Demand for Grants 2025-26 Analysis

Road Transport and Highways

The Ministry of Road Transport and Highways formulates and administers policies for road transport, and transport research.[1] It is also involved in the construction and maintenance of National Highways (NHs) through the National Highways Authority of India (NHAI), and the National Highway and Infrastructure Development Corporation Limited (NHIDCL). It deals with matters relating to road transport, safety, and vehicle standards, through the implementation of the Motor Vehicles Act, 1988. This note looks at the proposed expenditure of the Ministry for 2025-26, and key issues in the sector.

Overview of finances

The Ministry is estimated to spend Rs 2,87,333 crore in 2025-26. This is 2% higher than the revised estimates for 2024-25 (Rs 2,80,519 crore). Major allocations are towards NHAI and expenditure on roads and bridges (see Table 1).

Table 1: Major allocations for the Ministry of Road Transport and Highways (in Rs crore)

	Actuals 23-24	RE 24-25	BE 25-26	% change (BE over RE)
NHAI	1,67,398	1,69,371	1,70,266	1%
Roads and Bridges	1,08,678	1,10,576	1,16,292	5%
Others	436	572	775	36%
Total	**2,75,986**	**2,80,519**	**2,87,333**	**2.4%**

Note: BE – Budget Estimate; RE – Revised Estimate; "Total" includes recoveries which have not been shown in the table; "Others" covers establishment expenditure of the central government and allocations towards road transport and safety.
Sources: Expenditure Profile, Ministry of Road Transport and Highways, 2025-26; PRS.

NHAI had increased its market borrowings from 2017-18 to finance the Bharatmala Pariyojana.[2,3] NHAI services its debts through a combination of toll revenue and asset monetisation.[3] NHAI has halted its borrowings since 2022-23 (see Figure 2).[3] As of July 25, 2024, the total outstanding debt of the NHAI stood at Rs 3,35,173 crore.[3]

Table 2: Expenditure of the Ministry of Road Transport and Highways (in Rs crore)

	2023-24	2024-25 RE	2025-26 BE	% change (RE to BE)
Revenue	12,094	8,038	15,092	88%
Capital	2,63,912	2,72,481	2,72,241	0%
Total	**2,75,986**	**2,80,519**	**2,87,333**	**2.4%**

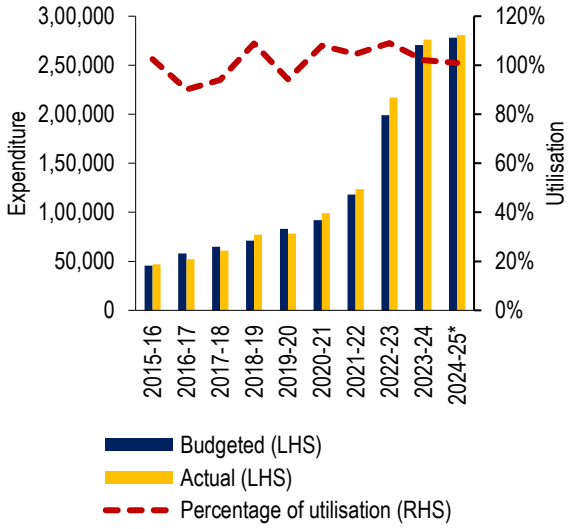
Note: BE – Budget Estimate; RE – Revised Estimate.
Source: Expenditure Budget, 2025-26, Ministry of Road Transport and Highways; PRS.

Capital expenditure for 2025-26 is similar to the revised estimates for 2024-25. Revenue expenditure is 88% more than the revised estimate for 2024-25 (162% more than the budget estimate for 2024-25).

Utilisation of funds

Over the last few years, fund utilisation of the Ministry has been over 100 percent. In 2023-24, the Ministry spent Rs 2,75,986 crore against a budget of Rs 2,70,435 crore. As per the revised estimates for 2024-25, the expenditure is expected to be 1% more than the budget.

Figure 1: 100% utilisation of funds by the Ministry in the past few years (in Rs crore)



Sources: Demand for grants of the Ministry of Road Transport and Highways for various years; PRS.

Expenditure by the Ministry

Allocation to NHAI

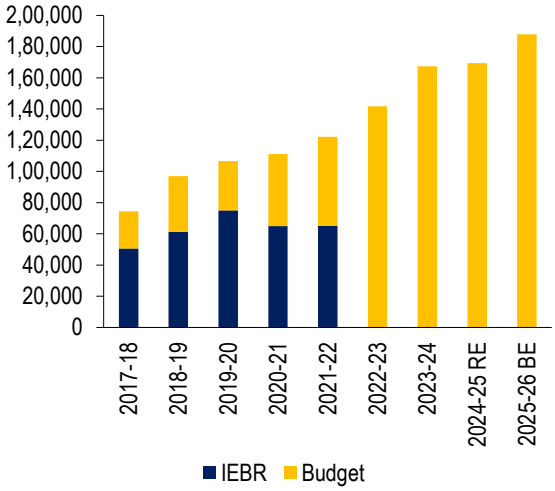
NHAI is responsible for the development and maintenance of national highways.[4] For 2025-26, Rs 1,70,266 crore (59% of the Ministry's budget) has been allocated to NHAI. This is 1% higher than the revised estimates for 2024-25. Budgetary support towards NHAI is used to carry out works under the Bharatmala Pariyojana.[5,6]

Budgetary support from the central government to NHAI has increased in the past few years. In 2013-14, the NHAI received Rs 19,569 crore. This included Rs 11,627 crore through budget support (transfers from funds) and Rs 7,942 crore of borrowings. In 2023-24, the allocation was Rs 1,67,393 crore, all of which was budgetary support.

Anirudh TR
anirudh@prsindia.org

February 20, 2025

Figure 2: NHAI borrowings have stopped since 2022-23



Sources: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget, 2019-20 to 2025-26; PRS.

Status of Bharatmala Pariyojana Phase – I

The Bharatmala Pariyojana Phase- 1 was approved by the central government in 2017.[6,7] The project was estimated to be completed by 2022.[8,9] The planned financial outlay for the project was Rs 5,35,000 crore.[8] The NHAI has incurred a total expenditure of Rs 4.72 lakh crore (88% of the planned financial outlay) as of November 30, 2024.[7]

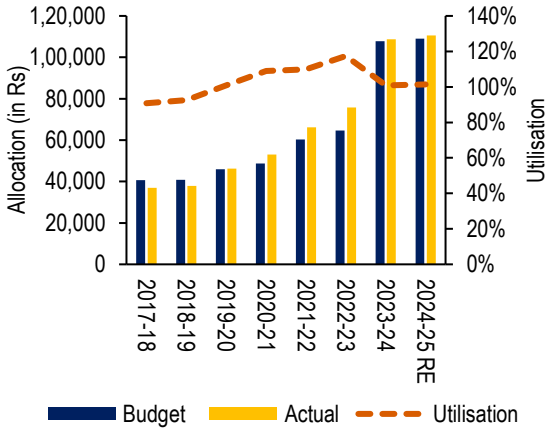
Under Phase-1 of the project, a total length of 34,800 km of road network was to be developed.[7] Phase-1 will also subsume 10,000 km of balance road works under the National Highways Development Project (NHDP).[8] As on October 31, 2024, 26,435 km (76% of the planned length) has been awarded. 18,714 km (54% of the planned length) of road has been constructed.[7]

Bharatmala Pariyojana has seen overruns in both project costs and timelines.[6] The CAG (2023) noted that by March 31, 2023, 158% of the approved financial outlay (Rs 5,35,000 crore) had already been sanctioned for the project.[8] This amount was sanctioned against an award of 76% of the total project length (26,316 km).[8] The Ministry specified that the revised financial proposal for the Bharatmala Pariyojana is under process for approval.[6]

Allocation to Roads and Bridges

In 2025-26, Rs 1,16,292 crore has been allocated towards roads and bridges. This is 5% higher than the revised estimates for 2024-25. Expenditure under roads and bridges includes: (i) development of NHs, (ii) projects related to expressways, (iii) increasing the number of lanes under various projects, and (iv) development of road connectivity in left-wing extremism affected areas.

Figure 3: Actual spending on roads and bridges exceeds budget in the past few years



Sources: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget, 2018-19 to 2024-25; PRS.

Greenfield expressways

The government has planned to develop five greenfield expressways and 22 access controlled road corridors in the country.[6] The total length of these roads is 9,860 kms.[6] The projects are being undertaken at a capital cost of Rs 4,19,130 crore.[6] Eleven expressways are either fully or partially operational in the country.[10] The operational length of these expressways is 2,138 kms.[10] Of these 11 expressways, six were operationalised in 2023-24.[10]

Multi Laning

The Ministry plans, constructs and monitors progress on construction of multi-lane highways.[11] These include four, six and eight laning of highways.[11] In 2022-23, the overall multi-lane construction target was 12,200 km.[11] Of which, 3,294 km of four lane roads were constructed and 1,341 km of six and eight lane roads were constructed.[11] The remaining was attributed to other roads.[11] The targets and achievements for multi-laning projects are provided in Table 3

Table 3: Targets vs Achievement for four and six laning projects

Year	Target	Achievement	% achieved
2020-21	11,000	13,327	121%
2021-22	12,000	10,457	87%
2022-23	12,200	10,331	85%
2023-24*	13,814	2,250	-

Note: Achievement figures for 2023-24* are until June 2023.
Source: Unstarred Question No. 2441, Lok Sabha, Ministry of Road Transport and Highways, August 3, 2023; PRS.

Left Wing Affected Areas

As on November 30, 2024, 6,014 kms of road was planned to be constructed in left-wing extremism affected areas.[12] Against this target, 5,775 kms of construction has been completed (96% of the target has been achieved).[12]

Funds Managed by the Ministry

The Ministry manages various funds to finance road infrastructure projects. These are the: (i) Central Road and Infrastructure Fund (CRIF), (ii) Permanent Bridge Fees Fund (PBFF), (iii) Monetisation of National Highways Fund (NHMF), and (iv) National Investment Fund (NIF).

These funds are financed through methods such as: (i) levy of a specific cess, (ii) collection of toll, (iii) monetisation of highways and (iv) proceeds from the disinvestment of public companies. Allocations to the Ministry from these funds are used for highway development, building road infrastructure in states and UTs, safety and maintenance expenditure, construction of other roads and bridges and repayment of debt.

Table 4: Estimated utilisation from various funds (in Rs crore) for 2025-26 budget

Fund	Transfer to fund	Allocation from fund	Utilisation of transfers
CRIF	15,492	15,492	100%
PBFF	33,000	33,000	100%
NHF	15,000	15,000	100%
NIF	11,000	11,000	100%
Total	74,405	74,405	100%

Notes: Funding from CRIF includes allocations to NHAI, Roads and Bridges, Maintenance, Safety and works in states/UTs.
Source: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget, 2018-19 to 2024-25; PRS.

Central Road and Infrastructure Fund (CRIF)

The CRIF is a non-lapsable fund created to service infrastructure projects.[13] CRIF is funded by a cess levied on petrol and diesel called the Road and Infrastructure Development Cess. This amount is eventually released to the NHAI, and to the state/UT governments for the development of roads and other infrastructure projects such as railways.[13] Note that the utilisation from the fund may be more than the amount transferred in some years. Since the fund is non-lapsable, allocations from the fund may include amounts unutilised from previous years. In 2023-24, Rs 20,129 crore was transferred to the CRIF. From this, Rs 19,507 crore was utilised by the Ministry for various works. As per the revised estimates of 2024-25 Rs 12,806 crore is expected to be transferred to the fund. Rs 18,806 crore is the estimated utilisation.

Table 5: Utilisation of CRIF allocations in 2025-26 budget (in Rs crore)

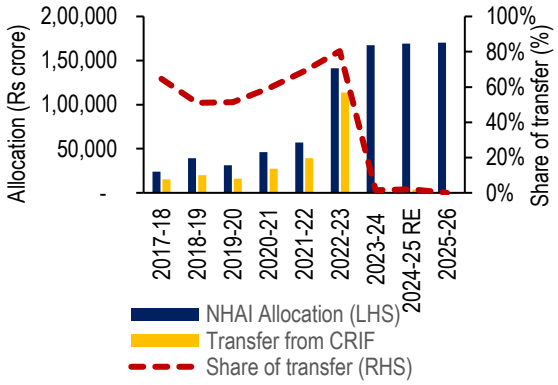
Allocated purpose	Allocation from CRIF	Share (%)
State/UT schemes	9,933	64%
Maintenance	4,595	30%
Safety schemes	595	4%
Others	369	2%
NHAI	0	0%
Total	**15,492**	**100%**

Sources: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget, 2025-26; PRS.

Allocation to NHAI from CRIF

No allocation to NHAI is being financed from the CRIF in 2025-26. Since 2023-24, share of transfers from CRIF has come down (see Figure 3). The reduction in transfers from CRIF is being compensated by gross budgetary support.

Figure 4: Share of transfers to NHAI from CRIF sees a dip from 2022-23 onwards

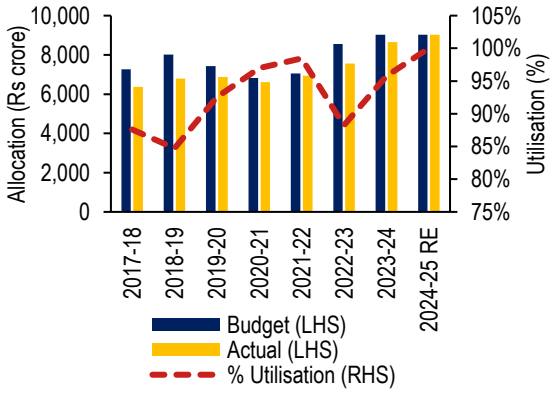


Source: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget Documents, 2018-19 to 2025-26; PRS.

Schemes of states and UTs met from CRIF

In 2025-26, Rs 9,342 crore is estimated to be utilised for states and UTs from the CRIF. This is 10% more than the revised estimates for 2024-25. Over the past few years, actual allocation to states and UTs from CRIF have missed budget targets. One possible reason for this is the carryover of unspent allocation to states from previous years.[14]

Figure 5: CRIF allocation towards States and UTs for road infrastructure underutilised



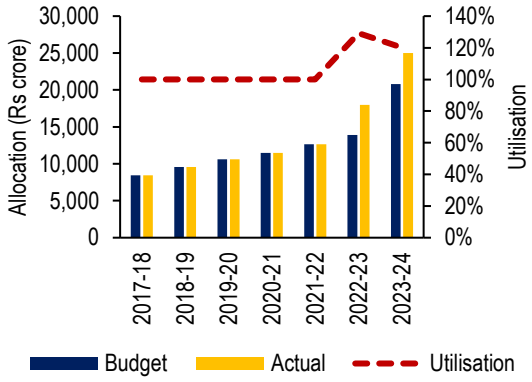
Sources: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget Documents, 2018-19 to 2025-26; PRS.

Permanent Bridge Fees Fund (PBFF)

The PBFF is funded by revenue collected by the government through: (i) fees levied for the use of certain permanent bridges on NHs by motor vehicles, (ii) toll on NHs, and (iii) share of government revenue received on some Public-Private Partnership (PPP) projects. These funds are released to NHAI for the development of NHs

entrusted to it. In 2025-26, Rs 33,000 crore has been allocated from the PBFF. This is 10% more than the revised estimates of 2024-25. In 2023-24, the Ministry spent Rs 25,000 crore from the PBFF.

Figure 6: Actual allocations to NHAI from PBFF have met the budget over the years



Source: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget Documents, 2019-20 to 2025-26; PRS.

National Investment Fund (NIF)

The NIF was created in 2005 and receives proceeds from disinvestments of public sector enterprises.[15] The fund is also used to finance the Special Accelerated Road Development Programme in North East (SARDP-NE).[15] In 2025-26, Rs 11,000 crore is budgeted to be transferred from the NIF. This is 37.5% higher than the revised estimates for 2024-25. The entire amount has been budgeted towards SARDP-NE.

The Ministry develops road network in north-eastern states under SARDP-NE programme.[16] The programme seeks to provide connectivity to backward and remote areas and ensure that headquarters in the northeastern region seek to be connected by at least two- lane highway standards.[16] The program was started in 2005. The Standing Committee on Transport (2022) had observed that Phase-A of the project, scheduled to be completed by March, 2014, had incurred significant delays.[17] The total length of works sanctioned under SARDP-NE is 5,998 km.[12] Of this, 5,702 km length (95% of sanctioned length) has been completed by November 30, 2024.[12]

Monetisation of National Highways Fund (NHF)

The NHF is financed by monetising certain public-funded national highway projects.[18] This includes transferring maintenance of certain stretches to private contractors on a long-term basis.[18] The fund is being used for repayment of NHAI's debt obligations.[12] In 2025- 26, Rs 15,000 crore is expected to be utilised from the NHF. This is the same as the revised estimates for 2024-25.

Key issues to consider

Enhancing the road network

As of 2024, India has the second largest road network in the world at 63.45 lakh km.[12] The road network includes: (i) National Highways (NHs), (ii) State Highways (SHs), and (iii) other roads such as district, urban and rural roads. In 2014, the total national highway network in India was 91,287 kms.[12] As of 2024, the highway network had increased to 1,46,195 kms.[12]

Table 6: Road length, as of 2019-20 (in km)

Road category	Length	% share
National Highways	1,32,499	2%
State Highways	1,79,535	3%
District Road	6,12,778	10%
Rural Roads	45,22,228	71%
Urban Roads	5,41,554	9%
Project Roads	3,43,163	5%
Total	**63,31,757**	**100%**

Sources: Road Transport Year Book, Ministry of Road Transport and Highways, 2019-20; PRS.

As of 2019-20, NHs constitute about 2% of the road network in the country and carry nearly 33% of the total traffic on road.[19]

Table 7: Growth in passenger and goods traffic on roads

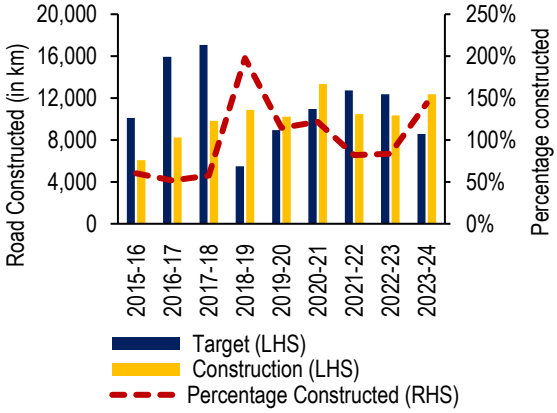
	2008-09	2019-20	CAGR
Passenger	1,022	2,927	10%
Goods	6,182	25,199	14%

Note: Passenger traffic measured in billion passenger kilometres and goods traffic measured in billion tonne kilometres.
Source: Road Transport Year Book, Ministry of Road Transport and Highways, 2019-20; PRS.

Construction targets

Between 2015-16 and 2023-24, the NH construction target was 1,02,194 km.[12] Against this, 91,677 km was constructed (90 % of the target).[12] For 2024-25, the Ministry has set a target of 3,100 km.[12] This target has been surpassed with 5,853 km of highways being constructed as of December 2024.[12]

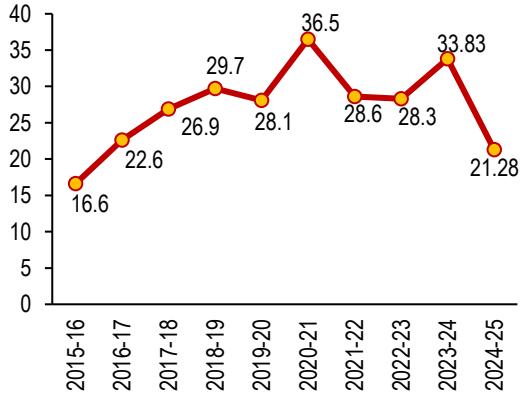
Figure 7: Target vs Construction for NHs



Source: Year End Review: 2024, Press Information Bureau, Ministry of Road Transport and Highways, January 9, 2025; PRS.

Pace of highway construction increased from 16.6 km/day in 2015-16 to 28.3 km/day in 2022-23 (see Figure 6).[12] In 2020-21 and 2023-24, pace of construction was more than 33 km/day. In 2024-25, the pace of highway construction was 21.3 km/day (as of December 2024).[12]

Figure 8: Highway construction pace (km/day)



Note: Data for 2024-25 is as of December 2024.
Source: Year End Review: 2024, Press Information Bureau, Ministry of Road Transport and Highways, January 9, 2025; PRS.

Multimodal Logistics

Modal share of road transport in India has increased over the years.[20,21] About 70% of India's domestic freight demand is transported through trucks on road.[22] NITI Aayog observed that an ideal modal mix would involve shifting some portion of goods carried presently by road to rail.[20,21] It observed that overall cost of logistics can be reduced by an efficient intermodal network.[21] Efficient intermodal networks can be achieved by enabling rail-road integration.[21] One possible solution is through the construction of multi modal logistics parks.[21]

Under the Bharatmala Pariyojana, 35 such parks were planned to be developed at an investment of Rs 46,000 crore.[12] The total freight handling capacity of these parks would be 700 million metric tonnes.[12] Of these 35 parks, 15 parks will be built at priority locations initially at an investment of Rs 22,000 crore.[12] The multi modal logistics parks will serve as cargo aggregation and distribution hubs for agricultural and industrial purposes.[12] Currently, six parks are under development.[12] The total investment is Rs 6,337 crore.[12]

Table 8: Status of multi modal logistics parks under Bharatmala Pariyojana

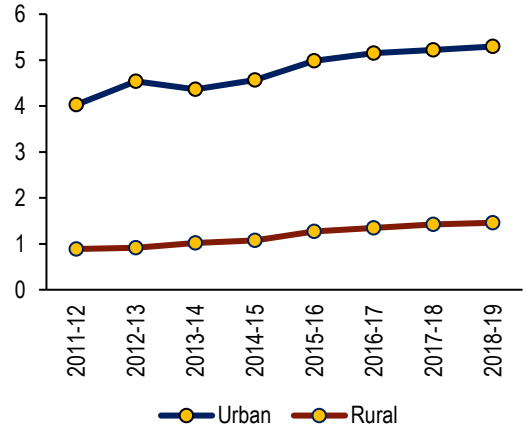
Park location	State	Mode	Investment (in Rs crore)
Jogighopa	Assam	EPC	694
Chennai	Tamil Nadu	PPP	1,423
Indore	Madhya Pradesh	PPP	1,111
Bangalore	Karnataka	PPP	1,770
Nagpur	Maharashtra	PPP	673
Jalna	Maharashtra	EPC	666

Source: Year End Review 2024, Ministry of Road Transport and Highways, January 9, 2025; PRS.

Road Density

Road density refers to the average road length per square km. It is a measure of road connectivity. Overall road density in 2011-12 was 1.42 km per square kilometre.[19] This has grown to 1.92 km per square kilometre in 2018-19.[19] Rural and urban road densities have also registered growth between 2011-12 and 2018-19 (Figure 9).

Figure 9: Road density (km per sq. km)



Source: Basic Road Statistics, Ministry of Road Transport and Highways, 2018-19; PRS.

Financing Road Projects

Both public and private funding are used to finance road projects.[23] The central government provides financial assistance through allocations which are funded by taxes, cesses, or dedicated road funds. Public-Private Partnerships (PPP) facilitate private financing.[23] Private developers construct roads by investing capital which is retrieved through toll collection or annual payments made by the government.[23] The developer maintains the road during the payment period.

Table 9: User fee collected between 2018-19 and 2023-24 (in Rs crore)

Year	Length	Public	Private	Total
2018-19	25,996	5,691	19,463	25,155
2019-20	29,666	6,927	20,711	27,638
2020-21	34,071	7,876	20,048	27,924
2021-22	38,315	11,284	22,624	33,908
2022-23	42,595	16,651	31,377	48,028
2023-24	45,428	15,862	20,515	36,378

Note: Length refers to tolling length in km; Public refers to user fee collected by the government, Private refers to user fee collected by the concessionaire, Collection for 2023-24 is until November 2023.
Source: Year-end review 2023, PIB, Ministry of Road Transport and Highways; PRS.

There are different modes of executing road projects. These are: (i) Engineering Procurement Construction (EPC), (ii) Build Operate Transfer (Toll), (iii) Build Operate Transfer (Annuity) and (iv) Hybrid Annuity Model.[24] (see Annexure)

Government funded road projects are undertaken through Engineering Procurement Construction (EPC) contracts.[24] Projects that involve private developers are undertaken through PPP mode. Risk is shared between the government and private developer in PPP projects.[23,24] These may involve: (i) financial risks related to construction of the road, (ii) traffic generation risk to ensure adequate toll collection and (iii) responsibility of road maintenance after construction.[24] The table below shows how the risk distribution between government and private stakeholders in different road construction models.

Table 10: Risks taken by government and private developer in different construction models

Model	Financing	Traffic	Maintenance
EPC/ Item Rate	Government	Government	Government
BOT (Toll)	Private	Private	Private
BOT (Annuity)	Private	Government	Private
HAM	Both	Government	Private

Source: Report No. 296, Role of Highways in Nation Building, Standing Committee on Tourism and Transport, Rajya Sabha, 2021; PRS.

The government also announced the National Monetisation Pipeline (NMP) in the Union Budget for 2021-22.[25] Under this programme, core brownfield assets, such as operational highways, railway stations, airports would be monetised up to a value of six lakh crore rupees, between 2021-22 and 2024-25.[25,26] This is carried out by transferring the responsibility of asset maintenance to private sector, in exchange for a right to collect fees.[25] Under the monetisation pipeline, road assets would be monetised up to a value of Rs 1,60,200 crore.[27] Monetisation of assets in the road sector is being carried out through: (i) Toll Operate Transfer (ToT) model, (ii) Infrastructure Investment Trusts (InvIT), and (iii) Securitisation through SPVs (see Annexure for details).[12] As of 2023-24, the Ministry has monetised Rs 1,10,441 crore worth of assets.[12] This is 69% of the proposed monetisation target of Rs 1,60,200 crore by 2024-25.

Table 11: Ministry has achieved 69% of its asset monetisation targets as of 2023-24

Mode	Monetisation (as of 2023-24)
Toll Operate Transfer	Rs 42,334 crore
InVIT	Rs 25,900 crore
SPV Model	Rs 42,207 crore
Total	Rs 1,10,441 crore

Source: Year End Review: 2024, Press Information Bureau, Ministry of Road Transport and Highways, January 9, 2025; PRS.

Challenges in PPP projects

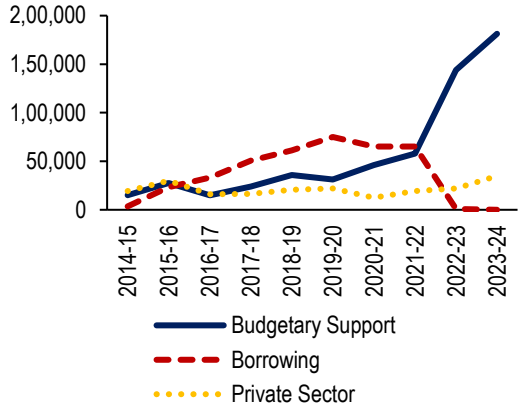
In 2014-15, private sector investment accounted for 51% of road sector project financing and 40% was financed through budgetary support by the government.[6] 9% of the finances were raised through market borrowings.[6] As of 2023-24, 75% of the financing was carried out through budgetary support.[6] 25% was carried out through private sector investment.[6] No amount was financed through market borrowings.[6] While market borrowings have been halted, private investment has seen moderate growth (see Figure 9). PPP projects are typically executed in three stages.[28] They are: (i) project development (pre-construction), (ii) construction phase and (iii) operation and maintenance phase (post-construction). The challenges involved in these phases are shown in Table 11.

Table 12: Challenges involved in PPP projects

	Pre-Construction	Construction	Post-Construction
Financing	High land cost	Lender aversion	Traffic/ Tolling risk
Operation	Delay in land acquisition	Delay in clearances	Safety

Source: Annual Report, NHAI, 2022-23; Report No. 296, Role of Highways in Nation Building, Standing Committee on Tourism and Transport, Rajya Sabha, 2021; PRS.

Figure 10: Investment in road sector (in Rs crore)



Source: Annual Report, Ministry of Road Transport and Highways, 2023-24; PRS.

As per NHAI's annual report, construction phase risks can mainly be attributed to poor financials of highway developers.[29] Most developers have significantly leveraged their balance sheets in anticipation of high levels of growth.[24,29] This has affected the debt servicing ability of private developers. This prompts restructuring of debt.[29] Restructuring may include: (i) change in amount payable, (ii) reduction of interest rates, (iii) alteration of payment period and (iv) change in the number of instalments. This may lead to increased risk on lender side.

Currently, financing large infrastructure projects is based on revenue streams spread over 20 to 30 years.[29] Therefore, a project that spans over a 10-to-15-year tenure period may face issues with asset-liability mismatch.[29] Further, there is a lack of debt products that are aligned with the revenue

stream profile of highway projects.[29,30] These projects span long terms and revenue realisation begins only at the toll-collection stage.[24] This makes financing of such projects difficult, and has resulted in some projects getting stalled at the construction stage.[24]

The bids that are attracted for some projects are also aggressive.[24] Aggressive bidding results in private developers bidding at prices lesser than the value estimated by the authorities, to gain the project.[24] This has led to projects being awarded to concessionaires who may not have the requisite capacity to raise finances.[24]

In due course, this results in creation of non-performing assets. A non-performing asset is a loan that is past due for a specific period of time (usually 90 days or more).[31] This ceases to generate income for lenders. The Indian Infrastructure Finance Company Limited (IIFCL) had recommended that NHAI can arrange for in-principle approval from lenders before awarding the contract.[24] This will ensure that bidders with weak financials are eliminated.[24]

Dispute Resolution

Risks involved in PPP projects result in disputes between the government, lenders, and private developers.[24] These disputes are resolved through provisions specified in the contract.[24] Failure to achieve a solution may prompt the involved parties to resolve the dispute through arbitration.[24] The Standing Committee on Transport (2021) observed that inefficiencies in dispute resolution procedures resulted in project delays.[24]

The Standing Committee (2021) also observed that a more robust regulatory environment with an independent regulator, may be essential to attract more domestic and international private funding of road infrastructure.[24] An independent regulator would ensure that disputes between the government and private developers are resolved in a fair and transparent manner reducing project delays.[24]

The Kelkar Committee (2015) had recommended setting up an independent regulator for the roads sector to encourage private participation and regulate their activity.[28] The Standing Committee on Transport (2024), had observed that no action had been taken on the recommendation made by the Kelkar Committee in 2015.[32] It has asked the Ministry to provide details on the action taken on this suggestion.[32]

Delays in project execution

As of March 2024, 1,093 road projects costing Rs 150 crore and above were being monitored by the monitoring wing of the Ministry of Statistics and Programme Implementation (MoSPI).[33] Of these, 399 projects were delayed. The Standing Committee on Transport (2023) had also observed that the road sector had the maximum number of delayed projects.[2] These delays had resulted in a cost escalation of Rs 20,778 crore (5.4% over the sanctioned cost of Rs 3,82,180 crore).[2] Delays are attributable to issues in: (i) land acquisition, (ii) environmental clearances, (iii) dispute settlement and (iv) poor performance of contractors.[2,33]

In order to resolve the delay in projects the Ministry has taken the following key steps: (i) implementing an exit policy which allows private developers to take out their entire equity and exit operational BOT projects two years from the start of operations irrespective of the date of award, (ii) providing rationalised compensation to concessionaires for languishing NH projects in BOT mode for delays not attributable to concessionaires, and (iii) a one-time fund infusion by NHAI which enables revival and physical completion of BOT projects with progress up to at least 50%.[34]

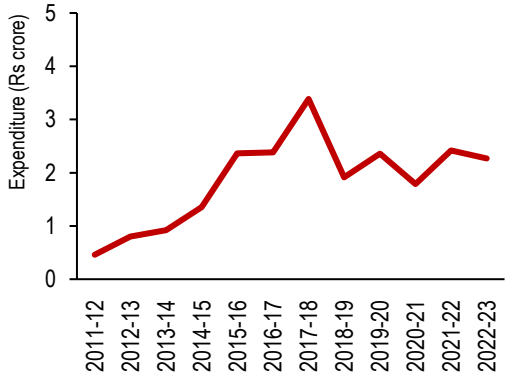
Ministry amends Model Concession Agreement (MCA)

The Ministry amended the Model Concession Agreement (MCA) on March 15, 2024.[35] Some changes include: (i) NHAI will be liable to pay compensation to the developer and extend the concession period if it constructs a competing road before a specified time period, (ii) in case of material breach of the MCA by NHAI, it will compensate the developer for the direct costs suffered and loss of toll revenue (prior to commercial operation date), and (iii) equity support and construction support will be provided to the developer up to 40% of the total project cost.[35]

Land Acquisition

Since 2017-18, the land acquisition expenditure of NHAI has reduced (see Figure 11).[29] Land acquisition costs may have reduced on account of some states agreeing to bear at least 25% of the acquisition costs for NHAI projects.[36] Several states have already contributed or agreed to contribute towards the cost of land acquisition up to 100% for specific NH projects.[37]

Figure 11: Expenditure per hectare of land (in Rs crore) acquired by NHAI has come down since 2017-18

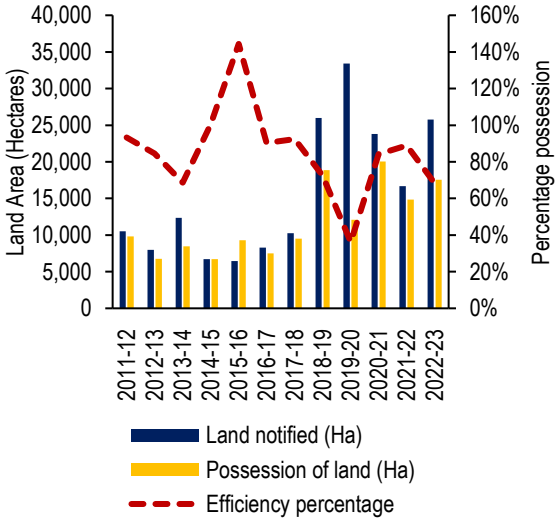


Source: Annual Report, NHAI, 2022-23; PRS.

These include the states of Kerala, Bihar, Tamil Nadu, Karnataka, Andhra Pradesh, Odisha, Punjab, Himachal Pradesh, and West Bengal. Some other states such as Nagaland, Manipur, and Assam have provided land free of cost for the development of certain highway works.[37]

Land area acquired by NHAI against area notified has come down in the past few years.[29] The Ministry has implemented the following measures to expedite land acquisition process: (i) Bhoomi Rashi portal to digitise the process of land notification, and (ii) introduction of value capture financing.[38,39]

Figure 12: Land possession rate against notified area has fallen since 2017-18



Source: Annual Report, NHAI, 2022-23; PRS.

Under the value capture mechanism, the development of NHs shall be carried out by NHAI whereas the capital for land acquisition would come from the states.[39] The state government would deposit at least 50% of estimated land acquisition cost before publication of notification while NHAI would contribute the remaining amount for acquisition.[39] The remainder would be reimbursed later by the state government.[39] After development, the state will utilise the value generated by the development project in the "influence zone"(area within 500 meters on either side of the NH developed), through development charges levied on various activities in the zone.[39]

Maintenance of roads

The onus of maintaining publicly funded projects falls on the Ministry, NHAI or state public works departments.[24,32] In case of PPP projects (BOT and HAM), the private developer is responsible for maintaining the road for the entire concession period.[32] For projects monetised through TOT mode, the developer is responsible for the operation and maintenance of the stretch of highway.[40]

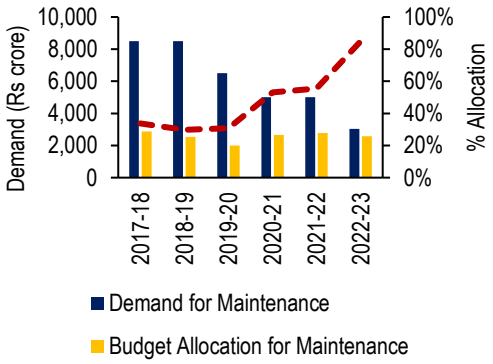
Table 13: Maintenance responsibilities and time period across various development models

Model	Maintenance	Period
Publicly Funded		
EPC	Government	5-10 years post completion
PPP		
BOT	Private	20-30 years
HAM	Private	15 years
Asset Monetisation		
TOT	Private	20 years

Source: Report No. 367, "'Operation and Maintenance of National Highways and Management of Toll Plazas", Standing Committee on Transport, Tourism and Culture, 2024; "NHAI Awards Toll, Operate, Transfer (TOT) Bundle 16 for Rs. 6,661 Crore", PIB, Ministry of Road Transport and Highways, September 2024; PRS.

In case of publicly funded projects (EPC), the contractor is responsible for maintaining the road only during the defect rectification period.[32]

Figure 13: Budgetary allocation to maintenance falls short of actual demand consistently



Source: Various Parliamentary Questions

The NITI Aayog (2018) recommended that 10% of the Ministry's budget be spent on maintenance of roads.[41] In 2023-24, the Ministry spent Rs 2,519 crore (about 1% of the total expenditure) towards maintenance and repair work. As per the revised estimates of 2024-25, the Ministry is expected to spend Rs 4,710 on maintenance and repair work (1.6% of the total expenditure). In 2025-26, the Ministry estimates to spend Rs 4,595 crore on maintenance and repair (about 2% of its total allocation). The Standing Committee (2024) observed that the annual allocation for highway maintenance was not sufficient.[32]

Road Safety

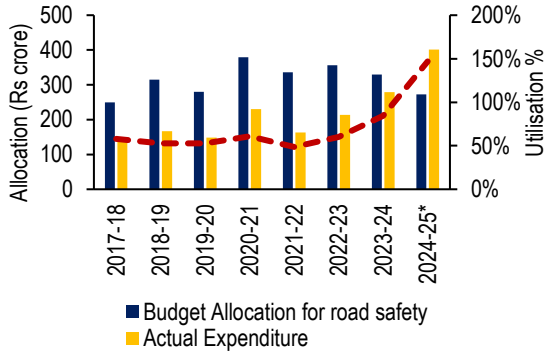
Allocation towards road safety provides for safety programmes, relief support for accident victims, strengthening public transport, research, and development, and setting up of facilities on NHs.[2] In the past five years, the Ministry has been underutilising its budget towards road safety.

In 2023-24, the Ministry budgeted Rs 330 crore towards safety but spent Rs 279 crore (15% lesser than the budget). In 2024-25, the budgeted amount was Rs 273 crore, which has been revised to Rs

401 crore. In 2025-26, the Ministry has budgeted Rs 595 crore for road safety (0.002% of the budget).

The number of road accidents reported in 2012 was 4,90,383 (see Table 14).[42] In 2022, the number of reported accidents was 4,61,312 (see Table 14).[42] This is an annualised average decline rate of 0.61%. from 2012.[42] In the same time period, the share of fatalities in the reported accidents increased from 28% to 37%.[42] Between 2012 and 2022, fatalities in accidents have grown at an annualised average rate of 2%.[42] India contributes to about 11% of all road accident deaths worldwide, with just 1% of the world's vehicles.[2,43] The Standing Committee on Transport (2023) recommended that the budgetary allocation and expenditure for road maintenance and road safety schemes be increased.[2] It also urged the Ministry to target a quantifiable reduction of road accident fatalities in the ongoing decade.[2]

Figure 14: Underutilisation of safety budget



Note: Revised estimates for 2024-25* used as actuals.
Source: Expenditure Budget, Ministry of Road Transport and Highways, Union Budget Documents, 2018-19 to 2025-26; PRS.

Road accidents occur due to multiple causes. These include: (i) over speeding, (ii) use of mobile phone while driving, (iii) drunken driving, (iv) lane indiscipline, (v) failure to use seat-belts and (vi) road condition.[43] In 2022, 78% of all road accidents were caused due to driver error.[43]

Table 14: Road accident statistics for India from 2012 to 2022

Year	Accidents	Fatalities	Persons Injured
2012	4,90,383	1,38,258	5,09,667
2013	4,86,476	1,37,572	4,94,893
2014	4,89,400	1,39,671	4,93,474
2015	5,05,770	1,46,555	5,03,608
2016	4,84,756	1,51,192	4,97,806
2017	4,69,242	1,50,003	4,67,389
2018	4,70,403	1,57,593	4,64,715
2019	4,56,959	1,58,984	4,49,360
2020	3,72,181	1,38,383	3,46,747
2021	4,12,432	1,53,972	3,84,448
2022	4,61,312	1,68,491	4,43,366

Source: Road Accidents in India, Ministry of Road Transport and Highways, 2022; PRS.

The Motor Vehicles (Amendment) Act, 2019 provides for penalties to ensure compliance with traffic rules.[43] Penalties are levied by issuing e-challans to rule offenders. Between January 2015 and January 2024, a total of 30.83 crore e-challans have been issued.[44] Against this, 11.79 crore e-challans have been disposed (penalty collected).[44] This is a pendency of 62%. The total challan amount to be realised in this period is Rs 4,025 crore.[44] Of which, Rs 1,667 crore has been collected. This means that Rs 2,358 crore is yet to be collected.[44]

Clean Mobility

Total logistics cost for India in 2021-22 was Rs 14,00,300 crore.[45] Of which, cost of transportation amounted to Rs 13,28,200 crore (95% of the total logistics cost).[45] Fuel accounts for 77% of total transport related logistics costs.[22]

The bulk of India's logistics is handled through road transport.[22,46] NITI Aayog estimates that by 2050, the freight demand transported by road would grow to 9.6 trillion tonne kilometres.[22] To handle the freight demand, the number of trucks on Indian roads is expected to grow from four million in 2022 to about 17 million in 2050.[22] As of date, 93% of all goods vehicles in India are diesel powered.[47] This is followed by CNG and petrol vehicles at 3% and 2% respectively.[47] The share of electric goods vehicles is about 0.1%.[47]

The International Energy Agency (2022) estimated that about 12% of India's energy related emissions come from the road sector.[46] NITI Aayog observed that shifting the additional capacity to electric trucks, may be beneficial from both economic and environmental standpoints.[22,46] This is due to: (i) lower tailpipe emissions of electric vehicles (EVs) and (ii) lower cost of electric power as compared to diesel.[22] According to NITI Aayog, the transition to electric trucks can result in a 46% reduction in fuel costs, thereby bringing down transportation costs.[22] This has the estimated potential to reduce total logistics costs by about 17%.[22]

Shifting to electric vehicles has also been recommended for environmental considerations. However, overall emissions of an EV depend on the source of electricity used to charge its battery. As of 2022, coal was used to generate 72% of all electric power.[48] Shifting to cleaner energy sources of fuel such as solar and wind energy may help address this issue.

Adoption of electric trucks would require a supportive policy environment.[46] The Ministry of Road Transport and Highways has undertaken some measures to promote clean mobility. These include: (i) waiver of road tax and registration fee for EVs, (ii) issuance of green licence plate for EVs for permit exemption, (iii) setting up EV charging infrastructure through highway wayside amenities

and (iv) strengthening of vehicle emissions norms.[46,49,50,51] The Ministry is also implementing the Vehicle Scrapping Policy from 2022.[46,52] This policy aims to phase out old and unfit vehicles that cause pollution.[52] As of July 2024, 60 registered vehicle scrapping facilities and 75 automated testing stations are operational in India.[52] A total of 96,980 unfit vehicles have been scrapped as of July 15, 2024.[52]

Annexure

Different modes of executing PPP Projects

- **Build Operate Transfer (Toll):** The developer is responsible for designing and developing the project, and operation and maintenance (O&M) during the entire concession period. The developer also has the right to collect toll during the specified period. The concession period is typically 25 to 30 years.
- **Build Operate Transfer (Annuity):** This model is the same as BOT (Toll), except that the developer receives payment in annuity (by the government) in return for developing and maintain a road. The government has the right to collect toll, after a section is open for commercial operation.
- **Hybrid Annuity Model (HAM):** Under this model, the government or its executing agency pays 40% of the project cost as a grant to the private developer. The private developer invites bids for the remaining 60% of the investment in form of debt and equity. The private developer is paid back the amount of 60% as of half-yearly annuities, interest, and O&M payments over a period of 15 years. While the concessionaire is responsible for the maintenance and operation during this period, the traffic risk is taken by the government. Toll collection is carried out by the government after declaration of commercial operation of the developed section.
- **Toll Operate Transfer (TOT):** Under this model, operational public funded highways are offered to a private concessionaire for operation and maintenance. The concessionaire pays a lump sum amount to the government. This sum is recovered through a right to collect toll for a pre-determined period.

Table 15: Types of accidents in states and UTs in 2022

States/UT	Fatal Accidents	Grievous Injury Accidents	Minor Injury Accidents	Non-Injury Accidents	Total Accidents
Andhra Pradesh	7,688	4,306	8,010	1,245	21,249
Arunachal Pradesh	123	81	11	12	227
Assam	2,837	3,559	385	242	7,023
Bihar	8,242	2,065	127	367	10,801
Chhattisgarh	5,446	1,345	4,955	1,533	13,279
Goa	253	206	528	2,024	3,011
Gujarat	6,999	5,373	2,356	1,023	15,751
Haryana	4,593	1,799	3,659	378	10,429
Himachal Pradesh	864	809	772	152	2,597
Jharkhand	3,570	1,322	106	177	5,175
Karnataka	10,854	17,149	8,714	3,045	39,762
Kerala	4,104	31,584	6,674	1,548	43,910
Madhya Pradesh	12,183	4,928	32,214	5,107	54,432
Maharashtra	14,058	12,250	4,442	2,633	33,383
Manipur	109	114	277	8	508
Meghalaya	147	71	12	16	246
Mizoram	94	24	4	11	133
Nagaland	67	51	138	233	489
Odisha	5,140	4,310	1,771	442	11,663
Punjab	4,418	1,208	445	67	6,138
Rajasthan	10,061	3,741	9,065	747	23,614
Sikkim	58	81	57	15	211
Tamil Nadu	17,080	20,752	24,825	1,448	64,105
Telangana	7,057	2,581	9,744	2,237	21,619
Tripura	232	325	5	13	575
Uttarakhand	851	627	124	72	1,674
Uttar Pradesh	20,524	13,052	7,257	913	41,746
West Bengal	5,626	6,944	874	242	13,686
A & N Islands	19	54	43	25	141
Chandigarh	79	14	113	31	237
D & N Haveli	88	91	8	9	196
Daman & Diu	NA	NA	NA	NA	NA
Delhi	1,428	211	3,921	92	5,652
Jammu & Kashmir	654	1,723	3,109	606	6,092
Ladakh	60	21	245	48	374
Lakshadweep	-	3	-	-	3
Puducherry	175	600	370	36	1,181
Total	**1,55,781**	**1,43,374**	**1,35,360**	**26,797**	**4,61,312**

Source: Road Accidents in India, Ministry of Road Transport and Highways, 2022; PRS.

[1] Website of the Ministry of Road Transport and Highways, as accessed on January 21, 2025, https://morth.nic.in/about-us.

[2] Report No 342, Demands for Grants, Standing Committee on Transport, Tourism and Culture, March 13, 2023, https://sansad.in/getFile/rsnew/Committee_site/Committee_File/ReportFile/20/173/342_2023_3_15.pdf?source=rajyasabha.

[3] NHAI Debt, Press Information Bureau, Ministry of Road Transport and Highways, July 25, 2024, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2036675.

[4] Website of National Highways Authority of India, as accessed on January 21, 2025, https://tis.nhai.gov.in/about.aspx?language=en.

[5] Expenditure profile, Ministry of Road Transport and Highways, Union Budget, 2024-25, https://www.indiabudget.gov.in/doc/eb/sbe86.pdf.

[6] Annual Report, Ministry of Road Transport and Highways, 2023-24, https://morth.nic.in/sites/default/files/AR-MoRTH_Annual%20Report_2023-24_English.pdf.

[7] Unstarred Question No. 2657, Rajya Sabha, Ministry of Road Transport and Highways, December 18, 2024, https://sansad.in/getFile/annex/266/AU2657_Cu8Vae.pdf?source=pqars.

[8] Report No. 13, Performance Audit on the Implementation of Bharatmala Pariyojana Phase -1, Comptroller and Auditor General of India, 2023, https://cag.gov.in/en/audit-report/download/119177.

[9] 'Bharatmala Pariyojana', Press Information Bureau, Ministry of Road Transport and Highways, February 8, 2024, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2004013.

[10] Unstarred Question No. 279, Rajya Sabha, Ministry of Road Transport and Highways, July 24, 2024, https://sansad.in/getFile/annex/265/AU279_3QQVFH.pdf?source=pqars.

[11] Unstarred Question No. 2441, Lok Sabha, Ministry of Road Transport and Highways, August 3, 2023, https://sansad.in/getFile/loksabhaquestions/annex/1712/AU2441.pdf?source=pqals.

[12] Year End Review 2024: Ministry of Road Transport and Highways, Press Information Bureau, Ministry of Road Transport and Highways, January 9, 2025, https://pib.gov.in/PressReleasePage.aspx?PRID=2091508.

[13] Central Road and Infrastructure Fund, Press Information Bureau, Ministry of Road Transport and Highways, November 21, 2019, https://pib.gov.in/Pressreleaseshare.aspx?PRID=1592674.

[14] Unstarred question No. 2666, answered on December 22, 2022, Rajya Sabha, Ministry of Road Transport and Highways, https://sansad.in/getFile/loksabhaquestions/annex/1710/AU2666.pdf?source=pqals.

[15] National Investment Fund, Press Information Bureau, Ministry of Road Transport and Highways, May 13, 2005, https://pib.gov.in/newsite/erelcontent.aspx?relid=9255#:~:text=The%20NIF%20would%20be%20professionally,Government%20without%.

[16] 'Special Accelerated Road Development Programme for Development of Road Network in the North Eastern States', Press Information Bureau, Ministry of Road Transport and Highways, February 5, 2013, https://pib.gov.in/newsite/PrintRelease.aspx?relid=92040.

[17] Report No. 317, Standing Committee on Transport, Tourism and Culture, Rajya Sabha, March 14,2022, https://sansad.in/getFile/rsnew/Committee_site/Committee_File/ReportFile/20/166/317_2022_9_11.pdf?source=rajyasabha.

[18] Background Note on Road Transport and Highways, Lok Sabha Secretariat, March, 2022, https://loksabhadocs.nic.in/Refinput/New_Reference_Notes/English/10032022_111318_102120463.pdf.

[19] Basic Road Statistics, Ministry of Road Transport and Highways, 2018-19, https://morth.nic.in/sites/default/files/Basic%20Road%20Statistics%20in%20India-2018-19.pdf.

[20] "Improving Rail Efficiency and Share in India's Freight Transport", NITI Aayog, 2023, https://www.niti.gov.in/sites/default/files/2023-03/Efficiency%20and%20competitiveness%20of%20Indian%20Railways.pdf.

[21] "Fast Tracking Freight in India", NITI Aayog, June 2021, https://www.niti.gov.in/sites/default/files/2021-06/FreightReportNationalLevel.pdf.

[22] "Transforming Trucking in India", NITI Aayog, September 2022, https://www.niti.gov.in/sites/default/files/2023-02/ZETReport09092022.pdf.

[23] Report No. 236, Infrastructure Lending in Road Sector, Standing Committee on Transport, Tourism and Culture, Rajya Sabha, 2016, https://sansad.in/getFile/rsnew/Committee_site/Committee_File/ReportFile/20/102/236_2018_7_14.pdf?source=rajyasabha.

[24] Report No. 296, 'Role of Highways in Nation Building', Standing Committee on Transport, Tourism and Culture, Rajya Sabha, July 28, 2021, https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/ReportFile/20/148/296_2021_10_17.pdf.

[25] National Monetization Pipeline, 2021, https://www.niti.gov.in/sites/default/files/2023-03/Asset%20Monetization%20Pipeline.pdf.

[26] 'National Monetisation Pipeline monetised Rs 3.85 lakh crore of assets in 3 years', Press Information Bureau, Ministry of Road Transport and Highways, June 19, 2024, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2026675#:~:text=Pursuant%20to%20the%20announcement%20made,with%20the%20concerned%20Infrastructure%20Ministries.

[27] National Monetisation Pipeline, https://www.india.gov.in/spotlight/national-monetisation-pipeline-nmp.

[28] Report of the Committee on Revisiting and Revitalising Public Private Partnership Model of Infrastructure, Department of Economic Affairs, Ministry of Finance, November 2015, https://www.pppinindia.gov.in/report/Report%20of%20the%20Committee%20on%20Revisiting%20&%20Revitalizing%20the%20Public%20Private%20Partnership%20Model%20of%20Infrastructure%20(Kelkar%20Committee%20Report).pdf_1685171086.pdf.

[29] Annual Report, National Highways Authority of India, 2022-23, https://nhai.gov.in/nhai/sites/default/files/2024-08/NHAI-Annual_Report_2022-23-English-30-05-24.pdf.

[30] Report No. 220, Demands for Grants (2015-16) of Ministry of Road Transport and Highways", Standing Committee on Transport, Tourism and Culture, April 28, 2015, https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/ReportFile/20/31/220_2016_7_17.pdf.

[31] Non-performing assets, Reserve Bank of India, https://www.rbi.org.in/commonperson/english/Scripts/Notification.aspx?Id=612#2.

[32] Report No 367, Operation and Maintenance of National Highways and Management of Toll Plazas, Standing Committee on Transport, Tourism and Culture, February 8, 2024, https://sansad.in/getFile/rsnew/Committee_site/Committee_File/ReportFile/20/193/367_2024_2_14.pdf?source=rajyasabha.

[33] 461st Flash Report on Central Sector Projects (Rs 150 crore and above), Ministry of Statistics and Programme Implementation, March, 2024, http://www.cspm.gov.in/English/flr/FR_mar_2024.pdf.

[34] "272nd Report: Action Taken by the Government on the Recommendations/Observations of the Committee contained in its Two Hundred and Thirty Sixth Report on 'Infrastructure Lending in Road Sector'", Standing Committee on Transport, Tourism and Culture, December 9, 2019, https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/ReportFile/20/127/272_2020_9_12.pdf.

[35] Changes in the provisions of Model Concession Agreement (MCA) for Capacity Augmentation on BOT (Toll), Ministry of Road Transport and Highways, March 15, 2024, https://morth.gov.in/sites/default/files/3-%28MCA%29%20for%20Capacity%20Augmentation%20on%20BOT%20%28Toll%29.pdf.

[36] Unstarred Question No. 788, Rajya Sabha, Ministry of Road Transport and Highways, July 26, 2021, https://pqars.nic.in/annex/254/AU788.pdf.

[37] Unstarred Question No 3288, Rajya Sabha, Ministry of Road Transport and Highways, March 29, 2023, https://sansad.in/getFile/annex/259/AU3288.pdf?source=pqars.

[38] Unstarred Question No. 1999, Rajya Sabha, Ministry of Road Transport and Highways, December 20, 2023, https://sansad.in/getFile/annex/262/AU1999.pdf?source=pqars.

[39] Value Capture Policy Framework, Ministry of Urban Development, https://mohua.gov.in/upload/whatsnew/59c0bb2d8f11bVCF_Policy_Book_FINAL.pdf.

[40] "NHAI Awards Toll, Operate, Transfer (TOT) Bundle 16 for Rs. 6,661 Crore", Press Information Bureau, Ministry of Road Transport and Highways, September 2024, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2057184#:~:text=The%20concession%20period%20of%20TOT,rates%20under%20NH%20Fee%20Rules.

[41] Strategy for New India @ 75, NITI Aayog, November 2018, https://niti.gov.in/sites/default/files/2019-01/Strategy_for_New_India_0.pdf.

[42] Road Accidents in India, Ministry of Road Transport and Highways, 2022, https://morth.nic.in/sites/default/files/RA_2022_30_Oct.pdf.

[43] Unstarred Question No. 1855, Rajya Sabha, Ministry of Road Transport and Highways, December 11, 2024, https://sansad.in/getFile/annex/266/AU1855_Zi1J3A.pdf?source=pqars.

[44] E-challan Dashboard, Ministry of Road Transport and Highways, https://echallan.parivahan.gov.in/echallanreport/#/.

[45] "Report on logistics cost of India and long-term framework", National Council for Applied Economic Research, 2023, https://www.ncaer.org/wp-content/uploads/2023/12/NCAER_Report_LogisticsCost2023.pdf.

[46] "Transitioning India's Road Transport Sector", International Energy Agency, 2023, https://iea.blob.core.windows.net/assets/06ad8de6-52c6-4be3-96fc-2bdc3510617d/TransitioningIndiasRoadTransportSector.pdf.

[47] Vahan Dashboard, as accessed on February 12, 2025, https://vahan.parivahan.gov.in/vahan4dashboard/vahan/view/reportview.xhtml.

[48] "India", website of the IEA, as accessed on February 20, 2025, https://www.iea.org/countries/india/electricity.

[49] "Test Method, Testing Equipment and Related Procedures for Type Approval and Conformity of Production (CoP) Testing of M & N Category Vehicles having GVW exceeding 3500 kg for Bharat Stage VI (BS-VI) Emission Norms as per CMV Rules 115, 116 and 126", Ministry of Road Transport and Highways, February 2019, https://morth.nic.in/sites/default/files/ASI/53201963840PMAIS_137_Part_4_F.pdf.

[50] Unstarred Question No. 318, Lok Sabha, Ministry of Heavy Industries, December 5, 2023, https://heavyindustries.gov.in/sites/default/files/2024-01/_loksabhaquestions_annex_1714_au318.pdf.

[51] "Electric vehicle charging stations on national highways", Press Information Bureau, Ministry of Road Transport and Highways, July 24, 2024, https://www.pib.gov.in/PressReleasePage.aspx?PRID=2036276.

[52] "Vehicle Scrapping Policy", Press Information Bureau, Ministry of Road Transport and Highways, July 25, 2024, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2036674.