime stabilised soil in sub-base.
- (3) Naturally occurring gravel mixtures in sub-base and base course.
- (4) Stabilized soil with soft aggregated in sub-base and base-courses.
- (5) Lime-stabilised Moorum in Sub-base and base-course in high watertable and black cotton soil areas.
- (6) Soil-gravel mixtures in sub-base and base-course.
- (7) Thin Sand-Asphalt Surfacing.
- (8) Bitumen mixes using uncrushed gravel with or without small percentage of fine aggregates.
- (9) Built-in spray grout.
- (10) Precoated Bitumen carpet with 8 cft of $\frac{1}{2}$ " stone grit over 2" of Bituminous macadam.
- (11) Precoated Stone chips for surface dressing.
- (12) Composite Pavement 6" compacted soil, 4" thick lime-burnt clay puzzolana concrete sub-base, 4 $\frac{1}{2}$ " thick WBM base and $\frac{1}{4}$ " thick Bituminous carpet with seal coat.
- (13) Lime-fly ash stabilised soil.
- (14) Lime-fly ash concrete.
- (15) Cement-fly ash concrete.
- (16) Lean Cement-fly ash concrete.

6.17. About practical utilisation of the research knowledge, the Director General (Roads) has informed the Committee as under:-

"Now, coming to the actual implementation, we have recognised certain inputs which are necessary for effecting a proper quality control. The first input we thought of was that people must know how to exercise quality control because, without quality control, things can never be produced the way we want. So, we created some norms and we brought out a quality control manual spelling out the extent of tests required to be performed at every stage and for every element of the structure, starting from the earth work right down to the preparing of various levels of pavement and even the degree of roughness of each pavement ranges. All these have to pass the tests and how these tests are to be carried out has been spelt out. Then, to enable the States

to be able to conform to the quality control requirements, we went to the next stage. In consultation with Ministry of Finance we thought of giving 1 per cent for each sanctioned project specifically for quality control. The next essential input or ingredient would be to strengthen the laboratories that perform the tests, and we suggested to the States that we would help them with finance on a shared basis to strength their laboratories. Now, even before the constructional controls come, in the most necessary thing is a test of the materials which are going to be brought from various sources to go into the construction. So, tests are required at the source itself so as to have a feed of the proper type. That also comes under quality control. Next to that is the contracting industry and the supervisory element to see that things are properly done. We have devoted some attention to the contracting industry. The first step we took was the producing of a model NIT document which attempts at having a kind of uniform system of inviting tenders based on certain standard conditions so that the problems of the contractors are also taken care of. That document was evolved a couple of years ago, and is in the stage of finalisation in consultation with Ministry of Finance and C&Ar. G."

6.18. The Committee desired to know if there was any scheme to train the staff of the laboratories. The Director General (Roads) has explained:-

"We are organising the training. That step is already thought of. Very recently, the objectives of the Central Road Fund have been revised by Parliament and in that research and training of younger engineers has been given a very high priority. The idea is to make use of the Central Road Fund for this kind of purpose. We have a scheme under examination under which we intend to send people for training in the research laboratories at various places. They will be given training initially for a period of six months by the CRRI and other universities. May be they will be sent abroad on the clear understanding that on return, these people should be kept in the laboratories for a minimum period of three to four years. This is all being thought of. The Central Government is going to finance that. Of course, I am putting the idea before you. This is subject to clearance by Finance."

6.19. Asked about the minimum qualifications of the persons working in the research laboratories, the Director General (Roads) has stated:—

"The present requirement is a degree in engineering. Normally it is like this First preference is for degree in engineering. We

have been telling the States to have people with aptitude only who are high first-class or people who have post-graduate qualification. The difficulty is that such kind of people will be difficult to get. Even if we get them, it is difficult for them to stick to the laboratories. We have, in the last meeting which was held a couple of weeks' back, thrown some idea and told the Chief Engineers that they will have to have scheme of incentives so that the person from the general cadre and who is in the laboratories should be given some kind of a special pay and his services here should be specially recognised for better reporting. We have fixed the next meeting of the Transport Council. We shall have to think of an incentive so that better quality persons are brought in the laboratories."

6.20. The Committee desired to know whether in some States non-qualified persons had been appointed in the laboratories, who were not doing any research work. The Director (CRRI) has explained:—

"I agree that in the past, in certain laboratories, there was an imbalance regarding the technical people versus engineers in the laboratories. I would like to submit to the Committee that when we call for research in civil engineering sector, it is not confined only to the engineering aspects. Certainly when a material has to be analysed, we have to conduct the chemical analysis, physical analysis and there are so many other things. So, today, the discipline that we have got in the Central Road Research Institute may be from anywhere, for example we have got a lawyer, economists, geologists, physicists, mathematicians, chemists, civil engineers, electronic engineers thus covering a large spectrum of sub-disciplines. Hence I feel that in the State laboratories there is a place for pure B.Sc. and other disciplines but when a laboratory is devoid of civil engineering competency, it is certainly lopsided management and we are advising the States that in the staffing pattern we expect a high level of competency on the civil engineering side and other disciplines without which highway research cannot prosper."

6.21. Enquired if any analysis had been made to evaluate the improvement effected, the Director General (Roads) has stated:—

"Through this method things have definitely improved quite a bit. To say that things have really come to a perfect level and that the States are now managing the affairs in absolutely 100 per cent satisfactory manner, perhaps, would not be correct."

He has added :—

“Myself and my colleagues in the Hqrs. and the Regional Offices are getting this impression that the States have definitely become more aware and more serious about the quality control.”

6.22. Asked if the Border Roads Organisation has its own quality control organisation separately, the Director General (Border Road Development Board) has stated:—

“We have our own laboratories but not so large as the ones which are mentioned, but, to a very large extent, we depend upon the Central Road Research Institute, for testing and so on. Besides this we have got a very good laboratory at the College of Engineering in Poona.”

6.23. In reply to a query, the Director General (Roads) stated that they had not made use of the facilities at Institute in Poona, as there was a fairly good set-up of the laboratories of their own in Maharashtra.

Role of Contractors

6.24. Contractors have an important role to play in completing work according to the prescribed designs, standard and specifications. To enlist maximum effort from contractors the Committee on More Efficient and Economical Construction and Maintenance of Roads (1974) has recommended:—

“Construction specifications and tender documents for each work should specifically provide for the desired quantum of quality control tests and rectification by the Contractor where defects are noticed. In addition, the Contractors should be encouraged to have their own technical enforcement apart from the checks made by the Government Departments themselves.”

6.25. The Committee desired to know whether any study had been made of the work done through the contractors with regard to construction costs, quality, durability, time schedule, etc. The Ministry in a note have stated:—

“Except for the Government of Uttar Pradesh, the required study has not been undertaken by any other State Governments, as per the replies received from the States so far. The study made by Uttar Pradesh Government has indicated that execution of works by Contractors/Departmental Construction Units is advantageous in respect of cost, quality, durability and time schedule, etc. as compared to execution of works by Contract system (private contractors).”

6.26. The Committee find that due to a variety of factors such as absence of proper qualified staff and precise norms for routine testing, quality control on scientific lines has not been receiving the full attention that it deserved. Audit has pointed out a number of instances where the works executed were of sub-standard qualities because the requisite quality control measures were lacking. The Committee feel that the main reason for this short-coming was that there was not a proper organization for quality control operations on a regular basis. It is imperative that there should be a separate Quality Control Cell in each State which should be adequately staffed and properly equipped and charged with the overall responsibility of coordinating quality control measures within that State. The cell should also take stock of the specific problems resolved during the construction of the projects and pass on the essential knowledge of the same to the construction agencies for application in the field.

6.27. The Committee note that a satisfactory set-up for quality control on road works has two essential components, viz., (i) Testing, Control and Research Laboratories; and (ii) Quality Control Units. The Committee have been informed that Test and Research Laboratories have been set up in all the States except in Nagaland, Meghalaya and Sikkim and out of the Union Territories such laboratories are being set up in Andaman and Nicobar Islands and Goa. The role of these Laboratories is to carry out investigations required in connection with the Highway Projects, prospecting for locally available cheaper materials, finding solution to problems posed by construction staff, research into local problems etc. These laboratories are not directly involved in field quality control. The Committee urge that necessary steps should be taken in consultation with the Central Road Research Institute to set up such Laboratories in the remaining States also.

6.28. The Committee note that a model scheme for organizing the State Testing and Control Laboratories, prepared by the Central Road Research Institute, was circulated among the States in 1957 under which they were offered 50 per cent assistance from the Central Road Fund (Ordinary) Reserve to bring them upto the desired level. They find that during the Fourth Plan period, only 3 States, viz., Himachal Pradesh, Andhra Pradesh and Kerala availed of matching grants-in-aid from the reserved portion of the Fund. The Committee would like the Government to review the 20-year old model scheme with a view to examine how far the working of the laboratories could be further reoriented to meet the present day problems of ensuring quality construction of roads.

6.29. The Committee are concerned to note from the Comptroller and Auditor General's Reports for the year 1973-74 that in some State Laboratories no research is being undertaken on matters connected with traffic and highway engineering and instead, the whole provision is being spent on routine soil testing, etc. In order that the performance of the Labo-

ratories is result-oriented and not merely routine, the Committee suggest that a reasonable percentage of the funds allotted to the laboratories may be earmarked to be spent on matters connected with traffic and highway engineering so as to effect economy, improve riding quality and enhance durability of the road works. The Committee need hardly emphasise that there should be close and integrated relationship between the research laboratory and the Quality Control Units so as to ensure complete flow of guidance from the laboratory and feed-back by the Quality Control Units, based on field experience.

6.30. The Committee feel that the most important aspect of strengthening the laboratories is to ensure that they are not only adequately equipped but staffed with experts/technicians of the requisite disciplines with field experience of road construction. It is pertinent to recall that the Director General Road Research Institute is of the view that the States laboratories should not be devoid of civil engineering competency and efforts should be made to attract high ranking civil engineering graduates passing from Universities and Indian Institutes of Technology. The Committee would like this matter to be gone into in depth with a view to devise adequate incentives to attract and keep promising civil engineers attached to Laboratories for a period of at least 4 to 5 years.

6.31. The Committee note that the Central Road Research Institute is conducting courses for different categories of Highway Engineering staff from the Assistant Engineers to the Superintending Engineers and that it is proposed to further improve the training programme. The Committee hope that the laboratories would take full advantage of the training courses being conducted by the Central Road Research Institute, and ensure that they imbibe the latest techniques that have been developed in the field of road engineering.

6.32. The Committee note that on the recommendation of the Planning Commission an Assessment Committee headed by Director General, Road Development was constituted to critically examine how new technology could be put to wide application with advantage. The Committee understand that this Assessment Committee has so far approved 16 techniques evolved for large scale adoption in the field. The Committee desire that the results of application of the new techniques may be assessed and the wider and more extensive application of those found successful encouraged.

6.33. The Committee note that a hand-book on quality control was published by the Indian Roads Congress in 1973 and circulated to the State P.W.Ds. The Committee desire that the norms laid down in this book for testing different types of construction should be strictly adhered to by the field units.

6.34. The Committee further note that it has been a policy now to allow 1 per cent extra for quality control in the works estimates for National Highways. In addition, a special provision for survey and investigation is also available to the State P.W.Ds. as part of agency charges to the extent of 1-3/4 per cent with extra provision of 1 per cent as field cost. The Committee consider that the special provision of 3-3/4 per cent of the estimates should enable the State P.W.D. authorities to ensure proper control over quality right from the stage of project investigation to execution. The Committee desire that the quality control measures and supervision at the State and Regional levels should be made effective and the Roads Wing should keep a close watch on the quality of road works executed by State authorities on agency basis.

6.35. Contractors have an important role to play in executing the works to the prescribed designs, standards and specifications. In order that the jobs are carried out strictly according to the prescribed specifications, the Committee desire that the terms and conditions of tenders should be reviewed so as to make provision for rigid quality control tests before final payments are made to the contractors. The Committee are given to understand that the Roads Wing is producing a model NIT document which attempts a kind of uniform system of inviting tenders based on certain standard conditions so that the problems of the contractors are also taken care of. This document, though evolved a couple of years ago, is still to be finalized in consultation with the Ministry of Finance and the Comptroller and Auditor General. The Committee would urge speedy finalization of the document for early implementation.

(ii) Control over technical aspects of execution

Audit Paragraph

6.36. Technical control over execution rests with the State PWDs. In many large works there were major failures of control over technical aspects of execution. Some illustrative cases are given below:—

- (a) Between Adi Saptagram and the western approach to Vivekananda Bridge at Dakshineswar in West Bengal, NH 2 has a 40 kilometre long by-pass. NH 6 coming from the Kharagpur side joins this by-pass. Work on both NH 6 and this reach of NH 2 was completed in 1967. Under service, NH 6 and NH 2 by-pass started showing signs of extensive failure and heavy distress and an investigation by the Central Road Research Institute at the Ministry's instance identified the main causes of failure of the road-pavement as follows:—

- (i) use of highly plastic soil in the sub-grade and unsatisfactory construction of the sub-base using sand and soil;

(ii) poor drainage conditions along the road, and

(iii) use of highly plastic soil material in the base-course.

Repair estimates totalling Rs. 119.61 lakhs and Rs. 156.97 lakhs for NH 2 and NH 6 respectively had to be sanctioned (November, 1973). As suggested by the Ministry State Government has set up a committee of enquiry (December, 1975).

(b) A stretch of 12 kilometres on NH 33 over the Ranchi-Bhara-gora section in Bihar failed in 1968 although it had been constructed at a cost of over Rs. 5 lakhs per kilometre in 1965. A committee appointed (September 1968) by the State Government reported (January, 1970) the reasons for the failure as:

(i) seepage of water from high ground to the sub-grade through permeable layers of disintegrated rock;

(ii) absence of cut-off drains to intercept the seepage of water;

(iii) presence of cavities etc., in the subgrade due to laying the road crust without picking the subgrade and recompacting the same in hilly sections:

(iv) providing crust thickness in cutting sections on the basis of CBR values determined 'in situ' at field moisture content instead of in 'soaked' conditions; and

(v) excessive use of plastic soil as filter material.

Extensive repair of the road was done during 1968-69 out of maintenance grant. In addition, the Ministry sanctioned in January 1969 an estimate for Rs. 15.58 lakhs for flood damage repairs. However, the road continued to deteriorate and certain stretches all aggregating 16.2 kilometres were almost completely damaged by the heavy rains of 1971. Other stretches, about 186 kilometres long, were distressed, and needed immediate attention. Therefore, in February and June 1972 the Ministry sanctioned flood damage repairs, special repairs and strengthening of the entire length of the road from Ranchi to Baharagora at a cost of Rs. 221.97 lakhs. These works are going on. A committee was appointed early in 1975 to go into the reasons for the repeated failure. The report of the committee is awaited.

(c) In Bihar, NH 31 runs parallel to and just north of river Ganga. In 1971 floods, a reach of eighteen kilometres near Sahebpur Kamal railway station was submerged and for protection against recurrence of such flooding, an estimate for Rs. 88.36

lakhs was sanctioned (August 1972) for construction of an earthen dowel bund. The work was to be completed within 6 months from award of work (December, 1972) i.e. by June 1973. However, the profile of the dowel was not indicated when work started, and in the original estimate no provision was made for drainage of water between the road and the dowel; this required a supplementary estimate for Rs. 16.37 lakhs. Compaction of the top of the dowel bund was changed from road-roller compaction to hand-rammer compaction. Earthwork of 166 lakhs cubic feet was originally proposed to be done by heavy earth-moving machinery, but was subsequently proposed to be done by manual labour as a measure of economy and for providing employment. Benches had not been formed in the side slope, and the stone-pitching also was defective. There was lack of control over execution of the work. By August 1974, two years after sanction only 58 per cent of the earth-work, which is the main item of work, had been done.

- (d) The State PWD had proposed (September 1973) upward revision of the sanctioned estimate for strengthening a weak double-line stretch between Muzaffarpur and Piprakothi on NH 28 in Bihar from Rs. 65.71 lakhs to Rs. 129.29 lakhs. The Ministry's officers pointed out in local inspection that the road had failed due to sub-standard work done earlier when the road was built to NH standards as part of the Lateral Road Project works. The Ministry estimated the cost of rectifying the damage and carrying out certain improvements at Rs. 44.38 lakhs.
- (e) On NH 3 in Madhya Pradesh, water-bound macadam widening had been done only on one side and not on the other and also not in continuous stretches although directed by the Ministry to the contrary. The Ministry stated (December 1975) that on over 30 kilometres, these were now being done, and further work is in progress. Road material collected over two years ago was being used without screening and clayey material was getting mixed up with road metal. Proper attention was not being paid to compaction of the successive layers during formation of the road crust. Water-bound macadam was being done with over-sized metal, with possibility of voids and unevenness in the finished surface. Little attention was being paid to correction of camber of the road during execution. Improvements to horizontal and vertical geometrics were not being carried out as working drawings had not been prepared. Between Shivpuri and Baora though 18 inches thickness was

required in the road crust total depths achieved were only 14 inches or so. The Ministry has stated (December 1975) that these are now receiving attention.

- (f) Strengthening of the road between mile 3/6 to 28/5 in Bangalore-Kolar section of NH 4 in Karnataka, sanctioned for Rs. 21.90 lakhs, was being done manually instead of using road-building machinery stipulated in the technical note. There were other departures from the sanctioned estimates, e.g., extra-quantity of bitumen and road metal used, widening of carriage-way, additional earth-work done and additional road crust thickness provided for due to incorrect soil data regarding bearing strength. Due to these reasons, the final expenditure came to Rs. 39.70 lakhs by the time the work was completed in July 1974.

6.37. In Manipur, on NH 39, widening and strengthening work done in a portion between 323 kms and 333 kms (South of Imphal) by laying 3 inches thick bituminous grout, 2 inches thick bituminous premix macadam and three-fourths of an inch premix carpeting with a seal cost, at a cost of Rs. 5.52 lakhs (out of a total expenditure of Rs. 9.55 lakhs) was found sub-standard by the Ministry's officers, who expressed the view that laying of 3 inches bituminous grout and two inches premix macadam by 'local method' instead of using requisite machinery, i.e. hot mix plants and pavers would not achieve the requisite strength. The Department has no road-building machinery. The stone metal used had not been adequately tested, and the quality and grading also were not according to the specification laid down by Ministry for the work. The Chief Engineer stated (December 1974) that the best available road-metal was collected but adequate quality control tests could not be conducted for want of trained personnel, testing equipment and laboratory facilities in the State Public Works Department. The Ministry stated that he has assured that in future all the prescribed tests would be conducted.

6.38. Between Basti and Gorakhpur on NH 28, the work of widening the road to two-lane width sanctioned for Rs. 87.65 lakhs, had been defectively done, and depressions, heavy settlement and deep ruts had formed throughout the 60 kilometre stretch. The work was suspended in August 1974, reportedly for lack of funds, after an expenditure of Rs. 54.04 lakhs had been incurred.

[Audit Paragraph No. 13 of C&AG's Supplementary Report for 1973-74, Part II-Civil.]

6.39. The Audit para has cited an instance of failure of control over the technical aspects in the construction of a by-pass between NH 2 and NH 6 in West Bengal as a result of which repair estimates totalling Rs.

119.61 lakhs and Rs. 156.97 lakhs for NH 2 and NH 6 respectively had to be sanctioned (November 1973). Asked to state the up-to-date expenditure incurred against these estimates, the Ministry in a note have stated:—

“Upto 31 March, 1976, rehabilitation works of about Rs. 64 lakhs and Rs. 18 lakhs have been completed on NH 2 by-pass and on NH 6 respectively. Further works are in progress on both the roads. As per the latest report from the State Government the roads are traffic-worthy.”

6.40. The Committee desired to know whether the Committee of Enquiry set up in December 1975 by the State Government at the instance of the Central Ministry, has submitted its Report. The Ministry have stated as under:—

“The Committee appointed by the State Government in December 1975 is required to submit its report within six months of the first meeting. The first meeting was held on 23 April 1976, and the second meeting on 5 May, 1976. On present reckoning the Committee is not likely to submit its report before December, 1976.”

6.41. When asked to indicate the latest position as to whether the report has since been received and action taken in pursuance of its recommendations, the Ministry, in a note furnished on 7 July 1977, have stated:

“The Committee has not completed its work and its term has been extended upto the end of June 1977. The report of the Committee is expected to be in the hands of the Government of West Bengal by the middle of July 1977.”

6.42. Another instance of failure reported in the Audit para is on NH 33 over the Ranchi-Baharagora Section in Bihar, as a result of which extensive repairs had to be undertaken out of the maintenance grant during 1968-69 in addition to Rs. 15.58 lakhs sanctioned by the Ministry in January 1969, for flood damage repairs. The Ministry in a written note have stated:

“The expenditure incurred in the financial year 1968-69 on the maintenance of the Ranchi-Baharagora Section of NH 33 in Bihar was about Rs. 12 lakhs. The flood-damage repair work approved in January 1969 for Rs. 15.58 lakhs is completed at a cost of about Rs. 15 lakhs.”

6.43. The State Government had appointed a Committee in September 1968 to investigate the reasons for the failure of the road. The Ministry of Shipping and Transport became aware of this Committee only in 1974-75 when a copy of its report was received by them.

6.44. Explaining his ignorance of the appointment of the Committee for as long period as six years, the Director General (Roads) has deposed:—

"From the Ministry side, I must admit, unfortunately it so happened that this Enquiry Committee of a technical nature was set up by the State themselves without informing us and without associating any of our people from here and as soon as we started to feel about it, the State Government set up a proper technical Enquiry Committee associating the Ministry's persons and we insisted to associate a person from CRRI."

The Director General (Roads) has added:—

"The Committee (new) has already submitted its report. In fact, information has been given to us that the State Government have already called for the explanation of their officers who were concerned with the original construction of this road. The report contains certain observations that against the original designs which were the basis, certain things have not been fulfilled."

6.45. Asked whether Ministry's Regional Officer did not give an explanation as to why the matter remained unknown to them, the Director General (Roads) has replied:—

"The Ministry did not have any report from the Regional Office about the State's own Committee set up by them in 1968 or about the report submitted by that Committee to the State Government."

6.46. Clarifying the position further regarding the new Committee, the Ministry in a note have informed the Committee as under:—

"The Committee appointed by the State Government at the instance of this Ministry in early 1975 comprises of an officer of the State Government who chaired it and an officer each of this Ministry and the CRRI. The Committee submitted its report to the State Government in November, 1975. The report is under examination with them. In the meantime the State Government have asked all the concerned officers to submit their explanations by 15 July, 1976. Afterwards the State Government will decide on the follow-up action perhaps in consultation with this Ministry."

Subsequently, the Committee have been informed:—

"As per the latest information, the 1975 report is still under the consideration of the State Government who are examining the replies received by them recently to the show cause notices served by them on the P.W.D. officers."

6.47. In February and June, 1972, the Ministry sanctioned further flood damage repairs, special repairs and strengthening of this road at a cost of Rs. 221.97 lakhs. Asked to state the up to date expenditure incurred on this account, the Ministry have stated:—

“The rehabilitation works out about Rs. 222 lakhs sanctioned by June, 1972, for the 202 km length of the road from Ranchi to Baharagora provided re-surfacing, a normal maintenance requirement in 93 km length; bituminous overlay for strengthening in another 93 km and Flood Damage Repairs in 16 km. While these works were in progress, some further distress was observed after the 1973 monsoon. For this an additional FDR estimate of Rs. 16 lakhs covering reaches totalling to Rs. 6.08 km was sanctioned in 1975. All the above rehabilitation works are practically complete at a cost of Rs. 233 lakhs. No further serious distress excepting thin cracks and surface crazing in small reaches has been reported. The crazing has since been made good and cracks sealed.”

6.48. Another instance of delay in the construction of an earthen dowel bund, as a protection against recurrent flooding on NH 31 has been reported in the Audit para. It is seen that though the work was to be completed by June, 1973, only 58 per cent of the earth-work had been done by August, 1974. In a note indicating the reasons for delays at various stages of execution, the Ministry have stated as under:—

“The work on the dowel bund sanctioned for Rs. 88.36 lakhs in August, 1972 could not be started earlier than May, 1973, firstly because of the initial resistance from the people of Ballia legislative constituency who instead suggested raising of the Avadh Tirhut Road for preventing the submergence of the National Highway from the Ganga Water; and secondly because of the difficulty in acquiring land. The other reasons were:

- (i) Difficulties in procuring coal for manufacture of bricks due to which the brick pitching was changed to stone pitching;
- (ii) Failure of the unemployed engineers who were awarded some of the works;
- (iii) Dispute on the quantity of the stone boulders retrieved from the existing road;
- (iv) Shortage of allocation from mid 1973-74 due to the ‘Oil-crisis’;
- (v) Railway-strike and students-agitation in 1974.”

6.49. It has been further stated by the Ministry:—

“The work is nearly complete. Up to 31 March, 1976 the expenditure is reported as Rs. 77.36 lakhs. The expenditure is not likely to exceed beyond the permissible limit of 15 per cent. As per the reports with the Ministry, the quality control is being exercised and the defects removed. With the organisation as available and within existing procedures in the agency system with States, the Ministry is trying the best with the State Public Works Department to get the work done to the specifications.”

6.50. Asked if the officers who had gone there have reported that the work has been done according to the specifications. In reply, the Director General (Roads) has deposed:—

“I would submit that we do not have that precise or specific report on point to point. But through the reports and inspection that have been carried out subsequently I am stating that we have no reason to believe that the work has not been done satisfactorily and completed to the required specifications.”

6.51. In respect of the failure of the stretch between Muzaffarpur and Piprakothi on NH 28 in Bihar, it has been pointed out in the Audit Para that the road failed due to sub-standard work done earlier when the road was built to NH standard as part of the Lateral Road Project works. Clarifying the position, the Ministry in a note have stated:—

“Para of the supplementary report of the Comptroller and Auditor General of India gives an impression that the requirement of Rs. 44.38 lakhs arose for rectifying the damage resulting from the sub-standard work done originally. In this connection, it may be explained that the Muzaffarpur-Piprakothi section on NH 28 was originally intended to be constructed as a two lane pavement suitable for ‘E’ curve range of traffic under the Lateral Road Project. However, due to financial constraints and the embargo on the project in 1968, the road was actually constructed to a two lane pavement with a reduced crust thickness corresponding only to ‘D’ curve range of traffic instead of ‘E’ curve envisaged earlier. The traffic on the road being heavy, it became necessary to strengthen it to ‘E’ traffic curve for the strengthening work sanctioned for 65.71 lakhs in February, 1972. The State Public Works Department had at one stage projected a revised estimate which included, *inter alia* a provision of Rs. 44.38 lakhs for a levelling course. Since this provision was considered excessive, the

State P.W.D. were requested to review it. The recast revised estimate subsequently sanctioned for Rs. 89.65 lakhs had only a very much reduced provision for the levelling course."

6.52. Asked if the Ministry had requested the State P.W.D. to look into the matter thoroughly and submit a report, the Ministry have stated:—

"So far as the report of sub-standard work during Lateral Road Project is concerned, the State P.W.D.'s report on the deficiencies, asked for in May, 1974 has not yet been received. Efforts are being made to expedite it."

6.53. Elucidating the position, the Director General (Roads) has stated during evidence:—

"Actually we have been pursuing this with them. We have been asking the State Government to strengthen the weak double lane and deficiencies as were pointed out to them by our own officers—senior people, who had gone from here. A few checks were also made by them. They found that in the initial construction of the same on Lateral Road Project the stones aggregate got for the purpose appeared to be some-what roundish local material—small stones—which otherwise should have been brought from a better source and from longer distance places. The manner in which they have completed this work was also pointed out to them and a few observations were also made asking them to look into this and to report."

6.54. Asked about the latest position of the road, the Director General (Roads) has added:—

"We have given them the sanctions for about Rs. 55 lakhs for strengthening the weak double lane. Part of the work has been completed. The remaining work will be taken up after the monsoon. We hope that about the end of the financial year, the whole road will be in a better condition."

6.55. A case of suspension of work on NH 28 (between Basti and Gorakhpur) after incurring an expenditure of Rs. 54.04 lakhs, has been reported in the Audit Para. The factual position in this regard has been stated by the Ministry in the following note:—

"The work of widening from single to 2-lines the Basti-Gorakhpur Road, NH No. 28 in Uttar Pradesh sanctioned for Rs. 87.65 lakhs, though slowed down after mid-1973 on account of the oil crisis and the consequent drastic reduction in the budget allocation of the Ministry, was never suspended. About 88 per cent of the work stands completed by March, 1976, with

an expenditure of about Rs. 84.60 lakhs. The work is likely to be completed by March, 1977 at a cost of about rupees one crore. There has been no avoidable expenditure excepting that due to increase in prices and wages in the period when the progress remained slow."

6.56. In this connection, the Committee drew the attention of the Director General (Roads) to the following observations which the Superintending Engineer had made after inspection of the Road in August, 1974:—

"The work was found suspended at inter coat stage or top coat stage wherever these had been done for want of funds. Even grass was found grown on the inter coat consolidated surface. This will damage the road crust and may damage the pavement also in future if top layers are constructed without proper cleaning. The work of widening and laying premix carpet over 7 m. width should be completed immediately to avoid possible damage to the works already done."

In reply, the Director General (Roads) has deposed:—

"This is nothing unusual. This is all what happened in the year 1973 when the financial constraints descended on the Central Sector, without any notice and without any time being allowed to properly arrange the sort of slowing down the works, suddenly there was restriction on the activities. At that time the States and the Ministry were faced with the situation that within the reduced allocation of funds, we had to pursue the activity in a manner that the priority items of ongoing works were to be continued and completed and the lesser priority items were slowed down where the contracts had not been let out, till the position improved. So far as this concerned, it came under the second category of some lower priority of work and therefore, the activity was slowed down and that was the stage when the Superintending Engineer sent his report that the work was lying suspended. What he meant, as per his wordings, was that at that time no activity was going on."

6.57. The Committee desired to know if there has been any improvement during the Fifth Plan in the control over technical aspects of execution by the State PWDs, the Ministry in a note furnished to the Committee have stated:—

"There has also been considerable improvement in the execution of the projects resulting in speedy completion of works, not involving much delay and extra cost. This is largely due to strengthening of the set-up in the States as well as at the

Centre; frequent inspections by senior officers from the Roads Wing and setting up of laboratories in States for ensuring quality control.

The result of the foregoing is that there has been marked improvement in several completed stretches of National Highways in the country, some of which are indicated below while lot of work on other stretches is in progress:

Sl. No.	State	N.H.	Section
1.	Maharashtra	4	Poona-Kolhapur
2.	„	9	Poona-Sholapur
3.	„	3	Bombay-Nasik-M. P. Border (some stretches)
4.	Haryana-U.P.	2	Delhi-Ballabhgarh-Agra
5.	Haryana	1	Delhi-Karnal-Ambala
6.	Haryana-Punjab	22	Ambala-Chandigarh-Kalka
7.	Delhi-Haryana-Rajasthan	8	Delhi-Jaipur
8.	Tamil Nadu	4	Madras-Ranipet
9.	Tamil Nadu	9	Ranipet-Krishnagiri
10.	Gujarat	3	Surat-Maharashtra Border- Ahmedabad-Baroda
11.	„	3B	Rajkot-Ranavav
12.	Himachal Pradesh	21	Kalka-Simla (Part length)
13.	Haryana-Punjab	10	Delhi-Hissar-Bohar
14.	Karnataka	4	Bangalore-Heskote
15.	„	4	Either side of Belgaum
16.	„	7	Bangalore-Hesur
17.	Andhra Pradesh	9	Hyderabad-Karnataka Border
18.	Bihar	2	Barhi-Dhanbad
19.	West Bengal	2	Asansol to Saptagram.

Improvement works on National Highways in the remaining States are at various stages of progress.

In the field of road improvements, bitumenous pavement construction technique has been introduced to begin with on important

National Highway sections by way of a phased strengthening process. This treatment helps in achieving improved rideability. Some extent of mechanisation has been introduced and States are gradually improving their capacity and experience with regard to that.

In the field of bridge construction, it has become possible to embark upon the construction of long span bridges like Narmada Bridge on N. H. 8 in Gujarat; Ganga Bridge on N. H. 2 at Allahabad in U. P.; Ganga Bridge on N. H. 25 at Kanpur in U. P. Similarly, other long span bridges such as Zuari Bridge in Goa, Kalinadi Bridge in Karnataka; Pamban Bridge in Tamil Nadu and Gangadhar Bridge in Assam are under various stages of construction.

State P.W.Ds, who are the agencies for the Central Government for the execution of Central Works handle both Central Sector Works as well as State Sector Works. It is a recognizable fact that there is improved awareness for higher standard of works in respect of Central Sector Works compared to State Sector Works and it is expected that gradually improved performance standards may flow down to the State Sector Roads also."

6.58. Asked if the inspection by the Regional and Headquarters Officers had indicated that there were fewer deviations from specifications, delays etc. than in the past, and whether any such analysis was attempted, the Ministry have informed the Committee that the inspections of the Regional and Headquarters officers have indicated that there are now fewer deviations from specifications and less delays, though no analysis has yet been made of the exact improvements.

6.59. It is noted that the State Governments have often to be persuaded to conduct a complete enquiry into instances of bad workmanship, failure of supervision, etc. In this regard, the Committee desired to know whether it is not possible for the Ministry itself to undertake such enquiries. In a note, the Ministry have explained the position as under:—

"With the State Governments being the executive agencies and the contract agreements for works being between the State Governments and the contractors, enquiries, in full fitness, have to be instituted by the State Governments. However, all such enquiry Committees, though chaired by a nominee of State Government have on them a representative of this Ministry."

6.60. The Committee are distressed to note that there have been major failures of control over technical aspects in the execution of many large National Highway works during the Fourth Plan. Lack of adequate super-

vision by the competent authorities had led to construction of several sub-standard roads as revealed in the Audit paragraphs. The Committee are unhappy that because of lapses, technical and administrative, not only has there been a colossal wastage of resources but also of huge capital outlays. For example, NH 6 and NH 2 by-pass in West Bengal completed in 1967 started showing signs of extensive failure and heavy distress and as a result thereof repair estimates totalling Rs. 119.61 lakhs and Rs. 156.97 lakhs for NH 2 and NH 6 respectively had to be sanctioned in November 1973. Upto 31 March 1976, rehabilitation works of about Rs. 64 lakhs and Rs. 18 lakhs had been completed on NH 2 by-pass and NH 6 respectively. As suggested by the Ministry, the State Government have appointed a Committee in December 1975 to enquire into the matter. Similarly, a stretch of 12 kilometres of NH 33 over the Ranchi-Baharagora section in Bihar failed in 1968 although it had been constructed at a cost of over Rs. 5 lakhs per kilometre in 1965. Upto 1968-69 the expenditure incurred on the maintenance of the Ranchi-Baharagora section of NH 33 was Rs. 12 lakhs. The flood damage repairs work in January, 1969 was completed at a cost of about Rs. 12.86 lakhs. The State Government had appointed a Committee in September, 1968 to investigate the reasons for the failure of the road. It is surprising that the Ministry of Transport (Roads Wing) became aware of the Committee only after a lapse of six years in 1974 and then at the instance of the Union Ministry a proper Technical Enquiry Committee was appointed by the State Government in December, 1975 in which the representatives of the Ministry and of the Central Road Research Institute were associated. This situation reveals the ineffectiveness of the watch kept by the Roads Wing of the Ministry and their Regional Offices over the state of the work. The Committee suggest that suitable instructions may be laid down that in all Enquiry Committee constituted to look into deficiencies or serious irregularities in connection with the National Highways, the Central Road Research Institute is invariably associated and the Roads Wing of the Union Ministry and the Regional Office kept concurrently informed. It should also be incumbent on the Roads Wing to keep a close watch on the progress made by the Enquiry Committee to ensure timely and conclusive follow-up action.

6.61. In regard to lack of control over technical aspect of execution of project, the Committee would like to emphasise that stricter check should be exercised both at the state and regional levels over the essential technical details and effective check should be exercised in the field to ensure quality control during execution.

6.62. The Committee have dealt at length with the delays and deficiencies in the execution of projects elsewhere in their report but would like to emphasise here that systematic analysis should be made of reasons for serious deficiencies creeping into projects at various stages in the interest of taking timely remedial measures to obviate their recurrence.

CHAPTER VII
ROAD BUILDING MACHINERY

Audit Paragraph

7.1. Specialised road and bridge-building equipment worth about Rs. 21 crores were purchased out of Central funds for execution of various important projects, viz., the I D A roads (1961), emergency road works (1963), lateral road project (LRP 1963-64), and strategic road works (1965). Sophisticated road-building machinery were purchased, some of which were not then available in the country, e.g. hot-mix plants, paver-finishers, motor-graders, crawler-tractors, soil stabilising machines, grabs and winches etc. Road and bridge building machinery thus procured was distributed to State Governments for speedy execution of the works.

7.2. As the IDA roads were completed by June 1967 and the LRP and the post-1965 strategic road works were slowed down due to financial stringency in mid-1966 and mid-1967 respectively, the bulk of the machinery procured was rendered idle. (Some items had not even been used). Maintenance of the machinery by the State PWDs was not satisfactory as the States did not have the special facilities, either by way of workshops for servicing and maintenance of the sophisticated machinery or by way of trained personnel for operation, upkeep and repair of the equipment. This matter was also reported in paragraph 76 of the Audit Report (Civil) 1968, and Government constituted a Road Building Machinery Committee (RBMC) in October 1968 to go into the whole question of road building machinery from the stage of planning of procurement and purchase, to its utilisation, operation, maintenance etc. The approximate value of the machinery procured by the Ministry for various road and bridge building projects and its distribution among the States was stated by the RBMC to be as follows:—

(Rs. in lakhs)

Name of State	International Development Association Works	Emergency Road Works	Lateral Road Project	Strategic Road Works	Total
1. Assam . . . . .	..	258.40	86.85	..	345.25
2. Bihar	181.36	125.56	302.53	..	609.45
3. Gujarat . . . . .	..	..	..	170.67	170.67
4. Maharashtra	13.50	..	..	..	13.50
5. Orissa	52.50	..	..	..	52.50
6. Punjab . . . . .	..	12.24	..	..	12.24
7. Rajasthan . . . . .	..	..	..	245.95	245.95
8. Uttar Pradesh . . . . .	..	..	281.54	..	281.54
9. West Bengal	154.48	69.12	99.85	..	323.45
Total	401.84	465.32	770.77	416.62	2,054.55

7.3. Of this, the cost of imported machinery was Rs. 693.58 lakhs and indigenous machinery was Rs. 1,360.97 lakhs. Bihar Govt. had got the largest share (Rs. 6.09 crores) of these machines. Assam, West Bengal, Uttar Pradesh, Rajasthan & Gujarat had also got machines of substantial values.

7.4. Among the findings of the RBMC Report (March 1970) the following important ones about utilisation and upkeep of the machinery may be mentioned:

(a) Utilisation of the imported and the major items of machinery did not exceed 40 per cent of the available working hours; often it was 10 to 20 per cent only.

(b) In some cases, the machinery which was allocated to the State Government could not be put to proper use for the following reasons:

(i) arrival of the machinery late, in some cases even after the work had been completed by allotting the works to contractors;

(ii) State Governments being unable to use the machinery allotted, due to special site conditions in their States for which the imported machines were not suited;

[The Ministry have informed the Audit (December 1975) that no State Government has sent any report.]

(iii) each of skilled operators and know how for operations of sophisticated machinery;

(iv) Lack of trained technicians for maintenance and repairs; and

[The Ministry have informed the Audit (December 1975) that States are expected to arrange experienced staff, from river valley projects which were engaging similar construction equipment. The States have also been requested to get their staff trained by associating the I. T. I. established in the States.]

(v) Non-availability of spares in time.

[The Ministry have informed the Audit (December 1975) that the need for advance planning for procurement has been impressed upon the States].

(c) The Central Government had not consulted the State Governments either at the stage of assessment of overall requirement of machinery for the above mentioned road building programme or at the subsequent stages of procurement and allocation.

[The Ministry have informed the Audit (December 1975) that the Committee had after examining all aspects considered that arrangement for planning the procurement and purchase of machinery had been fairly satisfactory. The State PWDs were associated in some form or the other with various projects while ordering the machinery.]

- (d) Neither the State Governments nor the Central Government maintained such a basic records as Tools and Plants register to record the purchase and the subsequent history of use|disposal of these expensive, sophisticated machines.

[The Ministry have informed the Audit (December 1975) that the State Governments have their own state rules for maintaining the basic records. Ministry cannot maintain these records, as all the equipment were directly consigned by suppliers to the State consignees who only are aware of the distinguished machine particulars such as serial number, engine number etc. The Ministry however, maintains A/T register and numerical account of machines ordered.]

7.5. More than five years have passed since the Committee submitted its report. The Ministry finalised its views on the report in May 1975, and has taken up with State Governments the implementation of accepted recommendations (June 1975).

[The Ministry have informed the Audit in December 1975 that since recommendations of the Committee involved financial implications and policy matters, they had to be examined in detail in consultation with Ministry of Finance, DGS&D, Bureau of Public Enterprises, etc. State Governments were requested in June 1975 to take action.]

Purchase of Road building machinery in IV Plan

7.6. In July 1970, the Roads Wing began to consider acquisition of additional machinery required for completion of the Central Road development programme. For this purpose it took into account the equipment already available. Redevelopment of the road-building and bridge building machinery that would be rendered surplus on completion of the LRP, strategic and emergency roads was proposed. However, utilisation reports of road building machinery by all State PWDs and information about the machinery actually required by the executing agencies were not available with the Ministry. An assessment was made on the basis of whatever informa-

tion was available in the Ministry and the proposals were finalised in February 1972 where after an indent placed on the DGS&D. Invitation of tenders and finalisation of tenders took another year and, finally at the end of February 1973, orders were placed by the DGS&D on three firms for fifty 6—10 tonnes per hour hot-mix plants, seventy 20—30 tonnes per hour hot-mix plants and twenty-two paver finishers, with delivery times ranging from 6 months to 15 months, at a total cost of Rs. 483.64 lakhs. It is understood that upto June 1975 the Ministry received eighteen 6—10 TPH hot-mix plants as against fifty ordered, nineteen 20—30 TPH hot-mix plants as against seventy ordered and eighteen paver-finishers as against twenty two ordered. Of 300 tipper trucks also ordered at the same time at a cost of Rs. 150 lakhs, all were received from the suppliers. Because of imbalance in the actual supplies of the equipment and the timing of the supplies, they could hardly be used on road works in the IV plan. The Ministry stated (December 1975) that here again the supply was arranged by DGS&D and the Ministry pursued the matter vigorously, that these equipment could be used in the subsequent works in the Fifth Plan and that the machinery, in fact, has been procured at earlier lower prices.

Outlay on purchase of road-building machinery:

7.7. Actual expenditure on purchase of tools and plant by the Ministry during the five years of the IV Plan was Rs. 391.30 lakhs. In addition, Rs. 214.75 lakhs were given as loan to State Governments to enable them to purchase road building tools and plant; of that the bulk (Rs. 197.175 lakhs) was given in 1973-74. The State Governments could hardly have made much use of new equipment, purchased with these loans, in the IV Plan. Use of road building machinery is an integral aspect of quality control of road construction. For the envisaged strengthening of the major NH's launched from the beginning of the Fourth Plan use of sophisticated equipment like hot-mix plants, paver finishers was required. As explained earlier, most of these machines procured in earlier years were immobilised for various reasons and were, therefore, not used. Efforts to procure such machines indigenously met with little success during the Fourth Plan period. Most of the States did not appear to have established necessary workshop facilities for maintenance and repair of these machines, nor had they trained staff to operate them well. The envisaged strengthening of the major NHs was, however, proceeded with. One striking example of the consequences of this is afforded by the works on NH 2 in U.P. The Ministry had directed (January 1972) that all bituminous macadam works for improvement of that NH should be done with road building machinery, particularly for laying bituminous layers. Since machinery were not available, these works were mostly done manually and the works which had been brought upto water-bound macadam stage had to be protected by two coats of bituminous painting which was not included in the original estimates. The road crust failed in kilometres 435 to 438 and 46 to 471 (August

1974). Eighteen estimates which were originally sanctioned for Rs. 7.34 crores were proposed to be revised to Rs. 12.50 crores. A large number of works in Bihar either took long to be done or could not be done according to specifications prescribed by the Ministry because of the non-availability of hot-mix plants as a result of which bituminous macadam work had to be manually completed at additional cost and with lower specifications. Construction of Arrah-Mohania missing link of NH 30 was done manually leading to increase in both construction time and costs. . . .

[Audit Paragraph 14 of C&AG's Supplementary Report for 1973-74—Part II, (Civil)]

Purchases

7.8. The Government of India in the Ministry of Shipping and Transport (Roads Wing) purchased specialised items of road/bridge making machinery worth Rs. 20.55 crores out of central funds for the execution of certain specific road projects like the roads financed by the International Development Association (IDA—1961), the Emergency Road Works (1963), Lateral Road Project (LRP 1963-64). These works were entrusted to the States for execution, and the machinery purchased was distributed to the concerned States for this purpose. Asked as to who retained the ownership of this machinery, the Director General (Roads) has stated during evidence:

“The machinery which has been bought over the years by the Central Government from the Central Fund, has been entrusted to the States for management and efficient execution of central works. The ownership vests in the Central Government. Actually the Ministry started with the job in 1962. At that time, Rs. 20 crores worth of machinery was purchased from 1962 to 1966. During all this period, the Ministry gave a serious thought to the question of ownership. We came to a policy decision later that the Central Government should retain the ownership of all sophisticated type of equipment, particularly the equipment that was imported. The other items of machinery better be left with the States. We divided that Rs. 20 crores worth of equipment in two categories. One category had machinery worth Rs. 10 crores and another category worth Rs. 9.5 crores. So, we decided that ownership of sophisticated machinery worth Rs. 10 crores should be retained with the Centre and other items like road rollers, trucks, boilers, etc. worth Rs. 9.5 crores were decided to be given to the States, on the basis of a scheme to which the Finance Ministry had agreed. It will be treated as loan assistance to the States and it will be repayable by the States to the Centre. This matter is under correspondence with the States.”

7.9. It has been stated that actual expenditure on purchase of tools and plant by the Ministry during the 5 years of the Fourth Plan was Rs. 391.39 lakhs. In addition, a proposal for grant of loan assistance to the State Governments was approved by the Ministry of Finance in January 1972. Against that so far an amount of Rs. 788.54 lakhs has been sanctioned to 12 State Governments. This amount is to be released to them in instalments after receiving the acceptance of the States to the prescribed terms and conditions and after receiving copies of purchase orders placed by them for the type and quantity of equipment approved for this purpose.

7.10. The following table gives the amount of sanctioned/released during the period 1972-73 to 1975-76 to the 12 States:

(Rs. in lakhs)

S. No.	Name of State	Amount released during the years						Total Amount released up-to-date
		Amount of loan sanctioned by Ministry of Finance						
		1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	
1	Himachal Pradesh	10.84	..	7.883	..	..	7.883	7.883
2	Andhra Pradesh	73.50	17.00	24.229	4.750	16.250	62.229	62.229
3	Punjab	75.00	..	..	..	..	..	..
4	Tamil Nadu	56.23	..	44.18	..	9.170	53.350	53.350
5	Kerala	45.00	..	23.532	..	..	23.532	23.532
6	Maharashtra	56.25	..	28.50	5.00	22.750	56.250	56.250
7	Uttar Pradesh	104.55	..	..	..	..	..	..
8	Madhya Pradesh	132.58	..	8.970	17.807	21.530	48.307	48.307
9	Karnataka	121.70	..	23.10	10.27	29.308	62.678	62.678
10	Haryana	8.87	..	8.50	..	..	8.500	8.500
11	Orissa	50.50	..	19.624	4.276	..	29.900	29.900
12	Rajasthan	53.50	..	..	..	30.625	30.625	30.625
TOTAL		788.54	17.00	180.635	49.986	129.633	377.254	377.254

Note: States were requested not to place further orders against loan assistance due to financial stringency vide Ministry's letter No. F.M.-1(8), 71, Dated 18-3-1974

7.11. The table below indicates the items of machinery purchased by the State PWDs against the above releases:

Sl. No.	Name of Equipments	Quantity
1.	Hotmix Plant 20-30 T.P.H.	12
2.	Hotmix Plant 6-10 T.P.H.	21
3.	Paver Finishers	5
4.	Road Rollers 8-10 Tons	216
5.	Survey Vans	5
6.	Station wagon	1
7.	Tippers	27
8.	Vans $\frac{1}{2}$ Ton	4
9.	Jeeps	44
10.	Lorries	15
11.	Earth Rammer	13
12.	Tar Boilers	25
13.	Trucks	6
14.	Trucks $7\frac{1}{2}$ Tons	12
15.	Stone Crushers	5
16.	Water Tankers (Truck mtd.)	6
17.	Jobdrilling m/c	4
18.	Tractors	16
19.	International Tractors	2
20.	Tata Tippers	5
21.	Bull dozer D-50-A-15	2
22.	Tipping Trailers	4
23.	Jack-Hammer	12
24.	Tanker (Trailer mtd.)	18
TOTAL		480

7.12. It has been stated by the Ministry that:

"The loan amount released is repayable in 15 annual instalments, and would be deemed to have been drawn on 1st October of the year in which loan is released, irrespective of the fact

whether it is sanctioned prior to that date or after that date. The repayment of loan is to commence from the first anniversary date of its drawal. In other words the loans sanctioned in 1972-73 and 1973-74, became due for start of repayment during 1973-74 and 1974-75, respectively. The adjustment of instalments is to be watched and passed on to the Central Accounts by the concerned Accountant General.

On the basis of the recommendations of the 6th Finance Commission, loans sanctioned by the Central Government upto 31st March, 1974 have been consolidated into one Central loan for each State, and each State is now expected to repay the loan in 25 equal annual instalments. This recovery is also being watched and effected by the State Accountant General Concerned in each State. In the above circumstances it is not thus easily possible for each Ministry to identify which portion of the loan to the State Government has been repaid to the Central Government."

7.13. The Committee have noted from the Supplementary Report of the C&AG for the year 1973-74 in respect of Karnataka (Para 6.1 Chapter VI) that Machinery costing Rs. 79.44 lakhs were purchased by the P.W.D. in 1972-73 and 1973-74, against Rs.121.70 lakh which the Government of India had agreed in November, 1972 to advance for the purchase of machinery for use on the National Highways. Loans actually received from Government till April, 1974 however, totalled only Rs. 23.10 lakhs. Asked to state the reasons for not disbursing to the State Government the amount actually spent by them on the purchase of the Machinery, the Ministry in a note have stated:

"In the year 1972-73, the State did not send the copy of the purchase orders for the equipments sanctioned by the Ministry against loan assistance. Therefore, no amount was released to them in that year. In fact, the sanction was issued only *vide* our letter No. RM—1(9)/72 dated 7th November, 1972 for the amount of Rs. 121.70 lakhs.

In the year 1973-74, an amount of Rs. 23.10 lakhs was released to the State Government on the basis of complete data furnished by them as prescribed. The State Government even though informed the Ministry that they have made purchase arrangement for machinery of greater value, it was found that the purchase was not made as per the list of equipments approved by the Ministry. The State Government, however, have been coming up with modified list of equipments needed by them for approval but the same could not be agreed to by the

Ministry then, and therefore, more amount could not be released. Further it may be mentioned that the loan Budget Provision for the year 1973-74 was also reduced considerably at the end of that year due to financial stringency.

The present position is that against the sanction of Rs. 121.70 lakhs Ministry have so far released 62.678 lakhs. A provision of Rs. 32 lakhs has been earmarked during the current year 1976-77 for the State."

7.14. The Committee desired to know the basis on which the machinery was issued to the State Governments particularly when the agency fees paid to them also covered tools and plants charges. Explaining the financial arrangement in this regard, the Ministry in a note have stated:

"The Central Road Bridge Works are taken up by the States on Agency basis for which the Government of India pay agency charges at 7½ per cent of the cost of the work (now increased to 9 per cent) which includes an element of 1½ per cent towards the cost of ordinary tools and plants to be procured by the State Government. This ordinary tools and plants generally cover such minor items of T&P such as Pick axe, hand shoval, Mortar pans, wheel barrows, survey and construction tools etc. and inspection vehicles like jeeps. For ensuring N.H. road construction to meet the heavy traffic conforming to rigid specification and for economic and speedy construction of time bound projects and National Highway works, it was essential to purchase road/bridge machinery other than the minor items of T&P indicated above, the cost of which cannot be met out of 1½ per cent provision in the Agency charges.

According to the instructions issued by the Government of India, the cost of the Central Plant and machinery, which is debited initially to the tools and plants head of Capital Account of the Ministry is to be recovered in the form of ownership charges (which comprises depreciation and storage charges) after debiting the works prescribed ownership charges proportionate to the usage of the machinery in these works.

For operation and upkeep of the Central machinery, the State Public Works Departments have been instructed that (i) Operational charges (comprising repairs and maintenance charges) are to be charged to the Works concerned at the rate of 150 per cent of Depreciation charges (on the basis of the hourly rates fixed by the Central Government) and the number of hours equipments are used on the works. Corresponding

credit is to be given for the same to the Central Head of Account, indicated to the States, (ii) the running charges to cover the expenses incurred on POL consumed (petroleum, oil and lubricants) and personnel employed for operating the equipment, the amount is to be directly charged to the works concerned.

In short, the works on which the machines are used are to be debited with hire charges at the rate fixed on hourly basis and two elements namely ownership charges and operational charges of hire charges are to be credited to the Central Head of Account prescribed for the purpose.

Account of hire charges is being maintained only by the State Governments. They, however, have been requested *vide* our letter No. RM-21(3)/75 dated 4th June, 1976 to furnish the detailed account of operational charges earned by each machine from the time of its receipt, to the Ministry which is awaited."

Repair and Training Facilities

(i) *Repair facilities*

7.15. It has been pointed out by the Audit that maintenance of the machinery by the State PYDs was not satisfactory as the States did not have the special facilities by way of workshops for serving and maintenance of the sophisticated machinery. The following table gives the list of workshops which were set up for execution of earlier projects, such as I.D.A., L.R.P. and Strategic road works.

Sl. No.	Name of State	Central work-shops	Divisional work-shops	Parking sheds	Mobil work shops
1.	Assam	1	..	3	..
2.	Bihar	1	5	..	2
3.	Gujarat	2	..	..	4
4.	Orissa	..	..	..	2
5.	Rajasthan	..	..	..	..
6.	Uttar Pradesh	1	6	..	..
7.	West Bengal	1	..	4	1
TOTAL		6	11	7	10

7.16. Besides the above, the State PWDs have also set up their own workshop for upkeep of road building machinery. The list of such workshops is given below:

Sl. No.	State	Workshop		
		Central	Regional	Field
1.	Andhra Pradesh	2	2	..
2.	Assam	5	..	6
3.	Bihar	..	..	1 (Repair shed)
4.	Gujarat	..	2	2
5.	Haryana	..	5	12
6.	Himachal Pradesh	..	1	..
7.	J & K	..	2	2
8.	Karnataka	..	..	..
9.	Kerala	..	1	1
10.	Madhya Pradesh	..	7	..
11.	Maharashtra (PUNE)	..	6	..
	Aurangabad	..	10	..
12.	Manipur	..	1	..
13.	Meghalaya	..	2 (Sub-Div. Workshop)	..
14.	Orissa	..	2	1
15.	Punjab	..	..	3
16.	Rajasthan	..	6	14
17.	Tamilnadu	..	..	..
18.	Uttar Pradesh	..	6	..
19.	West Bengal	..	14	2

7.17. Purchase of road construction machinery in large scale has not been made subsequently. Only the bituminous pavement construction equipments costing about Rs. 6 crores, which were essentially needed, were ordered during the Fourth Plan. Since the earlier projects have been completed and the concentration of work is now in National Highways, the State Public Works Departments have been requested by the Ministry to relocate the workshops earlier established, where there is concentration of Central machinery now and the matter is being pursued through persistent correspondence and in the State Chief Engineers' meeting held from time to

time. The question of augmenting the facilities in the existing workshops and establishing more workshops is stated to be under consideration of the Ministry.

7.18. Explaining the reasons for re-location of the workshops, the Director General (Road) has stated during evidence:

‘Immediately after the 4th Plan, when we found that those initial special projects were getting largely completed and that the activity was now spreading to the entire national highway system, we took action to redistribute machinery and also to advise the State Governments to shift the workshops. The issue had become more relevant in regard to Bihar and U.P. Governments. We have been talking to them and to their chief engineers in our individual meetings, and the Regional Superintending Engineers (Mechanical) have also been taking up the matter.’

The witness has further added:

“Barring these 4 or 5 bigger States who had got machinery earlier, right from 1962, we have been telling all the States that since the machinery was going to be disbursed, they should think of having their own workshops, rather than relying on private parties or petty private workshops for repairs. Our discussions with the State went on, and we tried to persuade them to agree that it was better to have their own investment; we told them that they will be able to retrieve the cost of such investment by adding a fixed charge in the repair estimate sent to the Central Government. But they have not been able to do it. At that point of time, because the Centre’s interests were involved, we started thinking whether in regard to the national highway projects we should give outright money to establish workshops or whether it would be more prudent for us to give loan assistance to the States to do it which can be repaid by the States later. I discussed this matter in a meeting of a group of chief engineers in 1975. They were more in favour of outright giving of money, failing which loan assistance. I have already taken up this matter with the Finance Ministry. They have made observations on our proposal. We have listed our preference for allocations.”

7.19. Asked if he had specific reports about the repair facilities available in different States, the Director General (Roads) conceded during evidence that “many States are still deficient.”

7.20 Asked to state the latest position regarding the proposal to enhance the repairing facilities, the Ministry in a note have stated:

'In this connection, a proposal for an amount of Rs. 182 lakhs has been sent to the Ministry of Finance for concurrence of—

- (i) procurement of 20 mobile workshops;
- (ii) setting up of 6 Central workshops and 9 Divisional workshops; and
- (i) and (ii) above are to take care of machinery repairs and overhaul cover of machinery, ownership of which vests and would continue to vest with Central Ministry.
- (iii) giving loan to States to the tune of Rs. 60 lakhs for the establishment of new workshops/augmentation of existing State workshops. In the case of (iii) this is to take care of machinery repairs, ownership of which vests with the State PWD, but used on central works. This would include items of machinery purchased by State PWD against central loan assistance.

The clearance of the Ministry of Finance is awaited."

(b) Training facilities

7.21. The Audit Para has also pointed out the lack of facilities in the States of trained personnel for operation, upkeep and repair of equipment. Emphasising the need for trained staff, the Road Building Machinery Committee in its report (1970) has recommended:

"There should be properly trained staff for use, maintenance and supervision of the machinery. The facilities available in the Irrigation and Power Sector in their Technical Training Centres may be made use of for operators on heavy earth-moving equipment. For road surfacing plant suitable training centres may be started by the Ministry. The Committee also considers that the equipment should not be allowed to be handled by untrained operators and for costly equipment, operators with at least one or two years experience and with good record should be put on the job."

7.22. In a note furnished to the Committee, the Ministry have stated:

"So far, day to day operation, upkeep of machines and the employment of staff for this purpose, are left to the State Governments regarding the Central road making machinery. Similar items of construction machinery have been in use, since long,

in various irrigation projects in the country. Since irrigation projects exist in almost all the States, normally there should be no difficulty in obtaining staff from Irrigation and Power Sector for the operation and maintenance of road construction equipments. Further, the Ministry of Irrigation and Power had established training facilities in their training centres, run by the Central Water and Power Commission, and advantages of the same were taken by some of the States. From the information received by the Ministry from State PWDs indicating the availability of skilled staff for the operation and upkeep of Central machinery, the Ministry feel that a number of foremen, charge-men, mechanics and fitters are available in the States. Presumably most of them have acquired the requisite experience to handle equipments, while working actually at site on the machines, and on the basis of their previous experience in the Irrigation Projects etc. . . .”

“In spite of the above, the necessity for setting up training Centres for imparting systematic training have been felt by the Ministry as well as the States, so as to ensure handling of costly and sophisticated machinery by trained personnel only. A meeting of Group of State Chief Engineers’ was held in November, 1975 to look into this question in detail, and it was felt that the training programme may be organised in each State by coordination and augmenting the facilities available with the Industrial Training Institutes. For augmentation, the machinery personnel etc., will be provided by the State PWDs. The matter in this connection is closely being pursued by the Ministry with States, in correspondences, and in the forum of Chief Engineers’ meetings etc., so that a regular training programme is arranged in each State expeditiously. Such industrial training institutes (I.T.Is) have been established in almost every State in the country.”

7.23. The Committee have also been informed during evidence:

“In regard to personnel, besides the training programme, there are other avenues which we have been exploring. In the case of new equipment purchased in the last few years there is a provision that the suppliers would train people at the manufacturer’s workshop or at the supply end. For the Russian earth-moving equipment, they were expected to send people to give training. Recently in the Fourth Plan we purchased Rs. 6-7 crores worth of bitumen construction equipment from Marshalls and the trainees from the States will be sent to their manufacturing unit for training.”

7.24. Asked if action has been taken according to the provision and people sent for training, the Director General (Roads) has stated:

“Quite a few States have sent but we are no-where near satisfaction, much remains to be done still.”

Utilisation and Physical Verification of Machinery

(a) Utilisation

7.25. Among the findings of the Road Building Machinery Committee (1970) the following are pertinent to the utilisation and upkeep of the machinery:

- (a) Utilisation of the imported and the major items of machinery did not exceed 40 per cent of the available working hours; often it was 10 to 20 per cent only.
- (b) In some cases, the machinery which was allocated to the State Government could not be put to proper use for the following reasons:
 - (i) arrival of the machinery late, in some cases even after the work had been completed by allotting the works to contractors;
 - (ii) State Governments being unable to use the machinery allotted, due to special site conditions in their States for which the imported machines were not suited;
 - (iii) lack of skilled operators and know-how for operations of sophisticated machinery;
 - (iv) lack of trained technicians for maintenance and repairs; and
 - (v) non-availability of spares in time.
- (c) The Central Government had not consulted the State Governments either at the stage of assessment of overall requirement of machinery for the above mentioned road building programmes or at the subsequent stages of procurement and allocation.
- (d) Neither the State Government nor the Central Government maintained such a basic record as Tools and Plants register to record the purchase and the subsequent history of use/disposal of these expensive, sophisticated machines.

7.26. Since 1972, the Ministry of Shipping and Transport (Roads Wing) have been pursuing the procedure of getting from the States the yearly utilisation programmes of machinery. In this connection, the Director General (Roads) has stated during evidence:

“From March 1972 the expected reports on the utilisation programme from the States had been coming. As per their code the annual physical verification ought to have been made. It was found that it was not being done. We pointedly brought this to their notice. We told them that a copy of the physical verification report should be sent to us.”

7.27. The following table gives the utilisation programme received from the States bearing on central equipments during the period 1972-73 to 1975-76.

Sl. No.	Name of State	Received for the year			
1.	Assam	..	..	1974-75	1975-76
2.	Bihar	1972-73	1973-74	..	1975-76
3.	Gujarat	1972-73	1973-74	1974-75	1975-76
4.	Himachal Pradesh	1972-73	1973-74	1974-75	..
5.	Karnataka	1972-73	..	..	1975-76
6.	Haryana	1972-73	..	..	1975-76
7.	Maharashtra	1972-73	..	1974-75	..
8.	Madhya Pradesh	1972-73	..	..	..
9.	Orissa	1972-73	1973-74	..	1975-76
10.	Punjab	1972-73	..	1974-75	1975-76
11.	Rajasthan	..	1973-74	..	..
12.	Tamil Nadu	1972-73	..	1974-75	..
13.	Uttar Pradesh	1972-73	..	1974-75	1975-76
14.	West Bengal	1972-73	..	1974-75	1975-76

7.28. On the basis of the Utilisation Programme the States are required to clearly indicate the quantum of machinery likely to be surplus so that the Ministry can consider transferring the same to other States and utilise them elsewhere. Asked to state the salient features which had come to the

notice of the Ministry during the Fourth Plan regarding the Utilisation Programme of the machinery, the Ministry in a note have stated:

“These were examined in the Ministry and it was found that the utilisation programmes were not prepared in the prescribed manner, and the deficiencies noticed generally are detailed below:

- (i) The consolidated programmes for the entire State were not sent;
- (ii) The programme were sent quite late, in some cases by the end of the year;
- (iii) Programmes did not furnish utilisation picture for all types of Central machinery given to the States; and
- (iv) Detailed calculation on the basis of quantum of works sanctioned against job Nos. was not enclosed.

These deficiencies as applicable to each individual State were pointed out to them and they were requested to submit the future programmes as prescribed by the Ministry.

The salient features which have come to the notice of the Government regarding utilisation programme of machinery are as follows:

- (i) This has enabled the Ministry to appreciate the realistic requirements of Central Machinery in each State and redistribute the surplus equipments in rational manner.
- (ii) Within the State also, redistribution could be resorted to by individual State PWDs, on the basis of concentration of Central works.
- (iii) Utilisation of machinery can be improved, as all efforts will be made by the States to utilise the machines, as far as possible, at least, as per programme submitted by them.
- (iv) Advance action for the repair of equipments in the off seasons can be taken up by the States, on the basis of requirement of machines worked out in utilisation programme.
- (v) The staff requirements, and therefore, action for redistribution by transfer/recruitment can be arranged by the State *in advance*, so that the required quantum of machinery and staff are available in time at the work sites, where work is likely to be taken up.”

7.29. In order to have continuous record of the performance of the central machinery in the head-quarters, Ministry had also prescribed a pro-forma for submission of quarterly performance report *vide* letter No. RM-3(34)/70, dated 18th March, 1972 and State PWDs. were requested to indicate the number of hours actually used, the number of hours idle, or break-down, so that these informations could be utilised for improving the utilisation. For this purpose, it was also decided to keep index cards for each machinery in a cabinet form, in the headquarters and in regional offices, wherein the details of each machine given to the State, periodical utilisation of the machines, repairs carried out from time to time, would be filled in. The Ministry have stated that steps were being taken in this regard.

7.30. The table below gives the State-wise position of receipt of quarterly reports from the States, commencing from 1972-73 till 1975-76.

Sr. No.	Name of State	Received during the year			
		1972-73	1973-74	1974-75	1975-76
		quarter(s)	quarter(s)	quarter(s)	quarter(s)
1	Assam	..	1	4	2
2	Bihar	4	4	1	1
3	Gujarat	..	4		3
4	Haryana	..	4		4
5	Punjab	..	..		4
6	U.P.	..	1	1	3
7	Tamil Nadu	1	1	1	2
8	West Bengal	..	1	4	..

7.31. It has been stated by the Ministry that though the position regarding quality performance reports has improved since 1972-73, the State PWDs, however, have not furnished complete information, for all the quarters in the year and also for all the Central machinery given to them. Important details such as the hours worked, idle for break-down, with brief reasons for idleness are therefore not available for all the machines given to the States.

7.32. Ministry have taken the following action, to improve the matters:

- (i) Since close watch of all types of equipments of a large quantity scattered in a number of States is not possible or feasible, it has since been decided to keep only heavy and sophisticated machinery under the ownership of the Ministry, and dispose

of all the minor items of machinery to the States, if necessary, by giving loan assistance towards the sale value.

- (ii) The regional mechanical set-up of the Ministry has been augmented, as per sanction in the restructuring proposals of the Roads Wing, and therefore, there will be four regional mechanical Superintending Engineers now, in place of 2 Nos. which existed during the Fourth Plan. The Ministry expect that these four officers would be able to pursue the matter more vigorously with the State PWDs and improve utilisation of the equipments.
- (iii) The State PWDs, due to repeated requests from the Ministry, in the Chief Engineers meetings etc., have augmented their mechanical set-up, by and by and at present States of Assam, Bihar, Haryana, Madhya Pradesh, Orissa, Punjab, Tamil Nadu, U.P. and West Bengal have a SE(M) alongwith his supporting staff. Augmented mechanical set-up in the States would be able to ensure better utilisation of equipments.
- (iv) Ministry have prescribed a proforma for submission of annual utilisation programme for the equipment and indicate the additional requirements/surplus of machinery needed for the execution of Central works. Such forward planning, resulting in redistribution of machinery in a rational manner, can be expected to improve the utilisation.
- (v) One of the reasons for inadequate utilisation is the lack of funds for the execution of Central works. This proves to be a deterrent for making a realistic forward planning of utilisation of equipment. Ministry are closely associating with the State PWDs for according sanction of works essentially needed for the utilisation of equipments.
- (vi) The States have been requested as far as possible not to allot such works to contractors when the same can be done by the departmental machinery, or in case works are to be executed by contractors, they may be asked to utilise departmental machinery and pay the prescribed hire charges.

7.33. The Committee on More Efficient and Economical Construction and Maintenance of Roads (1974) has observed that for ensuring proper utilisation of equipment some of the principal requirements are:

- “(i) Proper initial selection of the equipment after a full study of the actual requirements: (ii) Good forward planning to ensure

sustained use of the equipment; (iii) Systematic redevelopment of surplus equipment at the completion of given items of work, thereby avoiding the equipment to remain idle; (iv) Presence of a responsive maintenance organisation with the requisite minimum facilities for servicing of equipment; (v) Consciousness for an organised preventive maintenance programme; (vi) Recruitment of skilled staff for the operation and maintenance of machines and their regular inservice training; (vii) Having requisite workshop facilities for major and minor repairs; (viii) Better planning for supply of spare parts combined with an effective inventory control; (ix) Appropriate working conditions for staff engaged on operation, maintenance or repairs along with suitable incentives.”

(b) *Physical Verification*

7.34. The States have their Public Works Accounts and Department Codes, according to which the physical verification of the equipments is to be made annually. Ministry's regional officers were also requested in the year 1970 to inspect the Central machinery in their respective regions once a year and send the inspection report in the prescribed proforma.

7.35. As a part of the utilisation programme the States were requested to submit details of machinery in use, idle and under breakdown with brief reasons, which thereby amounts to fulfilling also the requirement of physical verification of Central machinery. Most of the States have furnished some information, but not in a complete shape and for all the Central machinery allotted to them. Again *vide* Ministry's letter No. R.M.-15(1)/76 dated 2 April, 1976, State Governments have been requested to arrange physical verification of Central Government machinery, and send a copy of the said report to the Ministry in the proforma prescribed, by the end of each financial year. The matter is being pursued closely.

7.36. Asked if any physical verification of the machinery was done, the Director General (Roads) conceded during evidence that “We have not been doing so.”

Standardisation of Equipment

7.37 The Committee on More Efficient and Economical Construction and Maintenance of Roads in its Report (1974) has observed:

“Standardisation of equipment is very important for the fledgeling machinery industry in the roads sector. Proliferation of makes and sizes is neither good for the ancillary industry, interchangeability of parts, or the training of operators. Indian Standard Institution has already prepared a number of standards about the road making equipment. The Committee considers

that both highway departments and contractors should exercise discipline in ordering equipment which corresponds to standard designs as far as possible. This would enable the manufacturers to offer equipment of proven designs at a more economical price compared to plant of non-standard specifications."

7.38. The Committee enquired from the Ministry if any steps had been taken to standardise the equipment/machinery for road building and if so, what success was achieved in this behalf. The Ministry in a written note have informed the Committee as under:

"Ministry was not in a position to take steps to standardise the equipments/machinery for road building, in view of the following position:—

Large scale procurement of machinery on Central works commenced from the year 1963 or so, when the I. D. A. works were taken up. Bulk of the heavy machinery were to be imported, after inviting global tenders, as per conditions stipulated in the terms and conditions of IDA credit. In case of L. R. project also, which followed subsequently, the heavy machinery had to be imported by inviting global tenders. The selection of the imported machinery was finalised, duly taking into account the credit facilities available, the rupee payment facilities offered, the delivery period indicated to suit the urgent requirements then existed to complete those projects in a tight target schedule, etc., and therefore standardisation of equipment was not feasible. In case of indigenous equipments too, indent specifications had to be broad based, so as to invite offers from a large number of manufacturers of such items of equipments, and DGS&D generally purchased the lowest cost equipments. Further, sufficient data of performance of machine purchased earlier, were not available in great detail, to overlook the lowest offers and decide to procure equipments of reliable make. In certain instances like road rollers, since the entire demands could not be met from one manufacturer, for supply within the delivery period desired, the order had to be distributed to a number of manufacturers unavoidably. DGS&D also insisted for furnishing proprietary certificate for purchase of particular make or model of equipment, whenever a number of manufacturers manufacture similar capacity equipments; for example a proprietary certificate is to be given to DGS&D for placing order for a T.M.B. truck, when other manufacturers like Hindustan Motors, Premier Automobiles etc. also manufacture such capacity trucks in the country. Supply Finance would

not agree otherwise. It was found difficult for this Ministry to give such proprietary certificate, as sufficient data regarding the comparative past performance of the equipments was not available in the Ministry, to evaluate the total cost of owning and operating the equipment through its life. Further, even if the past performance of one make was not found out satisfactory, the manufacturers of that equipment always intimated that they have modified that component of the equipment which was unsatisfactory, such as replacement of prime mover by another make, modification of transmission system etc. In short, the standardisation could not be resorted to at the time of earlier purchase as DGS&D the Central purchase organisation, had their own limitations and set of Government rules to follow.

Perhaps the only source, who can assist in ensuring standardisation of equipments is DGTD, who generally issues licence for manufacture of equipments indigenously. DGTD no doubt is not concerned with items of equipments manufactured in the small scale industries. They also have their own difficulties to grant licence for manufacture of particular make and capacity of equipments, as they have to keep in mind the credit and other facilities offered by the foreign collaborators, the demands from various users, the monopoly and the difficulty to completely test the prototypes of equipments manufactured in the conditions prevailing in the country etc.

However, an effort has been made by the Ministry in co-ordination with the Indian Road Congress, to fix two or three recommended sizes for each type of road making machinery so that at least the capacity and type of road making equipments are limited to a small field. This can be considered as first step to standardisation. Ministry has not procured equipments since 1965 except Bituminous pavement Construction Equipment namely Hot-Mix Plants, Pavers and Tippers. Orders for 300 Hindustan Tippers were placed, as earlier purchases for IDA works were for similar Bedford Tippers. Bulk of the purchase of Hot-Mix Plants 20-30 TPH capacity (42 Nos. out of 50 Nos. procured for Central works) were placed on M/s. Marshalls. Out of 50 Nos. Hot-Mix Plants 6—10 TPH capacity ordered, 40 Nos. were from M/s. Millers. Similarly out of 21 Pavers ordered, 20 of them were procured from M/s. Marshalls. This would indicate that Ministry and DGS&D has considered, as far as possible, to order equipments from leading manu-

facturers and for one make. Meetings are also held periodically with the manufacturers, DGS&D and DGTD to improve the performance of the equipments, and eliminate such manufacturers from the field who supply sub-standard equipments.

DGTD while stepping up the production capacity of Road Rollers, when there was a great demand couple of years back increased the production capacity of M/s. Jessops and Co., the leading manufacturers in this line, substantially. This is perhaps with the view to standardise this make of Road Rollers."

Audit Observation contained in Supplementary Reports pertaining to States for the year 1973-74.

7.39. The following are some of the observations made in Supplementary Reports of C&AG for the year 1973-74 regarding the utilisation of items of road building machinery in certain States:

Andhra Pradesh

Out of 32 road rollers, six rollers were sick during the entire Fourth Plan period and six others were sick for periods ranging from 1 to 2 years, mainly as they were awaiting repairs requiring spare parts.

2. There was no mobile service van to attend to field repairs and the workshop mechanics were being deputed for field repairs.

Bihar

1. A systematic record of machines received from the Central Government, their utilisation, working condition etc. was not maintained.

2. No recognised system of inventory control was followed in regard to purchase and issue of spare parts. The spare parts were purchased as and when the machines went out of order

Gujarat

1. Out of 8 Hot Mix plants, the whereabouts of two plants, purchased in August 1972, were not known (November 1974).

2. A large number of machines costing over Rs. 60 lakhs purchased till 1968 were lying idle with various divisions.

Karnataka

There Stone Crushers, costing Rs. 1.90 lakhs supplied during June 1974 to October 1974, were not commissioned (August 1975).

Maharashtra

1. The performance of road rollers fall short of the standards, both in terms of number of days worked and consolidation done.

2. A majority of the 27 road rollers imported from Rumania suffered from deficiencies and were not in working order or were lying idle.

Punjab

1. Machinery costing Rs. 4.46 lakhs was lying idle (December 1974) in different divisions for periods ranging between one to three and half years.

2. Road rollers, trucks and jeeps reported to be unserviceable were lying in Mechanical Division, Patiala and had not been surveyed for salvage or disposal (February 1975).

3. 3 big hot-mix plants (approximate cost Rs. 12 lakhs) received from Government of India in October 1974, lying un-installed or un-utilised (February 1975).

Rajasthan

1. The State Government procured 529 items of machinery (required for border roads) valued at Rs. 106.75 lakhs between October 1965 and March 1967 from the open market without informing the Union Ministry, in spite of objections from the Centre the State PWD continued to make direct purchases and procured another 75 items valued at Rs. 21.94 lakhs between April 1967 and July 1969.

2. Out of 90 items of machinery diverted between August 1967 and March 1968 by the Ministry from Bihar, Uttar Pradesh and West Bengal on completion of central works there, to Rajasthan for use on border roads, 65 items were not put to use at all.

3. Trucks and other items of machinery were supplied to contractors on hire-purchase basis without obtaining prior approval of the Government of India which had paid for the machinery.

4. No centralised record was available to show for each item of machinery, the expenditure incurred on repairs, maintenance etc. and the hire-charges realised from the contractors.

5. Machinery received by the State PWD and not in use, was lying in the open at various places as no shelters had been provided for their proper storage.

Uttar Pradesh

1. A large number of items of machinery, all valued at Rs. 41.75 lakhs were lying idle in Mechanical Division, Lucknow since 1973-74, for lack of transfer orders.

2. For Lateral Road Programme in Uttar Pradesh, plant and machinery worth Rs. 291 lakhs were supplied by Government of India upto 1968-69 against the States demand for Rs. 220 lakhs. Excess supplies costing Rs. 55.82 lakhs were not put to any use at all.

3. In November, 1974, 149 items were out of order and needed repairs and 74 items were declared beyond economical repairs. The repair of the machines had not been taken up (March, 1975).

Road Building Machinery Committee

7.40. The Road Building Machinery, Committee was appointed in October 1968. Its report was received in the Ministry in April 1970. Its recommendations touch various aspects like (i) Planning and Procurement of machinery, (ii) Utilisation (iii) Development of surplus machinery, and (iv) Accounting procedures. After detailed examination, the Ministry formulated their views which were approved by the Minister on 28 February 1972.

7.41. As most of the recommendations of the Committee had financial implications a reference was made to the Ministry of Finance on 4 July 1972 for concurrence of the views formulated by the Ministry of Shipping and Transport. The Ministry of Finance asked for certain clarifications on them on 25 April 1973 and ultimately agreed at the instance of Ministry of Shipping and Transport to have joint discussions in May 1975.

7.42. The Committee desired to know as to why the Ministry of Finance took more than two years to concur in the views of the Ministry of Shipping and Transport. In a note the Ministry of Shipping and Transport have stated:

“The replies to the clarifications for by the Ministry of Finance *vide* their letter dated the 25th April 1973 were sent by the Ministry *vide* letter dated the 10th July 1973. Ministry of Finance desired further clarifications *vide* their letter dated 6th August 1974. The matter was clarified to them *vide* this Ministry's letter dated 9th October 1974. Some more clarifications were asked for by the Ministry of Finance again *vide* their letter dated 28th October 1974 in reply to which we had suggested *vide* our letter dated 4th November 1974, that a meeting at the level of Joint Secretary, Ministry of Finance and Director General (Road Development) may be held to settle the long outstanding matter. Meetings were held on 12

May 1975 and 15 May 1975 accordingly, and the recommendations were finalised for implementation. From the above it may be seen that Ministry of Finance had taken more than 2 years to concur because they had to obtain a number of clarifications on various aspects of the Road Building Machinery Committee's report from this Ministry before finalising the matter."

7.43. The report of the Committee contains 54 principal recommendations. Six more suggestion of the Committee have also been taken from the report for examination by the Ministry. A statement showing the chapter-wise position of the conclusive action taken by the Ministry|States Governments on these recommendations of the Committee is at Appendix XII.

7.44. It will be seen from the Statement that out of the 61 recommendations, the Ministry|States have accepted 53 recommendations and out of them 37 have already been implemented. Out of the remaining 16 recommendations, 2 are yet to be implemented by the Ministry and 14 by the States.

7.45. The Committee note that during 1962-66 specialised road and bridge building equipments worth Rs. 20.55 crores were purchased out of the Central Funds for the execution of various important projects, viz., roads financed by the International Development Association (IDA-1961), the Emergency Road Works (1963) and Lateral Road Project (1963-64). These works were entrusted to the States for execution and the machinery purchased was allocated to these States, viz. Assam (Rs. 345.25 lakhs), Bihar (Rs. 609.45 lakhs), Gujarat (Rs. 170.67 lakhs), Maharashtra Rs. 13.50 lakhs, Orissa (Rs. 52.50 lakhs), Punjab (Rs. 12.24 lakhs), Rajasthan (Rs. 245.95 lakhs), Uttar Pradesh (Rs. 281.54 lakhs) and West Bengal (Rs. 323.45 lakhs) for this purpose. The Committee are distressed to find that though a bulk of the machinery was rendered idle on completion or slowing down of the above works due to financial stringency about a decade ago, no concrete or conclusive action had been taken all these years to re-allocate the machinery to other States where these could be put to proper use, more particularly for the execution of the National Highways. The Committee have been informed during evidence that a policy decision has now been taken that the Central Government would retain all sophisticated types of equipment worth Rs. 10 crores and the remaining items like road rollers, trucks, boilers etc. worth Rs. 9.5 crores would be given to the States against loan assistance. The matter is stated to be under correspondence with the States. The Committee regret that the Ministry had waited for about a decade before re-allocating the surplus machinery to the States. Even now the question of transferring the ownership to the States remains to be settled. What surprises the Committee is the fact that the machinery acquired at heavy capital cost was allowed to remain

unutilised all these years, entailing heavy loss to the Exchequer. The Committee consider this to be a fit case requiring a thorough probe with a view to fix responsibility.

7.46. The Committee are further distressed to note from the Audit Paragraph that to meet additional requirements during the Fourth Plan, the Ministry had purchased tools and plants worth Rs. 391.39 lakhs but because of imbalance in the actual supplies of the equipment and the timing of the supplies, some of the items could hardly be used on road works in the Fourth Plan.

7.47. A proposals for grant of loan assistance to 12 States, viz. Himachal Pradesh, Andhra Pradesh, Punjab, Tamil Nadu, Kerala, Maharashtra, Uttar Pradesh, Madhya Pradesh, Karnataka, Haryana, Orissa and Rajasthan, was also approved by the Ministry of Finance in January, 1972 for the purchase of machinery. Against this proposal, a total loan of Rs. 788.54 lakhs was sanctioned for the years 1972-73 to 1975-76 and out of that a total of Rs. 377.24 lakhs was released to the States. The loans are released to the States in instalments after receiving the acceptance of the prescribed terms and conditions and after receipt of copies of purchase orders placed by them for the type and quantity of equipment approved by the Centre. What has surprised the Committee is that only 2 States, viz. Maharashtra and Haryana, have been able to utilise fully the loan sanctioned to them. While some States have partially utilised the amounts, the States of Punjab and Uttar Pradesh have not utilised any amount so far out of Rs. 75 lakhs and Rs. 104.55 lakhs respectively sanctioned to them. The Committee are not aware of the basis on which these two States have been sanctioned loans, nor have they been informed about the reasons for non-utilisation of the loan assistance. Incidentally these States are already holding machinery worth Rs. 12.24 lakhs (Punjab) and Rs. 281.54 lakhs (U. P.) which had been rendered surplus on completion of Emergency Road works in Punjab and Lateral Road Projects in Uttar Pradesh.

7.48. In this connection the Committee would like to observe that immediately after receipt of Report of the Road Building Machinery Committee in 1970, the Ministry should have initiated effective action to regulate new purchases and ensure further utilisation of machinery and equipment by better deployment within the State on central works or by reallocation to different States.

7.49. Since a bulk of the machinery purchased during the years 1962-66 and thereafter through central funds is lying unutilised, or is not being utilised to its optimum, the Committee would like to emphasise that further expenditure on purchase of road building machinery for central works should be considered only after making sure that the machinery

already available has been put to effective use and that the deficiencies pointed out in the Report of the Road Building Machinery Committee (1970) have been fully rectified.

7.50. The Committee would also like the Ministry to identify such of the items of machinery as have not been utilised at all or markedly under-utilised with a view to ascertain the rationale for their initial purchases. The responsibility for purchase of unwanted items may be thoroughly investigated so as to take corrective measures to obviate such purchases in future. The Committee would like to be informed of the concrete measures taken in pursuance of this recommendation.

7.51. In view of the disturbing position about the acquisition and utilisation of costly road-building machinery and equipment purchased on central account, the Committee stress that in the Annual Report there should be detailed mention of the machinery and equipment purchased for road-building, its allocation State-wise, as also utilisation, the deficiencies noticed and the measures taken to rectify the position.

7.52. The Committee note from the Audit para that the maintenance of the machinery by the States was not satisfactory as they did not have the special facilities by way of workshops for servicing and maintenance of the sophisticated machinery during the Fourth Plan. The representative of the Ministry has also conceded during evidence that many States are still deficient of this facility. It is rather disturbing to note that despite negotiations going on with the States since 1962 no concrete steps have been taken to augment the workshop facility in the States where the machinery rendered surplus from the initial special projects is to be transferred for execution of the national highways. It is only now that a proposal for an amount of Rs. 182 lakhs has been sent to the Ministry of Finance for concurrence of procurement of 20 mobile workshops, 6 central workshops and 9 division workshops to take care of the machinery repairs etc., ownership of which vests or would continue to vest with the Central Ministry. Another proposal for giving another loan to the States to the tune of Rs. 60 lakhs for the establishment of new workshops to take care of machinery repairs, ownership of which vests with the State PWD but used on central works is also before the Ministry of Finance. The Committee would like the Ministry to pursue these matters with the Ministry of Finance for early sanction so that the workshops are set up in respective States by the time the machinery is allocated to them.

7.53. The Committee also emphasise the need for contemporaneous watch to ensure that mobile workshops are organised properly and render necessary service in keeping the machinery and equipment in firm and efficient condition.

7.54. It is necessary that for proper operation, up-keep and repair of equipment there should be an adequate number of well trained operators

and technical staff. The Committee find from the Audit paragraph that the States lacked facilities of trained staff to operate machinery allotted to them for execution of central works during the Fourth Plan. The Committee on Road Building Machinery in its Report (1970) has also emphasised the need for properly trained staff for use, maintenance and supervision of the machinery.

7.55. The Committee need hardly emphasise that facilities available at Training Centres run by the Central Water and Power Commission of the Department of Irrigation should be increasingly taken advantage of. The Committee commend the idea of imparting training to the staff at Industrial Training Institutes which have been set up in almost all the States and would like the scheme to be finalised expeditiously. For this purpose, the Committee would like the Ministry to review, in consultation with the States, the present strength vis-a-vis the future requirements of operators and technicians so that a regular training programme is arranged in every State expeditiously to meet the future requirements. It will be beneficial if refresher and in-service training courses are also arranged from time to time so that the staff in made conversant with the working of the equipment of the latest design and technology.

7.56. The Committee would also like to urge that in the case of new range of equipment the State authorities may be persuaded to send the machine operators and mechanics to the manufacturing units for training well ahead of the arrival of the equipment so that there is no loss of machine-time at the work site.

7.57. The Committee would also like to be assured that the workshops are manned adequately by trained technicians with requisite qualifications so that the equipment is well maintained and repaired satisfactorily. It has also to be ensured that the workshops do not suffer on account of non-availability of the right type of spares.

7.58. The Committee are perturbed to note from the findings of the Road Building Machinery Committee (1970) that the utilisation of the imported and the major items of machinery had not exceeded 40 per cent (often it was 10 to 20 per cent) of the available working hours. In some cases, the machinery could not be put to proper use because of: (i) arrival of the machinery late after the work had been completed; (ii) State Governments being unable to use the machinery allotted due to special site conditions for which the imported machinery were not suited; (iii) lack of skilled operators and know-how for operation; (iv) lack of trained technicians for maintenance and repairs; and (v) non-availability of spares in time.

7.59. In order to have proper check the Ministry have introduced w.e.f. 1972 the system of getting from the States yearly utilisation pro-

gramme of machinery under which the States are required to indicate the quantum of machinery likely to be surplus so that the Ministry could consider transferring the same to other States. The Committee are distressed to note from the information furnished by the Ministry that the utilisation programmes were not prepared in the prescribed manner and were sent quite late. In addition, the utilisation programmes did not furnish utilisation picture for all types of central machinery and detailed calculation on the basis of quantum of work sanctioned against job numbers. Since forward planning resulting in redistribution of machinery in a rational manner can help improving the utilisation, the Committee would like the Ministry to impress upon the State concerned the importance of these utilisation programmes and persuade them to submit them regularly in the prescribed manner. The Ministry, on their part, should make a detailed study of these returns within a time-bound programme and issue suitable and timely instructions to the States to ensure that each item of machinery is put to optimum utilisation and maximum productivity.

7.60. The Committee need hardly emphasise that Regional Officers/Liaison Officers at State Headquarters should ensure that utilisation programmes are properly prepared, furnished in time and that directions issued are got implemented in letter and spirit.

7.61. The Committee further note that in order to have continuous record of the performance of the central machinery in the headquarters, the States are required to submit from 1972-73 onwards a quarterly performance report indicating the number of hours the equipment has worked, remained idle or under breakdown etc. The Committee find that whereas all the 8 States concerned had furnished reports for all the 4 quarters during 1974-75, the position had deteriorated in 1975-76 as only 2 States viz., Haryana and Punjab, submitted these reports for the whole year. The Committee would desire the Ministry to ensure that these quarterly reports are received regularly and in time from all the States so that on the basis of particulars furnished therein the Index Cards now being maintained at the headquarters are kept up-to-date, all the time.

7.62. The Committee note that at the instance of the Centre some States have augmented their mechanical set-up and at present the States of Assam, Bihar, Haryana, Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal have Superintending Engineers (M) along with supporting staff. The Committee desire that the remaining States should also fall in line with other States and have separate mechanical set-up to ensure better utilisation of equipment.

7.63. The Committee note that physical verification of the equipments is done annually and the State Governments are required to send a copy

of their report to the Ministry in the prescribed proforma by the end of each financial year. A close watch should be kept regarding timely receipt of these physical verification reports. More important is to see that all machinery is properly utilised and maintenance is not neglected.

7.64. The Committee find that there is a multiplicity of forms prescribed for reporting utilisation, physical verification etc. of the machinery in the States. The Committee would like the Ministry to study these forms/returns with a view to rationalise them so as to contain essential data about the utilisation and performance of the machinery and facilitate the monitoring of performance and issue of the follow up directions including reallocation in the interest of better utilisation.

7.65. The Committee are distressed to note that no serious attempts have been made so far by the Ministry to standardise the equipments/machinery for road building as by and large they have been utilising the machinery imported during 1962-66 for the initial projects. Since several States are now purchasing plant and machinery from indigenous sources in connection with the execution of the central works, it is but proper that a beginning should be made in right earnest to standardise at least some of the items which are in common use in road building. The Committee would, therefore, recommend that a technical body with officers drawn from the Ministry (Roads Wing), Border Roads Organisation, DGTD, Indian Roads Congress, Public Sector Undertakings concerned etc., be set up to go into the question of standardisation of the machinery now in use in road building. The Committee would like the expert team to be appointed without further loss of time so that they may compile and evaluate the necessary data and give their considered recommendations by a specific date about standardising the important items of machinery and equipment in the interest of rationalising the production and maintenance programmes.

7.66. The Committee would like the Ministry to take appropriate measures in consultation with the Ministry of Industry, DGTD, etc. to examine the feasibility of manufacturing indigenously such of the items of road building machinery and equipment which have to be imported at present in considerable number spending appreciable foreign exchange so that the country may attain self-reliance in this behalf at the earliest.

7.67. The Comptroller and Auditor General in his Reports on States for the year 1973-74 has made a number of observations on the up-keep and utilisation of various items of machinery and equipment in the States. The Committee are perturbed to note that besides a large number of items of machinery lying idle for lack of utilisation programme or under repair for long periods ranging from one year to three years, as in the case of Andhra Pradesh, Gujarat, Karnataka, Punjab, Rajasthan and Uttar Pradesh,

there are other irregularities of serious nature, as for example (i) out of 8 hot-mix plants in Gujarat the whereabouts of 2 plants purchased in August 1972 were not known (November 1974); (ii) the majority of 27 road rollers imported from Rumania suffered from deficiencies and were not in working order or were lying idle; and (iii) the State Government of Rajasthan had purchased 529 items of machinery for Border Roads valued at Rs. 106.75 lakhs between October 1965 and March 1967 from the open market without informing the Union Ministry. In spite of objections from the Centre, the State PWD continued to make direct purchases and procured another 75 items valued at Rs. 21.95 lakhs between April 1967 and July 1969. The Committee would like the Ministry to examine the observations made by the C&AG in his Reports carefully and select cases of glaring irregularities involving money from the Centre for investigation by a Committee of Officers who may be drawn from the Ministry of Shipping and Transport, Ministry of Finance, Border Roads Organisation and the State authorities etc. The Committee would like to be informed within six months about the action taken in pursuance of this recommendation.

7.68. The Committee find that Government had constituted a Road Building Machinery Committee in October 1968 to go into the whole question of road building machinery from the stage of planning of procurement and purchase, to its utilisation, operation, maintenance etc. It is regrettable that though the Committee submitted its Report in 1970, action has still not been completed on several of its recommendations. Out of the seven years taken so far in the consideration/implementation of the recommendations, the Committee find that about two years were taken by the Ministry of Shipping and Transport itself to formulate their views on the recommendations and about three years (from July 1972 to May 1975) were taken by the Ministry of Finance to concur in those views. The Committee have no satisfactory explanation from these Ministries for taking such a long time to consider and concur in the recommendations and would like them to identify the reasons for the same so as to streamline the procedure in this regard and at least obviate such heavy and costly delays in the future. The Committee would like to be informed of the specific action taken in pursuance of this recommendation.

7.69. The Committee further note from the information furnished by the Ministry that of the total of 61 recommendations, the Ministry/States have so far accepted 53 recommendations and the remaining 8 are still under various stages of consideration. Of the 53 recommendations accepted, 37 have since been implemented and out of remaining 16 recommendations 2 are yet to be implemented by the Ministry and 14 by the States. The Committee need hardly emphasise that conclusive action on the remaining recommendations, not yet accepted or not yet implemented should be taken without further delay and the Committee informed.

CHAPTER VIII

PLANNING OF PROCUREMENT OF BITUMEN.

Audit Paragraph

8.1. Shortage of bitumen was first brought to notice at the State Chief Engineers meeting with Ministry in December, 1970. As shortages persisted, the Ministry in August, 1971 requested the State Chief Engineers to intimate their total year-wise requirements for the rest of the IV Plan, the quantity for which orders had been placed and the supply received till then, together with the problems, if any, obstructing quick supply of bitumen. Assam and West Bengal reported difficulties in movement of bitumen from refineries, due to wagon shortages. The difficulties arising from bottlenecks in transport of bitumen were taken up with the Ministry of Petroleum and Chemicals and the Ministry of Railways. By mid 1972, State Chief Engineers still reported shortages. When the Ministry took it up with the Railway Board, the latter advised that the regional Railway headquarters concerned should be contacted in the first instance and the Railway Board should only be approached if the regional Railway organisation failed to render the required assistance. The State Chief Engineers were requested to act accordingly and keep the Roads Wing informed so that if and when necessary the matter could be taken up with the Railway Board.

8.2. However, shortages of bitumen supply continued to affect the road construction programme right up to the end of the IV Plan though the problem was one really of transport by the Railways rather than of production. In May, 1974, it was estimated by the oil-refining industry that about 1.5 lakh tonnes of bitumen were lying at the refineries waiting to be moved by the Railways due to the extremely low priority accorded to bitumen movement.

8.3. Because there could be substantial savings both in the price of bitumen supplied in bulk as compared to supply in drums, as also in foreign exchange (the drum-sheets are imported) instructions were issued to State Governments in 1967 to make arrangements to move bitumen in bulk. However, most of the States made no arrangements for bulk purchase of bitumen. A Committee appointed by the Ministry of Petroleum and Chemicals with representatives from the Ministry of Transport, Railway Board

and the oil companies reporting in 1972, suggested measures for switching over of bitumen distribution from drum-packed to bulk supply. With demand for bitumen growing at a compound rate of just over 15 per cent per annum during 1967—72 and with nearly 94 per cent being moved in drums fabricated from imported steel sheets, the outgo on foreign exchange in 1971-72 was about Rs. 8.7 crores and was expected to be over Rs. 10 crores in 1972-73. Further, about 1.5 per cent of the contents of drum-packed bitumen (at sides and corners) was wasted in drum packing. The Committee estimated that of Rs. 48 crores of total sales realisation of bitumen in 1971-72, cost of drums alone was Rs. 19 crores. It recommended a phased programme for introduction of bulk distribution of bitumen. As a first step, it was proposed that areas within a radius of 250 kilometres from each refinery supply point of bitumen (other than Digboi and Barauni refineries) would be declared as "bulk supply only zone". It was hoped to convert 80 per cent of the total sales of bitumen from "packed" to "bulk" supply within a period of 5 years, *i.e.*, 1976—80. The States were accordingly asked (September 1972) to make arrangements for bulk movement, storage and handling of bitumen. These arrangements include mobile insulated bitumen-tankers with heating coils and bitumen tank-farms at strategic locations to move, store and distribute liquid bitumen in bulk wherever acquired for road construction works, as well as bitumen pumping equipment for handling liquid bitumen in bulk from mobile to static storage or *vice-versa*. Except, to an extent, Maharashtra, which has two bulk supply depots, State Governments have not taken adequate steps to make appropriate arrangements for bulk storage, supply and distribution of bitumen. As a result, they continue to incur heavy expenditure by way of the higher cost of bitumen packed in drums. In Tamilnadu, the price difference ranged between Rs. 176 and Rs. 274 per tonne during 1970 to 1974, and savings of a similar order would have been available to other States also. It appears to the Ministry that financial stringency of States and the low magnitude of bituminous work sanctioned by them may possibly account for their reluctance in this regard.

[Audit Paragraph No. 7 of C&AG's Supplementary Report for 1973-74, Part II.—Civil]

Production and Consumption of Bitumen

8.4. The Audit Para has pointed out that shortage of bitumen was first brought to the notice of the State Chief Engineer's meeting with Ministry in December, 1970. Then shortage continued to affect the road construction programme right up to the end of the Fourth Plan period. In this connection, the Committee desired to know the production of bitumen during the Fourth Plan and thereafter and the quantity consumed for various

Central and State roads. The information furnished by the Ministry is given in the following table:—

year	Production Consumption	
	(in lakh tonnes)	
1969	6.90	6.54
1970	7.65	7.49
1971	9.81	9.77
1972	10.90	11.38
1973	11.67	11.29
1974	8.73	8.99
1975	7.08	6.91

8.5. It will be noted from the above that there was a steep fall in production of bitumen from 11.67 lakh tonnes in 1973 to 8.73 lakh tonnes in 1974 and further to 7.08 lakh tonnes in 1975. Similarly, there was a fall in consumption of bitumen during these years. Asked to state the reasons for the falling trend in production, the representative of the Ministry of Petroleum and Chemicals has stated during evidence:—

“Broadly, production has not been a problem. Whatever has been the demand, we have been able to meet. After the oil crisis in 1973, several things happened and one of the results had been the steep fall in the demand for bitumen.”

He has further added:—

“Actually what happened was that from 1974 we had huge stocks of bitumen lying in the refineries and we had the problem of disposing them of. We actually had to start export of bitumen; 1974 was the first year of export because the demand in the country had fallen. We can increase the production of bitumen and reduce the production of furnace oil because both come from the same barrel of crude.”

8.6. In regard to the steep fall in consumption of bitumen in 1974, the Ministry of Shipping and Transport have stated:—

“There are two reasons for the low consumption of bitumen:

- (i) Low magnitude of road works due to financial constraints.
- (ii) Adoption of alternative specifications issued by this Ministry following the world-wide oil crisis.

The road programme was given a lower priority due to financial constraints which started from 1973 onwards. As a result, the road allocations were substantially slashed down. Moreover, there was virtually a ban on the sanction of new works and even the 'on going works' were re-phased and spread-over a longer period. Thus, the magnitude of road works was at a low level.

Following the world-wide oil crisis, and the consequent need for conservation of petroleum and its bye-products, this Ministry evolved alternative specifications for road construction with a view to minimise the consumption of bitumen. These alternative specifications were circulated to all the State Governments for adoption vide circular letter No. PL-30(185)/71, dated the 12th March, 1974. As a result, there was a steep fall in the consumption of bitumen on roads."

8.7. On his attention being drawn to the Audit remarks that the real problem was of movement (rather than production) by the Railways of the huge stocks of bitumen lying with the refineries, the Director General (Roads) has stated:—

"There were a few stray cases which were reported by the State Chief Engineers in the meeting. They were feeling the shortage of bitumen in Bihar, north-eastern region and Uttar Pradesh, because of difficulties with the railways. We immediately obtained the details. We took up the matter with the Railway Board who promptly moved in the matter and issued instruction that those movement should be arranged. The total picture has been that for the year 1973-74, the requirements of bitumen in the country, as intimated to us by the State Chief Engineers, were around 7.74 lakh tonnes and actually the consumption of bitumen as gathered from the figures from the refineries, is much more of the order of 10 lakh to 11 lakh tonnes. This really approves that in totality, at the end of the year, the picture was that the demand for bitumen for road use has been fully met. And I do not think we have been able to get any substantial figure from the refineries to show that although the orders were there, certain quantities of bitumen could not be moved because of rail movement difficulties."

8.8 It has been reported in the press (Economic Times dated 15 Dec., 1976) that:

"In the face of stiff competition from some of the major producers, India has succeeded in securing export orders for over 80,000

tonnes of bitumen at highly favourable prices, it is learnt. Besides there have lately been a number of fresh inquiries for export of bitumen.

The export of bitumen, according to official circles here will not only relieve the refineries of their storage problem but would also earn valuable foreign exchange.

With the anticipated production of bitumen around a million tonnes during the current year the refineries were worried about the poor off-take. Surprisingly while the growth in demand for some of the other petroleum products during the period January—September ranges between 3 and 21 per cent., the demand for bitumen has been static. There has, in fact, been no growth in the demand for bitumen during the period January—September. The total off-take during this period was 560,000 tonnes roughly the same as in the corresponding period last year.”

8.9. The Committee desired to know the quantity of bitumen exported to other countries since the beginning of Fourth Plan (*i.e.* from 1969-70 onwards).

The information furnished by the Ministry on 7 July 1977 is indicated below:

	(In tonnes)
1969-70	23,527
1970-71	11,974
1971-72	Nil
1972-73 -	9,848
1973-74	1,234
1974-75	16,734
1975-76	61,127
1976-77	72,531

The countries to whom the bitumen was exported are Bangladesh, Sri Lanka, Indonesia, Kuwait, Nigeria, U.A.R., Yeman, Arab Republic, Nepal, Vietnam, Burma, Dubai and Dalamey.

Switch over from Packed to Bulk Bitumen Distribution

8.10. The Audit Para has pointed out that because there could be substantial savings both in the price of bitumen supplied in bulk as compared to supply in drums, as also in foreign exchange (the drum sheets are imported) instructions were issued to State Governments in 1967 to make arrangements to move bitumen in bulk. However, most of the States made no arrangements for bulk purchase of bitumen.

8.11. To investigate the various implications involved in the conversion of Bitumen distribution from "packed" to "bulk" and to recommend concrete measures to be taken for a crash programme of switch-over to bulk bitumen, a special Committee was constituted by the Ministry of Petroleum and Chemicals in February, 1971 consisting of the representatives for the various Ministries concerned. A representative of the Railway Ministry was also associated with this Committee. The Committee submitted its report in May, 1972. The Committee has *inter alia* observed:—

"While in all developed countries as well as in several developing countries of the world, bitumen distribution takes place preponderantly in bulk (90 per cent and over), in India nearly 94 per cent of the supplies are made in drums fabricated mostly from imported steel sheets. This is a highly wasteful process both on economic and technological considerations. The ex-refinery price differential between 'packed' and 'bulk' bitumen is about Rs. 235/- a tonne (including sales tax). Even after allowing for the expenditure on putting up facilities for the handling of bulk bitumen, there is a substantial cost advantage to the consumer (mostly State PWDs and Government and quasi-Government organisations) in taking bulk supplies instead of 'packed' ranging from about Rs. 200 a tonne near the refinery locations to well over Rs. 80 a tonne at far off-points requiring movement by rail.

Packed supplies also involve a very high foreign exchange outgo which is entirely avoidable. In the current year alone the drain on foreign exchange for import of drum steel is likely to be of the order of over Rs. 10 crores. This wasteful use of foreign exchange will rise further to roughly Rs. 16 crores by 1975 and Rs. 28 crores by 1980 (at the current steel prices) unless effective action is taken for conversion of bitumen distribution from 'packed' to 'bulk' in a big way. Moreover, the steel used for packing bitumen has only a one-time use as the drums are mostly unfit for reuse."

The above Committee had estimated that the progressive conversion from 'packed' to 'bulk' will be of the following order:—

Year	Total	(In lakh tonnes)			
		Bulk		Packed	
		M. Ts.	Percentage	M. Ts.	Percentage
1973-74	12.7	3.0	24	9.7	76
1974-75	14.3	4.9	34	9.4	66
1975-76	16.0	6.6	41	9.4	59

8.12. As against these estimates, the actual movement of bitumen by rail during these years has been as under:—

(In lakh tonnes)

Year	Total	Bulk	Percentage	Packed	Percentage
1973-74	8.36	0.13	1.56	8.23	98.44
1974-75	7.35	0.08	1.09	7.27	98.91
1975-76	5.66	0.10	1.77	5.56	98.23

It will be seen that the growth rate projected by the Committee has not materialised. As a matter of fact, there has been a steep drop in that total quantity of bulk bitumen moved on Railways in 1975-76, as compared to 1973-74.

8.13. It has been pointed out by the Committee on Conversion of Bitumen Distribution (1972) that there were only 92 bitumen tank wagons on the Indian Railways of which 62 were in use and that against this some hundreds of wagons were required. The Committee desired to know as to what steps the Ministry of Shipping and Transport had taken to coordinate with the Railways to get more wagons for bulk supply. To this, the representative of the Railway Board has stated:

“On behalf of the Railway Board, I may say that even before the Committee was appointed to go into the aspects of bulk transport, the question of the availability of the fleet was considered. The railways at that time had 105 tanker wagons. Over 5 per cent of the fleet was lying idle because of the consumer preference to transport bitumen only in drums and not in tanks. As the demand for other fuel oils went up, the railways did not want to take up those tank wagons and so we released 23 out of 105 for carrying fuel oil to the thermal stations. So the fleet became 82. Even after the Committee's recommendations, we found that the consumer was not really going in for bulk transport and our wagons continued to be idle. So, we have again, in the last 9 months, diverted about 40 wagons for residual fuel to the thermal stations. So, to say that the railways did not have the fleet to move the bulk transport when the demand came up I think will not be correct. We have 105 tank wagons and if the demand picks up, the tanks which have been diverted can be brought back to the bitumen circuit.

The same Committee has also gone into the details of the tank wagons when the demand comes, but at present the demand is not there even for the existing 82 tanks."

8.14. In a note subsequently furnished by the Railway Board, the position has been clarified thus:—

"At present, out of a total fleet of 105 TBTs, railways are using only 44 TBTs for moving bitumen. Even with this reduced fleet there is considerable idling of TBTs. The following figures indicate the loading and idling of TBTs for 1973-74, 1974-75 and 1975-76:—

Month	1973-74		1974-75		1975-76	
	Loading per month	Idling per month (in days)	Loading per month	Idling per month (in days)	Loading per month	Idling per month (in days)
April	68	35	66	31	43	42
May	67	33	45	62	51	38
June	79	29	69	75	32	25
July	58	41	40	65	31	69
August	40	89	20	33	37	42
September . . .	73	68	38	46	28	26
October	36	39	18	38	48	36
November	57	57	33	17	35	61
December	38	28	33	36	54	56
January	62	45	46	54	69	48
February	60	44	28	55	67	67
March	70	54	35	56	67	49
AVERAGE	59	47	39	47	47	47

Railways, therefore, have enough capacity to carry the present quantum of traffic and in case traffic picks up TBTs now being used for the transport of other traffic will be brought back to the bitumen circuit. Against this background, the question of building additional tanks does not arise at present."

8.15. The Committee on Conversion of Bitumen Distribution had found that as the Railways were paid the same freight for carriage of bitumen

in bulk as for packed bitumen and the former meant extra expenditure on construction and maintenance of tank wagons, the empty haulage etc., the Railways have no incentive to increase their fleet of tank wagons. They enquired whether the Railways proposed to bring about any change in the freight structure. In reply, the Ministry of Railways (Railway Board) have stated:—

“With effect from 1st August 1974 the freight classification of bitumen in tank wagons has been enhanced to class 75 while bitumen in containers is charged as class 57.5.”

8.16. The Committee desired to know if the Ministry had ascertained from State Governments whether their consumption of bitumen had actually decreased to such an extent that it was not economical to invest in the infrastructure required for the change over from packed to bulk supplies. The representative of the Ministry of Petroleum and Chemicals has deposed:—

“As far as the Petroleum Ministry is concerned, we have been through the oil companies trying to spread the idea of using bulk bitumen. The assistance is more by way of technical assistance through the oil companies. There has been some increase in the use of bulk bitumen. In fact bulk bitumen was about 49000 tonnes in 1971-72 as against 61650 tonnes in 1975-76. I do not say that there is a large increase, but I would say that there has been some increase. States like Maharashtra and Tamil Nadu were increasingly using bulk bitumen. The use of bulk bitumen in the first phase was confined to a reasonable distance from the refinery where the bitumen is produced, because of the problem of moving for which special type of wagons is necessary. So, the first step was to confine it to about 250 kilometres from the refineries. In the original plan we proposed using bulk bitumen, we had listed out certain refineries where bitumen was produced. The plan has now undergone some change. For instance, we have two refineries in Bombay—Hindustan Petroleum Refineries and the Bharat Refineries. The Bharat Refineries have a very high capacity for producing bitumen. Now, we have plans for changing over from imported crude to indigenous crude in the Bharat Refinery. Indigenous crude does not produce bitumen. All these things have affected the growth and the use of bulk bitumen.”

8.17. Asked as to how far the public sector refineries have achieved success in bulk-bitumen conversion, the Ministry have stated:

“IOC was the only public sector company which was producing Bitumen up to the year 1973. The Hindustan Petroleum Corporation, which was originally ESSO the Eastern Incorporated

was taken over by the Government only in March, 1974, and the Bharat Refineries Limited which was originally Burma Oil Storage and Distributing Company was taken over by Government only in January, 1976. The production and sales of Bitumen of these public sector companies during the years 1973 to 1975 are given below:—

Year	HPC		BRL		IOC	
	Bulk Sale/MT	%Prod.	Bulk Sale/MT	%Prod.	Bulk Sale/MT	%Prod.
1973-74	20639	7.8	47900	10.3	8000	2.8
1974-75	18519	9.3	48700	12.6	7054	3.6
1975-76	18934	10	48360	19.3	7500	4.1

8.18. The Committee on Conversion of Bitumen Distribution had recommended that the Ministry of Shipping and Transport should be closely associated as they have a special responsibility in ensuring that State Public Works Departments take prompt action for conversion of packed supplies into bulk supplies on a time bound basis. The Committee desired to know as to what action had the Ministry taken in the recent past to ensure fully coordinated action by all departments and organisations concerned, e.g. Ministries of Petroleum and Chemicals and Railways, Bitumen producers and State Public Works Departments and by what time was it expected that bitumen to all major consumers within 250 or 320 kms. of Refineries would be distributed in bulk. To this, the Ministry, in a note furnished to the Committee, have stated:—

“In so far as the Ministry of Petroleum are concerned, they have been closely associating the concerned organisations like the Ministry of Shipping and Transport. State Governments and Oil Companies in regard to the question of bulk supply of bitumen. Steps were taken for a phased change over of supplies from packed to bulk—bitumen within 250 kms. from each refinery (except Digboi and Barauni) supply point of Bitumen. The Ministry of Shipping and Transport discussed this matter with State PWD Secretaries and Chief Engineers in a meeting held in June, 1971. Detailed instructions were issued by the Ministry of Shipping and Transport and Ministry of Petroleum and Chemicals to the concerned State Governments as under:

(a) *Ministry of Shipping and Transport:*

- (i) Letter No. PL-30(140)/70 dated 1st July, 1972.
- (ii) Letter No. PL-30(140)/70-Vol. II, dated 18th July, 1973.
- (iii) Letter No. PL-30(140)/70-Vol. II, dated 14th February, 1974.
- (iv) Letter No. PL-30(152)/74, dated 29th March, 1975.

(b) Ministry of Petroleum and Chemicals:

- (i) No. 8(3)|72-IOC dated 2nd September, 1972.
- (ii) No. 8(3)|72-IOC dated 30th November, 1972.
- (iii) No. 8(3)|72-IOC dated 24th April, 1973.
- (iv) No. 8(3)|72-IOC dated 9th October, 1973.
- (v) No. IS-23020|21|73-FSP (Part) dated 14th February, 1975.

Oil Companies were advised by the Ministry of Petroleum and Chemicals to contact the various consumers in their concerned zones at various field levels and give them all possible assistance in the implementation of the scheme. The companies maintained regular contacts and liaison with the State Governments and their field officers. As a result of these efforts, some progress has been made in bulk conversion of bitumen within 250 Kms. from the refineries concerned as per details given below:—

Year	Bulk Volume (in MTs)	Bulk supply, expressed as percentage of total sales in the refinery bulk supply zones (i.e. within 250 Kms. from the refineries)
1972-73	52,740	42%
1973-74	69,321	46%
1974-75	64,595	60%
1975-76	65,964	63%

Instructions have been issued on 7 September, 1976, to the oil companies to make all-out efforts to increase the sale in the supply of bulk-bitumen and to send Government a quarterly report indicating the progress made.

The work of following up action with the oil companies, Ministry of Shipping and Transport and State Governments for promoting the sale of bulk-bitumen has since been entrusted to the Oil Coordination Committee. The O.C.C. has been requested to monitor the progress of sales of bulk-bitumen by the oil companies and advise the Ministry of Petroleum, from time to time about the progress made."

8.19. Asked to indicate the value of bitumen consumed, State-wise, on Central and State roads in the 'bulk Supply Only Zone' from 1971-72 to 1975-76, the Ministry have stated:—

"The information regarding the value of bitumen consumed state-wise on central and state roads in the bulk supply zone from 1971-72 to 1975-76 is not available inspite of efforts made to obtain this information.

It is, however, seen from the records available in this Ministry that bitumen demand in the 'bulk only zone' has been approximately assessed by the P&C Ministry as 20 per cent of the all India demand. Applying this percentage to the all India consumption data yearwise, the likely quantity of bitumen consumed in the bulk only zone is indicated below:—

S. No.	Year	*Likely consumption in bulk only zone ('000 tons)
1	1971-72	185.38
2	1972-73	227.56
3	1973-74	220.89
4	1974-75	171.06

*Statewise break-up is not available.

8.20. The Audit Para has pointed out that the State Governments have not taken adequate steps to make appropriate arrangements for bulk storage, supply and distribution of bitumen and as a result, they continue to incur heavy expenditure by way of the higher cost of bitumen packed in drums. Thus, it appears that despite the efforts of the Ministries of Shipping and Transport and Petroleum and Chemicals, State Governments have not accepted the argument that the cost of providing facilities for the bulk handling of bitumen would be adequately counter-balanced by the savings likely to accrue. The Committee desired to know whether considering the advantages likely to accrue, particularly the reduction in cost and savings in foreign exchange, the Government of India should not make special efforts for the introduction of bulk storage and distribution of bitumen. The Ministry, in a note, have stated:—

"Although there is general appreciation of the advantages of switch-over to supply of bitumen in bulk as against drum packed supply by the State P.W.Ds despite all possible pursuit by this Ministry with them it has appeared that the States have been only looking forward to the formation of the Bitumen Distribution Corporation so that they could then receive delivery of bulk supply of bitumen at road site. For

receiving bitumen in bulk and its utilisation on actual road construction jobs without hold-ups and losses a number of arrangements have to be planned and coordinated. There have to be road tankers for transportation of bitumen in bulk, storage arrangements are required at road site adequate enough to hold the deliveries by reasonable number of tanker trips plus extra for elements of breakdowns in the actual consumption operations in road construction. The road construction job which has to consume bitumen has also to go on according to planning without interruptions and this would involve the smooth operation of related equipment such as hot-mix plants, paver-finishers, tippers, etc. The operation of these equipments like hot-mix plants at many places involves the element of electric power supply. Break-downs of supply or restrictive hours of supply are other related problems. Bituminous construction operations on a larger scale have been embarked upon in the case of National Highways from the Fourth Plan period. The bituminous construction equipment for the purpose has also been manufactured in the country on a larger scale now only. Being the initial phase the quality of equipment production for the series has also yet to very much improve and teething troubles have been frequently experienced by the States operating on these equipments. It, therefore, appears that the foregoing factors and related experiences have also been at the back of the minds of the State P.W.Ds. in their unstated hesitation in their taking over to switch on to bulk bitumen entirely on their own instead of through the expected Bitumen Distribution Corporation. The hesitation also has been perhaps primarily on account of lean financial resources of the States for making investments in the foregoing arrangements. This Ministry, therefore, feels that the Bitumen Distribution Corporation should be brought into operation early and the matter is being pursued with the P&C Ministry for the same. Without the implementation of that idea even if some States are given Central financial assistance by way of loans etc. for equipping themselves for switch-over to use of bulk bitumen, they may still not be able to make a success of the same and tendencies may regrow for them to keep looking for opportunities of switching back to use of drum-packed bitumen."

Bitumen Marketing Corporation

8.21. The Committee on Conversion of Bitumen Distribution in its report (1972), while recommending the setting up a Central Organisa-

tion to watch the progress in implementing the scheme of conversion of bitumen from packed to bulk had observed as under:—

“There are some obvious disadvantages inherent in setting up a separate organisation for specific purpose of handling bulk bitumen. Even so, the setting up of such a separate organisation appears unavoidable particularly because past experience has shown that the consumers are either reluctant or are finding it difficult to undertake the burden and responsibility of taking all the arrangements necessary for receiving and handling bulk bitumen. A large number of State P.W.Ds., local bodies etc. are involved and it may not be realistic to expect all of them to act in time to effect the change-over. A separate organisation will be in a much better position to set up the needed facilities by obtaining central assistance in regard to steel and other scarce materials. It will also be able to liaise more closely and effectively with the Railways in regard to TBT rail tank wagons. Above all, a separate organisation of this kind committed to this scheme is the only sure way of guaranteeing success for this scheme, which has high stakes for the overall national economy.”

8.22. It has been stated by the Ministry of Petroleum and Chemicals that in June 1973, Government decided to establish a new corporation in the Public Sector for the marketing of the Bitumen produced in the country and with the specific responsibility of promoting sales of Bitumen in bulk in a phased manner. This decision was taken after examining ways and means of progressively doing away with the then existing system of bitumen distribution in the country which involved a heavy and avoidable drain on foreign exchange and was also wasteful and uneconomic. It was also a recognised fact that the use of bulk bitumen was technically superior and resulted in not only additional savings on account of limitation of leakage, wastage and pilferage which was taking place in transporting the products in drums but also substantial reduction in investment and inventory costs for Public Works Departments and other users. After conducting studies in regard to possibility of converting to the use of bulk bitumen and assuring all the interests concerned including various Departments of the Government as well as of the oil companies, the Ministry of Petroleum and Chemicals drew up a phased programme for the conversion from packed to bulk bitumen. This programme envisaged officially the introduction of compulsory ‘bulk only zones’ around refineries, in metropolitan towns, with the areas having a radius well within the economic distance for bulk deliveries by road and later to be extended to other refinery towns. Simultaneously it was also decided that from 1975 onwards about 17 new up-country bulk depots similar to those which were

operating in the country at that time would be set up in certain heavy bitumen consumption areas and to which bitumen would be transported in bulk by rail for onward distribution again in bulk by road.

8.23. Asked if the corporation has been set up and started working, the Ministry of Petroleum and Chemicals in a note have stated:—

“Although the decision was taken in June 1973 and a Company under the name and style with Bitumen Marketing Corporation Limited was registered in March, 1974, due to the subsequent developments, it was considered that a rethinking of the decision earlier taken would be necessary before the Corporation started functioning in a regular way. The developments in question are:

1. At the time the decision was taken, nearly 70 per cent of the bitumen requirements were made by private oil companies who are not inclined to make any further investments to promote use of bulk bitumen. The Indian Oil Corporation Ltd. which was the only Public Sector Corporation at that time could not have achieved much progress in the sale of Bitumen in bulk single handed. Further, multiplicity of agencies to do this job was not desirable and it was considered that the work should be handled by a single agency. Since then, the Burmah-Shell and Esso Oil Companies in the private sector have been taken over by Government and negotiations are also in progress for taking over by Government of Caltax and Assam Oil Company. This means that the production of Bitumen will completely be confined to oil companies in the Public Sector.
2. One of the objectives for setting up a Corporation in the Public Sector to promote use of bitumen in bulk was to avoid valuable foreign exchange outgo amounting to several crores by 1985 in importing 24 gauge steel sheets for drums. These sheets will become available indigenously and the foreign exchange outgo would be considerably reduced.
3. Due to increase in the price of bitumen all over the country, the consumption of bitumen has come down considerably.

4. Financial constraints.”

8.24. Reiterating the position during evidence, the representative of the Ministry of Petroleum and Chemicals has stated:—

“The idea of Corporation was mooted in 1973 and was approved by Government. Now after the oil crisis, the picture has changed considerably. When we proposed the Corporation, we thought that it would be viable Corporation. Now, two things have happened. One is that the volume of bitumen has come down while the costs of the road tankers, tank wagons and boilers have gone up and the operating expenses have gone up. Now we feel that the whole thing should be developed as the viability of the Corporation is very much doubtful. Although we have registered the Corporation, we have not incurred any expenditure on the operation of the Corporation pending its review. We would be shortly reviewing this question.”

8.25. Elucidating the position, the Director General (Roads) has stated:—

“In view of the position explained by my colleague from the Petroleum and Chemicals Ministry, we shall have a further discussion with them, so that in case they are having re-thinking on the idea of the Corporation then the oil marketing corporations which are now largely in the public sector can be approached to make arrangements for marketing bitumen in bulk and deliver it at the road end. It virtually comes to the idea of having Corporation like arrangement.”

8.26. Asked about the financial parameters involved in the proposal, the Ministry of Petroleum and Chemicals have stated:—

“According to the Scheme formulated in 1973 the Corporation in the Public Sector was to be set up with an authorised capital of Rs. 12 crores. It was anticipated that to start with the project would have required an investment of Rs. 8.35 crores; Rs. 2.72 crores for capital expenditure and Rs. 5.60 crores for working capital. In the 2nd year the corporation would have required a further sum of Rs. 2.85 crores for capital facilities. It was also expected that an additional expenditure of Rs. 10.16 crores would be needed in the following three years on capital facilities. Thus the project as originally contemplated would have required an initial investment of Rs. 21.36 crores including working capital which would have been met partly by equity (Rs. 6 crores) and partly by loan (Rs. 6 crores) from Government and the rest by raising funds from

financial institutions (Rs. 5.63 crores) and also by meeting a part (Rs. 3.73 crores) from internal resources.

So far only a sum of Rs. 1.86 lakhs has been incurred on this Corporation for its registration."

8.27. Explaining the position further, the representative of the Ministry has deposed during evidence:—

"Financial constraint has been there. Also, when the Corporation was approved by Government, even in the very beginning there was a condition that the functioning of the Corporation should be reviewed after two years. It was visualised that the Corporation would grow up only gradually.

Secondly, the viability of the Corporation itself has become a matter of doubt. So, we do not want to proceed with a Corporation which may not be viable. We are reviewing the position now and we will be placing it again before the Government."

8.28. The Committee desired to know as to why a sum of Rs. 1.86 lakhs was incurred on registration of the proposed Corporation in 1974 when the new development in the oil situation was already known to Government in 1973. To this, the Ministry have replied:—

"The oil crisis developed towards the last quarter of 1973, while the Government decision was taken before the oil crisis in June, 1973, to establish a separate Corporation in the public sector for the marketing of the bitumen produced in the country. The Corporation was registered in 1974, in accordance with the Cabinet decision taken earlier. The main considerations which weighed with the Government for proposing to set up a corporation for the sale of bitumen are the following:—

1. To promote the distribution of bitumen in bulk in a phased manner.
2. To reduce the wastage of the product which is occurring when bitumen is transported in drums. In this process about one to two per cent of the product is wasted because it remains stuck to the sides of the drums.
3. The fact that bulk bitumen is technically superior and transportation of the bitumen in bulk will result in saving on account of leakage, wastage and pilferage taking place by transporting the bitumen in drums.

4. Supply of bitumen in bulk could result in substantial reduction in investment and inventory cost for PWD and other users.
5. If bitumen is supplied in bulk cost per ton will be much less than what is at present and would result in considerable saving to all the consumers.
6. To reduce the expenditure in foreign exchange for the import of steel.

However, due to subsequent developments it was considered that a rethinking of the decision earlier taken would be necessary."

8.29. After evidence the Committee further enquired if the question of functioning of the Corporation had been reviewed finally. The Ministry have stated:—

"Recently, a review was made to decide whether it is necessary for a separate Corporation to be established immediately for the marketing of bitumen. It was considered that in the first instance, efforts should be made to encourage marketing of bitumen in bulk through the oil companies and if adequate progress is achieved within a period of say, two years, then the question of winding up the Bitumen Corporation would be taken up for consideration. Accordingly, the Government have issued instructions to the oil companies to make all-out efforts to increase the sale of bitumen in bulk and to send to Government a quarterly report indicating the progress made. The Government have also instituted the Oil Coordination Committee to monitor the progress of sales of bulk bitumen by the oil companies and advise the Government from time to time about the progress made."

8.30. While in all the Oil Companies as well as in several developing countries in the world bitumen distribution takes place preponderantly in bulk (90 per cent or above), in India nearly 94 per cent of supplies are made in drums. The Committee note that because of substantial savings both in the price of bitumen supplied in bulk as compared to that supplied in drums as also in foreign exchange, instructions were issued to the State Governments in 1967 to make arrangements to move bitumen in bulk. According to the calculations made by the committee set up for Conversion of Bitumen Distribution from Packed to Bulk (1972), the ex-refinery price differential between packed and bulk bitumen was about Rs. 235/- a tonne (including sales tax). Even after allowing for the expenditure on putting up facilities for the handling of bulk bitumen, there was substantial cost advantage to the consumer (mostly

State P.W.Ds, Governments and quasi-Government organisations) in taking supplies in bulk instead of 'packed' ranging from about Rs. 200/- a tonne near the refinery location to well over Rs. 80/- a tonne at far off points requiring movement by rail. The Committee are distressed to note that inspite of a number of measures suggested by the above committee for switching over bitumen distribution from drum-pack to bulk supply in a phased manner, the Scheme has not made much headway, as they note that against the estimated progressive conversion of bitumen from pack to bulk at the rate of 24 per cent, 34 per cent and 41 per cent of the total bitumen during the years 1973-74, 1974-75 and 1975-76 respectively, the actual movement of bulk bitumen by rail during these years has been of the order of 1.56 per cent, 1.09 per cent and 1.77 per cent respectively. As a matter of fact, there has been a steep drop in the total quantity moved on railways in 1975-76 as compared to 1973-74. On the other hand, the plea of the Railway Board was that even after the conversion committee's recommendations, the consumer was not really going in for bulk transport, as against 105 tank wagons available, the demand was not sufficient even for 82 tanks.

8.31 The Committee further note that as a result of efforts made by the Oil Companies within their concerned zones, the percentage of bulk supply of bitumen, within 250 kilometres from the Refineries has risen from 42 per cent in 1972-73 to 63 per cent in 1975-76 only. Judging from the slow progress of the scheme, the Committee cannot but conclude that the Government have made no serious efforts to study and resolve the difficulties which stood in the way of the consuming units receiving their supplies of bulk bitumen. The Committee find that it was only after the matter was discussed by this Committee in evidence that the Oil Companies have been addressed on 7 September 1976 to make all-out efforts to increase the sale in the supply of bulk bitumen and to send Government a quarterly report indicating the progress made. The work of following-up action with the oil companies, the Department of Transport and State Governments for promoting the sale of bulk-bitumen, is stated to have been entrusted to the Oil Coordination Committee. The Committee feel that had these steps been taken earlier, immediately on the receipt of the report of the conversion committee, the results envisaged would have been achieved by now. The Committee hope that the Oil Coordination Committee would study the problem in depth and take effective measures to implement the scheme without loss of further time. The Committee suggest the precise progress made in this behalf should be included in the Annual Report of the Ministry.

8.32. The Committee note that in June 1973 Government had decided to establish Bitumen Marketing Corporation for marketing of the bitumen produced in the country with the specific responsibility of promoting sales of bitumen in a phased programme as recommended by the Committee

on Conversion of Bitumen Distribution (1972). That Committee in its report had also recommended the setting up of such an organisation to undertake the burden and responsibility of making all the arrangements necessary for receiving and handling bulk bitumen. The proposed Corporation was registered in March, 1974 at a cost of Rs. 1.86 lakhs. According to the Ministry of Petroleum and Chemicals the whole question of functioning of the Corporation needs rethinking in view of the new developments, such as (i) taking over of Oil Companies and consequently confinement of production of bitumen by Oil Companies in the public sector, (ii) availability of steel sheets for drums indigenously and consequent reduction in involvement of foreign exchange, and (iii) fall in consumption of bitumen due to increase in its prices on account of oil crisis. The Committee would like to be informed within six months of the decision taken in this regard.

8.33. The Committee note that Government have decided to encourage the oil companies in the public sector to market bitumen in bulk and if adequate progress is achieved in this field within a period of two years, then the question of winding up of Bitumen Marketing Corporation would be considered. The Committee would like this matter to be kept under review by Government in order to ensure that effective measures are in fact taken to market bitumen in bulk for the sizeable road construction programme under way in the interest of achieving over all economy.

8.34. The Committee are concerned to note that the production of bitumen which had progressively increased from 6.90 lakh tonnes in 1969 to 11.67 lakh tonnes in 1973 came down to 8.73 lakh tonnes in 1974 and 7.08 lakh tonnes in 1975. The main reasons for fall in production are stated to be steep fall in consumption of bitumen due to (i) low magnitude of road works due to financial constraints, and (ii) adoption of alternative specifications issued following the world-wide oil crisis in 1973. The declining trend in the production of bitumen is a matter of serious concern.

8.35. The Committee find that though domestic consumption of bitumen started declining during the Fourth Plan, no worthwhile steps appear to have been taken to step up the export of bitumen during the Plan period. From 23,527 tonnes of bitumen exported during 1969-70, i.e. the first year of the Fourth Plan, the quantity fell to 11,974 tonnes during 1970-71 and nil during 1971-72. It was only after the Fourth Plan that the export of bitumen picked up from 16,734 tonnes in 1974-75 to 72,531 tonnes in 1976-77. Since bitumen is needed all the world over for road works etc. and at the same time our own needs are limited, the Committee need hardly emphasise that production of bitumen should be stepped up so that surplus bitumen could be exported and valuable foreign exchange earned. Incidentally, this will also enable the refineries to liquidate the stocks that have been accumulated over the years causing acute storage problems.

CHAPTER IX

CENTRAL ROAD PROJECTS

(i) Lateral Road Project

Audit Paragraph

9.1. In December 1963, the Border Roads Development Board (BRDB) approved development of a road from Bareilly to Siliguri, as it was required by urgent strategic necessity. The road was proposed along the following alignment:—

Barcilly-Pilibhit-Lakhimpur-Bahraich-Basti-Gorakhpur-Gopalganj-
Pipakoti-Muzaffarpur-Begusarai-Purnea-Araria-Bahadurganj-
Thakurganj-Galgolia-Siliguri.

(From Siliguri to Amingaon the alignment was to follow NH 31).

9.2. As originally proposed, the Lateral Road Project (henceforth LRP) from Bareilly to Amingaon was to have been 995 miles long, of which a 355 mile strength would be common with NH 28 (from Basti to Purnea via Muzaffarpur) and which was already under development by the Roads Wing; of the remaining 640 miles of State roads, new road construction was to be undertaken over 140 miles while widening, raising and strengthening of existing road formations was required over about 500 miles. There were to be approximately 40,000 running feet of bridges (23 major bridges, 130 medium bridges and 185 minor bridges), some of them being major bridges across rivers like Deoha (800 feet), Gomati (2,000 feet), Ghagra (3,000 feet), Sarda (2,000 feet) and Sarju (800 feet). The total cost of the project as proposed by BRDB was Rs. 55 crores, but this was only a rough estimate and ultimately on receipt of details of estimates, the project cost was estimated to be Rs. 111 crores—Rs. 58 crores for road construction and Rs. 53 crores for bridge construction. Construction was taken up on a "high priority basis" and the target date for completion of the road was 31st March 1968. The priorities assigned were as follows:—

Muzaffarpur-Gorakhpur—Priority I.

Gorakhpur-Barcilly—Priority II.

Muzaffarpur-Siliguri—Priority III.

These priorities were indicated by the Defence authorities. Construction of missing road links and bridges on Siliguri-Amingaon section was also to be carried out on priority I basis and to be completed in three years.

9.3. Considering the importance of the project and that the State Governments did not have the financial or other resources to undertake such

a major time-bound programme, Government of India agreed to make grants-in-aid to the States to cover the entire expenditure on the State roads portion and over and above this to grant them 7½ per cent agency charges. Regional Offices were created by the Ministry to maintain liaison with the State Governments and keep watch over the quality and progress of works.

9.4. The Public Accounts Committee in its forty-second Report (Fourth Lok Sabha) 1968-69 commented on the decision by Government to embark on construction of the LRP on a priority basis in 1963, and the subsequent down grading of the Project in 1966 to the extent of virtually suspending work on it. However, on the basis of a review by a committee appointed in October 1968 to go into the LRP, which recommended completion of the LRP on reduced specifications by allocating Rs. 29.62 crores over and above Rs. 43.7 crores already spent upto 1967-68, Government decided to complete the work by March 1971 so that the earlier expenditure was not rendered totally infructuous. The scope of the work was also reduced to 873 miles (NH-270 miles, SH-603 miles) and 302 major, medium and minor bridges.

9.5. In September, 1970, a proposal was first mooted for construction of what was termed a "missing link" in the LRP between Darbhanga and Forbesganj in Bihar over a length of about 154 Kms with major bridges over Kamla Balan and Kosi rivers. The alignment of the LRP when it was first taken up did not include this "missing link". A committee was constituted to consider ways and means of financing construction of this missing link and Government agreed in September, 1972 to go ahead with its construction. The cost of this work was originally estimated to be Rs. 23.50 crores. Since then, the estimated cost has gone upto Rs. 53.56 crores (August 1974), of which the break-up is as follows:—

	(Rs. in Crores)
(1) Cost of road	13.967
(2) Bridges over river Kamala Balan and Kosi and other Medium and minor bridges	30.500
TOTAL	44.467
Add 20 per cent escalation cost	8.893
TOTAL	53.36

The investigations for this work alone are estimated to cost Rs. 70.70 lakhs, according to an estimate received from the Bihar State P.W.D.

[Paragraph 30 of Supplementary Report of C&AG for 1973-74, Part II, Civil.]

INTRODUCTION

9.6. A decision was taken in December, 1963 that a 995 (about 1600 Kms) long lateral road running from Bareilly in Uttar Pradesh to Amin-gaon in Assam and connecting certain focal points considered important from the Defence point of view should be constructed on a priority basis. The total cost of the project as proposed by Border Road Development Board was Rs. 55 crores but this was only a rough estimate and ultimately on receipt of details of estimates the project cost was revised to Rs. 111 crores—Rs. 58 crores for road construction and Rs. 53 crores for bridge construction. All the operations of the construction were to be planned and phased in such a manner that the entire length would be completed by 31 March, 1967. Since the State Governments concerned with the execution of the Project did not possess the necessary infra-structural facilities, the Ministry of Defence (who were the original sponsors of the scheme) agreed that the target date should be extended by 2 years and that the road work completed in two stages:

Stage I: The full width of formation and a two-lane carriageway with the road and bridge structures adequate for 'A' class leading in the first stage.

Stage II: The road structures for the ultimate design loads in the second stage.

The first stage road work and the bridges were to be completed by March 1968, and the second stage road work by March 1969. By 1965, most of the estimates for road and bridge works had been sanctioned by the Road Wing.

Construction

9.7. The State PWDs. reinforced and geared up their organisations to ensure their completion by the target date. The Government of India also created regional offices at Lucknow, Patna, Siliguri and Shillong for keeping a constant watch on progress, high standard of quality, and performance of the PWDs. and to keep a close liaison with the State PWDs and the Headquarters at Delhi. By the middle of 1966, the work was in full steam. At that stage, the Ministry of Finance found it difficult to provide funds to the required extent. The Ministry of Defence also felt about this time that the lateral road project need not be accorded the high priority given earlier. As a result of these developments, the Roads Wing had to advise the State Governments concerned in August 1966 to curtail to the barest minimum the expenditure on the works in

progress and not to make any fresh contractual commitments. This embargo following as it did the financial distress in the wake of the aftermath of the Indo-Pak conflict of 1965, continued and the instructions given in August 1966, had to be repeated in 1967. The allotment of funds for this project during the years 1966-67 and 1967-68 was drastically reduced.

9.8. Substantial portion of the work had been done on roads and bridges by then, but no portion could be considered as completed. Besides, the huge quantity of materials collected on both sides of the road in continuous lengths of hundreds of miles lying unused along partially excavated or constructed earthen embankments with bridges and culverts half completed started attracting public criticism. It was impressed upon the Ministry of Finance at the highest level that the expenditure incurred on the project would become infructuous, apart from the dislocation caused to the pre-existing lines of communication due to half completed work along the entire length. It was finally decided in May 1968 to set up a Study Team consisting of the officers of the Ministry of Shipping and Transport (Roads Wing) and the officers of the Ministry of Finance to find out the ways and means of completing the project even to certain lower standards and specifications.

9.9. The Team visited all the four States, had discussions with the local State Government officers and recommended certain reduction in length, certain omissions of link roads on which work had not very much progressed and re-assessed the cost of completion as Rs. 73.3 crores out of which Rs. 43.7 crores had already been spent till 31 March, 1968. On the basis of the reduced scope and specifications, the reduced total length worked out 873 miles including 74 miles of link road. The recommendations of the Study Team to complete the project with the revised length, cost and specifications were accepted in principle and phased programme of work fixing quarterly target of physical and financial performance was prescribed in consultation with the State Chief Engineers. According to these, the work was expected to be completed by 31 March, 1971.

9.10. The Public Accounts Committee in their 42nd Report (4th Lok Sabha—1968-69) had observed that the whole project was planned in haste and without careful assessment of the long term requirements *vis-a-vis* available resources. They had further commented on the decision of the Government for suddenly down-grading the priority of the project in 1966 and virtually suspending work on it after having embarked on its construction on priority basis in 1963. The Committee had stressed for completion of the project on schedule so that no portion of the expenditure of Rs. 43.7 crores already incurred on it was rendered infructuous.

9.11. In their Action Taken Note on the above recommendation, the Ministry while noting the conclusions of the Committee had stated (vide 86th Report of Public Accounts Committee—Fourth Lok Sabha):—

“With a view to ensuring that the project was completed on schedule, instructions were issued to the State Chief Engineers concerned with the Lateral Road Project *vide* the Ministry of Transport and Shipping letter No. LR-5(10)/69, dated the 12th March, 1969 to work out a detailed programme for completion of items of work in a properly phased and realistic manner so as to accelerate the tempo of work and complete the works by March, 1971. They were requested to fix target dates of completion for each of the remaining items of work section-wise and bridge-wise and also ensure that these targets were later on adhered to. In order to watch the progress and to plan further programmes of work, existing progress reports were modified. For road works quarterly progress charts were introduced and monthly and quarterly progress reports were called for major and minor bridges respectively. These instructions were reinforced in the D.O. letter No. LR-5(10)/69, dated the 24th April, 1969 addressed by the Director General (Road Development) to the concerned State Chief Engineers.”

9.12. The Committee desired to know whether the project had been completed. The Ministry in a note have stated:—

“Lateral road (excluding missing links) from Bareilly in Uttar Pradesh to Amingaon in Assam comprises of 873 miles (267 miles of National Highway and 606 miles of State Roads) and passes through the States of Uttar Pradesh, Bihar, West Bengal and Assam.

Work on the roads in Bihar, West Bengal and Uttar Pradesh has long since been completed in all respects. However, in Assam small stretches are yet to be completed. Details and position of incomplete works are as under:

Assam—3 miles of road (out of 58 miles) in stretches for approaches to bridges/culverts.

All the bridges have been completed except for five minor bridges in Assam which are in different stages of progress, ranging upto 91 per cent. One more minor bridge work in Assam has been deferred as it would become necessary only when the Flood Control Department constructs a spill structure on the mar-

ginal bank of Champamati river, for which they have no definite programme.

The lateral road is, however, open to the traffic with suitable diversions at the location of the incomplete road/bridges. For completing the balance works, the matter is being pursued with the Assam Government.

While submitting the revised estimates for the various works on the Lateral Road, the Assam State Public Works Department have not furnished convincing reasons to justify the excess expenditure. As such the revised estimates were returned to State unsanctioned and the State were asked to resubmit with proper justification for the excess expenditure. The same are still awaited.

The upto-date expenditure on Lateral Road (including the National Highway portion in all the four States and for both Roads and Bridges) is about Rs. 75.00 crores."

9.13. Asked as to why the Project was down-graded by the Ministry of Defence in 1966-67 when a sizeable expenditure had already been incurred on the road and bridges, the Ministry in a note have explained thus:—

"Obviously the priority was lowered by the Ministry of Defence keeping in view the international situation then prevailing and the consequent defence requirements. This applies to other roads also as according to defence requirements the Ministry of Defence go on reviewing the priorities, need, etc. of roads projected by them for being taken up under the strategic roads programme which is their usual practice. Besides lowering of priority by the Ministry of Defence the other factor which led to the reduction in the scope of the project and extension on the period of completion, was the acute shortage of financial resources from 1966-67 onwards."

Missing Link

9.14. The Audit Para points out that in September 1970, a proposal was first mooted for construction of what was termed as missing link in the project between Darbhanga and Forbesganj in Bihar over a length of about 154 km. The alignment of the LRP when it was first taken up did not include this missing link. On the basis of recommendations of a committee constituted to consider ways and means of financing construction of this missing link Government agreed in September 1972 to go ahead with this constructional an estimated cost of Rs. 23.50 crores. But the

construction cost increased to Rs. 53.56 crores by August 1974. The Committee desired to know the reasons for the increase in the construction cost and whether there was further revision of the estimates after August 1974. In reply, Government in a note have stated:—

“The initial figure of cost of Rs. 23.50 crores for the construction of the Darbhanga-Forbesganj missing link including the new bridge across the river Kosi was furnished by the State Public Works Department. This consisted of Rs. 10.00 crores for the Kosi bridge and Rs. 13.50 crores for the Road. This was based on a preliminary rough assessment made by the State Public Works Department. At that time, the exact length of the Kosi bridge and the details of guide bunds and other protective works for the approach embankment were still under model study by the Central Water and Power Research Station, Poona and these had not been finalised.

The estimate for Rs. 53.36 crores projected by State Public Works Department in 1974 consisted of Rs. 36.599 crores for the bridges portion and Rs. 16.761 crores for the Roads portion. This was also a rough cost estimate but by this time the final results of model studies were made known by the Central Water and Power Research Station, Poona. As such, the estimate for the new bridge across the river Kosi could be made on a more realistic basis and it was found that this itself would amount of Rs. 24.579 crores. Further, the proposal alignment was inspected in detail by the Public Works Department officers and proper assessment of the waterways required for other medium and minor bridges was made, on the basis of which it was found that a provision of Rs. 12.02 crores was required to be included in the estimate. It may also be mentioned that as the project was expected to take at least 7 to 8 years for its completion, escalation of at least 20 per cent in the cost was considered unavoidable. The provision of Rs. 8.893 crores was, therefore, made in the estimate on this account. (The figures of Rs. 24.579 crores and Rs. 12.02 crores are, however, inclusive of this escalation).

As the figure of Rs. 53.36 crores was very high and the availability of funds was likely to prove very difficult, an attempt was made to reduce the overall cost of the project. It was decided that we may in the first instance construct only the new bridge across river Kosi and other missing bridges but utilise the existing State Public Works Department roads and bridges wherever available instead of going in for new alignments.

With these modifications the rough cost estimate was worked out again and the figure was brought down to Rs. 35.32 crores. in July, 1974. Now, however, this project has been dropped by the Ministry of Defence.”

Audit observations as contained in reports on certain States

9.15. The C&AG in his reports for the year 1973-74 concerning the States which were responsible for the execution of the L.R.P. has made certain observations regarding the performance of the respective State PWDs. In this connection, extracts from the reports of the following States are given:

(i) *Assam*

In Assam the roads (length of 58 miles approximately) enters at the left bank of the Sankosh river (on the border with West Bengal) and joins National Highway No. 31 at Aie river approach.

Out of three major bridges and 14 medium bridges to be constructed on the road, 2 major and 3 medium bridges were completed and work on the remaining major bridge at Champamati and medium bridge at Bokra was in progress. Of the 45 minor bridges, 33 were completed and the remaining 12 were nearing completion. The Chief Engineer stated in March 1976 that except for four minor bridges, all other bridges had been completed. The four minor bridges were incomplete because of the death of the contractor in one case and non-finalisation of revised estimates and allotment of funds in the remaining three cases.

Expenditure upto March 1974 on 34 minor bridges, formation work covered by 4 jobs, establishment of the soil testing laboratory, etc., and construction of an inspection bungalow at Bongaigaon was Rs. 486.17 lakhs. The estimates for these items totalled Rs. 259.45 lakhs. The excess expenditure had not been sanctioned by the Government of India (February 1976).

The Chief Engineer inspected the road in August 1974 and found heavy damage to the subgrade and surface of the road. Almost the whole road was found to be covered with the big pot-holes. He reported that reconstruction of the hard crust would be necessary on the damaged stretches and in certain reaches, at least 50 centimetres of the subgrade would have to be relaid and compacted with selected soil. For repairing pot-holes, water-bound macadam would be necessary, followed by surface painting. The department stated in March 1976 that

the road had been repaired from February to April 1975, except for a few stretches which were still under repair.

(ii) Bihar

Section from Araria to Galgalia (via Bahadurganj and Thakurganj). This section of the lateral road, 58 miles (93 kms.) long, is in Purnea district and its construction was sanctioned in four parts between August 1964 and June 1966 at a total estimates cost of Rs. 9,52.42 lakhs as detailed below:

Particulars	Estimated cost	Month/Year of sanction
(In lakhs of Rupees)		
1. Araria-Bahadurganj-Thakurganj section (52 miles)	2,54.96	August 1964
2. Thakurganj-Galgalia section (6 miles)	20.50	Ditto
3. Bridges and spill-bridges (51 nos.)	6,60.30	1965 onwards
4. Culverts (15 nos.)	6.66	June, 1966

The works were to be completed by December, 1968. But the work at item 2 was completed in December 1971 and the others in January 1973. Actual expenditure on items 1 and 4 also exceeded the estimate by 53 per cent and 26 per cent respectively. Although the Thakurganj-Galgalia section was completed in December 1971, the accounts of the work had not been closed (November, 1974).

For the Araria-Thakurganj section a revised estimate was prepared on the basis of actual expenditure incurred (Rs. 3,91.12 lakhs) and sent to the Government of India in January, 1972. The main reasons for the increase in cost were stated to be extra earthwork due to increase in the formation level of the road and the bridges, extra cost for carting earth, compaction of earth by machinery, and maintenance of service roads and temporary wooden bridges for six years instead of for three years, as estimated. The excesses in actual expenditure indicated that the original estimate was not prepared after full survey and investigation.

While the road was still incomplete, flood damage repairs costing Rs. 21.74 lakhs were undertaken in 1968-69, 1971-72 and 1972-73. Of this, Rs. 7.6 lakhs spent in 1968-69 were included in the revised estimate for the work.

Cement (13,482 bags) costing Rs. 1.24 lakhs supplied by a firm in October and November 1969 was found to be sub-standard after it was used in the construction of bridges. The work had to be dismantled and redone at a cost of Rs. 1.38 lakhs. The cement was not tested before use, as was required. A money suit for Rs. 3 lakhs had been filed against the firm and the case was awaiting settlement (November 1974).

Even though the road work was completed in January 1973, materials worth Rs. 4.13 lakhs were not utilised (November 1974). Materials had not been physically verified. They had also not been transferred to other works in progress.

A firm was awarded the work of construction of a high level bridge across river Kankail on this road at a cost of Rs. 24.5 lakhs; the work was to be completed by November, 1970. The bridge was completed only in 1973. Though the department attributed the delay to the contractor, no penalty which was leviable under the contract was actually imposed. The matter was brought to the notice of the department in May 1973, but no reply has been received so far (September 1975)."

§(iii) *Uttar Pradesh*

(a) The work on the Lateral Road Project in Uttar Pradesh was completed by March 1974 at a cost of Rs. 24.08 crores. The work on 1.35 miles of road within Gorakhpur city had, however, not been completed by December, 1974.

The State Public Works Department attributed the slow progress of the project to (i) the shortage of road rollers, tar boilers and spare parts of earth moving equipments and (ii) delay in sanctioning the estimates. It was reported that the approval of Government of India to estimates for sub-section 4—3 Nanpara-Zalimnagar (28 miles) and sub-section 4—2 Lakhimpur-Atra (15.5 miles) and to estimates for 5 medium bridges was received in August and September 1970.

(b) The construction of a medium bridge at mile 9 of Pilibhit-Puranpur section, was started in February 1963 before the estimate was sanctioned and by July 1963 two wells had been sunk at a cost of Rs. 0.28 lakh. These wells were, however, found unsuitable for the finally approved design of the bridge. The work also being found substandard, the wells were abandoned. The bridge which was scheduled to be completed by 1969 at a cost of Rs. 5.04 lakhs was ultimately completed in March 1973 at a cost of Rs. 6 lakhs.

- (c) The bridge over river Ghagra near Zalimnagar (Bahraich district) was constructed by 1968 at a cost of Rs. 436.35 lakhs. In July 1968 cracks were noticed in the bulbs of the beams over their entire length. In August 1969, laboratory tests revealed that the concreting done in some parts of the bridge was substandard.
- (d) During the period of construction of the Lateral Road Rs. 1.74 crores were spent on its repairs.
- (e) During the rains of 1971 extensive damage was caused to the road in the Bareilly-Bahraich Section, for the restoration of which Rs. 4.57 lakhs were spent during 1972-73 and 1973-74. A major part of this expenditure was on miles 6 and 8 to 13 of Bareilly-Pilibhit section, which were submerged at several places.
- (f) While no reports of inspection of the road under State Highways were available, the Monthly Report for August 1974 of the Regional Office of Ministry of Transport at Lucknow indicated that the road in kilometres 289 to 293, 297 to 300 and 312 to 315 (Gorakhpur-Kasia section of National Highway No. 28) had a very bad surface and spraygrouting with material left over from construction of the road, had to be provided. Kilometres 284, 285, 294 to 296, 301 and 302 were rough, and patches and settlements were developing thereon. In kilometres 317 to 361 of the Kasia-Bihar border section, the road had developed settlements and waviness in at least 16 kilometres, whereas on some stretches in kilometres 358, 359 and 360 parties had not been completed.

9.16. From the material made available to the Committee and the findings of the Audit, the Committee are constrained to think that the Lateral Road Project for constructing a length of 995 miles of road from Bareilly to Amingaon, with 23 major bridges, 130 medium bridges and 185 minor bridges, was rushed through without creating adequate infra-structural facilities for its execution in the States of Uttar Pradesh, Bihar, West Bengal and Assam which were responsible to execute it within their respective territories. The State P.W.Ds. did not have adequate man-power, road construction machinery and other resources necessary to execute such a gigantic project which was originally scheduled to be completed by 31 March 1967. To enable the State Governments to create separate PWD Wings exclusively for the execution of the project, the target date of the project had to be extended by two years. The total cost of the project as originally proposed by the Border Roads Development Board was roughly estimated at Rs. 55 crores, but on receipt of details of estimates it was increased to Rs. 111 crores.

9.17. What has distressed the Committee more is the fact that the priority of the Project was down-graded in 1966 to the extent of virtually suspending work on it. It was not resuscitated until a review by a Study Team in 1968 which recommended that the Project should be completed by March, 1971 on reduced specifications by allocating Rs. 29.26 crores over and above Rs. 43.7 crores already spent upto 1967-68.

9.18. The Committee all the more regret that even after reducing the parameters of the Project (total length reduced from 995 miles to 873 miles with a corresponding reduction of bridge works), the authorities failed to complete the project by the revised date of March, 1971 although a major portion of it was already completed by 1967-68. And all this happened despite the forceful argument of the Committee made in their 42nd Report (Fourth Lok Sabha) that the expenditure already incurred should not be allowed to become infructuous.

9.19. According to the information furnished to the Committee, some small stretches of the road and bridges are still to be completed in Assam. The Committee learn from the C&AG's report relating to Assam for the year 1973-74, that four minor bridges are incomplete because of the death of the contractor in one case and non-finalisation of revised estimates and allotment of funds in the remaining three cases. The Committee need hardly stress that all the outstanding issues should be settled with the Government of Assam so that the construction of the remaining stretches of the road and bridges can proceed expeditiously and completed without further delay.

9.20. Another instance of improper planning on the part of the authorities has come to light in regard to the construction of a missing link in the project between Darbhanga and Forbesganj in Bihar, over a length of 154 Kms. This project, which was originally estimated to cost Rs. 23.50 crores and subsequently revised to Rs. 53.36 crores, was abandoned on the plea of constraint of resources. The Committee are unable to appreciate the reasons which led the Ministry to take up this project in September 1970 when the priority of the Lateral Road Project was down-graded and the work had virtually been suspended till 1968. It is also not clear to the Committee how the project, which was taken up for execution in 1972, was summarily abandoned in 1974. The Committee desire that a full explanation of the case should be furnished in consultation with the Ministry of Defence.

9.21. The Committee are distressed to note that besides taking a long time of over a decade in the completion of the Lateral Road Project, there were other irregularities and discrepancies which have come to the notice of Audit. As for example, excess expenditure has been incurred by the States Assam, Bihar etc. In Assam expenditure upto March 1974 on 34

minor bridges, formation of work covered by 4 jobs, establishment of soil testing laboratory etc. and construction of an inspection Bunglow at Bongaigaon was Rs. 486.17 lakhs against the estimate of Rs. 259.45 lakhs. Similarly, in the case of Bihar, the estimated expenditure of Rs. 255 lakhs on Araria-Bhadurganj Section (52 miles) and Rs. 6.66 lakhs on culverts was exceeded by 53 per cent and 26 per cent respectively. The excesses in actual expenditure indicated that the original estimate in the case of Araria-Bhadurgarh Section was not prepared after full survey and investigation. In Uttar Pradesh, a medium bridge at mile 9 of Pilibhit-Puranpur Section, scheduled to be completed in 1969 at a cost of Rs. 5.04 lakhs was ultimately completed in March, 1973 at a cost of Rs. 5 lakhs.

9.22. As regards the quality of work done, the Committee note that there was considerable damages done to some road stretches in the States and heavy expenditure was incurred on their repairs. In Assam, the Chief Engineer had inspected the road in August, 1974 and had found heavy damage to the sub-grade and surface of the road. Almost the whole road was found to be covered with big pit-holes. In Bihar, while the road was still incomplete, flood damage repairs costing Rs. 21.74 lakhs were undertaken in 1968-69, 1971-72 and 1972-73. It is reported that cement costing Rs. 1.24 lakhs supplied by a firm in October and November, 1969 was found to be sub-standard after it was used in the construction of bridges. The work had to be dismantled and re-done at a cost of Rs. 1.38 lakhs. Even though the road work was completed in January 1973, materials worth Rs. 4.13 lakhs were not utilised (November 1974), nor physically verified. In the case of bridge across river Kankail, there was a delay of about 3 years in completion. Though the delay was attributed to the contractor, no penalty was levied on him. In Uttar Pradesh, the bridge over river Ghagra near Zalimnagar though constructed in 1968 at a cost of Rs. 436.35 lakhs in July, 1968, showed cracks in the bulbs of the beams over their entire length due to sub-standard concreting. In Pilibhit-Puranpur Section, two wells had been sunk at a cost of Rs. 0.28 lakhs for the construction of a bridge at mile 9. These wells were found unsuitable for the finally approved design of the bridge and were abandoned. It is reported that during the construction of the Lateral Roads Rs. 1.74 crores were spent on its repairs. During the rains of 1971 extensive damage was caused to the road in the Bareilly-Bahraich Section for the restoration of which Rs. 4.57 lakhs were spent.

9.23. The Committee would like Government to make a detailed study of the observations made by the Audit in the reports relating to the States for taking appropriate action. Government may also identify such of the deficiencies and irregularities which have come to their notice during the execution of the Lateral Roads Projects so as to lay down norms while planning projects of such magnitude in future.

(ii) Roads of Economic and Inter-State Importance.

Audit Paragraph

9.24. For promoting inter-State road communication facilities and to generally assist in the economic development of areas not served by NHs, a Centrally-aided programme was initiated in May 1954 under the title "State Roads of Economic and Inter-State Importance" (henceforth EI roads). Till the beginning of the IV Plan grants-in-aid were given to State Governments for such EI road schemes accepted for financing, mostly on a matching grant basis, *i.e.*, the cost being met partly by Central Government and partly by State Government. In the Fourth Plan, however, the pattern of assistance was changed to 100 per cent loan assistance, and a total provision of Rs. 25 crores was made for EI roads, of which Rs. 12 crores were for carry-over works and Rs. 13 crores for new schemes. The loans are repayable in 15 years and carry 5 per cent interest with a rebate of $\frac{1}{4}$ of one per cent for punctual payment of interest and repayment of principal. (The rate of interest may vary from time to time, as decided by Government). Power was delegated to the State Governments to accord sanction to EI roads costing upto Rs. 1 crore, State Governments are required to send particulars of the approved estimate of such roads sanctioned by them as also a certificate from the State Finance Department on the basis of which the Central Government releases funds for each such project accepted for Central financing. They are required to submit detailed estimates, tenders etc. to the Roads Wing for technical approval and financial sanction of such projects costing more than Rs. 1 crore. The broad specifications and standards for individual projects were to be the same for the appropriate categories of roads and bridges (State highways, major district roads etc.) as laid down by the Roads Wing.

9.25. Proposals were called for from the State Governments for EI roads, and on receipt were examined and in January 1971, forty-nine works in 17 States were approved (Section A of Appendix IX) for development of 353 miles of such roads and construction of 64 bridges including such major bridges as those over the Yamuna at Palwal (Haryana), over the Subarnarekha in Orissa, on Kharagpur-Balasore section, over the Sutlej at Shahkot (Punjab), over the Chambal near Sawai-Madhopur (Rajasthan) over Pranhita and Indravati rivers at Maharashtra-Andhra Pradesh and Maharashtra-Madhya Pradesh borders, over Krishna at Galgali (Karnataka) and a 93 mile road through the mountainous area between Chamba in Himachal Pradesh and Baderwah in Jammu and Kashmir. The total cost of the projects approved at that stage was Rs. 17.46 crores, of which the above-mentioned 7 major bridges and the Chamba-Baderwah road accounted for a little over Rs. 7.50 crores. Later, 17 other projects were also approved including Rs. 2.32 crores for roads in dacoit infested areas of UP (Rs. 134.50 lakhs) and Madhya Pradesh (Rs. 97.50 lakhs), *vide*

Section B of Appendix IX; three projects in Maharashtra were approved in substitution of the two bridges across Pranhita and Indravati rivers sanctioned in January 1971. The total estimated cost of all approved projects till the end of the IV Plan was Rs. 25.36 crores.

9.26. The individual projects approved in January 1971 were based on broad details of site, rough cost estimates and the need for the road(s) or bridge(s) furnished by State Governments. In respect of the Chamba-Bhaderwah road no cost-benefit analysis of the heavy investment of between Rs. 2 lakhs and Rs. 3 lakhs per mile seems to have been undertaken. The traffic did not justify it. There was, further, controversy over the alignment of the route. The population expected to be benefited in the Doda district of J & K by construction of this road was estimated at about 2,000 in the villages falling on the alignment, and it was reported by the Ministry's engineers after local inspection that drift snow would result in the road being blocked for about five to six months in the year.

9.27. The J & K State P.W.D. carried out a survey of the Bhaderwah-TIP border length of this road (50 kilometres long) in May 1971 and, based on this, estimates were prepared for kilometres —8 (cost Rs. 12.83 lakhs), kilometres 9—27 (cost Rs. 28.64 lakhs) and kilometres 27—50 (cost Rs. 60.29 lakhs). The estimates were sent to the Ministry for approval in October 1971, May 1972 and September 1972 respectively. The Ministry sanctioned loan assistance of Rs. 9.87 lakhs, Rs. 21.53 lakhs and Rs. 40.77 lakhs for these three estimates respectively, *i.e.*, in the proportion of 115.149 being the ratio of the earlier estimated and final estimated costs. While according sanction, the Ministry wanted improvement to the geometrics, but since some of the work had already progressed considerably in stretches, it was not found feasible to carry out these improvements without incurring infructuous expenditure. In the stretches not yet taken up the State Government assured that the necessary modifications would be incorporated, subject to feasibility of site conditions and economic aspects (September 1973). In October 1974 the State's Anti-corruption organisation seized all records relating to land-acquisition for this road.

9.28. The Sutlej bridge proposed by the Punjab Government at Shahkot, it was also pointed out in the Ministry, needed reconsideration, particularly as two bridges already existed in that area, at Harike and Phillaur. Evacuation of civilians was, however, cited as the reason for approving this major project, the single most expensive work of economic or inter-State importance.

9.29. Individual projects under the EI Programme costing less than Rs. 100 lakhs each can be sanctioned by State Governments under their own powers. However, even with this substantial delegation of powers to State Governments, the pace of progress in sanctioning EI projects in

States is slow. In Bihar, no works out of the four proposed have been approved so far (January 1975). For the Sutlej bridge at Shahkot, the tender was awarded to a firm not experienced in major bridge construction, even though in the case of the Chakki bridge over the Beas, for which this firm had also quoted, the State C.E. had not awarded the work due to its lack of such experience. Though the main bridge work has been awarded (Rs. 95.215 lakhs), the estimates for the approaches on either side (Rs. 43.85 lakhs) have not been finalised.

9.30. In Madhya Pradesh, except the roads in the dacoit-infested areas, no other works were sanctioned in the IV Plan. One other road, Limbdi Thandla, has subsequently been sanctioned. The Chambal bridge has been dropped from the Plan. In West Bengal, the bridge over the Hooghly at Kalyani is yet to be sanctioned.

(Paragraph 31 of Supplementary Report of C&AG for 1973-74, Part II, Civil).

9.31. The Central Aid Programme of State Roads of Inter-State or Economic Importance was actually initiated in May 1954 with a view to helping the State Governments in the development of roads|bridges falling under the following categories:

- (i) Road and bridge projects considered essential for promoting inter-State communication facilities;
- (ii) Road and bridge projects required to open up backward areas and|or regions rich in mineral resources, etc.; and
- (iii) Road|bridge projects required to provide access to areas where railway facilities cannot be provided.

9.32. It has been stated by the Ministry that the programme has continued since the First Plan though due to financial stringency a large-scale programme could not be approved during the Second and Third Five Year Plans. In the Fourth Five Year Plan against the total provision of about Rs. 25 crores (Rs. 15 crores for carry-over works and Rs. 10 crores for new schemes approved), an expenditure of Rs. 15.71 crores was incurred. The year-wise break-up of this expenditure is given below:—

		(Rupees in Crores)
1969-70	. . . . .	1.55
1970-71	. . . . .	1.91
1971-72	. . . . .	2.25
1972-73	. . . . .	4.00
1973-74	. . . . .	6.00
	TOTAL	15.71

9.33. One fundamental change which came up in regard to the character of these schemes since its commencement was that while upto 31-3-1969 the pattern of assistance was matching grants-in-aid, with effect from the commencement of the Fourth Plan, *i.e.*, 1-4-1969, this was changed to 100 per cent loan assistance.

9.34. The draft Fifth Five Year Plan includes a provision of Rs. 54 crores—Rs. 30 crores for approving new schemes and Rs. 24 crores for carryover works under this programme. It has been stated by the Ministry that as a matter of planning process, which has been also accepted by the Planning Commission in regard to new road scheme, the Ministry generally formulates proposals worth about 150 per cent of the Plan provision, the actual expenditure over the Plan period being restricted to the Plan allocation and the balance being carried over to the next Five Year Plan.

9.35. While inviting proposals from States for financial assistance under this programme, the Ministry brings to their notice the criteria referred to above and requests them to submit proposals with the required technical data, estimated cost and data led justification for each individual scheme in the order of their *inter-se* priority. After the receipt of those proposals, they are examined in detail and assessment made as to the extent to which those proposals fulfil the criteria referred to above, road communication system in the area and special considerations, if any, requiring greater weightage for considering schemes. After this exercise, an overall list containing the proposals of the various States is formulated, and further adjusted in the light of funds available for the purpose. Thereafter the proposals so finalised are submitted to Minister for approval and intimated to States after clearance by Planning Commission and Ministry of Finance.

9.36. To sum up, the Ministry takes the following considerations into account while accepting proposals of the State Governments for financial assistance under the aforesaid Central Aid Programme:—

- (1) The extent to which the proposals of the State Governments fit in with the criteria referred to above.
- (2) *Inter-se* priority of individual schemes among the proposals of the States.
- (3) Overall total provision available for financial assistance in the Five Year Plan.
- (4) Willingness of the State Government to take loan assistance as some States like Assam, Meghalaya, Nagaland, etc. have not accepted the pattern of loan assistance.

- (5) Special considerations, if any, requiring greater weightage like the interests of some Central Ministries/Public Sector Undertakings etc.
- (6) General position of road communications in the area so that it is ensured that higher priority is given to proposals in regions which are comparatively lacking in road communication facilities.

9.37. Asked if the Ministry was satisfied that the proposals sent by the States were examined in relation to the costs and the social benefits likely to accrue, so that priority was given to those works where the benefits in relation to the costs were the greatest, the Ministry have stated:—

“The Ministry is primarily guided by the justification given by the State Governments themselves as they are local authorities concerned and have doubtless better knowledge about the local requirements, *inter-se* priority of individual schemes with reference to those requirements and the social benefits to be derived from the implementation of those schemes *vis-a-vis* the cost involved.”

9.38. Since in the matter of roads of Economic and Inter-State Importance, the justification was to be given by the State Governments, who might adopt different criteria and stands of judgment, the Committee desired to know as to how the Ministry were able to decide about each work out of the proposals received from different State Governments. To this, the Director General (Roads) has stated during evidence:—

“Since the start of the Fourth Plan we were giving 100 per cent loan assistance under the scheme. In the context of the Fifth Plan, we started with an indication that we might get 30 crores outlay for new works and when we got proposals from States, this totalled up to Rs. 385 crores. That was a huge, big package. We applied our screening criteria and selected schemes worth Rs. 51 crores which we thought of projecting to the Planning Commission.”

9.39. Enquired if any socio-economic problems were taken into consideration at the time of selection of roads, the Director General (Roads) has clarified:—

“We picked up only the absolute important ones and each State could figure for hardly 2 or 3 projects. The package of 51 is still under consideration.”

The witness has further added:—

“Backwardness, state of existing communication facilities etc., all these are taken into account. The engineers have not found

any difficulty in choosing these projects to be ultimately picked up.”

9.40. As mentioned earlier, the pattern of assistance for executing these roads with effect from the commencement of the Fourth Plan, *i.e.* 1st April, 1969, was changed to 100 per cent loan assistance. In this connection, the Sub-group on Roads, set up by the Ministry on Road Requirements of the Central Section under the Fifth Plan, has observed in its Report as under:—

“The Group understands that the pattern of loan assistance was not accepted by all the States in the 4th Plan and the Govt. of Assam actually backed out of the scheme even after certain new projects to be undertaken as part of this programme in the 4th Plan had been approved. Nagaland also has not participated to this scheme. The main problem was that their ways and means position was so tight that they did not like to burden themselves with a further loan. This financing pattern of cent per cent loan ignores the essentially infra-structural nature of road construction in which returns do not always get generated in the time schedule thought of or do not necessarily come to create exchange value in a planned manner as in an industry.

As for the quantum of assistance, it is felt that the assistance should be in any case on a *matching basis*. This would have the following advantages:—

- (1) This would involve a sense of self-participation on the part of the State Governments and would, therefore, make them to take greater interest in presenting really pressing demands, avoiding unnecessary increase in the costs and frequent revisions in the estimates.
- (2) It would enable the Government of India to approve a larger programme within available funds than would be possible under a 100 per cent assistance pattern.”

Chamba-Bhaderwah Road

9.41. The Scheme relating to the construction of Chamba-Bhaderwah Road, length about 148 Kms., as referred to in the Audit Para, was approved under Central loan assistance under the Central Aid Programme of State Roads of Inter-State and Economic Importance in the 4th Five Year Plan. The length of the road in Jammu and Kashmir portion is about 50 Kms. while the remaining length falls in the State of Himachal

Pradesh. The project cost for the Jammu and Kashmir portion, as estimated in the year 1972, was about Rs. 149.00 lakhs and a sum of Rs. 115.00 lakhs has been approved as Central Loan Assistance to Jammu and Kashmir, the balance cost being met by the State Government from their own resources.

9.42. Estimates totalling to Rs. 93.51 lakhs for the formation cut and for construction of retaining walls etc. for the following 3 sections of the road in Jammu and Kashmir portion have been approved by the Ministry:—

Section	Sanctioned cost Rs. lakhs
I KM. 0 to 8	12.79
II KM. 9 to 27	27.89
III KM. 28 to 50	52.83
TOTAL	93.51

9.43. According to the information furnished by the Ministry to the Committee, the progress made in the completion of the roads is as under:—

“Estimates for construction of bridges and culverts are awaited from the State Government. The State P.W.D. have however fixed sites for various bridges, carried out detailed surveys and collected hydraulic and other relevant data to enable them to prepare designs and cost estimates.”

The state of physical progress ending March, 1976, as reported by the State P.W.D. was as under:—

Section I (KM. 0 to 8)	Physical Progress in percentage
Land Acquisition	100
Earthwork	97
Retaining walls etc.	12
<i>Section II (KM. 9 to 27)</i>	
Land Acquisition	60
Earthwork	71
Retaining walls	75
<i>Section III (KM. 28 to 50)</i>	
Land Acquisition	} Not required 30
Earthwork	
Retaining walls	

The overall progress made on the work was about 60 per cent. Expenditure incurred upto 31-3-1976 was reported as Rs. 54.67 lakhs.

As regards portion of the road falling in the State of Himachal Pradesh, detailed estimates have been approved by the State as approved cost of the work is Rs. 65.00 lakhs which is less than Rs. 1 crore. However, as per the report of the State P.W.D., the progress made on the work which mainly involves improvement of existing road/track, was as under:—

Earthwork and retaining walls	..	40%
C. D. works	..	62%

The overall progress ending August 1975 was about 65 per cent and expenditure incurred was about Rs. 44.30 lakhs.

It may be stated that progress on the E&I works is dependent on the funds those are released to the State Government as loan assistance, keeping in view the overall availability position of funds and present financial stringency. In the present case it may also be stated that the area lies in difficult terrain with adverse climatic conditions and limited working seasons for the construction work.”

9.44. It has been pointed out in the Audit Para that while according sanction, the Ministry wanted improvement to the geometrics, but since some of the work had already progressed considerably in stretches, it was not found feasible to carry out those improvements without incurring infructuous expenditure. In the stretches not yet taken up, the State Government assured that the necessary modifications would be incorporated, subject to feasibility of site condition and economic aspects (September 1973).

9.45. Asked if the modifications proposed by the Ministry have since been adopted in the remaining stretches, the Ministry have stated:—

“While sanctioning the estimates, it was indicated in the technical note enclosed with the sanction letter that the alignment proposals have been modified to eliminate some of the curves and improve geometrics and it was pointed out that feasibility of improving the alignment as suggested above may be examined during execution. State Chief Engineer while replying to the technical notes has stated *vide* letters No. 19634-36 dated 7-12-73 and 19637-39 dated 7-12-73 that the modifications were being implemented for the remaining stretches to improve the geometrics keeping in view the feasibility at site and its economical aspects. The Audit has also been informed by the Executive Engineer, PWD, Bhaderwah, that the modifications have been carried out as per necessity and feasibility at site as per telephonic information given by State P.W.D.”

9.46. The Audit Para further mentions that in October, 1974, the State's Anti-corruption Organisation seized all records relating to land acquisition for this road. Asked to indicate the reasons therefor, the Ministry have stated:—

“As per the information given by the State PWD on telephone, Anti-corruption Organisation of the State had seized the land acquisition records on the basis of some complaints. The allegations, however, were not substantiated and the case, therefore, not proved. The records are stated to have been returned to the State P.W.D. Division.”

Sutlaj Bridge at Shahkot

9.47. It will be seen from Appendix-IX—Section A, that in Punjab a bridge over river Sutlaj at Shahkot was sanctioned in January, 1971 at an estimated cost of Rs. 200 lakhs and the expenditure was authorised in March, 1973. It was pointed out by the Ministry to the Audit that the bridge needed reconsideration, particularly as two bridges already existed in that area at Harike and Phillaur. Evacuation of civilians was cited as the reason for approving this major project. It has been further stated that the tender for the bridge was awarded to a firm not experienced in major bridge construction even though in the case of Chakkibridge over Bias for which this firm had also quoted, the State Chief Engineer had not awarded the work due to its lack of experience.

Delegation of Powers

9.48. The Audit have pointed out that though individual projects under E. I. Programme less than Rs. one crore each can be sanctioned by the State Governments under their own powers, the pace of progress in sanctioning such projects has been slow. In this connection, it has been stated that in Bihar, no works out of the four proposed have been approved so far (January, 1975). Though the main Sutlaj bridge work has been awarded, the estimates for the approaches on either side have not been finalised. Similarly, in Madhya Pradesh, except the roads in dacoit-invested areas, no other works were sanctioned in the 4th Plan. In West Bengal, the bridge over the Hooghly at Kalyani is yet to be sanctioned.

9.49. Some extracts from the Supplementary reports of the Comptroller and Auditor General for the year 1973-74 relating to roads and bridges of economic and inter-State importance taken up for construction during the Fourth Plan in the States of Andhra Pradesh, Assam, Bihar Karnataka, Maharashtra and Uttar Pradesh are given below:—

Andhra Pradesh

The loan of Rs. 25 lakhs sanctioned in January 1971 by the Government of India for the road 50 kilometres from

Burgumpad to Aswaraopet, was utilised for construction of the stretch 19.14 kilometres long from Burgumpad to Annavaram (55.26 kilometres from Aswaraopet). Work on this stretch started in March 1973 and scheduled to be completed before December, 1973, had not been completed (September, 1974). The earthen formation of the road was entrusted to four contractors. It was completed excepting for four cross drainage works and gaps in all, 0.2 kilometre long, for which the land had not been acquired by the Revenue Department. Till September 1974, Rs. 7.08 lakhs were spent.

The position in February 1975 was that there was a gap of 26.26 kilometres forming a gap in the middle of the road. Apart from the section from Burgumpad to Bhadrachalam 22 kilometres long which was an existing road, the other sections too were, as mentioned above, incomplete. Thus, ten years after the road was approved and work commenced, the road on which Rs. 21.25 lakhs had been spent did not serve its purpose.

Assam

The Government of India gave Rs. 19.58 lakhs as loans for these roads upto 1971-72. Thereafter such assistance offered by the Government of India was not accepted by the State Government in consideration of the resources of the State and the liability for repayment of the loans.

Karnataka

- (i) In April 1969, six works (including one bridge) were in progress. Five of these works were completed by March 1974; one work "Mani-Ullal Road" had been deferred after Rs. 52.69 lakhs were spent.
- (ii) Construction of a bridge across river Tungabhadra near Gilleegur (Mantralayam) on Hyderabad-Bangalore road (estimated cost: Rs. 44.75 lakhs) was approved by Government of India in October 1968 and was taken up in November 1969. This was scheduled to be completed by January 1972.

The bridge was incomplete as construction of approach roads, protective works, etc., were still in progress (March 1975).

(iii) Three works (estimated cost: Rs. 236.47 lakhs) were approved by Government of India for grant of loans under this programme in the Fourth Plan period as detailed below:

	Estimated cost of works (Rupees in lakhs)
1. Construction of a bridge across Kabini river at Nanjangud on Mysore-Oty Road	20.00
2. Construction of a bridge across Krishna river near Galgali on Hubli-Sholapur Road	50.00
3. Construction of Malleswar-Mangalore Road	166.47

Loans given by the Government of India from 1969 to 1974 for these works as also for the residual expenditure on works started before April 1969 totalled Rs. 192.58 lakhs. Expenditure incurred by the Government of Karnataka during the period was Rs. 49.79 lakhs (including Rs. 35.02 lakhs on spill-over works).

Maharashtra

Against the estimated cost of Rs. 31.31 lakhs and Rs. 99.42 lakhs of bridges across river Savitri and Revdanda Creek, Central loans of Rs. 60 lakhs and Rs. 50 lakhs were provided. Relationship between the estimated cost and loan was not clear. Information regarding cost-benefit studies, if any conducted, was not available. While the Government of India had approved the construction of the bridge across the Revedanda Creek in September 1972, an agency to construct the bridge had not been found upto October 1974. Against Rs. 110 lakhs given as loans by the Government of India, only Rs. 18.04 lakhs were spent upto 1973-74.

Uttar Pradesh

Construction of the Chamoli-Okhimath road was approved by the Government of India in July 1960 as part of the scheme for economic development of Uttarakhand and the construction was started in August 1960 due for completion in March 1970. An estimate for Rs. 122.16 lakhs was sanctioned in June 1962.

The progress of work was slow and by March 1969 only the Chamoli-Gopeshwar section (6.25 miles) was completed up to the consolidation stage. In January 1971 the estimates were revised for the Chamoli-Chopta ridge section from Rs. 84.81 lakhs to Rs. 98 lakhs and for the Chopra ridge-Kund section from Rs. 37.35 lakhs to Rs. 75.43 lakhs. The latter

estimate was further revised to Rs. 75.61 lakhs in September 1973 raising the total revised estimate to Rs. 173.61 lakhs. The target date for completion was also revised to December 1972.

Except for the stretch from Mandal to Chopta ridge, the road was reported to have been completed by August 1974. Till September 1974, the expenditure on the Chamoli-Chopta ridge section was Rs. 97.13 lakhs and on the Chopta ridge-Kund section Rs. 73.44 lakhs.

9.50. The Committee note that against the total allocation of Rs. 25 crores earmarked for roads of inter-State and economic importance in the Fourth Plan, and expenditure of Rs. 15.71 crores (about 63 per cent) only was incurred during the Plan period. The pace of expenditure was significantly slow (Rs. 5.71 crores only) during the first three years (1969-70 to 1971-72) because of the delay in the finalisation of the new programme which could be approved in 1971 only due to non-finalisation of the pattern of assistance and the time taken in ascertaining the willingness of the States to take the loans. It is surprising that though schemes costing Rs. 17.46 crores (Appendix IX-A Section) were approved in January, 1971 under the Programme, the expenditure for the same was authorised in May, 1972 or thereafter in majority of the cases. The remaining schemes (Appendix IX-B Section), costing about Rs. 8 crores were approved after 1971 and the expenditure was authorised in their case during the period from March, 1973 to August, 1975. This underlines the need for more expeditious processing of proposals and issue of the concomitant sanctions.

9.51. The Committee note that even for the 5th Plan Government have not so far finalised the inventory of roads of Inter-State and Economic Importance which are to be taken up, although three years of the Plan have already elapsed. It is noted that proposals for the new schemes costing Rs. 385 crores were initially received from the States but after screening, schemes costing Rs. 51 crores have been selected and projected to the Planning Commission against the Plan provision of Rs. 30 crores. This package of schemes is stated to be still under consideration. The Committee would like this to be expedited.

9.52. The basic change that has been introduced in the Scheme since the commencement of the programme in 1954, was that while upto 31 March, 1969 the pattern of assistance was matching grants-in-aid, this was changed to 100 per cent loan assistance with effect from the commencement of the Fourth Plan, i.e. 1 April, 1969.

The Committee note that some States, such as Assam, Meghalaya, Nagaland etc. have not availed of any loan assistance. The Sub-Group on

Roads for 5th Plan has pointed out that "this financing pattern of cent per cent loan ignores the essentially infra-structural nature of road construction in which returns do not always get generated in the time schedule thought of or do not necessarily come to create exchange value in a planned manner as in an industry". The Sub-Group has urged assistance of matching basis on the ground that (i) it would involve a sense of self-participation on the part of the State Governments, and (ii) it would enable the Government of India to approve a larger programme within the available funds. The Committee would like Government to review the entire system of assistance by the Centre for State Roads now handled in different Groups e.g. Central Road Fund, Roads of Economic and Inter-State Importance and roads included in other Centrally sponsored programmes.

9.53. The Committee note that the construction of Bhadarwah-Chamba Road of the length of about 148 kilometres (50 kilometres in Jammu and Kashmir and the remaining kilometres in Himachal Pradesh) was approved under the Central Aid Programme of State Roads of Inter-State and Economic Importance in the 4th Plan. The project cost for the portion falling in Jammu and Kashmir as estimated in 1972 was about 149 lakhs and against that a sum of Rs. 115 lakhs was approved as central loan to the State. The overall progress on this work as on 31 March, 1976 was about 60 per cent and an expenditure of Rs. 54.69 lakhs was incurred thereon. It has been stated that the estimates for construction of bridges and culverts are still awaited from the State Government. The Committee regret that improvement in geometrics in respect of some of the stretches of the road could not be effected because of their having been already progressed. Since geometrics is a basic requirement in road alignment, they feel that this aspect should have been taken care of before the sanction was accorded to the estimates.

9.54. With regard to the portion of the road in the State of Himachal Pradesh, the Committee have been informed that the overall progress, ending August, 1975, was about 65 per cent and an expenditure to the tune of about Rs. 44.30 lakhs was incurred thereon against the estimate of Rs. 65 lakhs. The Committee would like the reasons for slow progress to be looked into and appropriate follow up action taken to complete the remaining works so that the road is pressed into public use.

9.55. Further, in respect of this road, Audit have pointed out that "no cost-benefit analysis of the heavy investment of between Rs. 2 lakhs and Rs. 3 lakhs per mile seems to have been undertaken". The traffic did not justify it. The Committee consider that before any project of this nature is undertaken for execution by the State authorities with either loan or grants from the Central Government, the Ministry should invariably be furnished with the cost-benefit studies so that the projects may be examined in their proper perspective before sanction. The Committee need

hardly point out that in the context of constraint of resources, priority may be given to construction of roads which are viable and justified on economic considerations.

9.56. The Committee note from the Audit para that though under the Programme of Roads of Inter-State and Economic Importance, individual projects costing less than rupees one crore each can be sanctioned by the State Governments under their own powers, the pace of progress in sanctioning some such projects in Bihar (4 projects), Punjab (approaches on either side of main Sutlej Bridge at Shahkot), Madhya Pradesh (except roads in dacoit-infested areas); West Bengal (bridge over Hoogly at Kalyani), etc. has been slow. The Committee would like the Ministry to look into these and such other cases where the State authorities have been either slow in sanctioning the projects or have not sanctioned and referred the same to the Centre, with a view to examine as to how far the powers delegated to the State authorities in this behalf have been utilised by them and whether in the light of that study any streamlining of the procedure is called for.

9.57. The Committee are concerned to note from the Audit para that though a bridge over the river Sutlej at Shahkot in Punjab was sanctioned in January, 1971 at an estimated cost of Rs. 2 crores it needed re-consideration as two bridges already existed in that area. It has also been stated that the tender for the bridge was awarded to a firm which had not got experience in major bridge constructions. The Committee would like to be informed as to why the position of two bridges already existing in the area was not taken into account at the time of sanctioning the major bridge at Shahkot as also the circumstances which prompted the competent authorities to award the work to a contractor who had not got adequate experience of construction of major bridges. They would also like to know the latest position in the construction of the bridge and the expenditure incurred thereon so far.

9.58. The Committee are perturbed to note cases of delays and irregularities in the execution of roads of Inter-State and Economic Importance as pointed out by Comptroller and Auditor General in his Supplementary Reports for the year 1973-74 on certain States. For example, in Andhra Pradesh for the construction of 50 kilometres of road from Burgumpad to Aswaraopat the work started in March, 1973 and scheduled for completion within six months, had not been completed till September, 1974.

9.59. In respect of Karnataka the Committee find that out of six works in progress in April, 1969, five were completed by March, 1974 and one work "Mani-Ullal Road" had been deferred after Rs. 52.69 lakhs were spent thereon. Similarly, it is reported that the construction of a bridge across river Tungabhadra near Gillesgur on Hyderabad-Bangalore Road,

though approved in October, 1968 and scheduled to be completed by January, 1972, was still incomplete in March, 1975. In the case of Maharashtra, while the Government of India had approved the construction of the bridge across the Revdanda Creek in September, 1972, an agency to construct the bridge had not been found even till October, 1974.

As regards Uttar Pradesh, construction of the Chamoli-Okimath road approved by the Government of India, in July, 1960 was scheduled to be completed by March, 1970 at an estimated cost of Rs. 122.16 lakhs. The progress of the work was so slow that by March, 1969 only the Chamoli-Gopeshwar section (about 10 Kms.) was completed. With two revisions of certain sections, in January, 1971 and in September, 1973, the total estimate of the road was revised to Rs. 173.61 lakhs. Though the target date for completion was also revised to December, 1972 the road was completed by August, 1974, except for the stretch from Mandal to Chopata bridge.

The Committee would like the Ministry to study carefully the cases of delays, as pointed out in the above and other reports of Comptroller and Auditor General of Road Development during 4th Plan with a view to take suitable remedial measures in consultation with the State authorities so that the roads and bridges taken up under the Centrally aided programme are completed expeditiously and pressed into public use.

(iii) Strategic roads

Audit Paragraph

9.60. Arising out of defence requirements, a programme of construction of certain roads in some border States was taken up in 1965. Due to the combined effects of financial stringency in 1966-67, and a revision downward in priorities (in June, 1967) by Defence Ministry of certain strategic roads (S. R. henceforth) formerly accorded high priority, there was a spill-over of SR works amounting to Rs. 8 crores. In May, 1968 the Ministry of Defence indicated once again to the Ministry of Transport, its revised requirements for construction and development of strategic roads during the IV Plan period. The IV Plan provided Rs. 8 crores for carry-over works and Rs. 35 crores for new strategic roads.

9.61. The strategic roads' priority 1st underwent drastic changes as a result of which high-priority strategic roads, on construction of which Rs. 10.57 crores had been spent, were down-graded in priority.

9.62. Test audit of some of the strategic roads brought out the following:—

- (a) **Road 'G'**: This road was sanctioned in June, 1966 for Rs. 25.83 lakhs and was completed in two stages, the first stage by September, 1967, and the second stage in 1971-72 (Second stage estimated cost Rs. 32.78 lakhs). During the intervening period of three years after completion of the first phase of

the work, the gravel road surface suffered corrugation and was badly rutted, necessitating regravelling at a cost of Rs. 4.79 lakhs. Also, the berms, which were not stabilised with gravel and hence eroded by winds and rains, had to be restored in the entire formation by fresh earthwork involving expenditure of Rs. 1.50 lakhs. The Ministry of Transport stated (December, 1975) that due to operational requirements of the Defence Ministry, the expenditure on regravelling, and earth work on restoration of road formation was unavoidable.

- (b) **Road 'H'**: The road was sanctioned in June, 1966 for Rs. 40.95 lakhs. In July, 1967 the road was categorised as 'low-priority' and work was slowed down, but again in May, 1968 a portion of 51 miles of this road, on which work was in progress, was allotted high priority. Estimate of Rs. 30.78 lakhs for dust-proofing of this portion was sanctioned by the Ministry in July, 1970. Again, in December, 1970 Ministry of Defence decided that only 28 miles of this road should be developed. Since a major portion of the road had already been completed with gravel specifications, the Ministry of Defence agreed to dust-proofing of the remaining portion even though there was no operational necessity. Thus, an amount of Rs. 16 lakhs (estimated cost of the completed portion) was avoidable expenditure.

9.63. An enquiry committee was appointed (May, 1970) by the Ministry to investigate whether undue benefits had been given to contractors in Rajasthan entrusted with construction of strategic roads, involving Rs. 2.50 crores, reports about which had appeared in the press and echoed in the Legislative Assembly. In the report submitted (December, 1973) by the Committee it was pointed out that the preliminary surveys conducted by the State P.W.D. were not adequate; availability of road metal in the originally selected quarries was not fully explored; soil tests were not carried out to adequate depths and changes had also been made in the estimates while execution of works was in progress. All these factors reported in the preliminary enquiry, resulted in excess expenditure of Rs. 17.81 lakhs. The Ministry requested the State Government to investigate the case further. The State Government referred the case to its Anti-corruption Department in July, 1974 for investigation. The results are awaited (December, 1975).

(Paragraph 32 of Supplementary Report of C&AG for 1973-74,
Part II, Civil)

9.64. For strategic roads the 4th Plan, included a total provision of Rs. 43 crores including Rs. 8 crores for pre-Fourth Plan carry-over works and

Rs. 35 crores for new works. Against this an expenditure of Rs. 36.08 crores was incurred during the Plan as under:—

(Rupees in crores)

1969-70	..	6.65
1970-71	..	4.66
1971-72	..	5.77
1972-73	..	9.00
1973-74	..	10.00
Total	..	36.08

9.65. It has been pointed out in the Audit para that during 4th Plan high-priority strategic roads, on construction of which Rs. 10.57 crores had been spent, were down-graded in priority. The Committee desired to know as to how it is ensured in such cases that the expenditure already incurred does not prove infructuous and that the roads are completed and maintained thereafter. In reply, the Ministry in a note have stated:—

“Need and priorities for the construction/improvement of Strategic Roads are fixed by the Ministry of Defence according to their operational requirements. Subsequently, when a particular road is assigned lesser priority while the sanctioned work is still in progress, it is not left incomplete. The physical position of the work done, contractual commitments and investment already made are reviewed with the representatives of Ministry of Defence and the executing agencies to utilise the work already done and to suitably limit further expenditure on the work. The scope of the work is also limited. This may result in construction of lesser length of road or down grading the specification so that local traffic can make use of the road. Keeping in view the above, the work is so planned that it is completed to such a stage that expenditure already incurred does not prove infructuous and the investment already made is fruitfully utilised. Thereafter, the executing agency completes the work according to the decisions arrived at and States maintain them. In some cases maintenance of the roads after their completion has been taken over by B.R.D.B. wherever so warranted by operational requirements.”

9.66. Asked as to who is responsible for the maintenance of roads still categorised as strategic roads, the Ministry have stated:—

“After the work on the Strategic Roads is completed, the responsibility for its maintenance devolves on the State Government as these are basically State Roads. They are generally being maintained properly.”

9.67. Asked on what considerations the strategic roads have been taken over by the Border Road Development Board after they have been completed by the States P.W.Ds, the Director General (Roads) has stated:—

“They are mostly in the Western Sector, in Rajasthan. That was decided at the highest level between Secretary, Defence and Secretary, Transport. These are strategic areas. And the Border Roads Organisation have better resources. That area is considered to be very important.”

9.68. The Estimates Committee in their 101st Report (Fifth Lok Sabha—1975-76) on Border Roads has *inter alia* observed as under:—

“At a time when the Border Roads Organisation admittedly do not have enough work and are even looking for openings outside the country, the Committee stress that there is an over-riding need for a critical assessment in depth of the requirements for provision of roads in each of the border States, particularly in the North-eastern region, so as to prepare a Master Plan with proper perspective and priorities so that these works could be taken up for execution by the Border Roads Organisation.”

9.69. It has been pointed out in the Audit para that an Enquiry Committee was appointed in May 1970 by the Ministry to investigate whether undue benefits had been given to contractors in Rajasthan entrusted with construction of strategic roads, involving Rs. 2.50 crores. Audit has also stated that in the report submitted (December 1973) by the committee, the preliminary surveys conducted by the State P.W.D. were not adequate; availability of road metal in the originally selected quarries was not fully explored; soil tests were not carried out to adequate depths and changes had also been made in the estimates while execution of works was in progress. All these factors resulted in excess expenditure of Rs. 17.81 lakhs.

9.70. On a request made by the Rajasthan Government to the Ministry of Shipping and Transport (Road Wing), the Ministry appointed Shri S. B. Patel, Chief Engineer (Roads) and Shri P. K. Thakur, Chief Engineer (Mechanical). *vide* Ministry of Shipping and Transport office letter No. SR-10(12)/70 dated the 23rd October, 1970 to conduct a preliminary enquiry into the alleged irregularities in the construction of strategic roads in Rajasthan by the State P.W.D. The alleged irregularities related to the following:—

- (i) Undue advantage to the contractors by changing quarries and allowing extra load;
- (ii) preparation of false bill in respect of repairs of machinery;
- (iii) missing of log books of machinery and preparation of duplicate log-books;

- (iv) difficulty in realising of full rent of machinery from the contractors in absence of log-books and files; and
- (v) any other connected matter which the Enquiry Officers may deem necessary.

As Shri B. P. Patel retired before the Enquiry Committee could submit its report, Shri D. R. Upadhyaya, Chief Engineer (Roads) was appointed in his place on 3rd April, 1972.

9.71. In its preliminary report, the Enquiry Committee has stated:—

“From the data supplied by the State Chief Engineer, it has been observed that only 10 roads have either excess or saving on account of change in quarry or change in specification.

The execution of the work is the responsibility of the State Government and the State Chief Engineer is fully competent to make whatever change he likes during execution regarding quarries so that no inferior material goes into the road construction. Even in case of National Highways where the Central Government is fully responsible not only for execution but for maintenance also, the National Highway Act provides:—

‘It is the responsibility of the Central Government to develop and maintain in proper repair all National Highways. But the Central Government by Notification in the Official Gazette, direct that any function in relation to the development or maintenance of any National Highway shall, subject to such conditions, if any, as may be specified in the Notification, also be exercisable by the Government of the States, with-which N.H. is situated etc. etc.’

Thus the State Government is fully competent to execute the work in any manner they like. Similarly, for Strategic Roads, the State Government can exercise the same powers. The State Chief Engineer has ordered change in quarries in the interest of the work and according to the suitability of the materials and quantities of materials available at a particular quarry. . .

Central Road Research Institute surveyed the area and suggested certain quarries from which the road building materials should be taken. On account of these suggestions also, quarries were changed during road construction. The Chief Engineer, Rajasthan, also explained that in certain quarries materials for

road building could be obtained only for few miles even though during preliminary survey, which was a sort of visual inspection, indicated sufficient material beneath the ground also. But actually, no material could be obtained below the ground. This resulted in change of quarry.

In many cases orders for change in specifications have been obtained from the Government of India, or discussed with the officers of the Government of India or a reference has been made to Government of India in this connection. The change has been necessitated on account of lack of material obtained in certain quarries and on account of unsuitable material available at certain sites. The changes in the specifications have been made in order to improve the quality of work and also to accelerate the progress of the work as the roads were required immediately for strategic purpose. . . .

It is seen that there have been savings in many cases. If the intention of the P.W.D. officers was to give undue advantage to the contractors by changing quarries and allowing extra load, normally saving would not result in doing so. Thus, it could be inferred that there was no such intention on the part of PWD officers."

9.72. The Ministry of Shipping and Transport have stated that the reports of the preliminary enquiry committee have been forwarded to the State Government who were the executing agency and on whose request such preliminary enquiries by the Ministry's two Chief Engineers had been carried out. The Ministry had suggested to the State Government to have detailed enquiries made. The Committee have been informed that the Anti-Corruption Department of State Government to whom the State had referred the case, have advised the State Government to take departmental action against the defaulters involved in the matter.

9.73. The Comptroller and Auditor General in his Supplementary Report for the year 1973-74 relating to Rajasthan has also referred to construction and maintenance of border roads in greater details. Some extracts of the observations made in the Report are given below:—

"In 1965, the Government of India directed to develop 27 border roads in Rajasthan, at a total estimated cost of Rs. 30.75 crores, through grants-in-aid to the State Government. Twenty of these roads were completed between 1968-69 and 1971-72 (expenditure booked upto end of 1973-74 Rs. 14.99 crores). Work on the remaining seven roads was suspended after

Rs. 52.23 lakhs were spent because the Government of India no longer considered these roads important.

Repairs and maintenance—Jaisalmer District.—Repairs of four roads were carried out in May 1971 (total expenditure Rs. 0.85 lakh) through 37 piece work agreements with petty contractors without calling for tenders, and splitting the work into small items so as to bring them within the competence of Assistant Engineers. No estimates were framed or approved by competent authority. Entries relating to dates of measurements in measurement books were found to have been tampered with, and not recorded in chronological order. Measurements of works extending over 286 kilometres were shown to have been checked by the Assistant Engineer on the same day. The Executive Engineer pointed out in June 1971 after inspection that there were no traces of the work done. These and other irregularities were brought to the notice of the Department by Audit in March 1972 and were confirmed in May 1973 by a departmental committee consisting of the Superintending Engineer (Planning) and the Senior Accounts Officer. The Chief Engineer (Roads) intimated (December 1975) that draft charge-sheets against the persons found responsible for the irregularities had been sent to Government for further action.'

9.74. The Committee note that arising out of the defence requirements the programme of construction of certain roads in some Border States was taken up in 1965. Due to the combined effects of financial constraints in 1966-67 and down-grading of priorities in June 1967 by the Ministry of Defence on certain strategic roads there was a spill-over of strategic works amounting to Rs. 8 crores. In May 1968, the Ministry of Defence had indicated once again to the Ministry of Transport, its revised requirements for construction and development of strategic roads during the 4th Plan period.

9.75. The 4th Plan provided Rs. 8 crores for carry-over works and another Rs. 35 crores for new strategic roads. The Committee note that even during the 4th Plan period, there was a shortfall in expenditure as they find that against the Plan provision of Rs. 43 crores, an expenditure as they 36.08 crores only was incurred. What has particularly concerned the Committee is the fact that the construction of roads on which Rs. 10.57 crores had already been spent were subsequently down-graded in priority. In Rajasthan alone, out of 27 roads decided to be developed at a total estimated cost of Rs. 30.75 crores in 1965, 20 roads were completed between 1968-69 and 1971-72 and work on the remaining seven roads was suspended after Rs. 52.23 lakhs were spent because the Government no longer considered these roads as important.

9.76. The Committee fail to appreciate the justification for down-grading the priority of road works, which are in the process of execution, the harmful consequences that stoppages would entail, on the generation of employment opportunities as also the economies of the works themselves. For example, Road 'G' was sanctioned in June 1966 for Rs. 25.83 lakhs and was completed in two stages, the first stage by September 1967 and the second stage in 1971-72. During the intervening period of 3 years, after completion of the first phase of the work, the gravel road surface suffered corrugation and was rutted, necessitating re-gravelling at a cost of Rs. 4.79 lakhs. Another expenditure of Rs. 1.50 lakhs was incurred to strengthen the berms which were eroded by winds and rains. Similarly, Road 'E' was sanctioned in June 1966 for Rs. 40.95 lakhs. In July 1967 the road was categorised as 'low priority' and work was slowed down, but again in May 1968 a portion of 51 miles of this road was allotted high priority. Again in December, 1970, Ministry of Defence decided that only 28 miles of this road should be developed. Thus an additional expenditure of Rs. 16 lakhs was incurred on account of changes in priorities and scope.

9.77. The Committee feel that there is need to study the history of some strategic roads which were decided to be taken up on a priority basis earlier but were later down-graded and again after some time completed on priority basis so as to derive lessons and evolve institutional arrangement to avoid repetition of such situations which lead to halting progress and escalation of costs.

9.78. The Committee are perturbed to note the irregularities committed in the execution of the strategic roads in Rajasthan, a reference to which has also been made in the Supplementary Report of C&AG for the year 1973-74 relating to the State. In this connection, the Committee would like to mention particularly the grave irregularity committed in the case of repairs carried out to 4 roads in May 1971 through 37 piece agreements with petty contractors without calling for tenders. The work was split into small items so as to bring them within the competence of Assistant Engineers. No estimates were framed for approval of competent authority. The executive Engineer had pointed out in June 1971 after inspection that there were no traces of the work done. The Committee regret that though the Audit had brought these irregularities to the notice of the authorities in March 1972 no conclusive follow-up action has yet been taken against the persons found responsible. The Committee need hardly point out that the Roads Wing of the Ministry should have exercised proper vigilance over each stage of planning and execution of roads through their Regional Offices so as to obviate the irregularities of the type mentioned in the Audit Report. This underlines the need for monitoring of works during execution and effective follow up action as pointed out by the Committee elsewhere in this Report.

9.79. Since the strategic roads are sponsored by the Ministry of Defence and are in some cases maintained by the Border Roads Organisation after completion by the State PWDs, Government may examine whether the work of construction of strategic roads may be entrusted to Border Roads Organisation right from the inception, specially now that the Border Roads do not appear to have enough work to engage their resources.

CHAPTER X

STATE ROADS

10.1. The Supplementary Report of the Comptroller and Auditor General of India for the year 1973-74 (Part II)—Union Government (Civil) besides mentioning of development of National Highways, certain other roads constructed and developed with loans or grants given by the Union Government also mentions of State Roads. In regard to State Roads it is clarified in paragraph 33 of section III of the Supplementary Report of the Comptroller and Auditor General of India that expenditure on their construction, development, etc. is incurred by State Governments out of State Funds and it was not possible to determine the precise quantum of Central assistance given for the State's own road programmes. Thus expenditure incurred on construction and development of State Roads had been examined separately in audit and detailed findings had been included in separate State Audit Reports prepared for submission to the Governors of the respective States. But as it was evident that the States' road development programme absorbed a sizable, though indeterminate, quantum of the loans and funds given by the Centre to the States, as expenditure on certain State roads was incurred with Central assistance and moneys given for certain other Central programmes mentioned in the Supplementary Report of the Comptroller and Auditor General of India for the year 1972-73—Union Government (Civil) and the Supplementary Report of the Comptroller and Auditor General of India for the year 1973-74 (Part I)—Union Government (Civil) and as National Highways and State Roads form a net work, a brief resume of certain aspects of some features pertaining to the State's road programmes has been given in paragraphs 34 and 35 of section III of the Supplementary Report of the Comptroller and Auditor General of India for the year 1973-74 (Part II)—Union Government (Civil). In paragraphs 34 and 35 it is mentioned that :

“.....State Governments can under the present system spend more or less than the outlay planned on roads, as development of roads is not one of the earmarked sectors. In fact, a number of States substantially increased their allocations for road development after the commencement of the Fourth Plan; in a few States, actual expenditure on roads in the Fourth Plan was more even than the revised allocations. Another feature noticed in audit was that of the total amount spent on roads,

expenditure on works which had already been in progress at the beginning of the Fourth Plan was less than what was planned. In a number of States, it was also seen that according to estimates made for the Fifth Plan, substantial amounts would be required to complete works which were incomplete at the end of the Fourth Plan." (Paragraph 34).

"In most States, with the exception of a few, no inventory had been taken of deficiencies, like missing links, missing bridges, weak, narrow or damaged bridges and culverts or sub-standard road surface. In a number of States, it was seen that there was no overall programme for development of roads; works on roads and bridges were selected from time to time on the basis of recommendations received from field units or other."

(Paragraph 35).

10.2. Instances noticed by Audit are mentioned in sub-paragraphs of paragraph 34 and 34 *ibid*. Further information is available in Supplementary Reports of the Comptroller and Auditor General of India for the year 1973-74 separately for each State which have been submitted to the respective State Legislatures.

10.3. The Ministry in a written note has explained that "Actually, the fact that the entire road system in the country should be planned with the ultimate objective of providing a well-knit road network has been the prime objective of the entire thinking which has been going on in the matter over since 1943 when the Nagpur Plan of 1943 was formulated by the Chief Engineers incharge of Roads in the Centre and in the States so as to provide to the Highway authorities a broad guide for framing their road development programmes. The same objective was reiterated in the 20-year Plan suggested in the Report of the Chief Engineers on Road Development Plan (1961—81) which was also again intended to provide to the Highway authorities of the country a broad guide for framing their road programmes keeping in view the available resources and the basic objective of providing an integrated road network in the country.

As regards roads included in the State Plans, they come under the jurisdiction of the State Governments who are responsible for formulating the Plans and implementing them after these have been included in the Plan.

At the time of formation of the Five-Year Plans and annual plans, the Planning Commission issues guidelines (Appendix XIII) to the State Governments for preparation of their development programmes for roads. Like National Highways, in the case of State Roads also, State Governments had been requested as far back as 1969 at the Transport Development Council

Meeting to carry out similar surveys in respect of deficiencies on State Roads and to proceed on that basis. This has also been indicated in the guidelines issued to the States.

During the Annual Plan discussions, the Planning Commission do take a stock of the position and draw the attention of the States to any deficiencies which they may find in the road plans. The Ministry of Shipping and Transport are also associated with these discussions. It is appreciated that even though the responsibility for construction of roads is divided between the Central Government and the State Governments the road programme should be viewed as a whole as part of an integrated network. The Government also appreciate that development of roads not only in the Central sector should be undertaken in a planned and rational manner but also in the state sector should be undertaken in a planned and rational manner. Nonetheless, by their very nature, the road programmes in the States comprise of a very large number of schemes spread over the territories of the States and the Planning Commission can only suggest broad guidelines and suggest priorities for the formulation of these road plans.

Thus, while the administrative arrangements for consideration of the State Plans for roads in the Planning Commission are considered to be satisfactory, the Commission feel that some of the State Governments could give greater importance to planning and monitoring of the road programmes."

10.4. In evidence the representative of Government explained the present position and what was being done.

(i) Explaining the role of Planning Commission regarding formulation of State Plan, the representative of Planning Commission has stated during evidence:

"When the Plan is about to be formulated, the Planning Commission sends out guidelines indicating the priorities and the various types of works which are entitled to high priority and such other details. On the basis of these guidelines the State Governments prepare their plans and submit them. These plans are scrutinised in the Planning Commission. The Chief Engineers of the States and the Secretaries concerned all call at the Planning Commission together with maps etc. and, in the Planning Commission, we do go into the merits of the schemes. We always insist on a few things which we consider to be very important—that is, that first priority should be given to important spill-over schemes because, before taking up new scheme, it is preferable to complete a spill-over scheme on which sufficient investment

has already been incurred. Then we also deal with the various other type of schemes. For instance, schemes of missing links, strengthening the pavements and roads required to meet the Minimum Needs Programme etc. were considered in the Planning Commission when the Fifth Plan was formulated”.

Asked to give broad idea of the points that had emerged out of the appraisal of the 5th Plan in relation to the States road construction programmes, the representatives of the Planning Commission has further stated as under:

“The first thing is that there had been a tendency (may be for good reasons) to start new schemes rather than complete the spill-over schemes of the Third Plan period. In some States, this tendency is more pronounced and we have repeatedly pointed out to them that before taking up new schemes they should complete the on-going schemes so that they could have the full advantage of the investments already made.”

(ii) Explaining the procedure for allocation of priorities to roads in the State's Plans, the Secretary, Ministry of Finance has stated during evidence:—

“The priorities that are given to particular roads within this sector do not depend entirely on the Central Government operating from Delhi, nor does the priority given to roads within a Plan depend entirely on the Central Government. As you would have seen the State Plans are prepared between the Planning Commission and the State Governments, and the State Governments broadly are in a position to decide what the roads sector should have in relation to their total Plan. A State which considers the roads programme to be comparatively more important than the soil conservation programmes for instance is in a position, and rightly so, to allocate more resources to roads. In a country like India we cannot centrally laydown complete and detailed priorities for every sector in every State and this is part of the current planning process that the States have a big say in what proportion the resources should go into each State sector.”

10.5. Since separate Audit Reports on roads development in the States were very revealing, the Committee desired to know whether the Planning Commission and the Ministry of Shipping and Transport had taken note of the deficiencies pointed out therein. The representatives of both the Planning Commission and the Ministry indicated that they were not aware of

these Reports. In this regard the Secretary of the Ministry of Shipping and Transport said during evidence that:—

“These reports did not come in the ordinary course. In fact, as the Auditor General himself has said, it is a question of Centre-States relations. The examination of it is left to the State Legislatures where it is placed. We have not examined and we are not aware. I am not making this submission by way of any defence. Now that we are aware of this in the way it has come up here, we recognise the necessity for calling for these reports and going through them and trying to get as much information as possible, and to utilise them, for the purpose of monitoring. When we go for the Annual Plan discussion at the end of the year, our role as far as State road development is concerned is to advise the Planning Commission and the Plan (Finance) in the Ministry of Finance at the stage of the Annual Plan. It is only then we really go into these. We do not have a system of getting reports of State Highways and now that it has come up we will gather all the information to have a picture, as you have correctly said, of the road map of the country and also to see how the missing links are filled.”

10.6. The Committee were surprised to learn during evidence that the representatives of both of the Planning Commission and the Ministry of Shipping and Transport were not aware of the separate Supplementary Reports of the Comptroller and Auditor General of India for the year 1973-74 for different State Governments on road development in the States. Since these Reports contain valuable information on roads financed through loans and grants given by the Centre and on the States' own road programmes, it is inexplicable why the Planning Commission and the Ministry of Shipping and Transport, etc. should not have taken full cognisance of the valuable data and observations contained therein. The Committee desire that these Audit Reports should receive sustained attention with a view to rectifying the deficiencies in planning and implementation of the road development programmes.

NEW DELHI;
November 6, 1977.
Agrahayana 15, 1899 (*Saka*).

C. M. STEPHEN,
Chairman,
Public Accounts Committee.

APPENDICES

APPENDIX I

(Vide Paragraph 2.16 and 2.72)

NATIONAL HIGHWAYS WITH LENGTHS AS ON 1-4-1974

S. No.	NH No.	Description of route	Length in Kms.
1	2	3	4
1	1	Delhi—Ambala—Amritsar—Pakistan border	456
2	1A	Jullundur—Pathankot—Srinagar—Uri	66.3
3	2	Delhi—Agra—Kanpur—Varanasi—Calcutta	1,490
4	3	Agra—Indore—Nasik—Bombay	1,161
5	4	Bombay—Poona—Bangalore—Madras	1,235
6	4A	Belgaum—Anmod—Ponda—Panaji	133*
7	5	Madras—Vijayawada—Baharagora	1,533
8	5A	Haridaspur—Paradeep Port	77*
9	6	Dhula—Nagpur—Sambalpur—Calcutta	1,645
10	7	Varanasi—Nigpur—Hyderabad—Bangalore—Kanya-Kumari	2,369
11	7A	Palayamkottai—Tuticorin	51@
12	8	Delhi—Jaipur—Ahmedabad—Bombay	1,428
13	8A	Ahmedabad—Kandla	378
14	8B	Bamanore—Rajkot—Porbander	206
15	9	Poona—Sholapur—Hyderabad—Vijayawada	791
16	10	Delhi—Hissar—Pakistan border	403
17	11	Agra—Jaipur—Bikaner	582
18	12	Biaora—Bhopal—Jabalpur	424
19	13	Sholapur—Bijapur—Chitradurga	491
20	15	Pathankot—Bikaner—Banner—Samakhiali (near Kandla)	1,526@
21	17	Panvel—Panaji—Mangalore—Cochin (Formerly west coast highway)	1.29*
22	17A	Cortalim—Mormugao	19@
23	21	Chandigarh—Kirtpur—Mandi-Kulu—Manali	323*
24	22	Ambala—Kalka—Simla—Tibet Border	43 ⁸
25	23	Chas—Ranchi—Rourkela—J. with NH No. 42	450@
26	24	Delhi—Bareilly—Lucknow	439
27	25	Lucknow—Kanpur—Jhansi—Shivpuri	319
28	26	Jhansi—Sagar—Lakhnadon	306

1	2	3	4
29	27	Allahabad—Mangawan	93
30	28	Lucknow—Muzaffarpur—Barauni	570
31	28A	Pipra—Raxaul	68
32	29	Varanasi—Gorakhpur	196
33	30	Mohania—Patna—Bakhtiarpur	230
34	31	Barhi—Dalkola—Amingaon	11,25
35	31A	Siliguri—Gangtok	92
36	31B	North Salmara—Jogighopa	19
37	32	Gobindpur—Chas—Jamshedpur	179
38	33	Barhi—Ranchi—Baharagora	352
39	34	Calcutta—Dalkola	443
40	35	Baraset—Bongaon—Bangladesh border	61
41	36	Nowgong—Dabok—Dimapur	170@
42	37	Panchratna—Gauhati—Saikhoaghat	680
43	38	Makum—Lekhapani	54
44	39	Numaligarh—Dimapur—Burma border	436
45	40	Jorabat—Shillong—Dawki	161
46	41	Kolaghat—Haldia	51
47	42	Sambalpur—Cuttack	260
48	43	Raipur—Jagdalpur—Vizianagram	551
49	44	Shillong—Badarpur—Agartala	495@
50	45	Madras—Dindigul	387
51	46	Ranipet—Krishnagiri	132
52	47	Salem—Trichur—Kanyakumari	640
53	48	Mangalore—Hassan—Bangalore	328@
54	49	Madurai—Dhanushkodi	160
55	50	Poona—Nasik	192
TOTAL			28,870

*Added to NH system in July, 1971.

@Added to NH system in March, 1972.

NOTE :

On 1-4-1974 (commencement of V Plan), the total length of NHs stood at 28,819 Kilometres. The increase of 51 (28,870—28,819) Kilometres since then is only due to change in the alignment of NH No. 17 between Kaladi and Ernakulam (Cochin) in Kerala and consequent in denationalisation of NH 47A.

APPENDIX II

(Vide Paragraph 2·16)

CONSTRUCTION OF MISSING LINKS

S. No.	State	NH No.	Section	Length (Km)
1	2	3	4	5
1	Bihar	30	Arrah—Mohania	123
2	Kerala	47A	Perumpilavu—Kadavallur	3
3	Madhya Pradesh	12	Deori—Tendukheda—Balkheda	93
4	Karnataka	13	Donahally—Hosoally	19
5	Karnataka	13	Hospet—Kushtagi	54
6	Karnataka	13	Hungund—Mangoli	67
7	Orissa	6	Kanjipani—Kuntala	37
8	West Bengal	34	Approaches to Farraka Barrage— . . . .	..
9	West Bengal	41	Kolaghat—Haldia	51

APPENDIX III

(Vide paragraph 2-16)

LIST OF MISSING MAJOR BRIDGES TO BE CONSTRUCTED ON NATIONAL HIGHWAYS DURING IV PLAN

S. No.	State	NH No.	Date of Sanction	Percentage of completion upto the Second Quarter of 1974-75	Name of Bridge
1	2	3	4	5	6
1	Andhra Pradesh	7	January, 1971	14 (Sept., 1974)	Bridge across the Pennar river.
2	Assam	31	Estimate not received		Bridge across the Gangadhar.
3	Assam	38	March, 1970	90	Bridge across the Buri—Dehing.
4	Gujarat	8B	August, 1969	75	Bridge across the Bhadar river.
5	Madhya Pradesh	12	Nov., 1969	85	Bridge across the Sindhoor.
6	Madhya Pradesh	12	March, 1970	25	Bridge across the Hiren.
7	Karnataka	4		Completed	Bridge across the Sulekharah Nallah.
8	Karnataka	13	Estimate not received.		Bridge across the Hungund river.
9	Karnataka	13	August, 1969	66 (June, 1974)	Bridge across the Krishna.
10	Karnataka	13	April, 1970	80 (Sept., 1974)	Bridge across the river Malaprabha.
11	Punjab	1A	January, 1972	11	Bridge across the river Beas at Chakki.
12	Rajasthan	11	April, 1970	Nil	Bridge at Govindgarh.
13	Rajasthan	11		Completed	Bridge at Doondasar.
14	Rajasthan	11		Completed	Bridge at Kalakhoo.
15	Tamil Nadu	49	April, 1972	3	Bridge across Pamban Strait.
16	Uttar Pradesh	25	July, 1971	38 (March, 1975)	Bridge across river Yamuna at Kalpi.
17	West Bengal	34		Completed in 1971 by Ministry of Irrigation and Power.	Farrakka barrage- canal bridge.

APPENDIX IV

(Vide paragraphs 3.2 and 3.17)

STATEMENT SHOWING THE NUMBER OF OFFICERS IN POSITION IN THE ROADS WING OF THE MINISTRY OF SHIPPING AND TRANSPORT

Position as on	Asstt. Ex. Engineers				Ex. Engineers				Supdt. Engineers				Chief Engineers			
	Hqs.		Regions		Hqs.		Regions		Hqs.		Regions		Hqs.		Regions	
	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.
	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.	Act.	Sanct.
1-4-69	42	43	29	34	40	41	40	40	17	18	8	8	5	7	..	..
1-4-70	41	43	27	34	40	41	39	40	18	20	8	8	6	7	..	..
1-4-71	39	39	7	8	41	41	27	27	18	18	8	8	7	7	..	..
1-4-72	17	@69	6	*9	65	66	27	27	30	27**	8	8	7	10	..	..
1-4-73	37	@69	4	*9	66	66	27	27	27	27	8	8	9	10	..	..
1-4-74	32	@69	2	●	66	66	27	27	27	27	8	8	10	10	..	..

@ Four temporary posts of A.E.s. reduced subsequently.

* Includes 1 post for Road Test Track at Calcutta merged subsequently with the establishment of the Regional Office at Calcutta.

** 3 post of C.E.s. downgraded to posts of S.E. temporarily and upgraded subsequently with the concurrence of Ministry of Finance.

APPENDIX V

(Vide paragraphs 3.6 and 3.11)

STAFF POSITION IN STATE PUBLIC WORKS DEPARTMENTS DURING IV PLAN FOR NATIONAL HIGHWAY WORKS

	1969-70				1970-71				1971-72				1972-73				1973-74					
	CEs	SEs	EEs	AEs	CEs	SEs	EEs	AEs	CEs	SEs	EEs	AEs	CEs	SEs	EEs	AEs	CEs	SEs	EEs	AEs		
Andhra Pradesh				1		1	4	18	1	5	13	60	1	6	21	97	1	6	21	97		
Goa														1	4	12		1	4	14		
Himachal Pradesh											3	9										
Haryana														1	5	26		1	5	26		
Karnataka				2	6	3	13	43	1	5	17	58	1	5	17	58	1	4	13	48		
Kerala				4	14	1	1	7	29	1	1	7	29	1	2	10	48	1	3	13	63	
Madhya Pradesh							1	4	12		1	9	12		4	16	22	1	7	21	28	
Manipur				2	8			2	8			2	8			3	10			3	10	
Meghalaya													1	0		1	1	9		1	2	12
Nagaland															2	9				3	13	
Orissa		1	1	3	20	1	1	3	22	1	3	9	39	1	7	25	108	1	7	24	103	
Punjab											1	2	4		1	2	4		1	2	4	
Tamil Nadu										1	4	19	83	1	7	30	120	1	7	30	120	
Uttar Pradesh												1	4		3	17	68		4	20	80	

N. B. Information in regard to other States is yet awaited by Ministry.

APPENDIX VI

(Vide paragraph 2.26)

SANCTIONS TO ESTIMATES OF WORKS ON NHs IN IV PLAN

Year.	Roads		Bridges		Total			
	No. of works sanctioned (Rs. in crores)	Estimated amount (Rs. in crores)	No. of works sanctioned	Estimated amount (Rs. in crores)	No. of works sanct.	Estimated amount (Rs. in crores)		
			Percentage of A		Percentage of B			
1969-70	157	17.92	5.13	133	7.96	7.58	290	25.88
1970-71	471	39.65	11.32	170	5.94	5.65	641	45.59
1971-72	621	113.12	32.41	552	27.36	26.05	1173	140.48
1972-73	540	60.31	17.23	365	10.58	10.07	905	70.89
1973-74	294	31.31	8.94	305	10.03	9.55	599	41.34
TOTAL upto 31-3-74	2083	262.31	74.93	1525	61.87	58.90	3608	324.18

A—Total estimated cost of IV Plan Road works—Rs. 350 crores.

B—Total estimated cost of IV Plan Bridge works—Rs. 105 crores.

APPENDIX VII

(Vide paragraphs 2·26 and 2·31)

BUDGETED AND ACTUAL EXPENDITURE ON CENTRALLY FINANCED ROAD WORKS IN IV PLAN

Category of roads	1969-70			1970-1971			1971-72		
	B.E.'s Rs. in lakhs.	Actual expenditure Rs. in lakhs	Percentage (-)Saving (+)Excess	B.E.'s Rs. in lakhs	Actual expenditure Rs. in lakhs	Percentage (-)Saving (+)Excess	B.E.s. Rs. in lakhs	Actual expenditure Rs. in lakhs	Percentage (-)Saving (+)Excess
1 <i>National Highways</i>	1717·00	1170·16	(-)31·85	2727·98	2181·11	(-)20·05	3978·00	4020·31	(+)1·07
(a) Continuing works									
(b) Newly sanctioned works									
2 <i>Roads of E & I</i>	230·00	173·56	(-)24·54	230·00	206·38	(-)10·27	380·00	224·63	(-)40·39
(a) Continuing works									
(b) New works									
3 <i>Other roads including strategic roads</i>	401·00	488·74	(+)21·88	550·00	465·71	(-)15·38	800·00	680·98	(-)114·02
4 <i>Lateral Road (State Portion)</i>	1073·00	819·07	(-)23·67	800·00	800·00	..	200·00	362·52	(+)81·48
(a) Continuing works									
(b) New works									
	3421·00	2651·53	(-)22·00	4307·98	3653·20	(-)15·00	5358·00	5288·44	(-)1·30

APPENDIX VII—contd.

Category of Roads.	1972-73			1973-74			Total Expenditure in IV Plan Rs. in crores
	B. E.s' Rs. in lakhs	Actual Expenditure Rs. in lakhs	Percentage (—)Saving (+)Excess	B.E.'s Rs. in lakhs	Actual expenditure Rs. in lakhs	Percentage (—)Saving (+)Excess	
1 National Highways	5,910.00	7,781.50	(+)31.67	6,387.70	6,542.31	(+)2.42	216.95
(a) Continuing works.							
(b) Newly sanctioned works.							
2 Road of E & I	400.00	300.00	(—)25.00	400.00	260.00	(—)35.00	11.65
(a) Continuing works							
(b) New works							
3 Other roads including strategic roads.	600.00	507.00	(—)15.50	500.00	443.32	(—)11.34	25.86
4 Lateral Road (State Portion)	90.00	41.66	(—)53.71	25.00		(—)100	20.23
(a) Continuing works							
(b) New works							
	7,000.00	8,630.16	(+)23.10	7,312.70	7,245.63	(—)0.90	274.69
<i>Add:</i>							
(i) Tools and Plant							3.97
(ii) Roads in Mining Areas							0.21
(iii) Loans to State Govts. for Road Building Machinery							2.15
(iv) Advance action for V Plan works.							1.61
GRAND TOTAL							282.51
							crore.

APPENDIX VIII

(Vide paragraphs 3·49, 3·57 and 3·63)

FUNDS ALLOTTED AND EXPENDITURE INCURRED BY THE STATES ON MAINTENANCE AND REPAIRS OF NATIONAL HIGHWAYS DURING THE IV PLAN PERIOD

State	Allotment for main- tenance & re- pairs during 1969-74 (Rs. in lakhs)	Expenditure on main- tenance & repairs during 1969-74 (Rs. in lakhs)	Percentage Excess (+) Saving (-) of expendi- ture over allotment	
Andhra Pradesh	453·79	478·22	(+)	5·38
Assam	349·72	474·96	(+)	35·8
Ferry Vessels at Pandu/Maintenance of Brahm- putra Bridge	83·20	144·90	(+)	74·10
Bihar	932·03	1,009·24	(+)	8·28
Chandigarh	1·62	0·94	(-)	41·97
Delhi	46·88	48·89	(+)	4·29
Goa	16·70	9·46	(-)	43·35
Gujarat	561·62	571·71	(+)	1·80
Haryana	228·13	241·59	(+)	5·90
Himachal Pradesh	79·76	104·99	(+)	31·63
Kerala	205·32	204·84	(-)	0·23
Madhya Pradesh	457·62	463·66	(+)	1·32
Maharashtra	561·91	590·42	(+)	5·07
Meghalaya	25·65	28·13	(+)	9·67
Manipur	68·66	76·68	(+)	11·68
Karnataka	295·20	325·65	(+)	10·32
Nagaland	74·93	90·99	(+)	21·43
Orissa	352·52	348·06	(-)	1·27
Punjab	132·05	137·09	(+)	3·82
Rajasthan	362·82	370·66	(+)	2·16
Tamil Nadu	376·82	377·79	(+)	0·24
Tripura	0·44	..	(-)	100·00
Uttar Pradesh	716·47	758·28	(+)	5·85
West Bengal	584·17	773·74	(+)	32·45
TOTAL	6,968·03	7,630·99	(+)	9·52

APPENDIX IX

(Vide paragraphs 9·25 and 9·50)

SECTION—A (SANCTIONED IN JANUARY 1971)

ROAD/BRIDGES SCHEMES APPROVED FOR CENTRAL LOAN ASSISTANCE UNDER THE CENTRALLY-AIDED PROGRAMME OF STATE ROADS OF INTER-STATE OR ECONOMIC IMPORTANCE IN IV PLAN

Sl. No.	Name of State	Name of Scheme	Length in miles or No. of bridges	Cost Rs. in lakhs	Date of release of funds	Date of authorisation	Amount Rs. in lakhs.
1	2	3	4	5	6	7	8
1	Andhra Pradesh	1. Yadgiri to Raichur Road	8	20·00		20-5-72	18·56
		2. Aswaraopeth to Bhadrachellam Road	30	25·00		7-10-72	25·00
		3. Kothaguddem to Lanakpalle road	25	25·00		10-7-72	25·00
2	Assam	1. Silchar to Zirighat road (Improvement)	20	26·00			
		2. Bridge over river Jiri at Jiribam	1 bridge	30·00	50% cost of bridge Cost to be equally shared by UP & Bihar.		
3	Bihar	1. Godda—Sandar—Pahari—Darampur road	30	45·00*		5-8-75	45·00
		2. Bridge over Karamnasha	1 bridge	12·00			
		3. Bridge over Gowai river on Chas—Chandan kiari—Raghunathpur road	1 bridge	16·00			
		4. Bridge over Kanhar on Rohla—Ramanujanj—Ambika pur road	1 bridge	10·00			

1	2	3	4	5	6	7	8
4	Gujarat	1. Limbdi—Thandla—including bridge on river Anas.	14 miles + 1. bridge	10.00		28-11-73	10.00
		2. Dhuwaran—Umets road (missing-section)	25	50.00			
		3. Minni—Kuranga road (missing section)	23	50.00		28-11-73	26.44
		<i>Parbander—Okha section</i>					
		(i) Bridge across Bhogat				15-1-73	2.75
		(ii) Bridge across Navadana				15-1-73	2.88
		(iii) Bridge across Khari				15-1-73	4.42
		(iv) Bridge across Kalipat				15-1-73	4.56
		(v) Bridge replacing causeway at Netar Creek				15-1-73	3.83
		(vi) Bridge across Visavda Creek				15-1-73	7.15
		(vii) Bridge across Kinnuri Creek				15-1-73	15.20
5	Haryana	Bridge over Yamuna near Palwal	1 bridge	100.00			
6	Himachal Pradesh	Bhadarwah—Padrigali—Khundimara—Chamba road. (Himachal Pradesh portion only)	16	40.00	Subse- quently revised to Rs. 65 laks	30-5-72 { 19-12-72 4-7-73 4-7-73	40.00 { 12.79 40.77 18.60
7	Jammu & Kashmir	Bhadarwah—Padrigali—Khundimara road.	35	115.00			
8	Kerala	Minnar Top road	25	30.00	Subse- quently dropped		
9	Madhya Pradesh	1. Limbdi—Thandla road (missing link)	15	30.00			
		2. Bridge over Chambal on Sheopur—Sawai—Madhopur road	1 bridge	35.00	\$	Cost to be shared by MP and Rajas- than	

	3. Bridge over river Jonk on Arang-Nawapara road.	1 bridge	9.00@	Cost to be shared by Orissa & MP.		
10 Maharashtra	1. Bridge across Pranhita river on Nasik-Nirmal-Jagdapur road	1 bridge	60.00			
	2. Bridge across Indravati river on Nasik-Nirmal-Jagdapur road	1 bridge.	50.00			
11 Karnataka:	1. Bridge over Kabini on Mysore-Ooty road.	1 bridge	20.00		31-8-74	18.58
	2. Bridge across Krishna at Galgali	1 bridge	50.00		31-8-74	50.00
12 Orissa	1. Bridge across Subarnarekha on Kharagpur-Balasore road	1 bridge	74.00		21-5-73	74.00
	2. Bridge over river Jonk on Arang-Nawapara road.	1 bridge	9.00	Cost to be shared by MP and Orissa.		
13. Punjab	1. Bridge over river Sutlej at Shahkot	1 bridge	200.00		15-3-73	121.36
14 Rajasthan	1. Bridge over Chambal on Shecpur-Sawai-Madhapur road	1 bridge	35.00	cost to be shared by MP & Rajasthan	10-5-72	1.00
	2. Bridge over Char river on Jaipur-Biaora road	1 bridge	40.00		31-5-72	1.74
	3. Bridges over Kalishindh on Jaipur-Biaora road	2 bridges				
	4. Bridge over Banas on Dausa-Sawaimadhapur road.	1 bridge	30.00			
	5. Bridge over Luni at Sundri	1 bridge	25.00	Subsequently dropped.		

1	2	3	4	5	6	7	8
15	Tamil Nadu	1. Mahabalipuram-Markonam road.	20	14'00			
		2. Major bridges on Mahabalipuram-Markonam road.	3 bridges	65'00			
		3. Bridges on East Coast Road—					
		(a) Muttupet—Mimisal	97'50	19 bridges	} 182'2		
		(b) Mimisal—Tondi	37'63	8 bridges			
		(c) Tondi—Tiruppalagudi	34'28	10 bridges			
		(d) Tiruppalagudi—Devipattnam	12'50	1 bridge			
16	Uttar Pradesh	1. Bhind-Jalaun road including bridge on Pahuj	20 miles + 1 bridge	72'00		17-12-72 17-12-72	15'18+ 36'92 (bridge)
		2. Bridge on Karamanasa river on Chausa-Kumhar road.	1 bridge	12'00%	Cost to be shared between UP and Bihar		
17	West Bengal	1. Gopiballavapur-Hatibari road	10	25'00			
		2. Dubrajpur-Khayrasole-Barhar-Bihar Border.	28	28'00		31-7-73	28'00
		3. Bridge over Hooghly at Kalyani	1 bridge	34'00			
				1,746'00			

*The total estimated cost of the bridge is Rs. 24 lakhs. Half the estimated cost has, therefore, been shown in Bihar and half in U. P. for purposes of loan assistance.

\$ The total estimated cost of the bridge is Rs. 70 lakhs. Half the estimated cost has, therefore, been shown in MP and half in Rajasthan for purposes of loan assistance.

@ The total estimated cost of the bridge is Rs. 18 lakhs. Half the estimated cost has, therefore, been shown in Orissa and half in MP for purposes of loan assistance.

£ The total cost of the bridge is Rs. 18 lakhs. Half the estimated cost has, therefore, been shown in Orissa and half in MP for purposes of loan assistance.

+ The total cost of the bridge is Rs. 70 lakhs. Half the estimated cost has, therefore, been shown in MP and half in Rajasthan for purposes of loan assistance.

% The total cost of the bridge is Rs. 24 lakhs. Half the estimated cost has, therefore, been shown in Bihar and half in U.P. for purposes of loan assistance.

SECTION B—(SANCTIONED AFTER JANUARY 1971)

Sl. No.	Name of State	Name of Scheme	Length in miles or no. of bridges	Cost—Rs. in lakhs.	Date of authorisation	Amount Rs. in lakhs.
1	2	3	4	5	6	7
1	Andhra Pradesh	Construction of Munneru bridge	1 bridge	31.37	15-10-74	31.37
2	Assam	Paikan-Bajengdoba road (Assam portion)		17.00		
3	Himachal Pradesh	Dathri-Sundla road.		45.50		
4	Kerala	1. Calicut-Vijuthiri Gadallon road	25	26.72	[22-2-73	26.72
		2. Suspension bridge at Punalur	1 bridge	14.37	[20-11-73,	14.37
		3. Nedumargad Shorlacode road—Strengthening carriageway (Km 16 to 30)	9	6.53	[20-11-73	6.53
5	Maharashtra	1. Bridge across Revadander Creek on Alibag—Revadander Salar—Murund road, Distt. Kolaba	1 bridge	} Substituted for bridges across Pranhita and Indravati river.		
		2. Bridges across Savitir river at Mhepral on the Man hangr—Mhepral—Amct—Kuda road.	1 bridge			
		3. Tarapora—Boisar road . . . . .					29.26
6	Karnataka	Construction of the Maleswar-Mangalore road required for serving the Kudremukh Iron Ore Project.		166.47		(State Govt. refused to take loan)

7 Rajasthan	1. Bridge over river Gambhir on Bayana Bantha road	1 bridge	13.00		
	2. Road from Deeg to Naogaon (Haryana Distt.) via Sikri Kho upto Rajasthan border.		12.00		
	3. Construction of a bridge on river Gambhir on Hinduan—Bayana Fatehpur—Sikri road.		17.00		
	4. Construction of bridges on Dholpur—Bari—Sirmathra—Karauli road (Mile 0 at Bari)				
	(i) Bamni Nalla		4.50	} 20.00	18-8-75
	(ii) Nalla in mile 8 & 9		1.50		
	(iii) Barnaya Nalla in mile 14		1.00		
	(iv) Parnal Kherar river in mile 20		4.00		
(v) Kanota Nalla in mile 22		1.50			
(vi) Chardap Nalla in mile 26		1.50			
(vii) Bhadravati river near Karauli		5.00			
(viii) Balkua kho Nalla in mile 27		1.00		1.30	
5. Roads in dacoit infested areas.		7.00			
8 Uttar Pradesh	1. Construction of Jagatpur Dalmou road including bridges (22 Kms.)		20.00	10-8-73	20.00
	2. Improvement of Rai Bareilly Mohanganj road (20 Kms.)		18.00	10-8-73	18.00
	3. Construction of Sarani—Semri road including bridges (11 Kms.)		22.80	10-8-73	22.80
	4. Roads in dacoit infested areas (Nine roads)		134.50	31-1-75	125.50
9 Meghalaya	Bajengdeba—Rongram road (Meghalaya portion) †		56.00		
10 Madhya Pradesh	Roads in Dacoit infested areas (11 roads)		97.50	23-11-74	95.38
11 Jammu & Kashmir	Dayalchak—Dinga—Amb Ramkot road		65.00	25-7-74 †	65.00
			2,536.00		

APPENDIX X

(Vide paragraph 3.81)

ement showing the data on Agency charges furnished by the State Governments for the years 1960-61 to 1969-70

Sl. No.	State	No. of years for which information available	Execu- tive Establish- ment expenditure Average percentage	Adminis- trative establish- ment expenditure Average percentage	Overall establish- ment expenditure Average percentage	Tools & Plant expenditure Average percentage	No. of years for which information available	Execu- tive establish- ment expenditure Average percentage	Adminis- trative establish- ment expenditure Average percentage	Overall establish- ment expenditure Average percentage	Tools & Plant expenditure Average percentage
1.	Andhra Pradesh										
2.	Assam										
3.	Bihar	10	8.00	3.40	11.40	3.90	5	10.20	4.32	14.54	3.62
4.	Delhi										
5.	Gujarat	10	7.94	1.64	9.58	2.80	5	7.86	1.34	9.20	2.66
6.	Haryana	3	7.40	1.48	8.38	1.69	3	7.40	1.48	8.88	1.69
7.	Himachal Pradesh	10	9.81	2.34	12.15	2.45	5	11.24	2.76	14.00	3.48
8.	Jammu & Kashmir										
9.	Kerala	9	9.00	2.00	11.00	2.70	5	10.20	2.30	12.50	2.40
10.	Madhya Pradesh										
11.	Maharashtra	3	22.43	0.47	22.90	6.79	3	22.43	0.47	22.90	6.79

12. Manipur	.	.	.	.	.	.	.	.	.	.	.	.	.	.
13. Mysore	.	.	.	.	.	.	.	.	.	.	.	.	.	.
14. Orissa	.	.	.	.	8	10.60	5.62	16.22	4.99	5	15.40	8.36	23.76	5.26
15. Punjab	.	.	.	.	..	7.40*	1.56*	8.10 \bar{u}	1.19 \bar{u}	5	7.40*	1.56*	8.29	1.44
16. Rajasthan Strategic Roads	.	.	.	.	10	6.62	2.16	8.78	3.59	5	7.94	2.64	10.58	4.02
17. Tamil Nadu	.	.	.	.	4	4.90	1.20	6.10	1.40	4	4.90	1.20	6.10	1.40
18. Uttar Pradesh	.	.	.	.	10	8.50	1.60	10.10	8.88	5	9.15	1.74	10.88	9.72
19. West Bengal	.	.	.	.	10	6.95	1.13	8.08	1.56	5	8.77	1.27	10.04	1.03
Average.	.	.	.	.		9.13	2.05	11.10	3.50		10.24	2.45	12.65	3.62

*Average for 4 years.

\bar{u} Average for 10 years.

APPENDIX XI

(Vide Para 3.113)

Statement showing expenditure on C.R.F. (Allocating & ordinary reserve) in various States during 1971-72 to 1975-76)

(Rs. in lakhs)

Sl. No.	Name of the State	1971-72		1972-73		1973-74		1974-75		1975-76	
		Alloca- tion	Ordi. Reserve	Alloca- tion	Ordi. Reserve	Alloca- tion	Ord. Reserve	Alloca- tion	Ord. Reserve	Alloca- tion	Ord. Reserve
1	2	3	4	5	6	7	8	9	10	11	12
1.	Andhra Pradesh	19.93	1.14	25.68	2.58	48.84	2.27	34.31	6.60	31.96	7.81
2.	Assam	0.14	6.65	..	5.49	..	1.39	8.27	..	6.98	..
3.	Bihar	24.14	3.21	27.01	5.62	5.47	..	18.93	..	40.67	..
4.	Maharashtra	55.13	..	75.90	..	69.09	..	120.36	..	141.84	6.05
5.	Gujarat	17.74	4.02	36.12	3.72	43.99	3.07	29.00	3.82	34.85	5.42
6.	Madhya Pradesh	3.53	..	5.13	3.31	13.47	6.82	3.26	..	2.01	..
7.	Tamil Nadu	31.31	0.91	30.24	0.25	26.00	17.89	44.79	..	47.93	..
8.	Orissa	0.17	4.65	10.00	5.17	23.20	0.29	16.50	..	17.24	..
9.	Punjab	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10.	Uttar Pradesh	5.87	1.59	13.78	4.96	20.92	12.08	4.23	0.84	1.80	1.00

11.	West Bengal	41'27	0'40	54'54	1'20	76'31	0'01	53'37	0'41	113'43	2'05
12.	Rajasthan	10'49	4'04	8'87	4'61	13'87	0'60	13'92	1'01	13'25	-
13.	Karnataka	17'17	1'03	15'32	0'75	7'48	0'69	11'52	1'11	94'32	24'10
14.	Kerala	8'36	1'38	6'94	0'85	6'78	6'37	8'82	2'74	8'13	2'42
15.	Jammu & Kashmir	0'49	..	0'60	..	1'62	..	2'70	..	9'41	..
16.	Delhi	N.A.	N.A.	N.A.	N.A.	N.A.]	N.A.]	N.A.]	N.A.]	N.A.]	N.A.
17.	Himachal Pradesh	..	5'50	..	4'15	..	1'36	..	6'75	..	7'35
18.	Manipur	..	..	..	..	..	..	..	..	N.R.	..
19.	Tripura	0'29	0'69	0'05	0'09	..	..	1'19	0'66	3'95	4'36
20.	Haryana	9'65	..	16'82	..	14'63	0'13	..	N.R.]	N.R.]	N.R.]
TOTAL		245'68	36'11	327'00	42'75	371'67	52'97	452'17	23'94	567'77	60'56

APPENDIX XII

(Vide paragraph 7.43)

Statement showing Chapter-wise position of the conclusive action taken by the Ministry/State Governments on the principal recommendations of Road Building Machinery Committee.

Sl. No.	Chapter No.	Recommendations already implemented by the Ministry	Recommendation already implemented by the State Govt.	Recommendation not accepted by the Ministry.	Recommendation still to be implemented by the Ministry and the present position	Recommendation still to be implemented by the State and the present position.
1	2	3	4	5	6	7
1.	II	2.7.1; 2.7.2; 2.7.3; 2.7.4; 2.7.5; 2.7.6; 2.7.7; 2.7.8; 2.7.9; 2.7.10; 2.7.11.	..	..	..	.
2.	III	3.7.1; 3.7.2.	..	..	..	..
3.	IV	4.9.1; 4.9.2; 4.9.3; 4.9.7; (partly); 4.9.8; 4.9.10; 4.9.11; 4.9.13; 4.9.17; 4.9.20.	4.9.16.	4.9.9; 4.9.14; 4.9.19	4.9.15: Proposal for establishment of more workshops is being considered in consultation with the Ministry of Finance.	4.9.4: A number of review meetings have also been held with the State Chief Engineers to take early action for setting up training facilities in co-ordination with the I.T.Is. The matter is being pursued vigorously. 4.9.5: Ministry has already finalised the pay ranges to be adopted in a meeting with the Group of State Chief Engineers and the States have been asked to adopt suitable pay scale keeping the same in view vide our letter dt. 28-11-75.

4. V 5.27.6

.. 5.27.10

5.27.7: The accounting procedure adopted in the other sister organisations like C.P.W.D., Border Roads is being ascertained before taking further action.

4.9.6: States have been requested to implement this recommendation to the extent possible *vide* our letter dt. 20-6-1975.

4.9.7: The States who have not strengthened their mechanical set up have been impressed to do the needful in the various meetings with the State Chief Engineers.

4.9.12: The matter is being pursued in various correspondences and State Chief Engineers meetings.

4.9.15: States have been requested in a number of correspondences to relocate the Central workshops in reaches where there is concentration of Central works. The matter is being constantly pursued with the State Chief Engineers in the various review meetings.

4.9.18: The States have been requested *vide* letter dt. 20-6-1975 to work-out suitable incentive schemes for mechanical staff and forward to Ministry for examination.

5.27.1: The States have been requested *vide* letter dt. 4-6-76 to transfer immediately the amounts kept in "Deposits" or "Suspense" head of account to the correct Head of Account indicated therein.

5.27.2. to 5.27.5: Instructions have already been given *vide* Ministry's letter dt. 4-6-1976 to the State PWDs, a revised procedure for calculation and accounting of hire charges of Central machinery allotted to them taking all the recommendations in paras 5.27.2 to 5.27.5 into account.

1	2	3	4	5	6	7
5.	VI	6.14.1; 6.14.2.	..	..	..	..
6.	VII	7.16.1; 7.16.2; 7.16.3; 7.16.4; 7.16.5; 7.16.6.	..	..	..	7.19: As this recommendation can be implemented only when all efforts to fix depreciated value from the available records fail, such cases are awaited from the State Public Works Departments.
7.	VIII	8.12.3; 8.12.5 (partly)	..	8.12.1; 8.12.2 8-12-4.	8.12.5: Question of attachment of a Senior Accounts Officer is yet to be finalised.	..
8.	IX	9.6.1	9.6.2.	9.6.6.	..	9.6.4: The Ministry is pursuing use of heavy machinery etc. departmentally on earthwork in high embankments. This matter was also impressed upon during the review meeting held in October, 1976 with the State Chief Engineers having bulk of Central machinery. 9.6.5: As already indicated against 5.27.2. above, a revised procedure for calculation and account of hire charges of Central machinery have already been communicated to the States for adoption. 9.6.7: The necessity for arranging spare parts in advance for the proper upkeep and utilisation of Central equipments has been impressed upon the States in a number of correspondences and in the various Chief Engineers meetings held.

APPENDIX XIII

(vide Paragraph 10.3)

Extract from Guidelines for the formulation of the Annual Plan 1971-72

Road Development

(1) In formulating the programmes for 1971-72, it is necessary to take into account the targets and likely achievements in the Annual Plan 1970-71 and the reasons for shortfalls in achieving the targets. Within the resources available, the first priority should be given to expedite completion of works which are already in progress and efforts should be made to complete the works in progress within the next 2 or 3 years, so that advantage can be taken of the investments which have already been made in these works.

(2) Those continuing schemes on which little work might have been done so far and not much financial liability might have been incurred should be reviewed from the point of view of priority and phasing so that schemes of low priority could be deferred. This would help in making resources available for more urgent and high priority schemes.

(3) As regards new schemes, the main criteria should be the present traffic intensity and the likely growth of traffic in the next few years. The first priority should be given to removing the deficiencies in the existing system by providing for missing links, missing bridges on important river crossings, replacement of existing sub-standard structures (such as narrow bridges or weak pavements), and development of supplementary facilities through widening of roads to two lanes, bypasses etc. A note furnished by special projects like irrigation projects, tourist centres, etc. Similarly works for removal of deficiencies and other improvements on existing highways is enclosed at Annexure for reference of State Governments.

(4) Care should be taken to ensure that needs of road development in industrial and mining areas, and of major and minor ports are provided for to the extent possible and road links are also provided in areas served by special projects like irrigation projects, tourist centres, etc. Similarly, road development requirements of metropolitan areas and large cities should be provided for to the extent possible and the gaps which remain should be identified so that these could be taken into consideration in subsequent planning. Need for opening up of backward areas and hill areas and to

integrate the economic life of various regions with each other should be kept in view.

(5) There is only a limited financial provision for roads of inter-State and economic importance in the programme of the Ministry of Shipping & Transport. It is, therefore, necessary that the State Governments/Union Territories make suitable provision for important road links of inter-State importance within their Plans. Such links are necessary for integrating economically and culturally neighbouring states and for integrated regional development.

(6) In the Fourth Five Year Plan, special emphasis is being laid on the development of rural roads. State Governments have agreed to set apart about 25 per cent of the total outlay on road development. The State Governments should ensure that not less than 25 per cent of the outlay on road development is set apart for rural roads and special attention is paid to rural roads which link villages with market centres.

(7) Some of the State Governments had been requested to include in their Plans on a priority basis certain roads which were important for their own civilian requirements as also for defence and operational needs and in certain cases for antidacoity operations. These State Governments should make suitable provisions for these roads in the Annual Plan 1971-72.

(8) Having regard to the broad priorities indicated above, the road programmes should be classified as in the Statement I enclosed. As indicated in the statement, the provision for rural roads should be separately specified.

(9) The State Governments should establish arrangements for compiling and keeping up-to-date based on field surveys of existing roads, showing the extent and magnitude of deficiencies in the road system.

(10) The State Governments should undertake traffic and road accident studies to identify traffic requirements of different highways and the need for improvement of accident-prone spots.

(11) Suitable arrangements should be made for carrying out advance planning, investigations, surveys, formulation of designs and project estimates so that projects are got ready well in advance of the budgeting of a work for execution.

(12) Testing and control laboratories should be strengthened as this would help in formulation of technically and economically sound projects.

(13) Adequate provision should be made for wayside amenities on the highways.

(14) A map of the State/Union Territory indicating (i) existing roads, (ii) development works already under way, (iii) new schemes proposed to be taken up in 1971-72 may also be sent. Explanatory notes may also be given which might include (a) a review of the progress made during the first two years of the Fourth Plan, *i.e.*, 1967-70 and 1970-71, (b) major deficiencies expected at the end of 1970-71 and (c) special problems.

APPENDIX XIV

Conclusions/Recommendations

Sl. No.	Para No. of Report	Ministry/Department concerned	Conclusions/Recommendations
1	2	3	4
I	I-21	Ministry of Shipping and Transport	<p>The Committee note that the first attempt to unify the road system on an all-India basis was made by the Conference of the Chief Engineers in 1943 when a Road Development Plan, commonly known as Nagpur Plan, was drawn up to cater to the traffic needs of the country for a period of 20 years. The Plan envisaged an increase in the road mileage of surfaced roads from 88,000 to 1,23,000 miles and unsurfaced roads from 1,32,000 to 2,08,000 miles. These targets were achieved by the First Five Year Plan (1956) <i>i.e.</i> within a period of 13 years of the commencement of the Plan. Although it augured well for the development of roads in the country, the Committee do not feel very enthusiastic about this accomplishment in as much as the Plan was formulated during the pre-Independence era and naturally had not envisaged the growth of traffic which was to come about in the post-Independence period on account of rapid changes in economic, industrial and agricultural fields. The Committee would, however, like to point out that Government did not take sufficient care to project the increasing traffic requirements at the time of formulation of the</p>

First and Second Five Year Plans with the result that after the completion of the Second Plan in 1961, the national highways as also other important roadways in the country were still deficient in several aspects, such as, unbridged river-crossings, substandard surface, narrow carriageway etc. Not only there were numerous missing bridges on the arterial routes but on the National Highways alone about 80 major bridges remained to be provided at the end of the Second Five Year Plan.

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The Committee further note that the Bombay Plan drawn up by the All India Highway Chief Engineers in 1958 for a period of 20 years (1961—81) envisaged an increase of total mileage of roads in the country from 3,79,000 miles in 1961 to 6,57,000 miles (10,52,000 km.) in 1981 at an estimated cost of Rs. 5,200 crores. The Committee are concerned to note that there have been marked shortfalls in physical and financial terms of the Plan as the total mileage of roads as on 31 March 1975 stood at 8,95,078 kms. (which include 4,09,485 kms. only of surfaced roads) and the expenditure incurred was Rs. 2,016.37 crores till 31 March 1976. The Committee note that similar shortfalls have been highlighted by the Audit in the Plans relating to various States, such as Assam, Bihar, Gujarat, Maharashtra etc. Government have conceded the shortfalls. It was submitted by the representative of the Ministry during evidence that Government were not committed to the Bombay Plan and the projections contained therein were intended to provide for a broad guideline to the Highway authorities in the country for framing their Five Year Plan. The Estimates Committee in their 75th Report (Fifth Lok Sabha, April 1975) too while pointing out the shortfalls had recommended that every endeavour should be made to achieve the targets laid down in the Plan.

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Ministry of Shipping
and Transport

The Committee considers that as building a net work of roads capable of dealing with the growing traffic needs of the country is bound to take a long time, it was necessary for the Central and State Governments to have prepared a master plan with a schedule of priorities. This master plan had necessarily to cover not only national highways and other Centrally sponsored roads, but State roads, going right down to village roads. Had such a plan been approved and priorities determined, it would have been a comparatively simple task to determine what should be done during each Plan period, keeping in mind the resources available. If the Bombay Plan was not considered acceptable to the Central and State Governments it would have been amended or replaced. Lack of an approved plan to be implemented as such, unless changed by a conscious decision, has undoubtedly contributed to the present situation where roads (both Centrally financed and State) were apparently selected for construction or development without due consideration of their importance *vis-a-vis* other roads, roads and bridges sanctioned or under construction or improvement have languished for lack of funds while new works were taken up or projects given priority were not actually taken up.

The Committee would, therefore, recommend that a comprehensive plan should be drawn up. This need not be an entirely new exercise as the (yet unaccepted) Bombay Plan and plans made for National Highways and for State roads by certain State Governments would be available as a base. But it is essential that the Central and State Governments should consider-

and approve a plan, after considering technical, economic and social aspects." The Committee would emphasise that to get the full value of the road net work it is essential that State Governments should participate fully in this drafting of the road plan and in approving it. The Central Government should take the lead not only because its role in overall planning but considering the outlays made and being incurred on National Highways, Central roads and the roads being built under other ongoing programmes and schemes.

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The Committee concede that allocation of priorities and decisions on what should be built or improved in any given period are matters which need detailed consideration keeping in view changing requirements and availability of resources. However, the Committee would recommend that the following guidelines should be accepted for reasons explained against each:—

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(i) Incomplete roads, bridges etc. should be given the highest priority, unless there is a conscious decision that the work in progress was to be abandoned or treated as complete without further outlay. This is necessary to ensure that resources are not blocked for long periods and incomplete assets do not deteriorate without use.

(ii) Priorities once allocated should not be changed lightly or frequently. This is necessary so that the technical staff can do the preliminary work in an orderly fashion without fear of their work going waste. It is also anticipated that works will then not be started without the preliminary work (survey, soil tests, design estimation etc.) being done properly.

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(iii) While the long term overall plan can take note of all our requirements, in the five year and annual plans only those works should be provided for which funds are likely to be available.

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Ministry of Shipping
and Transport

The arrangement for monitoring development of roads also needs strengthening. Detailed recommendations in regard to National Highways and Centrally financed roads are given in later chapters of this Report but, more generally, the Committee consider that monitoring the implementation of a programme should be accepted as an essential part of planning. It appears that the Union Government and some, if not all State Governments are not kept fully aware of what is actually being done to implement the plan made earlier. The situation is worsened by the inadequate attention apparently given to initial planning and to subsequent changes made. The Committee feel that while each Government is, and should be, directly concerned with corrective measures in regard to shortfalls, deviations etc. on roads under its control, it is in the interest of all, for the Government of India, to take a lead in ensuring the building up an adequate system for monitoring the implementation of earlier plans when later plans are discussed. While this is necessary for all plans, this is particularly so for development of roads, where haphazard development and incomplete, or delayed work can lead not only to blockage of funds but to delay in general development of an area.

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6 2·83 -do-

The history of road development in the National Highway sector from the dawn of Independence upto the beginning of the 4th Plan presents a picture of unfulfilled promises of wide divergence between programmes and actions, gapping gulfs between estimates and actuals and the pronounced disparities between assurances and implementation. In April 1947 the Central Government assumed the responsibility for development of National Highway, which then numbered 34 and had a total length of about 21,440 kms. At the end of the Third Plan, followed by three Annual Plans *i.e.*, April 1969, the total mileage of National Highway stood at 24,000 kms. This indicates that in a period of over 22 years a length of only 2560 kms., at an average rate of 116 kms. per year, was added to the total length of 1947. Against this, keeping in view the future trends of road traffic pattern and development activity, the length of National Highways under the Road Development Plan (1961—81) was to be raised from 23,770 kms. in 1961 to 52,000 kms. in 1981, which meant, on an average, an addition of 1400 kms. per year. At this rate, the length of National Highway in April 1969 should have been about 35,000 kms. as against the then existing total of 24,000 kms. Thus, there was a heavy shortfall of about 11,000 kms.

7 2·84 -do-

During the First Plan period 1951—56 no road was added and during the 8 years 1961—69 (end of 3rd Plan) only a small length of 230 kms. was added to the National Highway system. The Committee cannot help regretting Government's complacency in this regard—a fact which has also been conceded by the Director General of Roads who during evidence stated that in the preceding three Annual Plans this aspect has been seriously neglected.

1	2	3	4
8	2·85	Ministry of Shipping and Transport	<p>In spite of heavy shortfalls in the National Highway mileage by the end of the Third Plan and the overwhelming demands from various quarters, both inside and outside Parliament, Government could add, during the Fourth Plan period, only 11 roads with a total length of 4819 kms., against the proposals to the extent of 32,000 kms. submitted by State Governments in this regard. The Committee are perturbed to note that even these 11 roads were declared as National Highways as late as in 1971-72, i.e. in the third year of the Fourth Plan, with the result that the outlay of Rs. 15 crores earmarked for the new additions during the Fourth Plan remained largely unutilised, the only expenditure having been incurred to the tune of Rs. 2 crores on the on-going works which had already been sanctioned for such roads from the Central funds before take-over of the roads. This speaks volumes about the inept planning of the Roads Organisation, a situation which has not been adequately explained.</p>
9	2·86	-do-	<p>What concerns the Committee more is that though it was found that these roads needed Rs. 58.50 crores for rectification of deficiencies and improvement, no positive steps were taken to remove these deficiencies except that estimates amounting to Rs. 3.40 crores had been sanctioned. In this regard, the Committee would also like to emphasize that before any roads are finally decided to be added to the existing National Highways system, it should be ensured that they have been properly inventorised for determining their deficiencies and that they have been maintained by the State Governments at a reasonable standard and do not entail heavy expenditure on removal of deficiencies.</p>

- 10 2·87 -do- The Committee are further concerned over the fact that instead of accelerating the pace of development during the Fifth Plan, the Planning Commission has targeted for additions to the National Highway system of a total of 6178 kms. only against the proposals emanating from the States for a length of 43,000 kms. Even this modest programme has not yet been cleared by the Ministry.
- 11 2·88 -do- The Committee would urge the Government to finalise the proposals with a schedule of priorities depending upon the importance of each road and availability of resources as long delays and indecisions may result in further deterioration of the roads involving more expenditure.
- 12 2·89 -do- The Committee note that of the outlay of Rs. 293 crores provided for new works on National Highway during the Fourth Plan, 59 per cent was accounted for removal of deficiencies in missing links of roads and bridges and widening and/or strengthening of single-lane sections to double-lane sections etc. It was expected that at the end of the Plan, there would be no missing links of roads/bridges, nor would there be any low-grade sections and that the full length of the existing National Highway system would be made fit for 2-lanes traffic. The Committee, however, note that all these expectations were belied as a large number of deficiencies were generally found in the Plan period in the projects estimates and execution of National Highway. The Committee note that the physical programme of road development in the 4th Plan undertaken included about 470 road works in progress on 1 April 1969 over a length of 4,000 kms. of which about 3,000 kms. were completed, while out of 189 bridges in progress on that date 168

bridges had been completed. There was poor progress in the completion of the missing links of 440 kms. on important National Highway, such as Nos. 6, 30, 41 etc. and 17 major bridges. As regards improvements to low-grade sections, while works covering about 300 kms. out of the targeted 480 kms. had been sanctioned, work was completed on 158 kms. only during the Plan period and further on 53 kms. by December, 1976. For widening and strengthening of single lane sections of National Highways to two-lanes, against 7120 kms. targeted, work had been completed on 2977 kms. only (upto December, 1976). Similarly, strengthening of existing weak two-lane National Highways and widening of two-lanes without strengthening were sanctioned over a length of 2209 kms. and 3765 kms. respectively against 4th Plan targets of 3120 kms. and 6080 kms. respectively. Work was completed over 1177 kms. and 1985 kms. respectively upto December, 1976.

13. 2'90 Ministry of Shipping
and Transport

In this connection, the Committee on "More Efficient and Economical Construction and Maintenance of Roads" in its Report (1974) has *inter-alia* remarked that "the original deficiencies like poor riding surface, low-grade line, weak shoulders and standard geometrics continue to plague the country's road system even though outwardly many have changed markedly as regards width and the quality of surfacing. Ignoring the few well-planned highways of recent origin, this applied as much to National Highways as to roads of lower categories." The representative of the Ministry was not oblivious of these deficiencies as he has stated during evidence that "we are all serious as to what should be put in to increase the capability of Highway authorities to come to expectations."

14. 2.91 do.

What has perturbed the Committee more is the fact that although according to the Audit para the construction of missing links was given the first priority in the 4th Plan, only 3 kms. of missing road links were completed and the work was in progress over a length of 225 kms. against the target of 440 kms. As per information received from the Ministry on 2 May, 1977 the total length of missing links completed upto December, 1976 was 111 kms. The principal bottlenecks in the way of expeditious construction of the missing links have been identified by the Ministry viz., difficulties in acquiring land, difficulties in fixing suitable contractors and financial constraints. The Committee have been informed during evidence that these bottlenecks have been largely overcome and the Roads Wing has been repeatedly writing to the States authorities, including the respective P.W.D. Ministers and Chief Ministers, for early completion of the missing links. Despite all these efforts, the progress has not been satisfactory, as according to the information furnished by the Ministry to the Committee the overall progress on the scheme is 'of the order of 50 per cent or so'. It has been apprehended that at the present rate of priority in the allocation of funds for missing links, the work are expected to be completed in the first year or so of the Sixth Plan.

15. 2.92 do.

The Committee have reasons to believe that one of the causes for the set-back in the completion of the missing links is that the funds earmarked for this purpose were diverted to other priority works as has been conceded by the Ministry in a note furnished to the Committee that "the missing links were given slightly lower priority because on these sections there was no traffic and these were utilising the alternate temporary routes." The Committee cannot but deplore the perfunctory manner in which the whole

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Ministry of Shipping
and Transport

question of construction of missing links has been tackled. It is apparent that construction of missing links in the scheme of things was not given the importance that it deserved. Now that the Ministry have accorded high priority to this item, the Committee hope that concerted efforts would be made to complete them without further loss of time.

One of the items of works where the highway authorities faltered in the matter of missing links was the construction of 16 (out of 17) missing major bridges, out of which only 3 had been completed during the Fourth Plan, with work on the remaining 13 in various stages of progress. The Committee have been informed that as on 31 March, 1976 four more major bridges have since been completed, while two have not yet been sanctioned and one, though sanctioned, has not been started yet. The progress in respect of the remaining 7 bridges ranges between 35 to 76 per cent, except in the case of one *viz.* Bridge across Pamban Strait (originally due for completion during the Fifth Plan), where the progress was 11 per cent. The Committee are unhappy over the slow progress and the long time taken in the completion of the missing major bridges and would like the Government to expedite their completion without further loss of time.

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do.

The Committee are also unable to appreciate the action of the Government in holding in abeyance the sanction of two bridges and to defer the construction of another bridge, particularly when these had been accorded necessary priority for completion during the Fourth Plan. They would urge the Government to review the position urgently in respect of them with reference to the availability of funds and prepare a time-bound programme

for their early completion. The Committee would like to be informed of the action taken in this regard.

18. 2'95 do. The Committee are constrained to note that the progress of the road crust works on the 123 kms. long Arrah-Mohania missing links on National Highway 30 in Bihar varied from 2 to 27 per cent and that out of 17 bridges on that missing link none had been sanctioned during the Fourth Plan period. The progress on this missing link varies from 15 per cent to 44 per cent on different items, such as Land acquisition, Earth Work, Culverts and Pavements.

19. 2'96 do. On the present reckoning, the road works alone are expected to be completed by June 1979. The Director General (Roads) has conceded during evidence that he was "not satisfied with the progress on this missing link". The oft-repeated explanations for slow progress are the constraints of financial resources from mid-March 1973 to March 1976, obstructions in land acquisition, reluctance of contractors because of abnormal increase in prices and wages in the past 5 years. The Committee consider that all these difficulties could have been averted, if the highway authorities had taken sufficient care to take up and commence the execution of the works in the early years of the Fourth Plan. What was lacking was a time-bound programme and the proper phasing of the works within the resources available. But it appears to the Committee that matters were allowed to drift. The Committee would like this aspect to be gone into depth and at the same time urge that all-out efforts should be made to complete the works early by settling the outstanding issues expeditiously. The Committee expect to be apprised urgently of further action in the matter.

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20.	2.97	Ministry of Shipping and Transport	<p>In regard to the 17 missing bridges on the Arrah-Mohania missing link, the Committee are concerned to note that they are still in the sanctioning stage, though they were scheduled to be completed in the Fourth Plan period. According to the present expectation, another 5 years would be needed to sanction and execute them. The Committee are led to the inescapable conclusion that these works were neglected in the beginning and are now being pursued at higher level, obviously after the receipt of the Audit para. In order that these are completed expeditiously, the Committee would like the Ministry of Shipping and Transport to draw up, in consultation with the State Chief Engineer P.W.Ds., a phased time-bound programme, stage-wise, for construction of the bridges and extend all possible assistance to the State authorities to ensure that the programme agreed upon is adhered to strictly. The Committee would like to be informed of the progress made in the matter.</p>
21.	2.98	do.	<p>Yet another important instance where unduly long time has been taken in completing a missing link is the 32 mile road link between Kalaghat and Haldia on National Highway 41 in West Bengal which was sanctioned as far back as in July 1969 and according to the Audit para was about two-thirds complete and out of 3 bridges on that missing link one was 30 per cent complete and the other two, though sanctioned in August 1974, had not yet been taken up. Because of delay in completing this missing link not only difficulties were faced in movement of materials for construction of Haldia Port but the development of hinterland was also retarded for not generating</p>

the traffic in time. The Committee have been informed during evidence that this work is expected to be completed by March 1978. The main reasons for the delay in the construction has been adduced as delay in acquisition of necessary land for the work, though Land Acquisition proceedings were commenced as early as in 1968. The Committee are unable to accept the plea of ignorance of correct position at the time of sanctioning the project estimates and they feel that the system for monitoring the project and the supervision of the respective RO/ELO, to say the least, was wholly inadequate. The result of this heavy delay has been that the work on the road could not be proceeded within time.

22. 2.99 Ministry of Railways
Ministry of Shipping
and Transport

In regard to the remaining two over-bridges over Mechada and Padampur on the missing link, the Committee would like the Railways to accord necessary priority so that their construction synchronises with the completion of the road. The Committee would like the Ministry of Shipping and Transport to keep a close touch with the Railways in this regard keeping in view the imperative urgency of utilisation of the port facilities created at Haldia at enormous costs and the social and economic benefits that would accrue therefrom to the country as a whole. The Committee would urge the construction of these works on the missing link without further loss of time. The Committee has also referred to this project in their 33rd Report (Fifth Lok Sabha) on Haldia Dock Project.

23. 2.100 Ministry of Shipping
and Transport

The Committee would also like to emphasise the need for up-dating the inventory of 1968 in respect of National Highways so that the latest data are available before the commencement of the Sixth Plan. The Committee

also suggest that the work of inventory making for National Highways should be streamlined and coordinated at the Central level, based on a standard form devised for countrywide application.

24.

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Ministry of Shipping
and Transport

The Committee are unhappy to note that as many as 530 National Highway works of the pre-Fourth Plan period were spilled over to the Fourth Plan. While 389 of these works were completed during the Fourth Plan period, the remaining 141 works were further spilled over to the Fifth Plan, though 133 of them were targeted for completion during the Fourth Plan period itself. The present position, as indicated by the Ministry on 2 May 1977, is that 60 works are still in progress when the third year of the Fifth Plan is already over. Surprisingly enough, it includes 15 works on which the progress is 50 per cent or less. If precious and limited resources of the country are not to be frittered away, it is imperative that projects once included in the Plan should be executed within the Plan period itself and not allowed to be spilled over thereby adversely affecting the road development programme of the next Plan and escalating the costs of labour and materials. If there are any on-going projects carried over to the next Plan, prudence demands that priority should be given to the completion of such projects over new works. The representative of Planning Commission has also conceded during evidence that "first priority should be given to important spill-over schemes, because before taking up a new scheme it is preferable to complete a spill-over scheme on which sufficient investment has already been incurred."

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The Committee find that most of the delays in the execution of 141 works during the Fourth Plan which were mainly due to land acquisition, contractual difficulties and changes in the scope of alignments, design etc. could have been eliminated or reduced to a great extent if the Ministry of Shipping and Transport, in consultation with the State authorities, had completed the preliminaries sufficiently in advance of the actual execution of these works. Since the delays which led to the spill-overs to the 5th Plan are of recurring nature, the Committee would like the Ministry to study them in depth so as to take remedial action for future. The Committee expect to be informed of the results of such study and action.

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The Committee find that against the total outlay of Rs. 418 crores for Centrally financed road works in the Fourth Plan, the works on National Highways alone *i.e.*, carryover works (Rs. 20.45 crores), new additions to National Highways (Rs. 15 crores) and new National Highway Works (Rs. 293 crores) accounted for Rs. 328.45 crores or 78.5 per cent of the total outlay envisaged. The Committee note that a total shelf of Rs. 455 crores was required to be sanctioned by the Ministry to achieve the targeted provision of Rs. 293 crores on new National Highways works. Against this, works totalling an expenditure of Rs. 324.18 crores (about 71 per cent) were actually sanctioned during the Plan period. The short-fall in sanctions was particularly critical during the first two years (1969-70 and 1970-71) of the Plan when Road works totalling Rs. 57.50 crores and bridge works totalling Rs. 13.90 crores, which constituted about 16.4 per cent and 13.2 per cent respectively of the total required shelf for road works (Rs. 350 crores) and bridge works (Rs. 105 crores), were sanctioned. Since road construction takes anything upto three years

from the time an award is made, it needs hardly any emphasis that a much more effort was needed to sanction the maximum number of works during these two years so that at the beginning of the third year, a larger number of works would have been ready for the execution stage. The Committee do not agree with the Ministry that this could not be done because of heavy constraints on sanctions. The proper course for the Ministry would have been to have the preparatory work completed in respect of a larger number of schemes, sanction them under two categories viz. high-priority and low-priority works so that schemes of high priority could at least have been completed first. The Committee are surprised to note that even the works of widening and/or strengthening of National Highways which were accorded high priority in the Fourth Plan were ignored to a large extent. In some States such as Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh and Orissa, the gap between the works planned originally and those actually sanctioned was substantially large and the number of such works sanctioned ranged between 46 per cent to 74 per cent of the number of works planned. The Committee need hardly emphasise that in view of the limited resources available for road works the annual programme of the Plan should be so tailored and phased that urgently needed items of works invariably receive high priority and are completed in time.

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Ministry of Shipping
and Transport

The Committee note that apart from imposition of restrictions, on sanctions, there have been heavy shortfalls even in expenditure on central road works during the first two years of the Fourth Plan as they find that

against the Budget Estimates of Rs. 34.21 crores and Rs. 43.08 crores for 1969-70 and 1970-71 respectively, an expenditure of Rs. 26.52 crores and Rs. 36.53 crores was made during these years thereby showing a saving of 22 per cent and 15 per cent respectively. The magnitude of shortfalls in expenditure can be judged from the fact that as per total Plan outlay of Rs. 418 crores an expenditure of Rs. 83.60 crores was required, on an average, to be incurred during each year of the Plan. The Committee regret that for lack of proper planning, even the smaller amounts provided in the Budget could not be utilised.

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One of the reasons advanced for the shortfalls in expenditure during the years 1969-70 and 1970-71 is the non-availability of Second IDA credit. The Committee regret that Government unnecessarily waited for a considerably long time in negotiating for the credit, which ultimately did not materialise and resulted in holding up of the sanctions of a number of road works. It would have been more prudent to make necessary funds available from internal resources and proceed immediately with the execution of the works, as soon as it became clear to the Ministry that foreign aid was not going to materialise. Evidently, the country had to pay heavily for lack of this fore-thought as the works had to be deferred for two years for non-availability of IDA credit and ultimately these were financed from internal resources.

The Committee are, however, glad that Government have learnt a lesson from this experience for not proceeding negotiations for the next I.D.A. credit proposed in 1974.

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Ministry of
Shipping and
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The other reasons for shortfalls in the expenditure during the first 2 years of the 4th Plan were, (i) Organisational inadequacies both at Centre and State levels and (ii) shortage of material like cement, steel, etc. The Committee are constrained to point out that for the execution of an ambitious 4th Plan of the magnitude of Rs. 418 crores, the highway authorities did not resort to any advance planning to assess the requirements of men, materials and equipment that were needed for efficient and successful implementation of the Plan projects. This sorry state of affairs has been depicted by the Committee for Suggesting Measures to Expedite the Execution of Bridge and Roads in its report (1972) that "the organisations have no resources of men to carry out even a fraction of the work required for it and what is needed to be done in the context of the needs of the Highways in the country". The Committee find that it was only in the third year of the Plan, when things had gone away and works had already suffered for more than two years, that the authorities woke up and took some steps to augment the staff both at Centre and State levels. The Committee need hardly stress that there is need for detailed study of availability and capability of resources of men, material and equipment sufficiently in advance of the consideration of the projects to be included in any Five Year Plan so that there is no let up in the efforts to execute the projects within specified targets. Such a concept would facilitate Plan formulation on a realistic basis, both in respect of costs of works and availability of resources.

Ministry of
Shipping and
Transport

The Committee note that there were significant divergences in the average cost per kilometre in widening and strengthening of works on National Highways sanctioned during the Fourth Plan. The costs varied from Rs. 1.25 lakhs to Rs. 2.5 lakhs per Km. in the States. Bihar, Kerala, Maharashtra, Uttar Pradesh and West Bengal had the highest cost per Km. The cost of construction also varied from year to year, as for instance, the estimated cost of construction per Km. of widening and strengthening (single lane to 2 lanes) ranged from Rs. 1.20 lakhs to Rs. 3.50 lakhs in 1971-72 but rose to Rs. 4.70 lakhs in 1975-76. Similarly, the construction cost of roads of bye-passes ranged between Rs. 2.10 lakhs to Rs. 6.10 lakhs per Km. in 1974-75. The Committee agree that there are several factors like the cost of and acquisition, varying soil and climatic conditions, cost of labour and material in different parts of the country, which affect the cost of construction of roads; but they feel that there is still scope and need for effecting economy and improvement at various stages of construction. It is an established fact that maximum scope of economy in construction can be done at the planning stage by better selection of alignment and ensuring technical soundness. The Committee further feel that better utilisation and maintenance of machinery and equipment, reduction in earth work requirements, well-knit organisation for over-seeing the construction, maximum utilisation of locally available man-power and materials can go a long way in reducing the cost of construction. The Committee need hardly emphasize that the cost of construction should be kept under constant review both by the Director General (Roads) and the State Highways authorities so as to take concerted measures to effect economies without detriment to the quality of works.

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31	2. 108	Ministry of Shipping and Transport	<p>The Committee have noted that as a result of the delay in the execution of the project, there has been invariably an escalation of the project estimates, non-utilisation of the facilities available and consequent loss to the country. The Committee have also noted that delays were also due to dearth of suitable personnel in the initial stages, lack of coordination between different authorities, defective terms of contract, non-supply of materials in proper time and absence of proper planning. The impression that is left on the mind of the Committee after a review of the physical achievements in respect of national highways is that the Ministry have executed the schemes without adequate planning in depth. The Committee desire that the Ministry should immediately introduce a P.E.R.T. Chart for every major project and issue instructions regarding its maintenance. Along with the maintenance of this Chart, the Ministry should devise an in-built mechanism for fixing the responsibility for delays in the execution of the projects. The Committee hope that the P.E.R.T. Chart would take care that there is proper synchronisation of the different components of the projects from the very beginning and that there is proper supervision in regard to the estimation of requirements, placement of indents and utilisation of materials.</p>
32	2. 109	-Do-	<p>The Committee would like to make the following further recommendations in regard to the execution of projects by the Central/State authorities:—</p> <p>(i) There should be a single authority in-charge of a National Highways and other Centrally Financed roads in each State</p>

which should coordinate, control and watch progress of all activities including land acquisition, construction, purchases of machinery and other allied matters.

- (ii) A separate organisation working under the overall control of the authority mentioned above should be responsible for framing accurate estimates as far as possible and for keeping accurate accounts of the expenditure incurred and to be incurred from time to time.
 - (iii) The terms of contracts to be entered into with various parties should be carefully studied to ensure economy and adherence to the time schedule.
 - (iv) The Ministry should satisfy themselves at all stages why a revision of the original estimate is necessary and whether the reasons adduced in support of revision do not lead to wasteful and unnecessary expenditure.
 - (v) Immediately after deciding to start a project, Government should ensure that preliminary and consequent steps, namely, the acquisition of lands, placing orders for the purchase of plant, equipments, etc. are taken in hand and in proper sequence so that the original estimates do not become out of date.
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1	2	3	4
33	2'110	Ministry of Shipping and Transport	The Committee understand that the Roads Wing and Indian Roads Congress have issued a series of guidelines, standards and circulars to bring about improvements in the preparation of projects for roads and bridges works. The Committee would like the Ministry of Shipping and Transport to collect and collate such instruction and circulars and bring them out in the form of a compendium for use of all Highway authorities.
34	3'32	do	The Committee note that the Ministry of Shipping and Transport is responsible for overall national policies relating to road planning and development and for provision of funds from the central budget for outlay on National Highways and centrally financed roads. The actual work of construction, development and maintenance of National Highways and other Central roads works is done by the respective State Governments' PWDs who prepare the estimates and forward the same through the State Governments to the Roads Wing of the Central Ministry for technical approval and financial and administrative sanction. For the services rendered by the State PWDs the Roads Wing pays them an 'agency charge' of 9 per cent of the estimated cost of works. Besides sanction of estimates, the Roads Wing also prepares standard designs of roads and bridges and publishes them for the guidance of the executing agencies. There are Regional Officers (ROs) and Engineer Liaison Officers (ELOs) who function as the Ministry's local representatives with the State PWDs. One of the functions of these ROs and ELOs is sending of periodical reports as directed by the Roads Wing on the progress of works and maintenance of National Highways falling in their respective jurisdictions.

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The Committee are concerned to note that while the outlay of Rs. 418 crores in the Fourth Plan was nearly $2\frac{1}{2}$ times of the Third Plan, the staff available with the Roads Wing in the beginning of the Fourth Plan period was only $\frac{2}{3}$ rd of the staff during the Third Plan period. What distresses the Committee more is the fact that a process of shedding off the staff started following the study made by the Staff Inspection Unit of the Ministry of Finance without taking an overall and judicious view of the work-load that would come up in the Fourth Plan. It was only in February 1972 that the headquarters staff of the Roads Wing was augmented on an *ad-hoc* basis by the addition of five Chief Engineers, 12 Superintending Engineers, 38 Executive Engineers and 38 Assistant Engineers among the technical staff.

36

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The Committee are not convinced that the study by the Staff Inspection Unit was carried out scientifically or realistically. Had that been done and the Team imparted a basic appreciation of the nationwide task in the matter of developing national highways, they would not have given the recommendations of the nature that had the effect of dismantling the organisation, and reducing its effectiveness at the supervisory and coordination level. At any rate, it was for the Executive to have taken effective action even after the receipt of the Report of the Inspection Unit and convinced the competent authority that a mechanical implementation of the recommendation would accentuate difficulties instead of achieving economy. The Committee need hardly point out that as soon as the difficulties in the matter of handling enhanced value of plan works came to notice, concerted measures should have been taken to put in position effective technical and supervisory machinery which would have proved

equal to the task and made for its expeditious and timely completion. Had this been done in an imaginative and effective manner, the shortfalls in the achievement of targets in the Fourth Plan and the subsequent years would have been obviated to a considerable extent.

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3.35

Ministry of Shipping
and Transport

The position was even worse in the case of regional offices of the Roads Wing. From the statement given in Appendix IV, the Committee note that the sanctioned strength of 34 Assistant Executive Engineers and 40 Executive Engineers as on 1 April 1969 was progressively reduced to 9 and 27 respectively by 1 April 1974. As against the actual strength of 135 officers of the rank of Assistant Engineers and above in the headquarters on 1 April 1974, the number of such officers in the Regional Offices on that date was 37. Another disquieting feature was that most of the high grade officers were concentrated at the headquarters in Delhi and the need for keeping senior officers in the regional offices for technical coordination and liaison work and to oversee its satisfactory and timely execution was not apparently realised.

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How the organisational inadequacies and deficiencies, both at the headquarters and regional offices have affected adversely the central road works has been commented upon by the Departmental Committee set up for Suggesting Measures to Expedite the Execution of Bridges and Roads Works. That Committee has *inter alia* observed that "the Roads Wing has hitherto not played an active role in the matter of construction of National Highway works. Lack of adequate personnel both at the head-

quarters office and at the Regional Offices of Roads Wing in order to achieve effective overseeing of construction activities and inadequate system of reporting and analysis of progress of works both physical and financial have mainly contributed to this passive and rigid attitude of the Roads Wing towards construction of National Highway works."

39 3.37 do

The Committee note that lately some steps have been taken to strengthen the regional set-up of the Roads Wing. The recently approved proposals for re-structuring of the Roads Wing envisage augmentation of the six regional offices at Calcutta, Patna, Lucknow, Jaipur, Bombay and Bangalore by establishing three more regional offices at Chandigarh, Gauhati and Madras. In addition to the State capitals where Engineer Liaison Officers are already posted, Government also propose to post Engineer Liaison Officers at some more stations such as Panaji, Jorhat and Imphal.

.o 3.38 do

The Committee feel that the essence of the matter lies in investigating, planning and execution of the construction and maintenance works for the national highways and other centrally sponsored roadways schemes in the most efficient and economical manner. The Committee feel that Government who have experience of nearly 3 decades should be able to have a set up which is both compact and expert in this technical field. It appears to the Committee essential that the regional offices which have to maintain an effective coordination with the State authorities which are entrusted with the execution of the works are manned by engineers of experience, technical standing and expertise and administrative skill to ensure that the work is got executed smoothly and in accordance with the planned targets.

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41	3:39	Ministry of Shipping and Transport	The Committee stress that there should not be over-emphasis on numbers or a sense of complacency developed by talking of the percentage of expenditure incurred on the organisation as compared to the total turnover, for the Roads Wing have essentially to perform a limited but essential function of planning and overseeing while the actual work is being done through State agencies. The officers and supporting staff should be of the highest calibre, but minimum in number to achieve this objective.
42	3:40	do.	The Committee are distressed to note that the position in regard to organisational set-up in the States to handle the National Highways and other central road projects during the Fourth Plan period was far from satisfactory. In fact, the Ministry of Shipping and Transport have conceded that there were serious inadequacies in regard to the organisational structure in as-much-as most of the States had mixed staff handling all types of works at the Chief Engineers headquarters and in the field where central projects lost their identity and adequate care was not possible in respect of standards, specifications, speed etc. Despite the efforts made by the Ministry at Ministerial level and other various forums, e.g. periodical meetings of the Chief Engineers held at Kulu, Darjeeling, New Delhi and Madras during the period from 1967 to 1970, the response of the State PWDs to set up exclusive organisations in the States for National Highway works including a separate set up for survey investigation and project preparation and for ensuring quality control has not been encouraging as according to the Ministry only about 60 per cent of the

States had created exclusive organisations for investigation and design by the end of 1972-73. The Committee note from the information now furnished by the Ministry that there are a number of States/Union Territories, e.g. Gujarat, Himachal Pradesh, Kerala, Manipur, Rajasthan, West Bengal, Chandigarh, Delhi and Goa which have not yet set up an exclusive organisation. There are certain other States, e.g. Andhra Pradesh, Karnataka, Maharashtra etc. where the exclusive set up of construction of roads has since been either dismembered or modified.

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Do.

Since the road construction in the present day calls for an expertise and technical know-how in soil mechanics, traffic and transportation engineering, bridge engineering etc. it appears desirable to have a separate full-fledged and exclusive organisation in each State to deal with the specialised job of National Highway construction. Expertise should be developed in planning, designs, surveys and investigations, materials and plants, contracts and specifications, quality control, progress monitoring and evaluation etc. to ensure more efficient design, construction and maintenance of the highways. The Committee suggest that the Roads Wing may evolve a model set-up for handling the construction and maintenance of National Highways and other central road projects in the States and Union Territories more efficiently and economically. The Committee would like to be informed of the specific action taken in pursuance of these recommendations.

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Do.

The Committee are distressed to note that even though the National Highway Rules 1957 stipulated the submission of monthly progress reports no up-to-date information about progress at various stages of Central

road projects sanctioned was available to the Ministry almost throughout the Fourth Plan. Failing to get needed response from the State PWDs, instructions were issued to Regional Officers/Engineer Liaison Officers to furnish monthly reports in duplicate about the inspection of works falling in their regions and forward the same to the Ministry by the seventh of the following month.

45 3-43 Ministry of Shipping and
 Transport

Likewise, during the first four years of the Fourth Plan, the Ministry had no operative system or mechanism whereby for each National Highway, all developmental works, ordinary maintenance and repair works, special repairs and/or flood damage, widening of culverts and other works could be continuously monitored for each stretch so as to give an idea of investment/expenditure incurred on it over a length of time. The Regional Officers and the Engineer Liaison Officers were in charge of large stretches of highways under their respective charge and they were experiencing considerable difficulties to report on account of lack of properly equipped offices. The cumulative effect of these deficiencies was that the quality and effectiveness of monitoring the construction activity of the State PWDs suffered.

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The Committee have now been informed that after the estimates are sanctioned, the State PWDs are required to furnish to the Centre, Quarterly Progress Reports, indicating the physical and financial progress achieved. The Committee observe that even those reports are not being

submitted regularly and in time as is evident from the fact that during 1976 (March—December 1976) alone the overall percentage receipt of these reports varied from 72 to 86 per cent. The Committee note that the need for sending these progress reports to the Ministry in time has been emphasised at the Chief Engineers meeting held at New Delhi, Srinagar, Hyderabad and Madras, where the State highway authorities were also advised to set up a separate monitoring cell. The Committee would like the Government to impress upon the State authorities the imperative need for sending these progress reports regularly and in time. The Committee would like to judge the success or otherwise of restructuring and the additional expenditure which has been incurred on augmentation of its staff by the results it achieves in expediting execution of work with greater efficiency and better economy.

47 3-45

Do.

The Committee feel that apart from the structural reorganisation with a view to lay more emphasis on the monitoring aspect, what is more important is the devising of the proforma which helps to feed back the essential information about progress made to the Head Office of the Roads Wing and enables it to take remedial measures without loss of time.

48 3-46

Do.

The Committee further note that in the Roads Wing a separate monitoring zone has been set up recently at the level of Chief Engineer and that the Ministry have also introduced in 1976 a system of "Monthly Letters" to be written by State Chief Engineers to the Director General (Roads) regarding the problems requiring urgent attention which would help in receiving attention at the highest level both in the States and in the Ministry. The Committee have earlier recommended that the Minis-

two years in order to off-set the increasing cost of materials and labour was not done throughout the Fourth Plan and allotments for maintenance and repairs continued to be made on the basis of those old recommendations. In this connection, the Committee would like to draw attention to the remarks of the Committee on 'More Efficient and Economical Construction and Maintenance of Roads that the "maintenance needs are more or less arbitrarily determined on the basis of traffic, cost of materials, carriageway width, rainfall, terrain conditions and judgement of the supervising staff. For some categories of roads, maintenance programmes is merely tailored to the money allotted for the road up-keep." The Director General (Roads) has conceded during evidence that there was need to review those norms of the Technical Group every two or three years and that a review was in fact undertaken and it showed that a further step-up in the grants was necessary. The Ministry in a further note furnished to the Committee have admitted that in the Fourth Plan, more so in the second half, the allocation for maintenance of national highways did not fully take into account the increase in the average width of carriageway subsequent to the improvement works, substantial increase in the price of bitumen in January 1974 consequent to oil crisis and the needed up-dated requirements of the norms laid in 1968. The Committee urge that a technical team may go into the matter thoroughly to find out whether the grants given during the 5th Plan for the maintenance and repair of national highways have been sufficient to meet the requirements and in the light of that study Government may re-fix the norms in consultation with the State authorities in order to obviate any feeling or ground that these have been fixed 'arbitrarily'.

1	2	3	4
51	3-68	Ministry of Shipping and Transport	<p>The Committee are surprised to note the wide variations in the State-wise expenditure on maintenance and repair of national highways during the 4th Plan. Bihar accounted for the highest outlay of Rs. 10.09 crores, followed by West Bengal (Rs. 7.74 crores) and Uttar Pradesh (Rs. 7.58 crores) and these three States accounted for about one-third of the total outlay on maintenance and repair expenditure of Rs. 76.31 crores during the 4th Plan. The Committee are not convinced at all by the reasons advanced in justification of heavy concentration of expenditure in these three States and would like the Government to direct the technical team to go into this aspect also in depth while reviewing the norms of expenditure on maintenance and repair of national highway as suggested earlier.</p>
52	3-69	Do.	<p>The Committee are concerned to note the excess expenditure over allotment for maintenance and repair of national highways over a decade or so. The excesses have fluctuated from Rs. 13.97 lakhs in 1959-60 to Rs. 69.41 lakhs in 1972-73, the peak having been reached in 1971-72 (Rs. 258.03 lakhs). According to Audit, the expenditure on maintenance and repair of national highways during the 4th Plan had exceeded the actual allotments in several States. These excesses are more significant in the case of West Bengal, Assam, Himachal Pradesh, Nagaland, Manipur and Karnataka where the expenditure exceeded from 10 per cent to about 36 per cent. The Committee would like to draw attention, in this connection, to the recommendations contained in 96th and 134th Reports of Public Accounts Committee (5th Lok Sabha) which <i>inter-alia</i> have dealt with in detail the</p>

expenditure on roads and stress the need for devising strict regulatory control over excess expenditure. The Committee would like to be informed of the measures taken and improvements effected in this regard.

53 3-87 Do.

The Committee note that for executing the National Highway works on behalf of the Union Government, the State Governments are paid an agency charge which is a percentage of the cost of the projects undertaken.

In October 1945 the agency charge was fixed at 10 per cent but w.e.f. 1 April 1954 it was reduced to 7½ per cent and then raised w.e.f. 1 October 1975 to 9 per cent. The State authorities are, in addition, paid 1 per cent of the estimated cost of works for quality control. The Committee are unhappy to note that Government took no pains to review the agency charges for over two decades, from 1954 to 1975, particularly when during this period substantial investment was made on road development in the country.

329

54 3-88 Do.

The Committee further note that advance agency charge for investigation works on National Highways is also available to the State authorities at the rate of 1.75 per cent of the estimated cost of a project and such advance payment is to be adjusted against the agency charges as and when the project is technically approved and financially sanctioned.

55 3-89 Do.

The Committee find that during the Fourth Plan agency charges to the tune of Rs. 207.6 millions were paid to the States while during the last 2 years 1974-75 and 1975-76 the agency charges paid are about Rs. 104.8 million.

1	2	3	4
56	3.90	Ministry of Shipping and Transport	<p>The Committee find from the data furnished (Appendix X) that the charges on account of overall establishment expenditure also for tools and plants vary greatly from State to State. For example, while the charges for overall establishment expenditure are only 8.08 per cent and 8.10 per cent in the case of U.P. and Punjab, respectively, these rose to 22.90 per cent and 16.22 per cent in the case of Maharashtra and Orissa respectively. Similarly, while for tools and plants the average percentage expenditure in the case of Punjab and U.P. are 1.19 and 1.56 per cent respectively, these are 8.88 per cent and 6.79 per cent in the case of Tamil Nadu and Maharashtra respectively. The Committee are unable to appreciate this wide variation in the percentage of expenditure either on account of the overall establishment charges or tools and plants and they recommend that the matter may be looked into in depth by a team of technical experts which should have on it, <i>inter alia</i>, a representative of the Cost Accounts Branch of the Ministry of Finance, so that the agency charges are fixed on a more scientific basis. The Committee suggest that this exercise may be undertaken on a priority basis during the current Plan period so as to provide a firm basis for fixing the agency charges at least for the Sixth Plan period.</p>
57	3.91	Do.	<p>The Committee need hardly point out that in reviewing the agency charges, Government may also take into account the system obtaining in Britain and other leading countries where such charges are similarly reimbursed by the Central authority to the State and local authorities for execution of projects connected with National Highways.</p>

85 3.92 Do.

The Committee would also suggest that the technical team may *inter alia* devise and recommend such institutional arrangement for reimbursement of agency charges which would provide an in-built check on timely completion of the works and ensure that these conform to quality specifications.

59 3.104 Do.

The Committee are unhappy to note that although the Committee set up for "Suggesting Measures to Expedite the Execution of Bridge and Roads Works", had recommended as early as in 1972 the creation of a National Highway Construction Corporation for execution of all major highway and bridge projects in the country, with similar Corporations in the States, the Government moved in the matter tardily and a decision to set-up a Central Road Construction Corporation was taken only in 1976. According to the information furnished by the Ministry on 12 April, 1977, the Corporation was registered as a Company under the Companies Act, 1956 on 20 December, 1976, and has now started functioning. It has been set up on the lines of any commercial organisation and is primarily for undertaking road and bridge construction works abroad besides taking up any such works within the country. The Committee have been informed that the Chairman-cum-Managing Director is now engaged in visiting various Gulf countries for exploring the possibilities of securing contracts. Actually, in one case, the Corporation has submitted a tender for the Helmand Valley Development Road Project in Afghanistan in collaboration with Helmand Valley Development Corporation, which is a local Corporation wholly owned by the Government of Afghanistan.

331

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			<p>The Committee feel that if the objective was to avail of the opportunity available in the petro-dollar countries, the Corporation should have been set up several years earlier.</p>
60	3.105	Ministry of Shipping and Transport	<p>As far as construction work within the country is concerned, the Committee stress that not only there should be complete coordination in the matter with the National Buildings Construction Corporation, National Project Construction Corporation, Border Roads Organisations etc., but also with the State Corporations where these exist. The Committee would like to judge the functioning of the Corporation by the manner in which it executes the works connected with national highways etc. with greater efficiency, speed and lesser cost.</p>
61	3.106	Do.	<p>The Committee stress that Government should keep a close watch on the functioning of the Corporation from the very inception to ensure that it develops on the right lines, so as to subserve the objectives with which it has been conceived.</p>
62	3.116	Do.	<p>The Committee note that the Central Road Fund was created by the Government of India in 1929 by earmarking the additional revenue realised by the increase of the excise and import duties on motor spirit. According to the revised Resolution approved by Parliament in April 1976, 80 per cent of the accruals to the Fund go to the Central Road Fund (Allocation) Account and are distributed to the States on the basis of their actual petrol consumption. This amount is usable by the States with</p>

the approval of the Government of India. The remaining 20 per cent goes to the Central Road Fund (Ordinary) Reserve Account and is retained by the Central Government for use for various purposes such as administration of the Fund; promotion of research, surveys and investigations, training of engineers and assistance for road schemes of all-India importance, etc.

63 3.117 Do.

The Committee note with concern that there had been wide variations from State to State in the quantum of grants given out of the Fund during the last five years from 1971-72 to 1975-76. For example, in 1975-76 Maharashtra got highest (Rs. 120.70 lakhs) followed by West Bengal (Rs. 86.60 lakhs) and Assam (Rs. 57.20 lakhs) and these three States together accounted for nearly one-third of the total releases of Rs. 788.49 lakhs during 1975-76. The payments made to the State/Union Territories fluctuated from year to year. For instance, while Rs. 147.01 lakhs were released to Maharashtra in 1972-73 it was reduced to Rs. 48.60 lakhs in 1974-75 and then raised to Rs. 120.70 lakhs in 1975-76. A somewhat similar trend is noticeable in the case of grants to Uttar Pradesh, Haryana and Rajasthan where the releases had been widely varying from year to year. The Committee need hardly emphasise that releases from the "Allocation" portion of the Fund to the States/Union Territories should be regulated and paid strictly on the basis of specific norms which should be made known to the States.

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64 3.118 Do.

The Committee further note that during the last five years, except for 1974-75 when the total expenditure had exceeded the total allocations, there have been shortfalls in the expenditure by the States during the

1	2	3	4
			<p>remaining four years. The percentage of expenditure incurred was 56 per cent in 1971-72, 55 per cent in 1972-73, 88 per cent in 1973-74, 108 per cent in 1974-75 and 80 per cent in 1975-76 of the total allocations made during each of these years.</p>
65	3.119	Ministry of Shipping and Transport	<p>In respect of some States (Appendix XI) the Committee find that the expenditure incurred was in excess of allocation; for example, in Maharashtra during 1975-76 it was Rs. 147.89 lakhs as against Rs. 120.70 lakhs allotted. Similarly, in the case of West Bengal, the expenditure incurred in 1975-76 was Rs. 115.48 lakhs against Rs. 86.60 lakhs allotted. From the heavy shortfalls and excess expenditure incurred it appears that no proper watch was kept over the execution of the works. The Committee urge the Government to see that allocations are made on realistic basis and that the approved schemes are progressed appropriately in accordance with funds allocated to obviate shortfalls and excesses.</p>
66	3.120	Do.	<p>The Committee note that the scope of objectives of the Fund under the revised Resolution has been widened considerably. The Committee would like special attention to be paid to projects for promoting inter-State road communication facilities, helping in the opening of new areas, providing funds for schemes of research and investigation etc.</p>
67	3.121	Do.	<p>The Committee are unhappy to note that after 1950 it was only in 1976 i.e., after a lapse of 25 years, that Government found it necessary</p>

to review the working of the Fund by bringing forward a revised Resolution before the Parliament and that too, when some controversy had arisen that this road Fund should be merged with the General Budget. The fact that the Fund had not worked satisfactorily is evident from the statement of the Minister who had *inter alia* stated during the course of discussion in Lok Sabha on 30 March 1976 that "in course of years, many States did not draw their funds, with the result that their funds have been accumulating." Now that the objectives of the Fund have been revised and enlarged in scope, the Committee hope that Government would take adequate measures to ensure that States/Union Territories take due advantage of it in the coming years.

68

3.122

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The Committee would like to make the following further recommendations in this regard:—

- (1) Government may ensure that there is no diversion of funds once allocations are made for particular projects.
- (2) Government may lay down clear guidelines/criteria for selection of projects.
- (3) Projects financed through the Fund are completed and not left incomplete, as has been the case in some States.
- (4) The States are kept informed from time to time of the amount outstanding in their accounts of the Fund so that they may plan their works and expenditure thereon better.

The Committee would like to be apprised of the action taken in pursuance of the above recommendations.

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69	3-123	Ministry of Shipping & Transport	The Committee would also like the Government to comprehensively review the working of the Fund in the light of its revised objectives and inform Parliament of the results of such a review, before the commencement of the Sixth Plan.
70	4-30	-do-	The Committee note that during the 4th Plan the surveys and investigations of local site conditions were often lacking in many major respects as a result of which the estimates, prior to their sanction by the Ministry, required clarifications or the essential data about which, even after sanction, had gaps. During execution the shortcomings had to be removed by frequent revisions of the estimates. For example, on NH 2 in the Agra-Bhognipur stretch in U.P., one year after the commencement of widening and strengthening of the works, major changes in the design of the road crust were proposed by the State PWD due to the earlier soil data having to be substantially altered to reflect actual site conditions. Similarly, laboratory reports on sub-grade soil tests for improvements to the low-grade sections of the road between Keonjhar and Kanjipani on NH 6 in Orissa were furnished after the earth work was completed. In the case of widening and strengthening the Krishnagiri-Madurai Section of NH 7 in Tamilnadu, improvements for geometrics and reconstruction and widening of existing culverts were not incorporated initially in the estimates prepared by the State PWD, which were generally defective due to the inadequate field studies and investigations. Likewise, estimates for 4 by-passes on NH 31 at Koderma, Jojouli, Nawadah and Biharsharif in Bihar and for 9

works on NH 28 in U.P. in Lucknow and Basti divisions had to be revised upwards ranging from 18 to 157 per cent, due to the original estimates being defectively framed. According to the explanation of the Ministry the main reason for the inadequacy of pre-estimate surveys and investigations on the part of the States was their disinclination to create separate organisations, especially for survey, investigation and project preparation.

The Committee feel that as the State authorities are paid an advance at the rate of 1½ per cent out of the agency charges to meet preliminary investigatory expenditure, as also 1 per cent of the cost of project for field survey, it is but proper that the authorities be persuaded to have adequate technical organisation to prepare the project estimates.

71 4.31

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The Committee note that the Ministry have been able to persuade a number of States like Tamil Nadu, Andhra Pradesh, Maharashtra, U.P., West Bengal, Bihar, etc., to strengthen the survey and investigation machinery and there has been considerable improvement in the preparation of projects for sanction by these States. The Committee would like the Ministry to follow it up with the remaining States and Union Territories who have not yet got adequate organisations for survey, investigation and preparation of project reports so that the position is brought to a satisfactory level.

337

72 4.32

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The Committee stress that the regional offices should maintain close liaison with the State authorities in order to see that the investigations, surveys and project reports are prepared *ab initio* on sound and acceptable lines to facilitate the work of processing sanction and execution.

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73	4·33	Ministry of Shipping & Transport	The model set-up, drawn up earlier by the Ministry, may be reviewed in the light of experience gathered, so as to commend an arrangement which would find acceptance by the remaining States. The stress obviously should be on the development of expertise at crucial stages of survey, investigation and project preparation in order to achieve the underlying objective of submission of a dependable and realistic scheme as per agreed guidelines to facilitate the work of processing and sanction.
74	4·34	-do-	The Committee note that the result of lack of essential details and data in preparing the project estimates has been that there was unduly long time taken in sanctioning the estimates at the Ministry's level. It is observed that for major road works, each costing over Rs. 25 lakhs, an analysis of the minimum and maximum times taken for sanctioning works on major National Highways showed that in case of NH Nos. 2, 3, 4, 5, 6, 7, 8 and 10, covering 173 works the minimum time taken for sanction of estimates ranged from 2 months (23 works on NH 5 in Orissa-Andhra Pradesh) to a maximum of 16½ months (35 works on NH 2 in U.P.-Bihar).
75	4·35	-do-	The position has been still worse in the case of sanctioning estimates of major bridge works. The Committee observe that whereas the time taken to sanction the estimate was 4 months (October 1955 to February 1956) in respect of Rupnarayan bridge on NH 6 in West Bengal, it was 13 years (1956—1969) in the case of Bhader bridge on NH 8B.

76 4:36 -do-

The Committee regret that despite various measures taken to build up the capability of the States for proper project preparation, the position is far from satisfactory as the Ministry have conceded in a note to the Committee that one of the main reasons for long time taken in sanctioning the estimates is that the projects prepared by the State PWDs are not upto the required standards. According to Ministry's own calculations, the time taken for sanctioning a project is 4 to 6 months in normal cases.

77 4:37 -do-

The Committee consider that 4 to 6 months taken by the Ministry for processing of such cases is on the high side. They desire that concrete measures should be taken to streamline the procedure, lay down clear guidelines and check-lists, prescribe norms for processing at various levels (to be reduced to the minimum) so that the sanctions are issued in a period not exceeding 2 to 3 months of receipt of proposals from the State Authorities.

78 4:38 -do-

The Committee understand that in order to reduce the time taken on sanctions the Administrative Reforms Department at one stage had suggested delegation of powers to the States to sanction Road and Bridge estimates upto Rs. 25 lakhs and Rs. 15 lakhs respectively, but as a result of discussions had finally stated that they would be agreeable if the delegated power was restricted to Rs. 10 lakhs to begin with. According to the Ministry, this matter is currently under consideration.

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79.	4.39	Ministry of Shipping and Transport Ministry of Finance	The Committee consider it essential that Government should review <i>de novo</i> the existing financial powers delegated to the State Governments, Roads Wing and the Ministry of Shipping and Transport in consultation with the Ministry of Finance in the light of the experience gained during the 4th and 5th Plans (so far) so as to rationalise the issue of sanctions to the project estimates by various competent authorities.
80.	4.40	Ministry of Shipping and Transport	The Committee need hardly point out that the delays noticed in the mere sanction of projects get further accentuated because of the tardy machinery and institutional arrangement for execution of projects involving calling of tenders (in several cases more than once), departmental screening of tenders, lengthy negotiations which all result in costly delays. The Committee note that some measure have been taken, particularly during the 5th Plan to effect improvement in the preparation of projects including surveys and investigations and as a result thereof, lesser time is now taken in clearance of the estimates and putting the projects on the ground. The Committee desire that the Roads Wing should make all out efforts to bring about standardisation and uniformity of practice so as to cut down delays to the minimum at various stages of execution of works.
81.	5.10.	-Do-	The Committee are concerned to note that the State authorities acting as agent of the Union Government do not yet possess the requisite skills and resources for tackling the problems like investigation, designing etc. in the matter of bridges. In fact, the Ministry have admitted in a note furnished to the Committee that inspite of the best efforts all these

years the data collected by the PWDs for preparation of detailed designs and estimates of bridges have not always been very satisfactory. It has been recognised during evidence that there is an urgent need for an expert organisation for designing larger and more complex bridges. The Committee note that some of the States have suggested that leading private consulting engineering firms may be entrusted with investigations and designing of complex bridges. The Committee would like the Government to examine thoroughly the matter in consultation with the State Governments which have a large number of complex and important bridges on national highways to construct and come to a final decision in the matter without further loss of time. The Committee would like to be apprised of the decision taken in the matter.

82. 5. 11 -Do-

The Committee learn that some State Governments have already set up Bridge Construction Corporations with a view to speed up the bridge construction programme. The Committee would like the Government, to assess the functioning of these bodies in concert with the State Governments so as to encourage the setting up of suitable agencies in all the States for bridge construction works.

83. 5. 16 -Do-

The Audit has pointed out that (i) the majority of Engineers' posts being at Headquarters, not all the recruits have had a posting to the Regional and Liaison Offices before they qualified for promotion to higher level posts; and (ii) the Officers of the Roads Wing do not normally have opportunity of gaining field experience through periodical mutual exchanges between them and the State Governments. The Committee do not agree with the view of the Ministry that since 60 per cent of the existing officers

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in the Roads Wing have been appointed through Lateral recruitment/deputation there is no need to have a regular arrangement to depute its officers on deputation to the States for gaining field experience.

84. 5.17 Ministry of Shipping and Transport.

The Committee stress that suitable institutional arrangement should be devised which would make for two-way deputation of officers from the Roads Wing in the interest of ensuring that officers who have the requisite field experience are entrusted with the responsibility of scrutinising the projects and of overseeing their timely completion and what is more of ensuring quality during execution of the works.

This arrangement would also ensure that the points which the Roads Wing desire to be kept in view while carrying out survey and investigation in the field and preparation estimates are *ab initio* complied with by the officers of the Central Government who would be working on deputation with the State authorities. This should facilitate and speed up the work of scrutiny and issue of sanctions.

85. 5.10 Do.

The Committee have elsewhere in the Report dealt with the question of over-centralisation in the Roads Wing at Delhi. They have also given recommendations that the regional offices need to be strengthened by suitably re-deploying the strength available at the Head Office. The Committee would like the Government to see that there is regular institutional arrangement for exchange of officers at various levels between the headquarters and the regional offices so as to make for continuous flow of experience from the field into the apex body and vice versa.

The Committee would like to be informed of the detailed institutional arrangements which are made in pursuance of the aforementioned recommendations.

86. 6.26 Ministry of Shipping
and Transport

The Committee find that due to a variety of factors such as absence of proper qualified staff and precise norms for routine testing, quality control on scientific lines has not been receiving the full attention that it deserved. Audit has pointed out a number of instances where the works executed were of sub-standard qualities because the requisite quality control measures were lacking. The Committee feel that the main reason for this short-coming was that there was not a proper organization for quality control operations on a regular basis. It is imperative that there should be a separate Quality Control Cell in each State which should be adequately staffed and properly equipped and charged with the overall responsibility of coordinating quality control measures within that State. The cell should also take stock of the specific problems resolved during the construction of the projects and pass on the essential knowledge of the same to the construction agencies for application in the field.

87. 6.27 -Do-

The Committee note that a satisfactory set-up for quality control on road works has two essential components, viz., (i) Testing, Control and Research Laboratories; and (ii) Quality Control Units. The Committee have been informed that Test and Research Laboratories have been set up in all the States except in Nagaland, Meghalaya and Sikkim and out of the Union Territories such laboratories are being set up in Andaman and Nicobar Islands and Goa. The role of these Laboratories is to carry out investigations required in connection with the Highway Projects, prospecting for locally

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6-28

Ministry of Shipping
and Transport

available cheaper materials, finding solution to problems posed by construction stall, research into local problems etc. These laboratories are not directly involved in field quality control. The Committee urge that necessary steps should be taken in consultation with the Central Road Research Institute to set up such Laboratories in the remaining States also.

The Committee note that a model scheme for organizing the State Testing and Control Laboratories, prepared by the Central Road Research Institute, was circulated among the States in 1957 under which they were offered 50 per cent assistance from the Central Road Fund (Ordinary) Re-Plan period, only 3 States, viz., Himachal Pradesh, Andhra Pradesh and Kerala availed of matching grants-in-aid from the reserved portion of the Fund. The Committee would like the Government to review the 20-year old model scheme with a view to examine how far the working of the laboratories could be further reoriented to meet the present day problems of ensuring quality construction of roads.

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-Do-

The Committee are concerned to note from the Comptroller and Auditor General's Reports for the year 1973-74 that in some State Laboratories no research is being undertaken on matters connected with traffic and highway engineering and instead, the whole provision is being spent on routine soil testing, etc. In order that the performance of the Laboratories is result-oriented and not merely routine, the Committee suggest that a reasonable percentage of the funds allotted to the laboratories may

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be earmarked to be spent on matters connected with traffic and highway engineering so as to effect economy, improve riding quality and enhance durability of the road works. The Committee need hardly emphasise that there should be close and integrated relationship between the research laboratory and the Quality Control Units so as to ensure complete flow of guidance from the laboratory and feed-back by the Quality Control Units, based on field experience.

90. 6.30 Ministry of Shipping and Transport

The Committee feel that the most important aspect of strengthening the laboratories is to ensure that they are not only adequately equipped but staffed with experts/technicians of the requisite disciplines with field experience of road construction. It is pertinent to recall that the Director General, Road Research Institute is of the view that the State laboratories should not be devoid of civil engineering competency and efforts should be made to attract high ranking civil engineering graduates passing from Universities and Indian Institutes of Technology. The Committee would like this matter to be gone into in depth with a view to devise adequate incentives to attract and keep promising civil engineers attached to Laboratories for a period of at least 4 to 5 years.

91. 6.31 -Do-

The Committee note that the Central Road Research Institute is conducting courses for different categories of Highway Engineering staff from the Assistant Engineers to the Superintending Engineers and that it is proposed to further improve the training programme. The Committee hope that the laboratories would take full advantage of the training courses being conducted by the Central Road Research Institute, and ensure that they imbibe the latest techniques that have been developed in the field of road engineering.

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92.	6.32	Ministry of Shipping and Transport	The Committee note that on the recommendation of the Planning Commission on Assessment Committee headed by Director General, Road Development was constituted to critically examine how new technology could be put to wide application with advantage. The Committee understand that this Assessment Committee has so far approved 16 techniques evolved for large scale adoption in the field. The Committee desire that the results of application of the new techniques may be assessed and the wider and more extensive application of those found successful encouraged.
93.	6.33	-Do-	The Committee note that a hand-book on quality control was published by the Indian Roads Congress in 1973 and circulated to the State P.W.Ds. The Committee desire that the norms laid down in this book for testing different types of constructions should be strictly adhered to by the field units.
94.	6.34	-Do-	The Committee further note that it has been a policy now to allow 1 per cent extra for quality control in the works estimates for National Highways. In addition, a special provision for survey and investigation is also available to the State P.W.Ds. as part of agency charges to the extent of 1-3/4 per cent with extra provision of 1 per cent as field cost. The Committee consider that the special provision of 3-3/4 per cent of the estimates should enable the State P.W.D. authorities to ensure proper control

over quality right from the stage of project investigation to execution. The Committee desire that the quality control measures and supervision at the State and Regional levels should be made effective and the Roads Wing should keep a close watch on the quality of road works executed by State authorities on agency basis.

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Ministry of Shipping
and Transport
Ministry of Finance

Contractors have an important role to play in executing the works to the prescribed designs, standards and specifications. In order that the jobs are carried out strictly according to the prescribed specifications, the Committee desire that the terms and conditions of tenders should be reviewed so as to make provision for rigid quality control tests before final Payments are made to the contractors. The Committee are given to understand that the Roads Wing is producing a model NIT document which attempts a kind of uniform system of inviting tenders based on certain standard conditions so that the problems of the contractors are also taken care of. This document, though evolved a couple of years ago, is still to be finalized in consultation with the Ministry of Finance and the Comptroller and Auditor General. The Committee would urge speedy finalization of the document for early implementation.

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6-60

Ministry of Shipping
and Transport

The Committee are distressed to note that there have been major failures of control over technical aspects in the execution of many large National Highway works during the Fourth Plan. Lack of adequate supervision by the competent authorities had led to construction of several sub-standard roads as revealed in the Audit paragraphs. The Committee are unhappy that because of lapses, technical and administrative, not only has there been a

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colossal wastage of resources but also of huge capital outlays. For example, NH 6 and NH 2 by-Pass in West Bengal completed in 1967 started showing signs of extensive failure and heavy distress and as a result thereof repair estimates totalling Rs. 119.61 lakhs and Rs. 156.97 lakhs for NH 2 and NH 6 respectively had to be sanctioned in November 1973. Upto 31 March 1976, rehabilitation works of about Rs. 64 lakhs and Rs. 18 lakhs had been completed on NH 2 by-Pass and NH 6 respectively. As suggested by the Ministry, the State Government have appointed a Committee in December 1975 to enquire into the matter. Similarly, a stretch of 12 kilometres of NH 33 over the Ranchi-Baharagora section in Bihar failed in 1968 although it had been constructed at a cost of over Rs. 5 lakhs per kilometre in 1965. Upto 1968-69 the expenditure incurred on the maintenance of the Ranchi-Baharagora section of NH 33 was Rs. 12 lakhs. The flood damage repairs work in January, 1969 was completed at a cost of about Rs. 12.86 lakhs. The State Government had appointed a Committee in September, 1968 to investigate the reasons for the failure of the road. It is surprising that the Ministry of Transport (Roads Wing) became aware of the Committee only after a lapse of six years in 1974 and then at the instance of the Union Ministry a proper Technical Enquiry Committee was appointed by the State Government in December, 1975 in which the representatives of the Ministry and of the Central Road Research Institute were associated. This situation reveals the ineffectiveness of the watch kept by the Roads Wing of the Ministry and their Regional Offices over the state of the work. The Committee suggest that suitable instructions may be laid

down that in all Enquiry Committees constituted to look into deficiencies or serious irregularities in connection with the National Highways, the Central Road Research Institute is invariably associated and the Roads Wings of the Union Ministry and the Regional Office kept concurrently informed. It should also be incumbent on the Roads Wing to keep a close watch on the progress made by the Enquiry Committee to ensure timely and conclusive follow-up action.

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| 97 | 6.61 | Ministry of Shipping and Transport | In regard to lack of control over technical aspect of execution of project, the Committee would like to emphasise that stricter check should be exercised both at the state and regional levels over the essential technical details and effective check should be exercised in the field to ensure quality control during execution. |
| 98 | 6.62 | Do. | The Committee have dealt at length with the delays and deficiencies in the execution of projects elsewhere in their report but would like to emphasise here that systematic analysis should be made of reasons for serious deficiencies creeping into project at various stages in the interest of taking timely remedial measures to obviate their recurrence. |
| 99 | 7.45 | Do. | The Committee note that during 1962—66 specialised road and bridge building equipments worth Rs. 20.55 crores were purchased out of the Central Funds for the execution of various important projects, viz., roads financed by the International Development Association (IDA-1961), the Emergency Road Works (1963) and Lateral Road Project (1963-64). These works were entrusted to the States for execution and the machinery |

purchased was allocated to these States, viz. Assam (Rs. 345.25 lakhs), Bihar (Rs. 609.45 lakhs), Gujarat (Rs. 170.67 lakhs), Maharashtra (Rs. 13.50 lakhs), Orissa (Rs. 52.50 lakhs), Punjab (Rs. 12.24 lakhs), Rajasthan (Rs. 245.95 lakhs), Uttar Pradesh (Rs. 281.54 lakhs) and West Bengal (Rs. 323.45 lakhs) for this purpose. The Committee are distressed to find that though a bulk of the machinery was rendered idle on completion or slowing down of the above works due to financial stringency about a decade ago, no concrete or conclusive action had been taken all these years to re-allocate the machinery to other States where these could be put to proper use, more particularly for the execution of the National Highways. The Committee have been informed during evidence that a policy decision has now been taken that the Central Government would retail all sophisticated types of equipment worth Rs. 10 crores and the remaining items like road rollers, trucks, boilers etc. worth Rs. 9.5 crores would be given to the States against loan assistance. The matter is stated to be under correspondence with the States. The Committee regret that the Ministry had waited for about a decade before re-allocating the surplus machinery to the States. Even now the question of transferring the ownership to the States remains to be settled. What surprises the Committee is the fact that the machinery acquired at heavy capital cost was allowed to remain unutilised all these years, entailing heavy loss to the Exchequer. The Committee consider this to be a fit case requiring a thorough probe with a view to fix responsibility.

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7-46

**Ministry of Shipping
and Transport**

The Committee are further distressed to note from the Audit Paragraph that to meet additional requirements during the Fourth Plan, the Ministry had purchased tools and plants worth Rs. 391.39 lakhs but because of imbalance in the actual supplies of the equipment and the timing of the supplies, some of the items could hardly be used on road works in the Fourth Plan.

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7-47

Do.

A proposal for grant of loan assistance to 12 States, viz. Himachal Pradesh, Andhra Pradesh, Punjab, Tamil Nadu, Kerala, Maharashtra, Uttar Pradesh, Madhya Pradesh, Karnataka, Haryana, Orissa and Rajasthan, was also approved by the Ministry of Finance in January, 1972 for the purchase of machinery. Against this proposal, a total loan of Rs. 788.54 lakhs was sanctioned for the years 1972-73 to 1975-76 and out of that a total of Rs. 377.254 lakhs was release to the States. The loans are released to the States in instalments after receiving the acceptance of the prescribed terms and conditions and after receipt of copies of purchase orders placed by them for the type and quantity of equipment approved by the Centre. What has surprised the Committee is that only 2 States, viz. Maharashtra and Haryana, have been able to utilise fully the loan sanctioned to them. While some States have partially utilised the amounts, the States of Punjab and Uttar Pradesh have not utilised any amount so far out of Rs. 75 lakhs and Rs. 104.55 lakhs respectively sanctioned to them. The Committee are not aware of the basis on which these two States have been sanctioned loans, nor have they been informed about the reasons for non-utilisation of the loan assistance. Incidentally these States are already holding machi-

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			nery worth Rs. 12.24 lakhs (Punjab) and Rs. 281.54 lakhs (U.P.) which had been rendered surplus on completion of Emergency Road works in Punjab and Lateral Road Projects in Uttar Pradesh.
102	7.48	Ministry of Shipping and Transport	In this connection the Committee would like to observe that immediately after receipt of Report of the Road Building Machinery Committee in 1970, the Ministry should have initiated effective action to regulate new purchases and ensure further utilisation of machinery and equipment by better deployment within the State on central works or by reallocation to different States.
103	7.49	Do.	Since a bulk of the machinery purchased during the years 1962-66 and thereafter through central funds is lying unutilised, or is not being utilised to its optimum, the Committee would like to emphasise that further expenditure on purchase of road building machinery for central works should be considered only after making sure that the machinery already available has been put to effective use and that the deficiencies pointed out in the Report of the Road Building Machinery Committee (1970) have been fully rectified.
104	7.50	Do.	The Committee would also like the Ministry to identify such of the items of machinery as have not been utilised at all or markedly under-utilised with a view to ascertain the rationale for their initial purchases.

The responsibility for purchase of unwanted items may be thoroughly investigated so as to take corrective measures to obviate such purchases in future. The Committee would like to be informed of the concrete measures taken in pursuance of this recommendation.

105 7.51

Do.

In view of the disturbing position about the acquisition and utilisation of costly road-building machinery and equipment purchased on central account, the Committee stress that in the Annual Report there should be detailed mention of the machinery and equipment purchased for road-building, its allocation State-wise, as also utilisation, the deficiencies noticed and the measures taken to rectify the position.

106 7.52

Ministry of Shipping
and Transport
Ministry of Finance

The Committee note from the Audit para that the maintenance of the machinery by the States was not satisfactory as they did not have the special facilities by way of workshops for servicing and maintenance of the sophisticated machinery during the Fourth Plan. The representative of the Ministry has also conceded during evidence that many States are still deficient of this facility. It is rather disturbing to note that despite negotiations going on with the States since 1962 no concrete steps have been taken to augment the workshop facility in the States where the machinery rendered surplus from the initial special projects is to be transferred for execution of the national highways. It is only now that a proposal for an amount of Rs. 182 lakhs has been sent to the Ministry of Finance for concurrence of procurement of 20 mobile workshops, 6 central workshops and 9 division workshops to take care of the machinery repairs etc., ownership of which vests or would continue to vest with the Central Ministry. Another proposal for giving another loan to the States to the tune of Rs. 60 lakhs for

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the establishment of new workshops to take care of machinery repairs, ownership of which vests with the State PWD but used on central works is also before the Ministry of Finance. The Committee would like the Ministry to pursue these matters with the Ministry of Finance for early sanction so that the workshops are set up in respective States by the time the machinery is allocated to them.

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7-58

Ministry of Shipping
and Transport

The Committee also emphasise the need for contemporaneous watch to ensure that mobile workshops are organised properly and render necessary service in keeping the machinery and equipment in firm and efficient condition.

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7-54

Do.

It is necessary that for proper operation, up-keep and repair of equipment there should be an adequate number of well trained operators and technical staff. The Committee find from the Audit paragraph that the States lacked facilities of trained staff to operate machinery allotted to them for execution of central works during the Fourth Plan. The Committee on Road Building Machinery in its Report (1970) has also emphasised the need for properly trained staff for use, maintenance and supervision of the machinery.

109

7-56

Do.

The Committee need hardly emphasise that facilities available at Training Centres run by the Central Water and Power Commission of the Department of Irrigation should be increasingly taken advantage of. The

Committee commend the idea of imparting training to the staff at Industrial Training Institutes which have been set up in almost all the States and would like the scheme to be finalised expeditiously. For this purpose, the Committee would like the Ministry to review, in consultation with the States, the present strength *vis-a-vis* the future requirements of operators and technicians so that a regular training programme is arranged in every State expeditiously to meet the future requirements. It will be beneficial if refresher and in-service training courses are also arranged from time to time so that the staff is made conversant with the working of the equipment of the latest design and technology.

110. 7-56

Do.

The Committee would also like to urge that in the case of new range of equipment the State authorities may be persuaded to send the machine operators and mechanics to the manufacturing units for training well ahead of the arrival of the equipment so that there is no loss of machine-time at the work site.

111. 7-57

Do.

The Committee would also like to be assured that the workshops are manned adequately by trained technicians with requisite qualifications so that the equipment is well maintained and repaired satisfactorily. It has also to be ensured that the workshops do not suffer on account of non-availability of the right type of spares.

112. 7-58

Do.

The Committee are perturbed to note from the findings of the Road Building Machinery Committee (1970) that the utilisation of the imported and the major items of machinery had not exceeded 40 per cent (often it was 10 to 20 per cent) of the available working hours. In some cases, the

machinery could not be put to proper use because of: (i) arrival of the machinery late after the work had been completed; (ii) State Governments being unable to use the machinery allotted due to special site conditions for which the imported machinery were not suited; (iii) lack of skilled operators and know-how for operation; (iv) lack of trained technicians for maintenance and repairs; and (v) non-availability of spares in time.

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7-59

**Ministry of
Shipping and
Transport**

In order to have proper check the Ministry have introduced w.e.f. 1972 the system of getting from the States yearly utilisation programme of machinery under which the States are required to indicate the quantum of machinery likely to be surplus so that the Ministry could consider transferring the same to other States. The Committee are distressed to note from the information furnished by the Ministry that the utilisation programmes were not prepared in the prescribed manner and were sent quite late. In addition, the utilisation programmes did not furnish utilisation picture for all types of central machinery and detailed calculation on the basis of quantum of work sanctioned against job numbers. Since forward planning resulting in redistribution of machinery in a rational manner can help improving the utilisation, the Committee would like the Ministry to impress upon the States concerned the importance of these utilisation programmes and persuade them to submit them regularly in the prescribed manner. The Ministry, on their part, should make a detailed study of these returns within a time-bound programme and issue suitable and timely instructions to the States to ensure that each item of machinery is put to optimum utilisation and maximum productivity.

114. 7-60 Do. The Committee need hardly emphasise that Regional Officers/Liaison Officers at State Headquarters should ensure that utilisation programmes are properly prepared, furnished in time and that directions issued are got implemented in letter and spirit.
115. 7-61 Do. The Committee further note that in order to have continuous record of the performance of the central machinery in the headquarters, the States are required to submit from 1972-73 onwards a quarterly performance report indicating the number of hours the equipment has worked, remained idle or under breakdown etc. The Committee find that whereas all the 8 States concerned had furnished reports for all the 4 quarters during 1974-75, the position had deteriorated in 1975-76 as only 2 States viz., Haryana and Punjab, submitted these reports for the whole year. The Committee would desire the Ministry to ensure that these quarterly reports are received regularly and in time from all the States so that on the basis of particulars furnished therein the Index Cards now being maintained at the headquarters are kept up-to-date, all the time.
116. 7-62 Do. The Committee note that at the instance of the Centre some States have augmented their mechanical set-up and at present the States of Assam, Bihar, Haryana, Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh, and West Bengal have Superintending Engineers (M) along with supporting staff. The Committee desire that the remaining States should also fall in line with other States and have separate mechanical set-up to ensure better utilisation of equipment.

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117.	7'63	Ministry of Shipping and Transport	The Committee note that physical verification of the equipments is done annually and the State Governments are required to send a copy of their report to the Ministry in the prescribed proforma by the end of each financial year. A close watch should be kept regarding timely receipt of these physical verification reports. More important is to see that all machinery is properly utilised and maintenance is not neglected.
118.	7'64	Do.	The Committee find that there is a multiplicity of forms prescribed for reporting utilisation, physical verification etc. of the machinery in the States. The Committee would like the Ministry to study these forms/returns with a view to rationalise them so as to contain essential data about the utilisation and performance of the machinery and facilitate the monitoring of performance and issue of the follow up directions including reallocation in the interest of better utilisation.
119.	7'65	Do.	The Committee are distressed to note that no serious attempts have been made so far by the Ministry to standardise the equipments/machinery for road building as by and large they have been utilising the machinery imported during 1962—66 for the initial projects. Since several States are now purchasing plant and machinery from indigenous sources in connection with the execution of the central works, it is but proper that a beginning should be made in right earnest to standardise at least some of the items which are in common use in road building. The Committee would, therefore, recommend that a technical body with officers drawn from the

Ministry (Roads Wing), Border Roads Organisation, DGTD, Indian Roads Congress, Public Sector Undertakings concerned etc., be set up to go into the question of standardisation of the machinery now in use in road building. The Committee would like the expert team to be appointed without further loss of time so that they may compile and evaluate the necessary data and give their considered recommendations by a specific date about standardising the important items of machinery and equipment in the interest of rationalising the production and maintenance programmes.

120. 7.66

Do.

The Committee would like the Ministry to take appropriate measures in consultation with the Ministry of Industry, DGTD, etc. to examine the feasibility of manufacturing indigenously such of the items of road building machinery and equipment which have to be imported at present in considerable number spending appreciable foreign exchange so that the country may attain self-reliance in this behalf at the earliest.

121. 7.67

Do.

The Comptroller and Auditor General in his Reports on States for the year 1973-74 has made a number of observations on the up-keep and utilisation of various items of machinery and equipment in the States. The Committee are perturbed to note that besides a large number of items of machinery lying idle for lack of utilisation programme or under repair for long periods ranging from one year to three years, as in the case of Andhra Pradesh, Gujarat, Karnataka, Punjab, Rajasthan and Uttar Pradesh, there are other irregularities of serious nature, as for example (i) out of 8 hot-mix plants in Gujarat the whereabouts of 2 plants purchased in August 1972 were not known (November 1974); (ii) the majority of 27 road roller imported from Rumania suffered from deficiencies and were not in working order or were lying idle; and (iii) the State Government of

Ministry of Shipping and Transport

Rajasthan had purchased 529 items of machinery for Border Roads valued at Rs. 106.75 lakhs between October 1965 and March 1967 from the open market without informing the Union Ministry. In spite of objections from the Centre, the State PWD continued to make direct purchases and procured another 75 items valued at Rs. 21.95 lakhs between April 1967 and July 1969. The Committee would like the Ministry to examine the observations made by the C&AG in his Reports carefully and select cases of glaring irregularities involving money from the Centre for investigation by a Committee of Officers who may be drawn from the Ministry of Shipping and Transport, Ministry of Finance, Border Roads Organisation and the State authorities etc. The Committee would like to be informed within six months about the action taken in pursuance of this recommendation.

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122.

7-68

Do.

The Committee find that Government had constituted a Road Building Machinery Committee in October 1968 to go into the whole question of road building machinery from the stage of planning of procurement and purchase, to its utilisation, operation, maintenance etc. It is regrettable that though the Committee submitted its Report in 1970, action has still not been completed on several of its recommendations. Out of the seven years taken so far in the consideration/implementation of the recommendations, the Committee find that about two years were taken by the Ministry of Shipping and Transport itself to formulate their views on the recommendations and about three years (from July 1972 to May 1975) were taken

by the Ministry of Finance to concur in those views. The Committee have no satisfactory explanation from these Ministries for taking such a long time to consider and concur in the recommendations and would like them to identify the reasons for the same so as to streamline the procedure in this regard and at least obviate such heavy and costly delays in the future. The Committee would like to be informed of the specific action taken in pursuance of this recommendation.

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7-69

Ministry of Shipping
and Transport

The Committee further note from the information furnished by the Ministry that of the total of 60 recommendations, the Ministry/States have so far accepted 53 recommendations and the remaining 8 are still under various stages of consideration. Of the 53 recommendations accepted, 37 have since been implemented and out of remaining 16 recommendations 2 are yet to be implemented by the Ministry and 14 by the States. The Committee need hardly emphasise that conclusive action on the remaining recommendations, not yet accepted or not yet implemented should be taken without further delay and the Committee informed.

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Ministry of Shipping
and Transport
Ministry of Petroleum

While in all the Oil Companies as well as in several developing countries in the world bitumen distribution takes place preponderantly in bulk (90 per cent or above), in India nearly 94 per cent of supplies are made in drums. The Committee note that because of substantial savings both in the price of bitumen supplied in bulk as compared to that supplied in drums as also in foreign exchange, instructions were issued to the State Governments in 1967 to make arrangements to move bitumen in bulk. According to the calculations made by the committee set up for Con-

version of Bitumen Distribution from Packed to Bulk (1972), the refinery price differential between packed and bulk bitumen was about Rs. 235 a tonne (including sales tax). Even after allowing for the expenditure on putting up facilities for the handling of bulk bitumen, there was substantial cost advantage to the consumer (mostly State PWDs., Governments and quasi-Government organisations) in taking supplies in bulk instead of 'packed' ranging from about Rs. 200 a tonne near the refinery location to well over Rs. 80 a tonne at far off points requiring movement by rail. The Committee are distressed to note that in spite of a number of measures suggested by the above committee for switching over bitumen distribution from drum-pack to bulk supply in a phased manner, the Scheme has not made much headway, as they note that against the estimated progressive conversion of bitumen from pack to bulk at the rate of 24 per cent, 34 per cent and 41 per cent of the total bitumen during the years 1973-74, 1974-75 and 1975-76 respectively, the actual movement of bulk bitumen by rail during these years has been of the order of 1.56 per cent, 1.09 per cent and 1.77 per cent respectively. As a matter of fact, there has been a steep drop in the total quantity moved on railways in 1975-76 as compared to 1973-74. On the other hand, the plea of the Railway Board was that even after the conversion committee's recommendations, the consumer was not really going in for bulk transport, as against 105 tanks wagons available, the demand was not sufficient even for 82 tanks.

125.

8.31

**Ministry of Shipping
and Transport**
Ministry of Petroleum

The Committee further note that as a result of efforts made by the Oil Companies within their concerned zones, the percentage of bulk supply of bitumen, within 250 kilometers from the Refineries, has risen from 42 per cent in 1972-73 to 63 per cent in 1975-76 only. Judging from the slow progress of the scheme, the Committee cannot but conclude that the Government have made no serious efforts to study and resolve the difficulties which stood in the way of the consuming units receiving their supplies of bulk bitumen. The Committee find that it was only after the matter was discussed by this Committee in evidence that the Oil Companies have been addressed on 7th September, 1976 to make all-out efforts to increase the sale in the supply of bulk bitumen and to send Government a quarterly report indicating the progress made. The work of following-up action with the oil companies, the Department of Transport and State Governments for promoting the sale of bulk-bitumen is stated to have been entrusted to the Oil Coordination Committee. The Committee feel that had these steps been taken earlier, immediately on the receipt of the report of the conversion committee, the results envisaged would have been achieved by now. The Committee hope that the Oil Coordination Committee would study the problem in depth and take effective measures to implement the scheme without loss of further time. The Committee suggest the precise progress made in this behalf should be included in the Annual Report of the Ministry.

363

126.

8.32

Do.

The Committee note that in June 1973 Government had decided to establish Bitumen Marketing Corporation for marketing of the bitumen produced in the country with the specific responsibility of promoting sales

of bitumen in a phased programme as recommended by the Committee on Conversion of Bitumen Distribution (1972). That Committee in its report had also recommended the setting up of such an organisation to undertake the burden and responsibility of making all the arrangements necessary for receiving and handling bulk bitumen. The proposed Corporation was registered in March, 1974 at a cost of Rs. 1.86 lakhs. According to the Ministry of Petroleum and Chemicals the whole question of functioning of the Corporation needs rethinking in view of the new developments, such as (i) taking over of Oil Companies and consequently confinement of production of bitumen by Oil Companies in the public sector, (ii) availability of steel sheets for drums indigenously and consequent reduction in involvement of foreign exchange, and (iii) fall in consumption of bitumen due to increase in its prices on account of oil crisis. The Committee would like to be informed within six months of the decision taken in this regard.

127.

8-33

Ministry of Petroleum
Ministry of Shipping
and Transport

The Committee note that Government have decided to encourage the oil companies in the public sector to market bitumen in bulk and if adequate progress is achieved in this field within a period of two years, then the question of winding up of Bitumen Marketing Corporation would be considered. The Committee would like this matter to be kept under review by Government in order to ensure that effective measures are in fact taken to market bitumen in bulk for the sizeable road construction programme under way in the interest of achieving overall economy.

128.

8-34

Ministry of Petroleum

The Committee are concerned to note that the production of bitumen which had progressively increased from 6.90 lakh tonnes in 1969 to 11.67 lakh tonnes in 1973 came down to 8.73 lakh tonnes in 1974 and 7.08 lakhs tonnes in 1975. The main reasons for fall in production are stated to be steep fall in consumption of bitumen due to (i) low magnitude of road works due to financial constraints, and (ii) adoption of alternative specifications issued following the world-wide oil crisis in 1973. This declining trend in the production of bitumen is a matter of serious concern.

129.

8-35

Do.

The Committee find that though domestic consumption of bitumen started declining during the Fourth Plan, no worthwhile steps appear to have been taken to step up the export of bitumen during the Plan period. From 23,527 tonnes of bitumen exported during 1969-70, i.e. the first year of the Fourth Plan, the quantity fell to 11,974 tonnes during 1970-71 and nil during 1971-72. It was only after the Fourth Plan that the export bitumen picked up from 16,734 tonnes in 1974-75 to 72,531 tonnes in 1976-77. Since bitumen is needed all the world over for road works etc. and at the same time our own needs are limited, the Committee need hardly emphasise that production of bitumen should be stepped up so that surplus bitumen could be exported and valuable foreign exchange earned. Incidentally, this will also enable the refineries to liquidate the stocks that have been accumulated over the years causing acute storage problems.

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1	2	3	4
130.	9-16	Ministry of Shipping and Transport	<p>From the material made available to the Committee and the findings of the Audit, the Committee are constrained to think that the Lateral Road Project for constructing a length of 995 miles of road from Bareilly to Amingaon, with 23 major bridges, 130 medium bridges and 185 minor bridges, was rushed through without creating adequate infra-structural facilities for its execution in the States of Uttar Pradesh, Bihar, West Bengal and Assam which were responsible to execute it within their respective territories. The State PWDs. did not have adequate man-power, road construction machinery and other resources necessary to execute such a gigantic project which was originally scheduled to be completed by 31 March 1967. To enable the State Governments to creat separate PWD Wings exclusively for the execution of the project, the target date of the project had to be extended by two years. The total cost of the project as originally proposed by the Border Roads Development Board was roughly estimated at Rs. 55 crores, but on receipt of details of estimates it was increased to Rs. 111 crores.</p>
131	9-17	Do.	<p>What has distressed the Committee more is the fact that the priority of the Project was downgraded in 1966 to the extent of virtually suspending work on it. It was not resuscitated until a review by a Study Team in 1968 which recommended that the Project should be completed by March, 1971 on reduced specifications by allocating Rs. 29.62 crores over and above Rs. 43.7 crores already spent upto 1967-68.</p>

366

132 9-18

Do.

The Committee all the more regret that even after reducing the parameters of the Project (total length reduced from 995 miles to 873 miles with a corresponding reduction of bridge works), the authorities failed to complete the project by the revised date of March, 1971 although a major portion of it was already completed by 1967-68. And all this happened despite the forceful argument of the Committee made in their 42nd Report (Fourth Lok Sabha) that the expenditure already incurred should not be allowed to become infructuous.

133 9-19

Do.

According to the information furnished to the Committee, some small stretches of the road and bridges are still to be completed in Assam. The Committee learn from the C&AG's report relating to Assam for the year 1973-74, that four minor bridges are incomplete because of the death of the contractor in one case and non-finalisation of revised estimates and allotment of funds in the remaining three cases. The Committee need hardly stress that all the outstanding issues should be settled with the Government of Assam so that the construction of the remaining stretches of the road and bridges can proceed expeditiously and completed without further delay.

134 9-20

Do.

Another instance of improper planning on the part of the authorities has come to light in regard to the construction of a missing link in the project between Darbhanga and Forbesganj in Bihar, over a length of 154 Kms. This project, which was originally estimated to cost Rs. 23.50 crores and subsequently revised to Rs. 53.36 crores, was abandoned on the

plea of constraint of resources. The Committee are unable to appreciate the reasons which led the Ministry to take up this project in September, 1970 when the priority of the Lateral Road Project was down-graded and the work had virtually been suspended till 1968. It is also not clear to the Committee how the project, which was taken up for execution in 1972, was summarily abandoned in 1974. The Committee desire that a full explanation of the case should be furnished in consultation with the Ministry of Defence.

135

9-21

Ministry of Shipping
and Transport

The Committee are distressed to note that besides taking a long time of over a decade in the completion of the Lateral Road Project, there were other irregularities and discrepancies which have come to the notice of Audit. As for example, excess expenditure has been incurred by the States—Assam, Bihar etc. In Assam expenditure upto March 1974 on 34 minor bridges, formation of work covered by 4 jobs, establishment of soil testing laboratory etc. and construction of an inspection bungalow at Bongaigaon was Rs. 486.17 lakhs against the estimate of Rs. 259.45 lakhs. Similarly, in the case of Bihar, the estimated expenditure of Rs. 255 lakhs on Araria-Bahadurganj Section (52 miles) and Rs. 6.66 lakhs on culverts was exceeded by 53 per cent and 26 per cent respectively. The excesses in actual expenditure indicated that the original estimate in the case of Araria-Bhadurgarh Section was not prepared after full survey and investigation. In Uttar Pradesh, a medium bridge at mile 9 of Pillibhit-Puranpur Section, scheduled to be completed in 1969 at a cost of Rs. 5.04 lakhs was ultimately completed in March, 1973 at a cost of Rs. 6 lakhs.

Do.

As regards the quality of work done, the Committee note that there was considerable damages done to some road stretches in the States and heavy expenditure was incurred on their repairs. In Assam, the Chief Engineer had inspected the road in August, 1974 and had found heavy damage to the sub-grade and surface of the road. Almost the whole road was found to be covered with big pit-holes. In Bihar, while the road was still incomplete, flood damage repairs costing Rs. 21.74 lakhs were undertaken in 1968-69, 1971-72 and 1972-73. It is reported that cement costing Rs. 1.24 lakhs supplied by a firm in October and November, 1969 was found to be sub-standard after it was used in the construction of bridges. The work had to be dismantled and re-done at a cost of Rs. 1.38 lakhs. Even though the road work was completed in January 1973, materials worth Rs. 4.13 lakhs were not utilised (November 1974), nor physically verified. In the case of bridge across river Kankail, there was a delay of about 3 years in completion. Though the delay was attributed to the contractor, no penalty was levied on him. In Uttar Pradesh, the bridge over river Ghagra near Zalimnagar though constructed in 1968 at a cost of Rs. 436.35 lakhs in July, 1968, showed cracks in the bulbs of the beams over their entire length due to sub-standard concreting. In Pilibhit-Puranapur Section, two wells had been sunk at a cost of Rs. 0.28 lakhs for the construction of a bridge at mile 9. These wells were found unsuitable for the finally approved design of the bridge and were abandoned. It is reported that during the construction of the Lateral Roads Rs. 1.74 crores were spent on its repairs. During the rains of 1971 extensive damage was caused to the road in the Bareilly-Bahraich Section for the restoration of which Rs. 4.57 lakhs were spent.

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137	9-23	Ministry of Shipping and Transport	The Committee would like Government to make a detailed study of the observations made by the Audit in the reports relating to the States for taking appropriate action. Government may also identify such of the deficiencies and irregularities which have come to their notice during the execution of the Lateral Roads Project so as to lay down norms while planning projects of such magnitude in future.
138	9-50	Do.	The Committee note that against the total allocation of Rs. 25 crores earmarked for roads of inter-State and economic importance in the Fourth Plan, an expenditure of Rs. 15.71 crores (about 63 per cent) only was incurred during the Plan period. The pace of expenditure was significantly slow (Rs. 5.71 crores only) during the first three years (1969-70 to 1971-72) because of the delay in the finalisation of the new programme which could be approved in 1971 only due to non-finalisation of the pattern of assistance and the time taken in ascertaining the willingness of the States to take the loans. It is surprising that though schemes costing Rs. 17.46 crores (Appendix IX-A Section) were approved in January, 1971 under the Programme, the expenditure for the same was authorised in May, 1972 or thereafter in majority of the cases. The remaining schemes (Appendix IX-B Section), costing about Rs. 8 crores were approved after 1971 and the expenditure was authorised in their case during the period from March, 1973 to August, 1975. This underlines the need for more expeditious processing of proposals and issue of the concomitant sanctions.

139. 9.51

Do.

The Committee note that even for the 5th Plan Government have not so far finalised the inventory of roads of Inter-State and Economic Importance which are to be taken up, although three years of the Plan have already elapsed. It is noted that proposals for the new schemes costing Rs. 385 crores were initially received from the States but after screening, schemes costing Rs. 51 crores have been selected and projected to the Planning Commission against the Plan provision of Rs. 30 crores. This package of schemes is stated to be still under consideration. The Committee would like this to be expedited.

140. 9.52

Do.

The basic change that has been introduced in the Scheme since the commencement of the programme in 1954, was that while upto 31 March, 1969 the pattern of assistance was matching grants-in-aid, this was changed to 100 per cent loan assistance with effect from the commencement of the Fourth Plan, i.e. 1 April, 1969.

The Committee note that some States, such as Assam, Meghalaya, Nagaland etc. have not availed of any loan assistance. The Sub-Group on Roads for 5th Plan has pointed out that "this financing pattern of cent per cent loan ignores the essentially infra-structural nature of road construction in which returns do not always get generated in the time schedule thought of or do not necessarily come to create exchange value in a planned manner as in an industry". The Sub-Group has urged assistance of matching basis on the ground that (i) it would involve a sense of self-participation on the part of the State Governments, and (ii) it would enable the Government of India to approve a larger programme within

the available funds. The Committee would like Government to review the entire system of assistance by the Centre for State Roads now handled in different Groups e.g. Central Road Fund, Roads of Economic and Inter-State Importance and roads included in other Centrally sponsored programmes.

141.

9.53

Min. of Shipping and
Transport

The Committee note that the construction of Bhadarwah-Chamba Road of the length of about 148 kilometres (50 kilometres from Jammu and Kashmir and the remaining kilometres in Himachal Pradesh) was approved under the Central Aid Programme of State Roads of Inter-State and Economic Importance in the 4th Plan. The project cost for the portion falling in Jammu and Kashmir as estimated in 1972 was about 149 lakhs and against that a sum of Rs. 115 lakhs was approved as central loan to the State. The overall progress on this work as on 31 March, 1976 was about 60 per cent and an expenditure of Rs. 54.69 lakhs was incurred thereon. It has been stated that the estimates for construction of bridges and culverts are still awaited from the State Government. The Committee regret that improvement in geometrics in respect of some of the stretches of the road could not be effected because of their having been already progressed. Since geometrics is a basic requirement in road alignment, they feel that this aspect should have been taken care of before the sanction was accorded to the estimates.

142. 9.54 Do. With regard to the portion of the road in the State of Himachal Pradesh, the Committee have been informed that the overall progress, ending August, 1975, was about 65 per cent and an expenditure to the tune of about Rs. 44.30 lakhs was incurred thereon against the estimate of Rs. 65 lakhs. The Committee would like the reasons for slow progress to be looked into and appropriate follow up action taken to complete the remaining works so that the road is pressed into public use.
143. 9.55 Do. Further, in respect of this road, Audit have pointed out that "no cost-benefit analysis of the heavy investment of between Rs. 2 lakhs and Rs. 3 lakhs per mile seems to have been undertaken". The traffic did not justify it. The Committee consider that before any project of this nature is undertaken for execution by the State authorities with either loan or grants from the Central Government, the Ministry should invariably be furnished with the cost-benefit studies so that the projects may be examined in their proper perspective before sanction. The Committee need hardly point out that in the context of constraint of resources, priority may be given to construction of roads which are viable and justified on economic considerations.
144. 9.56 Do. The Committee note from the Audit para that though under the Programme of Roads of Inter-State and Economic Importance, individual projects costing less than rupees one crore each can be sanctioned by the State Governments under their own powers, the pace of progress in sanctioning some such projects in Bihar (4 projects), Punjab (approaches on either side of main Sutlej Bridge at Shahkot), Madhya Pradesh (except roads in dacoit-infested areas), West Bengal (Bridge over Hooghly at

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145. 9.57 Min. of Shipping and Transport

Kalyani), etc. has been slow. The Committee would like the Ministry to look into these and such other cases where the State authorities have been either slow in sanctioning the projects or have not sanctioned and referred the same to the Centre, with a view to examine as to how far the powers delegated to the State authorities in this behalf have been utilised by them and whether in the light of that study any streamlining of the procedure is called for.

The Committee are concerned to note from the Audit para that though a bridge over the river Sutlej at Shahkot in Punjab was sanctioned in January, 1971 at an estimated cost of Rs. 2 crores it needed re-consideration as two bridges already existed in that area. It has also been stated that the tender for the bridge was awarded to a firm which had not got experience in major bridge constructions. The Committee would like to be informed as to why the position of two bridges already existing in the area was not taken into account at the time of sanctioning the major bridge at Shahkot as also the circumstances which prompted the competent authorities to award the work to a contractor who had not got adequate experience of construction of major bridges. They would also like to know the latest position in the construction of the bridge and the expenditure incurred thereon so far.

146. 9.58 -Do-

The Committee are perturbed to note cases of delays and irregularities in the execution of roads of Inter-State and Economic Importance as pointed out by Comptroller and Auditor General in his Supplementary

Reports for the year 1973-74 on certain States. For example, in Andhra Pradesh for the construction of 50 kilometres of road from Burgumpad to Aswaraopat the work started in March 1973 and scheduled for completion within six months, had not been completed till September, 1974.

147. 9.59

Do.

In respect of Karnataka the Committee find that out of six works in progress in April, 1969, five were completed by March, 1974 and one work "Mani-Ullal Road" had been deferred after Rs. 52.69 lakhs were spent thereon. Similarly, it is reported that the construction of a bridge across river Tungabhadra near Gillesgur on Hyderabad-Bangalore Road, though approved in October, 1968 and scheduled to be completed by January, 1972, was still incomplete in March, 1975. In the case of Maharashtra, while the Government of India had approved the construction of the bridge across the Revdanda Creek in September, 1972, an agency to construct the bridge had not been found even till October, 1974.

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As regards Uttar Pradesh, construction of the Chamoli-Okimath road approved by the Government of India, in July, 1960 was scheduled to be completed by March, 1970 at an estimated cost of Rs. 122.16 lakhs. The progress of the work was so slow that by March, 1969 only the Chamoli-Gopeshwar section (about 10 Kms.) was completed. With two revisions of certain sections, in January, 1971 and in September, 1973, the total estimate of the road was revised to Rs. 173.61 lakhs. Though the target date for completion was also revised to December, 1972 the road was completed by August, 1974, except for the stretch from Mandal to Chopta ridge.

The Committee would like the Ministry to study carefully the cases of delays as pointed out in the above and other reports of Comptroller and Auditor General on Road Development during 4th Plan with a view to take suitable remedial measures in consultation with the State authorities so that the roads and bridges taken up under the Centrally aided programme are completed expeditiously and pressed into public use.

148.

9-74

Ministry of Shipping
and Transport

The Committee note that arising out of the defence requirements, the programme of construction of certain roads in some Border States was taken up in 1965. Due to the combined effects of financial constraints in 1966-67 and down-grading of priorities in June 1967 by the Ministry of Defence on certain strategic roads there was a spill-over of strategic works amounting to Rs. 8 crores. In May 1968, the Ministry of Defence had indicated once again to the Ministry of Transport, its revised requirements for construction and development of strategic roads during the 4th Plan period.

576

149.

9-75

Do.

The 4th Plan provided Rs. 8 crores for carry-over works and another Rs. 35 crores for new strategic roads. The Committee note that even during the 4th Plan period, there was a shortfall in expenditure as they find that against the plan provision of Rs. 43 crores, an expenditure of of Rs. 36.08 crores only was incurred. What has particularly concerned the Committee is the fact that the construction of roads on which Rs. 10.57 crores had already been spent were subsequently down-graded in priority.

In Rajasthan alone, out of 27 roads decided to be developed at a total estimated cost of Rs. 30.75 crores in 1965, 20 roads were completed between 1968-69 and 1971-72 and work on the remaining seven roads was suspended after Rs. 52.23 lakhs were spent because the Government no longer considered these roads as important.

150. 9-76

Do.

The Committee fail to appreciate the justification for down-grading the priority of road works, which are in the process of execution, the harmful consequences that stoppages would entail, on the generation of employment opportunities as also the economies of the works themselves. For example, Road 'G' was sanctioned in June 1966 for Rs. 25.83 lakhs and was completed in two stages the first stage by September 1967 and the second stage in 1971-72. During the intervening period of 3 years, after completion of the first phase of the work the gravel road surface suffered corrugation and was rutted, necessitating re-gravelling at a cost of Rs. 4.79 lakhs. Another expenditure of Rs. 1.50 lakhs was incurred to strengthen the berms which were eroded by winds and rains. Similarly, Road 'E' was sanctioned in June 1966 for Rs. 40.95 lakhs. In July 1967 the road was categorised as 'low priority' and work was slowed down, but again in May 1968 a portion of 51 miles of this road was allotted high priority. Again in December, 1970 Ministry of Defence decided that only 28 miles of this road should be developed. Thus an additional expenditure of Rs. 16 lakhs was incurred on account of changes in priority and scope.

151. 9-77

Do.

The Committee feel that there is need to study the history of some strategic roads which were decided to be taken up on a priority basis earlier but were later down-graded and again after some time completed on priority

basis so as to derive lessons and evolve institutional arrangement to avoid repetition of such situations which lead to halting progress and escalation of costs.

152

9-78

Ministry of Shipping
and Transport

The Committee are perturbed to note the irregularities committed in the execution of the strategic roads in Rajasthan, a reference to which has also been made in the Supplementary Report of C&AG for the year 1973-74 relating to the State. In this connection, the Committee would like to mention particularly the grave irregularity committed in the case of repairs carried out to 4 roads in May 1971 through 37 piece agreements with petty contractors without calling for tenders. The work was split into small items so as to bring them within the competence of Assistant Engineers. No estimates were framed for approval of competent authority. The Executive Engineer had pointed out in June 1971 after inspection that there were no traces of the work done. The Committee regret that though the Audit had brought these irregularities to the notice of the authorities in March 1972 no conclusive follow-up action has yet been taken against the persons found responsible. The Committee need hardly point out that the Roads Wing of the Ministry should have exercised proper vigilance over each stage of planning and execution of roads through their Regional Offices so as to obviate the irregularities of the type mentioned in the Audit Report. This underlines the need for monitoring of works during execution and effective follow up action as pointed out by the Committee elsewhere in this Report.

153

9.79

—do—

Since the strategic roads are sponsored by the Ministry of Defence and are in some cases maintained by the Border Roads Organisation after completion by the State PWDs, Government may examine whether the work of construction of strategic roads may be entrusted to Border Roads Organisation right from the inception, specially now that the Border Roads do not appear to have enough work to engage their resources.

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10.6

—do—

The Committee were surprised to learn during evidence that the representatives of both of the Planning Commission and the Ministry of Shipping and Transport were not aware of the separate Supplementary Reports of the Comptroller and Auditor General of India for the year 1973-74 for different State Governments on road development in the States. Since these Reports contain valuable information on roads financed through loans and grants given by the Centre and on the States' own road programmes, it is inexplicable why the Planning Commission and the Ministry of Shipping and Transport, etc. should not have taken full cognisance of the valuable data and observations contained therein. The Committee desire that these Audit Reports should receive sustained attention with a view to rectifying the deficiencies in planning and implementation of the road development programmes.

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