



# भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय)

## National Highways Authority of India

(Ministry of Road Transport and Highways)

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NHAI/HO/Highway Rating/2021/E-181675

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### Public Notice

**Objective:** Audit of Highway Rating by public spirited professionals with adequate understanding of different elements of highway rating as institutionalised based on Standard Operating Procedure (SOP).

1. The process of highway rating is primarily based on different elements of highway operations and is dynamic in nature. This exercise is first of its kind initiative across the world and is bound to improve over the coming years after involvement of all stakeholders.
2. The general public with requisite knowledge in the field of Civil Engineering is encouraged to carry out an independent study/audit of the highway rating on voluntary basis on any 4/6L highway stretch as per the Standard Operating Procedure (Enclosed) for influence length of any Toll Plaza.
3. The finding and results of your study may then be shared with the Independent Engineers/ Authority Engineers/ Supervision Consultants of the corresponding project stretch, which on verification shall be shared with the contractors/ concessionaries and Regional Offices and NHAI HQ for suitable action. The relevant contact details of respective officials are available at NHAI website [www.nhai.gov.in](http://www.nhai.gov.in).
4. This exercise will not only help in improving the public services offered to the road users but will also help in improving the standard of highway operations with involvement of all stakeholders including public.

(K K Arora)

GM (T)

Encl:

(i) SOP

(ii) Highway Rating Report

**Standard Operating Procedure (SOP) for Assessing and Rating for divided carriageway (4/6 lane National Highways) based on:**

- A. Highway Efficiency (45 Marks)**
- B. Highway Safety (35 Marks)**
- C. User Services (20 Marks)**

## Standard Operating Procedure (SOP) for Highway Rating

The rating of the influence length under each toll plaza shall be done twice in a year preferably in the month of October and April. The procedure for assessing each of the parameter for the influence length of the toll plaza is detailed in this SOP.

### **A. Highway Efficiency: Weightage 45 Marks**

#### A. 1. Operating Speed (50% cars+50% Trucks) on main carriage way:

Weightage - 17 Marks		
Full marks	Intermediate/half marks	Zero marks
>70kmph	0.85 marks deducted for every 1 kmph reduction in speed	<50 kmph

Procedure for assessing the parameter-

- (i) The data shall be collected in first and third week of October/November and the second week of April/May. The data shall be compiled for all seven days of the week i.e Monday to Sunday.
- (ii) For each day, the data collection for at least 1000 cars and 500 trucks must be collected.
- (iii) Data shall be collected during the peak period and lean period of each day and only through the dedicated FASTag lanes.
- (iv) Data shall be collected everyday 4 times in 2 hours duration with 2 slots of peak hours and 2 slots of normal hours. The peak hours shall be determined from the available traffic survey of last year of the corresponding month.
- (v) The RFID/FASTag transaction time of vehicles passing from the concerned toll plaza and the transaction time of the same RFID/FASTag passing from the immediately preceding/succeeding toll plaza shall be noted. Equal no. of samples/data points are to be taken in all the four time slots (select the other toll plaza based on the principle of maximum coverage of the influence length of the concerned toll plaza)
- (vi) The difference in the times noted in point 6 above shall be taken as journey time for each vehicle.
- (vii) The average delay at both the toll plaza (as calculated for A. 2.) shall be deducted from the journey time and taken as running time for each vehicle.
- (viii) The average speed of each vehicle shall be calculated as distance between the concerned toll plaza and the other toll plaza taken for reference, divided by the running time.
- (ix) The average operating speeds of all the observed trucks and cars shall be calculated separately.
- (x) Final Avg Operating speed=  $0.5 \times \text{Avg Speed of trucks} + 0.5 \times \text{Avg Speed of cars}$ .

NOTE: only RFID/FASTag vehicles are to be taken for sampling

#### A. 2. Delay at toll plaza:

Weightage - 4 Marks		
Full marks	Intermediate/half marks	Zero marks
<1 minute	0.4 marks deducted for every 12 second delay	>3 minutes

Procedure for assessing the parameter-

- (i) The data should be collected in the first and third week of October and the second and fourth week of April. The data shall be compiled for all seven days of the week i.e Monday to Sunday.
- (ii) For each day of data collection at least 1000 cars and 500 trucks must be covered.
- (iii) Data shall be collected only during the peak period of each day and only through the dedicated FASTag lanes.
- (iv) The peak period shall be taken as time between 1900 hrs to 2100 hrs and 2300 hrs to 0100 Hrs.

(v) In and Out survey at the toll plazas shall be done and the average delay be calculated.

**A. 3. Access Control:**

Weightage - 2 Marks		
Full marks	Intermediate/half marks	Zero marks
Complete	Partial(1 marks)	none

Procedure for assessing the parameter-

- (i) Expressways are to be considered completely access controlled
- (ii) Partial Access controlled highways shall be defined as the highways with no median opening and no right turning movement at any of the at-grade intersections.

**A. 4. Availability of service road in Habitation Area:**

Weightage - 3 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.03marks deducted for every 1% decrease in service road availability	0%

Procedure for assessing the parameter-

- (i) The length of actual section of habitation area as on date shall be recorded along the corridor as ideal value.
- (ii) The length of service road actually provided in the habitation area section shall be measured and taken as actual value.
- (iii) The actual value shall be expressed as a percentage of ideal value.
- (iv) Habitation area may be taken as definition of built up area as per clause 1.19.2 IRC SP 84.

**A. 5. Traffic volume/Capacity Ratio/Level of Service (LOS):**

Weightage – 2.5 Marks		
Full marks	Intermediate/half marks	Zero marks
B	C (1.25 marks)	D

Procedure for assessing the parameter-

- (i) The Annual Average Daily Traffic (AADT) for the current financial year collected from ATCC/IHMCL of the concerned toll plaza shall be taken as Volume of the Highway.
- (ii) The designed capacity of the 4 lane and 6 lane Highway for Level 'B' Service shall be taken as 40,000 PCU for LOS 'B' and 60,000 PCU in plain and rolling terrain respectively similarly, 20,000 & 30,000 for mountainous and steep terrain respectively.
- (iii) The Actual Traffic Volume/Design traffic for Level 'B' Service ratio of less than or equal to 1.0 shall be taken as LOS "B" and 1.0-1.5 should be taken as LOS "C" and higher than 1.5 shall be taken as LOS "D"

**A. 6. Pavement quality Rating Value:**

Weightage – 6 Marks		
Full marks	Intermediate/half marks	Zero marks
2.1-3.0	1.1-2.0 (3 marks)	1.0

Procedure for assessing the parameter-

- Various defects as per table given below are to be detected using Network Survey vehicle.
- The Pavement rating value shall be arrived at by multiplying the corresponding scores of each defect with their respective weights. (Guidance shall be taken IRC 82)
- The nature of defects and their corresponding marks and weights shall be taken as per the following table:

Defects	Range of Distress			Weight over a scale of 5.75
	I	II	III	
Cracking (in %)	>10	5 to 10	<5	1
Ravelling (in %)	>10	1 to 10	<1	0.75
Potholes (in %)	>1	0.1 to 1	<0.1	0.5
Shoving (in %)	>1	0.1 to 1	<0.1	1
Patching (in %)	>10	1 to 10	<1	0.75
Settlement & Depression (in %)	>5	1 to 5	<1	0.75
Rut Depth (in mm) using 3 m straight edge	>10	5 to 10	<5	1
Marks	1.0	1.1-2.0	2.1-3.0	

For intermediate value of distress, the marks shall be given as per linear distribution. For eg. For patching having value of 7.5%, then weighted marks for patching shall be =  $\{2 - (2-1.1)/(10-1)*(7.5-1)\}*(0.75/5.75) = 0.176$  (higher the distress lower the marks)

**A. 7. Uniformity of carriageway width (road with structure):**

Weightage – 1 Marks	
Full marks	Zero marks
width of all structures > width of corresponding approach roads	width of even a single structure < width of approach road

Procedure for assessing the parameter-

- All the sections where the main carriageway transforms into a structure (Bridges, Grade Separators and Culverts) shall be observed.
- If any section where the width of the approach road without paved shoulders is less than the width of the structure, then zero marks shall be given

(The concept is that the transformation should look like a diverging flow and the not like merging flow so as to limit the conflict points)

A. 8. Illumination in Habitation Area:

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.02marks deducted for every 1% decrease in illumination availability	0%

Procedure for assessing the parameter-

- (i) Habitation area may be taken as definition of built up area as per clause 1.19.2 IRC SP 84 or the built-up area as specified in Schedule-B of the concession agreement of the project highway.
- (ii) All the locations such as built-up section areas, toll plaza areas, truck lay byes, rest areas, bus bay& bus shelter locations, grade separated structures, interchanges, flyovers, underpasses (vehicular &pedestrian), overpasses and any other locations specified in the contract/ concession agreements read in conjugation with IRC SP 84/87 shall be identified as locations ideally to be illuminated as per desired lux level and taken as Ideal Value.
- (iii) The actual number of locations with desired illumination shall be observed and taken as actual value.
- (iv) Desired illumination shall mean luminous intensity and coverage as per the clause 3.3.4, clause 10.4.17 & clause 12.3 of IRC 84/87 norms.

A. 9. Availability of Closed Tolling:

Weightage – 0.5 Marks	
Full marks	Zero marks
Yes	No

Procedure for assessing the parameter-

The availability of closed tolling (toll collection as per actual length travelled) is to be checked in the influence length under exam.

A. 10. Percentage of substandard signage:

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
0%	0.02marks deducted for every 1% increase in improper signage	100%

Procedure for assessing the parameter-

- (i) All locations where road signages are supposed to be installed be identified as per IRC 67 and total number of such locations be taken as ideal value.
- (ii) The number of proper road signages be identified and taken as actual value.
- (iii) The actual value shall be expressed as a percentage of the ideal value.
- (iv) The percentage of improper road signages shall be equal to 100% minus actual value percentage.
- (v) Proper road signage implies complying of all parameters such as retro-reflectivity, colour, dimensions, letter size, supporting structure, illumination, damage and location as per implied

purpose of that particular signage. Any non-compliance shall render the particular signage as improper/sub-standard.

**A. 11. Percentage of substandard markings:**

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
0%	0.02marks deducted for every 1% increase in improper marking	100%

Procedure for assessing the parameter-

- (i) The lengths where road marking are supposed to be installed are be identified as per IRC 35 and total length of such locations be taken as ideal value.
- (ii) The length of proper road marking be identified and taken as actual value.
- (iii) The actual value shall be expressed as a percentage of the ideal value.
- (iv) The percentage of improper road markings shall be equal to 100% minus actual value percentage.
- (v) Road markings include carriageway way marking and object marking and proper road marking implies, colour, retro-reflectivity, wear and damage with location as per implied purpose of that particular marking.

**A. 12. Functionality of drains on main carriageway:**

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.01 marks deducted for every 1% decrease in functionality	0%

Procedure for assessing the parameter-

- (i) Visual inspection shall be carried out to understand the physical condition and cleanliness of the drains in the built-up areas and other important site specific locations
- (ii) Observations shall be made at minimum 5 locations spread at maximum 200m spacing within each section of drain for each built-up area/important location and seen for any breakage in the lining and blockage of the drain.
- (iii) Total number of observation made along the influence length shall be taken as ideal value and total number of observations where the drains are actually functional be recorded as actual value.
- (iv) The actual value shall be expressed as percentage of the ideal value.

**A. 13. Functionality and appearance of Slope Projection:**

Weightage – 0.5 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.005 marks deducted for every 1% decrease in normal slope	0%

Procedure for assessing the parameter-

- (i) Embankments shall be examined for randomly chosen 1m in every 100m length of the embankment. Video recording shall be carried out along with the visual observation of the panel/ with network survey vehicle (NSV).
- (ii) Inspection with NSV shall be conducted to determine the condition of the embankments and must be conducted on a sampling basis.
- (iii) Side Slope within 7.5% of the prescribed limit, good embankment protection measures at all slopes and no rain cuts shall be taken as normal slope.

- (iv) Total number of observation made shall be taken as ideal value and the number of observations recorded as Normal slope shall be taken as actual value.
- (v) The actual value shall be expressed as percentage of the ideal value.

A. 14. Functionality and adequacy of structures: Major/Minor bridges, guide bunds, river training structures etc. (1%):

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.01 marks deducted for every 1% decrease in functionality	0%

Procedure for assessing the parameter-

The following components of the structures but not limited to, shall be assessed:

- (i) Expansion joints on a structure: riding quality over the joints should be smooth and the joint sealant should be in good condition with no water leakage.
- (ii) Approach road, deck slab, and culverts: there should be no visible damage, no spalling and cracks on the concrete surface, no overtopping and sufficient freeboard for the cross drainage structures.
- (iii) Aprons, guide banks, pitching works: There should not be more than 25% visible damage on the apron, guide banks and pitching works.
- (iv) Safety/crash barriers along structure: the road side barriers and median barriers shall be placed along the grade separated structures with parapets, railings, boulder nets etc. wherever required.
- (v) The total length of structures (bridge/culverts/river training/ works) shall be added and taken as ideal functional length.
- (vi) The sections of structures conforming to all the above (i)-(iv) points shall be taken as good length.
- (vii) The total of all the good lengths must be added and taken as actual functional length.
- (viii) The actual functional length shall be expressed as percentage of ideal functional length.

A. 15. Existing utilities laid as per MORTH norms:

Weightage – 0.5 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.005marks deducted for every 1% decrease in utilities laid as per MoRTH guidelines	0%

Procedure for assessing the parameter-

- (i) Utilities laid along /across the corridor shall be identified in length and taken as ideal value.
- (ii) Length of these utilities laid as per MoRTH guidelines/NHA extant circulars for laying of utilities shall be taken as actual value.
- (iii) The MoRTH circular No. RW/NH-33044/13/2012-S&R(R) dated 26th July 2012 to be followed in this regard.
- (iv) The utilities along the highway must be laid at least 15 m beyond the centreline of carriageway & 0.6 m below the ground level, not interfering with maintenance and Safety of highway.
- (v) The Crossings utilities shall not be too near the existing structures on the National Highway, the minimum distance being 15 metre & lines shall cross the National Highway preferably on a line normal to it or as nearly as practicable having sufficient vertical clearance of more than equal to 5.5 m.
- (vi) The actual value with deviation from standards shall be expressed as percentage of ideal value.



**B. Highway Safety: Weightage 35 Marks****B. 1. Accidents per km per annum:**

Weightage – 4 Marks		
Full marks	Intermediate/half marks	Zero marks
0	From 0 to 2.73	More than 2.73

(As per data with Road Safety Cell of NHA average 70,966 accidents took place annually from 2016-2018 and approx. 26,000 km completed corridor is with NHA making the average accident per annum per km as 2.73)

Procedure for assessing the parameter-

- (i) The data for the latest financial year available with Road Safety unit of NHA PIUs shall be used to note the per km accident on the influence length of the toll plaza.
- (ii) The value so obtained from the data shall be compared with the average value of 2.73

**B. 2. Accident Severity Index (Fatalities per 100 crash):**

Weightage – 4 Marks		
Full marks	Intermediate/half marks	Zero marks
<18.53	18.53-37.07	>37.07

(The ranges for allotting marks for this parameter have been defined through iterative process and data collection by the consultants appointed for corridor assessment by NHA)

Procedure for assessing the parameter-

- (i) The data for the latest financial year available with Road Safety unit of NHA PIUs shall be used to note the fatalities per crash on the influence length of the toll plaza.
- (ii) In case the number of crashes in the influence length are less than 100 for a particular year, the available, value may be linearly extrapolated for atleast 100 crashes from the latest available data.
- (iii) The value so obtained from the data shall be compared with the ranges tabulated above.

**B. 3. Ambulance Response Time:**

Weightage – 4 Marks		
Full marks	Intermediate/half marks	Zero marks
<15 min	15-30 min (2 marks)	>30 min

Procedure for assessing the parameter-

- (i) Ambulance response time shall be taken from the time of incident detection vide 1033/toll plaza helpline number/directly through road users upto the time the ambulance reaches the incident location.
- (ii) Data shall be taken from incident management logs maintained at the toll plaza shall be observed.
- (iii) Avg. of last 6 month history of incident reports are to be seen.
- (iv) If no incident occurred then timings of mock drills conducted shall be used for assessment.

**B. 4. Incident response time:**

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
<15 min	15-30 min (2 marks)	>30 min

Procedure for assessing the parameter-

- (i) The Highway Surveillance Vehicles (HSV)/Patrol Vehicles are generally the first responder on the scene of any incident and therefore its response time shall be taken as the incident response time.
- (ii) HSV/Patrol Vehicles response shall start from the time of incident detection and end at the time the HSV/patrol vehicles reaches the incident location.
- (iii) Data shall be taken from incident management logs maintained at the toll plaza shall be observed.
- (iv) Avg. of last 6 month history of incident reports are to be seen.
- (v) If no incident occurred then timings of mock drills conducted shall be used for assessment.

#### B. 5. Roadway clearance time after accident:

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
<45 min	45-90 min (1 marks)	>90 min

Procedure for assessing the parameter-

- (i) The roadway clearance time shall start from the moment the accident victims have been extricated from their vehicles or the time of incident detection via 1033/HSV/Road User, whichever is earlier and end when the debris or the damaged vehicle is steered clear of the main carriageway and the normal flow of traffic resumes on the highway.
- (ii) In case, the incident is only regarding falling of debris/tree/poles etc. on the highway without any accident with the road users, the roadway clearance time shall start or the time of incident detection via 1033/HSV/Road User and end when the debris/tree/pole is steered clear of the main carriageway and the normal flow of traffic resumes on the highway.
- (iii) Data shall be taken from incident management logs maintained at the toll plaza shall be observed.
- (iv) Avg. of last 6 month history of incident reports are to be seen.
- (v) If no incident occurred then timings of response time of cranes in mock drills conducted shall be used for assessment.

#### B. 6. ATMS functionality:

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
All 9 features available	0.22 marks deducted for non-availability/non-functioning of any single feature	Not available

Procedure for assessing the parameter-

Availability and functionality of 9 ATMS features as follows must be checked:

- (i) Video surveillance system [Pan Tilt Zoom- Photoshop Layered Texture(PLT) cameras]
- (ii) Mobile Radio Communication system
- (iii) Video Incident Detection System (VIDS)
- (iv) Vehicle Actuated Speed Display system
- (v) Emergency Roadside Telephone System
- (vi) Variable Message Sign (VMS) system
- (vii) Meteorological Data System (MET)
- (viii) Automatic Traffic Counter-cum-Classifer
- (ix) Travel Time Estimation System

#### B. 7. Adequacy of Structures: Provision of grade separators at NH/SH/MDR Marks:

Weightage – 4 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.04marks deducted for every 1% decrease in grade separators	0%

Procedure for assessing the parameter-

- (i) Total No. of NH/SH/MDR junctions be identified and taken as ideal value.
- (ii) All the junctions with grade separators be recorded and taken as actual value.
- (iii) The actual value shall be expressed as percentage of ideal value.

**B. 8. Number of at grade junction/illegal median opening @ <2km:**

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
0%	0.02 marks deducted for every 1% increase in at grade junction with median opening	100%

Procedure for assessing the parameter-

- (i) Total No. of median opening and total no. of at grade junctions having right turning/crossing facilities with NH/SH/MDR/VR/ODR should be recorded and taken as ideal value.
- (ii) Total No. of median opening (legal/illegal) with spacing less than 2 km shall be taken as actual value.
- (iii) The actual value shall be expressed as percentage of ideal value.

**B. 9. No of median opening without functional Solar Blinker:**

Weightage – 3 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.03 deducted for every 1% decrease in median opening without solar blinker	0%

Procedure for assessing the parameter-

- (i) Only the legal median openings to be considered for assessment of this parameter.
- (ii) The number of legal median opening shall be considered and taken as ideal value.
- (iii) The number of actual legal median openings with solar blinkers be taken as actual value.
- (iv) The actual value shall be expressed as a percentage of ideal value.

**B. 10. Footpath and railing in habitation area:**

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.01 marks deducted for every 1% decrease in footpath and railings	0%

Procedure for assessing the parameter-

- (i) Habitation area may be taken as definition of built up area as per clause 1.19.2 IRC SP 84.
- (ii) The length of footpath constructed along the built-up area is to be taken as actual value.
- (iii) The total length of section in built-up area shall be calculated and taken as ideal value.
- (iv) The footpath length without railing/crash barrier is not to be considered.
- (v) The actual value shall be expressed as percentage of the ideal value.

**B. 11. Functionality of structures for cross movement in habitation area:**

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.02 marks decreased for every 1% decrease in adequate cross movement structures	0%

Procedure for assessing the parameter-

- (i) Presence of at least one adequate cross-movement structure with proper connectivity with service road/ footpath etc. (FOB/VUP/PUP/LVUP/VOP/CUP) in built-up area shall be judged.
- (ii) No. of adequate cross-movement structure shall be calculated and taken as actual value.
- (iii) The total no. (not length) of built-up sections along the stretches be taken as ideal value.
- (iv) The adequacy of the location of the structure shall be seen as per local site conditions such as connectivity of service road with the cross movement structure, type of the structure as per local utility, location as per clause 2.13.4 of IRC SP 84/87 and lateral and vertical clearance as per clause 2.10 & 2.11 of IRC SP 84/87.

**B. 12. Percentage of missing/damaged crash barriers:**

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
0%	0.01 marks deducted for every 1% increase in missing/damaged crash barriers	100%

Procedure for assessing the parameter-

- (i) Placement of barrier and specifications shall be in accordance with IRC 119 2015 and Clause 811 of Manual of Specifications and Standards.
- (ii) Tentative locations where generally Road side barriers are to be provided are Embankments with high fills and steep slopes, Near road side obstacles, Bridge rail ends, At specific locations for ensuring safety of bystanders, pedestrians and cyclists, Dangerous Ditches, Steep Grades, Accident Black Spots, Hill Roads, Grade Separated Structures. Tentatively Median Barriers are to be placed at all narrow median (< 2m), Median Opening Locations and where ever level difference between the both carriageways is 1:2 for median width. Apart from these the requirement of median barrier is a function of the width of the median and the traffic volume of the road which can be evaluated from IRC 119
- (iii) No. of locations where crash barriers are required shall be identified as per IRC SP 84/87 and IRC 119 and shall be taken as ideal value.
- (iv) The number of locations with missing/damaged/ improperly placed crash barriers shall be identified and taken as actual value.
- (v) The actual value shall be expressed as percentage of ideal value.

**B. 13. Condition of earthen shoulders:**

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
0%	0.02 marks deducted for every 1% increase in unacceptable earthen shoulder	100%

Procedure for assessing the parameter-

- (i) Inspection with NSV shall be conducted to determine the condition of the shoulders and must be conducted on a sampling basis.
- (ii) Shoulder condition shall be observed at a randomly chosen 1m in every 100m length of the earthen Shoulder. Video recording shall be carried out along with the observation of the panel.
- (iii) Shoulders with defects such as edge drop (not more than 20 mm), unevenness & vegetation growth shall be considered as unacceptable.
- (iv) The length of unacceptable observed earthen shoulders shall be calculated and taken as actual value.
- (v) The total length observed be taken as ideal value.
- (vi) The actual length shall be expressed as percentage of ideal value.

**B. 14. Facilities disturbing traffic: illegal Bus stops/illegal parking:**

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
0	1 to 2 (1 marks)	more than 2

Procedure for assessing the parameter-

No. of obstructions disturbing traffic such as illegal bus stops/taxi stands/auto stands etc. to be identified on the influence length (LHS/RHS).

**C. User Services: Weightage 20 Marks****C. 1. Percentage Length of median plantation and avenue plantation:**

Weightage – 3 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.03 marks deducted for every 1% decrease in plantation numbers	0%

Procedure for assessing the parameter-

- (i) The total no. of 666 plants in median in two rows (333 nos. per row) per km of median length shall be taken as ideal value for median plantation both for four/six lane highways. (only wide medians of 4.5m to be considered).
- (ii) The total no. of 583 trees in avenue plantation per km in three rows shall be taken as ideal value for avenue plantation for four lane highways. (333 trees in first row, 166 trees in second row, 84 trees in third row).
- (iii) The total no. of 499 trees in avenue plantation per km in two rows shall be taken as ideal value for avenue plantation for six lane highways. (333 trees in first row, 166 trees in second row).
- (iv) Avenue plantation is to be considered only in those areas where ROW is enough to accommodate the same.
- (v) The total no. of plants in medians (only wide medians of 4.5m) divided by the total length (in km) of the median added to total no. of trees planted as the avenue plantation divided by the length (in km) available for avenue plantation along the highway shall be taken as actual value. Only healthy/unwilted/maintained trees/plants condition to be considered.
- (vi) The actual value shall be expressed as percentage of both the ideal values added together.  
NOTE: Median here implies only 4.5 meter wide medians.

**C. 2. Cleanliness along Highways:**

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
Good	Fair (1 mark)	Poor

Procedure for assessing the parameter-

ROW, median and project facilities to be observed for cleanliness with regard to dumping of garbage, condition of paint on the structures, open sewage drains near the highway that influence the sense of smell of road users. Actual length with bad cleanliness shall be rated with respect to total length.

C. 3. Functionality of Wayside amenities:

Weightage – 4 Marks	
Full marks	Zero marks
Yes	No

Procedure for assessing the parameter-

- (i) At least one operational and standardised wayside amenities (WSA) along the corridor either privately owned or Govt. owned should be present on the influence length.
- (ii) The facilities present at each WSA be inventoried and classified as Truckers/Passengers/Comprehensive.
- (iii) Standard WSA include at least the following facilities: Clean Toilets, drinking water, ample paved parking, Eating facility, proper illumination, access permission and security personnel to guard the premises.

C. 4. Functioning of Toilet & availability of drinking water at Toll Plaza:

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
All the toilets are Clean and drinking water available	Either only toilets are Clean or only clean drinking water available	Neither toilets are Clean nor clean drinking water available

Procedure for assessing the parameter-

- (i) All toilets and water ATM near the concerned toll plaza should be inspected for cleanliness and water availability.
- (ii) The toilets should be assessed for smell, clean W/C and urinals, availability of toiletries and water.
- (iii) The water ATM should be assessed for availability of potable water.
- (iv) Even if a single toilet block is unclean or locked, the same shall be treated as unavailability of clean toilets.

C. 5. Hindrance free from speed breaker:

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
0	1 (0.5 marks)	>1

Procedure for assessing the parameter-

The total no. of speed breakers be identified along the influence length.

C. 6. Hindrance free from traffic barrier:

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
0	1 (0.5 marks)	>1

Procedure for assessing the parameter-

The no. of traffic barriers either police check posts or forest check posts etc, shall be recorded within the influence length of the toll plaza.

C. 7. Availability of motor repair workshop:

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
Yes	-	No

Procedure for assessing the parameter-

- (i) Availability of a motor repair shop within legal access permission shall be observed within the influence length of the toll plaza.
- (ii) The motor repair, even if part of a rest area complex or a comprehensive wayside amenity shall be considered if within the influence length of the toll plaza.

C. 8. Encroachment and illegal hoardings:

Weightage – 2 Marks		
Full marks	Intermediate/half marks	Zero marks
0	0 - 0.035% (1 mark)	>0.035%

Procedure for assessing the parameter-

- (i) Area under encroachment and area of illegal hoarding be calculated and taken as actual value in SQM.
- (ii) The total area of ROW in SQM be identified and taken as ideal value.

C. 9. Noise Quality Index:

Weightage – 1 Marks		
Full marks	Intermediate/half marks	Zero marks
<65dB	65-75 dB (0.5 mark)	>75dB

Procedure for assessing the parameter-

- (i) Monitoring stations near built up areas to be set up for measurement and CPCB guidelines be used for any assistance.
- (ii) Average sound intensity across the corridor be calculated and taken as actual value.



**C. 10. Satisfaction Index:**

Weightage – 4 Marks		
Full marks	Intermediate/half marks	Zero marks
100%	0.04 marks be deducted for every 1% decrease in average percentage marks from all the surveys	0%

Procedure for assessing the parameter-

- (i) 50 surveys per day from Wayside amenities/toilets/Nest (Mini), on any one weekday and any one weekend to be conducted in the month of October/April.
- (ii) The format of survey is as under:

What kind of vehicle are you travelling with (a) Car/Jeep/Van/LCV (b) Bus/Truck/>3 axle vehicle:					
How satisfied are you with the road corridor based on the following parameters:					
	Very satisfied (5 marks)	Satisfied (4 marks)	Neutral (3 marks)	Dissatisfied (2 marks)	Very dissatisfied (1 marks)
Quality of roads					
Signs and Road markings					
Toll Plaza experience					
Rest Areas/ WSA					
Light and visibility					
Congestion					
Accidents					
Total					
Percentage marks					

- (iii) The percentage of marks scored shall be averaged for all the respondents for all the surveys conducted either in October or April.

**SCORE SHEET**

<b>Category</b>	<b>Parameter</b>	<b>Marks</b>
Highway Efficiency (45)	Operating Speed (50%+50% Trucks) on main carriage way (17)	
	Delay at toll plaza (4)	
	Access Control (2)	
	%Availability of service road in built-up area (3)	
	Traffic volume/Capacity Ratio/Level of Service (2.5)	
	Pavement quality Rating Value (6)	
	% Uniformity of carriageway width (road with structure)(1)	
	% Illumination in Habitation/Built-up Area (2)	
	Availability of Closed Tolling(0.5)	
	% of substandard signage (2)	
	% of substandard Markings (2)	
	Functionality of drains on main carriageway (1)	
	Functionality and appearance of Slope Projection (0.5)	
	Functionality and adequacy of structures: Major/Minor bridges, guide bunds, river training structures etc. (1)	
Existing utilities laid as per MORTH norms (0.5)		
	<b>Sub-Total efficiency</b>	
	<b>Efficiency Percentage</b>	
Highway Safety (35)	Accidents per km per annum (4)	
	Accident Severity Index (Fatalities per 100 crash) (4)	
	Ambulance response time (4)	
	Incident response time (2)	
	Roadway clearance time after accident (2)	
	ATMS functionality (2)	
	Adequacy of Structures: Provision of grade separators at NH/SH (4)	
	No of at grade junction/illegal median opening @ <2km (2)	
	No of median opening without functional Solar Blinker(3)	
	Footpath and railing in built-up area(1)	

	Functionality of structures for cross movement in habitation area (2)	
	% of missing/damaged crash barriers (1)	
	Condition of earthen shoulders(2)	
	Facilities disturbing traffic: illegal Bus stops/illegal parking (2)	
	<b>Sub-Total Safety</b>	
	<b>Safety Percentage</b>	
User Services (20)	% Length median plantation and avenue plantation (3)	
	Cleanliness along Highways (1)	
	Functionality of Wayside amenities of (4)	
	Functioning of Toilet & availability of drinking water at Toll Plaza (2)	
	Hinderance free from speed breaker (1)	
	Hinderance free from traffic barrier (1)	
	Availability of motor repair workshop(1)	
	Encroachment and illegal hoardings (2)	
	Noise Quality Index (1)	
	Satisfaction Index (4)	
	<b>Sub-Total User Facility</b>	
	<b>User Facility Percentage</b>	
	<b>Efficiency Percentage</b>	
	<b>Safety Percentage</b>	
	<b>User Facilities</b>	
	<b>Grand Total Score</b>	

**The total marks scored for the influence length including a) Highway Efficiency b) Highway Safety c) User Services shall be used to classify that section as under:**

<b>Score</b>	
<b>Classification*</b>	

Marks	80-100	60-80	40-60	< 40
*Classification	Excellent	Very Good	Good	Poor

\*\*\*\*\*

# RATING & RANKING OF NATIONAL HIGHWAY STRETCHES



National Highways Authority of India



BHARATMALA  
ROAD TO PROSPERITY



सत्यमेव जयते

## **PREFACE**

There has been a paradigm shift from ‘package-based development’ to ‘corridor-based development’ with the inception of Bharatmala Pariyojna. Corridor based development envision world-class level of service throughout the identified corridor. There is infrastructure asymmetry on the existing identified corridors which needs to be addressed. The level of service of different corridors is different due to the different concessionaire agreement, different implementing agencies, and different time period (updates and modifications in the highway manuals). As per the government initiatives to improve the quality of our highways and provide a higher level of service on the highways it is important to understand the existing status of our highway network.

By assessing the performance of corridors, it can be interpreted that what kind of interventions are required to enhance the efficiency of the corridor. This efficiency assessment might be helpful in prioritising the project which needs immediate improvements. Hence there is a need for comprehensive study to assess these corridors.

While the network developed under various initiatives ensure National Highway connectivity to all major production and consumption centres in the country, it is quite crucial to ensure the quality of these corridors is comparable to international standards in order to ensure a truly seamless experience on the corridor. With this background it is important to benchmark our highway network with international best practices to understand the deficiencies in the network and accordingly plan for the mitigation measures. Hence, the study has been designed with the main objective to identify interventions needed to improve the efficiency and traveller experience on the corridor, in line with international best practices.

The studies have been carried out around the globe that make an effort towards defining a framework for road performance measurement. “Benchmarking Highways England: Report to the Office of Rail and Road” attempts to assess the performance of England’s overall highway network. Australia has been carrying out performance measures (defining National Performance Indicators basis benchmarking) as outlined in the report “Austroads National Performance Indicators”.

But a comprehensive benchmarking and ranking study specific to highways performance has been missing.

Therefore, a need was felt to develop a rating criteria based on the best international practices and design standards to benchmark each of the selected parameters which affect the corridor performance. To formulate the design standards for a model road project, it is important to review and document procedures and practices in roadway design and management which are best internationally. These procedures when implemented in project corridor would help assess the current condition of the highways in a more targeted way and promote roadway design and management to better addresses the mobility, safety issues, and user services while maintaining desired speed.

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## 1. Introduction

The focus of Government of India shifted to development of road sector after the Second World War as the same had lagged behind in comparison to the railways during the British rule. Thereafter, the planning of the road sector started at a larger level based on the recommendations of various Indian Road Development Committees. The advancement in the road sector further accelerated with the launch of National Highways Development Project (NHDP) in 1998 to upgrade, rehabilitate and widen major highways in India to a higher standard. This growth in the road sector further gained momentum with the launch of the Bharatmala Pariyojana in 2015.

In today's day and age, National Highways are among the most important public assets in our country. The length of NHs in India has increased from 91,287 km in April, 2014 to about 1,32,500 km. as on 31.12.2019. Highway improvements bring immediate and sometimes dramatic benefits to Highway users through improved access to hospitals, schools, industry and markets; improved comfort, speed, and safety; and lower vehicle operating costs.

Highway users pay, Government decided Toll Fee, to use Highway networks in India and in return they expect quality services to be provided on highways with fast, efficient and safe mobility. Highway Sector is accountable to Road users as it is their money which is being used for Highway development. Accountability can be ensured only if we provide Highway network with world class services to Road users. This initiative of 'Benchmarking and Rating of Corridors' will help us in setting standards for quality highway services and with improved quality of Highways, Road users will get value for their money. Further, improved quality of Indian Highways will result in safer travel experience and consequently less accidents / deaths on Highways.

Bringing the quality of Indian Highways at par with highways in developed countries will result in decreased vehicle operating costs (less frequent repairs, less fuel use) and will result in modal shift of freight transport towards the Roads. This will improve the ranking of India in 'The Logistics Performance Index'.

This facilitates growth in the economy: as passenger and freight services are encouraged, there is a consequent boost to economic and social development opportunities. Improved quality of highways will promote job opportunity in remote areas.

The Rating exercise of Corridors will provide an assessment of current status of level of services on the National Highway stretches. This exercise will help in identifying the gaps in design, standards, practices, guidelines and contract agreements. Filling those gaps will ensure improved user experience and improved quality of Highways. This exercise will provide standards which may be used for benchmarking of other Indian Corridors.



## 2. Objective

As on date highway rating has been completed for over 19,000 km of completed 4/6 lane NH/Expressways based on 39 parameters broadly categorised into three main criteria Highway Efficiency (45 marks), Highway Safety (35 marks) and User Services (20 marks) evaluated on a total score of 100 marks. The exercise of highway rating is a dynamic activity and is to be done twice in a year, preferable in the month of October and April, so as to give an opportunity to the stakeholders to improve of the parameters they lag behind in. It is first of its kind initiative in the world therefore the accuracy & precision levels are expected to improve with each successive iteration of this program.

The National Highways are managed at toll plaza level for the influence length under them. Therefore, these corridors are rated according to the proposed methodology and for each influence length under the toll plaza termed as 'cell'. Using this rating mechanism, one can understand that where and how much each 'cell' is inefficient, unsafe and lacks in user services. Further, this will also help in increasing the accountability of the stakeholders involved in the development and maintenance of National Highways.

Then the probable causes can be identified and to mitigate them interventions, proposals and remedial measures can be suggested. This initiative will help in setting standards for benchmarking and assessment of Highway corridors in India. Based on assessment study various interventions can be taken to improve the ratings of corridors. The interventions can be planned based on problem specific but the general interventions to improve the corridor efficiency as below:

- Capacity Augmentation of the corridor by widening the roads
- Development of additional grade separated structures at the congested points
- Development of bypasses/ ring roads/ elevated roads to bypass congested towns
- Controlling access on the corridor with appropriate measures including development of service roads
- Improve the geometrically deficient sections of the corridor
- Corridor based tolling combined with toll plazas at exit points
- Rectification of engineering issues at accident black spots
- Deployment of incident management measures (ambulance, tow trucks, etc.) at a fixed interval on the corridor
- Development of wayside amenities
- Installation of Variable Message Signs (VMS) on the corridor linked to the traffic control centre to broadcast dynamic traffic information

### 3. Methodology

The effort for evaluating the roads were done by US Department of Transportation in 1950's as has been highlighted in the Highway Sufficiency Rating Manual of 1952. However, these ratings were based only on efficiency and safety parameters completely neglecting the user services along the stretch. Today being the age of consumers, the road users are more empowered than ever because they can access information about products and services over the Internet in real time. Therefore, the aspects related to user experience also need to be incorporated in the performance evaluation of any stretch.

To put the corridor rating framework in perspective for Indian conditions, four corridors traversing all over India were selected to carry-out a detailed assessment of the corridors, to identify issues impacting the performance of the corridors and to design solutions addressing the same.

Following corridors were selected by NHAI for detailed technical assessment through consultants:

- Agra – Mumbai (1,084 kms)
- Pune – Vijayawada (856 kms)
- Mumbai – Kolkata (1,927 kms)
- Bangalore – Kanyakumari (655 kms)

The above corridors were selected as they connect Northern, Southern, Eastern, and Western part of India. Further, these stretches form part of Golden Quadrilateral, NS-EW Corridor and they are of prime importance for freight and passenger movement throughout the country. Major parts of these sections have been developed under NHDP phases.

Based on learnings of the studies done on the above four corridors the evaluation criteria and the methodology were further firmed up internally by NHAI. Thereafter, consequent to the finalisation of evaluation criteria matrix, the same received the approval of Ministry of Road Transport & Highways, Govt. of India in June 2020. The detailed Standard Operating Procedure for evaluating each 'cell' was finalised for four/Six lane highways based on the approved evaluation matrix and circulated to all Regional Offices and Project Implementation Units for implementation in July 2020.

The work of rating is done by project level committees consisting all three stakeholders, i.e. Contractor/concessionaire, IE/AE/SC and NHAI Officers to minimise any disputes. The evaluation done by the committee is captured on a template created on Datalake portal for easy monitoring by ROs/HQ. Thereafter the work is examined at three levels, viz. PD, RO and officer from other PIU. Firstly, the report of the committee is approved by the Project Director. Once the report is approved by the PDs the contractors/concessionaire are also given the opportunity to propose any modification to their scores. In second stage, the reports of a particular PIU are verified by the officer from a different PIU. Thirdly, the report is broadly examined for following of procedure and any major anomaly between the on-ground and reported status of the stretches. As on date around 18,668 km of National Highways have been rated.

## 4. Approval of MoRT&H

No.NH-35014/22/2020-H  
Government of India  
Ministry of Road Transport and Highways  
(Highways Section)  
Transport Bhawan, 1, Parliament Street, New Delhi-110001.  
Dated: 18<sup>th</sup> June, 2020

### OFFICE MEMORANDUM

**Subject: Evaluation Criteria for Highway Rating -reg.**

National Highways Authority of India (NHAI) has devised corridor rating methodology for project management and accountability along with parameters for performance evaluation of highways section after due consideration of road users perspective in the Indian context. Corridor rating methodology along with parameters for performance evaluation is enclosed (Annexure).

2. The corridor rating will become a diagnostic tool for identification of problems, its solution such as requirement of Bypasses, Realignment, construction of Grade Separators, construction of Culverts, Drainage Infrastructure, user facilities, ATMS, Street Lights and incident Management (Ambulances, Patrol) etc. with the final objective of improvement in completed Corridor from efficiency, safety and users perspective.

3. It has been decided that aforesaid corridor rating methodology of NHAI will be adopted by all the executing agencies of the MoRTH i.e. NHAI, NHIDCL and Road Wing of MoRTH. NHAI, which has already been using this methodology, will facilitate other agencies in using this methodology and give access to their system to other agencies urgently and not later than by 25th June, 2020 positively.

Encl: As above



(Ramandeep Chowdhary)  
Deputy Secretary to the Government of India  
Telephone No.23718575

To

1. Chairman, NHAI
2. DG(RD) & SS
3. MD, NHIDCL
4. All CEs of MoRTH

Copy to: Sr. PPS to Secretary (RT&H)

## Annexure

## CORRIDOR RATING METHODOLOGY ALONG WITH PARAMETERS FOR PERFORMANCE EVALUATION

Factor	Parameter	Weightage
Highway Efficiency (45 %)	Operating Speed (50°/0+50°/0 Trucks) on main carriage way	17 %
	Delay at toll plaza	4%
	Access Control	2%
	Availability of service road in habitation area	3%
	Traffic volume/Capacity Ratio	2.5%
	Pavement quality Rating Value	6%
	Uniformity of carriageway width (road with structure)	1%
	Illumination in Habitation Area	2%
	Availability of Closed Tolling	0.5%
	% of substandard Signages	2%
	% of substandard Markings	2%
	Functionality of drains on main carriageway	1%
	Functionality and appearance of Slope Protection	0.5%
	Functionality and adequacy of structures: Major/minor bridges, guide bunt, river draining works etc.	1%
	Existing utilities laid as per MORTH norms	0.5%
Highway Safety (35%)	Accidents per km per annum	4%
	Accident Severity Index (Fatalities per 100 accidents)	4%
	Ambulance response time	4%

	Incident response time	2%
	Roadway clearance time after accident	2%
	ATMS functionality	2%
	Adequacy of Structures: Provision of grade separators at NH/SH/MDR	4%
	No of at grade junction/illegal median opening @ <2km	2%
	No of median opening without Blinker	3%
	Footpath and railing in habitation area	1%
	Functionality of structures for cross movement in habitation area	2%
	% of missing/damaged crash barriers	1%
	Condition of earthen shoulders	2%
	Facilities disturbing traffic: illegal Bus stops/illegal parking	2%
Users Services (20%)	Length median plantation and avenue plantation	3%
	Cleanliness along Highways	1%
	Functionality of Wayside amenities	4%
	Functionality of Toilet and availability of drinking water at TP	2%
	Hindrance free from speed breaker	1%
	Availability of motor repair workshop	1%
	Hindrance free from traffic barrier	1%
	Encroachment and illegal hoardings	2%
	Noise Quality Index	1%
	Satisfaction Index	4%

## 5. The Highway Rating Evaluation Matrix

Category	Parameter
<b>Highway Efficiency (45 marks)</b>	Operating Speed (50%+50% Trucks) on main carriage way (17 marks)
	Delay at toll plaza (4 marks)
	Access Control (2 marks)
	%Availability of service road in built-up area (3 marks)
	Traffic volume /Capacity Ratio/Level of Service (2.5 marks)
	Pavement quality Rating Value (6 marks)
	% Uniformity of carriageway width (road with structure (1 marks)
	% Illumination in Habitation/Built-up Area (2 marks)
	Availability of Closed Tolling (0.5 marks)
	% of substandard signage (2 marks)
	% of substandard Markings (2 marks)
	Functionality of drains on main carriageway (1 marks)
	Functionality and appearance of Slope Projection (0.5 marks)
	Functionality and adequacy of structures: Major/Minor bridges, guide bunds, river training structures etc. (1 marks)
	Existing utilities laid as per MORTH norms (0.5 marks)
<b>Highway Safety (35 marks)</b>	Accidents per km per annum (4 marks)
	Accident Severity Index (Fatalities per 100 crash) (4 marks)
	Ambulance response time (4 marks)
	Incident response time (2 marks)
	Roadway clearance time after accident (2 marks)
	ATMS functionality (2 marks)
	Adequacy of Structures: Provision of grade separators at NH/SH (4 marks)
	No of at grade junction/illegal median opening@ <2km (2 marks)
	No of median opening without functional Solar Blinker (3 marks)
	Footpath and railing in built-up area (1 marks)
	Functionality of structures for cross movement in habitation area (2 marks)
	% of missing/damaged crash barriers (1 marks)
	Condition of earthen shoulders (2 marks)
Facilities disturbing traffic: illegal Bus stops/illegal parking (2 marks)	

Category	Parameter
<b>User Services (20 marks)</b>	% Length median plantation and avenue plantation (3 marks)
	Cleanliness along Highways (1 marks)
	Functionality of Wayside amenities of (4 marks)
	Functioning of Toilet & availability of drinking water at Toll Plaza (2 marks)
	Hindrance free from speed breaker (1 marks)
	Hindrance free from traffic barrier (1 marks)
	Availability of motor repair workshop (1 marks)
	Encroachment and illegal hoardings (2 marks)
	Noise Quality Index (1 marks)
	Satisfaction Index (4 marks)



## 6. Section Wise Overall Rating & Ranking of National Highways Stretches

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
1	PIU-Ahmedabad	6 Laning of Ahmedabad - Vadodara Section	NH-48	BOT Toll	6.4	110	102.30	91.81	43.26	31.20	17.35	IRB Infrastructure Developers Ltd.
2	PIU-Mangalore	Goa / Karnataka to Kundapur	NH-66	BOT Toll	93.7	280.94	141	91.11	41.09	31.96	18.06	IRB Infrastructure Developers Ltd.
3	PIU-Ahmedabad	Four Laning of Ahmedabad-Vadodara Expressway	NE-1	BOT Toll	0	93.302	93.302	90.78	41	30.54	18.745	IRB Infrastructure Developers Ltd.
4	PIU-Bilaspur	Simga to Sargaon	NH-130	EPC	48.58	91.026	42.446	89.54	43.39	30.5	15.65	Larsen & Toubro Ltd.
5	PIU-Solapur	Solapur-Yedashi Section	NH-211	BOT Toll	0	98.717	98.717	89.29	41.92	30.18	17.19	IRB Infrastructure Developers Ltd.
6	PIU-Krishnagiri	Krishnagiri to Walajahpet	NH-48	BOT Toll	0	148.3	148.3	87.15	41.60	27.17	18.37	Larsen & Toubro Ltd.
7	PIU-Godhra	Godhra to Gujarat/M.P. Border Section	NH-47	BOT Toll	127.848	214.95	87.102	85.52	41.65	25	18.87	M/s GEPL
8	PIU-Bengaluru	Access Controlled Highway from Bangalore to Neelamangala	NH-4	BOT Toll	10	29.5	19.5	85.45	42.89	26.36	16.2	Navayuga Road Projects Pvt Ltd.
9	PIU-Nirmal	Islam Nagar-Kadthal	NH-44	BOT Annuity	229.58	282.617	53.037	84.65	41.59	29.69	13.37	Patel - KNR (JV)
10	PIU-Jamshedpur	Mahulia to Baharagora and Baharagora to Chichira	NH-33	EPC	183.587	277.5	71.61	84.44	42.99	23.23	18.22	Dilip Buildcon Ltd.



Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
11	PIU-Hyderabad	Jadcherla-Kothakotta Bypass	NH-44	BOT Toll	80.05	135.745	55.74	84.07	40.96	26.73	16.38	Larsen & Toubro Ltd.
12	PIU-Chitradurga	Tumkur-Chitradurga	NH-48	BOT Toll	75	189	114	83.99	42.28	28.27	13.44	IRB Infrastructure Developers Ltd.
13	PIU-Nirmal	AP/Mah Border-Islam Nagar	NH-44	BOT Annuity	175	229.58	54.58	83.38	41.51	28.44	13.43	Hindustan Construction Company Ltd.
14	PIU-Yavatmal	Yavatmal to Wardha	NH-361	HAM	400.575	465.5	64.925	82.86	39.5	28.76	14.6	Dilip Buildcon
15	PIU-Rajkot	Porbandar-Dwarka	NH-51	HAM	379.1	496.848	117.748	82.5	38.5	28	16	G R Infraprojects Limited & VINOD KUMAR AGRAWAL
16	PIU-Warangal	Hyderabad-Yadagiri	NH-163	BOT Toll	18.6	54	35.4	82.49	40	24.52	17.97	Sadbhav Engineering Pvt. Ltd.
17	PIU-Bilaspur	Sargaon to Bilaspur	NH-130	EPC	91.026	126.525	35.449	82.3	37.69	29.82	14.79	Dilip Buildcon Ltd.
18	PIU-Mangalore	Kundapur to Surathkal and Nantoor to Talapady	NH-66	BOT Toll	1.9	358	81.955	82.27	39.98	29.49	12.80	Navayuga Road Projects Pvt Ltd.
19	PIU-Sagar	Lalitpur - Sagar - Lakhnadon	NH-26	OMT	99.005	415.089	315.872	82.24	37.77	28.77	15.71	DPJ-DRA Tollways Pvt Ltd
20	PIU-Hassan	Devihalli - Hassan	NH-75	BOT Toll	68.331	185.684	122.411	82.06	37.31	27.17	17.58	LANCO Infratech Ltd
21	PIU-Nagpur (PD-1)	Wainganga Bridge - MH/CG Border	NH-6	BOT Toll	405	485	72.056	81.58	38.78	23.8	19	Ashoka Buildcon Limited

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
22	PIU-Dindigul	Start of Karur Bypass - Dindigul	NH-44	BOT Toll	290	367.725	77.725	81.37	38.87	26.57	15.93	TN (DK) Expressway Pvt. Ltd.
23	PIU-Krishnagiri	Hosur to Krishnagiri	NH-44	BOT Toll	33.13	93	59.87	81.34	38.51	25.8	17.03	M/s Hk Toll Road Pvt Ltd
24	PIU-Moradabad	Moradabad - Bareilly section	NH-24	BOT Toll	148	269	121	81.10	42.52	22.69	15.89	IL&FS Transportation Networks Ltd.
25	PIU-Jammu	Hiranagar - Lakhanpur of Pathankot - Jammu	NH-44	O&M	16.35	65	48.65	81.03	41.5	25.5	14.03	M/s Rakesh Choudhary
26	PIU-Nagpur (PD-1)	MP/MH Border-Nagpur including Kamptee-Kanhan and Nagpur Bypass and Nagpur-Hyderabad	NH-44	BOT Toll	625	725	113.221	80.97825	30.579648	33.06911	17.32948	Oriental Structural Engineers Pvt. Ltd.
27	PIU-Bengaluru	AP/KNT border-Mulbagal	NH-75	BOT Toll	216.912	239.1	22.188	80.89	40.01	24.25	16.63	M/s JSR Construction
28	PIU-Pune	Pune-Solapur	NH-9	BOT Toll	40	150.05	110.05	80.73	34.23	28.36	18.14	Tata Realty & Atlantia
29	PIU-Madurai	Dindigul Bypass - Samyanallore	NH-7	BOT Toll	368.147	421.196	53.049	80.62	41.53	22.45	16.64	Reliance Infrastructure Ltd.
30	PIU-Jammu	Jammu - Udampur	NH-44	BOT Annuity	15.00	67	64.579	80.15	41.5	23.99	14.66	ShapoorjiPallo nji Roads Pvt. Ltd
31	PIU-Nirmal	Kadtal to Armur	NH-44	BOT Annuity	282.617	313.507	30.89	80.08	38.98	26.67	14.43	Nirmal BOT Ltd
32	PIU-Nagpur (PD-1)	Nagpur-Wainganga bridge	NH-6	BOT Toll	498	544.2	45.43	79.44	33.03	30.4	16.01	JMC Projects (India) Ltd.
33	PIU-Salem	Krishnagiri - Thumbipadi -	NH-44	EPC,BOT Toll,EPC	94	180	86	79.37	38.05	24.43	16.89	M/s L&T Krishnagiri

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
		Thoppur Ghat - Omalur										Thopur Toll Road Limited
34	PIU-Dharwad	SBelgaum - Dharwad	NH-4	BOT Toll	433.00	515.00	79.36	79.34	37.06	27.45	14.83	Ashoka Buildcon Limited
35	PIU-Ghaziabad	Delhi-Meerut Expressway- (Dasna to Hapur)	NH-9	HAM	28	50.27	22.27	78.63	41.83	21	15.8	APCO Infratech Pvt. Ltd.
36	PIU-Hassan	Neelamangala - Devihalli	NH-75	BOT Toll	28.2	68.331	40.131	78.2	37.92	21.83	18.45	LANCOA Infratech Ltd
37	PIU-Ajmer	Kishangarh- Ajmar- Beawar	NH-8	BOT Toll	0	92.25	92.25	78.13	37.54	29.52	11.07	M/s Soma Isolux Kishangarh Beawar Tollway Pvt Ltd
38	PIU-Kolkata	Dhankuni to Kharagpur	NH-6	BOT Toll	17.6	129	222.8	78.10	36.76	26.25	15.09	Ashoka Buildcon Limited
39	PIU-Rohtak	Kaithal to Rajasthan border	NH-52	BOT Toll	33.25	241.58	167	77.98	41.45	24.35	12.18	IRB Infrastructure Developers Ltd.
40	PIU-Amravati (MH)	Kondhali- Talegaon section	NH-53	BOT Toll	50	100	50	77.87	35.96	25.29	16.62	Oriental Structural Engineers Pvt. Ltd.
41	PIU-Bengaluru	Devanhalli - Bengaluru	NH-7	BOT Toll	534.72	556.84	22	77.6	35.47	28.92	13.21	M/s Essel Infraprojects Ltd
42	PIU-Jabalpur	Rewa to Maihar to Katni and Katni to Sleemnabad to Jabalpur	NH-30	EPC	242	466	206.52	72.84	39.92	21.96	10.95	Larsen & Toubro Ltd.

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
43	PIU-Surat Expressway	Dahisar - Surat	NH-8	BOT Toll	263	501.6	238	77.08	39.30	26.78	11.01	IRB Infrastructure Developers Ltd.
44	PIU-Raipur	End of Durg Bypass - MH/CG Border	NH-6	BOT Toll	322.4	405	82.6	76.85	31.11	30.36	15.38	Ashoka Buildcon Limited
45	PIU-Jaipur	Jaipur to Deoli	NH-12	BOT Toll	18.7	165	148.76	76.79	36.18	26.22	14.39	IRB Infrastructure Developers Ltd.
46	PIU-Jalandhar	Pathankot-Amritsar	NH-54	BOT Toll	6.082	108.502	102.42	76.75	28.21	30.54	18.00	IRB Infrastructure Developers Ltd.
47	PIU-Nellore	Chilakaluripet to Nellore	NH-16	BOT Toll	1182.802	1366.547	183.75	76.64	41.22	22.56	12.85	M/s Brookfield
48	PIU-Ambala	Panipat Elevated Flyover	NH-44	BOT Toll	86	96	10	76.6	39.29	28.1	9.21	Larsen & Toubro Ltd.
49	PIU-Gulbarga	MH/KNT Border to Sangareddy Section	NH-65	BOT Toll	352.188	497.174	144.986	76.35	31.74	27.10	17.52	Larsen & Toubro Ltd.
50	PIU-Udaipur	Gomati Chauraha - Udaipur	NH-8	BOT Toll	177	256.31	79	76.30	27.13	30.71	18.46	Sadbhav Engineering Pvt. Ltd.
51	PIU-Coimbatore	Chengapalli to Neelambur and Madukkarai to Walayar	NH-544	BOT Toll	102.035	144.685	42.645	76.3	35.18	26.82	14.3	IVRCL Infrastructures & Projects Ltd.
52	PIU-Surat Expressway	Gujarat / Maharashtra Border - Surat - Hazira Port	NH-6	BOT Toll	0	131.5	132	76.26	36.84	25.90	13.52	M/s Roadies-Soma Consortium (JV)
53	PIU-Bengaluru	AP/ Karnataka Border - Devanhalli	NH-44	BOT Annuity	462.174	531	68.826	76.17	41.21	19.62	15.34	M/s Patel-KNR

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
54	PIU-Ramanagara	Silk Board Junction (Bangalore) to TN Border (Hosur)	NH-44	BOT Toll	8.765	33.13	24.37	76.12	31.41	28.69	16.02	M/s BETPL
55	PIU-Trichy	Padalur - Trichy section	NH-45	BOT Toll	285	325	40	75.88	36.77	21.1	18.01	Indu Navayuga Infra Projects Pvt. Ltd.
56	PIU-Sikar	Reengus-Sikar Section	NH-52	BOT Annuity	298.075	341.962	43.887	75.66	41.67	22.29	11.7	Reengus - Sikar Exressway Pvt. Ltd.
57	PIU-Raipur	Durg Bypass	NH-6	BOT Toll	308.6	323.6	18	75.63	30.05	29.92	15.66	M/s Durg-Shivnath Expressway Pvt. Ltd.
58	PIU-Aurangabad	Yedshi to Aurangabad	NH-52	BOT Toll	99.9	288.923	189	75.52	38.64	24.84	12.05	IRB Infrastructure Developers Ltd.
59	PIU-Salem	Namakkul - Karur section including Namakkul Bypass	NH-7	EPC,BOT Toll	248.625	292.6	43.975	75.5	35.86	27.51	12.13	M/s Reliance Infrastructure Ltd.
60	PIU-Kolkata	Sister Nivedita Bridge (2nd Vivekananda Bridge) & its approaches	NH-2	BOT Toll	653.01	659.051	6	75.43	39	26.2	10.23	Second Vivekananda Bridge Tollway Co Pvt Ltd
61	PIU-Lucknow	Lucknow to Sultanpur	NH-731	HAM	11.5	138.925	185.607	75.43	32.50	27.00	15.93	Dilip Buildcon Ltd.
62	PIU-Nirmal	Adloor-Yellareddy & Gundla Pochanpalli on Nagpur - Hyderabad section	NH-44	BOT Annuity	368.255	481.331	113.076	75.39762	36.0866663	27.25	12.06095	GMR Infrastructure Ltd

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
63	PIU-Mangalore	B.C. Road - Padil (Suratkal-Nantur)(New Mangalore Port)	NH-73	O&M	328	375.3	35.662	74.65	37.35	20.32	16.98	M/s JSR Construction
64	PIU-Chandigarh	End of Patiala Bypass to start of Sangrur Bypass section & Patiala bypass section	NH-7	EPC,EPC	50.00	110.72	60.72	74.29	37.27	29.1	7.92	DRA-SBIPL(JV)
65	PIU-Hyderabad	Kothakota bypass-Kurnool	NH-44	BOT Annuity	135.469	211.00	75.531	74.24	40	22.57	11.67	GMR Infrastructure Ltd
66	PIU-Chandigarh	Kiratpur - Kurali	NH-205	BOT Toll	28.60	73.20	42.9	74.06	34.89	22.61	16.56	BSC-C&C Kurali Toll Road Ltd
67	PIU-Hospet	Hungund - Hospet	NH-50	BOT Toll	202	299	97.661	73.97	34.53	23.71	15.73	GMR - Oriental Structural Engineers Pvt. Ltd.
68	PIU-Udaipur	Swaroopganj - Pindwara & Pindwara - Udaipur	NH-76	O&M	0.00	104.724	120.024	73.97	35.94	26.21	11.81	M/s Jai Buildcon Pvt. Ltd.
69	PIU-Rohtak	Rohna/ Hassangarh section	NH-334B	HAM	44.8	80.25	35.45	73.95	37.75	26.4	9.8	M/s Gawar Constructions Ltd.
70	PIU-Vijayawada	Vijayawada to Machilipatnam	NH-65	EPC	0	64.611	64.611	73.95	37.82	26.38	9.75	Dilip Buildcon
71	PIU-Krishnagar	Krishnagar - Berhampore section	NH-12	BOT Annuity	115.342	191.7	76.36	73.72	39.5	21.55	12.67	SEW Infrastructure Limited
72	PIU-Dausa	Agra-Bharatpur	NH-21	BOT Toll	17.756	62.295	44.54	73.61	39.87	23.2	10.54	Oriental Structural Engineers Pvt. Ltd.

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
73	PIU-Bengaluru	Bengaluru-Hoskote-Mulbagal	NH-75	BOT Toll	237.7	318	79.72	73.52	31.29	25.45	16.78	M/s LANCOA Infratech Ltd
74	PIU-Amravati (AP)	Chikaluripet Vijaywada Section	NH-16	BOT Toll	355	434.15	82.5	73.43	33.07	27.25	13.11	M/s IJM
75	PIU-Viluppuram	Tindivanam - Ulundurpet	NH-45	BOT Toll	121	193.5	72.9	73.32	34.94	21.89	16.49	Highway Concession One
76	PIU-Tuticorin	Tuticorin - Tirunelveli	NH-138	O&M	0.00	47.25	47.25	73.26	37.29	26.72	9.25	M/s RS Raja Gopal
77	PIU-Nashik	Pimpalgaon-Nashik-Gonde	NH-3	O&M	380.00	440.00	57.921	72.97	37.49	22.67	12.81	M/s N.K. Verma
78	PIU-Madurai	Madurai - Kanyakumari	NH-7	O&M	0	243.17	243.17	72.96	37.00	24.37	11.59	CDR & Company
79	PIU-Nagpur (PD-2)	Nagpur-Betul Section	NH-69	BOT Annuity	58.06	116.14	58.08	72.73	39.4	21.33	12	Oriental Structural Engineers Pvt. Ltd.
80	PIU-Sambalpur	CG/OD Border - Baragarh - Sambalpur	NH-6	BOT Toll	0	88	88	72.64	27.34	31.02	14.28	M/s Ashoka Buildcon Limited
81	PIU-Nagpur (PD-1)	Borkhedi - JamWadner	NH-7	O&M	36.6	93.75	57.10	72.51	34.72	22.29	15.5	M/s R.V. Umberkar
82	PIU-Jabalpur	Jabalpur to Lakhnadon	NH-7	EPC	465.5	546.425	80.82	72.5	41.81	21.72	8.97	Larsen & Toubro Ltd.
83	PIU-Amravati (MH)	Nagpur - Kondhali Section	NH-6	BOT Toll	9.2	50.00	40.8	71.95	34.19	23.76	14	Atlanta SREI Consortium (JV)
84	PIU-Chandigarh	Yamunanagar - Panchkula Section	NH-73	EPC	157.192	176.4	19.208	71.93	29.88	24.68	17.37	Gawar Constructions Ltd.
85	PIU-Chandigarh	Zirakpur - Parwanoo including Pinjore -	NH-5	BOT Toll	39.96	67.65	27.59	71.77	33.03	24.87	13.87	M/s Jaypee

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
		Kalka Parwanoo Bypass										
86	PIU-Jalandhar	Amritsar - Wagah Border section	NH-44	BOT Annuity	456.1	492.03	35.93	71.52	30.12	26.8	14.6	Rohan Rajdeep Infra Private Limited
87	PIU-Nellore	Tada - Nellore	NH-5	BOT Toll	52.8	163.6	111.80	71.46	31.86	24.85	14.76	MAIF Investments India 3 Pte Ltd (Macquarie)
88	PIU-Palanpur	Gandhidham to Mundra	NH-41	O&M	0	71.4	71.4	71.38	39.89	22.78	8.71	M/s Bhavnanai
89	PIU-Chandigarh	Ambala - Chandigarh	NH-152/203	BOT Toll	5.735	39.96	35.096	71.35	32.27	25.2	13.88	GMR ENERGY LTD
90	PIU-Shivpuri	Guna-Biaora	NH-46	BOT Toll	97.7	191.2	93.50	71.21	34.00	24.42	12.79	Dilip Buildcon Ltd.
91	PIU-Hyderabad	Thondupally-Jadcherla	NH-44	BOT Toll	22.3	80.306	58.006	71.08	37.96	21.24	11.88	GMR Infrastructure Ltd
92	PIU-Amravati (MH)	Talegaon - Amravati	NH-53	BOT Toll	100	166.725	66.725	70.83	30.71	24.95	15.17	IRB MRM Consortium
93	PIU-Palanpur	Palanpur/ Khemana - Abu Road - Swaroopganj	NH-14	BOT Annuity	601	677	76	70.83	34.44	23.61	12.77	Larsen & Toubro Ltd.
94	PIU-Dhamtari	Odisha/Chhattisgarh border-Aurang Section	NH-6	BOT Toll	88	238.335	150.34	70.69	38.76	21.30	10.63	BSCPL Infrastructure Ltd.
95	PIU-Patna	Patna Bakhtiyarpur section	NH-30	BOT Toll	181.3	231.95	50.65	70.67	39.2	20.8	10.67	BSC - C&C (JV)
96	PIU-Darbhanga	Muzaffarpur-Darbhanga-Purnea Section &	NH-57	OMT, Item Rate	0	520	366	70.52	35.91	20.50	14.10	M/s SMS-AABS India Tollway Pvt Ltd



Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
		Gorakpur - Gopalganj										
97	PIU-Anantapur	Hyderabad - Bangalore	NH-44	O&M	211	462.164	251	70.49	34.41	22.55	13.53	M/s Ayyamar Infra Projects
98	PIU-Surat Expressway	Bharuch - Surat	NH-8	BOT Toll	198	263	65	70.41	30.73	23.75	15.93	IRB Infrastructure Developers Ltd.
99	PIU-Kota	Kota bypass	NH-27	item rate	1052.429	1080.263	26.42	70.32	28.92	29.9	11.5	M/s Dhatarwal Construction Company
100	PIU-Nandyal	Kadapa (167.750) to Kurnool	NH-40	BOT Toll	167.75	356.502	188.75	70.25	32.03	26.56	11.66	M/s Brookfield-Peak Infra
101	PIU-Ramban	Chenani - Nashri-tunnel (2L) with parallel escape tunnel	NH-44	BOT Annuity	89	130	10.85	69.89	26.26	24.97	18.66	IL&FS Transportation Networks Ltd.
102	PIU-Nagaon	Jagiroad-Dharamtul Dharmatul-Raha (Raha-Nagaon section)	NH-37	Item Rate,EP C,EPC	205	273.489	68.49	69.49	39.58	17.54	12.37	KNR Constructions Limited
103	PIU-Gurgaon	Access Controlled Highway of Delhi-Gurgaon section	NH-48	BOT Toll	14.3	42	27.7	69.21	32.64	22.66	13.91	Jaypee DSC Ventures Limited
104	PIU-Dausa	Mahua-Jaipur	NH-11	BOT Toll	120.00	229.1	109.088	69.16	35.93	22.21	11.03	M/s Cube Highways
105	PIU-Azamgarh	Ghaghra Bridge to Varanasi	NH-233	EPC	121.8	180.42	58.62	68.93	35.36	23.31	10.26	Dilip Buildcon Ltd.
106	PIU-Palakkad	Walayar-Vadakkanchery	NH-544	BOT Toll	182.25	240.00	53.495	68.6	36.99	19.11	12.5	KNR Constructions Limited

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
107	PIU-Yavatmal	Wardha - Butibori	NH-361	HAM	465.5	524.69	59.19	68.32	36.92	21.31	10.09	Dilip Buildcon Ltd.
108	PIU-Dhule	MP/MH Border-Dhule	NH-3	BOT Toll	168.5	265	89	68.20499	34.061293	17.98226	16.16144	Sadbhav Engineering Pvt. Ltd.
109	PIU-Durgapur	Palsit - Dhankuni	NH-2	O&M	587.853	651.602	63.749	68.19	33.79	18.9	15.5	M/s Biswa Jyoti Bhattacharya
110	PIU-Cochin	NH Connectivity to ICTT Vallarpadam	NH-966A	EPC	0	17.121	17.121	67.83	30.04	26	11.79	M/s GR Engineers
111	PIU-Raipur	Raipur - Aurang	NH-53	BOT Toll	238.535	282	43.465	67.83	27.62	25.53	14.68	M/s Raipur Expressway Ltd.
112	PIU-Kolhapur	Satara-Kagal	NH-48	BOT Toll	592.24	725	132.76	67.73	30.05	29.06	8.62	MSRDC
113	PIU-Ranchi	Hazaribagh-Ranchi stretch including Kujju bypass	NH-33	BOT Annuity	40.5	114	73.799	67.14	36.16	19.76	11.22	M/s IL&FS
114	PIU-Bharuch	Vadodara-Bharuch Section	NH-48	BOT Toll	108.7	192	83.3	67.04	27.05	23.35	16.64	M/s Larsen & Toubro Ltd.
115	PIU-Pune	Khed to Sinnar	NH-60	BOT Toll	42	179.946	104.636	66.99	31.48	26.5	9.01	IL&FS Transportation Networks Ltd.
116	PIU-Bongaigaon	Bijni - Assam / WB Border	NH-31C	EPC,EPC	30	92.671	62.671	66.82	33.94	21.01	11.87	Gayatri-ECI (JV)
117	PIU-Chandigarh	Yamunanagar - Saha - Barwala - Panchkula	NH-73	EPC,EPC	70.83	157.192	86.362	66.8	28.96	22.91	14.93	Sadbhav Engineering Pvt. Ltd.
118	PIU-Salem	Salem - Ulundurpet section	NH-79	BOT Toll	0.313	136.67	136.35	66.73	31.00	23.06	12.66	Reliance Infrastructure Ltd.
119	PIU-Nashik	Vadape - Gonde	NH-3	BOT Toll	440.00	539.5	96.64	66.63	31.20	22.73	12.70	M/s MNEL

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
120	PIU-Kota	Deoli to Jn. of NH-76 on Kota Bypass	NH-76	BOT Toll	167.624	250.144	82.52	66.39	23.79	25.6	17	GVK
121	PIU-Indore	Khalghat-MP/MH Border	NH-76	BOT Toll	84.7	167.5	82.8	66.26	33.79	21.73	10.74	Uniquet Infra Ventures Private Limited
122	PIU-Jammu	Kunjwani - Vijaypur of Pathankot - Jammu	NH-15	O&M	65	112	47	66.11	27.48	21.56	17.07	M/s Rakesh Choudhary
123	PIU-Durgapur	Palsit-Panagarh	NH-2	O&M	520.103	587.853	67.75	65.71	32.56	17.65	15.5	M/s Addya Construction
124	PIU-Dausa	Bharatpur-Mahua	NH-11	BOT Toll	62.295	119.6	57.30	65.68	28.91	25.26	11.51	M/s Cube Highways
125	PIU-Rohtak	Rohtak-Panipat	NH-71A	BOT Toll	000.000	80.858	80.858	65.53	35.13	21.63	8.77	Sadbhav Engineering Pvt. Ltd.
126	PIU-Kharagpur	Balasore to Kharagpur	NH-10	BOT Toll	0	119.3	119.3	65.48	30.77	26.36	8.35	IL&FS Transportation Networks Ltd.
127	PIU-Malda	Farakka to Raiganj	NH-34	BOT Toll	295.25	394.975	79.57	65.43	31.03	21.46	12.94	Hindustan Construction Company Ltd.
128	PIU-Jhansi	Jhansi - Lalitpur	NH-25/26	BOT Annuity	0	99.305	99	65.35	26.00	26.35	13.00	Gayatri Projects Limited
129	PIU-Thanjavur	Thanjavur - Trichy	NH-67	BOT Toll	80	136.49	56.49	65.32	29.78	23.33	12.21	Madhucon Projects Ltd
130	PIU-Chittorgarh	Chittorgarh - Kota	NH-76	O&M	891.929	1052.429	161	65.26	29.09	23.29	12.88	M/s Shiva Buildtech Pvt. Ltd.
131	PIU-Nashik	Dhule-Pimpalgaon Baswant	NH-3	BOT Toll	265.00	380.00	118.16	65.16	29.18	22.56	13.42	IRCON International Limited - Soma (JV)

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
132	PIU-Meerut	Meerut - Muzaffarnagar	NH-58	BOT Toll	52.25	130.56	78.31	65.04	30.96	19.02	15.06	M/s Western U.P. toll ways Ltd. (cube highways)
133	PIU-Karaikudi	Madurai - Paramakudi	NH-87	EPC	5.00	55.00	50	64.97	27.81	20.59	16.57	KNR Constructions Limited
134	PIU-Hissar	Hisar - Dabwali	NH-10	EPC	170	314.66	144.66	64.96	26.44	21.29	17.23	GR Infraprojects Ltd
135	PIU-Solapur	Pune-Solapur Section	NH-9	BOT Toll	150.05	251.325	101.25	64.94	30.08	24.26	10.60	IL&FS Transportation Networks Ltd.
136	PIU-Salem	Kumarapalayam - Chengalpalli	NH-544	BOT Toll	53.525	102.035	48.51	64.92	26.22	24.69	14.01	IVRCL Infrastructures & Projects Ltd.
137	PIU-Cochin	Edappally-Vyttila-Aroor Section	NH-66	OMT	342	358.75	16.75	64.91	28.41	22.54	13.96	M/s Kochi-Aroor Tollways Pvt. Ltd.
138	PIU-Salem	Salem - Kumarapalaym	NH-544	BOT Toll	0	53.525	53.525	64.65	26.97	23.68	14	IVRCL Infrastructures & Projects Ltd.
139	PIU-Trichy	Four Laning of Trichy Bypass - Tovarankurichi - Madurai	NH-45B	O&M	0	124.84	124.84	64.46	32.50	21.43	10.53	M/s CDR & Company
140	PIU-Gorakhpur	Gorakhpur - Kasya - UP/Bihar Border	NH-28	OMT	285.002	366.117	81	64.36	21.28	25.06	18.01	M/s Gorakhpur Kasya Toll ways Pvt. Ltd
141	PIU-Chittorgarh	Rajsamand-Bhilwara	NH-578	BOT Toll	0	87.25	87.25	64.35	30.04	25.81	8.51	Sadbhav Engineering Pvt. Ltd.
142	PIU-Jhansi	Jhansi-Orai	NH-27	OMT	90.3	225.713	135.413	64.32	29.10	24.22	11.00	Prakash Asphaltings and Toll

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
												Highways (India) Ltd.
143	PIU-Bharuch	Vadodara - Surat section including 4L extra dosed Bridge across Narmada	NH-48	EPC	192	198	6.745	64.28	27.48	24.44	12.36	M/s Larsen & Toubro Ltd.
144	PIU-Rohtak	Rohtak - Hisar including connecting link	NH-71	BOT Toll	87	170	98.81	64.14	29.64	25.16	9.34	Sadbhav Engineering Pvt. Ltd.
145	PIU-Ahmedabad	Ahmedabad-Godhra	NH-47	O&M	4.2	122.42	113.371	63.94	25.04	28.00	10.90	M/s Pradip kumar
146	PIU-Kanchipuram	Tambaram - Tindivaram section	NH-45	O&M	28.50	121	93.00	63.63	27.41	21.23	14.99	M/s M. sindhu
147	PIU-Indore	laning of Biaora to Dewas Section	NH-3	BOT Toll	192.2	332.46	140.26	63.29	38.63	17.01	7.66	Oriental Structural Engineers Pvt. Ltd.
148	PIU-Malda	Berhampore to Farakka	NH-34	BOT Toll	204.55	284.85	75.45	63.26	29.54	23.51	10.21	Hindustan Construction Company Ltd.
149	PIU-Kota	Kota - Baran section	NH-27	EPC	1022.943	1184.322	105	63.11	21.78	28.18	13.15	Kota Baran Tollway Pvt. Ltd.
150	PIU-Salem	Bangalore - Salem - Madurai section of NH-7 (Thumbipadi to Namakkal & Salem Bypass Section)	NH-7	BOT Toll,EPC, EPC	180	248.625	68.625	63.1	31.1	21.07	10.93	M/s MVR Infrastructre Tollways Pvt. Ltd.
151	PIU-Jodhpur	Beawar- Pali-Pindwara Section	NH-14	BOT Toll	0	244.12	244.10	63.00	25.86	20.89	16.25	Larsen & Toubro Ltd.

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
152	PIU-Agra	Agra Bypass	NH-3	O&M	0	32.8	32.8	62.83	35.69	21.35	5.79	SKS infra projects pvt ltd
153	PIU-Trichy	Ulundupet-Padalur	NH-45	BOT Toll	193.813	287.706	93.893	62.68	25.84	22.25	14.60	IJM Corporation Berhad Ltd. - Shapoorji Pallonji & Co. Ltd.(JV)
154	PIU-Bongaigaon	Nalbari-Bijni section	NH-31	EPC,EPC	961.5	1013.00	51.50	62.4	33.23	19.08	10.09	Punj Lloyd Infrastructue Ltd.
155	PIU-Jalpaiguri	Salsalabari-Assam Bengal Border	NH-31C	O&M	228	254.5	26.50	62.39	31.06	22.34	8.99	M/s Sharda Construction
156	PIU-Gorakhpur	Ayodhya - Gorakhpur	NH-28	OMT	137.97	252.86	116.10	62.34	25.73	23.60	13.01	M/s Ayodhya-Gorakhpur Sms Tolls Pvt Ltd
157	PIU-Rajkot	Porbandar - Bhiladi - Jetpur	NH-8B	TOT	1.96	117.6	115.64	62.23	26.65	25.38	10.2	MAIF Investments India 3 Pte Ltd (Macquarie)
158	PIU-Indore	Indore-Khalghat section	NH-3	BOT Toll	2.06	78.32	77.32	62.04	34.92	18.55	8.57	Oriental Structural Engineers Pvt. Ltd.
159	PIU-Dhanbad	Chas-Bokaro-Gola-Ramgarh section	NH-23	EPC	0.00	21.6	21.6	61.8	31.28	16.34	14.18	Dilip Buildcon Ltd.
160	PIU-Kanpur	Etawah - Chakeri	NH-19	BOT Toll	323.475	483.687	160.212	61.75	33.42	18.96	9.37	Oriental Structural Engineers Pvt. Ltd./DIC-NCC
161	PIU-Rajkot	Bamanbore - Garamore	NH-8A	TOT	182.6	254.537	71.937	61.71	23.9	24.88	12.93	MAIF Investments

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
												India 3 Pte Ltd (Macquarie)
162	PIU-Rohtak	Punjab/ Haryana border Jind section	NH-71	EPC	238.695	307	70.178	61.35	33.31	17.91	10.13	Dineshchandra R. Agrawal Infracon Pvt. Ltd.
163	PIU-Palanpur	Garamore - Samakhiyali section	NH-27	TOT	254.537	306	51.463	61.31	19.5	27.02	14.79	M/s MAIF Investments India 3 Pte Ltd (Macquarie)
164	PIU-Rajamahendravaram	Kathipudi to start of Kakinada bypass	Nh-216	EPC	0	27.5	27.5	61.21	33.59	17.21	10.41	Dilip Buildcon Ltd
165	PIU-Guwahati	Sonapur to Guwahati section	NH-37	EPC	1119.814	205	19.1	60.76	33.07	16.36	11.33	TCIL - MBL (JV)
166	PIU-Tirupati	Nalagampalli to Allkuppam	NH-67	EPC	172.00	219.687	60.387	60.21	26.57	17.42	16.22	Dilip Buildcon Ltd.
167	PIU-Rudrapur	Kashipur Sitarganj Section	NH-74	BOT Toll	175	252.2	77.20	60.16	20.18	23.76	16.22	Galfar Engineering & Contracting (India) Pvt. Ltd.
168	PIU-Lucknow	Kanpur - Lucknow - Ayodhya	NH-76	OMT	8	138	216	59.68	28.73	17.24	13.71	PNC Kanpur Ayodhya Tollroad Pvt. Ltd
169	PIU-Trichy	Four Laning of Trichy - Dindigul	NH-45	BOT Toll	333	421.273	88.273	59.44	30.99	19.86	8.59	Reliance Infrastructure Ltd.
170	PIU-Ambala	Ambala to Pehowa	NH-65	EPC	0.00	95.36	95.36	59.37	27.19	22.30	9.88	Dilip Buildcon Ltd. - Varaha Infra Limited (JV)/Sadbhav Engineering Pvt. Ltd.

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
171	PIU-Hyderabad	Hyderabad-Vijayawada	NH-65	BOT Toll	40	221.5	181.42	59.23	30.92	19.08	9.23	GMR Infrastructure Ltd
172	PIU-Chitradurga	Tumkur - Nelamangala	NH-48	BOT Toll	29.5	62	32.5	59.03	22.83	21.46	14.74	M/s JAS toll road company Ltd.
173	PIU-Chennai	Chennai Bypass	NH-45	O&M	0	32.6	32.6	58.57178	22.329816	27	9.241963	M/s P. Ramanaya Constructions
174	PIU-Bhubaneswar	Bhubaneswar - Jagatpur - Chandikhole Section	NH-16	BOT Toll	413	480	67	58.16	30.26	20.4	7.5	Simplex Infrastructure Limited - SREI (JV)
175	PIU-Palakkad	Thrissur to Angamali & Angamali to Edapally	NH-77	BOT Toll	270	316.7	65.3	58.05	31.82	16.18	10.05	KMC-SREI Consortium
176	PIU-Palanpur	Palanpur - Radhanpur - Samakhiyali	NH-14	OMT	339.7	536	261	57.45	26.53	22.65	8.27	M/s B.D. Sorathia
177	PIU-Chhapra	Hajipur - Muzaffarpur section	NH-77/28	BOT Annuity	0.00	63.17	63.17	57.36	25	24	8.36	Gammon Infrastructure Projects Ltd.
178	PIU-Guwahati	Guwahati - Nalbari Section	NH-37	EPC	1040.3	1119.814	79.514	57.17	34.73	12.27	10.17	M/s Basants Kumar Kakati & M/s S.L. Infra Projects
179	PIU-Tuticorin	Madurai - Tuticorin	NH-45B	BOT Toll	138.8	266.865	128	56.87	29.15	17.72	10.00	Madhucon Projects Ltd
180	PIU-Solapur	Solapur to Maharashtra - Karnataka Border Section	NH-9	BOT Toll	249.00	348.8	82.95	56.29	29.75	17.01	9.53	SREI



Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
181	PIU-Shillong	Jorabat Shillong (Barapani) section	NH-40	BOT Annuity	0	61.8	61.8	56.09	24.59	20.96	10.54	IL&FS Transportation Networks Ltd. and Ramky Infrastructure Ltd
182	PIU-Sikar	Jaipur - Reengus section	NH-52	BOT Toll	246.3	298.075	51.842	55.96	31.47	15.28	9.21	Reliance - AAA (JV)
183	PIU-Kanchipuram	Poonamallee to Sriperumbudur	NH-48	O&M	13.8	35	21.2	55.63	26.21	18.48	10.95	M/s OM shakti Construction
184	PIU-Kanpur	Orai - Bhognipur - Barah	NH-25	BOT Annuity	1515.713	1578.513	62.8	55.5	24.34	21.66	9.5	O.B Infrastructure Pvt. Ltd. (OBIL)
185	PIU-Shivpuri	Shivpuri to Guna	NH-46	BOT Toll	236.00	319.7	85.31	55.23	20.2	22.79	12.24	IRCON International Limited
186	PIU-Durgapur	Barwa Adda to Panagarh	NH-2	BOT Toll	398.24	521.12	121	55.17	23.00	24.50	7.67	IL&FS Transportation Networks Ltd.
187	PIU-Jalpaiguri	Siliguri-Islampur	NH-31	O&M	507	551	44	55.01	24.18	19.69	11.14	M/s Sharda Construction
188	PIU-Prayagraj	Prayagraj to UP/MP Border section	NH-27	EPC	4.285	45.627	41.342	53.58	26.5	17.85	9.23	Dilip Buildcon Ltd.
189	PIU-Prayagraj	Allahabad Bypass	NH-19	OMT	628.753	713.461	84.708	53.48	21.75	21.37	10.36	Allahabad Bypass Pathways Private Limited
190	PIU-Shivpuri	Baran-Shivpuri-Jhansi	NH-76	O&M	1184.322	1380.387	196.065	53.16	24.94	18.11	10.11	M/s BRC constructions
191	PIU-Lucknow	Lucknow-Sitapur	NH-30	BOT Toll	413.2	488.27	75.07	53.03	21.57	16.75	14.72	Apollo Enterprises Ltd. - John Laing

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
												International Ltd. (Consortium)
192	PIU-Jalandhar	Jalandhar-Pathankot	NH-44	OMT	4.23	117.75	125.87	52.47	26.04	17.50	8.92	Prakash Asphaltings and Toll Highways (India) Ltd.
193	PIU-Jalpaiguri	Dalkhola-Islampur	NH-31	O&M	447	498.5	51.5	52.37	22.53	20.94	8.9	M/s Sharda Construction
194	PIU-Lucknow	Lucknow - Raibareili	NH-24B	BOT Annuity	12.7	82.7	70	51.92	18.13	19	14.79	Essel Infraprojects Ltd
195	PIU-Nirmal	Armur - Adloor Yellareddy (Nagpur-Hyderabad)	NH-44	BOT Toll	313.507	373.762	60.255	51.83	19.14	23.5	9.19	Navayuga Road Projects Pvt Ltd.
196	PIU-Trichy	Trichy to Karur section of Trichy Bypass	NH-67	BOT Toll	176.976	218.028	41.052	51.66	22.44	17.63	11.59	Reliance Infrastructure Ltd.
197	PIU-Keonjhar	Panikoili to Rimoli	NH-215	O&M	0	113.3	92.25	51.49	24.52	20.02	6.95	M/s Shivam Condev Pvt Ltd
198	PIU-Aligarh	Ghaziabad - Aligarh	NH-91	BOT Toll	23.6	149.9	126.3	51.21	17.75	26.58	6.89	PNC - SREI - Gawar (JV)
199	PIU-Kolkata	Kolaghat-Haldia including ROB cum Flyover	NH-76	OMT	0	53.72	53	50.88	19.38	24.66	6.84	M/s Eagle deep
200	PIU-Bikaner	Bikaner to Phalodi	NH-15	BOT Toll	373.66	424.71	51.05	50.08	28.31	14.12	7.65	IRCON International Limited
201	PIU-Vijayawada	Nandigama - Vijayawada	NH-65	BOT Toll	217	265	48	49.69	21.49	14.92	13.28	MAIF Investments India 3 Pte Ltd

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
202	PIU-Chhindwara	Lakhnadon - Seoni	NH-44	BOT Annuity	547.4	624.48	77	49.55901	18.725179	16.37794	14.45589	M/s Malaxmi highways pvt. Ltd
203	PIU-Rajamahendravaram	Ankapalli-Gundugolanu	NH-16	TOT	741.255	1022.494	281.239	49.27	23.36	17.02	8.89	MAIF Investments India 3 Pte Ltd (Macquarie)
204	PIU-Nanded	Tuljapur to AUSA section (including Tuljapur Bypass)	NH-361	HAM	0.00	55.835	55.835	48.73	17.11	21.51	10.11	Dilip Buildcon Ltd.
205	PIU-Bhubaneswar	Chandikhole-Paradip	NH-5A	O&M	0	76.588	76.588	48.61	23.65	17.53	7.43	M/s Abhipsa Construction
206	PIU-Jaipur	Jaipur-Kishangarh	NH-8	BOT Toll	273.5	363.885	90.385	48.43	18.56	18.44	11.42	GVK International NV and Leighton Contractors (India) Private Limited with GVK International NV
207	PIU-Viluppuram	Pondicherry - Tindivanam	NH-45	BOT Toll	0	38.608	38.608	48	19.48	17.29	11.23	Nagarjuna Construction Company Limited.
208	PIU-Rajkot	Jetpur - Gondal - Rajkot & Rajkot Bypass from km. 175.00 to km. 185.00	NH-27	BOT	117	185	68	47.71	17.4	20.51	9.8	IL&FS Transportation Networks Ltd.
209	PIU-Palanpur	Samakhiali to Gandhidham	NH-8A	BOT Toll	306	362.16	56.16	47.28	13.19	23.5	10.59	Larsen & Toubro Ltd.

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
210	PIU-Ambala	SPanipat-Jalandhar	NH-44	BOT Toll	96	387.1	291	46.42	13.19	27.10	6.13	Isolux Corsan Concesionnes Sa-Corsan Corviam Construction SA-Soma Enterprise Ltd.
211	PIU-Sasaram	Aurangabad BR / JH Border (Chordaha)	NH-19	EPC	978.4	1047.925	69.525	45.51	16.5	21.08	7.93	Reliance Infrastructure Ltd.
212	PIU-Rohtak	Rohtak - Bawal	NH-71	BOT Toll	363	445.85	82.85	44.54	19.56	15.56	9.42	JMC Projects (India) Ltd.
213	PIU-Gwalior	Gwalior bypass	NH-3	BOT Annuity	0	42.033	42.033	42.8	10.75	25.32	6.73	Era Infra Engineering Ltd.
214	PIU-Gwalior	Agra-Gwalior	NH-3	OMT	8	103	95	41.96	12.46	22.20	7.30	Prakash Asphaltings and Toll Highways (India) Ltd.
215	PIU-Purnea	Purnea - Dalkhola Section	NH-31	O&M	410.7	447	36.3	41.83	20.89	14.5	6.44	LANCO-RANI (JV)
216	PIU-Visakhapatnam	Visakhapatnam-Champavathi River	NH-16	HAM	683	700.055	17.055	41.48	18.75	12.83	9.9	Ashoka Buildcon Limited
217	PIU-Visakhapatnam	Anandapuram and Madhuravada (Visakhapatnam to Anakapalli)	NH-16	O&M	700.05	741.25	41.20	41.23	18.51	13.82	8.9	Ayyamar Infra Projects
218	PIU-Rohtak	Delhi/ Haryana Border to Rohtak section including Bahadurgarh and Rohtak by-passes	NH-10	BOT Toll	29.7	87	63.49	41.03	17.2	18.81	5.02	Era Infra Engineering Ltd.

Sr No.	Name of PIU	Name of Section	NH No.	Mode	Chainage From	Chainage To	Total Length	Total Score	Highway Efficiency (45)	Highway Safety (35)	User Services (20)	Name of Agency
219	PIU-Indore	Indore -Dewas km 577.550 to km 610.000 and km 0.000 to km 12.600 of NH-3 in MP	NH-3	BOT Toll	577.55	12.6	45.05	36.96	22.9	9.71	4.35	DLF- Gayatri Consortium

**Total Length Rated: 18668 KM**

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