THREE HUNDRED TWENTY FIFTH REPORT

Issues relating to Road Sector

(Presented to the Hon’ble Chairman, Rajya Sabha on 15th June, 2022)
(Presented to the Hon’ble Speaker, Lok Sabha on 15th June, 2022)

Rajya Sabha Secretariat, New Delhi
June, 2022/ Jyaistha, 1944 (Saka)
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*To be appended*
COMPOSITION OF THE COMMITTEE
(2021-22)
(Constituted on 13th September, 2021)

1. Shri T.G. Venkatesh - Chairman

RAJYA SABHA

2. Shri Prasanna Acharya
3. Shrimati Priyanka Chaturvedi
4. * vacant
5. Shri Shaktisinh Gohil
6. Shri Md. Nadimul Haque
7. Shri Jugalsinh Lokhandwala
8. Dr. Sonal Mansingh
9. Shri Tiruchi Siva
10. Shri Vinay Dinu Tendulkar

LOK SABHA

11. Shri Anto Antony
12. Shri Margani Bharat
13. Shri Tapir Gao
14. Shri Rahul Kaswan
15. Shri Ramesh Chandra Majhi
16. Shri Sunil Baburao Mendhe
17. Shri K. Muraleedharan
18. Shri S. S. Palanimanickam
19. Shri Chhedi Paswan
20. Shri Kamlesh Paswan
21. Shri Sunil Kumar Pintu
22. Shri Prince Raj
23. Shri Tirath Singh Rawat
24. Shrimati Mala Roy
25. Shri Rajiv Pratap Rudy
26. Shri Dushyant Singh
27. Shri Rajbahadur Singh
28. Shri Ramdas C. Tadas
29. Shri Manoj Tiwari
30. Shri Krupal Balaji Tumane
31. Shri Dinesh Chandra Yadav

SECRETARIAT

Shri Puneet Kumar, Joint Secretary
Shri Swarabji B., Director
Shri Rajendra Prasad Shukla, Additional Director
Shrimati Subha Chandrashekar, Deputy Secretary
Shri Ranajit Chakraborty, Under Secretary
Shri Gaurav Singh Gahlain, Assistant Committee Officer

*Shri Sambhaji Chhatrapati ceased to be a Member w.e.f. 4th May, 2022
COMPOSITION OF THE SUB-COMMITTEE
(Constituted on 28th March, 2022)

1. Shri Rajiv Pratap Rudy (Member, Lok Sabha) - Convener

Rajya Sabha

2. Shri Jugalsinh Lokhandwala

Lok Sabha

3. Shri Margani Bharat
4. Shri Rahul Kaswan
5. Shri Sunil Baburao Mendhe
6. Shri Sunil Kumar Pintu
7. Shri Prince Raj
8. Shri Krupal Balaji Tumane

Secretariat

Shri Puneet Kumar, Joint Secretary
Shri Swarabji B., Director
Shri Rajendra Prasad Shukla, Additional Director
Shrimati Subha Chandrashekar, Deputy Secretary
Shri Ranajit Chakraborty, Under Secretary
Shri Gaurav Singh Gahlain, Assistant Committee Officer
INTRODUCTION

I, the Chairman, Department-related Parliamentary Standing Committee on Transport, Tourism and Culture, having been authorized by the Committee to present on its behalf, do hereby present this Three Hundred Twenty Fifth Report on ‘Issues relating to Road Sector’.

2. The Department-related Parliamentary Standing Committee on Transport, Tourism and Culture had appointed a Sub-Committee on ‘Road Sector’ under the Convenership of Shri Rajiv Pratap Rudy, Member, Lok Sabha, to study issues present in the road infrastructure sector in terms of review of awarded projects, black spots, service roads, road safety, maintenance and quality of roads, safety of women etc. especially with reference to the States of Andhra Pradesh, Telangana, Bihar and Maharashtra.

3. The Sub-Committee in its first meeting on 8th April, 2022, had a detailed discussion on various issues relating to Road Sector. The Sub-Committee heard the views of the Secretary, Ministry of Road Transport and Highways, on the subject on 9th May, 2022. The Sub-Committee also heard the views of the Chairperson, National Highways Authority of India (NHAI); and the senior officials of Ministry of Road Transport and Highways and NHAI, in connection with the replies furnished by the Ministry regarding various queries on the subject on 31st May, 2022.

4. The Committee wishes to express its thanks to the officers of Ministry of Road Transport & Highways and National Highways Authority of India for placing before the Committee, the detailed background note and replies to questionnaire in connection with the subject and for clarifying the points raised by the Members.

5. The Sub-Committee considered and adopted the Report in its meeting held on the 1st June, 2022 and submitted it to the Chairman of the Department-related Parliamentary Standing Committee on Transport, Tourism and Culture. The Committee considered and adopted the Report in its meeting held on the 8th June, 2022

NEW DELHI;
June 8, 2022
Jyaistha 18, 1944 (Saka)

(T.G. Venkatesh)
Chairman,
Department-related Parliamentary Standing Committee on Transport, Tourism and Culture, Rajya Sabha
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<td>AP</td>
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<td>APUIAML</td>
<td>Andhra Pradesh Urban Infrastructure Asset Management Limited</td>
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<td>BE</td>
<td>Budget Estimates</td>
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<td>BOT</td>
<td>Build-Operate-Transfer</td>
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<td>BRO</td>
<td>Borders Road Organization</td>
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<td>CCTV</td>
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<td>Central Road Research Institute</td>
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<td>Indian Academy of Highway Engineers</td>
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<td>Indian Roads Congress</td>
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<td>MIS</td>
<td>Management Information System</td>
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<td>Mobile Inspection Van</td>
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<td>MORTH</td>
<td>Ministry of Road Transport and Highways</td>
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<td>Ministry of Women &amp; Child Development</td>
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<td>National Highway</td>
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<td>NHAI</td>
<td>National Highways Authority of India</td>
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<td>NHBF</td>
<td>National Highways Builders Federation</td>
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<td>NHDP</td>
<td>National Highways Development Project</td>
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<td>NHIDCL</td>
<td>National Highway and Infrastructure Development Corporation Limited</td>
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<td>NHLML</td>
<td>National Highways Logistics Management Limited</td>
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<td>NITI</td>
<td>National Institution for Transforming India</td>
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<tr>
<td>OFC</td>
<td>Optical Fibre Cable</td>
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REPORT

“It is not our wealth that built our roads, but it is our roads which built our wealth’.

- John F. Kennedy, US President

Roads are the arteries through which the economy pulses. A country’s road network plays a crucial role in its overall economic development and growth because roads help in the transportation of agricultural and industrial produce from rural to urban areas, provide access to employment, education and health services and stimulate economic and social development. Road transport is the only mode of transportation which can provide door to door service and serve the remotest areas. The other three modes of transport - airways, railways and waterways depend on road transport for service to and from terminals, airports, harbours or stations. A well developed road network is therefore essential not only for the facility of road travel but also to serve as feeder system for the other modes of transportation. Road transport serves the entire community and gives the maximum flexibility for travel with respect to route, direction, time and speed of travel. Road infrastructure is therefore the most important of all public assets.

2. Roads have always been considered indispensable for administrative and military purposes in the Indian subcontinent since ancient times. The *Arthashastra* of Kautilya classifies different types of roads to be built for different purposes and also lays down the required width for different types of roads. The *Uttarpath* road initially built by Chandragupta Maurya was extended by Sher Shah Suri from Kabul to Chittagong in Bengal with *Kos Minars* built as milestones. The British later developed this highway and renamed it the Grand Trunk Road, one of the oldest and longest roads in Asia, parts of which are still in use. With the introduction of railways in the British period, road development received less attention until after the First World War when the increase in motor vehicles fuelled the demand for a better road network. The Government appointed the Indian Road Development Committee headed by Sh. M.R. Jayakkar as Chairman in 1927 which recommended that road development should be considered as a national interest and a semi-official technical advisory body and a research organisation to carry out research and development work should be constituted as well as Road Development Fund called Central Road Fund credited by tax imposed on petrol. Consequently, the Central Road Fund, the Indian Roads Congress which is the apex body of Road Sector Engineers and the Central Road Research Institute were set up. The Motor Vehicles Act was also passed in 1939 to implement traffic laws. At the initiative of the Indian Roads Congress, a conference of all Chief
Engineers of all the states and provinces was convened in 1943 by the Government at Nagpur, to finalise the first road development plan for the country as a whole, a landmark in the history of road development in India. At the time of independence, the total road length in the country was 3,88,226 kms with a road length density of 11.8 km per 100 square kms. Since then the pace of road development has improved considerably and India now has the second largest road network in the world of about 63.72 lakh km comprising National Highways (NHs), Expressways, State Highways, Major District Roads, Other District Roads and Village Roads. The total length of National Highways in the country as per the Annual Report (2021-22) of the Ministry of Road Transport and Highways, is 1,40,995 kms.

3. As the National Highways Development Program (NHDP) has reached a certain level of maturity, the Government is now focussed on re-defining road development and recasting road development by bridging critical infrastructure gaps. Hence Bharatmala has been launched as a new umbrella program whose primary focus is on optimizing the efficiency of the movement of goods and people across the country.

4. The Ministry of Road Transport & Highways has taken up detailed review of NHs network with a view to develop the road connectivity to Border areas, development of Coastal roads including road connectivity for Non-Major ports, improvement in the efficiency of National Corridors, development of Economic Corridors, Inter Corridors and Feeder Routes along with integration with Sagarmala, etc., under Bharatmala Pariyojana.

5. While the Government is pushing an ambitious upgrade of infrastructure of roads alongwith railways, ports, logistics etc., the quality of India’s road infrastructure still remains very poor. The paradox of India’s road infrastructure is that while its cumulative road network is comparable to US and China, countries which are several times the size of India, the quality of it is such that the road infrastructure is not internationally competitive at present. Of India’s total road network, almost 40% is unpaved. National Highways constitute less than 3% of the total road network and 40% of villages have no access to all-weather roads. Pothole ridden roads, uneven speed breakers, lack of service roads and general lack of maintenance are characteristic of Indian roads. Unsurprisingly, India accounts for 11 percent of global deaths in road accidents while having only 1% of the world’s vehicles. During the year 2020, the total recorded road accidents in India was 3,66,138. Flawed road designing and engineering, weak enforcement of traffic laws and lack of rapid trauma care contribute to the high number of road accidents and deaths in India.
6. Given the significant role played by the road sector in the overall Indian economy and the various issues plaguing the same, the Department-related Parliamentary Standing Committee on Transport, Tourism and Culture constituted a Sub-Committee on ‘Road Sector’ to study issues present in the road infrastructure sector in terms of review of awarded projects, black spots, service roads, road safety, maintenance and quality of roads, safety of women etc. especially with reference to the States of Andhra Pradesh, Telangana, Bihar and Maharashtra, with effect from 28th March, 2022, for examination and report within two months. In its meeting held on 18th May, 2022, the Committee decided to extend the term of the Sub-Committee till 21st June, 2022.

7. The Sub-Committee on Road Sector heard the views of the Secretary, Ministry of Road Transport and Highways on the issues mentioned above in its meeting held on 9th May, 2022. The Sub-Committee also held discussions with the officials of Ministry of Road Transport and Highways in connection with the replies furnished by the Ministry regarding various queries of the Sub-Committee and various new issues, in its meeting held on 31st May, 2022. The discussions of the Sub-Committee pertained to a wide-ranging set of issues related to road sector viz., review of awarded/ongoing projects, maintenance and quality of road, road safety, rectification of black spots, encroachment of NHs, stray cattle/wildlife on NHs, speed breakers, service roads, research and development, arbitration between the Ministry/NHAI and the Contractors, setting up dedicated underground utility corridors, safety of women on NHs, etc.

Review of awarded/ongoing projects

8. In its background note furnished to the Sub-Committee, the Ministry informed that it has sanctioned/approved several National Highway projects during the last three years. The details of projects sanctioned, awarded and constructed during the last three years in the country are at Annexure-I and in the States of Andhra Pradesh, Bihar, Maharashtra and Telangana are at Annexure-II. The Ministry further stated that the implementation of the National Highway works depend on several factors, like completion of pre-construction activities, mobilization capacity of the Contractors, climatic conditions like monsoons, floods etc. It was informed that close monitoring and reviews are carried out at different levels to complete the projects within the scheduled time. However, due to the above factors, some of the projects get delayed. The Ministry submitted that presently, there are total 451 ongoing National Highway projects with a total length of 10,590.01 km amounting to Rs. 147,165.40 Crore in the States of Andhra Pradesh, Bihar, Maharashtra and Telangana put together. Ministry has taken several initiatives to
complete the delayed projects within minimum possible time. Some of these initiatives are streamlining and online processing of land acquisition through Bhoomirashi Portal, improvement of cash flow of the contracting agencies through one time funding, premium re-scheduling, securitization of road sector loans, rationalized exit for equity investors, termination/foreclosure of stalled/stuck up projects and re-bidding for the balance works, revamping the Dispute Resolution System, rationalized procedure for compensation for delays attributable to authorities, regular reviews at various levels including PRAGATI meetings at Hon’ble Prime Minister’s level.

9. The Committee takes note of the ongoing NH projects in the States of Andhra Pradesh, Telangana, Bihar and Maharashtra and the various steps being taken by the Ministry to minimize delays in execution of the ongoing projects. The Committee recommends that all the ongoing NH projects may be monitored closely, the onset of any sort of deviation from the scheduled timeline for a NH project may immediately be looked into and necessary remedial action may be taken at the earliest so as to avoid significant time and cost overruns.

10. The Committee recommends that due provisions for underpasses or flyover should be included at the DPR stage itself for all NH projects, for uninterrupted flow of both pedestrian and vehicular traffic for every village/town near the highway as well as on accident-prone junctions, to minimize accidents.

11. The Committee further recommends that CCTV cameras may be installed every few kilometers at the construction stage of road projects for close monitoring by NHAI officers/ engineers and other stakeholders including public representatives (MPs/MLAs). Doing so would permit round-the-clock ground-level monitoring of the progress being made in ongoing road projects and also inculcate fear amongst wrongdoers. If required, the CCTV project may be implemented with funds available under the Nirbhaya Scheme. The CCTV cameras thus installed can be made a part of the fully constructed road once the road project gets completed and can be used to monitor traffic movements/accidents/thefts etc.

12. The Committee desires to be apprised of the present status of important road projects such as the Hajipur-Chhapra Highway (NH-19), Nagpur Outer Ring Road Package-I and II, six-lane road sanctioned from Diwancheruvu to Anakapalle, Greenfield
NH 516E between Rajahmundry-Rampachodavaram, bridge across the Kanhan river, repair works at Nagpur-Bhandara Road, Patna-Gaya NH etc., alongwith reasons for delay, if any, in execution of the same.

**Maintenance & Quality of Road**

**Maintenance and Repair (M&R) of Road**

13. With regard to Maintenance and Repair of NHs, the Ministry informed the Sub-Committee that M&R of NH stretches are carried out for the stretches not covered under any programme or completed stretches where there are no liabilities of contractors to maintain such stretches and that usually, the annual outlay earmarked for M&R of NHs is about 40% of the estimated requirement of funds as per the Ministry’s norms. This leads to thin spreading of available resources. This is one of the main reasons for inability to take up timely maintenance interventions. Efforts are made to keep the NHs in traffic worthy condition within available resources as per inter-se priority and traffic density.

14. The Ministry stated that various types of M&R works undertaken on NHs are Ordinary Repairs (OR), Periodic Renewals (PR), Special Repairs (SR) and Emergent/ Flood Damage Repairs (FDRs). Ordinary Repairs (OR) involve routine maintenance, such as maintenance of culverts, patch/ pot-hole repairs, crack sealing, roadside drainage, repairing of shoulders, etc.

   a. Periodic Renewal (PR) involves provision of renewal coat to the wearing surface at a predetermined frequency. This is done to safeguard the road crust and at the same time giving pavement a better riding surface.

   b. Special Repairs (SR) works are urgent works of original nature, such as repairs to culverts, bridges, etc.

   c. Emergent/ Flood Damage Repair (FDR) works are immediate repairs to roads affected by heavy rains/ flood, cyclone, landslides, sand dunes, etc. to restore traffic.

15. The Ministry further stated that for the NH stretches developed on EPC mode (Engineering, Procurement, and Construction), the contractor is responsible for remedying the defects and the concurrent maintenance of the highway project during the four years defect liability period after completion of the work. The Ministry informed that for NH stretches developed on BOT mode/ HAM, the Concessionaire is responsible for the maintenance of the project highway during the concession period and that for some of the developed NH stretches
through public funding, maintenance contracts have been taken up for a definite time period (4 to 9 years) on Operate, Maintenance and Transfer (OMT) basis. The maintenance of the project highway under OMT contracts is the responsibility of the Concessionaire.

16. In addition, the Ministry has conceptualised taking up Ordinary Repairs of NHs on Direct payment Procedure (DPP) basis through awarding short term / Mid-term maintenance Contracts under OR-DPP. Ministry, in first stage, has approved short term maintenance contract under OR(DPP) for 7 nos. of NHs not covered under maintenance for a length of 503 km at a cost of Rs 12.12 Crore in the state of Telangana and 10 Nos of proposals covering a length of 1217 km at a cost of 37.12 Crore in Andhra Pradesh. The works on short term maintenance contract are in bidding stage.

17. The Committee takes note of the present mechanism for Maintenance and Repair (M&R) of National Highways in India. However, the Committee is deeply concerned to note that the Ministry/NHAI is managing the maintenance and repair of NHs across the country with an allocation of just about 40% of the actual requirements estimated by the Ministry. The Committee feels that the shortfall of sufficient budgetary allocation is reflected in the sub-par quality of National Highways that is often witnessed across the country, especially in Andhra Pradesh, Telangana, Bihar and Maharashtra. Maintenance and Repair of the existing National Highways is of utmost importance in order to keep them in a safe, pliable condition and to permit good average traffic speeds. This should be given higher priority than construction of new National Highways. In this regard, the Committee notes that it has repeatedly recommended a much higher budgetary allocation for Maintenance and Repair of National Highways in its previous Reports viz., para 75 of 317th Report on Demands for Grants (2022-23) of the Ministry, para 12 of 296th Report on ‘Role of Highways in Nation Building’, para 45 of 287th Report on DFG (2021-22) of the Ministry, para 55 of 278th Report on DFG (2020-21) of the Ministry, etc. The Committee has repeatedly observed that in the ‘Strategy for New India @ 75’, NITI Aayog advocates that India should begin with earmarking 10 percent of its annual budget for Road and Highways for maintenance, to move towards the developed country norm of earmarking 40 percent to 50 percent of the budget for roads and highways for maintenance. However, year-after-year, the actual budgetary allocation made for Maintenance and Repair of National Highways remains less than even 4 percent of the annual budget. The Committee, therefore, strongly recommends that the Ministry must give much more priority to M&R
of NHs across the country, allocate substantially higher budgetary allocation for M&R and utilize the same to implement a robust monitoring mechanism to identify and meet the M&R requirements on NHs across the country. The Ministry should be proactive in its approach towards M&R of NHs, carrying out well-defined maintenance checks and periodic M&R activities on NHs.

18. The Committee recommends that 100% requirement for Maintenance and Repair projected by the Ministry of Road Transport and Highways should be allocated in the budget. Any reduction in the budget for M&R may result in deterioration of the roads constructed with hundreds of crores of National Budget which will be national wastage.

19. The Committee feels that NHAI’s ‘Sukhad Yatra’ smartphone application can be utilized to gain insights into requirements for M&R on NHs by making the general public a source of information for such requirements. In this regard, the Committee reiterates the following recommendation made in para 51 of its 317th Report on DFG (2022-23) of the Ministry:

*The Committee is of the considered view that wide adoption of the application can help NHAI gain free actionable information regarding the issues being faced by NH users across the country, which can be quickly acted upon, thus ensuring a well-maintained and safe driving experience on the NHs. The Committee, therefore, recommends that the Ministry may work upon improving the usability of the Sukhad Yatra smartphone application at the earliest and come up with innovative means to promote the application to NH users across the country. An option to seek feedback from the person posting a complaint using the app, may also be added so as to gain insight into whether the problem pointed out by the complainant has actually been resolved or not.*

20. The Committee recommends that using the data collected through the Electronic Toll Collection (ETC) and other suitable means, the Ministry may analyze the average traffic speed of various stretches of National Highways. The Committee feels that the stretches with low average traffic speeds can then be monitored on a closer level to understand the issues throttling the traffic speed, which should lead to identification of M&R requirements on different stretches of NHs across the country.
21. The Committee desires to know the mechanism existing at present to identify M&R requirements on NHs across the country. The Committee further recommends that the Ministry may collaborate with leading research institutions to devise mechanisms to efficiently identify and execute the M&R requirements of the extensive NH network in the country.

Quality of Roads

22. On the issue of quality of roads, the Ministry informed the Sub-Committee that all National Highways (NHs) are constructed as per quality standards specified in the Ministry of Road Transport and Highways/ Indian Roads Congress (IRC) specifications. The Ministry stated that to ensure that the works are executed as per prescribed specifications and standards, Authority’s Engineer/Supervision Consultants are appointed by the Ministry and its agencies for day to day supervision of the works at site for quality compliance/checking of roads to ensure its construction quality and that it is the responsibility of such Consultants to ensure the compliance of the provisions of the Concession / Contract Agreement in so far as quality of the work is concerned. The Ministry further informed the Sub-Committee that officials of Ministry / National Highways Authority of India (NHA) / National Highways, Infrastructure Development Corporation Limited (NHIDCL), Border Roads Organisation (BRO) and State Public Works Departments (PWDs) / State Road Construction Departments (RCDs), etc., also carry out quality checks of the executed works either directly or through independent experts / agencies and deficiencies, if any, observed during such examination / inspection are brought to the notice of the Concessionaires / Contractors for taking up necessary corrective measures. In case of any defaults, actions against the defaulting agencies are taken as per the provisions of agreements.

23. The Committee notes the existing mechanism to ensure that the road works are executed as per prescribed specifications and standards. However, in light of the sub-par quality of road construction often witnessed on NHs across the country, the Committee recommends that the Ministry may undertake a thorough review of the existing monitoring mechanism for road construction quality and come up with ways to plug the gaps in the same so as to ensure higher quality NHs in the future. The Committee further recommends that the Ministry may enact provisions for imposing severe financial penalty on the individuals appointed as Authority’s Engineer/Supervision Consultants in cases where gross negligence of the prescribed specifications and standards is observed in roads approved by them.
24. The Ministry has recently undertaken separate initiatives for strengthening the Quality Control set up of NHs projects. Independent Quality Monitors are being engaged by NHAI and NHIDCL to check the quality of implementation of projects including the stretches where maintenance work is in progress. The Ministry has also taken initiatives for procurement of services for supply, operation and maintenance of Mobile Inspection Vans (MIVs) equipped with non-destructive testing equipment for Inspection and Quality assessment of NH projects. Bids have been invited in January, 2022 for procuring services through one MIV in each States of Gujarat, Rajasthan, Karnataka and Odisha on Pilot basis. Periodic quality checks are intended to be carried out through these MIVs on projects being implemented through all executing agencies such as NHAI, NHIDCL, State PWDs/RCDs etc. towards institutionalising Quality Control System for NH projects.

25. The Committee appreciates the recent initiative of the Ministry to strengthen the Quality Control set up of NH projects by engaging the services of Mobile Inspection Vans (MIVs) for Inspection and Quality assessment of NH projects. The Committee hopes that the pilot project for engaging the services of MIVs turns out to be a success so that the MIVs can be utilized across the country for better quality control of ongoing and future NH projects in the country.

26. The Committee recommends that provisions may be introduced to assess the condition of new NHs at a defined time period after their operationalization, especially in terms of issues such as gaps in construction, rutting and high number of potholes on the highway etc. Strict penal action may be taken against the road contractor as well as the approving authorities in case substantial degradation of the NH is observed within a short period of operationalization of a newly constructed NH.

27. The Committee sought to know from the Ministry whether it has formulated a policy to build highways of cement/concrete in future instead of asphalt due to the durability of concrete roads and whether the costs of road projects are assessed on the basis of cost of construction or lifetime costs of the project. The Ministry, in its written reply, informed the Committee that its instant policy is to evaluate both options of cement concrete (rigid) and asphalt (flexible) pavement from life cycle costing and techno-economic considerations during project preparation and choose the better option.

28. The Committee notes that bituminous roads (flexible pavements) are common in use in India since it is relatively cheaper as compared to concrete roads. It is possible to
construct relatively thin bituminous layers over existing pavements therefore the road can be strengthened by constructing bituminous pavement layers one after the other in stages in a certain period of time unlike the cement concrete or rigid pavement construction. Cement concrete pavement has a high initial investment but has excellent riding surface and longer life of 20 or so years in contrast with bitumen roads which have an average lifespan of 4-5 years. Cement concrete roads are prevalent in most developed nations. In India, Mumbai has switched to concrete roads. Flexible pavement failures are characterised by formation of potholes, ruts, cracks and localised depressions while the main defect developed in rigid pavements is structural cracks. Very little maintenance like maintenance of joints only is required in cement concrete roads. The Committee, therefore, recommends that the Ministry may carefully analyze the cost-benefit analysis of the bituminous roads and cement concrete roads. The Committee feels that the road condition often witnessed on National Highways points to the need for a holistic review of the policy for evaluation of materials to be used in order to ensure that best possible materials are being used and the National Highways being constructed are of best possible quality. The Committee, therefore, recommends that the Ministry may take necessary steps to ensure that the choice of construction material used is made by factoring into account all long-term pros and cons of choosing one material over the other, given the specific needs of the particular NH project.

Road Safety

29. The Ministry, in its background note, informed the Sub-Committee that it has formulated a multi-pronged strategy to address the issue of road safety based on education, Engineering (both roads and vehicles), Enforcement and Emergency care. Accordingly, various initiatives have been taken by the Ministry as detailed below:-

(i) EDUCATION:

- The Ministry is implementing a scheme for undertaking publicity measures and awareness campaigns on road safety to create awareness among road users through the electronic media, print media, NGOs etc.
- Observance of National Road Safety Month every year for spreading awareness and strengthening road safety.
A Certification Course for Road Safety Auditors has been started in Indian Academy of Highway Engineers (IAHE).

(ii) ENGINEERING (ROADS AND VEHICLES)

Road engineering:
- Road safety has been made an integral part of road design at planning, design and operation stage.
- Roads are designed and constructed as per relevant IRC codes/Manuals, which prescribes for Design & Construction with Zero Accidents.
- Guidelines for pedestrian facilities on National Highways for persons with disabilities have also been issued to all States / UTs.
- High priority for identification and rectification of black spots (accident prone spots) on National Highways.
- The threshold for four laning of National Highway has been reduced from 15,000 Passenger Car Units (PCUs) to 10,000 PCUs.
- The Ministry has delegated powers to Regional Officers of MORTH/NHAI/NHIDCL for technical approval of detailed estimates for rectification of identified Road Accident black spots.

Vehicle Engineering:
- Safety standards for automobiles have been improved.
- Mandatory Airbags for Front Co-passengers.
- Scheme for setting up one model Inspection & Certification Centre in each State/UT with Central assistance for testing the fitness of vehicles through an automated system.

(iii) ENFORCEMENT:

- The Motor Vehicles (Amendment) Act, 2019 provides for strict enforcement through use of technology and further provides for strict penalties for ensuring strict compliance and enhancing deterrence for traffic rule violations.
- Issue of Guidelines for protection of Good Samaritans and draft rules as per Motor Vehicle (amendment) Act, 2019 have been published. Launching of scheme for award to Good Samaritans.
- Rules for accreditation of Driving Training Centres in the country have been notified to make the driving training scientific and systematic, vest the accredited Driving Training
Center with certain functions like testing of aspirants for issue of driving license and to make accredited driving Training Centre a commercially viable business proposition

(iv) **EMERGENCY CARE:**

- The Motor Vehicles (Amendment) Act, 2019 provides for a scheme for the cashless treatment of victims of the accident during the golden hour.
- The NHAI has made provisions for ambulances at all toll plazas on the completed corridor of National Highways.
- Further, out of this, 310 ambulances have been upgraded to Basic Life Support as per AIS-125.

30. In addition, various aspects of road safety are taken care of during the preparation of DPR keeping in view available guidelines, latest developments in standards, as per which the road safety aspect is improved through development of NHs.

31. The Committee appreciates the Ministry’s efforts in terms of various activities undertaken by it to bolster road safety in the country viz., spreading awareness about road safety, road and vehicle engineering, enforcement of the existing legal/legislative provisions for road safety and emergency care. However, India ranks number 1 in the world in terms of road accident deaths as per a 2021 World Bank Report and this highlights the need for much stronger, well-coordinated efforts to be put into minimizing the large number of road accidents taking place on Indian roads and highways. The loss of so many lives in road accidents every year has a severe detrimental effect on the lives of a large number of families as well as the overall Indian economy. The Committee, therefore, recommends that the Ministry may formulate a holistic multi-pronged strategy in coordination with State Governments and Union Ministries concerned in order to minimize the number of road accidents and resulting deaths on Indian roads.

32. The Committee further recommends that a robust database may be maintained recording important details relating to all fatal accidents taking place on National Highways across the country and the information obtained may be analyzed to identify patterns pointing to possible faults in road and vehicle engineering. Provisions may be made for a third-party survey of the stretch of NH where a fatal accident takes place, that

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may be carried out immediately after such an accident, to assess the state of implementation of road safety provisions such as signages, street light, road quality etc. prescribed for that particular stretch. The survey would help find the reasons behind the lapse in road safety provisions, if any, on the NH stretch and accountability may be placed on the concerned officials and/or road contractors for any lapses. Inferences derived from such surveys can be utilized to find gaps in the existing road safety provisions on NHs which can be plugged to ensure that upcoming National Highways across the country are as safe as possible, with special focus on road safety from the DPR stage itself.

33. The Committee may be apprised of the present status of implementation of the scheme for the cashless treatment of victims of the accident during the golden hour, as provided by the Motor Vehicles (Amendment) Act, 2019 alongwith reasons for delay in implementation, if any.

34. The Committee reiterates its recommendation made in Para 277 of its 296th Report on ‘Role of Highways in Nation Building’, which is as follows:

\[
\text{The Committee feels that the Ministry should lay much more emphasis on its road safety awareness initiatives. Social media may be utilized for this purpose. The Committee desires that the Ministry may, in coordination with Ministry of Education, introduce information pertaining to road safety, basic road etiquettes, action to be taken in case of an accident, etc. in school curriculum across the country.}
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35. The Committee recommends that the Ministry may analyze the road safety provisions on highways in developed countries where the accident rates are much lower than that of India’s National Highways. A foolproof inspection and monitoring mechanism may be set in place to ensure that road safety provisions prescribed for the National Highways are strictly implemented as per the guidelines and rules in this regard.

36. The Committee further recommends that the Ministry may come up with provisions to make it mandatory to install street lights on the entire National Highways network in the country since poor lighting conditions lead to severe accidents. The regular maintenance of these street lights may also be suitably ensured in coordination with the concerned agencies.
37. The Committee also strongly recommends that the Ministry may thoroughly assess the requirements for ambulances on the NH network across the country and arrange for the same in coordination with the concerned agencies so as to enable quality care to accident victims during the golden hour. Availability of ambulances may especially be ensured near accident-prone sites and black spots. The Ministry/NHAI may spread awareness regarding the helpline number to avail urgent medical assistance in case of road accidents, through suitable means.

38. The Committee is of the view that having provisions for food joints, restrooms, toilets and other amenities alongside National Highways can reduce the menace of illegal parking of vehicles on NHs and help avoid accidents, since the drivers would be able to relax and refresh themselves without parking outside the designated areas. The Committee, therefore, recommends that the Ministry may chalk out a plan to have provisions for such spaces at regular intervals on NHs, possibly in partnership with the original landowners, on the entire NH network. Doing so would provide NH passengers with a more comfortable experience while providing a regular source of revenue to the landowners whose land was acquired for the construction of the NH.

39. The Committee feels that awareness of traffic rules would go a long way in improving the driving habits of drivers in the country, making the roads safer for everyone. The Committee, therefore, recommends that the Ministry may partner with NGOs and educational institutions in order to raise awareness of traffic rules and road safety.

40. The Committee recommends that the Ministry may issue guidelines to limit the number of hours commercial drivers can drive in a day to a reasonable limit, say, 10 hours a day. If a suitable mechanism can be devised to implement this in earnest, this would ensure that commercial drivers are well rested, making the roads safer for all travellers.

41. The Committee recommends that helicopter landing facilities should be developed at toll plazas across the country at a certain defined distance, so as to enable urgent medical assistance to accident victims.

Rectification of Black Spots
The Ministry, in its background note on the subject, informed the Sub-Committee that there are total 1087 identified Accident Black Spots on NHs in the States of Andhra Pradesh, Bihar, Maharashtra and Telangana put together. Out of these, 1068 accident black spots are on NH network, temporary rectification measures have been completed for almost all black spots and permanent rectifications have been completed in 834 nos. of accident black spot locations, permanent rectification works are in progress in 118 nos. of black spot and 116 nos. of permanent rectification works are in the process of sanction/DPR. The permanent rectification works are likely to be completed by December 2024. High priority has been accorded for identification and rectification of black spots (accident prone spots on National Highways). The Ministry has defined Protocol for identification and Rectification of Blackspot on NHs vide the policy letters dated 28.10.2015, dated 07.12.2015 and dated 26.08.2019. In this regard, the Ministry has issued several guidelines/circulars for rectification of black spots so that the occurrence of road accidents could be minimized and precious lives of the road users are saved. The Ministry has taken up identification and rectification of Black Spots on war footing. Various Measures taken by the Ministry for rectification of Accident Black Spots are as below:

(i) MoRTH has made it mandatory to carry out all stage (Design, construction, and operation) road safety audits for all National Highways and rectification of accident/black spots accordingly.

(ii) Provision of Rumble strips or bar markings at the approaches of junctions on NHs.

(iii) Provision of Speed Limit signs at desired locations of NHs network.

(iv) As per IRC-67 -2012, Sign Boards are provided in regional/local language and English to alert the drivers.

(v) Provision of speed breakers and associated signage on side roads.

(vi) Provision of amber beacons for traffic approaching a junction.

(vii) Encouraging Engineers for certificate course in Road Safety Audit for which MOUs (Memorandum of Understanding) are signed with IITs and other leading technical education/research institutions.

(viii) Developed a Blackspot MIS portal where details of all blackspots, ids, photographs, and rectification status and post rectification feedback is collected and monitored.
43. The Ministry informed the Committee that the rectification of road accident black spots is done on the basis of outcome of Road safety Audits. Road safety Audit is conducted as per IRC SP 88: 2019 “Manual on Road safety Audit”. Vide Ministry’s circular no RW/NH-29011/08/2019-S&R(P&B) dated 26.08.2019, following corrective remedial measures have been suggested depending upon the location of black spot as under:

Depending upon the site condition/requirement the corrective measures may require only Short Term Measures, and in some cases Long Term Measures including Cautionary Measures or Short Term Measures.

(a) Short term measures:

The suggestive items/measures: (i) Pedestrian facilities like Zebra crossings (ii) Crash barriers/railings (iii) Solar lights (iv) Junction improvements (v) Road signs inter-alia speed limits sign, pavement/road markings, delineators, studs/cats eye. (vi) Traffic calming measures including rumble strips (vii) Repairing/maintenance of unsafe road/appurtenance including filling of berms/shoulders on National Highways (viii) Restriction of certain types of vehicles, one way streets, reversible lanes, bus lanes, restriction on movement of different types of vehicles by time/ by lane etc., specially in urban areas.

(b) Long term permanent measure: Based on inspections, survey investigations etc., if it is concluded that the spot requires long term measures, a detailed estimate may have to be prepared for the same. In such situations some of the short term measures as mentioned in above para and following cautionary measures are considered.

Some of the long term suggestive measures depending upon the location of black spots are as under:

<table>
<thead>
<tr>
<th>Location of Black spot</th>
<th>Corrective / remedial measures</th>
</tr>
</thead>
</table>

16
<table>
<thead>
<tr>
<th>Obstacles such as trees, poles, structure, etc. within the clear zone, encroachments etc.</th>
<th>Shifting/removal of these obstacles or providing other safety measures including crash barriers etc. Further, set back distance at all locations should invariably be achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>At grade junction</td>
<td>Flyovers, underpasses, overpasses at-grade junction improvements etc.</td>
</tr>
<tr>
<td>Deficient geometry</td>
<td>Improvement of horizontal/vertical alignment, curvature or other safety measures including crash barrier etc.</td>
</tr>
<tr>
<td>Mix traffic</td>
<td>Providing service lane, Footpath, crash barrier etc.</td>
</tr>
<tr>
<td>Distressed/narrow Bridge/culvert</td>
<td>Reconstruction, rehabilitation / widening of the bridges</td>
</tr>
<tr>
<td>Crossing of pedestrians/habitant area/ school/ hospitals/ educational institute etc.</td>
<td>Foot over bridges under passes, zebra crossings etc.</td>
</tr>
<tr>
<td>Animal/ cattle crossing</td>
<td>Cattle passes/VUP, fencing etc.</td>
</tr>
<tr>
<td>Hill roads/sharp curves</td>
<td>Various safety measures including crash barriers</td>
</tr>
</tbody>
</table>

44. The Committee recommends that the Ministry may take immediate steps to ensure that the black spots on National Highways across the country are rectified on a war footing. Data pertaining to black spots may be analyzed to ascertain why the particular spots ended up causing so many road accidents and what steps could have been taken at the road design and construction stage to avoid the same from becoming black spots. The inferences drawn may be utilized in future NH projects across the country in order to minimize the development of black spots therein.
45. The Committee recommends that CCTV cameras may be installed at accident prone sites, black spots which are yet to be rectified, and other important locations on the NHs to monitor road accidents and arrange urgent medical help. Drone services may also be utilized for watching and regulating vehicle movements on NHs and adequate budgetary provisions for the same may be ensured.

46. The Committee further recommends that the Ministry may onboard the State Government Departments concerned, to utilize the Blackspot MIS portal as well so that the State Departments can develop a similar system of identification, data collection and rectification of black spots on NHs maintained by PWDs, State Highways and other district roads.

47. During the meeting of the Sub-Committee held on 9th May, 2022, Chairperson, NHAI informed that NHAI has identified about 4,002 black spots out of which 2,569 black spots have been rectified while work is in progress to rectify about 689 black spots. She stated that there is a dearth of road safety auditors in the country and that NHAI has taken up training programme of road safety audit to create its own force of road safety auditors.

48. The Committee hopes that the road safety audit training programme being taken up by NHAI suffices to meet the requirement of road safety auditors in the country. The Committee recommends that NHAI may outsource any interim requirements for road safety auditors as road safety audits play a crucial role in ensuring safety provisions on NHs across the country and dearth of human resources cannot be an excuse to delay the audits.

**Encroachment of NHs and the issue of stray cattle/wildlife**

49. In its meetings held on 8th April and 9th May, 2022, various members of the Sub-Committee raised the issue of stray cattle and animals on NHs often causing accidents and clogging of highways due to local markets, shops, hotels, parking of trucks at nights etc. In response to a query regarding the steps taken by the Ministry on the issue, the Ministry informed that during the DPR stage itself, it is envisioned to incorporate any special corridors for movement of wildlife / cattle, if required, and efforts are made to plan the highways with as much degree of access control as possible to prevent any animal-vehicle conflicts. Further, in case certain specific locations develop into black spots due to repeated incidents, fencing/boundary wall may be planned for rectification of black spots. As regards encroachment, the
Ministry informed that the powers of highway administration have been decentralised to PIU level by Govt. of India and special drives are conducted at PIU level with the assistance of local police & administration to remove such encroachments from the National Highways.

50. The Ministry further submitted that there is no provision of regulating parking on National Highways other than traffic regulation being carried out by State Police. Besides “No parking” signs which are mandatory/compulsory signs are installed to prevent parking at specific locations on National Highways in the interest of safety. However, amenities such as Truck as well as Bus Lay Byes along with wayside amenities are incorporated in the DPR stage itself as per the outcome of survey investigations so as to facilitate land acquisition for such facilities. These facilities are provisioned for construction in the tender documents. Parking outside the designated areas along the National Highways may attract fine under Highway Administration rules, 2004 as per control of National Highways (Land & Traffic) Act, 2002.

51. The Ministry informed the Sub-Committee that the access permission to all types of private properties including Hotels along National Highways is given as per latest guidelines issued by MoRTH vide letter No. RW/NH/33032/01/2017/S&R(R) dated 26.06.2020. The guidelines have been formulated keeping in view the aspects of road safety as well as unhindered smooth flow of traffic in mind.

52. The Committee feels that the issue of stray cattle and animals on National Highways is very serious and often causes fatal road accidents. The Committee notes that special corridors for the movement of wildlife/cattle, if required, is envisioned by the Ministry at the DPR stage itself and in case certain specific locations develop into black spots due to repeated incidents, fencing/boundary wall is planned for rectification of the black spots. The Committee is dismayed to note that provisions for fencing/boundary wall to prevent wildlife/cattle is planned after several incidents of fatal accidents on a particular stretch cause it to become a black spot. There should be some mechanism to monitor the frequency of incidents of wildlife/ cattle straying on roads even when the same has not caused any fatal accident yet, and proactive steps may be taken to curb the same. Necessary action may be taken to coordinate with local law enforcement or concerned agencies to impose a penalty on cattle/animal-rearers for letting out their animals on National Highways.

53. The Committee notes that provisions already exist for imposing fines for parking outside the designated areas on National Highways but the ground reality points to the lack
of proper implementation of the same. Trucks and vehicles parked on ill-lit highways at night time cause severe accidents and as such, tackling this problem should be a matter of high priority. The Committee notes that this issue may be looked into and possible solutions may be devised and implemented in earnest, in coordination with the concerned agencies.

54. The Committee recommends that the Ministry/NHAI may take a serious look into the issue of encroachment of service roads by local markets and create an effective policy in order to curb the same, which may be implemented in coordination with concerned agencies.

55. The Committee further recommends that provisions may be included in the NHAI’s Sukhad Yatra app to allow highway users to post complaints about encroachment and stray cattles/animals on NHs.

56. The Committee feels that the Ministry/NHAI should work on controlling access to National Highways to the extent possible, since doing so allows vehicles to travel at faster speeds, with lesser chances of accidents as merging traffic is controlled at entry points. The Committee recommends that the Ministry may examine the feasibility of raising the height of National Highways to generally control uncontrolled free access to the NHs. The Committee feels that this could lower the incidents of stray cattle/wildlife roaming on the NHs as well.

**Speed Breakers**

57. During its meetings, the Committee noted the lack of adequate markings on speed breakers and sought to know the guidelines/rules in place for the construction of speed breakers on National Highways. In its written reply in this regard, the Ministry informed the Committee that Design and construction of roads including National Highways (NHs) are carried out as per Indian Roads Congress (IRC) codes and Ministry of Road Transport & Highways’ guidelines. The standards for construction of speed breakers are contained in IRC Code No. IRC:99-1988 “tentative guidelines on the provision of speed breakers for control of vehicular speeds on minor roads.” Wherever reduction of speed on NHs becomes unavoidable due to specific site constraints, States / UTs have been asked to provide rumble strips as per the Ministry’s guidelines as traffic calming measures. Further, Ministry of Road Transport & Highways has
also requested vide letter no. RW/NH-33037/01/2016/S&R(R) dated 11th April, 2016 to all the States to remove unauthorized speed breakers from National Highways and recommended the provision of Rumble strips at locations like approaches to sharp curves, level crossings, congested or accident prone locations etc., where control of speed is unavoidable on NHs.

58. The Committee notes that the standards for construction of speed breakers are contained in IRC Code No. IRC:99-1988 “Tentative guidelines on the provision of speed breakers for control of vehicular speeds on minor roads”. Since the aforementioned tentative guidelines had been published decades ago, the Committee would like to know whether any steps have been taken by the Ministry/IRC to frame new guidelines for the provision of speed breakers on National Highways in light of new construction technologies and relevant data/studies in this regard. The Committee is of the strong view that all codes/guidelines prescribed for the construction of National Highways and provisions relating thereto, should be periodically reviewed and necessary revisions must be made from time to time to make the most of modern technologies and developments in the road sector.

59. The Committee further recommends that the Ministry may strongly take up the matter of removal of unauthorized speed breakers from National Highways with State Governments, since such speed breakers not only slows down the speed of the traffic on the NHs, but could also lead to accidents in absence of proper markings. The Ministry may implement a mechanism to periodically survey the National Highways for presence of unauthorized speed breakers, poor quality of roads, potholes, absence of signages etc. so that requirements of maintenance and remedial action can be identified and met.

Service Roads

60. The Ministry, in its background note, informed the Committee that Service Roads are meant for improving road safety by segregating the local traffic from the through traffic. Accordingly, the service roads are provided as part of the projects at built up locations along the highways in urban areas, in expressways to serve local traffic/population. Adequate care is taken to assess the requirement of Service Roads along the NHs.

61. In response to a query of the Sub-Committee regarding linkage of local roads to main highways, the Ministry, in its written reply, informed that connectivity between existing road
network and national highways is ensured during conceptualization of highway projects. It further stated that in some cases, connectivity includes provision of service roads and vehicular underpasses to provide connectivity to the local community. Provision of service roads is made for National Highway projects wherever found necessary. In particular along Greenfield corridors, development of service roads is not in line with the concept of access-controlled corridors and would diminish the benefits of these flagship corridors. In such cases Ministry has ensured development of underpasses along the corridor to ensure un-hindered movement of local population with additional provisions made as per site requirements. It is intended to provide sufficient crossing facilities along the corridor in the DPR stage itself. However, for various reasons, such as, development of new industries, changes in development plans by the local district authorities etc., sometimes, the need for additional provisions arises during execution. To cater to these requirements expeditiously, authority for development of these underpasses has been delegated to field officers to expedite the process.

62. Given the crucial role of service roads in improving road safety on the NH network, the Committee reiterates its following recommendation made in para 117 of its 317th Report on DFG (2022-23) of the Ministry of Road Transport and Highways:

The Committee observes that the lack of service roads alongside National Highways causes inconvenience to local residents and is, at times, the cause of road accidents. The land required for development of National Highways is acquired from the local people and they should be given the benefits of service roads along National Highways. The Committee feels that service roads are an integral part of National Highways and therefore, recommends that the Ministry may make it mandatory to have service roads along NHs to the extent possible and provisions for the same may be included in the tender document for NH projects.

63. The Committee further recommends that the Ministry/NHAI may ensure that the quality of service roads is as good as the main National Highway especially in terms of load capacity as heavy vehicles plying on the NHs also use the service roads at times. Special budgetary allocation may be made to ensure the provision of service roads alongside NHs, to the extent possible, at the DPR stage itself.
64. The Committee notes that the development of service roads along Greenfield corridors is not in line with the concept of access-controlled corridors and that the Ministry has ensured the development of underpasses along the corridor to ensure un-hindered movement of local population. In this regard, the Committee recommends that drainage provisions may be made a core part of such underpasses, keeping in mind the rainfall statistics of the region.

**Research and Development**

65. The Ministry furnished the following details regarding the allocation and expenditure under budget head of “Research and Development” by the Ministry during the last 5 years are given below. The Ministry stated that However, these figures do not include the expenditure incurred by NHAI on their R&D projects.

<table>
<thead>
<tr>
<th>Year</th>
<th>RE Allocation</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-18</td>
<td>78.32</td>
<td>8.05</td>
</tr>
<tr>
<td>2018-19</td>
<td>40.88</td>
<td>8.71</td>
</tr>
<tr>
<td>2019-20</td>
<td>39.28</td>
<td>29.52</td>
</tr>
<tr>
<td>2020-21</td>
<td>79.00</td>
<td>34.36</td>
</tr>
<tr>
<td>2021-22</td>
<td>48.96</td>
<td>41.43</td>
</tr>
</tbody>
</table>

66. In reply to a query of the Committee regarding research activity carried out to minimize the damage caused to National Highways in flood-prone states such as Bihar, Maharashtra etc., the Ministry, in its written reply, informed the Committee that Research activities carried out by MoRTH are aimed at sustainable development with development of new materials/technology,
use of waste/marginal materials, reducing carbon footprints, faster construction, longer durability, etc., which also help in building better quality roads in flood prone states such as Bihar but no separate research activities to minimize the damage caused to National Highways in flood-prone states has been carried out. However, in Wadkhal-Aligabh Section of NH-166A in Maharashtra, NHAI has started research trials under supervision of CRRI (Central Road Research Institute - New Delhi) with an aim to minimize the damage caused to National Highways during floods/rains.

67. The Committee notes that adequate research is required for construction and development of roads. Specifications/guidelines/codes prescribed by the Ministry/NHAI for construction of roads directly determine the quality of NHs and their longevity. It is crucial that due importance is given to research activities in the road sector. The Committee, therefore, strongly recommends that more budget should be allocated for this purpose. Given the crucial role played by Indian Roads Congress (IRC) in conducting research and preparing and publishing technical specifications for road construction across the country, the Committee recommends that the Ministry should ensure that IRC is granted adequate budgetary allocation so that it can carry out its mandate effectively. It should also be ensured that the budgetary requirements of other road research agencies like Central Road Research Institute (CRRI), Indian Academy of Highway Engineers (IAHE), NHAI’s Standards, Research and Development & Quality (SRD&Q) Division, are properly met. The Ministry may facilitate coordination between these agencies through a suitable mechanism and encourage them to collaborate with leading road research institutions in the world so that global best road construction and safety standards can be implemented in the Indian road sector.

68. The Committee notes that the majority of Indian roads face the most damage during the monsoon season. Water logging in bitumen roads leads to potholes due to the eroding of the asphalt layer. To prevent water damage, most Indian roads do have a Camber which is the slope provided to the road surface to drain off water but lack storm water drains which take the water which is drained to the side by a Camber and carry it off to a water body. Without drainage, a road will suffer during a monsoon even if it is well-constructed. In Tamil Nadu, rainwater harvesting was made compulsory some years back and since then there is less damage to the roads. The Committee, therefore, recommends that drainage provisions should be made mandatory at the DPR stage itself, especially for
NH projects in high-rainfall regions. The Committee further recommends that the Ministry may carry out thorough research in this regard in collaboration with expert research bodies and review its existing codes/guidelines, if any, for drainage provisions on NHs, based on the outcomes of the research.

**Arbitration between the Ministry/NHAI and the Contractors**

69. The Ministry, in its written reply, informed the Committee that arbitration between the contractor and the NHAI / Ministry is governed by the Arbitration and Conciliation Act, 1996 (Arbitration Act). In August 2013, NHAI & the National Highways Builders Federation (NHBF) had set up a Society for Affordable Redressal of Disputes (SAROD) to conduct arbitration in a cost effective and time-bound manner and to ensure dispute resolution by technical experts. The SAROD has been incorporated under Societies Registration Act, 1860 on 25th October 2013 for settlement of Disputes through Arbitration in a cost effective and time bound manner.

70. The Ministry informed the Sub-Committee that the main objectives of SAROD are:

- To reduce cost of arbitration.
- For expeditious disposal of disputes in just and fair manner.
- To reduce pendency of disputes.
- To evolve subject matter technical experts in arbitration process.

71. With regard to the criteria for appointment of arbitrators, the Ministry stated that SAROD has a list of empanelled arbitrators, who are field experts. Under SAROD rules, any dispute under INR 3 crores will be resolved by a single arbitrator appointed from the panel. If the dispute is worth more, parties shall appoint an odd number of arbitrators, but the presiding arbitrator must be from the panel maintained by SAROD. The SAROD rules also ensure neutrality and independence of the arbitrators by having a code of conduct and disallowing the arbitrator to make a unilateral agreement with any of the parties. The parties to the dispute are free to choose from the panel of arbitrators maintained by SAROD in order to respect the principle of party autonomy and ensure a fair dispute resolution. The present & future Concession Agreements now have a ‘Dispute Resolution Clause’ enabling referring of the disputes to ‘SAROD’ for amicable dispute resolution.

72. The Committee takes note of the mechanism presently in place for arbitration and resolution of disputes between the authority and road contractors. The Committee
observes that disputes between the concessionaire and the authority is one of the core reasons behind delays in road projects. Therefore, having an effective mechanism in place to minimize the delay resolution time to the extent possible is very important to avoid cost and time overruns in execution of NH projects. The Committee desires the Ministry to holistically examine the efficacy of the existing arbitration and dispute resolution mechanism in settling disputes between the involved parties and streamline the same so as to avoid litigations as far as possible. Further, it has come to the notice of the Committee that a significant portion of the amount of claims presently under arbitration pertain to a select few big concessionaires (details are placed at Annexure-III). The Committee notes that the Ministry of Road Transport and Highways has supplied the reasons for pending arbitration cases. The concessionaires raised the claims on ground of delay in declaration of appointed date, delay in obtaining environment clearance, prolongation of project due to various reasons, termination payment, loss of toll revenue, delay in commencement of toll operation, loss of productivity of machinery, loss of revenue to the concessionaires envisaged in the financial model before accepting the project, etc.. The Committee recommends that the Ministry should study the reasons thoroughly to identify the veracity of the reasons and ensure that such reasons should not become a reason in future for delay of projects or arbitrations.

73. The Committee may be apprised of the steps being taken by the Ministry to penalize road contractors who habitually take road projects to litigation without solid basis for the same, causing undue delays in completion of road projects.

74. The Committee further desires to be apprised about whether any mechanism is in place to ensure that road contractors, if blacklisted, do not start bidding for new projects by registering under a new name.

Setting up Dedicated Underground Utility Corridors

75. The Ministry, in its written reply regarding setting up dedicated underground utility corridors for laying of optical fiber cables, sewage lines etc. without frequent trenching of NHs, informed the Committee that for crossing of utilities across the greenfield highways utility ducts at suitable intervals are laid to avoid cutting of roads or costly drilling methods. The Ministry
further stated that for carrying out feasibility of laying of integrated utility corridor along highway in green field corridors, NHAI has engaged Andhra Pradesh Urban Infrastructure Asset Management Limited (APUIAML) for development of model framework/SOPs for laying of utility ducts along National Highways. As per feasibility report submitted by APUIAML, the combined utility corridor is capital intensive and as such is not viable. However, consultant has reported that among all utilities, laying of OFC lines in the utility corridor may be feasible. Accordingly, bids have been invited by National Highways Logistics Management Limited (NHLML), for laying of OFC on Delhi Mumbai Expressway and Hyderabad Bangalore Industrial Corridor on Pilot basis.

76. The Ministry further stated that at present no draft policy is in contemplation by NHAI related to utility corridor and monetization thereof. However, a committee has been constituted by the Department of Telecommunications to prepare Designs and Standards for Common Ducts & Posts Infrastructure” to be established along public pathways.

77. The Committee notes that the feasibility report submitted by Andhra Pradesh Urban Infrastructure Asset Management Limited (APUIAML) has found the combined utility corridor to be capital intensive and not viable. The Committee hopes that APUIAML has considered the lifecycle cost of the utility corridor and looked into the operationalization and monetization of underground utility corridors in developed countries. The Committee desires to know from the Ministry whether APUIAML or the Ministry factored in the cost borne by the public/private organizations in frequent trenching/digging of NHs for laying different types of cables/lines and repair thereof, while examining the feasibility of underground utility corridors. The Committee recommends that the Ministry may take steps to figure out how the underground utility corridors are being viably implemented in other countries and analyze whether a similar approach could help make the underground utility corridors viable in India.

Women Safety

78. The Ministry, in its written reply, furnished the following budget allocation and expenditure details under the head 'Scheme on Women Safety' for the last 5 years are as under:-
Allocation Details – Road Transport: Scheme for Women Safety on Public Road Transport

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Financial Year</th>
<th>BE (in Rs Crore)</th>
<th>RE (in Rs Crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2022-23</td>
<td>20</td>
<td>--</td>
</tr>
<tr>
<td>2</td>
<td>2021-22</td>
<td>100</td>
<td>33</td>
</tr>
<tr>
<td>3</td>
<td>2020-21</td>
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</tr>
<tr>
<td>5</td>
<td>2018-19</td>
<td>174.36</td>
<td>174.36</td>
</tr>
<tr>
<td>6</td>
<td>2017-18</td>
<td>Funds received from MWCD, project-wise</td>
<td></td>
</tr>
</tbody>
</table>

Expenditure Details – Road Transport: Scheme for Women Safety on Public Road Transport

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Project/ Scheme</th>
<th>Year-wise release of Funds (Rs. Cr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Abhaya Project Proposal for safety of women and girl child, Govt. of Andhra Pradesh</td>
<td>58.64</td>
</tr>
</tbody>
</table>
79. The Committee feels that a lot needs to be done to improve the state of safety of women on public road transport like installing proper signages, cell phone networks, street lights, highway patrol etc. The Committee is dismayed to note the declining trend of budgetary allocation under the ‘Scheme on Women Safety’ in the last 5 years and desires to be apprised of the reasons behind the underutilization of the funds.

80. From the expenditure details furnished by the Ministry, the Committee notes that only three States have been provided funds under this scheme, besides the expenditure incurred under ‘Development, customization, deployment and management of State-wise vehicle tracking platform’. The Committee recommends that the Ministry may come up with new schemes to improve safety of women on National Highways in coordination with State Government Departments concerned with public transportation. Suitable provisions may be made to prominently display helpline numbers for women on the NH network across the country using well-illuminated signages in multiple languages.

81. The Sub-Committee further observed that Andhra Pradesh and Telangana are among seven States/UTs which have not opted for the Scheme for State-wise Vehicle Tracking Platform.
under Nirbhaya Scheme which aims to improve safety of women in public transport. The Sub-Committee sought to know whether the Ministry had raised the issue with the respective State Government of AP and Telangana to ascertain the reasons behind their non-participation in the Scheme, as recommended by the Committee on Transport, Tourism and Culture in its 317th Report on DFG (2022-23) of the Ministry. The Ministry, in its written reply, informed the Sub-Committee that Andhra Pradesh has applied for the funds for setting up the Monitoring Centre and the funds have been disbursed vide Sanction order dated 31.03.2022. The Ministry submitted that Telangana has not applied for funds for setting up the Monitoring Centre and that the Ministry has brought this to the notice of the State Government vide letter dated 26.02.2021 and reminders dated 23.03.2021, 30.07.2021, 30.09.2021, 02.11.2021 and 06.12.2021. The Ministry stated that further efforts are being made to get the State on board.

82. The Committee desires to be apprised of the reasons, if any, furnished by the Government of Telangana for not applying for funds for setting up the monitoring centre. The Committee recommends that the issue may be taken up at higher levels with the State Government in order to permit the implementation of the scheme in Telangana.

Overloaded Trucks

83. During the meetings of the Sub-Committee on the subject, some of the Members raised the issue of overloaded vehicles causing damage to the roads which are not built to withstand such heavy vehicles. The Committee strongly feels that overloaded vehicles not only cause severe damage to the roads, but also pose a significant safety risk to other vehicles plying on the road.

84. The Committee recommends that the Ministry may undertake a systematic study of the damage caused by overloaded trucks on National Highways and the negative impact of the same on the longevity and safety of the highways.

85. The Committee strongly recommends that the Ministry may take immediate measures to curb the menace of overloaded vehicles on National Highways such as rectifying weighing machines which are non-functional for a long time. Hefty fines should be imposed on vehicles not abiding by the limits. The Ministry may coordinate with the concerned Ministries and State Departments to introduce provisions for penalty on the consignor and consignee as well, besides the truck owners. The Committee feels that doing
so would deter the loading of excess load from the source itself and prevent damage to NHs while also improving road safety.

86. The Committee recommends that the Ministry may explore the possibilities of reforming the provisions to charge toll on the basis of weight of the vehicles, instead of axle-based toll collection. The Committee feels that the implementation of weigh-in motion system to issue automated challans/penalty would eliminate the possible collusion of corrupt officials with the heavy vehicle owners and help curb the menace of overloading.

**Poor quality of construction by Sub-Contractors**

87. Some Members of the Sub-Committee raised the issue that big road contractors who are handling 20-25 projects, sublet large projects to small contractors who do not get paid on time by the big contractors, thus halting the progress of road projects.

88. The Committee recommends that the Ministry may look into the issue and, if possible, consider making direct payments to approved sub-contractors to mitigate the delays caused by the main contractors. The Committee also desires to be apprised of the reasons for which the Ministry/NHAI prefers allowing contractors to hire sub-contractors as compared to breaking down the project into smaller stretches on its own so that smaller contractors could also bid for the same.

**Miscellaneous Recommendations**

**Road Connectivity to Tourist Destinations**

89. The Committee feels that robust road connectivity to tourist destinations is one of the prerequisites to developing the country as a tourism hub. In view of this, the Committee strongly recommends that the Ministry may allocate special budgetary provisions for the purpose of improving National Highway connectivity to important tourist places across the country, seeking requirements for such projects from the Union Ministry of Tourism as well as State Tourism Departments.
Implementation of Recommendations made by the Committee

90. The Committee recommends that the Ministry may analyze the recommendations/observations made in this Report and executive orders, where possible, may be issued in order to implement the same on an urgent basis since doing so will help improve the state of maintenance and quality of NHs and improve road safety. In case implementing some of the recommendations made by the Committee requires legislative amendment, consultations may be made with the concerned departments and if necessary, amendment of the Acts administered upon by the Ministry may be introduced in the Parliament.

Spur Road for linking Samastipur with NH-119D

91. One of the Members raised the issue of removing the provision for a 2.1 km spur for linking the city of Samastipur with Package 3 of NH-119D Amas-Darbanga Expressway, from the project and sought to know the reasons for the same.

92. The Committee desires to be apprised of the reasons for removing the provisions for the 2.1 km spur for linking the city of Samastipur with Package-3 of NH-119D Amas-Darbanga Expressway and recommends that the Ministry may consider including the provisions for the spur road to connect the city with the NH that is passing at a distance of just 2.1 km from it.

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RECOMMENDATIONS/OBSERVATIONS – AT A GLANCE

Review of awarded/ongoing projects

The Committee takes note of the ongoing NH projects in the States of Andhra Pradesh, Telangana, Bihar and Maharashtra and the various steps being taken by the Ministry to minimize delays in execution of the ongoing projects. The Committee recommends that all the ongoing NH projects may be monitored closely, the onset of any sort of deviation from the scheduled timeline for a NH project may immediately be looked into and necessary remedial action may be taken at the earliest so as to avoid significant time and cost overruns.

(Para 9)

The Committee recommends that due provisions for underpasses or flyover should be included at the DPR stage itself for all NH projects, for uninterrupted flow of both pedestrian and vehicular traffic for every village/town near the highway as well as on accident-prone junctions, to minimize accidents.

(Para 10)

The Committee further recommends that CCTV cameras may be installed every few kilometers at the construction stage of road projects for close monitoring by NHAI officers/engineers and other stakeholders including public representatives (MPs/MLAs). Doing so would permit round-the-clock ground-level monitoring of the progress being made in ongoing road projects and also inculcate fear amongst wrongdoers. If required, the CCTV project may be implemented with funds available under the Nirbhaya Scheme. The CCTV cameras thus installed can be made a part of the fully constructed road once the road project gets completed and can be used to monitor traffic movements/accidents/thefts etc.

(Para 11)

The Committee desires to be apprised of the present status of important road projects such as the Hajipur-Chhapra Highway (NH-19), Nagpur Outer Ring Road Package-I and II, six-lane road sanctioned from Diwancheruvu to Anakapalle, Greenfield NH 516E between Rajahmundry-Rampachodavaram, bridge across the Kanhan river, repair works at Nagpur-Bhandara Road, Patna-Gaya NH etc., alongwith reasons for delay, if any, in execution of the same.

(Para 12)
Maintenance & Quality of Road

Maintenance and Repair (M&R) of Road

The Committee takes note of the present mechanism for Maintenance and Repair (M&R) of National Highways in India. However, the Committee is deeply concerned to note that the Ministry/NHAI is managing the maintenance and repair of NHs across the country with an allocation of just about 40% of the actual requirements estimated by the Ministry. The Committee feels that the shortfall of sufficient budgetary allocation is reflected in the sub-par quality of National Highways that is often witnessed across the country, especially in Andhra Pradesh, Telangana, Bihar and Maharashtra. Maintenance and Repair of the existing National Highways is of utmost importance in order to keep them in a safe, pliable condition and to permit good average traffic speeds. This should be given higher priority than construction of new National Highways. In this regard, the Committee notes that it has repeatedly recommended a much higher budgetary allocation for Maintenance and Repair of National Highways in its previous Reports viz., para 75 of 317th Report on Demands for Grants (2022-23) of the Ministry, para 12 of 296th Report on ‘Role of Highways in Nation Building’, para 45 of 287th Report on DFG (2021-22) of the Ministry, para 55 of 278th Report on DFG (2020-21) of the Ministry, etc. The Committee has repeatedly observed that in the ‘Strategy for New India @ 75’, NITI Aayog advocates that India should begin with earmarking 10 percent of its annual budget for Road and Highways for maintenance, to move towards the developed country norm of earmarking 40 percent to 50 percent of the budget for roads and highways for maintenance. However, year-after-year, the actual budgetary allocation made for Maintenance and Repair of National Highways remains less than even 4 percent of the annual budget. The Committee, therefore, strongly recommends that the Ministry must give much more priority to M&R of NHs across the country, allocate substantially higher budgetary allocation for M&R and utilize the same to implement a robust monitoring mechanism to identify and meet the M&R requirements on NHs across the country. The Ministry should be proactive in its approach towards M&R of NHs, carrying out well-defined maintenance checks and periodic M&R activities on NHs.

(Para 17)

The Committee recommends that 100% requirement for Maintenance and Repair projected by the Ministry of Road Transport and Highways should be allocated in the
budget. Any reduction in the budget for M&R may result in deterioration of the roads constructed with hundreds of crores of National Budget which will be national wastage.

(Para 18)

The Committee feels that NHAI’s ‘Sukhad Yatra’ smartphone application can be utilized to gain insights into requirements for M&R on NHs by making the general public a source of information for such requirements. In this regard, the Committee reiterates the following recommendation made in para 51 of its 317th Report on DFG (2022-23) of the Ministry:

*The Committee is of the considered view that wide adoption of the application can help NHAI gain free actionable information regarding the issues being faced by NH users across the country, which can be quickly acted upon, thus ensuring a well-maintained and safe driving experience on the NHs. The Committee, therefore, recommends that the Ministry may work upon improving the usability of the Sukhad Yatra smartphone application at the earliest and come up with innovative means to promote the application to NH users across the country. An option to seek feedback from the person posting a complaint using the app, may also be added so as to gain insight into whether the problem pointed out by the complainant has actually been resolved or not.*

(Para 19)

The Committee recommends that using the data collected through the Electronic Toll Collection (ETC) and other suitable means, the Ministry may analyze the average traffic speed of various stretches of National Highways. The Committee feels that the stretches with low average traffic speeds can then be monitored on a closer level to understand the issues throttling the traffic speed, which should lead to identification of M&R requirements on different stretches of NHs across the country.

(Para 20)

The Committee desires to know the mechanism existing at present to identify M&R requirements on NHs across the country. The Committee further recommends that the Ministry may collaborate with leading research institutions to devise mechanisms to efficiently identify and execute the M&R requirements of the extensive NH network in the country.
Quality of Roads

The Committee notes the existing mechanism to ensure that the road works are executed as per prescribed specifications and standards. However, in light of the sub-par quality of road construction often witnessed on NHs across the country, the Committee recommends that the Ministry may undertake a thorough review of the existing monitoring mechanism for road construction quality and come up with ways to plug the gaps in the same so as to ensure higher quality NHs in the future. The Committee further recommends that the Ministry may enact provisions for imposing severe financial penalty on the individuals appointed as Authority’s Engineer/Supervision Consultants in cases where gross negligence of the prescribed specifications and standards is observed in roads approved by them.

The Committee appreciates the recent initiative of the Ministry to strengthen the Quality Control set up of NH projects by engaging the services of Mobile Inspection Vans (MIVs) for Inspection and Quality assessment of NH projects. The Committee hopes that the pilot project for engaging the services of MIVs turns out to be a success so that the MIVs can be utilized across the country for better quality control of ongoing and future NH projects in the country.

The Committee recommends that provisions may be introduced to assess the condition of new NHs at a defined time period after their operationalization, especially in terms of issues such as gaps in construction, rutting and high number of potholes on the highway etc. Strict penal action may be taken against the road contractor as well as the approving authorities in case substantial degradation of the NH is observed within a short period of operationalization of a newly constructed NH.

The Committee notes that bituminous roads (flexible pavements) are common in use in India since it is relatively cheaper as compared to concrete roads. It is possible to construct relatively thin bituminous layers over existing pavements therefore the road can be strengthened by constructing bituminous pavement layers one after the other in stages in a
certain period of time unlike the cement concrete or rigid pavement construction. Cement concrete pavement has a high initial investment but has excellent riding surface and longer life of 20 or so years in contrast with bitumen roads which have an average lifespan of 4-5 years. Cement concrete roads are prevalent in most developed nations. In India, Mumbai has switched to concrete roads. Flexible pavement failures are characterised by formation of potholes, ruts, cracks and localised depressions while the main defect developed in rigid pavements is structural cracks. Very little maintenance like maintenance of joints only is required in cement concrete roads. The Committee, therefore, recommends that the Ministry may carefully analyze the cost-benefit analysis of the bituminous roads and cement concrete roads. The Committee feels that the road condition often witnessed on National Highways points to the need for a holistic review of the policy for evaluation of materials to be used in order to ensure that best possible materials are being used and the National Highways being constructed are of best possible quality. The Committee, therefore, recommends that the Ministry may take necessary steps to ensure that the choice of construction material used is made by factoring into account all long-term pros and cons of choosing one material over the other, given the specific needs of the particular NH project.

(Para 28)

Road Safety

The Committee appreciates the Ministry’s efforts in terms of various activities undertaken by it to bolster road safety in the country viz., spreading awareness about road safety, road and vehicle engineering, enforcement of the existing legal/legislative provisions for road safety and emergency care. However, India ranks number 1 in the world in terms of road accident deaths as per a 2021 World Bank Report and this highlights the need for much stronger, well-coordinated efforts to be put into minimizing the large number of road accidents taking place on Indian roads and highways. The loss of so many lives in road accidents every year has a severe detrimental effect on the lives of a large number of families as well as the overall Indian economy. The Committee, therefore, recommends that the Ministry may formulate a holistic multi-pronged strategy in coordination with State Governments and Union Ministries concerned in order to minimize the number of road accidents and resulting deaths on Indian roads.

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The Committee further recommends that a robust database may be maintained recording important details relating to all fatal accidents taking place on National Highways across the country and the information obtained may be analyzed to identify patterns pointing to possible faults in road and vehicle engineering. Provisions may be made for a third-party survey of the stretch of NH where a fatal accident takes place, that may be carried out immediately after such an accident, to assess the state of implementation of road safety provisions such as signages, street light, road quality etc. prescribed for that particular stretch. The survey would help find the reasons behind the lapse in road safety provisions, if any, on the NH stretch and accountability may be placed on the concerned officials and/or road contractors for any lapses. Inferences derived from such surveys can be utilized to find gaps in the existing road safety provisions on NHs which can be plugged to ensure that upcoming National Highways across the country are as safe as possible, with special focus on road safety from the DPR stage itself.

The Committee may be apprised of the present status of implementation of the scheme for the cashless treatment of victims of the accident during the golden hour, as provided by the Motor Vehicles (Amendment) Act, 2019 along with reasons for delay in implementation, if any.

The Committee reiterates its recommendation made in Para 277 of its 296th Report on ‘Role of Highways in Nation Building’, which is as follows:

*The Committee feels that the Ministry should lay much more emphasis on its road safety awareness initiatives. Social media may be utilized for this purpose. The Committee desires that the Ministry may, in coordination with Ministry of Education, introduce information pertaining to road safety, basic road etiquettes, action to be taken in case of an accident, etc. in school curriculum across the country.*

The Committee recommends that the Ministry may analyze the road safety provisions on highways in developed countries where the accident rates are much lower than that of
India’s National Highways. A foolproof inspection and monitoring mechanism may be set in place to ensure that road safety provisions prescribed for the National Highways are strictly implemented as per the guidelines and rules in this regard.

(Para 35)

The Committee further recommends that the Ministry may come up with provisions to make it mandatory to install street lights on the entire National Highways network in the country since poor lighting conditions lead to severe accidents. The regular maintenance of these street lights may also be suitably ensured in coordination with the concerned agencies.

(Para 36)

The Committee also strongly recommends that the Ministry may thoroughly assess the requirements for ambulances on the NH network across the country and arrange for the same in coordination with the concerned agencies so as to enable quality care to accident victims during the golden hour. Availability of ambulances may especially be ensured near accident-prone sites and black spots. The Ministry/NHAI may spread awareness regarding the helpline number to avail urgent medical assistance in case of road accidents, through suitable means.

(Para 37)

The Committee is of the view that having provisions for food joints, restrooms, toilets and other amenities alongside National Highways can reduce the menace of illegal parking of vehicles on NHs and help avoid accidents, since the drivers would be able to relax and refresh themselves without parking outside the designated areas. The Committee, therefore, recommends that the Ministry may chalk out a plan to have provisions for such spaces at regular intervals on NHs, possibly in partnership with the original landowners, on the entire NH network. Doing so would provide NH passengers with a more comfortable experience while providing a regular source of revenue to the landowners whose land was acquired for the construction of the NH.

(Para 38)

The Committee feels that awareness of traffic rules would go a long way in improving the driving habits of drivers in the country, making the roads safer for everyone. The
Committee, therefore, recommends that the Ministry may partner with NGOs and educational institutions in order to raise awareness of traffic rules and road safety.

(Para 39)

The Committee recommends that the Ministry may issue guidelines to limit the number of hours commercial drivers can drive in a day to a reasonable limit, say, 10 hours a day. If a suitable mechanism can be devised to implement this in earnest, this would ensure that commercial drivers are well rested, making the roads safer for all travellers.

(Para 40)

The Committee recommends that helicopter landing facilities should be developed at toll plazas across the country at a certain defined distance, so as to enable urgent medical assistance to accident victims.

(Para 41)

Rectification of Black Spots

The Committee recommends that the Ministry may take immediate steps to ensure that the black spots on National Highways across the country are rectified on a war footing. Data pertaining to black spots may be analyzed to ascertain why the particular spots ended up causing so many road accidents and what steps could have been taken at the road design and construction stage to avoid the same from becoming black spots. The inferences drawn may be utilized in future NH projects across the country in order to minimize the development of black spots therein.

(Para 44)

The Committee recommends that CCTV cameras may be installed at accident prone sites, black spots which are yet to be rectified, and other important locations on the NHs to monitor road accidents and arrange urgent medical help. Drone services may also be utilized for watching and regulating vehicle movements on NHs and adequate budgetary provisions for the same may be ensured.

(Para 45)

The Committee further recommends that the Ministry may onboard the State Government Departments concerned, to utilize the Blackspot MIS portal as well so that the State
Departments can develop a similar system of identification, data collection and rectification of black spots on NHs maintained by PWDs, State Highways and other district roads.

(Para 46)

The Committee hopes that the road safety audit training programme being taken up by NHAI suffices to meet the requirement of road safety auditors in the country. The Committee recommends that NHAI may outsource any interim requirements for road safety auditors as road safety audits play a crucial role in ensuring safety provisions on NHs across the country and dearth of human resources cannot be an excuse to delay the audits.

(Para 48)

**Encroachment of NHs and the issue of stray cattle/wildlife**

The Committee feels that the issue of stray cattle and animals on National Highways is very serious and often causes fatal road accidents. The Committee notes that special corridors for the movement of wildlife/cattle, if required, is envisioned by the Ministry at the DPR stage itself and in case certain specific locations develop into black spots due to repeated incidents, fencing/boundary wall is planned for rectification of the black spots. The Committee is dismayed to note that provisions for fencing/boundary wall to prevent wildlife/cattle is planned after several incidents of fatal accidents on a particular stretch cause it to become a black spot. There should be some mechanism to monitor the frequency of incidents of wildlife/cattle straying on roads even when the same has not caused any fatal accident yet, and proactive steps may be taken to curb the same. Necessary action may be taken to coordinate with local law enforcement or concerned agencies to impose a penalty on cattle/animal-rearers for letting out their animals on National Highways.

(Para 52)

The Committee notes that provisions already exist for imposing fines for parking outside the designated areas on National Highways but the ground reality points to the lack of proper implementation of the same. Trucks and vehicles parked on ill-lit highways at night time cause severe accidents and as such, tackling this problem should be a matter of high priority. The Committee notes that this issue may be looked into and possible solutions may be devised and implemented in earnest, in coordination with the concerned agencies.

(Para 53)
The Committee recommends that the Ministry/NHAI may take a serious look into the issue of encroachment of service roads by local markets and create an effective policy in order to curb the same, which may be implemented in coordination with concerned agencies.

(Para 54)

The Committee further recommends that provisions may be included in the NHAI’s Sukhad Yatra app to allow highway users to post complaints about encroachment and stray cattles/animals on NHs.

(Para 55)

The Committee feels that the Ministry/NHAI should work on controlling access to National Highways to the extent possible, since doing so allows vehicles to travel at faster speeds, with lesser chances of accidents as merging traffic is controlled at entry points. The Committee recommends that the Ministry may examine the feasibility of raising the height of National Highways to generally control uncontrolled free access to the NHs. The Committee feels that this could lower the incidents of stray cattle/wildlife roaming on the NHs as well.

(Para 56)

**Speed Breakers**

The Committee notes that the standards for construction of speed breakers are contained in IRC Code No. IRC:99-1988 “Tentative guidelines on the provision of speed breakers for control of vehicular speeds on minor roads”. Since the aforementioned tentative guidelines had been published decades ago, the Committee would like to know whether any steps have been taken by the Ministry/IRC to frame new guidelines for the provision of speed breakers on National Highways in light of new construction technologies and relevant data/studies in this regard. The Committee is of the strong view that all codes/guidelines prescribed for the construction of National Highways and provisions relating thereto, should be periodically reviewed and necessary revisions must be made from time to time to make the most of modern technologies and developments in the road sector.

(Para 58)

The Committee further recommends that the Ministry may strongly take up the matter of removal of unauthorized speed breakers from National Highways with State Governments, since such speed breakers not only slows down the speed of the traffic on the NHs, but
could also lead to accidents in absence of proper markings. The Ministry may implement a mechanism to periodically survey the National Highways for presence of unauthorized speed breakers, poor quality of roads, potholes, absence of signages etc. so that requirements of maintenance and remedial action can be identified and met.

(Para 59)

Service Roads

Given the crucial role of service roads in improving road safety on the NH network, the Committee reiterates its following recommendation made in para 117 of its 317th Report on DFG (2022-23) of the Ministry of Road Transport and Highways:

The Committee observes that the lack of service roads alongside National Highways causes inconvenience to local residents and is, at times, the cause of road accidents. The land required for development of National Highways is acquired from the local people and they should be given the benefits of service roads along National Highways. The Committee feels that service roads are an integral part of National Highways and therefore, recommends that the Ministry may make it mandatory to have service roads along NHs to the extent possible and provisions for the same may be included in the tender document for NH projects.

(Para 62)

The Committee further recommends that the Ministry/NHAI may ensure that the quality of service roads is as good as the main National Highway especially in terms of load capacity as heavy vehicles plying on the NHs also use the service roads at times. Special budgetary allocation may be made to ensure the provision of service roads alongside NHs, to the extent possible, at the DPR stage itself.

(Para 63)

The Committee notes that the development of service roads along Greenfield corridors is not in line with the concept of access-controlled corridors and that the Ministry has ensured the development of underpasses along the corridor to ensure unhindered movement of local population. In this regard, the Committee recommends that drainage provisions may be made a core part of such underpasses, keeping in mind the rainfall statistics of the region.
Research and Development

The Committee notes that adequate research is required for construction and development of roads. Specifications/guidelines/codes prescribed by the Ministry/NHAI for construction of roads directly determine the quality of NHs and their longevity. It is crucial that due importance is given to research activities in the road sector. The Committee, therefore, strongly recommends that more budget should be allocated for this purpose. Given the crucial role played by Indian Roads Congress (IRC) in conducting research and preparing and publishing technical specifications for road construction across the country, the Committee recommends that the Ministry should ensure that IRC is granted adequate budgetary allocation so that it can carry out its mandate effectively. It should also be ensured that the budgetary requirements of other road research agencies like Central Road Research Institute (CRRI), Indian Academy of Highway Engineers (IAHE), NHAI’s Standards, Research and Development & Quality (SRD&Q) Division, are properly met. The Ministry may facilitate coordination between these agencies through a suitable mechanism and encourage them to collaborate with leading road research institutions in the world so that global best road construction and safety standards can be implemented in the Indian road sector.

The Committee notes that the majority of Indian roads face the most damage during the monsoon season. Water logging in bitumen roads leads to potholes due to the eroding of the asphalt layer. To prevent water damage, most Indian roads do have a Camber which is the slope provided to the road surface to drain off water but lack storm water drains which take the water which is drained to the side by a Camber and carry it off to a water body. Without drainage, a road will suffer during a monsoon even if it is well-constructed. In Tamil Nadu, rainwater harvesting was made compulsory some years back and since then there is less damage to the roads. The Committee, therefore, recommends that drainage provisions should be made mandatory at the DPR stage itself, especially for NH projects in high-rainfall regions. The Committee further recommends that the Ministry may carry out thorough research in this regard in collaboration with expert research bodies and review its existing codes/guidelines, if any, for drainage provisions on NHs, based on the outcomes of the research.
Arbitration between the Ministry/NHAI and the Contractors

The Committee takes note of the mechanism presently in place for arbitration and resolution of disputes between the authority and road contractors. The Committee observes that disputes between the concessionaire and the authority is one of the core reasons behind delays in road projects. Therefore, having an effective mechanism in place to minimize the delay resolution time to the extent possible is very important to avoid cost and time overruns in execution of NH projects. The Committee desires the Ministry to holistically examine the efficacy of the existing arbitration and dispute resolution mechanism in settling disputes between the involved parties and streamline the same so as to avoid litigations as far as possible. Further, it has come to the notice of the Committee that a significant portion of the amount of claims presently under arbitration pertain to a select few big concessionaires (details are placed at Annexure-III). The Committee notes that the Ministry of Road Transport and Highways has supplied the reasons for pending arbitration cases. The concessionaires raised the claims on ground of delay in declaration of appointed date, delay in obtaining environment clearance, prolongation of project due to various reasons, termination payment, loss of toll revenue, delay in commencement of toll operation, loss of productivity of machinery, loss of revenue to the concessionaires envisaged in the financial model before accepting the project, etc. The Committee recommends that the Ministry should study the reasons thoroughly to identify the veracity of the reasons and ensure that such reasons should not become a reason in future for delay of projects or arbitrations.

The Committee may be apprised of the steps being taken by the Ministry to penalize road contractors who habitually take road projects to litigation without solid basis for the same, causing undue delays in completion of road projects.

The Committee further desires to be apprised about whether any mechanism is in place to ensure that road contractors, if blacklisted, do not start bidding for new projects by registering under a new name.
Setting up Dedicated Underground Utility Corridors

The Committee notes that the feasibility report submitted by Andhra Pradesh Urban Infrastructure Asset Management Limited (APUIAML) has found the combined utility corridor to be capital intensive and not viable. The Committee hopes that APUIAML has considered the lifecycle cost of the utility corridor and looked into the operationalization and monetization of underground utility corridors in developed countries. The Committee desires to know from the Ministry whether APUIAML or the Ministry factored in the cost borne by the public/private organizations in frequent trenching/digging of NHs for laying different types of cables/lines and repair thereof, while examining the feasibility of underground utility corridors. The Committee recommends that the Ministry may take steps to figure out how the underground utility corridors are being viably implemented in other countries and analyze whether a similar approach could help make the underground utility corridors viable in India.

(Para 77)

Women Safety

The Committee feels that a lot needs to be done to improve the state of safety of women on public road transport like installing proper signages, cell phone networks, street lights, highway patrol etc. The Committee is dismayed to note the declining trend of budgetary allocation under the ‘Scheme on Women Safety’ in the last 5 years and desires to be apprised of the reasons behind the underutilization of the funds.

(Para 79)

From the expenditure details furnished by the Ministry, the Committee notes that only three States have been provided funds under this scheme, besides the expenditure incurred under ‘Development, customization, deployment and management of State-wise vehicle tracking platform’. The Committee recommends that the Ministry may come up with new schemes to improve safety of women on National Highways in coordination with State Government Departments concerned with public transportation. Suitable provisions may be made to prominently display helpline numbers for women on the NH network across the country using well-illuminated signages in multiple languages.

(Para 80)
The Committee desires to be apprised of the reasons, if any, furnished by the Government of Telangana for not applying for funds for setting up the monitoring centre. The Committee recommends that the issue may be taken up at higher levels with the State Government in order to permit the implementation of the scheme in Telangana.

(Para 82)

**Overloaded Trucks**

The Committee recommends that the Ministry may undertake a systematic study of the damage caused by overloaded trucks on National Highways and the negative impact of the same on the longevity and safety of the highways.

(Para 84)

The Committee strongly recommends that the Ministry may take immediate measures to curb the menace of overloaded vehicles on National Highways such as rectifying weighing machines which are non-functional for a long time. Hefty fines should be imposed on vehicles not abiding by the limits. The Ministry may coordinate with the concerned Ministries and State Departments to introduce provisions for penalty on the consignor and consignee as well, besides the truck owners. The Committee feels that doing so would deter the loading of excess load from the source itself and prevent damage to NHs while also improving road safety.

(Para 85)

The Committee recommends that the Ministry may explore the possibilities of reforming the provisions to charge toll on the basis of weight of the vehicles, instead of axle-based toll collection. The Committee feels that the implementation of weigh-in motion system to issue automated challans/ penalty would eliminate the possible collusion of corrupt officials with the heavy vehicle owners and help curb the menace of overloading.

(Para 86)

**Poor quality of construction by Sub-Contractors**

The Committee recommends that the Ministry may look into the issue and, if possible, consider making direct payments to approved sub-contractors to mitigate the delays caused by the main contractors. The Committee also desires to be apprised of the reasons for which the Ministry/NHAI prefers allowing contractors to hire sub-contractors as
compared to breaking down the project into smaller stretches on its own so that smaller contractors could also bid for the same.

(Para 88)

Miscellaneous Recommendations

Road Connectivity to Tourist Destinations

The Committee feels that robust road connectivity to tourist destinations is one of the prerequisites to developing the country as a tourism hub. In view of this, the Committee strongly recommends that the Ministry may allocate special budgetary provisions for the purpose of improving National Highway connectivity to important tourist places across the country, seeking requirements for such projects from the Union Ministry of Tourism as well as State Tourism Departments.

(Para 89)

Implementation of Recommendations made by the Committee

The Committee recommends that the Ministry may analyze the recommendations/observations made in this Report and executive orders, where possible, may be issued in order to implement the same on an urgent basis since doing so will help improve the state of maintenance and quality of NHs and improve road safety. In case implementing some of the recommendations made by the Committee requires legislative amendment, consultations may be made with the concerned departments and if necessary, amendment of the Acts administered upon by the Ministry may be introduced in the Parliament.

(Para 90)

Spur Road for linking Samastipur with NH-119D

The Committee desires to be apprised of the reasons for removing the provisions for the 2.1 km spur for linking the city of Samastipur with Package-3 of NH-119D Amas-Darbhangā Expressway and recommends that the Ministry may consider including the provisions for the spur road to connect the city with the NH that is passing at a distance of just 2.1 km from it.

(Para 92)

*****
ANNEXURES
Annexure-I

The details of projects sanctioned, awarded and constructed during the last three years in the country:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projects sanctioned Number</th>
<th>Length in km</th>
<th>Cost in Rs. crore</th>
<th>Projects awarded Length in km</th>
<th>Length constructed in km</th>
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<tr>
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<td>682</td>
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<td>269549</td>
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<td>2019-20</td>
<td>545</td>
<td>10165</td>
<td>84472</td>
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Annexure-II

The details of projects sanctioned, awarded and constructed during the last three years in the States of Andhra Pradesh, Bihar, Maharashtra and Telangana.

State: Andhra Pradesh

<table>
<thead>
<tr>
<th>Year</th>
<th>Projects sanctioned</th>
<th>Projects awarded</th>
<th>Length constructed in km</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Length in km</td>
<td>Cost in Rs. crore</td>
</tr>
<tr>
<td>2021-22</td>
<td>22</td>
<td>694</td>
<td>7571</td>
</tr>
<tr>
<td>2020-21</td>
<td>23</td>
<td>514</td>
<td>4366</td>
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<td>2019-20</td>
<td>18</td>
<td>417</td>
<td>1367</td>
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State: Bihar

<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Length in km</td>
<td>Cost in Rs. crore</td>
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<tr>
<td>2021-22</td>
<td>29</td>
<td>562.873</td>
<td>12,045.26</td>
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<td>2020-21</td>
<td>33</td>
<td>932.63</td>
<td>17,709.67</td>
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<td>2019-20</td>
<td>11</td>
<td>308.18</td>
<td>1452.32</td>
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### State: Maharashtra

<table>
<thead>
<tr>
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<th>Length constructed in km</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Length in km</td>
<td>Cost in Rs. crore</td>
</tr>
<tr>
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<td>38</td>
<td>571</td>
<td>6098</td>
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<tr>
<td>2020-21</td>
<td>54</td>
<td>823</td>
<td>4581</td>
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<td>2019-20</td>
<td>110</td>
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### State: Telangana

<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
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<td>2021-22</td>
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<td>13753</td>
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<tr>
<td>2020-21</td>
<td>11</td>
<td>284</td>
<td>1733</td>
</tr>
<tr>
<td>2019-20</td>
<td>8</td>
<td>165</td>
<td>1520</td>
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<td>S. No.</td>
<td>Arbitration Matter under the Project</td>
<td>ROF/ STAT/ DIVISION</td>
<td>Type of Project</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------</td>
<td>---------------------</td>
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</tr>
<tr>
<td>1</td>
<td>Jharkhand</td>
<td>BOY amenity</td>
<td>Ranchi</td>
</tr>
<tr>
<td>2</td>
<td>Tamil Nadu</td>
<td>BOY Tulicin</td>
<td>Bhandari</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Haryana</td>
<td>BOY (T/A) Andhola</td>
<td>Bhandari</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Rajasthan</td>
<td>Bhandari</td>
<td>Bhandari</td>
</tr>
<tr>
<td>5</td>
<td>Karnataka</td>
<td>Bhandari</td>
<td>Bhandari</td>
</tr>
<tr>
<td>6</td>
<td>Karnataka</td>
<td>Bhandari</td>
<td>Bhandari</td>
</tr>
</tbody>
</table>
Total 2339.13 13.93

9. Four Lining of Nashik-Solapur Section from Km 13.60 to Km 215.20 of NH 6 in the state of Maharashtra under MPDP 2019 (GP No: 1207/2020-03) (DST) on 28.07.2020. Further, if conducted it will be merging on 23.02.2022 whereas for fixing the non-conformity for completion of palmings etc., and for other incidental activities, Claimant has to be informed in a statement of claim by 06.03.2023 whereas SDC to be filed by 18.03.2023. 

10. Four Lining of Nashik-Solapur Section from Km 13.60 to Km 215.20 of NH 6 in the state of Maharashtra under MPDP 2019 (GP No: 1207/2020-03) (DST) on 28.07.2020. Further, if conducted it will be merging on 23.02.2022 whereas for fixing the non-conformity for completion of palmings etc., and for other incidental activities, Claimant has to be informed in a statement of claim by 06.03.2023 whereas SDC to be filed by 18.03.2023. 

Total 5475.35 2258.71

11. Four Lining of Angul- Seorapali Section of NH 42 from Km 215.61 to Km 398.00 of NH 42 in the state of Odisha under MPDP 2019 (GP No: 1207/2020-03) (DST) on 28.07.2020. Further, if conducted it will be merging on 23.02.2022 whereas for fixing the non-conformity for completion of palmings etc., and for other incidental activities, Claimant has to be informed in a statement of claim by 06.03.2023 whereas SDC to be filed by 18.03.2023. 

Total 2107 1281.71

12. Creation-Hand RDT (Extra) in Rajasthan 

Total 2044.15 1398

13. Six Lining of Ahmedabad - Tikoda Section of NH 6 from Km 192.711 to Km 297.050 (length 104.339) is north State of Gujarat and implementation of Ahmedabad - Tikoda EEP (Extra) is decided. 

Gujarat (DST) Ahmedabad 2525 1924.9 603

14. Construction, operation and maintenance of National Highway No. 049 extension including section from km 40.931 to km 71.431 (total 30.500) of NH 049 (Roadname: MPDP 2019, GP No: 1207/2020-03) (DST) on 28.07.2020. Further, if conducted it will be merging on 23.02.2022 whereas for fixing the non-conformity for completion of palmings etc., and for other incidental activities, Claimant has to be informed in a statement of claim by 06.03.2023 whereas SDC to be filed by 18.03.2023. 

Gujarat (DST) Palanpur 165.88 1672 6

Total 3138.94 2199

15. A 9 Lining of Hyderabad - Karimnagar Section from Km 33.57 to 66.066 (length 32.495) in the State of Telangana under MPDP 2019 (GP No: 1207/2020-03) (DST) on 28.07.2020. Further, if conducted it will be merging on 23.02.2022 whereas for fixing the non-conformity for completion of palmings etc., and for other incidental activities, Claimant has to be informed in a statement of claim by 06.03.2023 whereas SDC to be filed by 18.03.2023. 

Telangana (DST) Hyderabad 1733.14 6

Total 1733.14

The major issue involved in the instant case relates to termination payment. The Claimant has already received 280 Lakhs as per the directions of District Engineers Court as interim relief and is supposed to maintain Expedition and make it in order. The amount (280 Lakhs) is an estimated amount.
<table>
<thead>
<tr>
<th>S.No</th>
<th>Details</th>
<th>State</th>
<th>Location</th>
<th>Cases Filed</th>
<th>File No.</th>
<th>Notes</th>
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<td>16</td>
<td>Improvement, Operation, Maintenance and Strengthening of existing 3-lane road and widening to 4 lane divided highway from Km 239.000 to Km 281.000 of NH 6 (Kapur - Jaisingh Section) in the state of Chhattisgarh on BOT basis.</td>
<td>Chhattisgarh</td>
<td>BPUT Kairur</td>
<td>110</td>
<td>1012.1</td>
<td>423.17</td>
</tr>
<tr>
<td>17</td>
<td>Four Laning of Bareilly-Sitapur section of NH 34 from Km 262.000 to Km 313.200 (approx.) in the State of Uttar Pradesh under NHDP Phase-III of DDFOT basis.</td>
<td>Uttar Pradesh</td>
<td>DFOTF Bareilly</td>
<td>1046</td>
<td>7504.32</td>
<td>1704.98</td>
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<tr>
<td>Total</td>
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<td></td>
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<tr>
<td>Grand total</td>
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