

BHARATMALA PARIYOJANA - PHASE-I

A. Program at a glance

- I. **Bharatmala Pariyojana** is a new umbrella program for the highways sector that focuses on optimizing efficiency of freight and passenger movement across the country by bridging critical infrastructure gaps through effective interventions like development of **Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement, Border and International connectivity roads, Coastal and Port connectivity roads and Green-field expressways**. A total of around **24,800 kms** are being considered in Phase I. In addition, Phase I also includes 10,000 kms of balance road works under NHDP. Estimated outlay for Phase I is Rs 5,35,000 crores spread over 5 years. The objective of the program is optimal resource allocation for a holistic highway development/improvement initiative.
- II. Effective delegation in appraisal /approval of individual project stretches and encouraging State Governments to participate in the development process through ‘Grand Challenge’ are two distinguishing features of the program.

B. Background

- I. The National Highways Development Program (NHDP) has reached a certain level of maturity. It is now important to re-define road development and have a macro approach while planning expansion of the national highways network. The focus has to be on recasting road development by bridging critical infrastructure gaps.
- II. Hence Bharatmala has been launched as a new umbrella program whose primary focus is on optimizing the efficiency of the movement of goods and people across the country. This program envisages a corridor approach in place of the existing package-based approach which has, in many cases, resulted in skewed development. For instance, in areas of high traffic, even upto 30,000 Passenger Carrying Units (PCUs), there are NH stretches of single and even intermediate lane. These have naturally become an impediment to seamless freight and passenger movement.
- III. The NH Network and ongoing programs - India has about 54.82 lakh km of road network, which is the second largest in the world in terms of length. National Highways (NHs) constitute about 2% of the total road network, but carry about 40% of the total road traffic.
- IV. NHDP spread across Phase-I to VII is the most significant program taken up so far by MoRTH. In addition, MoRTH is implementing other important programs like Special Accelerated Road Development Program for North-Eastern Region (SARDP-NE) for development of roads in the North East, and also the Left Wing Extremism (LWE) Affected Area projects. Funding for these programs has been separately allocated. The

program of upgrading single-lane National Highways to at least two-lane with paved shoulders through Externally Aided Projects (EAPs) is also being carried out. MoRTH is also implementing a comprehensive bridge building program called “Setu Bharatam” where 1,500 bridges and 208 Railway Over Bridges (ROBs) /Railway Under Bridges (RUBs) are being taken up. Other ongoing programs of MoRTH are - a special package for Jammu & Kashmir and NH(O).

- V. NHDP had aggregate length of 55,792 kms. Out of this, 30,108 kms have been completed already and another 4,900 kms will be completed this year. The balance is 20,784 kms against which projects for 6,399 kms are under implementation. Of the remaining 14,385 kms, 4,385 kms are a part of Bharatmala Component like Corridors/Expressways. Unfinished outstanding stretches of 10,000 kms will be subsumed in Bharatmala and implemented as an integrated program. The extensive experience gathered by MoRTH and its implementing agencies like NHAI in implementing NHDP shall be utilized in implementing Bharatmala.

C. Identification of project stretches under Bharatmala

- I. Bharatmala focuses on enhanced effectiveness of already built infrastructure, multi-modal integration, bridging infrastructure gaps for seamless movement and integrating National and Economic Corridors. Identification of the project stretches under the components of the proposed program has been done based on detailed O-D(Origin-Destination) study, freight flow projections and verification of the identified infrastructure gaps through geo mapping, using data from Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG) as well as from other sources. This O-D study has also taken into account integration of economic corridors with the ongoing projects under NHDP and infrastructure asymmetry in major corridors.

D. Bharatmala Phase I – components and outlay

- I. As per the CCEA approval, Phase-I of Bharatmala shall be implemented over a period of five years i.e. 2017-18 to 2021-22. Summary of Phase I components and approved outlay for the same are as follows:

Sl. No.	Components	Length -km	Outlay -Rs crore
a.	Economic corridors development	9,000	1,20,000
b.	Inter-corridor & feeder roads	6,000	80,000
c.	National Corridors Efficiency improvements:	5,000	100,000
d.	Border & International connectivity roads	2,000	25,000
e.	Coastal & port connectivity roads	2,000	20,000
f.	Expressways	800	40,000
	Total:	24,800	385,000

	Balance road works under NHDP	10,000	1,50,000
	Total		5,35,000

II. Components

- a) **Economic Corridors:** - Identified Highways Corridors of Economic importance are expected to carry 25% of freight in the coming years. Once built, the National and Economic corridors along with their inter-corridor and feeder routes would be able to carry 80% of our freight traffic. Around 26,200 km of Economic corridors have been identified to be developed as Economic corridors out of which **9,000 kms** are being taken up in Phase-I of Bharatmala.
- b) **Inter-corridor and feeder roads to National and Economic Corridors:** - Around 8,000 km of inter-corridor and around 7,500 km of feeder routes have been identified out of which **6,000 kms** are being taken up in Phase-I of Bharatmala.
- c) **National Corridors Efficiency Improvement:** The Golden-Quadrilateral and NS-EW, corridors carry 35% of India's freight and would be declared as National corridors. The average traffic in the 6 national corridors is >30,000 PCU. The 6/8 laning of these corridors would be done as per need. The National Corridors have developed choke points impacting logistics efficiency. There is a requirement to build Ring Road and bypasses/ elevated corridors in addition to lane expansion to decongest these National Corridors. Further, Logistics Parks would also be developed at strategic locations to enhance logistics efficiency. A list of such identified locations of Logistics Parks is attached. Around **5,000 kms** are being taken up under this category in Phase-I of Bharatmala.
- d) **Border and International connectivity roads:** - Around 3,300 km of border roads have been identified to be built along the international border for their strategic importance. Around 2,000 km of roads are required for connecting India's major highway corridor to International trade points so as to facilitate Export-Import (EXIM) trade with our neighbors: Nepal, Bhutan, Bangladesh and Myanmar. Around **2,000 kms** are being taken up under this category in Phase-I of Bharatmala.
- e) **Coastal and Port connectivity roads:** - Around 2,100 km of coastal roads have been identified to be built along the coast of India. These roads would boost both tourism and industrial development of the coastal region. Around 2,000 km of port connectivity roads have been identified to facilitate EXIM trade with an emphasis to improve connectivity to non-major ports. The roads identified have been synergized with the Sagarmala program. Around **2,000 kms** are being taken up under this category in Phase-I of Bharatmala.
- f) **Green-field expressways-** Certain sections of National and economic corridors have traffic exceeding 50,000 PCUs and have also developed several choke points. About 1,900 km of these stretches have been identified for development of green-field expressways. Around **800 kms** are being taken up under this category in Phase-I of Bharatmala.

- III. Minister -RTH is authorized to substitute/replace up to 15% length of 24,800 kms for Phase I of the program by other suitable projects, if development of certain identified stretches under the program cannot be taken up on account of issues pertaining to alignment finalization, land availability and other unforeseen factors. MoRTH shall retain the same target and budget proposed above.
- IV. In addition to Rs. 5,35,000 crore for Bharatmala Phase-I, there is a requirement of Rs. 1,57,324 crore for ongoing schemes like NH(O), SARDP-NE, EAP and LWE under implementation in the Highways Sector. Thus, the overall outlay for Bharatmala and all existing schemes put together will be Rs 6,92,324 crore over a period of 5 years.
- V. Gross Budgetary Support for the Bharatmala program and existing schemes from 2017-18 to 2021--22 will be restricted to Rs. 2,37,024 crore from Central Road Fund (CRF), Rs 59,973 crore as Budgetary support, Rs. 34,000 crore from expected monetization through ToT route and Rs. 46,048 crore collected as Toll-Permanent Bridge Fee Fund (PBFF) by NHAI.

E. Appraisal and approval of projects under the program

- I. Projects under Bharatmala Phase-I are to be implemented through NHAI, NHIDCL, MoRTH and State PWDs.
- II. All PPP BOT (Toll) projects, irrespective of the size and cost, where no grant (or VGF) is given to the concessionaire and the construction and maintenance is financed by toll revenues are to be appraised and approved by the Board of NHAI.
- III. All PPP {BOT (Annuity) or BOT (HAM)} projects costing upto Rs. 2000 crore (TPC excluding land cost) are to be appraised by the SFC chaired by Secretary, MoRTH and approved by Minister (MoRTH).
- IV. All PPP {BOT (Annuity) or BOT (HAM)} projects costing more than Rs. 2000 crore (TPC excluding land cost) are to be appraised by PPPAC chaired by Secretary, DEA and approved by CCEA.
- V. All PPP projects, which need VGF grants from Government, are to be appraised and approved as per extant guidelines of DEA applicable for VGF support.
- VI. All EPC projects implemented by NHAI under this program are to be approved by NHAI Board after proper appraisal, within the budgeted financial resources approved under this program.
- VII. Further, NHAI Board is authorized to suitably delegate its powers on appraisal and approval of projects within NHAI.

- VIII. For EPC projects to be implemented by MoRTH through State PWDs or other agencies, the extant mechanism is to be followed i.e. all projects having civil cost (TPC excluding land cost) between Rs 100 crore to Rs 1,000 crore are to be appraised by the DIB, chaired by Secretary (RT&H), and approved by the Minister (RT&H), while projects having civil costs beyond Rs 1000 crore (TPC excluding land cost) are to be appraised by the PIB chaired by FS & Secretary, Expenditure and approved by CCEA.
- IX. For projects to be implemented by NHIDCL in the North-East, the appraisal and approval mechanism is to be the same as that applicable for projects under ongoing SARDP-NE programs i.e., through the High Powered Committee (HPC) under the chairmanship of Secretary (RT&H).
- X. All decisions of change of mode of execution are to be taken by the Board of NHAI or MoRTH, for their respective roads, subject to availability of funds and other required conditions.
- XI. Individual Projects under the program that involve Revised Cost Estimates are to be considered and approved by the Concerned Authority which has accorded approval to the project as per the above guidelines, subject to the cumulative financial commitments of all such projects being within the allocation approved for this program.
- XII. All projects implemented under the program, either by NHAI or MoRTH, are to be technically, financially and economically appraised duly by an empowered and well-equipped *Project Appraisal & Technical Scrutiny Committee* to be setup in NHAI and MoRTH. The *Project Appraisal & Technical Scrutiny Committee* for appraising projects under Bharatmala Pariyojana would comprise experts from NITI Aayog, Project and Finance Division and would be a dedicated unit which would place its recommendations on appraisal of projects to NHAI Board or Secretary, MoRTH, as the case may be, for approval.
- (a) Composition of the Project Appraisal & Technical Scrutiny mechanism is to be decided and approved by the NHAI Board (Authority).
- (b) Composition of the Project Appraisal & Technical Scrutiny Committee at MoRTH - existing PPP Cell under Highways Wing is to continue with reinforcement through addition of Financial Consultant and such other experts as may be required. As per extant mechanism, the PPP Cell solicits views/comments of NITI Aayog on project proposals.
- XIII. State Governments are to be requested not to levy any such administrative costs for land acquisition or charge the actual expenditure incurred in the process or, in the alternative, an amount not exceeding 2.5% of the compensation amount. Similarly, State Governments are to be requested that supervision charges for utility shifting should also be capped at 2.5% of the approved estimates.

XIV. Guidelines for scrutiny of individual projects which are to be followed by all implementing agencies are at **Annexure A.**

F. Grand Challenge mechanism

- I. Within the Bharatmala Pariyojana, 10% funds are to be kept earmarked to take up projects under the 'Grand Challenge' mechanism on reducing balance basis vis-à-vis annual fund allocation for the Bharatmala Pariyojana to take up projects on fast track basis where sufficient and timely land is made available by the State Government as per norms of MoRTH.
- a) Under the Grand Challenge Mechanism, a maximum of two stretches of roads not exceeding 100 kms are to be allowed from any one State in a particular financial year.
 - b) States are to indicate their preference for a stretch from the final list of the roads included in the Bharatmala Pariyojana in the month of April every year.
 - c) Once such an intention has been shown by a State, MoRTH will send a preliminary confirmation to the particular state and proceed to finalize the alignment and prepare the DPR.
 - d) If a State has acquired 50% of the land by the time the DPR is ready, then such DPRs will be put on fast track mode and MoRTH will send secondary confirmation to State Government.
 - e) From amongst such DPRs/projects, those projects are to be taken up for bidding where additional 30% of the land is acquired by the time of bidding of the projects.
 - f) From such successful bids, those projects are to be awarded where 90% land has already been acquired at the time of award of the project.
 - g) If the above milestone is satisfied, the implementation of the said project in the said State will be taken on priority.
 - h) If there are competing projects with the above credentials, then those projects which are connecting to Ports and/or Industrial or commercial hubs and other economically and strategically important locations are to be given priority.
 - i) In addition, if the concerned State Government provides at least 25% of the Land Acquisition cost for 'Ring Road or Bypass' projects, already included in the program, such projects will be taken up for construction by NHAI on priority basis.
 - j) After the award of the road project, if there is no progress in the said project for one year on account of RoW issues including availability of land, utility shifting/tree felling issues, encroachment issues etc, then the said allocation of funds for the said project will

stand cancelled on the expiry of one year.

G. Projects which are not part of Bharatmala Pariyojana Phase I

If any such project is proposed by the State or is otherwise considered necessary and expedient to build including Ring Road or Bypass which is not part of the Bharatmala shelf of Projects; such a new project is to be taken up for consideration by MoRTH only if the State/Agency is ready to bear at least 50% cost of land acquisition. MoRTH will conduct a due consultation with Ministry of Finance and other concerned Departments/Ministries. The Grand Challenge mechanism would still apply for similar offers from more than one State/Agency.

H. Expansion of NHAI Board (Authority)

NHAI Board (Authority) is to be expanded to include CEO, NITI Aayog as a part-time member. Now, the part-time members of the Board will include the following:-

- i. Secretary, Department of Expenditure
- ii. CEO, NITI Aayog
- iii. Secretary, Ministry of Road Transport and Highways
- iv. Director General (RD) & Special Secretary, MoRTH

I. Criteria for selection of corridors

Selection criteria for projects to be taken up under Bharatmala Phase-I are to be as follows: -

Sl. No.	Component of Bharatmala Pariyojana	Inter-se priority determination criteria for selection of stretches
1	Economic Corridor Development	<p>Economic corridor development program focuses on developing new corridors, in addition to existing Golden Quadrilateral (GQ) and North South-East West corridors (NS-EW). It is planned to develop these corridors end to end to ensure seamless and speedy travel and to ensure uniformity in standards in terms of speed, design of various elements of roads, control of accesses, way side amenities, road safety features, etc. Once upgraded it will ensure substantial increase in speed and time of travel for both freight and passenger traffic at large across the country.</p> <p>Criteria:</p> <ul style="list-style-type: none"> • Stretches with higher freight flow; • Stretches with overall higher traffic; • Stretches with ease of Land Acquisition and pre-

Sl. No.	Component of Bharatmala Pariyojana	Inter-se priority determination criteria for selection of stretches
		<p>construction activities and DPR preparation;</p> <ul style="list-style-type: none"> • Capacity augmentation from 4 to 6 lane would be taken in 2nd phase.
2	Inter Corridor and feeder roads development	<p>Stretches of roads connecting more than 2 corridors are classified as inter-corridors routes, while other routes connecting to 1 or 2 corridors are termed as feeder routes.</p> <p>Selection Criteria:</p> <ul style="list-style-type: none"> • Stretches with less than 4 lane infrastructure leading to infrastructure asymmetry on the corridor; • Higher traffic in terms of PCU; • Stretches with ease of Land Acquisition and pre-construction activities and DPR preparation.
3	National Corridors Efficiency Improvement	<p>National Corridor Efficiency Improvement program will focus on improving the efficiency of the existing corridors (GQ and NS-EW), by removing the congestion points on the corridor to improve the average speed on the corridor. Interventions such as controlling access on the corridor, uniform corridor tolling, development of bypasses, ring roads, fly overs at choke points will be taken up to improve the average speed on the existing corridors in line with the best in class corridors.</p> <p>Criteria:</p> <ul style="list-style-type: none"> • Congestion records; • Road safety consideration • Higher traffic would be prioritized; • Focus on Ring roads; mobilization/acquisition of land by State Governments • Connectivity of Logistics Parks
4	Border and International connectivity roads	<p>Criteria:</p> <ul style="list-style-type: none"> • Synergy with development of Integrated check post, • Government priority; IMT/BIN/BIMSTEC MVAs • Stretches of ease of Land Acquisition and pre-construction activities and DPR preparation
5	Coastal and Port connectivity roads	<p>Criteria:</p> <ul style="list-style-type: none"> • Development status of Ports; • Equity participation by Stake holders;

Sl. No.	Component of Bharatmala Pariyojana	Inter-se priority determination criteria for selection of stretches
		<ul style="list-style-type: none"> • Synchronization with other port development under Sagarmala; • Ease of Land Acquisition and pre-construction activities and DPR preparation.
6.	Expressways	<p>Criteria:</p> <ul style="list-style-type: none"> • Constraint in capacity augmentation of important NHs where PCU > 50,000; • Higher traffic would be prioritized; • Synchronization with rapidly growing Industrial activities; • Stretches with ease of Land Acquisition and pre-construction activities and DPR preparation.

J. Encouraging PPP in implementation of projects

An amount of Rs. 60,000 crore of private investment is planned to be sourced in Phase-I of the program through PPP. All endeavors shall be made by MoRTH / NHAI to ensure that projects under the program are taken up through PPP model to the extent proposed. The Toll-Operate-Transfer (ToT) model shall be used to monetize all roads constructed through EPC route.

K. Project Duration & Management

- I. All efforts shall be made to ensure that award of all projects under Phase-I of Bharatmala Pariyojana is completed in next two years.
- II. The project shall be completed in a period of 5 years from the date of sanction. Planning and implementation shall be meticulously done so as to minimize scope for cost and time overruns.

L. Monitoring & Audit Mechanism

- I. PIB will review the progress of this program once in 6 months with a view to avoid cost and time overruns. MoRTH in consultation with NHAI and NHIDCL should bring out a consolidated Progress Report for all sub-projects contained in the approved Bharatmala Phase-I to the PIB (every December and June). The Progress Report should include details of the variation in the parameters of the sub-projects, which increase the overall cost of the sub-projects or their financing patterns. Along with project progress, PIB will also review raising of funds, revenue generation and debt servicing aspects.

- II. The Progress Report along with the Review Report of the PIB shall be placed before the CCEA and its guidance shall be obtained.
- III. Outcome parameters like reduction in time of travel, fuel efficiency, accident reduction, ride comfort and user satisfaction may be laid down and monitored periodically for every corridor.
- IV. Audit of physical and technical parameters will be ensured for all such projects by MoRTH by appropriate independent agencies.

M. Employment generation opportunity

- I. Development of projects/sub projects under the umbrella program would generate substantive employment opportunities across the country. It has been estimated that more than 10 crore mandays shall be generated from Phase I of the program.

N. Program Impact

- I. The program once implemented shall optimize the efficiency of traffic movement on roads across the country through adoption of a coherent corridor approach. It shall also ensure timely completion of high priority projects in a focused manner.
- II. The program shall enable to connect 550 Districts in the country through NH linkages. Currently, around 300 Districts have NH linkages.
- III. The program shall have a positive impact on the Logistic Performance Index (LPI) of the country.

Annexure -A

**Guidelines for scrutiny of individual projects
under Bharatmala Pariyojana**

Following are the Guidelines for scrutiny of individual projects under the programme Bharatmala Pariyojana posed before the PIB on 16.6.2017:-

1. Status of Land Acquisition, Rehabilitation & Resettlement, shifting of Utilities and obtaining of Environmental Clearances, etc., should be stated upfront, together with the likely date of completion of these activities. No project is to be awarded without confirming availability of 80% of land for PPP projects and 90% for EPC projects. Similarly, clear conditions precedent may be laid down for DPR preparation, inviting bids, award of project and declaring the appointed date. The officers/agencies responsible for these activities should be clearly identified and indicated in the proposal to the Concerned Authority.
2. Nodal Officers responsible for implementation of each project / package and names of officers and agencies responsible for site investigations, preparation of detailed designs for important activities (for example, construction of important bridges), preparation of BOQs, etc., need to be indicated, identified and trained before the start of the project/package.
3. Investment proposals should be based on the Detailed Project Reports and cost estimates should be based on the price level not beyond six months from the date of consideration of the proposal by the Concerned Authority.
4. Proposals should give separately details of costs of 4/6 laning, ROBs and 'Major' bridges, along with comparative costs of the latest approved/awarded projects on a like-to-like basis. In case of substantive variations/deviations in scope of work or rates, specific justification should be given in the DPR and approval by the Concerned Authority requires to be solicited.
5. The supervision consultancy, agency and other charges incurred by implementing agencies would be applicable as per extant guidelines and circulars of MoRTH and must not exceed the prescribed limits.
6. Supervision consultancy contracts should be based on specific items of work or man months requirement assessed on objective criteria rather than being based on the cost of the project or civil works.
7. Provision for physical contingencies should normally not exceed 2.8% of the cost of civil works.
8. EIRR and FIRR should be worked out on the lines of PAMD methodology, using discounted cash flows and without assuming annual/periodical escalation in revenues/savings in VOC's or time. Based on the EIRR/FIRR and other findings, each DPR shall also recommend the model suitable for that particular sub-project as BOT (Toll) or BOT (Annuity projects) or HAM or EPC.
9. Proposals to be brought before the concerned authority should have clearly identified milestones, time schedule based on resource based PERT chart to meet those milestones, persons/agencies responsible for achieving the milestones, and firm details of component-wise cost details.

10. Mode of implementation and monitoring of the project by concerned authority needs to be indicated, clearly identifying the areas of responsibilities for concerned agencies/persons.
11. MoRTH and implementing agencies should evolve an internal mechanism for periodic review of the progress of projects/packages under Bharatmala, identification of the slippages, if any, suggesting corrective interventions and for fixing responsibility. A comprehensive monitoring mechanism within NHAI shall be established for tracking and reviewing progress of projects under the programme, including problem solving, timely completion, quality of construction, O&M and timeliness in completion of the created/improved highway assets, safety aspects and commuters inconvenience. IT-enabled PMIS is already operational, for monitoring of NH projects on real time basis, shall be suitably used for projects under the programme. Further, for effective monitoring purposes independent agencies with adequate experience shall be engaged, wherever required.
12. BOT (Toll)/BOT (Annuity projects)/HAM projects should conform to the guidelines laid down by PPPAC/CCEA and the proposed concession agreements should be in accordance with the stipulated guidelines. For these projects, benchmarking of critical parameters should be done. If any deviations from the concession agreements/guidelines approved by the competent authority are needed, due institutional framework as approved by CCEA for amendments in MCA for Highway projects shall be followed.
13. Financing arrangements should be fully tied up. For every project MoRTH/NHAI should indicate commitments on existing ongoing projects, additional commitments already made and how additional commitments on the proposal under consideration and new projects in the pipeline are to be financed. Sources of funding including Internal Resources, Borrowings, etc., and cash flow statements for the next 5 years highlighting the debt servicing/cash flow problems faced by the implementing organizations shall be reviewed; and remedial action required to overcome the problems faced shall be taken promptly.
14. Each DPR should clearly indicate the details of expected revenue from toll and other sources including lease rentals, value capture, etc., cost of collection, arrangements for collection, etc. Variations, if any from the government approved toll norms, and the reasons for the same should be brought out.
15. During implementation of any project, if approval of revised cost estimates are necessitated due to time and cost overrun, proposals should be considered and approved by the concerned authority, and it would fix responsibility for time and cost overrun, wherever necessary.
16. Intelligent Transportation Systems (ITS) may be deployed in high density corridors to enable better revenues and road safety, subject to viability.