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121.2.55

Government of India
Ministry of Road Transport & Highways
Transport Bhawan, 1, Parliament Street, New Delhi-110001

Dated: 3rd November, 2025

CIRCULAR

To

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
4. The Managing Director, NHIDCL, World Trade Centre, New Delhi-110029.
5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
7. The Secretary General, Indian Roads Congress
8. The Director, IAHE, Noida, UP
9. All CE-ROs, ROs and ELOs of the Ministry.

Subject: Guidelines on Design Criteria and Pavement Type for Service Roads and Slip Roads in National Highway Projects

Madam/ Sir,

1. It is observed that many NH projects get delayed beyond the construction period resulting in plying of heavy traffic of main carriageway for much longer duration than the construction period as assumed. Further, on many occasions the traffic is diverted on service roads owing to maintenance/ additional works on main carriageway. It is also observed that in urban/ semi-urban/ industrial areas, the service roads end up carrying full traffic as access to carriageway is restricted. A similar problem is encountered on National Highways carrying significant traffic intensity of more than 10,000 PCUs per day where there is construction activity being taken up on the main carriageway and traffic is to be diverted on to service roads or temporary diversion roads.

2. As a consequence, the service roads deteriorate rapidly, leading to premature failures and increased maintenance interventions. Therefore, it is imperative that adequate capacity enhancement and design life considerations for service roads are incorporated at the initial design stage itself.

3. At present, there is no uniform scientific basis for the design of service/slip roads under such circumstances and practices vary across projects. To ensure uniformity, serviceability and durability of service roads/slip roads during and after construction, the following guidelines are issued:-

(A) **Design Life of service road (n_{SR}):-** The design life of service/slip roads shall be decided as follows:-

$$n_{SR} = n_{cons} + n_{res}$$

where

n_{cons} = Project construction period in years, and

n_{res} = 6 years for flexible/composite/rigid pavements

B) **Design traffic of service road:** - The following shall govern the design traffic of the service road:-

i) The design for service/slip roads shall be carried out using the same base traffic, growth rate, vehicle damage factor (VDF) based on prevailing axle load spectrum, and distribution factors as adopted for design of the main carriageway. However, the design life shall be limited to that specified in para 3(A) above.

ii) For **flexible pavements**, the design shall be based on cumulative traffic expressed in terms of million standard axles (MSA) corresponding to the design life as per para 3(A) above, subjected to the following:-

a) If, calculated MSA is less than 20 MSA, the service/slip road shall be designed for minimum 20 MSA. If calculated MSA is more than 20 MSA, then actual calculated MSA shall be considered for design purpose.

b) To address frequent failures and potholing, the bituminous binder course shall not be less than 60 mm, and the bituminous wearing course shall not be less than 40 mm, irrespective of the design estimates based on para 3(A) & 3 (B) above.

iii) For **rigid pavements**, the design shall be carried out for the design life, in terms of years as per para 3(A), duly considering the cumulative fatigue and erosion criteria as per IRC: 58.

C) **Pavement Type Selection:** - The pavement type for service and slip roads shall be selected based on the following:

i) In High rainfall areas (annual rainfall > 1500 mm, or stretches prone to water-logging), rigid pavement shall be adopted.

ii) Where main carriageway is with rigid type pavement, service road and slip road preferably be of rigid type pavement.



iii) In urban area, industrial zones, defence area, road connecting to economic corridors, SEZ, mining area etc service road and slip roads shall of Rigid type Pavement.

iv) Except (i), (ii) and (iii) above, the flexible pavement shall be provided at all other locations.

D) **Drainage:** - All service/slip roads shall have adequate drainage as per IRC standards with proper outfall. Service Road/Slip road shall be completed before the start of the work on main carriageway and continued to be maintained in the conditions in accordance with the norms specified in the contract. After opening of the traffic on the main carriageway, the service roads including drainage works shall be restored.

4. It is also advised that appropriate modifications to be done in RFP and relevant schedules and the same shall be incorporated in all cases where the bids are yet to be received.

5. For projects under implementation, the above guidelines may be adopted wherever necessary with approval of Competent Authority, as per extant policy of delegation of powers for change of scope of Ministry/NHAI/NHIDCL.

6. It is requested that the contents of the circular may be brought to the notice of all concerned for immediate needful compliance.

This is issued with the approval of the Competent Authority.

Yours sincerely,



(Akil Ahmad)

Superintending Engineer, (S&R)
For DG (RD) & SS

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