



**Report of the
Comptroller and Auditor General of India
Performance Audit on “Planning and
Contract Management of Road Works in
Public Works Department”
for the year ended March 2021**



SUPREME AUDIT INSTITUTION OF INDIA
लोकहितार्थं सत्यनिष्ठा
Dedicated to Truth in Public Interest



**Government of Karnataka
Report No. 8 of the year 2022**

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Comptroller and Auditor General of India
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PREFACE

1. This Report for the year ended March 2021 has been prepared for submission to the Governor of Karnataka under Article 151 (2) of the Constitution of India for being laid in the State Legislature.
2. The Report contains findings of the Performance Audit on “Planning and Contract Management of Road Works in Public Works Department”
3. The instances mentioned in this Report are among those, which came to notice during the course of audit for the years 2016-21.
4. The audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.



*Executive
Summary*

Executive Summary

Why CAG did this Audit ?

The mission of the State Public Works Department is to Plan, design, construct and maintain a safe, technically sound and cost effective road network in the State. In this context, the department has a pivotal objective in ensuring a sustainable road network for the socio-economic growth of the State through well maintained road network in the State. As of March 2021, the major roads network under the jurisdiction of PWD, in Karnataka is stretched over 91,960 kms. During 2016-21, the State Government incurred capital expenditure of ₹17,046.97 crore on improvement and renewal of State Highways and Major District Roads in the State. All kinds of road works are executed by engaging contractors. This Performance Audit covering the period from April 2016 to March 2021 was undertaken to examine (i) Whether the road development works were systematically planned, prioritised, and designed to achieve the projected mobility/traffic needs; (ii) Whether contract management is effective to execute the works of specific quality without cost and time overrun; and (iii) Whether the monitoring system evolved was adequate and effective for achieving the desired objectives.

Major Audit Findings

Important objective of Karnataka Road Sector Policy, 2009 such as development of Core Road Network of SHs, and MDRs as per IRC standards with a minimum width of two-lanes was yet to be realized. There was no periodical planning for taking up of road works in the State.

The Cost estimates for road works were not prepared in accordance with IRC norms and Government instructions. As a result, estimates contained serious deficiencies which led to avoidable excess expenditure, loss to the Government etc., amounting to ₹38.63 crore in works test-checked by Audit.

Road Safety Audits were not conducted prior to according technical sanction which deprived estimates having adequate provision for road safety measures.

The tender inviting authorities stipulated higher specification of Machineries and tenders were invited only from higher class of contractors than required for the works. There was no Database of Contractors in place to verify the Bid capacity. As a result, the Department either allowed ineligible contractors to participate or restricted eligible contractors from participating and thereby limiting the competition.

The extant IRC provisions in shifting of utilities were not followed, resulting in extra burden on the State exchequer.

Contracts amounting to ₹2,738.86 crore (75 per cent of the sampled works) comprising 373 works were awarded when only one or two bids were received without resorting to retendering which deprived the State an opportunity of obtaining competitive rates for the works executed. Further award of contract

in 43 single bids with tender premium more than 10 per cent had resulted in extra financial implication of ₹18.68 crore.

There were inordinate delays in completion of works on flimsy grounds like excessive rain, protest by villagers, land disputes, etc. However, the Department had not maintained any records specifying actual reasons for the delays and time extensions were routinely granted. Online submission of measurement provided under e-Procurement platform was not put to use (June 2022) but measurements for work done were being recorded on excel spreadsheets which is not a reliable source of information for the purpose of preparation of bills of the contractors.

The Divisions released ₹1,480.37 crore to the contractors in 333 cases for establishing field labs but the contractors had not established field labs and quality control test reports were not enclosed to the bills. Department may penalise the contractors who failed to ensure implementation of quality control measures by way of forfeiture of performance guarantees furnished by them and action be taken against the EEs who failed to comply with the codal provisions. Government stated that necessary instructions would be issued to all the Officers concerned to adhere QA norms before admitting the bills of the contractors.

What CAG Recommends

There are fifteen (15) recommendations relating to policy, preparation of scientific and cost effective estimates, transparency in tendering, award and managing the contracts. Following recommendations have been made in this Report:

- The State Government may ensure that complete road data is fed into KRAMS and updated periodically.*
- The Government may ensure preparation of comprehensive Annual and Five Year Plans for road development for an effective implementation of the policy objectives.*
- The Government may ensure that authorities according technical sanction, scrutinize the estimates thoroughly and in cases of loss/damages due to erroneous estimates, responsibilities should be fixed.*
- The Government may ensure that since preliminary/detailed estimates define the cost, scope and quality of works to be executed, these should be prepared strictly as per the IRC norms and Government instructions, duly supported by prescribed tests and survey results.*
- The Government may ensure that Road Safety Audits are mandatorily conducted and necessary road safety provisions are included in the estimates before technical sanction is accorded.*

- *The Government may ensure that the complete database of registered contractors including solvency limit, details of available equipment and technical staff, balance sheets, works executed, etc is maintained by the Department.*
- *The State Government may include necessary provisions under the KPWD code to initiate disciplinary action against the tender accepting authorities who accepted single bid in violation of Government instructions.*
- *The Government may ensure that necessary provision may be made to blacklist and forfeit the EMD amounts in respect of tenderers involved in all types of malpractices.*
- *The Government may take necessary action for fixing the time period as per MoRTH norms.*
- *The Government may take necessary action for fixing the DLP as per MoRTH norms.*
- *The Government may consider framing a Policy or Guidelines for shifting of utilities from the road improvement or development works.*
- *The Government may ensure that the PWD maintains ‘Hindrance register’ clearly documenting the hindrance caused in execution of works and act in accordance with the contractual provisions. Further, it may also be ensured that the works are taken up only after ensuring availability of encumbrance free land and after obtaining necessary clearance from the Forest Department.*
- *The Government may ensure mandating the online reporting of progress of work on e-Procurement platform so that all measurements of work are recorded in the application and also activate e-payment for maintaining transparency.*
- *The Government may issue necessary orders to forfeit the Performance Bank Guarantee of the contractors who do not establish field labs and submit requisite test reports and action should be taken against the EEs who failed to comply with the codal provisions.*
- *The Government should issue orders for fixing responsibilities on officers for making payment to contractors without ensuring quality control/assurance test reports.*

Chapter

01

Introduction

CHAPTER – 1

INTRODUCTION

1.1 Background

Karnataka has made massive investments in the road sector during 2016-21 to improve connectivity with the Public Works Department (PWD) being responsible for construction and maintenance of roads and bridges in the State. As of March 2021, the major roads network under the jurisdiction of PWD consisted of 29,073 kms of State Highways (SHs) and 55,429 kms of Major District Roads (MDRs). Karnataka also has 7,458 kms of National Highways (NH), constructed, and managed by the National Highway Authority of India (NHAI) and PWD NH Divisions. The three major classifications of the roads in the State is as shown in *Chart 1.1*.

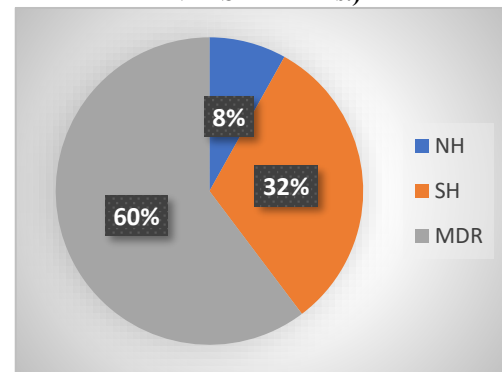
PWD had established two separate project authorities, namely, Karnataka Road Development Corporation Limited (KRDCL) in 1999 under the Companies Act, 1956 as a Public Limited Company wholly owned by the Government and the Karnataka State Highway Improvement Project (KSHIP) in 2001, which takes up improvement works through external assistance.

As per para 128 of Karnataka Public Works Departmental Code, 2014 (KPWD Code) in the case of roads, all works shall be carried out as per Karnataka Roads and Bridges Specifications, Indian Roads Congress Code of Practice for Roads & Bridges, Ministry of Road Transport and Highways (MoRTH) specification and Bureau of Indian Standards, as amended from time to time.

1.1.1 Status of roads and Expenditure on road works

During 2016-21, the State Government incurred capital expenditure of ₹ 17,046.97 crore on improvement¹ and renewal² of SHs and MDRs in the State excluding the road improvement works taken up under the assistance of NABARD³ and other committed projects undertaken by KSHIP, KRDCL. Position of year-wise total expenditure during 2016-21 is depicted in *Table 1.1* below:

Chart 1.1: Classification of roads in the State as on 31.03.2021
(Percentage to total length in kms of NH+SH+MDRs.)



¹ Strengthening and reconstruction as per IRC 37

² Re-carpeting of top surface layer once in four to five years depending on traffic intensity as per IRC-81

³ National Bank for Agriculture and Rural Development.

Table 1.1: Expenditure on improvement and renewal of SHs & MDRs

Year	Improvement		Renewal		Total expenditure
	Grant	Expenditure	Grant	Expenditure	
2016-17	3388.41	3383.68	103.04	101.62	3485.30
2017-18	2911.37	2909.47	112.00	84.99	2994.46
2018-19	3004.50	2996.28	160.68	159.14	3155.42
2019-20	2760.03	2478.00	106.20	82.37	2560.37
2020-21	4743.50	4743.47	108.00	107.95	4851.42
Total	16807.81	16510.90	589.92	536.07	17046.97

(Source: Annual Reports of PWD)

Out of the total expenditure of ₹17,046.97 crore, about 97 per cent of the funds were utilised for widening and strengthening of existing roads and remaining three per cent of the funds were utilised for renewal of carriageway.

Position of existing length of State Highways and Major District Roads during 2016-21 was as given in **Table 1.2** below:

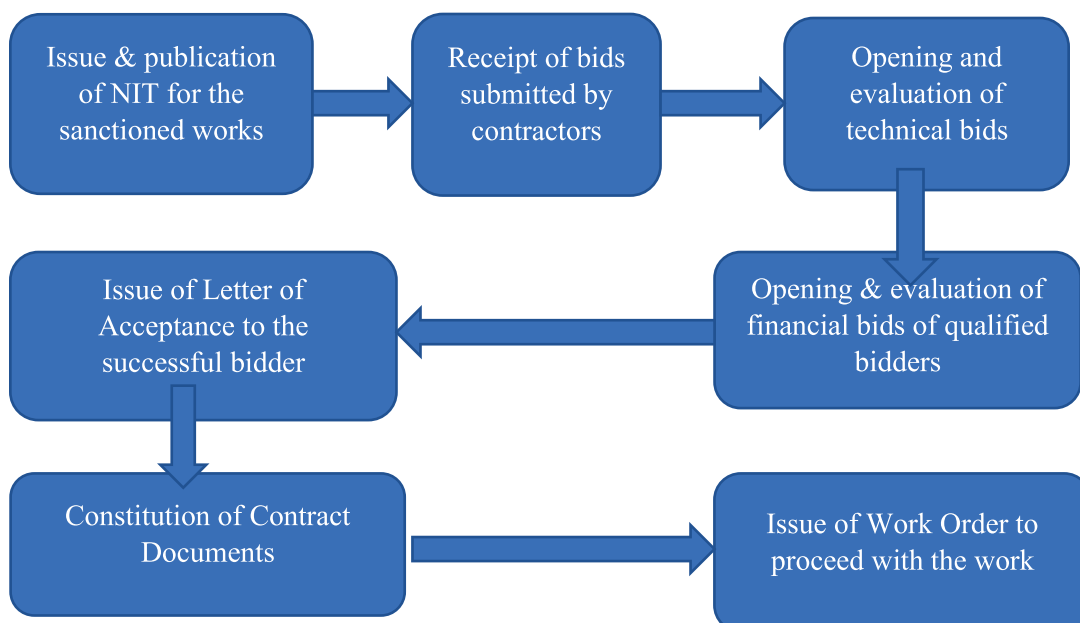
Table 1.2: Status of different category of roads (2016-21)

Category of road	2017	2018	2019	2020	2021
State Highways	19556	19209	19446	19468	29073
Major District Roads	49923	49923	49553	49526	55429
	69479	69132	68999	68994	84502

(Source: Annual Report, Road Statistics and PWD website as of September 2021)

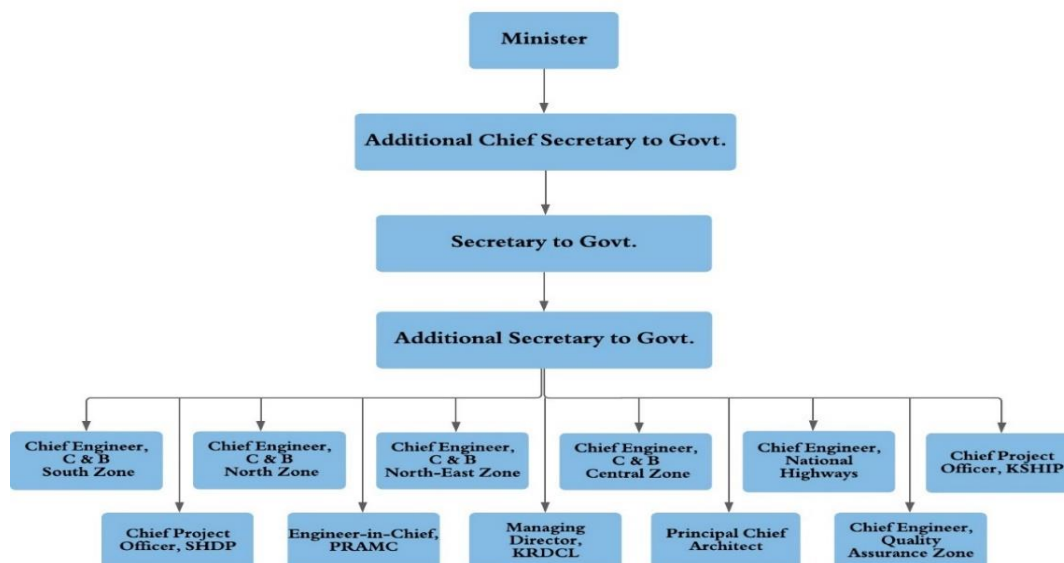
Tendering Process: A pictorial presentation of tendering process followed in the State PWD is given below:

Pictorial presentation of tendering process



Source: Compiled from KPWD Code and KTPP Act

1.1.2 Organisational Structure



Source: Department website

At the Government level, Additional Chief Secretary, PWD is the Head of the Department who is assisted by the Secretary, the Chief Engineers (CEs), Superintending Engineers (SEs) and Executive Engineers (EEs). The CEs are responsible for the administrative control of the Department in their respective Zones and provide technical sanctions to the detailed estimates, finalising contracts, sanctioning time extension etc. The Circles, headed by the SEs, are responsible for preparation and periodic revision of the Schedule of Rates (SRs), finalisation of contracts, etc. Circles are further divided into Divisions which are headed by the EEs who are directly responsible for execution of works.

As of June 2022, there were four zones⁴, 10 circles⁵, 41 divisions (including 3 Building Divisions and One Electrical Division) and 204 sub-divisions in PWD.

1.2 Audit Objectives

The Performance Audit is taken up with the objective of assessing the following:

- i. Whether the road development works were systematically planned, prioritised, and designed to achieve the projected mobility/traffic needs;
- ii. Whether contract management is effective to execute the works of specific quality without cost and time overrun; and
- iii. Whether the monitoring system evolved was adequate and effective for achieving the desired objectives.

⁴ South zone at Bengaluru, North zone at Dharwad, North-East zone at Kalburgi and Central zone at Shivamogga

⁵ Four Circle offices under South zone including Building circle, Two Circle offices each under North zone, Central zone and North East zone

1.3 Audit Criteria

The Audit Objectives were examined with reference to the following sources of criteria:

- (i) Karnataka Financial Code, Budget Manual, Public Works Department Code, Public Works Accounts Code,
- (ii) Karnataka Transparency in Public Procurement Act,
- (iii) PWD Standard Tender Document (2008), Schedule of Rates and IRC specifications,
- (iv) Karnataka Road Development Policy 1998 and 2009
- (v) Government orders/circulars issued from time to time and
- (vi) The best practices followed in other States, CPWD⁶, NHAI and MoRTH guidelines.

1.4 Scope of Audit and Methodology

The Performance Audit was conducted from August 2021 to March 2022 covering the period from 2016-17 to 2020-21 by scrutiny of records in the offices of the Secretary, PWD, Chief Engineers, and 18⁷ out of 37 road work related Divisions in the State. The Divisions were selected based on ‘Simple Random Sampling Without Replacement (SRSWOR)’ method from the four zones (South, North, Northeast, and Central) of PWD. Besides, Planning and Road Asset Management Centre (PRAMC) was selected as it is responsible for planning and budgeting of road works and State Highway Development Project (SHDP) was selected as it executes major works. Besides, on the request of Secretary, PWD, Chikkamagaluru and Sirsi Divisions were also audited.

An Entry Conference was held (August 2021) with Secretary, PWD to discuss the Audit Objectives, criteria, scope, and methodology. The scope of audit covered construction of new roads as well as widening and strengthening of existing roads and renewals. Works taken up by KRDC and KSHIP and works related to maintenance of roads have not been covered in this Performance Audit.

Audit methodology included collection and analysis of data/information through examination of records, issuing audit enquiries, obtaining replies, and gathering other evidence such as photographs of sites, etc. Out of 6,182 works estimating to ₹20176.61 crore taken up for execution during 2016-21, Audit test-checked 499 contracts worth ₹3583.28 crore in the selected 20 PWD Divisions and SHDP.

An Exit Conference was held (April 2022) with Additional Chief Secretary, PWD to discuss Audit findings, conclusions, and recommendations. The replies/views of the Government as stated in the Exit Conference are incorporated in the relevant paragraphs.

⁶ Central Public Works Department

⁷ Bengaluru, Mysuru, Mandya, Kolar, Ramanagara, Tumkur, Hassan, Shivamogga, Chitradurga, Mangaluru, Dharwad, Belgaum, Bagalkote, Chikkodi, Kalburgi, Bidar, Raichur and Ballary.

1.5 Acknowledgement

Audit wishes to acknowledge the co-operation extended by the Department, Chief Engineers, Superintending Engineers, and Executive Engineers of the selected Divisions of PWD at various stages during the conduct of this Performance Audit.

Chapter

02

*Planning and Policy
Implementation*

CHAPTER – 2
Planning and Policy Implementation

The PWD failed to develop and maintain up to date Core Road Network database, which was essential for planning purposes. Also, there was no system for preparing periodical plan for road development in the State. In the absence of proper planning and prioritisation of road works, they were being taken up on ad-hoc basis.

The State Government framed Karnataka Road Development Policy in 1998 which was revised in 2010 as Karnataka Road Sector Policy, 2009 (Policy) to strengthen the institutions in road sector for orderly, efficient, and regulated development of the sector and maintenance of its assets.

2.1 Slow progress in development of Core Road Network¹ (CRN)

The Policy envisaged developing a CRN of NHs, SHs, and MDRs as per IRC standards with a minimum width of two-lanes and constitution of a single Authority to oversee all road sector planning and regulatory functions. The existing procedure of identifying the road development works on an ad-hoc manner was to be modified in accordance with the technical/engineering and economic procedures upon establishment of the said Authority.

Accordingly, PRAMC was established (August 2012) as a cohesive central office for Policy Development and Planning, Road Safety, Information Technology and Training support across the whole of PWD. Further, in-order to capture CRN data, PWD developed (2017) Karnataka Road Assets Management System (KRAMS). Comprehensive road data in KRAMS was essential to identify the maintenance and development needs of the road network in a systematic procedure based on technical/ engineering and economic requirement.

Audit observed that as against the total road length of SHs and MDRs of 29,073 kms and 55,429 kms respectively, as of February 2020 the CRN of SHs was 18,661 kms and of MDRs was 9,603 kms. However, KRAMS had data related to 16,210 kms of SHs and 1,272 kms of MDRs only as of February 2022. Further, as of March 2021, only 26 *per cent* of SHs were of the width of two lane or more, while 79 *per cent* of MDRs were of single lane width only.

Since data for entire length of Roads was not captured, PRAMC had to depend on historical data from PWD in preparation of budget proposals during 2016-21 and the existing procedure of identifying road development works on ad-hoc manner was still in vogue. Besides, absence of data would also adversely impact the periodical maintenance of roads for ensuring safe and smooth flow of traffic.

¹ CRN: The minimum road network required to support the economic and social development of the State

After this was brought to notice, Government in the Exit Conference stated that PRAMC was in process of capturing the road data related to CRN, while for capturing data on non-CRN roads a separate agency was being appointed through KSHIP.

Recommendation 1: The State Government may ensure that complete road data is fed into KRAMS and updated periodically.

2.2 Road Information System

As per para 40 of KPWD Code, Road history containing classification, length, width of right of way, width of formation, width of carriageway, type of shoulder and pavement, details of cross drainage work, bridges, the year of last resurfacing/strengthening of the pavement with type of treatment in the jurisdiction of the officers concerned is to be prepared. This data is to be captured in the Road Information System (RIS) and the same shall be reviewed and updated monthly by the Divisions concerned. Details of work shall also be included in the Department website as soon as it is sanctioned. This process of updation shall be supervised and monitored by the concerned Superintending Engineer and the Chief Engineer concerned respectively.

Further, the data relating to condition of the road (International Roughness Index² and visual pavement condition) collected from the ROMDAS³ or by any other mode shall be updated into the RIS regularly by the Quality Assurance Divisions concerned.

During test-check of records of CEs and Departmental website, Audit observed that the codal provisions were not being followed by any EEs and the required information on road and road condition was not uploaded to the Departmental website during 2016-21. Further, the Superintending Engineers and Zonal Chief Engineers concerned also failed to ensure that the provisions of the Departmental code were being followed.

After this being pointed out, Government replied (August 2022) that updating data in RIS by Divisions will be ensured.

2.3 Absence of Planning

As a good practice, a comprehensive planning for expansion and upgradation of road network is essential for speedy development of road infrastructure and for providing connectivity to all habitations keeping in view the future requirement, growth of traffic and existing status of different categories of roads.

However, Audit did not find any periodic plans for road development such as Annual Plans, Five Year Plans, etc during 2016-21, in the PWD. It was observed that neither any study on prioritisation of roads was carried out nor traffic

² It is the cumulative measure of vertical undulation or deformation of the pavement surface recorded per unit horizontal length of the road.

³ Road Measurement Data Acquisition System (ROMDAS) is mounted on a vehicle to collect the asset and pavement information.

surveys were conducted through a third party⁴ to support project proposals. The Department also did not have complete database of roads to facilitate systematic and objective planning.

It is pertinent to note that the Works Manual of the Government of Kerala⁵ specifically includes provisions of preparing 20 Year Master Plan, 5 Year Plan and Annual Plans for construction of roads.

After these issues were brought to the notice of the Government, in the exit conference (April 2022) and in their reply (August 2022) Government stated that the implementation of Policy Objectives is in progress.

Recommendation 2: The State Government may ensure preparation of comprehensive Annual and Five Year Plans for road development for an effective implementation of the policy objectives.

⁴ Paragraph 3.4.1 of IRC SP 72 of 2015 provides that in case of all roads where the projected traffic for 10-year design life is likely to be one MSA and above, it should mandatorily get the traffic survey carried out through a third party.

⁵ Paragraph 702 of Kerala Public Works Department Manual, 2012.

Chapter

03

*Cost Estimation and
Sanction of Works*

CHAPTER – 3

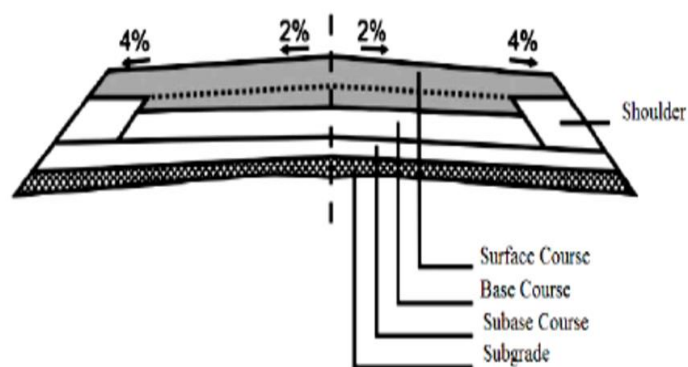
Cost Estimation and Sanction of Works

This Chapter deals with the preparation of cost estimates and sanctions in accordance with the extant rules and standards. The Divisional officers as well as the SEs/CEs, responsible for preparation of preliminary and detailed estimates and for according technical sanction did not adhere to the IRC norms for designing the road crust and preparation of estimates. The traffic census, soil testing and other necessary tests were not carried out. As a result, the risk of over estimation of cost, changes in the scope of works at later stages and execution of substandard works could not be ruled out. The Divisional authorities who prepared the estimates and the administrative authorities who accorded administrative and technical sanctions failed to ensure compliance with the norms and instructions relating to environmental protection in road project works in the State. Due importance was not given for conducting Road Safety Audits and making the State roads safer.

Preparation of cost estimates and issue of sanctions has a direct bearing on the total project cost, quality of works executed and timeliness of completion of road works. It is essential that the laid down provisions of rules and standards/norms prescribed are strictly adhered to in preparing cost estimates and according technical sanctions.

Composition of Road Structure:

The cross section of a road is composed of various layers, viz., sub-grade, sub-base, base, surface, shoulder etc., as illustrated in the following figure



- **Sub-grade:** Natural ground in its final shape after completion of earthwork on which the entire road structure rests.
- **Sub-base:** It is laid on prepared sub grade to serve as a drainage and filter layer.

- **Base:** A part of construction resting upon the sub-base/sub-grade. It absorbs the load from the surface layer and support them in staying intact.
- **Surface:** Top layer of road on which traffic ply.
- **Shoulder:** The portion immediately beyond the edge of carriage way on which traffic may pass occasionally while crossing.

The State PWD undertake two types of Road improvement works, viz., Reconstruction (Improvements) and Renewals. Reconstruction works involve providing Sub-grade, Sub-base, and Base course to cater increased traffic over a period. While the renewal involves laying of new bituminous layer to upgrade an existing bituminous pavement which has served its initial intended purpose.

Audit, however, observed serious deficiencies in preparation of cost estimates and issue of technical sanctions, weakness in internal control mechanism and monitoring as elaborated in the succeeding paragraphs:

3.1 Irregularities in preparation and sanction of road estimates

For estimation of the fair cost of a road work, it is essential that the Department has reliable information on traffic density of the existing road, soil strength of the area where the road is being constructed and the status of the existing road in terms of the crust thickness. Computing Million Standard Axle (MSA)¹ based on traffic census data for seven days, California Bearing Ratio (CBR)² for determining the soil strength and Characteristic Deflection (BBDT³ Test) are required for arriving at the crust thickness as per IRC guidelines.

Audit, however, noticed that the Department neither conducted the traffic surveys as prescribed in the IRC guidelines nor did they maintain proper records to monitor the status of existing roads. Audit also observed that the tests needed for designing the road such as BBDT and CBR were not conducted as brought down in succeeding paragraphs.

3.1.1 Traffic Census

The width and crust (thickness) of the road is decided based on traffic density. IRC-9 of 1972 stipulates that traffic census should be conducted for 24 hours a day for seven days. Further, as per paragraph 3.4.1 of IRC SP 72 of 2015, in case of all roads where the projected traffic for 10 years design life is likely to be one MSA and above, the traffic survey should be mandatorily got done through a third party.

Audit noticed that in 488⁴ out of 499 test-checked works, traffic census was not conducted as per IRC norms. Further, despite design traffic being more than one MSA, in none of these 488 works Divisions could produce records to Audit in support of them conducting census by engaging a third party under the

¹ Million Standard Axle is an indicator of traffic load on a road which is one of the factors deciding the thickness of various layers of the road and is calculated by considering the parameters like CVPD, design life, estimated annual traffic growth and Lane Distribution Factor.

² California Bearing Ratio (CBR) is a measure of the load bearing strength of the soil which is an important factor in determining the crust design of the road which is the major component of expenditure.

³ Benkelman Beam Deflection Test is a non-destructive technique for assessing the pavement condition.

⁴ 459 works of PWD Divisions and 29 Packages under Phase -III of SHDP

supervision of Assistant Engineers. Ignoring these basic requirements, the Competent Authorities accorded technical sanction to detailed estimates based on unreliable traffic data. A few instances are mentioned below:

1. Package 144 in Kalburgi taluk executed by SHDP in Phase III

The traffic survey by Kalburgi Division reported a Commercial Vehicles Per Day (CVPD⁵) of 2136 and the design traffic was computed to 80 MSA. SHDP rejected the traffic census conducted by the Division as erroneous. Subsequently SHDP conducted another traffic survey, and the design traffic was found to be 5 MSA. This huge variation in MSA arrived at by two Authorities shows that traffic census was not taken seriously, though it is vital for preparation of estimates and subsequently to exercise control over financial management of all contracts.

The Government replied (August 2022) that notice had been issued to PWD Kalburgi Division officials for strict monitoring of traffic survey.

2. 'Khangaon Vageli' village road in Joida Taluk, Uttara Kannada District

An estimate for improvement of Khangaon Vageli village road in Kali Tiger Reserve (KTR) forest was technically sanctioned (March 2018) for ₹4.75 crore. The road was designed based on traffic census conducted departmentally, which reported 122 CVPD of which 53 were Heavy Commercial Vehicles (HCV⁶). The photographs attached to the sanctioned estimate indicated that the CVPD reported in traffic survey was incorrect as movement of HCVs was restricted in KTR which remained closed from 6.00 PM to 6.00 AM. The proposed road was connecting small village settlements inside the Reserved Forest. Hence the possibility of movement of 53 HCVs in a day seemed unlikely.



Source: Departmental records (photo appended to estimate)

3.1.2 Unwarranted expenditure due to manipulation of Traffic Census

IRC 64 of 1990 prescribes double lane carriageway of seven metres width for the design service volume between 6000 to 15000 PCU⁷. Further, paragraph 2.16 of Manual of Specifications and Standards for Two-laning of Highways through Public Private Partnership (May 2010), prepared by IRC and published by the Planning Commission recommends increase of capacity of two lane by

⁵ Motorized commercial vehicles of gross laden weight of 3 tones and above.

⁶ Full sized buses, multi axle trucks, etc.

⁷ Passenger Car Unit based on which width of the road is determined.

providing paved shoulders of at least 1.5 metre width on either side for design service volume between 15000 to 18000 PCU.

The estimate sanctioned (February 2016) under SHDP Package 137 of Phase III for ₹22.59 crore, envisaged widening and strengthening of road in selected reaches (from 0.00 km to 73.16 km) of SH 125 in Kalburgi district. As per the estimate technically sanctioned by Chief Engineer, SHDP, the road length from 0.00 to 8.00 km, proposed to be widened from intermediate lane to double lane, was considered for providing BM and SDBC for the full carriageway width of 7.00 metre, while providing GSB and WMM in the widened portion. However, the appeal of AEE, PWD Sub-division, Kalburgi (25.08.2016) that the full B.T surface on the existing carriageway (5.5m) was in good condition, it was decided to provide BM only in the widened portion while providing SDBC for full carriageway width. The change in scope of work during execution resulted in savings of ₹3.01 crore. Thus, due to poor estimates, there was an excess allocation of money to this project which could have been used for other essential works.

However, instead of surrendering the savings, it was decided to widen the road from 7.00 m to 9.00 m. This was not in order as traffic census report (2015) showed that the average traffic density on the project highway from Ch. 0.00 to 10.00 km was 5346.5 PCU. After considering five *per cent* traffic growth each year, the project highway (0.00 to 7.50 km) would reach the carrying capacity of 18000 PCU and become eligible for upgradation to Two-laning with paved shoulders only in 2038, i.e., seven years after completion of the design life of this project highway (2030). However, the Department adopted incorrect traffic census value of 6769 PCU from the survey point at 14th km for Ch 10.00 to 25.50 km to qualify for widening of road from 7.00 m to 9.00 that resulted in unwarranted widening by incurring an avoidable expenditure of ₹2.89 crore as detailed in **Appendix 3.1**.

The Government replied (August 2022) that as per MoRTH circular dated 05.10.2012, the width of carriageway should be at least two lanes with paved shoulders irrespective of the traffic therein in new projects undertaken for widening of carriageway/bypass/realignments. It was also stated that as per IRC SP 73 of 2015, the design service volume for a two-lane carriageway with paved shoulder is 13000 PCU.

The reply is not tenable as the MoRTH circular referred to by the Department pertains to improvement works taken up on National Highways, while road in the instant case was only a State Highway. Further, as per Para 2.16 of Manual of Specifications and Standards for Two Laning of Highways (May 2010), prepared by IRC and published by the Planning Commission, the design service volume for a two-lane highway for plain terrain is between 6000 PCU and 15000 PCU, whereas the average total traffic on the project highway i.e., from Ch.0.00 to 10.00 Km was only 5346.5 PCU.

3.1.3 Assessment of CBR value of soil

IRC 37 of 2001 prescribes that at least three samples should be taken from each site for each type of soil at the same density and moisture content and tested for CBR value.

Audit observed that in 267 of 499 selected works (**Appendix 3.2**), a copy of CBR test report was not enclosed with the detailed estimates. It implied that either requisite CBR tests of soil were not conducted by the Divisions as required in the IRC norms or the CEs/SEs accorded technical sanctions without examining the CBR test results.

Hence, failure to conduct required soil test indicated that the engineering authorities did not give due importance to IRC norms in designing the road crust and preparing estimates. This could adversely impact the designing of the road crust and lead to uneconomical execution.

In reply, the Government accepted the recommendation and stated that utmost caution will be exercised to obtain the CBR test results and appended to the estimates before technical sanction was accorded.

3.1.4 Assessment of Characteristic Deflection

To assess the required overlay (in terms of Bituminous Macadam) for strengthening the different stretches of the roads, IRC 81 of 1997 prescribes Benkelman Beam Deflection Technique test (BBDT) to categorise the existing road as good, fair, poor, etc. depending on pavement conditions.

Audit observed that in 18⁸ out of 20⁹ test-checked cases (nine Divisions¹⁰), though BBDT test was mandatory, the same was not done either by Quality Assurance Authorities or by the Divisions concerned and the renewal works were proposed on an ad-hoc manner.

3.1.5 Plantation works

To give particular attention to environment, the Government vide Order (January 2017) directed that while preparing estimates for road works, Public Works Divisions should include one *per cent* of the cost of work towards tree plantation along the roadsides through the Forest Department.

Audit scrutiny of 551 estimates costing ₹6726.02 crore technically sanctioned between January 2017 and March 2021 revealed the following:

- In 180 works costing ₹1018.58 crore (17 PWD Divisions) the provision of one *per cent* for plantation works were not made in the estimates. Therefore, the requisite funds amounting to ₹10.19 crore was not sanctioned for the plantation works.
- In 250 works costing ₹5030.94 crore, against the provision of one *per cent* amounting to ₹50.31 crore, a provision of only ₹40.00 crore was made in the estimates resulting in short provision of ₹10.31 crore.
- Only in 121 works costing ₹676.50 crore correct provision of ₹6.76 crore was made in the estimates.

Audit further noticed that despite making the provision in the estimates towards plantation work amounting to ₹46.77 crore, except in four works (Package 325

⁸ Indent Nos. 135073, 101370, 119581, 119622, 89218, 100536, 102051, 102128, 41808, 45275, 65639, 97480, 132470, 98386, 135130, 135182, 135331 and 66367

⁹ Indent Nos. 135073, 101370, 119581, 119622, 89218, 66367, 132219, 100536, 102051, 102128, 41808, 45275, 65639, 97480, 132470, 98386, 135130, 135182, 135331 and 132265

¹⁰ Kalburgi, Kolar, Mysuru, Ramanagara, Chikkodi, Ballary, Bidar, Belagavi and Mandya

of SHDP Phase-IV and three works in Kolar PWD Division) where an amount of ₹0.11 crore was deposited out of ₹0.15 crore provision made in that estimate, in none of the other cases the funds were transferred to the Forest Department (**Appendix 3.3**). Thus, plantation works could not be undertaken in these districts.

In reply, the Government stated (August 2022) that in few estimates due to oversight, provision for tree plantation was omitted and wherever provision was made it was agreed to remit the same to the Forest Department.

Recommendation 3: The Government may ensure that authorities according technical sanction, scrutinize the estimates thoroughly and in cases of loss/damages due to erroneous estimates, responsibilities should be fixed.

3.2 Inaccurate estimates

As the cost estimates for road works had not been prepared properly and accurately as per IRC norms and Government instructions as discussed in **Paragraph 3.1** above, estimates contained serious deficiencies which led to avoidable excess expenditure, loss to the Government etc., amounting to ₹38.63 crore in works test-checked by Audit. Some important issues are discussed below:

3.2.1 Excess provision in estimates

As per IRC-37 the crust (thickness) as well as type of bituminous course is designed based on California Bearing Ratio (CBR) of sub-grade and traffic in terms of MSA, which in turn is computed on the basis of CVPD, Vehicle Damage Factor (VDF¹¹), design life and Lane Distribution Factor (LDF). Further IRC-37 stipulates that wherever the design traffic is less than 1.5 MSA, specifications in IRC SP 72 should be followed which stipulates Bituminous Macadam (BM) as a binder course is required only when the design traffic is more than 1.5 MSA. Further, the indicative value of VDF for computation of design traffic should be 1.5 for 0 – 150 CVPD and 3.5 for 150 – 1500 CVPD. The CVPD should be taken as per actual traffic census.

Audit observed that in 17 estimates (out of 320 works in PWD) costing ₹89.09 crore, the design traffic of the road was incorrectly computed due to wrong VDF and LDF values for CVPD less than 150. Consequently, the Department provisioned and later executed unwarranted binder course of bituminous macadam (BM) in contravention to IRC specification. This resulted in avoidable expenditure of ₹13.12 crore as detailed in the **Appendix 3.4**.

While in respect of one work (W.I. 73283) in Ballary PWD Division, instead of adopting 88 numbers of CVPD, Passenger Car Units figures of 1084 was adopted in computation of design traffic to justify providing BM. Thus, the action of the Division in adopting an incorrect figure resulted in unwarranted

¹¹ VDF is a multiplier to convert the number of commercial vehicles of different axle loads to the number of standard axle load repetitions.

providing of structural layer (BM) by incurring an avoidable expenditure of ₹0.61 crore.

In reply, the Government stated (August 2022) that where design traffic is below minimum level of IRC guidelines, if wearing course is directly laid on the granular surface without providing binder course (BM), the wearing course could be worn out in no time. Hence, irrespective of nomenclature of the road, binder course is provided.

The reply is not convincing in view of the fact that the design traffic computed was less than 1.5 MSA, which is regulated by stipulations specified in the IRC 37 of 2012 read with IRC SP 72.

3.2.2 Provision and execution of excessive thickness of GSB

Base and Sub-base layer form two important layers of pavement. MoRTH guidelines specify that if portion of the existing crust is retained during improvement work, the thickness of such crust shall correspondingly be reduced in the subbase thickness keeping the overall pavement thickness unchanged as stipulated in IRC 37.

Audit scrutiny of seven road estimates costing ₹55.26 crore in four Divisions, however, revealed that despite a crust of 120 mm to 250 mm thickness already existing in the carriageway, the Department made provision for an additional layer of GSB ignoring the existing crust. This resulted in extra avoidable expenditure of ₹2.98 crore as detailed in *Appendix 3.5*.

In reply, the Government stated (August 2022) that GSB was provided as per the provisions of IRC guidelines.

The reply is not acceptable because as per the crust computation statement enclosed to sanctioned estimates, it was reported that some crust was available on the existing road. Hence in terms of MoRTH specifications the same should have been retained and reduced correspondingly, during improvement works.

3.2.3 Wasteful expenditure on providing WMM beyond carriageway

MoRTH specifies that the Wet Mix Macadam (WMM)¹² may be laid to designed carriageway width of the road. In four road estimates costing ₹27.15 crore, the Department made provision for providing WMM layer for median/beyond carriageway width by 0.30 m to 1.30 m that resulted in wasteful expenditure of ₹0.62 crore *Appendix 3.6*. Also, in one work depicted below, it was seen that



WMM was not provided beyond carriage way but was paid resulted in undue benefit to the contractor.

Picture showing WMM being laid only for carriage way width in W.I No. 66340 in Kolar Division

Source: Photo appended to RA Bills

¹² Base layer of a road comprising of crushed graded aggregate.

After this was pointed out, the Government in the Exit Conference accepted (April 2022) the Audit observation and directed the CEs concerned to look into the matter.

3.2.4 Adoption of incorrect item rate for removal of bituminous surface

As per the conditions of contract, the contractor should execute the road work as laid down in the specifications for Road & Bridges issued by MoRTH. Clause 305.4.3 (ii) of the MoRTH specification stipulates removal of existing road surface for construction of earthwork over the existing road surface. The Standard Data Book for Road & Bridges published by MoRTH provides for scarifying the existing surface (Granular/Bituminous) to a maximum depth of 50 mm.

The Schedule of Rates (SR) provided item rate between ₹3.00 and ₹3.60 per sq. meter in different Circles (item No.19.59) for removal of the existing bituminous layer up to a depth of 50 mm by mechanical means. In 138 work estimates costing ₹696.75 crore (out of 459 works) in 13 Divisions, the Department had erroneously adopted the other items of work which were costlier (item No. 19.50, 19.52, 19.54 and 19.56), which are applicable in cases of renewal of surface where contractor would have obligation to rectify the bottom layer damaged during scarifying, or scarified material is reused in sub-base layer. Thus, adoption of incorrect rate resulted in extending an extra contractual benefit of ₹6.78 crore to the contractors as detailed in *Appendix 3.7*.

After this was brought to notice, Government replied in August 2022 that ₹1.88 crore had been recovered and balance will be recovered in due course.

3.2.5 Excess payment due to less consumption of bitumen

The specifications for road and bridge works issued by MoRTH envisaged that for providing Bituminous Concrete (BC) as wearing course, the contractor is required to propose a job mix formula (JMF). The contractor had to ensure that the JMF was correct and truly represented the sample of materials that were to be used in the work. The approval of JMF was based on independent testing by the Engineer-in-charge. As per Table 500.17 of MoRTH (2013), the minimum bitumen content to be used for BC (Gr II) is 5.4 *per cent* by mass of total mix.

As per the sanctioned estimates, the contractors were required to use six *per cent* bitumen for BC item. While Audit scrutiny of JMF approved by the Quality Assurance authorities in respect of nine works, costing ₹47.65 crore, revealed that against six *per cent* bitumen the contractors used bitumen at the rate of 5.40 *per cent* by weight of the total mix with the evaluated maximum density of BC mix as 2.35 gm/cc. Thus, by short consumption of bitumen the contractors were benefited to the tune of ₹0.53 crore which was recoverable under the provisions of the contract as detailed in *Appendix 3.8*.

In reply, the Government stated (August 2022) that due to software error it was shown as 6 *per cent* in the estimates. It was further stated that a letter was addressed to Project Director, E-Proc Cell to correct the mistake. However, the reply was silent on possible benefit to contractors on account of this mistake.

3.2.6 Adoption of uneconomical execution of ‘Clearing & Grubbing’ and ‘Roadway Excavation’

Karnataka Standard Rate Analysis for Roads and Bridges (KSRRB) provides rates for execution of road works using mechanical means. However, for areas which are inaccessible by machines or where the quantum of work was not large enough to justify the use of machines, also provides rates for manual means.

a. Clearing and Grubbing: The rate for ‘Clearing and Grubbing’ i.e., removal of unwanted surface material by mechanical means was cheaper than that by manual means.

It was noticed in 69 packages of SHDP Phase III and 122 works in 10 PWD Divisions costing ₹2,569.11 crore that though contractors were to possess dozers in terms of technical requirement, the Department included the item for clearing and grubbing by manual means. This enabled the contractors to load the rate pertaining to manual means in their quoted rate and receive payment for the work done by mechanical means. The payment so made was extra contractual and amounted to extending financial benefit by ₹3.05 crore as shown in *Appendix 3.9*.

On being pointed out, the State Government agreed (August 2022) to recover ₹3.05 crore from the contractors while settling the final bills.

b. Roadway excavation: According to the Departmental SoR and Standard Data Book of MoRTH, the unit rate for excavation of soil/rock is worked out by adopting mainly three methods viz, manual excavation, excavation using dozer and excavation using hydraulic excavator.

Audit observed that unit rate for excavation by manual method was two times costlier than mechanical methods of excavation. As per foreword given in Radhakrishna Committee recommendations¹³ and Standard Data Book of MoRTH, manual means of excavation are meant for areas inaccessible to machines and for small jobs. It was noticed that in five works of three PWD Divisions excavation of soil using manual means was adopted though, as per technical requirement of the NITs, in these cases, contractors were to undertake excavation through excavators. This led to undue benefit to contractors by ₹0.41 crore as they executed the work using machines, whereas the rates were for manual means as detailed in *Appendix 3.10*.

3.2.7 Incorrect adoption of specification for Primer and Tack coat

Clause 502 of MoRTH specifications stipulate application of primer coat comprising low viscosity bituminous material on porous granular surface such as wet mix macadam (WMM) and water bound macadam (WBM) before superimposition of bituminous treatment or mix. The choice of primer coat depends upon the porosity characteristics of the granular surface and temperature at the time of laying the primer.

Audit scrutiny of three estimates costing ₹45.50 crore in three sampled Divisions (Chikkamagaluru, Kolar and Hassan) revealed that estimates have provided for ‘Medium Cure Cutback’ which is not only a higher specification item but also

¹³ Based on which Departmental SR has been framed

costly. The said item is generally used on surface like 'Cement Stabilised Soil base' or in sites at sub-zero temperature or in emergency applications. However, these estimates provided for construction of granular base such as WMM, the rate under Item No. 21.6 of SR (primer of normal specification which is cheaper) only was to be adopted.

Further, the tack coat of normal specification (SoR Item No. 21.7) is applied on the prepared primed surface and tack coat of higher specification (SoR Item No. 21.9) is laid on existing un-primed granular or bituminous surface to act as a binding element. Audit observed that in two cases costing ₹13.10 crore in Dharwad Division, costlier item of tack coat (Item No. 21.9) was laid on primed granular base where tack coat of cheaper rate (Item No. 21.7) was sufficient.

The incorrect adoption of technical specification for primer coat and tack coat had thus resulted in extra expenditure of ₹0.85 crore as detailed in **Appendix 3.11**.

In reply, the Government accepted (August 2022) the audit observation and agreed to verify the same with respect to usage of primer and tack coat at the field level by comparing the test reports and assured to recover the amount.

3.2.8 Incorrect inclusion of incidental work as separate item

Clause 501 of the MoRTH governs the payment of contract unit rate for laying of premixed bituminous materials. As per Clause 501.8.71, the work of 'Cleaning of Surface' using mechanical broom and air-jet shall be incidental to the work of preparation of the surface. The rate analysis appended to KSRRB also stipulates that cleaning of the surface is a part of applying the primer/tack coats. Thus, cleaning of the surface shall not be paid separately in cases where the estimates provide for applying primer/tack coats.

Audit scrutiny of 17 estimates costing ₹139.00 crore revealed that although provision for primer/tack coats was made in the estimates, the work of 'Cleaning of Surface' was included as a separate item and a payment of ₹0.41 crore (**Appendix 3.12**) was made. Besides overpayment to contractors, this injudicious inclusion of incidental work as a separate item pointed towards lack of monitoring by the authorities responsible for preparing and approving the estimates.

The Government stated (August 2022) that due to heavy traffic on these roads, cleaning of surface was provisioned as per the site condition.

The reply is not acceptable as cleaning of surface by applying primer/tack coats is incidental to work as per specifications.

3.2.9 Provision of excess Cement in construction of Cement Concrete Roads

Section 601.3.3 and 602.3.2 of MoRTH specification prescribes the use of minimum cement content of 150 kg and 360 kg per cum for Dry Lean Concrete (DLC) and Pavement Quality Concrete (PQC) respectively. It also stipulates that if this minimum cement content is not sufficient to produce concrete of the specified strength, it shall be increased as necessary by the contractor at his own cost.

Audit scrutiny of 49 out of 292 packages taken up by SHDP under Phase III and Phase IV, costing ₹1294.85 crore revealed incorrect estimation in respect of construction of C.C roads as detailed below.

In ten packages under Phase III of SHDP and 7 works in four Divisions sanctioned for ₹370.74 crore the Divisions had incorrectly adopted cement content of 160 kg per cum of DLC and 420 kg per cum of PQC pavement. While in 39 packages under Phase IV of SHDP and in eight works of four Divisions sanctioned for ₹1071.48 crore, the cement content for DLC was correctly adopted. However, for PQC pavement of M 40 grade concrete, cement content of 420 kg per cum was wrongly adopted against the prescribed minimum cement content of 360 kg per cum. Thus, non-adoption of correct cement content in terms of MoRTH and IS¹⁴ specification resulted in excess usage of cement at 10 kg per cum for DLC and 60 kg per cum for M 40 grade concrete in the PQC pavement works at Government cost resulting in undue benefit of ₹6.27 crore to contractors as detailed in **Appendix 3.13**.

While accepting the audit observation, the Government stated (August 2022) that the cement concrete pavement some time fails due to bending stresses. Hence, cement concrete pavement is designed based on the flexural strength of the concrete.

The reply is not acceptable as MoRTH stipulates that in respect DLC and PQC, cement concrete used in excess of the prescribed minimum quantity shall be met out of the contractor's own cost.

Recommendation 4: The Government may ensure that since preliminary/detailed estimates define the cost, scope and quality of works to be executed, these should be prepared strictly as per the IRC norms and Government instructions, duly supported by prescribed tests and survey results.

3.2.10 Non-utilisation of earth obtained from roadway cutting

Clause 301.3.11 of MoRTH specification stipulates that preference shall be given to use the material obtained from roadway excavation for construction of embankment under the same contract. As per paragraph 4.3 of IRC SP 72 of 2015, available earth with CBR value of five *per cent* and above shall be considered in construction of subgrade. Further, paragraph 101 of KPWD code and Article 15 and 180 of Karnataka Financial Code stipulate that the estimate of a work should be prepared considering the most economical means of items and the work should be executed economically.

Audit scrutiny of paid bills in 27 works in test-checked Divisions revealed that despite availability of 2,77,154 cum of earth obtained from roadway cutting that had a CBR value ranging between 6 and 11 *per cent*, a total of 2,59,007 cum of soil from borrow pit was used in construction of embankment. Specific reasons for not utilising available soil with such a high CBR value was not forthcoming from the records. Even if 50 *per cent* of this available soil was considered for

¹⁴ Table-5 of revised IS-456 of 2000 prescribes use of minimum content of 360 Kg/cum for M-40 grade concrete.

use in construction of embankment, there could have been certain savings of ₹2.76 crore to State exchequer as detailed in **Appendix 3.14**.

3.2.11 Excess quantity of Road Studs

As per IRC guidelines 35 of 2015, Retro-reflective studs are laid in advance of junctions, crossings or at the end of the flyover sections to improve visibility during night-time and in adverse weather conditions, wherein road crashes are prevalent, at spacing intervals ranging between six and eighteen meters. Audit noticed that in four works of PWD Tumkur, Belagavi and Chikkodi Divisions costing ₹22.20 crore, road studs were placed at intervals of one meter instead of six meters. Excess use of studs in violation of IRC norms not only resulted in extra expenditure of ₹0.25 crore (**Appendix 3.15**) but could also cause inconvenience to road users.

3.3 Road Safety Audit

Government issued instruction in June 2016 and in March 2019 directing all the Heads of the Departments to implement the recommendations of the Supreme Court Committee on Road Safety (SCCRS) and to get the road safety audit done in respect of all road works costing ₹10 crore or more.

Audit scrutiny of 127 Packages costing ₹3500 crore sanctioned under Phase III of SHDP revealed that though a total of ₹10.99 crore was provisioned towards Road Safety Audit, these were not conducted. At the instance of Steering Committee recommendations (October 2017), the road safety review work was entrusted to Project Management Consultants (PMC) on lump sum payment of ₹10000 plus GST per kilometre. As of August 2021, the State Government incurred an expenditure of ₹3.43 crore. As these PMCs were already engaged in overall monitoring and management (including 10 *per cent* quality checking) of road projects undertaken by SHDP, entrustment of road safety audit to PMCs was not in order.

Similarly, in 165 Packages under Phase IV and in 18 works pertaining to seven PWD Divisions road safety audit was not conducted before technical sanction was accorded. Details shown in the **Appendix 3.16**. This deprived inputs from road safety perspective to the detailed estimates prepared for the road works.

After this being pointed out, Government replied in August 2022 that Road Safety Audit would be got done by an external independent agency for the future road works.

Recommendation 5: The Government may ensure that Road Safety Audits are mandatorily conducted and necessary road safety provisions are included in the estimates before technical sanction is accorded.

Chapter

04

*Tendering, Evaluation
and Award of Contracts*

CHAPTER - 4

Tendering, Evaluation and Award of Contracts

Department stipulated restrictive tender conditions limiting the competition or allowed ineligible contractors to participate. Contracts were awarded to single bidders without resorting to retendering. Besides, there was no database of contractors to verify the bid capacity, financial capability, ensure availability of required resources such as machinery, metal quarry, etc. for timely completion of the works. Though e-tendering process was adopted, manual interventions were allowed in bid evaluations which was undesirable. It was also noticed that the EMD in respect of bidders involved in malpractices were not forfeited. There were delays in finalisation of tenders and award of works.

To streamline procedures and to ensure accountability in public procurement, the Government of Karnataka enacted Karnataka Transparency in Public Procurement Act, 1999 and Rule, 2000 (KTPP rules). These rules and instructions thereunder require that public contracting should be conducted in a transparent manner to bring competition, fairness and to eliminate arbitrariness in the system. With a view to ascertain the transparency and fairness of selection of contractors, the system of tendering and selection of contractors was reviewed by Audit and important findings are detailed in the following paragraphs:

4.1 Notice Inviting Tender (NIT) and bid document

In Karnataka, after issue of administrative approval by the Government and technical sanction by the Competent Authorities, powers to issue Notice Inviting Tender (NIT) for all road works irrespective of the financial value has been delegated to the Executive Engineer.

4.1.1 Restrictive tender conditions

As per Para 169 (c) of KPWD 2014, the qualification criteria and technical requirements should not be restrictive/discriminatory and specifications for particular equipment should be broad based. During test-check of records in selected Divisions, it was noticed that the tender inviting authorities have stipulated higher specification of Machineries than required for the works. Further eligible contractors were prevented from participating by inviting tenders only from higher class of contractor in 153 cases for works amounting to ₹491.62 crore as detailed in **Table 4.1** below:

Table 4.1: Restrictive tender conditions

Sl. No.	No. of Contracts	Required specification	NITs' specification of contractors	Details given in
1.	96	Class I and II	Only from Class I	Appendix 4.1
2.	36	Class I, II and III	Only from Class I	

Sl. No.	No. of Contracts	Required specification	NITs' specification of contractors	Details given in
3.	21	40/60 TPH ¹ HMP ² and Mechanical Paver (indicated in Schedule of Rates)	Contractors owning 100/120 TPH Hot Mix Plant and one Sensor Paver for providing BM and SDBC	Appendix 4.2

In reply, the Government stated (August 2022) that during invitation of tender in respect of cases mentioned in **Appendix 4.1** old "D-Code" was followed.

Reply is not acceptable as works observed in Audit was sanctioned during 2016-21 while revised "D-Code" came into effect from June 2014.

Case study 4.1

On review of bid documents of five works costing ₹19.58 crore in PWD Division, Bengaluru observed that although quantum of work was small, the prospective bidders were asked to demonstrate ownership of 100 to 120 TPH hot mix plant (HMP). This restricted many prospective bidders who had 40 to 60 TPH HMP from bidding. Even SHDP in its technical documents stipulated only 40 to 60 TPH HMPs for works ranging from ₹10 crore to ₹60 crore (Package 190).

Further, 7 financial bids relating to above five works were rejected on the pretext that the bidders owned 90-120 TPH instead of 100-120 TPH HMP, although it was confirmed from the manufacturers that the plant has a maximum capacity of 120 TPH. In this regard it is pertinent to note that capacity of HMPs depends on the moisture content of the input aggregates and therefore, the output capacity of 90-120 and 100-120 TPH HMP would be the same.

Thus, the rejections of these Technical Bids were not only irregular but also possibility of favouring a particular Bidder cannot be ruled out. In all above five cases Financial Bids of L1 were rejected and the works were awarded to L2 or L3 as detailed in the **Appendix 4.2(a)**. Furthermore, in one case the financial bid of L1 was rejected and offered to L2 even though his bid capacity was negative.

In reply, the Government stated (August 2022) that in view of Aero India show, machines of higher specification were insisted due to urgent nature of work.

In respect of all the five cases the Department took more than one year for evaluation of Technical and Financial Bids which failed to prove urgency of the work. Hence, the reply is not acceptable.

Similarly, in one work (WI No.132470) in PWD Division, Bidar, technical bid was rejected on the pretext that the Contractor had not achieved the required quantity of 'Thermo Plastic Road Marking' although this item of work was frivolous.

¹ Tonnes Per Hour – It indicates the capacity of a Hot Mix Plant

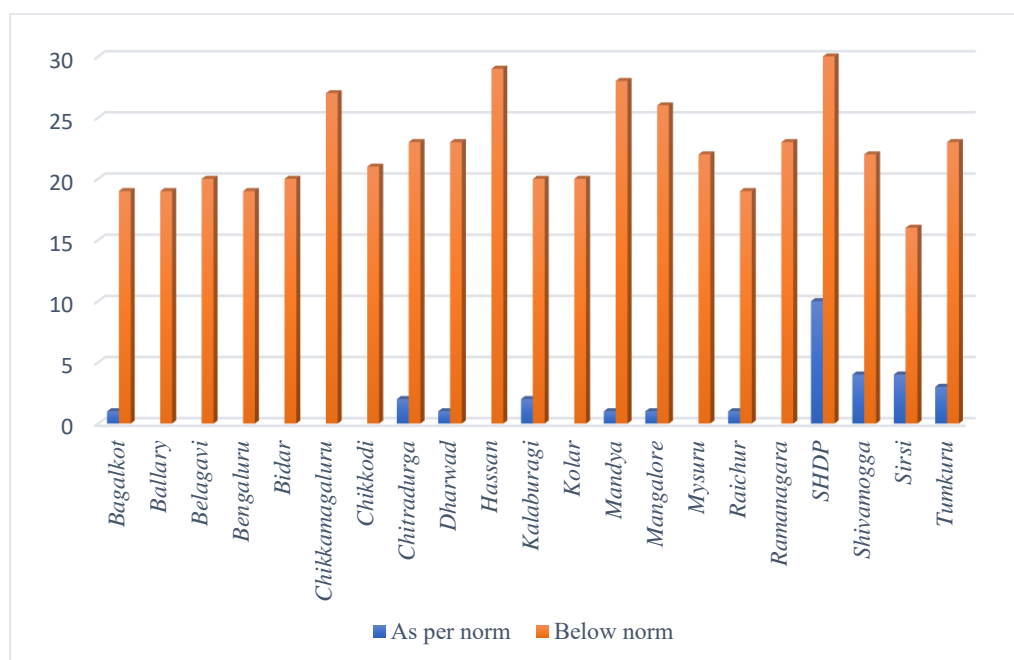
² Hot Mix Plant – A machinery used for mixing asphalt and aggregates

4.1.2 Inadequate time for submission of bids

Government in its circular (March 2011) has reiterated the provisions Rule 17 of KTPP Rules, 2000 that the time for submission of tenders should be at least 30 days for works costing up to ₹2 crore and 60 days for works costing ₹2 crore and above. The minimum time for submission of tenders was, however, revised (07.09.2019) to at least 15 days for works costing up to ₹2 crore and 30 days for works costing ₹2 crore and above.

It was noticed that out of 499 test-checked NITs, 469 NITs (94 per cent), costing ₹2,966.29 crore, were invited by giving tender notice of short periods ranging from *two* to 54 days (NITs prior to 07.09.2019) and ranging from *eight* to 28 days for NITs invited after the revised date (07.09.2019) (**Appendix 4.3**). Division-wise position of short-term NITs published in newspapers is given in **Chart 4.1** below:

Chart 4.1: Inadequate time for submission of bids



Thus, inadequate time given for submission of bids limited the competition in the tendering process as it curtailed the time to respond and submit the bid by the prospective bidders.

In reply, the Government stated (August 2022) that as per sub-rule (1) of KTPP act, the authority superior to Tender Inviting Authority (TIA) by recording reasons in writing, can reduce the minimum time for submission of Bid to not less than seven days.

The reply is not acceptable as the exemption is only in cases of emergency while in Audit it was observed that the works were not emergent as more than 55 per cent of the test checked bids were finalised beyond 90 days.

4.1.3 Deficient Tender Documents

The Standard Tender Document includes General conditions of contracts, Special conditions of contracts, Instructions to Bidders (ITB), Bid Form,

Specifications, Bill of Quantities etc. The bid issuing Authorities are required to indicate the basic information such as specification, Bill of quantities, number of key equipment and technical personnel required for road works as well as field-testing laboratory etc., in the bid document before uploading it in the e-portal. During test-check of records in 21 selected Divisions, Audit observed that bid documents were uploaded in the e-portal without filling the relevant data in appendix to ITB which were very significant for the finalisation of bids by the bidders. For instance, the number of technical personnel, their qualification and experience required for construction works was not indicated in any of the test checked PWD Divisions except Dharwad Division and SHDP. Further, the number of technical personnel required for field testing laboratories was also not indicated by the Divisions in any of the bid documents during 2016-21.

Thus, bid documents uploaded in the e-portal were incomplete and lacked important information which was necessary for proper finalisation of bids and for protecting Government interest.

In reply, the Government stated (August 2022) that under e-Procurement, all the data is readily available.

The reply is not acceptable as the critical information was not available neither in the Tender Documents produced to Audit nor in the e-Procurement portal.

4.1.4 Notice Inviting Tenders issued before technical approval

It is imperative that NITs should be published in newspapers and uploaded on Departmental websites for wide publicity only after finalisation of bill of quantities and approval of draft tender papers (DTPs) from the Competent Authorities concerned. Audit scrutiny of 127 Packages (399 estimates) under Phase III of SHDP, costing ₹3500 crore, revealed that Technical Sanction for these 399 estimates was accorded between 02.02.2016 and 16.02.2016. However, NITs for these works, including NITs for Project Management Consultancy services, were published in newspapers between 31.12.2015 and 20.01.2016 and uploaded on the Departmental websites before the Technical Sanction was obtained. Subsequently, corrigenda were issued on obtaining of Technical Sanctions from the Authorities concerned and fresh NITs were issued. Therefore, payment for advertisement charges to the extent of ₹*nine* lakhs became infructuous.

In reply, the Government stated (August 2022) that tender notification was issued on 31.12.2015 upon obtaining of administrative approval (30.12.2015). However, as the estimates were not ready by that time, the tender notification was again issued after obtaining formal technical sanction in February 2016.

Reply is not acceptable as inviting tender notification before obtaining formal technical sanction was not in order.

Similarly, in six works costing ₹62.52 crore in Mandya Division, the NITs were published before DTPs were uploaded on the Departmental website. Details are shown in **Appendix 4.4**.

4.1.5 Deficiencies in enlistment of contractors

For participating in the bidding process in PWD, it is essential for the contractor to register with the Department. Registration of contractors in the State is governed by Chapter 19 of Karnataka Public Works Departmental Code, 2014. Contractors in the State are registered under four categories – Class I to IV³ based on the tender limits.

For registration, contractors are required to apply to the Officers concerned with a valid solvency certificate obtained from the Deputy Commissioner of the District concerned or a Scheduled Bank, work done certificate from the Executive Engineer and Income Tax clearance certificate. Further, it is comprehensible that all these certificates should be counter verified from the Issuing Authority before issue of licenses.

Scrutiny of 321 registration applications pertaining to 2016-21 in the selected CE's and SE's offices revealed that Authorities registered the contractors without adhering to the codal provisions (**Appendix 4.5**) prescribed by the Department as discussed below:

- In 44 cases the solvency certificates were obtained for an amount lesser than that of prescribed.
- In one⁴ case, in lieu of solvency certificate, conditional Line of Credit (LoC) was accepted by the Registering Authority and in another case solvency certificate was obtained from a non-Scheduled Bank⁵.
- In 110 cases, the criteria for completing at least one single work at the prescribed cost was not fulfilled and in 143 cases, the total turnover limit in the preceding five years was not achieved.
- The work done certificates furnished by contractors were not counter verified from the Issuing Authorities in 132 cases.
- In one⁶ case, Class II contractor was upgraded to Class I based on the work done certificates of civil works taken up in outside Karnataka.
- Income Tax Clearance certificate was not furnished by 210 contractors, while in 29 cases, contractors did not submit PAN card details.
- In 20 cases VAT/GST registration certificate was not available.
- As per Paragraph 253(4) of KPWD code, in case of a new registration where the applicant does not have a work qualification, the Registering Authority, after being satisfied with the financial ability and qualification of such an engineering applicant, may register his name in the class not higher than Class-III on successful completion of one or two works entrusted to him. Audit observed that in 70 cases, the licenses were issued to engineering graduates without ensuring the prescribed criteria.
- As per Paragraph 255 of KPWD Code, 2014, Class I and Class II contractors shall engage at least one civil engineering graduate for every work costing ₹15 lakh and above. Out of four Zonal offices audited, it was

³ Class I: Qualified to tender for works up to any amount.

Class II: Qualified to tender for works up to ₹ 5.00 crore.

Class III: Qualified to tender for works up to ₹ 2.00 crore.

Class IV: Qualified to tender for works up to ₹ 25.00 lakh.

⁴ M/s Mary Sadan Edathala International Pvt. Ltd

⁵ Vishweshwaraya Sahakari Bank in the case of Mohammed Saleem, Class II

⁶ S Sudarshan Reddy in CE C&B (South), Bengaluru

noticed in CE, C&B (Northeast), Kalburgi that in four cases the Department had admitted graduates with degrees such as Mechanical/Automobile engineering. In another four cases same technical personnel were found executing works for multiple contractors.

- In one case⁷, the contractor from other State was issued Class I license directly instead of Class III license as prescribed under Paragraph 253(4) of KPWD code.

Thus, the registering authorities in test-checked cases did not ensure adherence to prescribed provisions in KPWD code which had resulted in registration of ineligible contractors.

In reply, the Government stated (August 2022) that, the content of KPWD D-Code and relevant Government Orders would be strictly adhered to.

4.1.6 Solvency limit for contractors

KPWD code, 2014 prescribed that during the first registration as well as for subsequent renewals, contractors should submit solvency certificate of the required solvency amount in the prescribed form issued by Revenue Authorities (Form V) and Nationalised Bank (Form VI).

Scrutiny of records revealed that the Government fixed (June 2014) the minimum solvency limit of ₹1 crore, ₹50 lakh, ₹25 lakh, and ₹10 lakh for Class I, II, III and IV contractors respectively with the concurrence of Finance Department. Audit observed that despite substantial increase in prices of construction material in recent years, the Government, while increasing the eligibility of each contractor to take up works by 20 times, had instead reduced (September 2017) the solvency limit to ₹20 lakh, ₹10 lakh, ₹1 lakh and ₹20000 which was in fact prevalent about three decades ago under the Registration of Contractors Rules, 1994 without the concurrence of the Finance Department.

Thus, decreasing the solvency limit while ignoring the hike in prices of construction materials and on the other hand increasing the eligibility of the contractors would increase the risk of compromising the Government interests. For comparison, in Road & Buildings Department of Gujarat, the minimum solvency limit for the highest category of contractors was ₹3 crore.

4.1.7 Lack of database of contractors

The road works in the State are being executed through contractors and issues of bid capacity, availability of required technical staff and plant and machinery, work done in last five years, etc are assessed during technical evaluation. It is imperative that a database of contractors is maintained at the State level to verify the correctness of various certificates furnished by the contractors.

Audit, however, noticed that no such database was maintained during 2016-21 which resulted in wrong calculation of bid capacity, furnishing of fake work-done certificates, furnishing documents of machinery pertaining to other contractors, etc as discussed in Paragraphs 4.2.7 and 4.2.9.

⁷ M/s Mary Sadan Edathala International Pvt. Ltd

Recommendation 6: The Government may ensure that complete database of registered contractors including solvency limit, details of available equipment and technical staff, balance sheets, works executed, etc is maintained by the Department.

After this was pointed out, the Government stated in the Exit Conference (April 2022) that the database is being created as a part of Stage 2 of the e-Procurement platform.

4.2 Deficiencies in evaluation of bids and selection of contractors

Evaluation of bids to be done strictly in accordance with the criteria laid down in the terms and conditions of tender. Audit examined 499 contracts costing ₹3583.28 crore executed by selected Divisions and found large scale deviations from laid down criteria in technical evaluation of bidders. The detailed Audit findings are given in succeeding paragraphs.

4.2.1 Lack of competition due to acceptance of single bids

Financial rules provide for award of contract on competitive basis. Para 179 of the Karnataka Public Works Departmental code stipulates that in cases of single bid, suspected collusion, or where the lowest evaluated responsive bid is substantially above the estimated cost, the first choice is for rejection of all tenders and re-inviting fresh tenders. However, despite the fact that several instructions had been issued by the Government about the manner in which single bid cases would be dealt with including those stipulated in the CVC guidelines, it was noticed in test-checked Divisions that contracts were awarded to single bidders without re-tendering to obtain competitive bids.

During test-check of records in selected Divisions, it was observed that though the number of bids received against NITs was low during 2016-21, contracts were finalised within the limited bids received. Position of number of bids received against test-checked works during 2016-21 in test-checked Divisions is given in **Table 4.2** below:

Table 4.2: Division-wise number of bids received during 2016-21

(₹ in crore)

Sl. No.	Name of Division	No of works	Single bid		Two bids		Three & above bids	
			No. of works	Cost	No. of works	Cost	No. of works	Cost
1	SHDP	40	6	161.00	23	634.29	11	279.71
2	Shivamogga	26	9	23.00	9	26.50	8	30.78
3	Mysuru	22	3	27.60	10	126.96	9	51.58
4	Kolar	20	3	22.18	8	30.53	9	37.59
5	Tumkur	26	7	23.89	11	70.25	8	32.30
6	Mandya	29	10	46.79	12	77.77	7	34.91
7	Hassan	29	8	34.95	17	81.81	4	12.97
8	Chikkamagaluru	27	13	76.23	12	51.68	2	7.44
9	Sirsi	20	3	8.88	10	24.73	7	18.93
10	Kalburgi	22	4	12.86	7	22.85	11	40.98
11	Ramanagara	23	5	26.95	7	40.85	11	39.43
12	Chitradurga	25	17	68.34	6	34.29	2	8.29
13	Mangaluru	27	10	32.13	14	98.80	3	11.01
14	Dharwad	24	3	37.80	11	57.88	10	45.96
15	Chikkodi	21	5	23.32	14	60.37	2	7.72

(₹ in crore)

Sl. No.	Name of Division	No of works	Single bid		Two bids		Three & above bids	
			No. of works	Cost	No. of works	Cost	No. of works	Cost
16	Ballary	19	6	35.80	13	80.65	0	0.00
17	Raichur	20	7	62.59	12	105.15	1	6.00
18	Bengaluru	19	2	13.39	8	37.21	9	60.58
19	Bidar	20	3	23.40	14	77.73	3	15.78
20	Belagavi	20	7	48.45	7	47.89	6	40.45
21	Bagalkote	20	0	0.00	17	141.12	3	61.14
Total		499	131	809.55	242	1929.31	126	843.55

Source: Information obtained from e-proc portal

Analysis of data relating to number of bids selected for test-check during 2016-21 revealed the following issues:

- Out of 499 test-checked contracts, 131 contracts amounting to ₹809.55 crore (26 per cent) were awarded to the single bidder. In none of these cases, retendering was done to obtain competitive rates.
- 242 contracts for ₹1929.31 crore (49 per cent) were awarded to one of the two bids only without resorting to re-tendering.
- Three or more bids were received in only 126 cases costing ₹843.55 crore (25 per cent). Thus, only for a small fraction of contracts, competitive bids were received.

In reply, the Government stated (August 2022) even though wide publicity and sufficient time was given, single Bid in six works and two Bid in 23 works pertaining to SHDP were received due to a greater number of works concentrated in a particular region and lack of metal quarry and machineries.

The reply in not acceptable as sufficient time for submission of Bids was not given in 30 out of 40 test checked works in SHDP as pointed out in Para 4.1.2. The reply in respect of other Divisions was not furnished by the Government.

Recommendation 7: The State Government may include necessary provisions under the KPWD code to initiate disciplinary action against the tender accepting authorities who accepted single bid in violation of Government instructions.

4.2.2 Irregular acceptance of tenders

Where tenders are received with premium pegged over 10 per cent of the Current Schedule of Rates (CSR), circular instructions of 3rd December 2002, prescribe that the negotiations with the lowest tenderer for reduction of rates should not be resorted to. The preferred course of action should be to reject the tenders and invite fresh tenders. Government circulars (August 2006 and June 2007) also stipulated that negotiation should be held only after inviting tenders for a minimum of three times. Government empowered (Delegation of powers in June 2009 and September 2018) the Tender Scrutiny Committee⁸ (TSC) to negotiate in respect of tender value of ₹50 lakh and above to bring it within a premium not

⁸ TSC does the tender evaluation and process of award of works. This committee is authorised to discuss and get clarifications from the tenderers. Once TSC ratifies the tender, TAC gives the final approval.

exceeding ten *per cent* of CSR for submission to Tender Acceptance Authority (TAA).

During 2016-21, 43 tenders (of value ₹50 lakh and above) costing ₹220.54 crore⁹ (out of 131 single bids test checked) were accepted with tender premium above 10 *per cent*, in the first call itself. Instead of rejecting these tenders by TSC, they were recommended for acceptance and were marked as 'approved' by the Secretary. The tender premium recommended for these bids varied between 11 *per cent* and 32 *per cent* of CSR. Even after formation of TAC, these tenders were not subjected to review by it. Thus, the procedure adopted by TSC was not in compliance with the Government instructions and resulted in extra financial implication of ₹18.68¹⁰ crore. Details are given in **Appendix 4.6**.

In reply, the Government stated (August 2022) that vide G.O. dated 30.07.2009 the delegation of powers to negotiate substantially high tenders by TSC stays deleted and however empowered the TAA to negotiate the same. It was further stated that due to urgency of work TSC had forwarded the Bids and the same was approved by TAA.

The reply is not acceptable because as per G.O. dated 24.09.2018 while making changes to Delegation of Financial powers, reiterated that TSC may recommend the Government for acceptance as far as negotiated rate does not exceed C.S.R by more than 10 *per cent*.

4.2.3 Irregular rejection of tenders

A refundable deposit called Earnest Money Deposit (EMD) is taken to ensure that only serious bidders participate in the tender. EMD amount up to ₹ one lakh is accepted through Credit card/Debit card/NEFT. If EMD amount exceeds ₹ one lakh, contractors have an option of paying the amount exceeding ₹ one lakh through Bank guarantee (BG) or any other form prescribed in the tender document. The EMD so paid may, however, be forfeited¹¹ to the Government account, in case of tenders where EMD is not received in full or not in acceptable form or tenderer withdraws the tender after bid opening.

Further, as per G.O dated 20.02.2014, only the successful bidder should submit the original BG at the time of execution of the Agreement. Hence, on the pretext of non-production of original BG, no bids should be disqualified either during the technical scrutiny or during the financial evaluation stages.

Audit scrutiny of records in Chief Engineer, PIU, SHDP revealed that out of 446 bids received in respect of 126 Packages under Phase III and five packages under Phase IV, a total of 89 bids were rejected during technical evaluation on the pretext that the Agency/Contractor had not submitted the original BG as detailed below:

- 80 bids were rejected without even opening the technical bids.
- In eight cases where technical bids were opened, though prospective bidders had uploaded the BG for the full amount, the bids were rejected.

⁹ Amount Put to Tender as per NIT.

¹⁰ Contract Price: ₹ 261.31 – (110% of Amount put to tender (at CSR): ₹ 225.37 X 110% = ₹ 242.63) = ₹ 18.68

¹¹ As per Clause 13 of tender document (K.W- 4) and G.O dated 02.12.2010,

- In one¹² case bid was rejected on the plea that the entire EMD amount of ₹48.50 lakh was paid through e-payment, instead of BG.

Arbitrary/irrational rejection of tenders had not only resulted in limited competition but also the risk of favouring a particular bidder could not be ruled out. The details are in **Appendix 4.7**.

In reply, the Government stated (August 2022) that due to poor financial and health constraints, the contractors have not submitted the BGs towards E.M.D to step out of the tender competition. However, as a punitive measure it was agreed to take action to recover the E.M.D from the concerned contractors and to strictly adhere to Government Order in future.

Further, as per note under Rule 13 of Registration of Contractor Rules, 1994, the registered contractor who is in the habit of purchasing tender forms (more than three times) for works without submitting tenders is liable for disqualification for further tendering. As per paragraph 262 of KPWD code, the Registering Authority may blacklist such contractors for a specific duration. It was, however, observed that no such action was being taken against defaulting contractors. For instance, 20 bids submitted by three contractors were rejected for not submitting the full EMD in the form prescribed in the tender document (**Appendix 4.8**). However, no punitive action was taken against that Contractor.

In reply, the Government agreed (August 2022) to take action against the erring contractors and address the Chief Engineers concerned to disqualify such contractors from participating in future tenders and cancel their registration.

4.2.4 Non-assessment of machineries/equipments

Clause 3.3 (a) of STD prescribed that all bidders shall provide the evidence of availability of ownership of key and critical construction equipment.

It was noticed in seven works costing ₹21.50 crore that assessment of equipment/machinery was not done before awarding the contracts. In five works¹³ the contractors attached invoices of machineries pertaining to another contractor, while the other contractor who was owner of the machineries also attached the same invoices of the same machineries for works awarded during the same period.

Further, in two works (W.I No: 38983 & 41270) relating to Shivamogga Division, costing ₹7.50 crore, instead of uploading the invoice for 40/60 TPH HMP, a contractor had uploaded the invoice of Mini Mix Asphalt Plant of 6/10 TPH. It was also noticed that the contractor uploaded Price quotation for Pug Mill instead of the actual invoice/receipt. However, the works were awarded to the said contractor. Award of work to ineligible contractors may lead to possible delay in completion of work.

4.2.5 Acceptance of unauthenticated Turnover Certificates

A Turnover Certificate is a factual statement issued by a Chartered Accountant (CA) that certifies the turnover of the entity based on the requirements. As per

¹² Package No.219 bid of M/s Amrutha Construction

¹³ Kalburgi Division: 40836, 66010 and 97307. Shivamogga Division: 65188 and 61348.

Clause 3.2 of the bid document, in *two* out of the last *five* financial years, the tenderer should have achieved a minimum turnover of twice the estimated cost of a work. For verification of authenticity of such Turnover Certificates, the ICAI¹⁴ has introduced a concept of system generated unique number of 18 digits called UDIN¹⁵. It is generated separately for each document attested by the CA and it is mandatory from 1st of February 2019.

Test-check of records in 17 Divisions revealed that in none of the 157 works (**Appendix 4.9**), valuing ₹801.71 crore, for which NIT was published after 1st of February 2019, the CAs had indicated UDIN on the Turnover Certificates. In the absence of UDIN, the authenticity of Turnover Certificates uploaded by the bidders could not be verified by Audit.

After this was pointed out, the Government replied (April 2022) in the Exit Conference that the UDIN would be insisted mandatorily in future.

4.2.6 Absence of system to check bid capacity of bidders

Proper assessment of bid capacity of bidders is essential for timely completion of works. STD prescribed the formula¹⁶ for assessing the bid capacity. However, Audit observed that bid capacity of bidders was not assessed correctly, and works were awarded on self- declaration by the bidders. As a result, the contractors were awarded high value contracts though they did not qualify for the same.

It was noticed in Tumkur Division that a Class I contractor had concealed the information of ongoing works (for ₹67.25 crore in SHDP under Phase IV – Package No. 265, 280 and 312) and succeeded in taking up another work (W.I No. 115941) costing ₹5.59 crore for which, otherwise, he was not eligible to participate. Further, the earlier works taken up by the contractor under Phase-IV in SHDP were also not completed even after lapse of eight months.

After this was brought to notice, Government agreed (August 2022) to take needful action in this regard.

4.2.7 Discrepancy in preparation of Draft Tender Papers

As per Clause 3 of STD, to qualify for the award of contract, each tenderer in his name should have achieved at least in *two* financial years out of the last *five* financial years, a turnover of twice the estimated annual payment under contract¹⁷.

¹⁴ Institute of Chartered Accountants of India

¹⁵ Unique Document Identification Number

¹⁶ Assessed bid capacity = $A * N * 1.5 - B$, where A is maximum value of civil engineering works executed in any one year during the last five years, N is number of years prescribed for completion of the works (period up to six months to be taken as half-year and more than six months as one year), and B is the value of existing commitments at the current price level.

¹⁷ For instance, Amount put tender is ₹500 lakh and scheduled completion period is nine months: Required turnover = $₹500/9 * 12 * 2 = ₹1333.33$ lakh.

Further the contractor should also demonstrate the availability of liquid assets/credit facilities of not less than the estimated cash flow during three months of peak construction period¹⁸.

The following issues as in **Table 4.3** were noticed in this regard:

Table 4.3: Discrepancy in preparation of Draft Tender Papers

Sl. No.	No. of cases	Amount put to tender	Issue noticed	Effect of omission/commission
1.	199	₹1027.60 crore	Turnover required to be demonstrated by the contractors as per DTP was less by ₹2352.42 crore	Allowed ineligible contractors to participate.
2.	3	₹40.74 crore	The turnover required in the bid document was more than STD by ₹24.11 crore.	This restrictive technical criterion limited the competition in favour of large contractors.
3.	125	₹590.21 crore	LOC stipulated was more than the STD by ₹163.30 crore.	
4.	28	₹262.70 crore	LOC required to be demonstrated by the contractors as per DTP was less by ₹11.76 crore	Allowed ineligible contractors to participate and award of work to contractors with less liquid assets could not be ruled out.

It is pertinent to note that from scrutiny of bid documents in test-checked Divisions in North and Northeast Zone, the qualification prescribed for tenderers was found to be correct.

4.2.8 Employment of Technical and Management personnel

STD provided that each bidder should demonstrate qualification and experience of the key technical and management personnel in permanent employment with the tenderer as detailed in Appendix to ITB. Audit observed that in 435 of 499 test-checked works the proof of having technical and management personnel was not furnished by the bidders. In remaining 64 works in which details are furnished related to 40 SHDP packages and 24 works in PWD Division, Dharwad. Thus, EEs of the 19 test-checked Divisions failed to ensure the provisions of STD which resulted in furnishing of incorrect information by bidders.

4.2.9 Non-forfeiture of EMD

As per Clause 3.2 of STD, tenderers are subject to be disqualified if they have made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements.

Audit scrutiny of tender evaluation revealed the following discrepancies in four Divisions as detailed in **Table 4.4**:

¹⁸ For instance, Amount put tender is ₹500 lakh and scheduled completion period is nine months: Required LoC = ₹500/9*3 = ₹166.67 lakh.

Table 4.4: Non-forfeiture of EMD

(₹ in crore)

Sl. No.	No. of works: Division	APT	Nature of violation noticed	Action taken by the Department	Audit observations	EMD amount
1.	2: SHDP 2: Chikkamagaluru	75.07	Submitted fake work done certificates	Technical bids were rejected and no further punitive action was taken.	The tenderers were neither barred for a period of one year nor the fact was brought to the notice of licensing authority. One bidder subsequently won three contracts ¹⁹ under Phase IV of SHDP costing ₹61.44 crore.	0.150
2.	3: Dharwad	3.90	Submitted fake turnover certificates	Contractor barred for one year.	Not brought to the notice of the licensing authority.	0.046
3.	8: Sirsi	6.84	LOCs were fake or not confirmed by the Banks at the instance of tenderers	Technical bids were rejected	EMD not forfeited.	0.156
Total	15	85.81				0.352

The details are in *Appendix 4.10*.

Thus, E.M.D amount of ₹0.16 crore pertaining to 8 works mentioned in sl.no.3 above which were liable to be forfeited as Government Revenue, was incorrectly refunded.

Recommendation 8: The Government may ensure that necessary provisions are to blacklist and forfeit the EMD amounts in respect of tenderers involved in all types of malpractices.

4.2.10 Manual verification

With a view to ensure fair and transparent bidding process, the Government decided (2008) that from April 2008, tenders for works costing more than ₹50 lakh (which was revised to ₹5 lakh from 03.12.2012) would be received only through e-tendering.

Audit observed that while adopting e-tendering for the works costing more than ₹5 lakh, the Department limited the transparency in the process by adopting a system of manual verification of papers regarding Security Deposit, Turnover Certificate, Work Done Certificates etc. Thus, the goal of ensuring transparency in works through e-tendering was not achieved.

In reply, the Government stated (August 2022) that the process of evaluation and verification is confidential and hence details of such evaluation are not made

¹⁹ Package No. 321, 322 and 325

available in the e-Procurement portal. However, Government agreed to consider the Audit observation.

4.3 Deficiencies in Award of Contracts

As per Rule 22 of KTPP Rules 2000, read with Standard Tender Document, the tender should be finalised within 90 days from the last date prescribed for receipt of the tender. Further, contractors should get their Contract Agreement executed within 20 days of issue of Letter of Acceptance, otherwise, tender shall be cancelled, and security shall be forfeited.

4.3.1 Delay in finalisation of contracts

In 279 out of 499 contracts finalised during 2016-21 it was observed that there were significant delays in finalisation of tenders in respect of the cases detailed in **Appendix 4.11** as shown in the **Table 4.5** below:

Table 4.5: Position of delay in finalisation of tenders

Range of delay (in days)	No. of contract	Cost of contract (₹ in crore)	Maximum delay (in days)
Within 90	220	1870.87	-
91 to 120	71	513.87	119
121 to 180	92	471.12	180
More than 180	116	727.42	639
Total	499	3583.28	

Source: Compiled from Departmental records

Audit also noticed that in 65 cases costing ₹389.80 crore, there was a delay ranging from one to 181 days in issue of Work Order to commence the work after issue of Letter of Acceptance (**Appendix 4.12**).

Thus, the Department (20 test checked PWD Divisions and SHDP) failed to follow the instructions contained in KTPP Rules and there were delays of up to 639 days in finalisation of tenders which ultimately led to delay in completion of works.

Further, such extraordinary delays in finalisation of tenders and award of works to contractors might increase the risk of manipulation of the process of evaluation of bids and award of contract. On one hand, short-term tenders were invited citing emergency and on the other hand, the Department took inordinately long time to finalise the tenders. Further, execution of these highly delayed works by the contractors on the old rates quoted, despite revision of SRs in some cases, indicated that either the estimates could have been considerably inflated by the Divisions or the contractors were executing sub-standard works.

In reply, the Government stated (August 2022) that the reason for substantial delay in finalization of tenders was mainly due to thorough verification of the tender documents enclosed. Further it was stated that Finance Department has issued precise timelines for closure of tender process vide circular dated 11.05.2022 and the same would be adhered to in the future.

Case study 4.2

Executive Engineer, PWD Division, Tumkur invited (07.08.2017) bids for the work “Improvement to six MDRs” costing ₹8.50 crore under W.I No.67898. Last date for receipt of tender was 13.09.2017. Three²⁰ bids were received. In the meantime, a complaint was received (20.09.17) in the Circle office as to submission of *two* different Turnover Certificates for different works by one of the bidders and hence the technical bid of the contractor was rejected (19.10.17).

The aggrieved bidder²¹ filed (October 2017) a Writ Petition before the Hon’ble High Court of Karnataka. However, as the Government agreed to consider his financial bid, the contractor withdrew the Writ Petition in August 2018. As there was a substantial delay in acceptance of the tender beyond the validity period, the consent to extend the validity period was sought by the Executive Engineer but only in February 2019. Except Sri CHVN Reddy, the other two contractors did not agree to extend the validity period for their bid offer. Thus, the Division should have rejected their bids as non-responsive under Rule 27 (2) of the KTPP Rules and only the bid of Sri CHVN Reddy should have been forwarded for approval of CE. However, the Division resubmitted (01.01.2019) all the three technical bids as qualified bids and opened (23.02.19) the financial bids as well.

Consequently, the other two bidders became L1 and L2 and Sri. CHVN Reddy was reported as L3 for his quote of ₹8.51 crore. Since L1 and L2 had already disagreed to extend the validity period, their financial bids were rejected and the works were offered to Sri CHVN Reddy at the L1 rate of ₹7.82 crore, which he did not accept. Finally, the Division recommended for cancellation of the bid. The Government, while calling for explanation for failure of the Division to obtain the consent of contractors for extension of the validity period of their bids, accorded (02.07.19) approval for inviting fresh tenders. Fresh tenders were invited (September’19) and the work was awarded (August’20) to another contractor at a cost of ₹9.90 crore for completion by May 2021.

This had resulted in extra burden to the State Exchequer of ₹1.39 crore (₹9.90 crore minus ₹8.51 crore) that could have been avoided.

4.3.2 Arbitrary fixation of completion period for works

MoRTH Guidelines (Timelines for completion of EPC Projects) stipulates (July 2013) a time frame of 12 days per kilometre up to a maximum of 12 months for strengthening works and 20 days per kilometre up to a maximum of 18 months for widening and strengthening works. However, there are no instructions or guidelines available with the PWD to determine the time frame for completion of works by contractors.

²⁰ CHVN Reddy, Sri H N Ramegowda and M/s Rayeegowda Construction Co.

²¹ CHVN Reddy

It was noticed that the completion period for works was being decided arbitrarily by the Authorities concerned. Fixing of different time frame for completion of similar nature/quantity of works, was as given in **Table 4.6** below:

Table 4.6: Completion period fixed arbitrarily

Sl. No.	Range of cost (₹ in crore)	Number of contracts	Amt. put to tender (₹ in crore)	Minimum time allowed (Months)	Maximum time allowed (Months)
1	Less than 1	30	21.42	1	9
2	1 to 3	93	196.36	2	18
3	3 to 5	202	831.90	1	12
4	5 to 10	109	786.82	1	11
5	10 to 20	30	412.91	1.5	24
6	More than 20	35	997.74	9	24
	Total	499	3247.15		

The table indicated that the time allowed for execution of works of similar nature and value varied widely.

It was noticed that even in SHDP, works costing ₹8.01 to ₹62.55 crore and reconstruction works of 20 Kms length to 30 kms length were given eleven months' time for completion.

Similarly, in Hassan Division for improvement of Srirangapattana to Arasikere road, SH 7, (W.I No.77506), although work envisaged strengthening of 26.25 Km, including construction of C.C road for a length of 2.0 Km, only one and a half month was allowed as the completion period.

As the completion time has a direct bearing on the calculation of bid capacity²² of the contractors, modifying the completion time to alter the bid capacity of the contractors thereby helping them get contracts for which they may not be eligible, cannot be ruled out.

In reply, the Government stated (August 2022) that scheduled completion period will not depend merely on the cost of the works but also based on local conditions, nature of work, urgency of work etc.

The reply is not acceptable as the Department is yet to frame a general guideline in this respect, in line with MoRTH Guidelines.

Recommendation 9: The Government may take necessary action for fixing the time period as per MoRTH norms.

4.3.3 Insurance cover not provided by contractors

Clause 13 of the Conditions of Contract included in STD (KW- 4) prescribes that the contractor at his cost shall provide, in the joint names of the Employer and the Contractor, insurance cover from the start date to the date of completion for risks like loss of or damage to the work and personal injury or death. Insurance cover is also required to be provided from the date of completion to the end of Defect Liability Period (DLP) for personal injury or death. Certificate

²² completion time up to six months is taken as 0.5 and completion time of more than six months is taken as one

of insurance policies are required to be delivered to the Executive Engineer for approval before the start date. If the contractor fails to effect or keep in force any of the insurances, the Employer may affect insurance for the cover relevant to such default and recover the premiums as a deduction from any payment due to the contractor.

During scrutiny of records in the 20 test-checked Divisions and SHDP, Audit noticed that contractors were required to provide insurance cover for 471 test-checked contracts costing ₹2490.35 crore executed during 2016-21. However, insurance cover was not provided by any contractor in the test-checked Divisions except in respect of works undertaken by SHDP. Further, no action was taken by the Divisions to ensure providing insurance cover to the works executed. This had resulted in contractors getting benefitted to the tune of approximately ₹1.99 crore during 2016-21. Details are given in **Appendix 4.13**.

In reply, it was stated (August 2022) that majority of works pertaining to P.W.D South Zone were almost in completion stage. However, the Department agreed to obtain Insurance for all works taken up in future.

Reply in respect of other zones was not furnished.

4.3.4 Issue of Letter of Intent/Letter of Acceptance and Work Order manually

The e-Procurement portal provides for generation of Letter of Intent (LoI)/Letter of Acceptance (LoA) by the procuring entity and sending the same to the successful bidder through the e-Procurement portal only. As issue of LoI/LoA and Work Order to successful contractor manually would result in incomplete evaluation of financial bids in the portal, the Finance Department issued a G.O dated 01.08.2018 to mandatorily generate LoI/LoA in the e-Procurement system and issue the same to the successful bidder(s). Further, issue of LoI/LoA in e-Procurement portal will also help in automatic assessment of the 'Available Tender Capacity of Bidders'.

Audit, on scrutiny of records in all test-checked Divisions, observed that after opening of financial bids in the e-Procurement portal, the LoI/LoA and Work Orders were being issued manually disregarding the Government instructions except in PWD Division, Bidar.

Case study 4.3

Financial bid of a contractor in respect of SH-86 (WI 113170) road in Nanjangud taluk, was approved (04.02.2020) by the Chief Engineer, C&B (South), Bengaluru for ₹4.04 crore. The LoA was sent manually by the Division on 04.05.20 after a delay of 90 days. Subsequently another LoA was issued on 19.10.20 on the plea that the contractor had not received the copy of LoA and notice to proceed with work was issued on 21.10.20 after 306 days of receipt of tender (18.12.19).

In reply, the Government agreed (August 2022) to issue to LOA/LOI only through e-Procurement.

4.3.5 Defect Liability Period (DLP)

Under a construction contract, one of the primary obligations of the contractor is to carry out and complete the works to the standards set out in the contract. The DLP is intended to complement this liability by setting out how and when the contractor must remedy defective work, if any. The DLP recognises that defects will arise in the period following completion and includes the obligation to repair those defects to complete the works to the required standard.

MoRTH has fixed (April 2012) a DLP of three years and one year from the date of completion in case where the bituminous thickness is equal to or more than 40 mm and where bituminous thickness is less than 40 mm respectively. For comparison, the same DLP is prevailing in the Government of Kerala for all PWD road works. However, in Karnataka, SHDP has fixed the DLP at two years for improvement works taken up on PWD roads. Further, no such instructions or guidelines are available with PWD for fixing DLP for road works.

In 363 contracts valuing ₹2047.77 crore Audit observed that in the absence of specific time schedule approved by the Government, PWD Authorities decided DLP of one year irrespective of the nature of work undertaken. Details are in **Appendix 4.14**.

It was also noticed that in nine²³ cases costing ₹24.60 crore where Chief Engineers have approved DLP of two years, the Division office (Tumkur) had changed the same to one year while entering into the Contract Agreement. This had resulted in undue benefit to the contractors.

In reply, the Government stated (August 2022) that in the absence of specific guidelines, the Defect Liability Period was fixed arbitrarily. However, it is agreed to take a decision in accordance with MoRTH or IRC guidelines.

Recommendation 10: The Government may take necessary action for fixing the DLP as per MoRTH norms.

4.3.6 Inordinate delay in termination of contract

As per Clause 17 of the Conditions of Contract, the time allowed for carrying out the work as entered in the tender shall be strictly adhered to by the contractor. In case of failure to complete the work, the contract shall be rescinded and 30 *per cent* of the value of left-over work will be realised from the contractor as employer's additional cost for completing the balance work (Clause 49 and 50).

It was noticed in PWD Division, Mysuru that the work contract for 'Providing Wayside Amenities to the Bridge' constructed across Kabini River near Hejjige village in Nanjangud Taluk estimated to cost ₹10 crore (CER No.708/2017-18) was awarded (July 2018) to a contractor²⁴ at a value of ₹10.13 crore for completion by April 2019. The contractor failed to execute the work as per the work programme despite issue of several notices by the Department. As ascertained from the Division, the work was stopped for more than three years and the rescind proposal was sent only in July 2021 and the final measurement

²³ 41274, 41276, 42034, 42325, 42353, 54926, 74797, 79927 and 81601

²⁴ M/s Ravishankar Infrastructure Pvt Ltd

was taken in August 2021. As per the comparative statement prepared after taking the final measurement, the contractor had tackled the work to the extent of ₹0.36 crore within the scheduled date of completion.

As such a penalty of ₹2.93 crore being 30 *per cent* of the value of left-over work, was recoverable from the contractor. However, no action was taken to demand and recover the same. Further it was also noticed that the performance guarantee amounting to ₹0.51 crore was also not obtained at the time of executing an agreement on contractor's request to recover the same from 1st RA Bill. In view of inordinate delay in termination of contract, the possibility of recovery of extra cost of ₹2.57 crore (₹2.93 crore *minus* ₹0.36 crore) appears to be doubtful.

Further, in the case of W I No.65596 costing ₹8.50 crore in PWD Division, Bengaluru, the contractor had stopped (August 2019) the work after giving a financial progress of ₹1.83 crore. However, no action was taken to rescind the contract and complete the work through another contractor. It is pertinent to mention that the B G amounting to ₹0.43 crore was also lapsed.

In reply, the Government stated (August 2022) that action has been taken to rescind the contract in terms of tender conditions. It was further stated that action has also been taken to invite tenders for balance work. While for work pertaining to Bengaluru Division, it is stated that the rescind proposal is under consideration.

4.3.7 Award of works without ensuring availability of land

As per Paragraph 279 of KPWD code, 2014 Right of Way (RoW) doesn't confer ownership. Consequent to the enactment of Forest Conservation Act, 1980, and subsequent Supreme Court Judgements it is imperative that even though RoW is available, clearance from the Forest Department (FD) is required for maintenance and widening of roads. Further, as per para 17.3.2 of the IRC SP-19, the general abstract of work should also include cost of land and compensatory afforestation.

Audit scrutiny revealed that the existence of forest land and private land in the roadway was not taken into consideration at the time of preparation of eight estimates costing ₹41.85 crore in five Divisions (**Appendix 4.15**). The works were awarded without ensuring availability of land. The Department belatedly initiated the proposal for obtaining the permission from FD as well as the process for land acquisition. As a result, eight works on which ₹21.10 crore had already been incurred, remained incomplete (February 2022) even after a lapse of 25 to 61 months due to delay in obtaining forest clearance and acquisition of land. The specific instances are given below:

- Improvement to road from Kenchigara colony to Kempanahalli to B M road from Ch 0.00 to 4.00 Km in Kasaba hobli of Ramanagara taluk was awarded (February 2019) at an estimated cost of ₹2.70 crore with a stipulation to complete the work by July 2019. The Contractor after giving a financial progress of ₹1.13 crore on providing 2025 cum of GSB and 2813 cum of Wet Mix had to stop the work as prior permission of the Forest Department was not taken. Despite work being stopped for more than two years, the PWD Authorities had not taken any action to obtain

the forest clearance and complete the works. Since the work was stopped in an unsafe stage, damage to the base layer could not be ruled out.

In reply, the Government stated (August 2022) that as the Forest Department did not allow to execute the work, the balance work was foreclosed (April 2022).

The reply is not acceptable as the fact remains that work was stopped in unsafe stage as WMM layer was not protected with sealed coating.

- Two works in SHDP under Package 223 were awarded (June 2016) at an estimated cost of ₹20.50 crore for completion by May 2017. One work was completed in all respect. However, in respect of ‘Sathanur-Muthathi’ road the contractor had tackled work for a length of 7.50 km in reaches 6.30 to 13.80 Km and the balance reach of 7.50 Km, where widening of existing carriageway from 3.75 m to 5.50 m was involved, could not be taken up. Audit scrutiny revealed that a length of 7.50 Km was passing through the Kaveri Wild-life Sanctuary. However, the Department did not propose for the forest clearance for the road specifying the width of 5.5 meter.

Further, when pursuance with the Forest Department did not yield any results, the Contractor was instructed (October 2019) to carry out the improvement works only on the existing carriageway of 3.75 meter. However, the Contractor did not resume the work and requested (January 2020) for revised rates for the balance works on the grounds of delay and increase in cost of materials. The Contractor was paid for the up-to-date value of work amounting to ₹15.82 crore. The contract was yet to be terminated.

- Construction of Bridge at Ch 90.60 Km of Hirisave-Chattahalli road (SH 8) in Arkalgud taluk was awarded (March 2016) at an estimated cost of ₹1.50 crore for completion by September 2016. A lump sum provision of ₹5 lakh was made in the estimate on tentative basis. During the survey by the Revenue Department in March 2017, it was indicated that the required land for construction of the approach road was Government land. However, during re-survey (February 2018) it was revealed that the said land (0.09 Guntas) belonged to some private party. Accordingly, a land acquisition proposal was sent to the Revenue Department in June 2018. The land was not transferred (September 2021) to the Department. As the Contractor was not willing to continue with the work, the contract was foreclosed (March 2018) with the incomplete work being on as-is-where-is-basis. The final bill of ₹0.69 crore was paid (August 2021) towards construction of proper bridge work. Thus, due to commencing the work without acquiring required land, the objective of providing connectivity was not only delayed by more than five years but still had not been met (February-2022) even after incurring an expenditure of ₹0.69 crore.



Picture of incomplete bridge taken during joint inspection with Dept. Engineers.

- Three road works²⁵ (of value ₹11 crore) taken up for improvement during 2018-20 had not been commenced due to land problems. Since no alternate works were proposed in lieu of these abandoned works, lapse of grant could not be ruled out. In one work (Mandya) the Letter of Acceptance was not issued to the Contractor, while in the other two works though commencement of work was delayed by more than two years, no action was taken by the Division to terminate the contract.

In reply, the Government stated (August 2022) that due to objection from landowners the works could not be commenced and hence contracts were terminated. Government further stated that retendering process is underway. The reply is not acceptable as it is silent whether required land was acquired or not. Since these works are being retendered the additional burden to exchequer on account of lapse of time cannot be ruled out.

4.4 Non-recovery of shifting charges from Utility Agencies

As per the extant provisions of IRC 98 of 2011, shifting of electrical/telephone lines, water pipes, etc., necessitated due to improvement/widening of roads shall be the responsibility of respective Utility Agencies. The cost of such work shall be met by the Utility agency and shall be got done from approved list of contracting agencies under supervision of a third-party agency from PWD. In case the shifting is not done by Utility Agencies, the same shall be done by PWD at the risk and cost of Utility Agency with additional penalty and future permission shall be refused.

Audit scrutiny of 16 works, valuing ₹185.67 crore, revealed that PWD has incurred an expenditure of ₹15.30 core towards shifting of utilities as detailed in **Appendix 4.16**.

In reply, the Government stated (August 2022) that in the absence of specific Act under the Law recovery of utility charges from the concerned user agencies

²⁵ Two works in Mangaluru Division and one work in Mandya Division.

cannot be enforced. However, Government agreed to consider the Audit view point.

Recommendation 11: The Government may consider framing a Policy or Guidelines for shifting of utilities from the road improvement or development works.

Chapter

05

*Contract Variations,
Advances and Recoveries*

CHAPTER – 5

Contract Variations, Advances and Recoveries

Completion of a large number of works were inordinately delayed on flimsy grounds like excessive rain, protest by villagers, land disputes, objection from Forest Department, etc. However, the PWD had not maintained any records specifying actual reasons for the delays and time extensions were routinely granted. Online submission of measurement provided under e-Procurement platform has not been put to use till date (June 2022). Measurements of work done were being recorded on excel spreadsheets which is not a reliable source of information for the purpose of preparation of bills of the contractors.

5.1 Contract Variations

The contract is a legal agreement between the contractor and the employer, which defines the scope of the work, cost, timeline and terms and conditions for execution of the work. Any change in the contract scope, cost, timeline and the terms and conditions, that may provide undue benefits to the contractors, are not permissible except with the approval of the Competent Administrative/Financial Authority and within the ceiling limits laid down under rules.

Audit, however, noticed large number of such cases while scrutinising records of SHDP which are discussed below:

5.1.1 Avoidable modifications of sanctioned works

During 2016-17, 399 road improvement works for a length of 4,095 km were administratively approved (December 2015) by the Government for ₹3,500 crore. The works were taken up for execution in 127 packages at a tender cost of ₹3,673.35 crore. The contract price was later modified to ₹3,972.21 crore to accommodate variations (₹ 298.86 crore) that occurred during execution stage. To keep the expenditure within the sanctioned amount, the length proposed in the DPR was modified to 3841 km by SHDP. As against ₹3,500 crore sanctioned by the Government, an amount of ₹4,012 crore, including pending bills and other committed expenditure of ₹181.62 crore, was already charged for the works taken up under Phase III against the revised contract price of ₹3,972.21 crore. As expenditure incurred was more than the grant, there was no justification for modifying the targeted length.

In reply, the Government agreed (August 2022) to take due care in forthcoming proposals to avoid variations.

Case study 5.1

Improvement to five road works in Mysuru district was technically sanctioned (February 2016) by SHDP for ₹17.21 crore. The work was awarded (July 2016) to a contractor for ₹18.93 crore for completion by June 2021. The contract *inter-alia* included widening of 'Mysuru-Bhogadi-Gaddige' road from chainage 6.00 to 13.50 km at a cost of ₹ two crore. After award of work to the contractor it was noticed that the proposal for construction of a four-lane road from chainage 5.00 to 13.50 km had already been included in Appendix-E for the year 2017-18. Hence, it was decided to drop this stretch from the scope of SHDP contract. Since savings of ₹ two crores were available, reconstruction of the same road from chainage 15.50 to 17.80 km was proposed (February 2017) at the instance of the local MLA on the plea that the road was damaged. If the road was so damaged, the priority of the Department was to develop this damaged stretch at first instance than widening of a good existing road. Further, the reason for not including this damaged stretch in original estimate itself was not forthcoming from the records. As per the DPR, this road was in good condition. Hence, without even proposing a resurfacing on the existing carriageway, only widening was proposed in the original DPR. PWD owns equipment like FWD and GPR for assessment of pavement structural capacity. However, no such evaluation was done before the reconstruction work was proposed. Thus, utilisation of savings towards entrustment of works in reaches not provided in the sanctioned estimate as variation items was unauthorised and improper as variation items always refer to any variation incidental to the sanctioned work provided in the Bill of quantities.

5.1.2 Delay in completion of works

Every Contract Agreement stipulated a scheduled date for completion of work. As per para 196 of KPWD Code, contractors shall submit application for Extension of Time (EOT) in form F10 in the cases of delays. Clause 26.2 of Contract provides that, the Engineer shall decide on approving EOT within 21 days from the date of receipt of application.

Scrutiny of records during Audit revealed that, out of the total 499 test-checked works, 116 works costing ₹862.76 crore were under progress, 374 works valuing ₹2659.80 crore were reported to have been completed, while nine works were either stopped or rescinded. Of the 374 works completed, only 171 works (46 *per cent*) were completed as per the scheduled completion date and remaining 203 works were completed with a delay of up to 1,613 days from the initial scheduled date of completion (**Appendix 5.1**). Of which in 89 cases valuing ₹499.10 crore the proposals for EOT were not sent to higher authorities for approval.

Audit observed that the applications for EOT were undated and their receipt was not recorded by the Divisions in any Register. Also, reasons attributed in the applications for delays were excessive rain, protest by villagers, land disputes, objection from Forest Department, etc. However, it was not possible to examine the correctness of the reasons attributed for delay in completion of works in the absence of proper documentation of hindrances, if any.

In this regard, it is pertinent to note that in CPWD, (Para 5.15 of CPWD Manual) stoppage of work due to any hindrance is required to be recorded in a Hindrance Register maintained by the Division. But there was no similar provision in the State PWD rules and therefore Divisions had not been systematically documenting the hindrances caused to the contractor in execution of works.

Recommendation 12: The State Government may ensure that PWD maintains 'Hindrance register' clearly documenting the hindrance caused in execution of works and act in accordance with the contractual provisions. Further, it may also be ensured that the works are taken up only after ensuring availability of encumbrance free land and after obtaining necessary clearance from the Forest Department.

In reply, the Government agreed (August 2022) to maintain above Registers as being followed in CPWD in future.

5.1.3 Non-submission of Completion Reports

As per paragraph 223 of KPWD code, the accounts of all works must be closed as soon as the works are completed and the completion report should be sent to the Accountant General and Superintending Engineer within three months. completion reports before being forwarded to the Accountant General shall be noted in the Register of Sanction to Estimates and the number and date of all completion reports shall be quoted on the pages of the Register of Works below the closing entries.

Of the 499 selected works, 374 works were physically completed as per progress report. However, the Divisions had not prepared completion reports for 221 works. Details are shown in *Appendix 5.2*.

As a result, the Government did not get an up-to-date position of the completion of roads in the State which was essential for monitoring the progress of execution of works.

In reply, the Government stated (August 2022) that completion reports were not submitted for want of NOCs from the QA Authorities and approval of variation items from the competent authorities. Therefore, project completion reports were not finalized in time. However, in the absence of required test reports the NOCs were not being issued by the QA Authorities as pointed out in Para 9.2.

5.2 Unauthorised advance payments

Paragraph 200 of KPWD code and Clause 42 of the STD prescribed by the Department contained the provision for payment of interest-free Mobilisation Advance to the extent of five *per cent* of the contract price on submission of unconditional Bank Guarantee issued by a Nationalised/Scheduled Bank, for an amount equal to the advance payment. However, payment of interest-free advances by the State PWD, was not in consonance with the practice prevailing in other Agencies such as National Highway Divisions in PWD, Karnataka, CPWD and NHAI, where 10 *per cent* interest bearing Mobilisation Advances are given.

Test-check of statement showing the details of Mobilisation Advance paid and recovered under Phase III of SHDP revealed that an amount of ₹167.91 crore

was paid to 75 contractors during 2016-17 towards Mobilisation Advance. In addition, in 32 cases, another five *per cent* of interest free advance aggregating to ₹49.73 crore was paid for mobilisation of key equipment. Payment of additional five *per cent* Mobilisation Advance was not in order (**Appendix 5.3**).

It was also noticed that no time limit was fixed in the STD for recovery of Mobilisation Advances paid to contractors. In 15 contracts, out of the advance paid for ₹39.69 crore, an amount of ₹17.79 crore (constituting 45 *per cent*) was recovered with a delay of four to six months after expiry of the scheduled completion period as the progress of works for which advance was granted was very slow. Further, in two contracts (Package 146 and 261 of SHDP), out of advance of ₹5.49 crore, an amount of ₹4.97 crore was recovered after a delay of 11 months from the scheduled completion period. Thus, due to absence of time limit for recovery of advances, SHDP indirectly benefitted the contractors who were free to utilise the advance payments at their will (**Appendix 5.4**).

In reply, the Government stated (August 2022) that to support speedy execution of projects, the tender documents were modified, and additional mobilization advance of 5 *per cent* of contract price was extended to the contractors.

Reply is not acceptable as additional mobilization advance of 5 *per cent* was sanctioned beyond the scope of SBD approved (2008) by the Finance Department.

5.3 Inadequate Performance Securities from contractors

STD prescribed¹ that the successful bidder shall deliver to the employer a Performance Security of five *per cent* of the contract price plus additional security for unbalanced bids within 20 days after receipt of the Letter of Acceptance. Such security is to remain valid till the expiry of the DLP of the work. The various types of irregularities noticed regarding securities are discussed below:

- In 25 works with contract value of ₹171.79 crore, Performance Guarantee amounting to ₹6.85 crore were not produced to Audit for verification.
- As regards to Additional Performance Securities to be taken for variation items, Audit observed that in four cases securities to the tune of ₹0.41 crore was not obtained for variation items costing ₹8.19 crore.
- As regards to Security deposit obtained in case of unbalanced tenders, Audit observed that in ten cases BGs amounting to ₹1.72 crore were not obtained.
- The BGs amounting to ₹20.43 crore submitted by the contractors in the form of security for 80 contracts with value of ₹428.36 crore had lapsed before the DLP. This pre-lapse ranged from 76 days to 575 days.
- As per the Central Vigilance Commission (CVC) circular dated 27.12.2016, the BGs shall be confirmed only from the Zonal Offices of the banks concerned and not from the branch of the bank of issue. Audit noticed that in 248 cases, the BGs amounting to ₹70.38 crore obtained in respect of contract value of ₹1438.22 crore had not been confirmed from the Zonal office of the bank.

¹ Clause 29 of Instructions to Tenderers

- In three cases, the Securities deposited by the contractors were short by ₹0.63 crore.

The Divisional officers thus violated financial rules and contractual provisions and did not secure Government interest adequately, besides providing undue benefit to the contractors. Details are shown in **Appendix 5.5**.

In reply, the Government stated (August 2022) that out of 25 works, in 8 works BGs were obtained and agreed to produce the same during next Audit. From this it is evident that BGs were not obtained in remaining 17 cases. As to adherence to CVC guidelines it is stated that CVC is not a part of “D-Code”. The reply is not acceptable as the CVC guidelines which is being followed in other States, should be followed by PWD as a best practice to safeguard the Government interest.

5.4 Non-recovery of royalty on earth used for embankment

As per SR for the year 2018-19, the cost of the soil in “construction of embankment with approved material deposited at site from roadway cutting” was given as ₹30 per cum. This cost of available soil charged to the work is the amount of royalty payable on soil. Further, the General Notes (Para 26) forming part of the SR stipulated that royalty charges were to be deducted for embankment using available soil.

Audit however observed in 25 sampled works (PWD Mangaluru, Bidar and Mandya Divisions and SHDP) that 152237.98 cum of excavated soil was used in embankment and the royalty charges amounting to ₹0.46 crore were not deducted from the contractor’s bills as shown in the **Appendix 5.6**.

In reply, the Government agreed (August 2022) to recover the royalty.

5.5 e-Measurement Book

Measurement Book is a measure of work done of contracts. The measurement book maintains the accounts of work. It is the basis of all accounts of quantities of work done and it must contain such a complete record of facts as to be conclusive evidence in the court of law. Further, all payments against the work done are maintained in this system.

e-Procurement platform provides for online submission of measurement. Using the Web-based Project Management System, the contractor can report the progress by login-based permissions and access with username and password given to them. It means others cannot access or remove/update the information created by PMS user. This progress can be accepted/rejected by the Site Engineer through the Web access. After Site Engineer accepts the progress, the contractor can generate and submit the bill. As per the G.O dated 18.01.2005, e-MB has been made mandatory for all works contracts of value more than ₹25 lakh. This bill can be cross-checked and submitted for approval along with the work slip/variation if any. The status of the bills can be known at any time. A mail shall be sent to contractor after the bill is approved to seek payment,

Audit scrutiny of records in all selected Divisions revealed that while online reporting of progress was still to be mandated on e-Procurement platform, the

measurements for work done were being recorded on excel spreadsheets which are prone to manipulation.

Recommendation 13: The Government may ensure mandating the online reporting of progress of work on e-Procurement platform so that all measurements of work are recorded in the application and also activate e-payment for maintaining transparency.

After this was pointed out, the Government replied (April 2022) in the Exit Conference that the online reporting of progress of works (e-measurement and e-payments) is yet to be activated in the e-Procurement platform. The same would be done in Stage II of e-Procurement portal.



06

Chapter

*Quality Control and
Manpower*

Chapter – 6

Quality Control and Manpower

Department failed to ensure field laboratories are established by the contractors and bills were being paid without test reports to ensure use of standard material and execution of quality works. None of the test checked works were subjected to third party inspections

The Contractors and jurisdictional Executive Engineers are primarily responsible for ensuring quality execution of works. The Quality Assurance (Q.A) Divisions are responsible to conduct 10 *per cent* of the minimum required tests as prescribed by MoRTH at the work site as well as work documentations for quality control purposes. It is also prescribed in the Conditions of the Contract that the contractors would establish field laboratory for testing materials used during the construction and would conduct the prescribed tests at the prescribed frequency as indicated in Quality Assurance programme issued by the respective Q.A Divisions/Sub-Divisions. This chapter brings out issues relating to assuring quality through regular prescribed site testing, Departmental lab testing and third-party inspections of construction works.

6.1 Non-establishment of Field Laboratories

Contract agreement provides for establishment of laboratory at the work site by the contractors for testing materials used during the construction as per IRC norms. The field laboratory should have equipment as specified in the Contract and must provide evidence that the quality tests had been conducted at the worksite. The Government also directed (2014) that the construction divisions will not pay the 1st R.A bill unless the contractor furnished a certificate from the Q.A Sub-division that the field laboratory had been established.

However, it was ascertained from the concerned Q.A Sub-division that in 333 cases the contractors had not established field lab at work site and the Divisions released payment of ₹1,480.37 crore to the contractors as shown in **Appendix 6.1**, in contravention to the Government instructions. Further, the minimum number of equipment and technical staff required for field laboratories were not indicated by the Divisions in the bid document.

In reply, the Government stated (August 2022) that laboratory was setup in worksite. The reply is not acceptable as the QA Sub-Divisions informed that the site labs were not setup in test checked works.

Recommendation 14: The Government may issue necessary orders to forfeit the Performance Bank Guarantee of the contractors who do not establish field labs and submit requisite test reports and action should be taken against the EEs who failed to comply with the codal provisions.

6.2 Payment of bills without test-reports

As per paragraph 119 of the KPWD Code the contractors would mandatorily enclose test-reports of samples with the bills and until the test-reports are as per norms, payments should not be made.

It was noticed in nine ¹test-checked Divisions that the work bills to the tune of ₹708.98 crore were paid to the contractors in 174 works out of 499 test checked works even though they were lacking on several quality related parameters such as absence of Quality Assurance Plan, QA/QC test Reports not available as detailed in the *Appendix 6.2*.

Thus, the provisions of the Departmental code were disregarded by the EEs which benefited the contractors. Further, the use of substandard material may result in poor quality roads and the consequential premature failure of the roads may also not be ruled out.

After this was pointed out, the Government replied (April 2022) in the Exit Meeting that necessary instructions would be issued to all the Officers concerned to adhere QA norms before admitting the bills of the contractors.

Recommendation 15: The Government should issue orders for fixing responsibilities on officers for making payment to contractors without ensuring quality control/assurance test reports.

6.3 Lack of supervision by Departmental Officers in quality control

As per Clause 3.3 Table 3.1 Sl. No. 4.2 of IRC SP 57 of 2000, Village Road projects should have an in-house surveillance team for ensuring quality in construction of roads. The Other District Roads (ODRs) and Major District Roads (MDRs) should have in addition to in-house surveillance team should have had third party consultants' team. In the case of State Highways project there should be an independent Quality Assurance team in addition to an in-house quality surveillance team.

It was noticed that in none of the 20 test checked PWD Divisions, in-house quality surveillance team was in place and there was no independent Quality Assurance team engaged for any of the 97 test checked SH projects.

6.4 Third party inspection of works in PWD Divisions

The Departmental Officers must make periodic checks to ensure the quality of works executed. Paragraph 183 of Departmental code, 2014 mandated third party inspection of works to ensure adherence to quality standards to obtain value for money.

Audit scrutiny of 459 sampled works in 20 PWD Divisions, however, revealed that no work was subjected to third party evaluation of quality of works executed to build public confidence in the system. In the absence of such third-party inspection, significant quality lapses cannot be ruled out.

¹ Shivamogga, Kolar, Tumkur, Chikkamagaluru, Sirsi and Kalburgi

6.5 Irrational deployment of Manpower

In Public Works Department, Junior/Assistant Engineers, Assistant Executive Engineers and Executive Engineers are responsible for ensuring quality in the works being executed by contractors under their jurisdiction. Superintending Engineers and Chief Engineers are entrusted with the responsibility of supervision of construction works being executed in their Circles and Zones. Besides the engineers are required for carrying out regular traffic census of roads, preparation of the preliminary estimates, detailed estimates, finalisation of contract, progress reports, measurement of executed works, preparation of bills, building works etc.

There were significant shortages in the cadre of Junior/Assistant Engineers (32 to 45 *per cent*) during 2016-21. Despite these shortages, Audit noticed that there was an irrational deployment of manpower in the Divisions as discussed below:

The average road length supervised by each JE/AE in each Sub-division of the 20 test-checked Divisions varied significantly from 22 km in Bengaluru (North) to 656 km in Maddur Sub-division. The position of workload and person-in-position in respect of engineering cadres in test-checked Divisions is given in **Appendix 6.3**. As per information furnished by the Chief Engineer, C&B (South Zone), Bengaluru as many as 100 JEs/AEs are working in other Departments on deputation despite there being huge shortages in the cadre of JEs/AEs.

**Bengaluru
The**

**(Vimalendra A. Patwardhan)
Principal Accountant General (Audit-II)
Karnataka**

Countersigned

**New Delhi
The**

**(Girish Chandra Murmu)
Comptroller and Auditor General of India**



Appendices

Appendix 3.1						
(Paragraph 3.1.2, Page 14) Unwarranted expenditure due to manipulation of Traffic Census (₹ in lakh)						
Item	Measurement	Quantity (cum)	Avoidable Qty (cum)	Tender Rate (₹/ cum)	Extra Exp.	
Subgrade	For 7 M = 0.150*2*2.350*7500	5287.5	12375	633	78.33	
	For 9 M = 0.300*2*3.925*7500	17662.5				
GSB - 1 st layer	For 7 M = 0.100*2*2.225*7500	3337.5	2250	1592	35.82	
	For 9 M = 0.100*2*3.725*7500	5587.5				
GSB - 2 nd layer	For 7 M = 0.100*2*0.95*7500	1425	1650	1592	26.27	
	For 9 M = 0.100*2*2.05*7500	3075				
WMM	For 7 M = 0.250*2*0.85*7500	3187.5	3938	1902	74.9	
	For 9 M = 0.250*2*1.90*7500	7125				
B.M	For 7 M = 0.05*2*0.75*7500	562.5	750	5885	44.14	
	For 9 M = 0.05*2*1.75*7500	1312.5				
S.D.B.C	For 7 M = 0.025*7.00*7500	1312.5	375	7792	29.22	
	For 9 M = 0.025*9.00*7500	1687.5				
Total avoidable expenditure on unwarranted widening to 9 metres					288.68	

Appendix 3.2						
(Paragraph 3.1.3, Page 14) Assessment of CBR value of soil						
(₹ in Crore)						
Sl. No.	Division	Sample Works	Amount put to Tender	CBR Report		
				No. of Works where CBR Report is Available	Amount put to Tender	No. of Works where CBR Report is Not Available
1	Bagalkote	20	188.33	20	188.33	-
2	Bengaluru	19	105.86	19	105.86	-
3	Belagavi	20	131.05	20	131.05	-
4	Ballary	19	107.53	17	102.62	2
5	Bidar	20	108.39	8	43.83	12
6	Chikkamagaluru	27	127.56	12	51.16	15
7	Chikkodi	21	84.44	16	66.69	5
8	Chitradurga	25	105.34	15	70.74	10
9	Dharwad	24	130.75	5	17.12	19
10	Hassan	29	118.73	21	79.50	8
11	Kalaburagi	22	73.39	-	-	22
12	Kolar	20	87.28	6	27.78	14
13	Mandya	29	157.26	-	-	29
14	Mangaluru	27	132.98	8	30.40	19
15	Mysuru	22	191.46	-	-	22
16	Raichur	20	161.26	10	102.69	10
17	Ramanagara	23	101.26	4	22.47	19
18	SHDP	40	930.20	40	930.20	-
19	Shivamogga	26	76.63	4	6.49	22
20	Sirsi	20	54.31	6	15.07	14
21	Tumkur	26	118.68	1	3.96	25
Total			3292.70	232	1995.96	267
						1297.07

Appendix 3.3							
(Paragraph 3.1.5, Page 15) Plantation works							
Works with zero provision for Plantation works							
Units	Works Sanctioned Post Jan 2017	No.of Works	Sum of Administrative Approval Cost	Sum of Provision for Tree Plantation @ 1%	Sum of Provision made for Tree Plantation	Sum of Shortfall(+)/Excess(-)	(₹ in Crore)
Bagalkote	19	8	100.25	1.00	0.00	1.00	1.00
Bengaluru	18	3	35.99	0.36	0.00	0.36	0.36
Belagavi	14	4	33.28	0.33	0.00	0.33	0.33
Ballary	19	19	118.20	1.18	0.00	1.18	1.18
Bidar	16	16	95.50	0.96	0.00	0.96	0.96
Chikkodi	20	11	45.77	0.46	0.00	0.46	0.46
Chitradurga	20	17	93.85	0.94	0.00	0.94	0.94
Dharwad	22	22	124.40	1.24	0.00	1.24	1.24
Hassan	24	1	4.00	0.04	0.00	0.04	0.04
Kalburgi	20	20	76.55	0.77	0.00	0.77	0.77
Kolar	14	2	9.00	0.09	0.00	0.09	0.09
Mandya	24	5	26.15	0.26	0.00	0.26	0.26
Mangaluru	22	1	13.90	0.14	0.00	0.14	0.14
Raichur	15	15	127.38	1.27	0.00	1.27	1.27
Ramanagara	20	10	40.26	0.40	0.00	0.40	0.40
Shivamogga	21	8	15.30	0.15	0.00	0.15	0.15
Sirsi	18	18	58.81	0.59	0.00	0.59	0.59
Grand Total	326	180	1018.58	10.19	0.00	10.19	10.19
Works with Provision between 0 - 1% for Plantation Works							
Bagalkote	19	11	109.63	1.10	0.52	0.58	0.58
Bengaluru	18	4	22.70	0.23	0.21	0.02	0.02
Belagavi	14	10	61.60	0.62	0.41	0.21	0.21
Chikkodi	20	9	36.45	0.36	0.17	0.20	0.20
Chitradurga	20	2	5.00	0.05	0.05	0.00	0.00
Hassan	24	4	17.90	0.18	0.15	0.03	0.03
Kolar	14	4	20.50	0.21	0.17	0.04	0.04
Mandya	24	3	20.42	0.20	0.17	0.04	0.04
Mangaluru	22	2	19.95	0.20	0.16	0.04	0.04
Mysuru	18	15	144.78	1.45	0.95	0.50	0.50

Appendix 3.3							
(Paragraph 3.1.5, Page 15) Plantation works							
Works with zero provision for Plantation works							
Units	Works Sanctioned Post Jan 2017	No.of Works	Sum of Administrative Approval Cost	Sum of Provision for Tree Plantation @ 1%	Sum of Provision made for Tree Plantation	Sum of Shortfall(+)/Excess(-)	(₹ in Crore)
Ramanagara	20	2	16.95	0.17	0.13	0.03	0.03
SHDP	165	163	4430.51	44.31	35.96	8.34	8.34
Shivamogga	21	9	38.50	0.39	0.22	0.17	0.17
Tumkur	21	12	86.05	0.86	0.75	0.11	0.11
Grand Total	420	250	5030.94	50.31	40.01	10.31	10.31
Works with Provision of 1% or more for Plantation Works							
Bengaluru	18	11	50.79	0.51	0.51	0.00	0.00
Chikkamagaluru	22	22	103.75	1.04	1.04	0.00	0.00
Chitradurga	20	1	5.50	0.06	0.06	0.00	0.00
Hassan	24	19	96.86	0.97	0.97	0.00	0.00
Kolar	14	8	36.85	0.37	0.37	0.00	0.00
Mandya	24	16	129.65	1.30	1.30	0.00	0.00
Mangaluru	22	19	111.21	1.11	1.11	0.00	0.00
Mysuru	18	3	15.97	0.16	0.16	0.00	0.00
Ramanagara	20	8	55.78	0.56	0.56	0.00	0.00
SHDP	165	1	22.94	0.23	0.31	-0.08	-0.08
Shivamogga	21	4	14.70	0.15	0.15	0.00	0.00
Tumkur	21	9	32.50	0.33	0.33	0.00	0.00
Grand Total	89	121	676.50	6.76	6.85	-0.083	-0.083

Appendix 3.4 (Paragraph 3.2.1, Page 16) Excess provision in estimates (₹ in Crore)											
Sl. No.	Division	Indent No.	Estimated Cost	CVPD	CBR Value	VDF Adopted	MSA worked out	MSA as per IRC	BM Qty (cum)	Tender rate (₹/ cum)	Avoidable Expenditure
1	Sirsi	66380	3.50	138	5%	3.5	2.0	1.00	1,462.50	7,068.00	1.03
2	Sirsi	67682	1.75	112	2%	2.86	2.0	0.80	600.00	5,600.00	0.34
3	Sirsi	79426	4.75	122	7%	2.86	2.0	0.88	1,350.00	6,150.00	0.83
4	Sirsi	100127	5.00	110	4%	1.5	2.0	0.79	1,904.29	7,000.00	1.33
5	Shivamogga	37311	2.00	79	7%	3.5	3.0	0.57	1,224.71	7,570.25	0.93
6	Shivamogga	100488	6.00	98	4%	3.5	2.0	0.71	1,193.75	6,589.45	0.79
7	Kolar	66503	4.20	38	5%	4.5	2.0	0.30	1,582.09	5,349.00	0.85
8	Mangaluru	67557	2.75	145	9%	3.5	2.4	1.04	937.50	6,600.00	0.62
9	Mangaluru	81204	4.00	144	7%	3.5	1.8	0.78	2,144.90	7,000.00	1.50
10	Mangaluru	81440	4.03	142	8%	3.5	1.9	0.77	1,124.92	6,000.00	0.67
11	Mangaluru	104143	3.00	144	7%	3.5	1.9	0.78	479.94	6,715.00	0.32
12	Chitradurga	41181	4.95	92	7%	3.5	1.6	0.66	2,279.41	7,000.00	1.60
13	Hassan	95130	3.50	121	7.2 - 7.8%	3.5	2.0	0.87	993.75	6,666.86	0.66
14	Hassan	77664	1.76	130	8%	3.5	2.2	0.94	862.13	5,030.00	0.43
15	Ramanagara	93211 (D)	8.50	104	8%	3.5	2.0	0.84	444.70	9,000.00	0.40
	Ramanagara	93211 (B)	8.50	98	8%	3.5	2.0	0.79	99.83	5,498.33	0.05
16	Ramanagara	85027 (C)	8.45	120	8-10%	3.5	2.0	0.97	187.50	6,296.97	0.12
	Ramanagara	85027 (D)	8.45	98	8-10%	3.5	2.0	0.79	337.50	6,296.97	0.21
17	Tumkur	98936	4.00	125	11%	3.5	4.0	0.67	843.75	5,120.00	0.43
Total			89.09								13.12

In respect of Sl. No. 4, against LDF value of 1, value 2 was wrongly adopted

Appendix 3.5							
(Paragraph 3.2.2, Page 17) Provision and execution of excessive thickness of GSB							
Sl. No.	Work Indent No.	Division	Contract Value	Description (L*B*D)	Qty in cum	Tender rate (₹/cum)	Avoidable Expenditure (₹ in Crore)
1	91593	Chikkamagaluru	5.80	5350*3.3*0.1	1,765.50	1,986.78	0.35
				5350*3.3*0.1	1,765.50	1,986.78	0.35
2	35132	Kolar	12.02	9883*7.2*0.05	3,557.88	1,424.68	0.51
				500*7.9*0.05	197.50	1,424.68	0.03
3	66619	Kolar	6.58	795*3.75*0.150	447.20	1,450.00	0.06
				1325*3.75*0.150	745.30	1,450.00	0.11
				459*3.75*0.100	172.13	1,970.00	0.03
4	101604	Kolar	2.86	1024*3.75*0.150	576.00	1,970.00	0.11
				1409*3.75*0.150	792.56	1,970.00	0.16
				820*3.75*0.150	461.25	1,970.00	0.09
5	134343	Ballary	11.03	2095*5.6*0.05	586.60	2,176.00	0.13
				2500*5.6*0.05	700.00	2,176.00	0.15
6	43397	Raichur	9.21	4200*3.75*0.100	1,575.00	1,627.16	0.26
				3600*3.75*0.100	1,350.00	1,627.16	0.22
7	72141	Raichur	7.75	5300*3.75*0.100	1,987.50	2,120.00	0.42
Total			55.26				2.98

Appendix 3.6 (Paragraph 3.2.3, Page 17) Wasteful expenditure on providing WMM beyond carriageway											
Sl. No.	Division	Work Indent No.	Est Cost (₹ in crore)	Chainages	Provided (L*B*D)	Qty (in cum)	To be provided as per MORT&H (L*B*D)	Qty (in cum)	Difference (cum)	Tender Rate (₹/cum)	Wasteful Expenditure (₹ in Lakh)
1	Kolar	66340	4.00	98400 - 99400	1000*7*0.25	1,750	1000*5.7*0.25	1,425.00	325.00	1,510	4.91
				99400 - 100028	628*7*0.25	1,099	628*5.7*0.25	894.90	204.10	1,510	3.08
				100028 - 100540	512*7*0.2	716.8	512*5.7*0.2	583.68	133.12	1,510	2.01
				100540 - 101400	860*7*0.25	1,505	860*5.7*0.2	1,225.50	279.50	1,510	4.22
				101400 - 102200	800*7*0.25	1,400	800*5.7*0.25	1,140.00	260.00	1,510	3.93
				102200 - 102800	600*6.5*0.22	858	600*5.7*0.22	752.40	105.60	1,510	1.59
2	Tumkur	89318	4.95	5100 - 9000	4113*6.00*0.25	6,169.5	4113*5.5*0.25	5,655.40	514.10	1,920	9.87
3	Tumkur	79927	3.20	1900 - 2450	550*6.25*0.25	859.38	550*5.5*0.25	756.25	103.13	2,000	2.06
4	Mangaluru	84970	15.00	5308 to 5418 LS	1100*9.2*0.25	2,530	1100*7.5*0.25	2,062.5	467.50	2,440	11.41
	Total		27.15	5218 to 5308	900*18.4*0.25	4,140	900*15*0.25	3,375	765.00	2,440	18.67
											61.75

In Mangaluru Division, WMM was provided on Median

Appendix 3.7						
(Paragraph 3.2.4, Page 18) Adoption of incorrect item rate for removal of bituminous surface (₹ in Crore)						
Sl. No.	Division	No. of works	Est Cost	Qty scarified (in Sqm)	Excess payment	
1	Bengaluru	14	83.22	3,35,435.16	1.03	
2	Chikkamagaluru	16	77.25	3,04,057.50	0.82	
3	Chitradurga	10	56.45	1,74,255.56	0.44	
4	Dharwad	3	18.10	50,754.00	0.14	
5	Hassan	21	92.29	2,61,273.24	0.63	
6	Kalburgi	11	40.20	2,11,321.75	0.61	
7	Kolar	12	58.15	93,408.90	0.32	
8	Mangaluru	10	34.10	54,176.01	0.26	
9	Mysuru	3	20.40	42,051.00	0.10	
10	Ramanagara	12	74.38	3,20,566.58	0.71	
11	Shivamogga	12	47.50	1,45,501.50	0.49	
12	Sirsi	1	1.50	6,485.00	0.02	
13	Tumkur	13	93.20	3,00,835.50	1.20	
	Grand Total	138	696.74	23,00,121.70	6.78	

Appendix 3.8										
(Paragraph 3.2.5, Page 18) Excess payment due to less consumption of bitumen										
Sl. No.	Indent No.	Division	Agreement No.	Est. Cost (₹ in crore)	BC Qty (in cum)	Bitumen to be used as per SR (MT)	Bitumen used as per JMF (MT)	Difference of bitumen used (MT)	SR Rate for 60/70 grade bitumen bulk (₹/MT)	Savings to Contractor (₹ in lakh)
1	77317	Hassan	611/30-01-18	5.00	4,435.20	625.36	562.83	62.54	31,172.00	19.49
2	91958	Hassan	153/23-07-19	4.95	1,172.10	165.27	148.74	16.53	38,283.00	6.33
3	86438	Hassan	404/01-01-18	3.00	315.00	44.42	39.97	4.44	38,283.00	1.70
4	95524	Chikkamagaluru	03/2019-20	8.00	940.5	132.61	119.35	13.26	38,283.00	5.08
5	91593	Chikkamagaluru	731/2018-19	6.50	883	124.50	112.05	12.45	38,283.00	4.77
6	98597	Chikkamagaluru	72/2019-20	4.90	675	95.18	85.66	9.52	38,283.00	3.64
7	98648	Chikkamagaluru	131/2020-21	4.00	861.3	121.44	109.30	12.14	38,283.00	4.65
8	98656	Chikkamagaluru	892/2019-20	7.00	577.5	81.43	73.28	8.14	38,283.00	3.12
9	98676	Chikkamagaluru	118/2019-20	4.30	693	97.71	87.94	9.77	38,283.00	3.74
	Total			47.65	10552.60	1487.92	1339.12	148.79		52.51

Appendix 3.9							
(Paragraph 3.2.6 (a), Page 19) Uneconomical execution of 'Clearing & Grubbing'							
(₹ in Crore)							
Sl. No.	Division	No. of Works	Estimated Cost	Item Adopted	Quantity (in Sqm)	Item to be adopted	Excess Payment
1	Bengaluru	12	68.53	18.11	254671.00	18.15	0.14
2	Chikkamagaluru	23	111.55	18.11	303704.00	18.15	0.17
3	Hassan	14	78.46	18.11	316765.34	18.15	0.14
4	Mandya	16	132.00	18.11	246247.69	18.15	0.17
5	Mangaluru	10	38.30	18.11	79400.44	18.15	0.03
6	Mysuru	15	126.50	18.11	202209.00	18.15	0.09
7	Ramanagara	5	11.73	18.11	33052.12	18.15	0.01
8	SHDP	69	1868.53	18.11	5484183.40	18.15	2.05
9	Shivamogga	6	20.00	18.11/18.13	137590.00	18.15	0.05
10	Sirsi	6	20.55	18.11	33400.25	18.15	0.02
11	Tumkur	15	92.95	18.11	252788.00	18.15	0.17
Grand Total			2569.10		7344011.24		3.05

Appendix 3.10 (Paragraph 3.2.6 (b), Page 19) Uneconomical execution of 'Roadway excavation'									
Sl. No.	Division	Indent No.	Contractor	Agreement No.	Executed Quantity (cum)	Rate to be paid (including TP & AW) (₹/cum)	Rate Paid (₹/cum)	Difference in Rate (₹/ cum)	Excess Payment (₹ lakh)
1	Chikkamagaluru	49290	T. Ravi	02/2016-17	11,014.00	53.40	91.35	37.95	4.19
2	Chikkamagaluru	49494	S. H. Mayyaddi	359/2015-16	12,371.00	56.70	97.10	40.40	5.00
3	Chikkamagaluru	49352	T. M. Naseer	50/2016-17	23,197.00	61.00	104.37	43.37	10.05
4	Mandya	76054	B T Suresh	475/2017-18	1,996.45	47.03	569.00	521.97	10.42
5	Ramanagara	44172	Arvind B G	350/01-03-19	14,108.15	51.23	133.77	82.54	11.64
Total									41.30

Appendix 3.11 (Paragraph 3.2.7, Page 19) Incorrect application of Primer / Tack coat										
Sl. No.	Division	Indent No.	Est. Cost (₹ in crore)	Description of Item	SR Item adopted	Tender Rate Paid (₹/sqm)	Rate to be paid including TP & AW (₹/sqm)	Difference in Rate (₹/sqm)	Executed Quantity (sqm)	Extra Expenditure (₹ lakh)
1	Chikkamagaluru	49290	7.50	Primer Coat	21.5	66.43	38.43	28.00	43300.29	12.12
2	Kolar	35132	16.00	Primer Coat	21.5	76.96	36.83	40.13	68299.00	27.41
				Tack Coat	21.10.2	23.73	15.26	8.47	68950.00	5.84
3	Dharwad	105070	5.10	Tack Coat	21.9	20.00	12.57	7.43	31500.00	2.34
						19.45	12.57	6.88	13794.25	0.95
4	Dharwad	107004	8.00	Tack Coat	21.9	20.00	13.14	6.86	41340.00	2.84
5	Hassan	25383	22.00	Primer Coat	21.4.1	95.00	53.93	41.07	28932.30	11.88
				Primer Coat	21.4.1	90.00	53.93	36.07	59938.18	21.62
Total									58.60	85.00

Appendix 3.12
(Paragraph 3.2.8, Page 20) Incorrect inclusion of incidental work as separate item

Sl. No.	Division	Indent No.	Est. Cost (₹ in crore)	Contractor	Tender Rate (₹/sqm)	Quantity (in sqm)	Amount (₹ lakh)
1	Chikkamagaluru	49290	7.50	T. Ravi	14.24	43,675.50	6.22
2	Kolar	41409	3.00	B. M.Chandregowda	3.42	60,852.15	2.08
3	Kolar	66619	8.00	B. M.Chandregowda	3.00	25,343.15	0.76
4	Kolar	123885	6.00	V. Krishna Reddy	5.00	6,325.00	0.32
5	Mysuru	88043	4.60	Dinesh Kumar V. T.	4.00	32,081.00	1.28
6	Mysuru	119581	10.00	Govindgowda & Sons	5.15	99,233.00	5.11
7	Mysuru	119622	25.00	M/s P Venkatareddy	6.00	1,55,490.00	9.33
8	Shivamogga	65049	2.50	Balachandra S. Mule	3.00	27,000.00	0.81
9	Shivamogga	66134	3.50	Santosh Veerayya Hiremath	4.00	48,375.00	1.94
10	Shivamogga	101932	9.60	Manjushri Construction Company	3.92	21,787.00	0.85
11	Sirsi	59730	1.50	Neelakanta R. Naik	2.50	10,162.00	0.25
12	Sirsi	60713	2.00	S. K. Abbigeri	3.00	81,601.00	2.45
13	Sirsi	99198	5.00	Shanmukappa R. Ballary	6.00	99,198.00	5.95
14	Tumkur	65938	2.40	C. R. Girish (Ram & Company)	3.00	7,500.00	0.23
15	Tumkur	81601	4.00	Rakshith (K Gowda & Company)	3.51	1,135.00	0.04
16	Tumkur	100818	36.40	Srinivasa Rao Balusu (BSR InfraTech India Ltd.)	5.25	40,118.00	2.11
17	Bengaluru	41290	8.00	Ramesh Thammana Gouda	3.09	36,850.00	1.14
	Total		139.00				40.86

Appendix 3.13												
(Paragraph 3.2.9, Page 20) Provision of excess Cement in construction of Cement Concrete Roads												
Sl. No.	Unit	Estimated Amount	DLC				PQC				Total Extra Cement Provision (in cum)	Extra Expenditure or Undue Benefit to Contractors
			Min Cement Content as per MoRTH for DLC (in Kgs)	Cement Content Actually Provided (in Kgs)	DLC Qty (in cum)	Extra Cement Content (in Quintals)	Min Cement Content for CC Pavement as per MoRTH (in Kgs)	Actually provided (in Kgs)	CC Pavement Qty (in cum)	Extra Cement Content (in Quintals)		
1	SHDP	1,294.85	150	160	7,708.00	770.80	360	420	1,38,842.00	8330.500	9,101.3	4.40
2	Mangaluru	60.35	150	160	2,732.00	273.20	360	420	14,673.00	880.40	1,153.6	0.53
3	Chitradurga	29.75	150	160	7,179.10	717.90	360	420	14,142.50	848.50	1,566.5	0.42
4	Dharwad	31.50	150	160	3,375.70	337.60	360	420	6,358.00	381.50	719.0	0.28
5	Chikkodi	14.67	150	160	5,721.60	572.20	360	420	9,875.40	592.50	1,164.7	0.39
6	Ballary	11.10	150	160	4,145.00	414.50	360	420	7,359.00	441.5	856.0	0.24
Total		1442.22										6.27

Appendix 3.14						
(Paragraph 3.2.10, Page 21) Non-utilisation of earth obtained from roadway cutting						
Division	No. of Works	Est. Cost	Qty of Available Earth (cum)	Embankment with Borrowed Soil (cum)		Avoidable Expenditure
				Est. Cost	Qty of Available Earth (cum)	
Chitradurga	6	13.30	42,340.72	41,981.90	0.43	0.43
Dharwad	2	9.20	4,036.21	888.75	0.03	0.03
Hassan	2	5.76	8,763.25	71,870.35	0.10	0.10
Mangaluru	2	22.50	91,083.31	21,530.79	0.48	0.48
Ramanagara	2	9.90	12,960.50	11,961.00	0.09	0.09
Shivamogga	13	46.09	1,17,970.00	1,10,774.00	1.63	1.63
Grand Total	27	106.75	2,77,153.99	2,59,006.79	2.76	2.76

Appendix 3.15

(Paragraph 3.2.11, Page 22) Excess quantity of Road Studs

Sl. No.	Division	Indent No.	Est. Cost (₹ in crore)	CER No.	Length (in meters)	Road Stud to be fixed as per IRC @ m interval	Road Stud fixed	Tender Rate (₹ per Road Stud)	Excess Expenditure (₹ in lakh)
1	Tumkur	79927	3.20	1062/17-18	$550/6*3=275$	275	1650	404.55	5.56
2	Tumkur	89823	4.00	106/18-19	$2550/6*3 = 1275$	1275	3500	337.00	7.50
3	Chikkodi	76698	6.00	1178/17-18	$1440/6*3 = 720$	720	2000	429.00	5.49
4	Belagavi	127889	9.00	66/20-21	$2000*3/6=1000$	1000	3195	289.00	6.34
Total			22.20						24.89

Appendix 3.16 (Paragraph 3.3, Page 21) Road Safety Audit					
Sl. No.	Division	CER No.	Indent No.	Estimated Cost (₹ in crore)	
1	Mysuru	704/2017-18	78435	27.15	
2	Mysuru	708/2017-18	70022	10.00	
3	Mysuru	823/2017-18	76564	14.70	
4	Mysuru	250/2019-20	119581	10.00	
		253/2019-20			
5	Mysuru	252/2019-20	119622	25.00	
		254/2019-20			
		158/2020-21			
		159/2020-21			
6	Mysuru	160/2020-21	137303	25.00	
		165/2020-21			
		166/2020-21			
7	Mandya	116, 117/19-20	102693	11.30	
8	Mandya	12/20-21	127301	10.00	
9	Mangaluru	09/2020-21	117867	50.00	
10	Mangaluru	26/2020-21	128656	13.90	
11	Chitradurga	290/19-20	98133	10.00	
12	Chitradurga	17/20-21	115695	18.00	
13	Bidar	234/2020-21	132470	10.00	
14	Belagavi	244/2019-20	107357	10.00	
15	Bagalkote	-	70582	13.65	
16	Bagalkote	239/2019-20	92709	35.10	
17	Bagalkote	190/2019-20	99950	55.00	
18	Bagalkote	-	116696	13.25	
Total				362.05	

Appendix 4.1 (Paragraph 4.1.1, Page 23) Restrictive tender conditions (₹ in crore)						
Sl. No.	Division	No. of Works	No. of works above eligible but only Class-I were invited	Amount put to Tender	No. of works Class-II eligible but only Class-I were invited	Amount put to Tender
1	Shivamogga	26	10	13.70	14	49.16
2	Mysuru	22	0	0.00	5	20.78
3	Kolar	20	1	1.30	5	19.39
4	Tumkur	26	0	0.00	6	18.43
5	Mandya	29	4	3.90	5	16.78
6	Ramanagara	23	0	0.00	0	0.00
7	Hassan	29	5	6.27	3	10.94
8	Chikkamagaluru	27	0	0.00	2	7.49
9	Sirsi	20	7	10.09	6	23.37
10	Kalburgi	22	0	0.00	10	33.70
11	Mangaluru	27	2	3.37	11	41.51
12	Dharwad	24	0	0.00	0	0.00
13	Chitradurga	25	6	4.88	13	53.26
14	Raichur	20	0	0.00	0	0.00
15	Ballary	19	1	1.78	13	67.19
16	Bengaluru	19	0	0.00	3	11.85
17	Chikkodi	21	0	0.00	0	0.00
18	Bidar	20	0	0.00	0	0.00
19	Belagavi	20	0	0.00	0	0.00
20	Bagalkote	20	0	0.00	0	0.00
Total		459	36	45.29	96	373.85

Appendix 4.2 (Paragraph 4.1.1, Page 23) Restrictive tender conditions					
Sl. No.	Indent No.	APT (₹ in crore)	Item code as per SR	Machineries required	Machineries insisted in Bid Document
1	97286	2.66	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
2	97307	2.68	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
3	97313	2.23	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
4	97316	2.23	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
5	97317	2.68	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
6	97319	3.12	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
7	97341	3.11	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
8	97373	5.32	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
9	105577	4.43	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
10	113357	3.39	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
11	113588	2.68	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
12	113993	4.37	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
13	114153	1.78	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
14	114999	4.20	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
15	119560	3.82	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
16	135073	4.19	21.11.6, 21.20.6	40/60 TPH HMP, Mechanical Paver	100/120 TPH HMP, Sensor Paver
	Total	52.90			

Appendix 4.2(a)										
(Paragraph 4.1.1, Page 24) Restrictive tender conditions										
Sl. No	Indent No.	Estimate Contract Value (₹ in crore)	Completion Period (in Months)	Technical Bids	Remarks	Financial Bids	Bid Evaluation Start Date	Financial Bid Approval Date	Time taken to Finalise Bid (in months)	Remarks
1	65364	2.39	6	ACR Projects	Accepted	L1	10-08-2017	23-10-2018	14	L1 and L2 was rejected after opening of financial bid and work was awarded to L3 at L1 rate
				Balaji Projects	Accepted	L2				
				Ramesh Thammanagowda	Accepted	L3				
				M Venkatarama Reddy	Accepted	L4				
				Sachin Kollur	Accepted	L5				
2	65425	2.94	6	Balaji Projects	Accepted	L1	10-08-2017	27-02-2019	18	L1 was rejected after opening of financial bid and work was awarded to L2 at L1 rate
				M Venkatarama Reddy	Accepted	L2				
				Ramesh Thammanagowda	Accepted	L3				
				Sachin Kollur	Accepted	L4				
				Karthik Enterprises	Accepted	L1				
3	65596	8.39	6	BNN Constructions	Rejected		10-08-2017	27-02-2019	18	L1 was rejected after opening of financial bid and work was awarded to L2 at L1 rate
				M Venkatarama Reddy	Accepted	L2				
				Sreenivas Constructions	Rejected					
				Nagesh Mayyana	Rejected					
				Ramesh Thammanagowda	Accepted	L3				
				Balaji Projects	Rejected for 90-120 TPH					
				Nirman Engineers	Accepted	L2				
Ramesh Thammanagowda	Accepted	L3								
4	65763	2.95	6	Sachin Kollur	Accepted	L4	10-08-2017	23-10-2018	14	L1 and L2 was rejected after opening of financial bid and work was awarded to L3 at L1 rate
				Balaji Projects	Accepted	L1				
				Uday Shivakumar	Rejected					
				Balaji Projects	Accepted	L1				
				Ramesh Thammanagowda	Accepted	L2				
5	65765	2.92	6	Sachin Kollur	Accepted	L3	10-08-2017	23-10-2018	14	L1 was rejected after opening of financial bid and work was awarded to L2 at L1 rate
				Uday Shivakumar	Rejected					
Total		19.59								

Appendix 4.3

(Paragraph 4.1.2, Page 25) Inadequate time for submission of bids

Sl. No.	APT	Cut-off Date	Time to be Provided (Days)	Works provided with sufficient time	Cost of work (₹ in crore)	Works not provided with sufficient time	Cost of work (₹ in crore)	Delay Range (Days)
1	Up to 2 Cr	Before 07/09/2019	30	8	11.63	53	64.83	7 days - 29 days
2	More than 2 Cr	Before 07/09/2019	60	13	229.27	334	2418.61	2 days - 54 days
3	Up to 2 Cr	After 07/09/2019	15	4	4.08	6	6.43	9 days - 13 days
4	More than 2 Cr	After 07/09/2019	30	5	61.2	76	476.42	8 days - 28 days
Total				30	306.18	469	2966.29	

Appendix 4.4 (Paragraph 4.1.4, Page 26) NITs issued before technical approval					
Sl. No.	Division	Work Indent	Est. Cost (₹ in crore)	Date of technical sanction	Dates of publication of NITs and corrigenda
1	Mandya	94287	25.60	17.12.2018	05.12.2018 19.12.2018
2	Mandya	88619	0.72	07.12.2018	19.09.2018 06.10.2018 30.11.2018 07.12.2018
3	Mandya	92641	8.00	11.12.2018	25.09.2018 14.10.2018 14.12.2018
4	Mandya	93471	9.00	16.12.2018	25.09.2018 14.10.2018 22.12.2018
5	Mandya	93631	9.60	16.12.2018	30.09.2018 11.10.2018 22.12.2018 22-01-2019
6	Mandya	92622	9.60	11.12.2018	25.09.2018 14.10.2018 14.12.2018
Total			62.52		

Appendix 4.5											
(Paragraph 4.1.5, Page 27) Deficiencies in enlistment of contractors											
Sl. No.	Class of Contractor	No. of Cases Test Checked	No of cases without Solvency certificate	No of cases without Single Work	No. of Engineering Graduates without Work Experience	Confirmation of Workdone Certificate not obtained	No of cases without adequate Turn over	No of cases without Income Tax certificate	No of cases without GST/TIN Registration certificate	No of cases without proof of Technical personnel	No of cases without Pan Card details
1	Class I	69	9	38	-	14	18	17	0	1	7
2	Class II	61	3	32	-	15	22	19	0	4	9
3	Class III	191	32	40	70	103	103	174	20	0	13
Total		321	44	110	70	132	143	210	20	5	29

Appendix 4.6

(Paragraph 4.2.2, Page 30) Irregular acceptance of tenders

(₹ in crore)

Sl. No.	Indent No.	Division	APT	Contract Amount	APT as per C.S.R	T.P (%)	Contract Amount with 10% T.P	Extra Cost
1	37311	Shivamogga	1.92	2.19	1.92	14.00	2.11	0.08
2	39641	Shivamogga	1.99	2.21	1.99	11.00	2.19	0.02
3	51874	Shivamogga	3.95	4.46	3.95	12.99	4.35	0.12
4	78632	Mysuru	7.26	8.28	7.26	13.99	7.99	0.29
5	70022	Mysuru	8.84	10.13	8.85	14.50	9.73	0.40
6	50167	Kolar	5.84	6.60	5.84	12.99	6.42	0.17
7	35132	Kolar	10.64	12.02	10.64	12.98	11.70	0.32
8	42034	Tumkur	4.20	4.86	4.32	12.50	4.76	0.11
9	42353	Tumkur	1.79	2.05	1.84	11.30	2.02	0.02
10	74797	Tumkur	3.16	3.57	3.16	12.99	3.48	0.09
11	81601	Tumkur	3.85	4.35	3.85	12.99	4.23	0.12
12	76686	Chikkamagaluru	4.78	5.40	4.78	12.99	5.26	0.14
13	82323	Chikkamagaluru	4.68	5.84	4.71	24.07	5.18	0.66
14	66385	Sirsi	4.08	4.50	3.98	12.99	4.38	0.12
15	67849	Sirsi	2.35	2.52	2.23	12.99	2.45	0.07
16	40836	Kalaburagi	1.99	2.25	1.99	12.99	2.19	0.06
17	41125	Kalaburagi	2.50	2.80	2.50	12.00	2.75	0.05
18	65568	Kalaburagi	2.85	3.17	2.80	12.99	3.08	0.08
19	77317	Hassan	4.79	5.42	4.79	12.99	5.27	0.14
20	77068	Hassan	4.51	5.09	4.51	12.99	4.96	0.13
21	77506	Hassan	14.40	16.63	14.40	15.50	15.84	0.79
22	48101	Mangaluru	5.13	6.36	5.13	24.00	5.64	0.72
23	48124	Mangaluru	1.27	1.57	1.27	24.00	1.39	0.18
24	65194	Mangaluru	1.89	2.14	1.89	12.99	2.08	0.06
25	65788	Mangaluru	3.70	4.18	3.70	12.99	4.07	0.11
26	67053	Mangaluru	4.42	4.99	4.42	12.99	4.86	0.13
27	67557	Mangaluru	2.44	2.91	2.44	19.50	2.68	0.23
28	41017	Chitradurga	3.82	4.31	3.82	12.99	4.20	0.11

SI. No.	Indent No.	Division	APT	Contract Amount	APT as per C.S.R	T.P (%)	Contract Amount with 10% T.P	Extra Cost
29	41181	Chitradurga	4.56	5.15	4.56	12.99	5.01	0.14
30	41431	Chitradurga	1.10	1.25	1.10	12.99	1.22	0.03
31	65063	Dharwad	22.09	32.11	24.29	32.18	26.72	5.39
32	81308	Dharwad	4.04	4.79	4.28	11.99	4.70	0.09
33	65894	Belagavi	5.63	6.36	5.63	12.99	6.20	0.17
34	79823	Belagavi	3.94	4.45	3.94	12.99	4.34	0.12
35	67417	Chikkodi	0.98	1.11	0.98	12.99	1.08	0.03
36	80017	Chikkodi	4.90	5.55	4.83	14.99	5.31	0.24
37	79342	Ballary	3.14	7.80	6.90	12.99	6.90	0.90
38	80926	Ballary	3.54	4.07	3.54	14.99	3.54	0.53
39	50191	Raichur	2.73	3.41	3.03	12.50	3.03	0.38
40	67216	Raichur	3.78	4.25	3.69	14.99	3.69	0.55
41	72141	Raichur	6.86	7.75	6.90	12.45	6.90	0.86
42	65146	Bengaluru	4.66	4.92	4.35	12.99	4.35	0.57
43	67578	Bengaluru	25.56	27.55	24.38	13.00	24.38	3.17
Total			220.55	261.32	225.38		242.63	18.69

Appendix 4.7 (Paragraph 4.2.3, Page 31) Irregular rejection of tenders						
Sl. No.	Phase	Number of Packages	Total Bids received	Number of Bids rejected for non-submission of BG for EMD		Number of Financial Bids opened
				Bids rejected without opening Technical Bid	Bids rejected after opening Technical Bid	
1	Phase III	126	423	71	9	281
2	Phase IV	5	23	9	0	12
Total		131	446	80	9	293

Appendix 4.8 (Paragraph 4.2.3, Page 31) Irregular rejection of tenders			
Sl. No.	Agency	Package No.	APT (₹ in crore)
1	Abdul Muneer (M/s Concord Constructions	204	31.26
		205	27.01
		256	34.69
		258	28.64
2	BS Gaonkar	169	27.36
		170	39.14
		187	22.23
		188	29.96
		164	17.26
		165	38.82
3	NB Hiremath	167	30.36
		168	21.38
		169	27.36
		171	41.43
		172	18.51
		186	44.57
		187	22.23
188	29.96		
197	20.94		
198	24.21		

Appendix 4.9			
(Paragraph 4.2.5, Page 32) Acceptance of unauthenticated Turnover Certificates			
Sl. No.	Division	No. of Works	APT (₹ in crore)
1	Ballary	14	79.67
2	Belagavi	10	69.03
3	Bengaluru	11	44.58
4	Chikkamagaluru	8	35.48
5	Chikkodi	11	44.89
6	Chitradurga	11	58.39
7	Dharwad	8	41.36
8	Hassan	6	15.36
9	Kolar	6	23.99
10	Mandya	10	55.72
11	Mangaluru	10	64.49
12	Mysuru	7	52.62
13	Raichur	10	76.74
14	Ramanagara	5	3.10
15	Shivamogga	10	37.19
16	Sirsi	9	28.46
17	Tumkur	11	70.65
Total			801.72
		157	

Appendix 4.10					
(Paragraph 4.2.9, Page 34) Non-forfeiture of Earnest Money Deposit					
Sl. No.	Indent No/ Package No.	Division	APT (₹ in crore)	Name of the bidder	Earnest Money Deposit (₹)
1	160	SHDP	31.75	B Bhaskar Naidu (M/s Sheetal Constructions)	100000
2	256			Apoorva Constructions	100000
3	65498	Chikkamagaluru	3.95	N Nandeshwara	592500
4	65501			N Nandeshwara	702560
5	106334		1.56	NR Nayak & Co	234295
				RS Sajjan Shettar	100000
6	101698	Sirsi	2.23	SB Dundi Goudar (Bannur Infra Private Ltd)	100000
				Kamalakishore Hegde	334630
7	101531		1.34	NR Nayak & Co	334630
				SB Dundi Goudar (Bannur Infra Private Ltd)	100000
8	106320		1.71	RS Sajjan Shettar	100000
10	97818	Dharwad	1.74	NR Nayak & Co	257110
11	104733		DM Addrakatti	261000	
12	102228		DM Addrakatti	200000	
Total			85.81		3516725

Appendix 4.11 (Paragraph 4.3.1, Page 36) Delay in finalisation of contracts							
Sl. No	Name of the Division	No. of works	Contract Amount (₹ in crore)	No. of bids finalised without delay	No. of bids finalised within 91-120 days	No. of bids finalised within 121-180 days	No. of bids finalised beyond 180 days
1	Bagalkote	20	202.48	5	6	5	4
2	Ballary	19	116.46	11	2	1	5
3	Belagavi	20	136.79	11	2	5	2
4	Bengaluru	19	111.18	5	0	4	10
5	Bidar	20	116.92	5	3	4	8
6	Chikkamagaluru	27	135.35	11	4	7	5
7	Chikkodi	21	91.40	13	3	1	4
8	Chitradurga	25	110.92	4	6	6	9
9	Dharwad	24	141.64	7	1	7	9
10	Hassan	29	129.89	21	3	4	1
11	Kalaburagi	22	76.68	11	1	10	0
12	Kolar	20	90.29	6	3	3	8
13	Mandya	29	159.47	20	2	1	6
14	Mangaluru	27	142.44	5	7	7	8
15	Mysuru	22	206.14	13	3	3	3
16	Raichur	20	173.74	5	3	4	8
17	Ramanagara	23	107.22	8	6	6	3
18	SHDP	40	1075.01	30	5	1	4
19	Shivamogga	26	80.28	13	3	6	4
20	Sirsi	20	52.53	5	2	5	8
21	Tumkur	26	126.44	11	6	2	7
	Grand Total	499	3583.27	220	71	92	116

Appendix 4.12

(Paragraph 4.3.1, Page 36) Delay in finalisation of contracts

Sl. No.	Division	No. of Works	Contract Amount (₹ in crore)	Range of Delay in Issue of Work Order beyond 20 Days
1	Bagalkote	8	107.49	2 to 63
2	Ballary	4	16.93	5 to 28
3	Belagavi	8	64.00	3 to 63
4	Bidar	7	36.24	8 to 57
5	Chikkodi	2	7.92	6 to 15
6	Chikkamagaluru	4	15.96	2 to 85
7	Kalburgi	5	14.96	3 to 54
8	Kolar	11	59.46	2 to 181
9	Mysuru	6	32.46	5 to 98
10	Sirsi	3	7.20	1 to 68
11	Tumkur	7	27.19	4 to 30
Total		65	389.81	1 to 181

Appendix 4.13					
(Paragraph 4.3.3, Page 38) Insurance cover not provided by contractors					
Sl. No.	Division	No. of Works (KW-4)	Total Contract Value excluding GST (₹ in crore)	Insurance Premium (₹ in lakh)	
1	Bagalkote	20	202.48	16.20	
2	Bengaluru	19	111.18	8.89	
3	Belagavi	20	136.79	10.94	
4	Ballary	19	116.46	9.32	
5	Bidar	19	116.46	9.32	
6	Chikkodi	20	90.43	7.23	
7	Chikkamagaluru	27	135.35	10.83	
8	Chitradurga	21	108.35	8.67	
9	Dharwad	21	140.01	11.20	
10	Hassan	28	129.49	10.36	
11	Kalburgi	22	76.68	6.13	
12	Kolar	20	90.29	7.22	
13	Mandya	24	156.60	12.53	
14	Mangaluru	24	140.11	11.21	
15	Mysuru	22	206.14	16.49	
16	Raichur	20	173.74	13.90	
17	Ramanagara	18	104.50	8.36	
18	Shivamogga	22	77.14	6.17	
19	Sirsi	19	51.72	4.14	
20	Tumkur	26	126.44	10.11	
Total			2490.36	199.22	

Appendix 4.14										
(Paragraph 4.3.5, Page 40) Defect Liability Period										
(₹ in crore)										
Division	Works with 1-year DLP			Works with 2 years DLP			Total			
	No. of Works	Estimate Cost	Contract Value	No. of Works	Estimate Cost	Contract Value	No. of Works	Estimate Cost	Contract Value	Contract Value
Bagalkote	20	219.81	202.48	0	0.00	0.00	20	219.81	202.48	202.48
Bengaluru	4	42.05	42.35	15	75.43	68.83	19	117.48	111.18	111.18
Belagavi	20	138.88	136.79	0	0.00	0.00	20	138.88	136.79	136.79
Ballary	19	118.20	116.46	0	0.00	0.00	19	118.20	116.46	116.46
Bidar	20	117.20	116.92	0	0.00	0.00	20	117.20	116.92	116.92
Chikkodi	21	92.22	91.40	0	0.00	0.00	21	92.22	91.40	91.40
Chikkamagaluru	3	18.65	16.42	24	120.10	118.93	27	138.75	135.35	135.35
Chitradurga	25	118.10	110.92	0	0.00	0.00	25	118.10	110.92	110.92
Dharwad	24	141.90	141.64	0	0.00	0.00	24	141.90	141.64	141.64
Hassan	0	0.00	0.00	29	128.79	129.89	29	128.79	129.89	129.89
Kalburgi	22	91.05	76.68	0	0.00	0.00	22	91.05	76.68	76.68
Kolar	20	107.35	90.29	0	0.00	0.00	20	107.35	90.29	90.29
Mandya	29	191.41	159.47	0	0.00	0.00	29	191.41	159.47	159.47
Mangaluru	0	0.00	0.00	27	170.11	142.44	27	170.11	142.44	142.44
Mysuru	22	218.25	206.14	0	0.00	0.00	22	218.25	206.14	206.14
Raichur	20	180.88	173.74	0	0.00	0.00	20	180.88	173.74	173.74
Ramanagara	22	119.42	106.80	1	0.50	0.42	23	119.92	107.22	107.22
SHDP	0	0.00	0.00	40	980.25	1075.01	40	980.25	1075.01	1075.01
Shivamogga	26	84.00	80.28	0	0.00	0.00	26	84.00	80.28	80.28
Sirsi	20	62.31	52.53	0	0.00	0.00	20	62.31	52.53	52.53
Tumkur	26	132.55	126.44	0	0.00	0.00	26	132.55	126.44	126.44
Grand Total	363	2194.23	2047.77	136	1475.18	1535.52	499	3669.40	3583.28	3583.28

Appendix 4.15 (Paragraph 4.3.7, Page 41) Award of works without ensuring availability of land (₹ in crore)									
Sl. No.	Division	Indent No	Est. Cost	Contract value	Scheduled Completion period	Due date of Completion	Amount paid to contractor	Remarks	
1	SHDP	223	20.50	21.31	11 months	May-17	15.82	Failed to take Forest Department permission	
2	Mandya	67060	7.00	2.05	NA	NA	NA	Tender was finalised on 11-10-2018. But LOA was not issued due to land problem and contractor requested for cancellation and release of EMD due to inordinate delay	
3	Ramanagara	91153	2.70	2.28	5 months	26-07-2019	1.13	Failed to take Forest Department permission. Work stopped after laying WMM	
4	Hassan	49275	1.50	1.36	9 months	03-12-2016	0.69	Bridge work completed. Approach roads were not constructed due to private land dispute	
5	Hassan	95278	2.00	1.68	4 months	05-11-2019	0.00	Work not commenced due to land problem	
6	Mangaluru	65194	2.00	2.14	6 months	23-08-2018	0.01	Work not commenced due to land problem	
7	Mangaluru	66520	2.00	2.27	6 months	18-09-2018	1.26	178 m road completed. 272 m road work pending for want of land	
8	Mangaluru	43059	4.15	3.38	9 months	24-11-2016	2.19	Stopped due to forest problem	
Total			41.85	36.47			21.10		

Appendix 4.16								
(Paragraph 4.4, Page 43) Non-recovery of shifting charges from Utility Agencies								
Sl. No	Division	Indent No.	Technical Sanction No.	Est. Cost (in Cr.)	Water Supply (in Cr.)	Electricity Line (in Cr.)	BSNL (in Cr.)	Total (in Cr.)
1	Mysuru	48777	1230/15-16	17.20	0.00	0.16	0.00	0.16
2	Mysuru	51806	02/16-17	30.50	3.80	0.33	0.00	4.13
3	Mysuru	61558	442/16-17	9.52	0.31	0.05	0.00	0.36
4	Mysuru	66326	416/17-18	5.00	0.00	0.12	0.00	0.12
5	Mysuru	76564	823/17-18	14.70	0.00	4.34	0.00	4.34
6	Mysuru	78632	1072/17-18	7.50	0.10	0.07	0.00	0.17
7	Mysuru	85172	112/18-19	8.00	0.02	0.09	0.00	0.11
8	Mysuru	85208	113/18-19	8.00	0.11	0.19	0.00	0.30
9	Mysuru	86279	114/18-19	8.00	0.05	0.14	0.00	0.19
10	Mysuru	88043	74/18-19	4.60	0.02	0.11	0.00	0.13
11	Tumkur	113698	208/19-20	4.75	0.23	0.00	0.00	0.23
12	Tumkur	113710	207/19-20	4.90	0.10	0.00	0.00	0.10
13	Kolar	49854	1470/15-16	7.00	0.00	0.52	0.07	0.59
14	Kolar	50167	1469/15-16	7.00	0.00	0.50	0.05	0.55
15	Ballary	61839	60364, 60508 & 60509	24.00	0.00	1.25	0.00	1.25
16	Ballary	133682	IN-NO-126273,126274, 128199,126276,126272	25.00	1.17	1.40	0.00	2.57
Total				185.67	5.91	9.27	0.12	15.30

Appendix 5.1 (Paragraph 5.1.2, Page 46) Delay in completion of works												
Sl. No.	Division	Sample Works	Completed Works	Ongoing Works	Rescinded / Stopped	No. of Works Delayed	Min Completion Time Given (in months)	Max Completion Time Given (in months)	Min Delay before adjusting EOT (in days)	Max Delay before adjusting EOT (in days)	Min EOT Approved (in days)	Max EOT Approved (in days)
1	Bagalkote	20	13	7	-	6	6	11	48	462	-	-
2	Bengaluru	19	13	5	1	10	6	9	14	827	46	240
3	Belagavi	20	16	4	-	5	3	11	7	505	-	-
4	Ballary	19	15	4	-	8	5	18	134	920	314	913
5	Bidar	20	15	5	-	4	3	9	84	237	-	-
6	Chikkodi	21	16	5	-	8	6	11	26	1437	-	-
7	Chikkamagaluru	27	22	5	-	15	6	9	30	1126	-	-
8	Chitradurga	25	19	6	-	7	6	11	32	831	-	-
9	Dharwad	24	19	5	-	7	3	36	78	596	-	-
10	Hassan	29	26	1	2	7	1	9	24	559	-	-
11	Kalburgi	22	18	4	-	9	6	11	47	467	-	-
12	Kolar	20	15	5	-	8	9	11	6	1308	-	-
13	Mandya	29	18	10	1	18	2	12	18	755	-	-
14	Mangaluru	27	16	9	2	10	1	24	39	1613	-	-
15	Mysuru	22	12	9	1	17	5	15	6	774	211	626
16	Raichur	20	7	12	1	16	6	18	117	1497	239	678
17	Ramanagara	23	21	2	-	5	1	11	27	479	-	-
18	SHDP	40	38	2	-	15	9	15	61	1431	-	-
19	Shivamogga	26	19	7	-	6	7	11	29	468	-	130
20	Sirsi	20	15	4	1	9	6	9	84	1113	374	990
21	Tumkur	26	21	5	-	13	5	11	12	622	-	-
Total		499	374	116	9	203	1	36	6	1613	46	990
Total Contract Value (₹ in crore)		3583.29	2659.81	862.77	60.71	1508.82	1	36	6	1613	46	990

Appendix 5.2 (Paragraph 5.1.3, Page 47) Non-submission of Completion Reports						
Sl. No.	Division	No. of Sample Works	No. of Completed Works	No. of completed works where Completion Report Issued	No. of completed works where Completion Report was not Issued	
1	Bagalkote	20	13	8	5	
2	Bengaluru	19	13	9	4	
3	Belagavi	20	16	8	8	
4	Ballary	19	15	9	6	
5	Bidar	20	15	7	8	
6	Chikkodi	21	16	9	7	
7	Chikkamagaluru	27	22	2	20	
8	Chitradurga	25	19	5	14	
9	Dharwad	24	19	13	6	
10	Hassan	29	26	9	17	
11	Kalburgi	22	18	10	8	
12	Kolar	20	15	14	1	
13	Mandya	29	18	6	12	
14	Mangaluru	27	16	3	13	
15	Mysuru	22	12	5	7	
16	Raichur	20	7	7	0	
17	Ramanagara	23	21	0	21	
18	SHDP	40	38	7	31	
19	Shivamogga	26	19	14	5	
20	Sirsi	20	15	7	8	
21	Tumkur	26	21	1	20	
Total		499	374	153	221	
Total Contract Value (₹ in crore)		3583.29	2659.81	868.97	1790.84	

Appendix 5.3 (Paragraph 5.2, Page 47) Unauthorised advance payments (₹ in crore)						
Sl. No.	Package No.	Name of the Agency/Contractor	Contract Amount	Mobilisation Advance (MA) to be paid	MA actually paid	Excess MA paid
1	139	Kotarki Construction	42.79	2.14	4.26	2.12
2	140	Sharda Construction & Corporation Ltd	32.89	1.64	3.28	1.64
3	141	M/s Mehul Construction Company Pvt Ltd	44.35	2.22	4.43	2.21
4	142	H.P. Madhukar	36.98	1.85	3.69	1.84
5	145	Sharda Construction & Corporation Ltd	37.21	1.86	3.72	1.86
6	146	Kotarki Construction	28.39	1.42	2.82	1.40
7	147	Sharda Construction & Corporation Ltd	24.66	1.23	2.46	1.23
8	149	Raj Promoters & Civil Engineers Pvt Ltd	31.49	1.57	3.14	1.57
9	153	M/s Sri Srinivasa Constructions Pvt Ltd	28.22	1.41	2.82	1.41
10	154	M/s Sri Srinivasa Constructions Pvt Ltd	29.37	1.47	2.92	1.45
11	155	M/s PR Nayak Associates	16.69	0.83	1.67	0.83
12	156	M/s Sri Srinivasa Constructions Pvt Ltd	24.74	1.24	2.46	1.22
13	163	M/s Sri Srinivasa Constructions Pvt Ltd	27.60	1.38	2.74	1.36
14	168	H.P. Madhukar	23.51	1.18	2.35	1.17
15	170	N.B Hiremath	43.05	2.15	4.30	2.15
16	183	M/s PR Nayak Associates	25.02	1.25	2.50	1.25
17	186	M/s PR Nayak Associates	49.03	2.45	4.90	2.45
18	187	M/s Eagle Infra India Ltd	24.45	1.22	2.44	1.22
19	188	H.P. Madhukar	32.95	1.65	3.29	1.64
20	198	M/s PR Nayak Associates	26.63	1.33	2.66	1.33
21	202	M/s Hayagriva Infratech Projects Ltd	20.25	1.01	2.02	1.01
22	207	M/s Hayagriva Infratech Projects Ltd	24.41	1.22	2.44	1.22
23	219	M/s BSR Infratech India Ltd	50.43	2.52	5.04	2.52

Appendix 5.3 (Paragraph 5.2, Page 47) Unauthorised advance payments (₹ in crore)						
Sl. No.	Package No.	Name of the Agency/Contractor	Contract Amount	Mobilisation Advance (MA) to be paid	MA actually paid	Excess MA paid
24	220	M/s Amrutha Constructions Pvt Ltd	33.28	1.66	3.32	1.66
25	221	M/s United Global Corp Ltd	36.16	1.81	3.60	1.79
26	223	M/s United Global Corp Ltd	21.31	1.07	2.12	1.05
27	226	M/s Ram & Co	25.26	1.26	2.25	0.99
28	229	M/s Star Builders & Dev	31.74	1.59	3.16	1.57
29	230	M/s Star Builders & Dev	29.56	1.48	2.94	1.46
30	231	M/s Star Builders & Dev	38.77	1.94	3.86	1.92
31	256	CHVN Reddy	37.78	1.89	3.76	1.87
32	261	M/s BSR Infratech India Ltd	26.80	1.34	2.67	1.33
Total			1005.77	50.29	100.02	49.73

Appendix 5.4 (Paragraph 5.2, Page 47) Unauthorised advance payments (₹ in crore)									
Sl.No	Package No.	Name of the Agency/Contractor	Contract Amount	Mobilisation Advance (MA) paid	Mobilisation Advance (%)	Scheduled date of completion	MA recovered after expiry of schedule date of completion	Month in which MA recovered	Delay in months
1	140	Sharda Construction & Corporation ltd	32.89	3.28	10	Sep-17	0.48	Jan-18	4
2	141	M/s Mehul Construction Company Pvt ltd	44.35	4.43	10	Sep-17	3.32	Mar-18	6
3	142	H.P Madhukar	36.98	3.69	10	Sep-17	1.85	Jan-18	4
4	147	Sharda Construction & Corporation ltd	24.66	2.46	10	Sep-17	1.23	Mar-18	5
5	149	Raj Promoters & Civil Engineers Pvt Ltd	31.49	3.14	10	Sep-17	1.98	Jan-18	4
6	153	M/s Sri Srinivasa Constructions Pvt Ltd	28.22	2.82	10	Sep-17	0.82	Jan-18	4
7	156	M/s Sri Srinivasa Constructions Pvt Ltd	24.74	2.46	10	Sep-17	0.23	Feb-18	5
8	157	M/s Sri Srinivasa Constructions Pvt Ltd	34.08	1.70	5	Sep-17	0.33	Feb-18	5
9	171	Ashok V Patil	45.58	2.25	5	Sep-17	0.65	Mar-18	6
10	183	M/s PR Nayak Associates	25.02	2.50	10	Sep-17	1.82	Jan-18	4
11	187	M/s Eagle Infra India Ltd	24.45	2.44	10	Sep-17	1.22	Jan-18	4
12	202	M/s Hayagriva Infratech Projects Ltd	20.25	2.02	10	Jun-17	2.02	Oct-17	4
13	221	M/s United Global Corp Ltd	36.16	3.60	10	Sep-17	0.36	Jan-18	4
14	250	Iqbal Ahmed Infra Projects	32.62	1.60	5	Sep-17	0.92	Jan-18	4
15	254	Abdul Kalam Azad	26.26	1.30	5	Sep-17	0.57	Feb-18	5
16	146	Kotarki Construction	28.39	2.82	10	Sep-17	2.30	Aug-18	11
17	261	M/s BSR Infratech India Ltd	26.8	2.67	10	Sep-17	2.67	Aug-18	11
Total				45.18			22.76		

Appendix 5.5 (Paragraph 5.3, Page 48) Inadequate Performance Securities from contractors														(₹ in lakh)			
Sl. No.	Division	No. of Works selected	BG not produced to Audit		Unbalanced BG Not Obtained		BGs lapsed within DLP		BGs without confirmation from Zonal Banks		Additional BGs not obtained from Contractors		Securities with shorter validity			Short Deposit of Securities	
			No. of cases	BG Value	No. of Cases	BG Value	No. of cases	BG Value	No. of cases	BG Value	No. of cases	BG Value	No. of cases	BG Value	Avg. Short Validity (in days)	BG Value	No. of cases
1	Shivamogga	26	0	0.00	1.00	0.09	1	20.75	0	0.00	1	1.34	1	550	5.45	2	30.60
2	Mysuru	22	0	0.00	0.00	0.00	8	257.37	6	286.65	1	11.30	8	268	365.94	0	0.00
3	Kolar	20	0	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0	0	0.00	0	0.00
4	Tumkur	26	2	39.61	0.00	0.00	9	253.32	5	108.03	0	0.00	9	216	197.79	0	0.00
5	Chikkamagaluru	27	7	170.37	1.00	7.30	5	127.27	5	127.27	0	0.00	5	265	103.42	0	0.00
6	Sirsi	20	0	0.00	4.00	121.66	10	152.69	12	180.10	1	3.47	10	264	149.09	1	32.35
7	Kalburgi	22	0	0.00	1.00	6.11	5	113.09	6	123.96	1	24.85	6	256	128.59	0	0.00
8	Chitradurga	25	0	0.00	0.00	0.00	0	0.00	25	554.57	0	0.00	0	0	0.00	0	0.00
9	Mangaluru	27	3	113.28	0.00	0.00	7	123.36	27	709.69	0	0.00	0	0	0.00	0	0.00
10	Dharwad	24	0	0.00	0.00	0.00	0	0.00	24	708.21	0	0.00	0	0	0.00	0	0.00
11	Mandya	29	1	18.36	1.00	4.90	10	291.92	29	797.37	0	0.00	0	0	0.00	0	0.00
12	Ramanagara	23	0	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0	0	0.00	0	0.00
13	Hassan	29	0	0.00	0.00	0.00	16	372.83	28	631.13	0	0.00	0	0	0.00	0	0.00
14	Chikkodi	21	0	0.00	0.00	0.00	2	43.12	4	119.54	0	0.00	2	366	43.12	0	0.00
15	Ballary	19	0	0.00	0.00	0.00	3	163.93	6	220.37	0	0.00	1	575	73.64	0	0.00
16	Raichur	20	7	277.08	0.00	0.00	1	44.15	5	131.32	0	0.00	0	0	0.00	0	0.00
17	Bengaluru	19	5	67.26	2.00	32.07	3	79.48	6	121.93	0	0.00	2	291	63.36	0	0.00
18	Bidar	20	0	0.00	0.00	0.00	0	0.00	20	584.59	0	0.00	0	0	0.00	0	0.00
19	Belagavi	20	0	0.00	0.00	0.00	0	0.00	20	622.72	0	0.00	0	0	0.00	0	0.00
20	Bagalkote	20	0	0.00	0.00	0.00	0	0.00	20	1011.30	0	0.00	0	0	0.00	0	0.00
21	SHDP	40	0	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0	0	0.00	0	0.00
Total			499	685.96	10.00	172.13	80	2043.28	248	7038.75	4	40.96	44	145.2	1130.40	3	62.95

Appendix 5.6						
(Paragraph 5.4, Page 49) Non-recovery of royalty on earth used for embankment						
Sl. No	Indent No./PKG No.	Division	Est cost	Executed Qty (cum)	Royalty to be recovered (₹ in lakh)	
1	104143	Mangaluru	300	1709.69	0.51	
2	115879	Mangaluru	495	7058.87	2.12	
3	118644	Mangaluru	100	651.00	0.20	
4	118816	Mangaluru	125	2409.71	0.72	
5	93471	Mandya	900	1213.67	0.36	
6	92641	Mandya	800	94.60	0.03	
7	88619	Mandya	72	462.92	0.14	
8	98027	Mandya	495	8020.18	2.41	
9	84680	Mandya	50	171.65	0.05	
10	94287	Mandya	2560	3698.63	1.11	
11	127301	Mandya	1000	2206.50	0.66	
12	267	SHDP	1287	4826.81	1.44	
		SHDP		271.89	0.08	
13	291	SHDP	1952	2984.62	0.90	
		SHDP		4727.95	1.42	
		SHDP		6156.56	1.85	
14	297	SHDP	1293	6763.16	2.03	
		SHDP		5426.26	1.63	
		SHDP		7092.79	2.13	
15	367	SHDP	1863	9216.84	2.76	

Sl. No	Indent No./PKG No.	Division	Est cost	Executed Qty (cum)	Royalty to be recovered
		SHDP		18028.77	5.41
16	371	SHDP	1119	1139.78	0.34
17	395	SHDP	3019	3228.00	0.97
18	97480	Bidar	500	10953.00	3.29
19	97839	Bidar	950	8921.81	2.67
20	98082	Bidar	500	9118.00	2.73
21	102698	Bidar	800	8050.60	2.42
22	102775	Bidar	500	3900.46	1.17
23	103010	Bidar	750	3433.26	1.03
24	103063	Bidar	500	0.00	0.00
25	132470	Bidar	1000	10300.00	3.09
Total				152237.98	45.67

Appendix 6.1 (Paragraph 6.1, Page 51) Non-establishment of Field Laboratories (₹ in crore)			
Division	No. of Works	APT	Up to Date Expenditure
Bagalkote	18	144.26	146.41
Belagavi	15	90.85	86.56
Bengaluru	17	98.29	82.05
Bidar	19	107.89	103.61
Chikkamagaluru	27	127.27	108.15
Chikkodi	17	77.33	82.09
Chitradurga	21	102.76	96.46
Dharwad	16	88.52	82.93
Hassan	27	114.89	113.79
Kalaburagi	22	73.39	62.94
Kolar	17	76.14	63.51
Mangaluru	22	124.42	104.24
Raichur	18	154.96	122.88
Ramanagara	22	97.67	59.75
Shivamogga	15	47.55	51.70
Sirsi	16	42.60	34.83
Tumkur	24	81.65	78.45
Grand Total	333	1650.44	1480.38

Appendix 6.2								
(Paragraph 6.2, Page 52) Payment of bills without test reports								
Sl.No	Division	No of Works	QAP not available	QC Tests not available	QA not available	NOC not obtained		
1	Shivamogga	14	7	11	1	6		
2	Kolar	17	12	17	3	14		
3	Tumkur	24	5	24	2	18		
4	Chikkamagaluru	27	0	27	4	16		
5	Sirsi	16	6	15	12	10		
6	Kalburgi	22	2	22	11	17		
7	Chikkodi	17	0	1	3	9		
8	Ballary	19	0	0	15	15		
9	Raichur	18	3	3	15	8		
	Total	174	35	120	66	113		
Up to date expenditure (₹ in crore)		708.98	118.76	390.64	291.98	476.77		

Source: Compiled from Departmental records

Appendix 6.3 (Paragraph 6.5, Page 53) Irrational deployment of Manpower							
Sl. No.	Division	No. of Sub-Division	Sanctioned	Working	Vacant	Road length (in KM)	Ratio between AE/JEs and Road length
1	Mandya	7	50	28	22	3663.85	50 to 656
2	Ramanagara	3	24	11	13	945.23	46 to 187
3	Hassan	7	45	28	17	1324.26	29 to 77
4	Mangaluru	5	28	21	7	2132.26	72 to 310
5	Chitradurga	6	40	30	10	2905.06	56 to 163
6	Dharwad	5	33	26	7	2147.04	55 to 225
7	Chikkamagaluru	5	40	23	17	2810.23	66 to 184
8	Kalburgi	5	33	27	6	2315.15	52 to 159
9	Kolar	5	28	15	13	1919.64	98 to 211
10	Sirsi	6	34	18	16	2686.15	78 to 318
11	Tumkur	7	41	29	12	2185.50	42 to 137
12	Chikkodi	5	36	27	9	3201.20	91 to 169
13	Ballary	4	32	25	7	1408.16	32 to 351
14	Raichur	5	40	32	8	-	-
15	Bengaluru	7	57	31	26	2055.04	22 to 323
16	Bidar	5	30	29	1	1898.65	44 to 85
17	Belagavi	6	34	25	9	2982.15	91 to 183
18	Bagalkote	6	36	33	3	2963.54	51 to 123
Total		99	661	458	203	39543.11	22 to 656



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