

16

Transport

16.1 The Eleventh Plan laid emphasis on developing physical infrastructure, including transport to support the accelerated growth of the country's economy. The thrust in the transport sector has been on augmenting capacity through technology upgrade and modernization. The Eleventh Plan also stressed the need for improving productivity and efficiency and fostering the development of various transport modes in an integrated manner. In this regard, improving accessibility to remote and rural areas and enhancing mobility through various programmes with an enlarged participation of the private sector have been the two other important objectives under the Eleventh Plan.

16.2 A number of steps have been taken to achieve these objectives, but it will take time to see their full effect because infrastructure development involves long time lags. The aggregate picture emerging from the Mid-Term Appraisal (MTA) is that both physical and financial achievements are better than they were in the past, but they fall short of targets set for the Eleventh Plan.

16.3 The sector as a whole suffered because of the economic slowdown. In case of rail, the average rate of growth of freight in the first three years is likely to be 6.6 per cent, which is below the targeted growth of 8.6 per cent, even though the growth in passenger km was 9.9 per cent as against the target of 5.9 per cent. In case of both the road and ports sectors,

the physical performance is falling short of the targets. Although, the National Highway Development Project (NHDP) is behind schedule, progress so far has been much better than in the Tenth Plan. In the Tenth Plan, only 5,448 km could be completed. Against this, in the first three years of the Eleventh Plan, 5,900 km would be completed. Progress in implementing Pradhan Mantri Gram Sadak Yojana (PMGSY) has also been satisfactory. In order to improve connectivity in areas affected by left-wing extremism, a new scheme was launched, which aims at improving the roads in these areas.

16.4 The MTA suggests that it is necessary to take concerted measures, including close monitoring of programmes and projects, to come as close as possible to achieving the objectives of the Eleventh Plan. This is also necessary to set the stage for faster development of this crucial sector in the Twelfth Plan.

16.5 As the economy transitions into a higher growth phase, it is necessary to move beyond setting targets for individual transport sectors to evolving an integrated view of transport development and policy over a longer-term framework. To this end, the Planning Commission has established a high level Committee on Integrated Transport Policy under the chairmanship of Dr Rakesh Mohan. The recommendations of the committee are expected to provide key inputs in formulating the Twelfth Plan.

RAILWAYS

16.6 The broad objective for the railway sector must be augmenting and improving the quality and safety of services. This requires creation of capacity, modernization of the network, rolling stock, maintenance practices, information system, and service delivery. Recognizing the financial constraints on capacity creation based on Gross Budgetary Support (GBS) and internal resources, the Railways in the Eleventh Plan envisaged private sector participation to mobilize additional resources and to take advantage of the efficiency of the private sector.

PROGRESS IN THE ELEVENTH PLAN

Financial Performance

16.7 The approved outlay for the Railways in the Eleventh Plan is Rs 1,94,263 crore at constant 2006–07 prices of which GBS accounts for Rs 44,263 crore (excluding funds for national projects) and Internal and Extra-Budgetary Resources (IEBR) of Rs 1,50,000 crore. Against this, the Railways is likely to spend Rs 1,28,604 crore at constant prices, including Rs 43,658 crore as GBS, during the first four years of the Eleventh Plan. In other words, the first four years are expected to achieve about 66 per cent of the Eleventh Plan total outlay while exhausting 98.60 per cent of the approved GBS of the Eleventh Plan as a whole. The Eleventh Plan assessed the requirement of national projects at Rs 12,000 crore. However, only Rs 4,435 crore was provided in the first three years of the Plan. The allocation for national projects in the remaining period would need to be stepped up.

Physical Performance

16.8 The average annual growth rate of freight (originating tonnage) in the first three years of the Eleventh Plan is likely to be 6.6 per cent, which is below the targeted growth of 8.6 per cent. This drop in freight traffic growth rate is largely due to reduced demand because of the economic slowdown with the GDP growth falling from 9 per cent in 2007–08 to 6.7 per cent in 2008–09, impacting both domestic demand and export traffic. Considering the trend till now, with the reduced GDP growth scenario for the near future, and inability of the Railways to add

capacity, the targets for originating freight loading and Net Tonne Kilometre (NTKM) need a downward revision.

16.9 The growth in passenger km (PKM) has been higher than projected. Against the targeted growth of 6.2 per cent, passenger km volume grew by 9.9 per cent during the first three years of Eleventh Plan, which was mainly due to a substantial increase in the average leads of non-suburban passenger traffic from 215.5 km in 2006–07 to 229.3 km in 2008–09. Keeping this in view, it is expected that the Railways will be able to achieve its targets for passenger traffic in the Eleventh Plan.

16.10 Physical targets for various capacity indicators during the Eleventh Plan and achievements in the first two years and projections for the third year are given in Annexure 16.I. The Railways is behind schedule in achieving targets set for the first two years of the Plan, with respect to new lines, doubling projects, acquisition of wagons and coaches, and acquisition of Electrical Multiple Unit (EMU) coaches. The pace of progress with respect to electrification projects has picked up and in this endeavour it is likely to surpass the Eleventh Plan target.

Initiatives Taken by the Railways to Improve Railways Share in Freight Traffic and Passenger Services

16.11 A persistent weakness in the Railways' performance has been the steady loss of freight traffic to roads. Railways has taken a number of steps during the Eleventh Plan period to improve its share in freight traffic. These includes freight marketing of select commodities by third parties, a liberalized wagon investment scheme, improved freight incentive policies, and time-tabled parcel services. Other measures taken by the Railways include provision of linkages to ports, introduction of more high speed wagons, and refrigerated parcel vans.

16.12 Similarly, with a view to providing improved passenger services in the first two years of the Plan period, 108 pairs of new trains, including 17 pairs of Garib Rath trains with fares about 25 per cent less than normal air-conditioned trains have been introduced,

services of 40 trains have been extended, and frequency of 28 trains has been increased. Further, introduction of 57 pairs of new trains, extension of 27 pairs of trains, and increase in frequency of 13 pairs of trains is planned in 2009–10. In addition, passenger-carrying capacity in trains has been augmented by adding 1,614 coaches in the first two years of the Plan period, which has resulted in an addition of 1,23,470 berths. Besides, the Railway Budget 2009-10 announced a number of initiatives to improve passenger services. The important among them are: introduction of non-stop train services by the name of ‘Duronto’, introduction of high capacity air-conditioned double decker coaches, introduction of low-priced fast train services by the name of ‘Yuva’ for the youth and low income groups, and introduction of ladies only EMU train services.

Other Initiatives

16.13 Recognizing the criticality of augmenting traffic facilities on existing routes, several initiatives have been taken by the Railways during the Eleventh Plan. The important ones among these are: strengthening the high density network, augmenting terminal capacity by developing/modernizing freight terminals, developing private freight terminals, developing modern track friendly bogies for high axle load wagons, aerodynamic profile of high horse power DEMU and MEMU coaches, and hybrid coaches with stainless steel shells of LHB coaches and conventional ICF bogies with air springs.

MAJOR POLICY ISSUES

Long-Term Vision

16.14 A major problem with the development of Railways has been the lack of a clear long-term vision involving an explicit quantification of the scale of freight and passenger services. The Ministry should make a perspective plan for ten years from now and also foresee the quality of these services in terms of speed of freight and passenger trains, safety, etc. Articulation of such a vision would clearly bring out the need for massive expansion of both line capacity and rolling stock, as well as major technological upgradation to meet the required quality standards. A clear statement of long-term objectives would also

help in focusing on the financing challenges that need to be addressed.

16.15 The Railways has recently come out with a Vision 2020 document, which covers a wide range of issues, indicates goals and targets, and identifies certain priority areas. There is a need to develop these ideas further and identify specific responses to the challenges posed. A start at such quantification must be made in preparing the Twelfth Plan.

Augmentation of Capacity

16.16 The elasticity of demand with respect to freight traffic indicates that the GDP growth of 9 per cent requires rail freight movement to increase by 10 per cent. Against this, the railway freight has been growing at 7 per cent per annum, leading to a steady loss of share of freight to roads. This needs to be increased to reduce the cost of transport and avoid damaging the climatic impact of road transport. This would require augmenting line capacity which Indian Railways is doing at a much slower pace when compared to Chinese Railways (see Box 16.1).

16.17 Technological upgradation and modernization is one of the areas where the Railways needs to pay much more attention. Although modernization is required in all areas of railway operations, technological improvement of tracks and acquisition of rolling stock for heavy haul and high speed operations supported by modern signalling and an improved maintenance system may command higher priority. Superior design and use of lighter materials in producing railway wagons not only increases speed but also helps in reducing carbon emissions because of an efficient use of energy. The progress in this regard has also been slow as compared to other successful railways including Chinese Railways (see Box 16.1). One of the reasons for the slow modernization of the rolling stock is that the Railways produces much of its rolling stock internally. Separating production units from Railways and allowing technology majors to set up units, as the Chinese have done, may bring about the much-needed modernization.

16.18 The need for technical upgradation in the passenger segment is increasingly evident. Globally,

Box 16.1**Comparative Assessment of Indian Railways and Chinese Railways**

- In the early 1990s, the Indian Railways was bigger in terms of total route km, as well as route km/sq. km.
- In 1990–2007, Chinese Railways extended its route km by 20,000 km whereas it was 960 route km in case of Indian Railways.
- Chinese Railways is planning to add about 40,000 km in the next 10 years as against the 2,500–3,000 km by Indian Railways.
- Chinese Railways is estimated to have invested around \$154 billion over the last five years (2005–09) in contrast to \$ 31.21 billion by Indian Railways.
- The carrying capacity of Chinese wagons is 80 tonnes in comparison to the Indian capacity of 55–60 tonnes.
- A tare weight to payload ratio of Chinese wagon is 1:4 in comparison to India's 1:1.27.
- The passenger fare to freight ratio in China is 1.3:1 in comparison to India's 0.3:1.

trains reaching 240 km per hour are common but the Indian Railways's Shatabdi has a maximum speed of 150 km per hour, while its average speed is only about 80 km per hour. High speed rail movement is energy efficient and is an optimal response to climate change considerations. It can compete very effectively with air transport for distances of 500 km, emitting between a tenth and a quarter of the carbon emissions of an aircraft on a per passenger basis. High speed trains also require much less land than a motorway: a double track rail line has three times the passenger carrying capacity of a six-lane highway and uses less than half the land.

16.19 There is a need to initiate planning to build up to 2,000 km of high speed passenger dedicated rail lines in the next 10 years.

Dedicated Freight Corridors (DFCs) Project

16.20 DFCs on the western and the eastern routes is a strategic capacity augmentation initiative taken by the Railways and involves construction of about 3,300 km of dedicated freight lines to predominantly carry coal and steel on the eastern corridor and containers on the western corridor. Ports in the western region covering Maharashtra and Gujarat would be efficiently linked to the northern hinterland, and similarly on the eastern side, coal would move to the power plants in the north. These corridors have been declared the 'Diamond Rail Corridors' project of Indian Railways. Both the western and eastern corridors would facilitate the establishment of industrial corridors alongside. The project is being financed through a debt/equity

ratio of 2:1 with most of the debt coming from multi-lateral/bilateral development agencies like the World Bank/ADB/JICA. The two DFCs are targeted for completion by 2016–17 and considerable preparatory work has been done, including land acquisition and award of consultancies, besides initial construction contracts on both the corridors.

16.21 The construction of DFCs is a welcome step and the Railways should plan for more such corridors over the medium term. There is a need to implement the DFC projects expeditiously. Implementation issues, especially those relating to mode of delivery, funding, and pre-construction activities, including land acquisition, need to be resolved at the earliest. A full-scale review of the DFC project, including clear establishing of time lines for different tasks, a timetable for tying up multinational funding, and a decision on the role of PPP should be undertaken urgently.

Rebalancing of Tariffs

16.22 The traditional approach of subsidizing ordinary passenger traffic very heavily by levying very high charges for AC first class and freight has led to a distortion in the fare structure. The passenger fare to freight ratio (ratio of tariff per passenger km to cost per tonne km) in India was 0.3:1 against 1.3:1, 1.5:1, and 1.9:1 in China, Germany, and Japan, respectively. The unbalanced fare structure has several adverse consequences, such as shifting of freight traffic to less energy efficient and climatically more damaging road transport, creating an artificially heavy demand for

passenger trains with frequent stops thereby reducing the line carrying capacity for longer distance traffic, and preventing trains from competing effectively with air travel for premium passengers over shorter distances of 300–500 km. There is an urgent need to correct this distortion in the fare structure by taking suitable action. The government, if it wishes, should resort to explicit cash subsidies to ordinary passengers. Fixation of tariff should ideally be entrusted to a statutory regulator. However, pending the appointment of a tariff regulator, the Railways should think of adopting automatic indexation of fares to increase in fuel costs with an allowance for productivity increase.

Organizational Restructuring

16.23 The present structure of the Indian Railways has evolved on the basis of the Acworth Committee's recommendations, calling for consolidation and nationalization in 1924. The Indian Railways formulates policy, provides services, and also acts as a regulator. These three functions need to be separated. Ideally there should be a distinction between the Ministry of Railways and Railways. The former should be responsible for setting policies and the latter for providing services. Regulatory functions should be performed by a separate regulatory body, preferably by an independent regulatory body.

Resource Mobilization

16.24 Impacted by the general economic slowdown and implementation of the sixth Pay Commission report, Indian Railways is likely to fall short of its targeted internal resource generation. The Eleventh Plan of the Railways was to be financed 23 per cent from GBS and 77 per cent from IEBR. However, in the first three years it is 31 per cent from GBS and 69 per cent from IEBR.

16.25 The operating ratio of the Railways, which is the ratio of working expenses (excluding dividend payment) to traffic earnings, reached 96 per cent in 2001–02, signalling a near-crisis situation. Thereafter, it improved to 75.9 per cent in 2007–08 because of a series of specific initiatives to improve asset utilization. However, it deteriorated again to 92.5 per cent in 2009–10. It may be noted that the Chinese Railway has an operating ratio of 72 per cent.

16.26 China is estimated to have invested around \$ 154 billion over five years (2005–09). If Indian Railways aims to spend in the next years what China spent in the last five years, it would need to spend about Rs 69,000 crore per year which would be 70 per cent higher than the 2009–10 (BE) of Rs 40,745 crore.

16.27 In order to bridge the gap between the targeted IEBR and the realized IEBR, Railways must plan for enhanced levels of funding from multilateral agencies, such as the World Bank and ADB and also take initiatives to mobilize resources by undertaking tariff reforms, building in an element of PPP into its plans, and creating an enabling environment to reduce its dependence on government support.

Public–Private Partnership

16.28 Since the Railways sector is highly capital-intensive, PPP has a greater role to play. In view of this, besides expediting PPP projects relating to rolling stock manufacturing units, modernization of Railway stations, multi-functional complexes, logistics parks, private freight terminals, and Liberalized Wagon Investment Scheme, which are on the cards, Railways should also explore the possibility of PPP in running goods trains between specified destinations, running tourist trains, and constructing DFCs.

Safety

16.29 Railways has taken a number of initiatives during the Eleventh Plan for improving safety in railways. However, much more stress needs to be given to IT driven initiatives and enhanced training to impart better skills in the operation and maintenance of assets to avoid accidents.

ACCOUNTING REFORMS

16.30 The accounting reforms separating five major segments of railway services are: (i) fixed infrastructure, (ii) passenger operations, (iii) freight operations, (iv) sub-urban operation systems, and (v) other non-core activities. These were initiated during the Tenth Plan and are yet to come up. In view of the criticality of the reform as it would not only help in generating costing data on commercial lines but also in making them in line with the commercial

accounting requirements adopted internationally for railways, a firm timeline needs to be framed to accomplish this task.

WAY AHEAD

16.31 There is an urgent need to develop a long-term plan for the modernization and development of railways keeping in view the requirement of traffic and need for technology upgrade and modernization.

16.32 New railway lines taken up for construction must be prioritized keeping in mind the existing overheads and the scarcity of resources.

16.33 The self-financing capacity of the sector may be improved through: (a) undertaking tariff reforms; (b) improving efficiency; and (c) expediting the PPP initiative.

16.34 A statutory tariff regulator may be set up pending which the Railways should announce the adoption of an automatic indexation of fares to increase in fuel costs with an allowance for productivity increases.

ROADS

GOALS AND OBJECTIVES FOR ELEVENTH PLAN

16.35 The main thrust of road development in the Eleventh Plan continues to be on improving mobility and accessibility and ensuring a balanced development of the road network across the country. This objective is proposed to be achieved through road development programmes, which includes NHDP, the PMGSY, a component of Bharat Nirman, and the Special Accelerated Road Development Programme in North-East (SARDP-NE).

PROGRESS IN THE ELEVENTH PLAN

Financial Performance

CENTRAL SECTOR ROADS

16.36 An outlay of Rs 1,06,659 crore (GBS Rs 71,830 crore) has been provided for the development of roads in the Eleventh Plan. The bulk of this outlay is

meant for the development of national highways and related programmes. An expenditure of Rs 47,274 crore (that is, 44.32 per cent) is likely to be incurred in the first three years of the Plan at constant prices. An outlay of Rs 21,502 crore (at constant prices) has been provided for Annual Plan 2010–11. With this, the likely expenditure in the first four years would be 64.45 per cent at constant prices.

16.37 The National Highways Authority of India (NHAI) has been responsible for the road development programme taken up during the Eleventh Plan under NHDP. It was decided that all contracts for high-density corridors under NHDP-III may be awarded on a BOT basis, with traditional construction contracts awarded only in specified exceptional cases. However, National Highways (NHs) characterized by low density of traffic and passing through far flung, remote, or strategically important areas would be developed primarily through budgetary resources.

PRIVATE SECTOR INVESTMENT

16.38 A sum of Rs 46,118.99 crore (up to October 2009) had been spent by NHAI on various phases of NHDP and other projects in the first half of the Eleventh Plan. This includes private sector investment of (up to August, 2009) around Rs 18,800 crore, which is well below the plan target of Rs 86,792 crore. Up to March 2010, NHAI had awarded projects for implementation through BOT in the Eleventh Plan (see Table 16.1).

Physical Performance

16.39 Progress in road development consists of development of NHDP roads and non-NHDP roads.

NATIONAL HIGHWAYS DEVELOPMENT PROJECT

16.40 During the Eleventh Plan a massive programme for development of NHs has been taken up for implementation. The details of this programme are given in Table 16.2.

16.41 The physical targets and achievements for NHDP sections during 2007–08 and 2008–09 are given in Table 16.3. The performance during the first half of the Eleventh Plan has been far below

TABLE 16.1
Contract Awarded under BOT (Toll/Annuity) during the Eleventh Plan

Year	BOT (Toll)			BOT (annuity)		
	No. of contracts	Length (km)	TPC (Rs crore)	No. of contracts	Length (km)	TPC (Rs crore)
2007–08	8	1,108.8	8,057	1	36.2	209
2008–09	7	638.7	8,151			
2009–10 (up to March 2010)	38	3,188.2	31,638	3	171.8	1,775

TABLE 16.2
Estimated Cost of NHDP Phases

S. No.	Phase	Name of Project	Likely cost (Rs crore)
1	NHDP-I & II	Completion of balance work of GQ and EW-NS corridors	52,694
2	NHDP-III	4-laning of 12,109 km	80,626
3	NHDP-IV	2-laning with paved shoulders of 20,000 km of NHs	27,800
4	NHDP-V	6-laning of 6,500 km of selected stretches of NHs	41,210
5	NHDP-VI	Development of 1,000 km of Expressways	16,680
6	NHDP-VII	Construction of ring roads, flyovers, and bypasses on selected stretches	16,680
		Total	2,35,690

TABLE 16.3
Physical Targets and Achievements for NHDP

Category	2007–08		2008–09		2009–10	
	Target	Achv.	Target	Achv.	Target	Achv. (up to March 2010)
Widening to 4-lanes and strengthening (km)	2,885	1,683	3,520	2,203	3,165	2,693

the targets and there is an urgent need to accelerate the pace of implementation in the last two years of the Plan.

16.42 Phase-wise progress of NHDP as on 30 September 2009 is given in Annexure 16.2 and is now discussed briefly.

NHDP PHASES-I AND II: GQ&EW-NS CORRIDORS

16.43 NHDP Phase-I and II comprise of the development of NHs. Four to six-lane standards on: (a) Golden Quadrilateral (GQ) connecting four major metropolitan cities of Delhi–Mumbai–Chennai–Kolkata–Delhi; (b) North–South and East–West corridors (NS–EW) connecting Srinagar to Kanyakumari and Silchar to Porbandar with a spur from Salem to Cochin; (c) road connectivity of major ports of the country to NHs; and (d) other NH stretches.

16.44 Phase-I is almost complete while only 10 per cent of the total length of Phase-II remains to be awarded. The work on Phase-II will be completed by December 2010.

NHDP PHASE-III: IMPROVING THE CAPACITY OF OTHER HIGH DENSITY CORRIDORS

16.45 The government has approved the development of 12,109 km of NHs on a BOT basis at an estimated cost of Rs 80,626 crore in two parts—Phase-III A comprising a total length of 4,815 km estimated to cost Rs 33,069 crore and Phase-III B comprising a total length of 7,294 km estimated to cost Rs 47,557 crore. The scheduled date of completion for Phase-III is December 2013.

16.46 In case of Phase-III A, as on 31 July 2009 against the total length of 4,815 km, only 937 km could be

completed; 2,155 km are under implementation and 1,723 km are yet to be awarded. In case of Phase-III B, no progress has been made so far. The entire length of 7,294 km is yet to be awarded.

16.47 The progress of NHDP-III so far indicates that there may be slip back in achieving the targets mentioned earlier.

NHDP PHASE-IV: TWO-LANING

16.48 This phase envisages upgrading of about 20,000 km of NHs to two-lane ones with paved shoulders under NHDP. This phase was approved by the government in July 2008. Out of the approved length of 20,000 km, which is to be implemented in a phased manner in stretches of 5,000 km each, the Ministry of Road Transport and Highways (MoRTH) is implementing the first Phase, that is, NHDP Phase-IV A, upgradation/strengthening of 5,000 km of single/intermediate/two-lane NHs to two-lane ones with paved shoulders on BOT (Toll) and BOT (Annuity) basis.

16.49 Under NHDP Phase-IV A, till March 2009, 40 bids for feasibility studies covering a 5,228 km length had been invited, out of which 13 bids covering 1,670 km had been awarded to the consultants.

NHDP PHASE-V: SIX-LANING OF

HIGH DENSITY CORRIDORS

16.50 Six-laning of 6,500 km of existing four-lane NHs under NHDP Phase-V (on a Design-Build-Finance-Operate or DBFO basis) was approved in October 2006. Six-laning of 6,500 km, includes 5,700 km of GQ and 800 km of other stretches.

16.51 Against 6,500 km, 131 km have been completed, 899 km are under implementation, and 5,470 km are yet to be awarded.

16.52 The progress of NHDP-V so far also indicates that there may be slippage in achieving the targets by the target date of December 2012.

NHDP PHASE-VI: EXPRESSWAYS

16.53 NHDP Phase-VI envisages development of 1,000 km fully access controlled expressways under the PPP mode following the DBFO approach. This includes

expressways connecting Vadodara–Mumbai, Delhi–Meerut, Bangalore–Chennai, and Kolkata–Dhanbad. Phase-VI of NHDP was approved at an estimated cost of Rs 16,680 crore in November 2006.

16.54 The total funds required for this phase is Rs 16,680 crore, out of which Rs 9,000 crore is expected from the private sector and the balance Rs 7,680 crore from the government to bridge the viability gap as well as for meeting the cost of land acquisition, utility shifting, consultancy, etc. The entire project is targeted to be completed by December 2015.

NHDP PHASE-VII: CONSTRUCTION OF RING ROADS, FLYOVERS, AND BYPASSES

16.55 The government approved the construction of stand alone ring roads, bypasses, grade separators, flyovers, elevated roads, tunnels, road over bridges, underpasses, and service roads on a BOT (Toll) mode under NHDP Phase-VII in December 2007 at an estimated cost of Rs 16,680 crore. Thirty-six stretches in different states have been proposed to be taken up. The entire project is scheduled to be completed by December 2014. As on 31 July 2009, a length of 19 km was under implementation while the remaining 681 km was yet to be awarded.

16.56 The progress of work on various NHDP phases depicts a discomfoting picture. The economic slowdown has had an adverse affect on the progress of NHDP. A number of measures are proposed to be taken to expedite the progress of NHDP.

16.57 The other important reasons for slow progress in implementation of NHDP include the long time taken for completing pre-construction activities and inadequate implementation capacity of NHAI. In order to reduce the time period for pre-construction activities, the ministry has taken a number of steps. The progress in this regard needs to be reviewed from time to time so that the time period for pre-construction activity is reduced. To improve capacity and for augmenting skills, the government has taken a decision to restructure NHAI. The important components of restructuring NHAI are as follows:

- Selection of the Chairman by a Search Committee headed by the Cabinet Secretary
- NHAI should have six full-time members—one each for finance, administration, PPP, two members (project), and one member (technical)
- Increase in the number of part-time members by two who would be from the non-government sector, one from IITs/IIMs and the other from financial institutions is recommended
- The Authority should have the power to engage, where required, outside experts

NON-NHDP PROGRAMME

16.58 Details of the non-NHDP programme are given in Annexure 16.3. The statement shows that the achievement in case of widening to four-lanes, strengthening of existing weak pavements, widening to two-lanes, improvement of riding quality programme, and construction of missing links has surpassed targets. In case of construction of bypasses and bridges/ROBs, the performance is also quite satisfactory.

SPECIAL ACCELERATED ROAD DEVELOPMENT PROGRAMME FOR THE NORTH-EAST (SARDP-NE)

16.59 This programme is to be implemented in two phases—Phase-A and Phase-B. Phase-A would include improving 6,418 km of roads and (including 2,319 km of roads under the Arunachal package). The likely date of completion of Phase-A is 2012–13. Phase-B involves two-laning of 3,723 km of roads and it has been approved only for Detailed Project Report (DPR) preparation; investment decisions are yet to be taken by the government.

16.60 The year-wise details of the projects approved under SARDP-NE Phase-A, the expenditure incurred

thereon, and the physical performance of the programme are given in Table 16.4.

16.61 The progress has been extremely slow, mainly due to the inadequate contracting capacity of implementing agencies.

SPECIAL PROGRAMME FOR DEVELOPMENT OF ROADS IN THE LEFT-WING EXTREMISM (LWE) AFFECTED AREAS

16.62 The government approved in February 2009 proposals for developing about 1,202 km of NHs and 4,362 km of state roads in LWE affected areas as a special project estimated to cost about Rs 7,300 crore. The project covers 33 districts in the eight states of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Orissa, and Uttar Pradesh. Technical and financial sanctions for all identified NHs and state road projects would be as per the stipulated procedure for NH works. Sanctions have already been issued for 2,891 km at an estimated cost of Rs 3,261 crore.

DEVELOPMENT OF OTHER NON-NHDP NATIONAL HIGHWAYS

16.63 There are about 20,850 km of NHs other than those approved for various phases under NHDP, SARDP-NE, etc. These NHs suffer from various deficiencies, such as inadequate capacity and insufficient pavement thickness. The development of these roads is proposed to be taken up through domestic budgetary resources and multilateral funding.

16.64 MoRTH has taken certain initiatives for the development of National Highways in the future. These are as now discussed.

TABLE 16.4
Year-wise Details of Projects under SARDP-NE Phase-A

Year	Allocation (Rs crore)	Length Approved by HPC (in km)	Approved Cost (Rs crore)	Expenditure (Rs crore)	Length Completed (in km)
2006–07	550	502	1,255	449	–
2007–08	700	299	780	651	150
2008–09	1,000	254	1,194	637	290
2009–10	1,200	94	451	223	–
Total	3,450	1,149	3,680	1,960	440

SETTING UP THE EXPRESSWAY AUTHORITY OF INDIA AND FORMULATION OF THE MASTER PLAN FOR THE NATIONAL EXPRESSWAY NETWORK

16.65 As envisaged in the Eleventh Plan document, the government is considering a proposal for the setting up an Expressway Authority of India (EAI). Consultations with stakeholders are in process of identifying and resolving issues before the framework for EAI is given a concrete shape. Development of the expressways under the Master Plan will be undertaken in a PPP mode. An expressways division has been set up in NHAI.

PRADHAN MANTRI GRAM SADAK YOJANA

16.66 PMGSY was launched on 25 December 2000 as a fully-funded Centrally Sponsored Scheme (CSS) to provide road connectivity in rural areas of the country. The programme envisaged connecting all habitations with a population of more than 1,000 within three years and of more than 500 by 2007 (250 persons and above with respect to hilly, tribal, and desert areas). About 1.67 lakh unconnected eligible habitations need to be taken up under the programme. The programme also provides for upgradation of existing through-routes with an aggregate length of 3.68 km.

BHARAT NIRMAN (A SUB-SET OF PMGSY)

16.67 The original target set for PMGSY was found to be too ambitious. Subsequently, PMGSY was re-phased to achieve time-bound targets of rural connectivity by folding in to the Bharat Nirman programme initiated in 2005–06. It aims to provide connectivity to all the habitations with a population of more than 1,000 in the plain areas and habitations with a population of 500 or more in hilly or tribal areas in a time-bound manner by 2009 (see Table 16.5).

TABLE 16.5
Physical Targets and Achievements

PMGSY	No. of Habitations
Overall target	1,67,000
Achievement up to March 2009	62,484
Bharat Nirman	
Overall target	54,648
Achievement up to March 2009	31,924

16.68 The PMGSY component in Bharat Nirman has made substantial progress although completion has been delayed a little. It is now expected to be completed in 2010–11. While 84 per cent of the habitations would be connected by the end of 2009–10, the remaining 16 per cent would be linked in 2010–11 (Table 16.6)

TABLE 16.6
Progress under Bharat Nirman

Activity	Target (2005–09)	Achievement up to March 2009
Habitations (Nos)	54,648	31,924 (58)
New Connectivity (Length in km)	1,46,185	85,405 (58)
Upgradation (i/cRenewal) (in km)	1,94,131	1,55,019 (80)

16.69 PMGSY has certain very good features, which have contributed to its success in producing good quality rural roads. A three-tier quality monitoring system at various levels was established which has been helpful in finding systemic deficiencies and taking appropriate corrective action in executing projects and in maintaining the quality of the roads constructed. The inbuilt clause of five years of maintenance within the construction contract has helped in the maintenance of the newly created assets. A computerized Online Management Monitoring and Account System is useful in monitoring the progress of work, both physical and financial.

16.70 The state-wise physical progress during the first four years of Bharat Nirman is given in Annexure 16.4. The progress towards achievement of targets has varied from state to state. The major states with large connectivity deficit are Assam, Chhattisgarh, Orissa, Bihar, Jharkhand, West Bengal, Jammu and Kashmir, Tripura, and Uttarakhand.

FUNDING OF PMGSY

16.71 While Phase-I of Bharat Nirman would be completed in 2010–11, the requirement of funds for completing the work on PMGSY is quite large. It is estimated that the fund requirements for completing the work would be between Rs 1,30,000 crore and Rs 1,50,000 crore. The major source of finance, that is, the amount allocated from the Central Road Fund financed from cess on diesel is substantially committed

to the repayment liability of loans raised to finance rural roads. Thus, there is very little scope for further leverage of future cess till 2016–17. There is a need to develop a work and financing plan for developing rural roads, which may estimate the road length to be constructed, the total requirement of funds, identify the source of financing, and suggest measures to reduce the cost of construction.

MAINTENANCE OF PMGSY ROADS

16.72 The maintenance of rural roads requires urgent attention. In order to provide adequate funds for the maintenance of existing rural roads there is a need to enhance the self-financing capacity of the sector.

IMPLEMENTATION ISSUES

16.73 Strengthening of Institutional Capacity: States where the coverage of habitations under Bharat Nirman has been very low require a substantial increase in the number of PIUs. Creation of dedicated PIUs, deployment of central PSUs, outsourcing of project preparation, engaging independent project implementation consultants, and reviewing existing delegation of powers are some of the steps taken or which are being taken by various states to strengthen institutional capacity.

16.74 Augmentation of Contracting Capacity: With a massive step up in investment in road construction, constraints in contracting capacity have emerged as a major implementation issue necessitating repeated bidding for awarding contracts in certain cases. Some of the steps taken to enhance the contracting capacities in the states include increase in the size of the package, permitting joint ventures between big and small contractors, and awarding performance incentives for timely completion of projects.

16.75 Forest and Environment Clearances: It usually takes between 12–14 months to obtain forest clearances. States affected have to initiate proactive upfront action for seeking forest clearances as soon as the survey commences for preparation of DPRs.

16.76 Availability of Private Land for Road Construction: State governments should ensure availability of private land required for road construction. States

experiencing difficulties on this account must use gram panchayats and the local revenue administration to overcome this constraint.

16.77 Law and Order Problems: Left-wing extremist activities are affecting the pace of implementing PMGSY in some parts of Bihar, Chhattisgarh, Orissa, and Jharkhand. These states have to ensure adequate security.

16.78 The Ministry of Rural Development (MoRD) has taken a number of steps to improve the implementation of projects under PMGSY. These include e-procurement, aimed at reducing time for processing bids, increasing competitiveness, and enhancing transparency, rationalization of standards and stakeholders, review of the performance of states, which are lagging behind in achieving targets, and strengthening maintenance and monitoring.

WAY AHEAD

- There has been a significant shortfall in the targets achieved, particularly with respect to various phases of NHDP. The work and financing plan and the monitorable targets need to be finalized.
- In order to implement NHDP expeditiously, it is necessary that: (a) the process of restructuring NHAI may be completed urgently; (b) the projects may be structured strictly in accordance with specifications formulated to meet traffic demands and safety requirements; and (c) time period for pre-construction activity may be reduced.
- The progress in implementing SARDP-NE has been quite slow. Training of technical personnel, improvement in the quality of preparation of project reports, and more effective monitoring of the project would help in the expeditious implementation of SARDP-NE.
- Building a network of expressways. For this purpose, the EAI may be set up during the Eleventh Plan.
- There is a need to develop a work financing plan for developing rural roads, which may indicate the road length to be constructed to achieve PMGSY targets, requirement of funds, identifying the sources of funding, and suggesting the measures to reduce the cost of construction.

ROAD TRANSPORT

16.79 Road transport plays an important role in the movement of goods and passengers in the country mainly because of its accessibility, flexibility, door-to-door service, and reliability. Of late, there has been an unprecedented growth in vehicular traffic on the roads, which has led the Department of Road Transport to accord priority to improving road safety to prevent accidents, save precious lives, and improve safety of all road users.

16.80 During the first three years of the Eleventh Plan, the central road transport sector is likely to spend Rs 372.92 crore, against the approved outlay of Rs 1,000 crore at constant prices, which in percentage terms works out to about 37 per cent.

16.81 In the central sector, road safety programmes are implemented through the Road Safety and National Data Base Network and Studies schemes. However, to address road safety issues with vigour and zeal, some new schemes, such as the setting up of the National Road Safety and Traffic Management Board and setting up of Inspection & Certification (I&C) centres in the country are being introduced during the Eleventh Plan.

16.82 Operation of passenger services by State Road Transport Undertakings (SRTUs) and regulation of transport services are the important programmes covered under the state sector. Recognizing the criticality of the role of public transport in the movement of passengers, it has been proposed to strengthen the public transport system in the country. To begin with, it is proposed to provide financial assistance for latest technologies such as GPS/GSM based vehicle tracking system, computerized reservation system, automatic fare collection system, electronic ticket vending system, inter-modal fare integration, and passenger information as well as for preparation of total mobility plan for the entire state. This is bound to improve productivity and efficiency in the public transport system.

16.83 There are certain critical issues, such as motor vehicle taxation, overloading, and barrier-free movement of freight and passengers, which

need to be addressed during the remaining part of the Plan.

PORTS

16.84 The main thrust in the ports sector in the Eleventh Plan is on capacity augmentation mainly through private sector participation, improvement in productivity, reduction in provision of dwell time, and enhancing dredging capabilities/operations besides rail-road connectivity to the hinterland. The Eleventh Plan also envisaged corporatization of ports and coordinated development of non-major ports.

PROGRESS UNDER THE ELEVENTH PLAN

Financial Performance

16.85 The pace of expenditure in port development has fallen greatly behind Plan targets. Against the Eleventh Plan outlay of Rs 29,889.11 crore, the likely expenditure in the first four years is Rs 5026.69 crore, which is only 16.82 per cent of the Plan outlay. Of the Eleventh Plan GBS allocation of Rs 3,315 crore, in the first four years the likely expenditure is Rs 1138.33 crore, which is 34.34 per cent.

Physical Performance

16.86 Traffic at the ports has been increasing at an annual rate of 10–12 per cent in the recent past. The Eleventh Plan estimated the traffic to grow at 11.05 per cent per year from 649.79 million tonnes in 2006–07, to 1,008.95 million tonnes in 2011–12, of which the share of major ports was 708.09 million tonnes (MT) (Annexure 16.5). In the first three years the traffic in major ports rose from 464 MT (2006–07) to 560.97 MT (2009–10) indicating an additional traffic of about 97 MT, which is about 40 per cent of the Plan target. In 2008–09, it increased by only 2 per cent due to a perceptible moderation in the world economic activity. However, during 2009–10, the rate of growth of traffic increased to 5.74 per cent.

Capacity Augmentation

16.87 The Eleventh Plan envisaged that a bulk of the expansion in capacity will come from private investment/captive users through PPPs except in cases of operational exigencies. As against the major ports' capacity of 504.75 MT (2006–07), the Eleventh

Plan target is 1,016.55 MT (Annexure 16.6). Major capacity additions were expected in Paradip (55 MT), Visakhapatnam (52.4 MT), Ennore (51.2 MT), Kandla (58 MT), and Mumbai (48 MT). The capacity of major ports as on 31 March 2009 was 574.77 million tonnes per annum (MTPA). The capacity addition during the first two years of the Eleventh Plan was only about 70 MTPA, which is 13.7 per cent of the Eleventh Plan target of capacity addition of 511.80 MT. Of this, the capacity addition due to addition of new schemes was 32.90 MT, while 37.12 MT was due to mechanization and other productivity improvement schemes.

16.88 During the third year of the Plan, a capacity of 30 MT has been added, raising the total capacity created in the three years of the Eleventh Plan to 100 MT. Seven projects, including four taken up before the Eleventh Plan, are under implementation in the PPP mode. In addition, five more capacity yielding schemes through internal resources are under implementation. This will create an additional capacity of 77.2 MTPA and 14 MTPA respectively. The ministry has assessed that 49 MT of capacity may also be achieved from mechanization/efficiency improvement during the Plan. A total capacity of 210 MT would be created under the Plan when these schemes are completed.

16.89 Normally, the gestation period of a port project is about two years though mega projects have also taken 3–5 years. Thus, only projects that may be awarded by 31 March 2010 would actually come up and add to the capacity of the ports during the Plan period. It is proposed to take up 26 projects relating to construction/ modernization of berths, container terminals, Single Buoy Moorings (SBMs), and installation of mechanized handling facility during the year. Concerted efforts need to be made to complete the process and procedures expeditiously to be able to complete the maximum of projects during the Eleventh Plan.

16.90 The total capacity by the end of the Eleventh Plan is likely to be about 790 MT, but has the potential of going up to 840 MT. This will, however, require extensive port-wise monitoring and a strong follow-up and effective execution of projects.

TABLE 16.7
Assessment of Capacity Addition by the End of the Eleventh Plan

		(in metric tonne)
1	Capacity already created	70.0
2	Capacity involved in projects under construction from X Plan	91.2
3	Capacity likely to come up of 26 projects to be awarded by 31 March 2010	75.0
4	Capacity involved in expansion through mechanization	49.0
Total		285.2

Non-Major Ports

16.91 An important component of capacity creation is the development of non-major ports. There are about 200 non-major ports in the country under the control of respective state governments. The Eleventh Plan estimated the creation of an additional capacity of about 350 MT in these ports, which is nearly one and a half times the present capacity of these ports (228 MT). The share of non-major ports in projected ports traffic was expected to increase from 28.5 per cent (2006–07) to 30 per cent (2011–12). There is no comprehensive plan for the development of port sector that includes non-major ports. The states carry out the development of non-major ports at their own initiatives. Adequate data on progress of work related to development of non-major ports is also not available. In order to develop the port sector, there is a need to devise a comprehensive policy for the development of the port sector. A monitoring system should be set up quickly for assessing overall port capacities, including those of the non-major ports on a regular basis.

Port Efficiency

16.92 An important issue for the cost competitiveness of our trade has been the inability to take large size vessels into these ports and inefficiencies due to large dwell time. Progress in this regard has been rather unsatisfactory as is evident from Table 16.8.

16.93 The delay in turnaround time is mostly on the port account, which is around 65 per cent of the turnaround time. The factors responsible for port account delays are vessels waiting for working berths after unloading and before commencement

TABLE 16.8
Progress in Efficiency Parameters

Year	Average Pre-berthing Detention (in hrs)	Average Turnround Time (in days)
2004-05	6.03	3.41
2005-06	8.77	3.50
2006-07	10.05	3.62
2007-08	11.40	3.93
2008-09	9.55	3.87
2009-10	11.67	4.38

of loading, breakdown/non-availability of handling equipment, non-availability of port labour gangs, spillage/grizzly cleaning/chute jamming, and ragging/stitching. Similarly, non-port account factors contributing to delays are customs formalities, want of cargo/container, weather conditions, documents not ready, want of barges, breakdown of ship gears, and shed concession/poor clearance of cargo.

16.94 Several Indian ports experience high dwell time because of customs and port side constraints like inadequate infrastructure, absence of seamless connectivity with other modes, and various IT related bottlenecks. For container handling, which is increasing rapidly, an adequate electronic environment with Enterprise Resource Planning (ERP), enabling the efficient use of port resources is yet to be established. The Electronic Data Interchange (EDI), which ensures flow of data electronically between ports, customs, shipping lines, and users, is still to be commissioned on a common platform. At present, EDI is minimal and consists of the proprietary message exchange format formulated by customs. The implementation of the Risk Management System (RMS) by customs is expected to bring about significant reduction in detention of cargo for assessment and examination at ports. An assessment of the working of RMS needs to be made so that corrective measures, if necessary, can be taken.

16.95 The Eleventh Plan had suggested that it is possible to reduce turnaround time from the existing 3.23 (dry bulk), 5.62 (break bulk), and 1.88 (container) days to 1.60, 1.50, and 1 day respectively for imports and from 3.57, 6.60, and 3.78 days to 1.70, 3.30, and 1.50 days respectively in the case of exports. This

was based on an assessment by the Committee of Secretaries for the programme to be implemented in the period 2007-10. The ministry needs to expedite action on this count. What is worrisome is the slow turnaround of ships in the major ports of Mumbai, Kandla, and Marmugao. Depending upon the cargo handled, all these gaps must be addressed for each port. A time-bound plan should be made so that in a reasonable period of time, the turnaround/dwell time matches the most efficient ports. This action plan must be designed and put in place swiftly.

Port Connectivity

16.96 The Eleventh Plan envisaged that each major port should have at least four-lane connectivity and double rail lane connectivity. At present, 13 roads of 360 km at a total cost of Rs 4,149.66 crore and rail projects of Rs 3,903.00 crore are under implementation. The government is also implementing Dedicated High Load Freight Corridor on the western and eastern routes. The progress, however, is not very encouraging. The projects for rail/road connectivity need to be monitored closely. A similar approach for non-major ports is also required.

Dredging

16.97 The Eleventh Plan target for capital dredging was 298.28 Million Cubic Metres (MCuM) for major ports and SSCP and 367.18 MCuM for non-major ports, besides maintaining dredging of 367.06 MCuM and 33.89 MCuM respectively. Against this, the first three years have seen dredging of 236.34 MCuM at major ports, which is only 35.52 per cent of the Plan target.

16.98 One of the key areas of concern is the slow pace in maintenance and capital dredging. In the present international dredging scenario, almost the entire dredging technology and know-how is concentrated with a few international companies. During recent years demand for dredging operations has increased substantially due to enhanced activity in reclamation and augmentation of port capacity. Moreover, the time frame for execution of dredging projects has increased. In line with the international trend of creating on-shore and off-shore infrastructure that requires large-scale dredging, such activities in India have also increased.

At the same time, only a few companies in the dredging sector have shown an interest in acquiring dredgers and carrying out dredging activities.

16.99 In order to develop dredging capacity it is necessary to take steps to ensure adequate skilled manpower and development of maintenance and engineering facilities. It would also be useful if the time for accomplishing the whole process of evolving approval and implementation of dredging projects is reduced.

Sethusamudram Ship Canal Project (SSCP)

16.100 For the implementation of the SSCP at the cost of Rs 2,427 crore, an SPV, the Sethusamudram Corporation Limited was formed with equity participation of the government of Rs 495 crore. Dredging work at Palk Strait and the southern part of Palk Bay/Palk Strait is in progress. The estimated cost of the project has gone up and the revised cost is being worked out. Dredging at Adam's Bridge was suspended by the Supreme Court. The matter of alignment of SSCP is sub-judice. An expert committee under the chairmanship of Dr R.K. Pachauri, which was constituted to examine the issue, is in the process of finalizing its report.

Andaman-Lakshadweep Harbour Works

16.101 The ALHW plans, executes, and maintains port and harbour facilities in the Andaman and Nicobar and the Lakshadweep Islands. The government has drawn an action plan for the rehabilitation of the port structure, creation of additional facilities, and taking up of major reconstruction work on a turnkey basis at a cost of Rs 976.19 crore. The action plan includes post-tsunami repair/reconstruction, development of additional port facilities, and turnkey projects. Out of the 56 berthing structures in the Andaman and Nicobar Islands, 50 structures have been made functional.

SHIPPING

16.102 Against the Eleventh Plan outlay of Rs 14,135 crore for the shipping sector, an expenditure of Rs 3539.22 crore was incurred during the first three years of the Plan, which is only 25.04 per cent of the Plan outlay. Of the Eleventh Plan GBS allocation of Rs 1,000 crore, in the first three years the expenditure

was Rs 427.89 crore, which is 42.79 per cent. The main reason for the lower GBS expenditure is very slow progress towards the establishment of the Indian Maritime University. The expenditure during three years on this count was only Rs 63.40 crore, which is only 23.9 per cent of the allocation of Rs 265 crore.

SHIPPING CORPORATION OF INDIA (SCI)

16.103 Against an IEBR allocation of Rs 13,135 crore to SCI, the expenditure was Rs 3,111.32 crore in three years of the Eleventh Plan, which is 23.7 per cent. Under the Tenth Plan, 12 ships were on order which were expected to be delivered in the Eleventh Plan. In addition, SCI is to place an order for 62 ships of 2.8 million GT during the Eleventh Plan. SCI is expected to acquire six ships of 0.47 million GT in the first three years of the Plan. In the remaining two years of the Plan, 26 vessels of 0.82 million GT are likely to be acquired. Thus SCI would be able to acquire 32 vessels of 1.29 million GT, which is quite low compared to the target.

16.104 The Plan projected tonnage acquisition between 10 million GT to 15 million GT by 2011-12. Against this target the achievement in the first three years has been 9.61 million GT. In view of the various problems faced by the shipping sector, including the decline in the self-financing capacity of the sector and inadequate availability of credit the acquisition of tonnage is likely to fall well short of the target.

16.105 The share of Indian companies in carriage of Indian overseas cargo declined from 13.7 per cent in 2005-06 to 9.5 per cent in 2008-09. This is an area of concern and this trend needs to be reversed. The decline in the share of Indian shipping is due to a number of factors, the most important of which are inadequate acquisition of tonnage and absence of a policy framework that governs the growth of Indian shipping. The need for a comprehensive policy, which may cover cabotage strengthening, cargo support for overseas trade, providing a level playing field on taxation, and access to cost effective funding of ships has become urgent. The Indian shipping fleets need to be modernized and renewed. The requirement of funds due to replacements is Rs 15,000 crore. In addition, an investment of Rs 38,000 crore is required

to acquire new vessels if the target of 15 million GT is to be achieved. The requirement of funds is huge and funding from international debt markets has dried up. It has, therefore, become necessary to take policy measures to enhance the self-financing capacity of the sector and also take measures to augment the availability of debt to finance acquisition of ships. Shipping is a highly competitive sector. A policy for the development of this sector needs to be formulated keeping in view the policy measures taken by other countries to promote their shipping. This will give Indian shipping a level playing field and enable it to compete in the international market.

INDIAN MARITIME UNIVERSITY (IMU)

16.106 The government enacted the Indian Maritime University Act, 2008, for setting up the IMU with its headquarters in Chennai and campuses in Kolkata, Mumbai, Visakhapatnam, and Chennai at a cost of Rs 265.25 crore. The university would strengthen and promote maritime studies, research, and extension work with focus on emerging areas of studies, including marine science and technology, marine environment, and socio-economic, legal, and other related fields and also achieve excellence in these and connected fields. The existing seven governments and government-aided maritime training and research institutes have been merged with IMU. The project for setting up IMU is under consideration.

DIRECTOR GENERAL OF SHIPPING (DGS)

16.107 Against the Eleventh Plan outlay of Rs 58.35 crore for DGS, an expenditure of Rs 14.45 crore was incurred during the first three years of the Plan, which is 24.76 per cent of the Plan outlay. One of the functions of DGS is implementing various international conventions relating to safety, prevention of pollution, and other mandatory regulations of the International Maritime Organization (IMO). Of the 27 conventions adopted by IMO, 23 are in force. Of these India has ratified 18. In pursuance of the ratifications of the conventions, DGS needs to implement the Ballast Water Management Convention of IMO in all the major ports in India and strengthen the existing set-up for maritime casualty investigation to provide seafarer's safety.

DIRECTORATE GENERAL OF LIGHTHOUSES AND LIGHTSHIPS (DGLL)

16.108 Against the Eleventh Plan outlay of Rs 133.62 crore for DGLL, an expenditure of Rs 73.17 crore was incurred during the first three years of the Plan, which is 55.17 per cent of the Plan outlay. One of the major schemes of DGLL is establishing the Vessel Traffic Service (VTS) in the Gulf of Kutch; 75 per cent of VTS scheme had been completed by March 2010. Presently, DGLL operates a wide network of 177 lighthouses with supporting infrastructure. In order to provide and promote better safety and security to mariners and vessels, DGLL should equip itself with a sophisticated system to track the movement of fishing and other vessels operating in the coastal areas.

INLAND WATER TRANSPORT

16.109 The Eleventh Plan has laid emphasis on the development of infrastructure facilities on the existing waterways to make them fully functional and declaring three new waterways of East Coast Canal along with Brahmani river and Mahanadi delta, the Kakinada–Puducherry canal system, and the Godavari and Krishna rivers and Barak river.

16.110 During the Eleventh Plan, an outlay of Rs 543.75 crore was approved for the Inland Waterway Authority of India (IWAI) against which the expenditure during the three years of the Plan was Rs 276.88 crore, which is 50.92 per cent of the Plan outlay. The lower expenditure has been due to a major shortfall in expenditure on the development of National Waterway (NW)-2 during Annual Plan 2007–08. During Annual Plan 2008–09, the outlay of IWAI was reduced from Rs 160.38 crore to Rs 88.21 crore at the RE stage.

16.111 Expenditure was mainly incurred on the maintenance of fairways, including channel development, terminals, navigational aids, and cargo vessels for demonstration purposes for NW-1, 2, and 3 and techno-economic feasibility studies on other waterways. During the first two-and-a-half years of the Eleventh Plan, Least Assured Depth (LAD) of 2.5 metres was provided between Haldia and Farakka (560 km) against a target of LAD of 3 metres by the

end of the Plan period. The target of 2 metres has been achieved in other NWs. Providing 24-hour navigational aids in 1,200 km of the three NWs is likely to be achieved by March 2010.

16.112 In November 2008 two new NWs were declared: NW-4 for Kakinada–Pondicherry, along with the Godavari and Krishna rivers (1,095 km), and NW-5 East Coast Canal with Brahmani river (623 km).

16.113 Cargo transportation in organized IWT rose marginally from 55.8 million tonnes (3.38 b.t.km) during 2006–07 to 56 million tonnes (3.56 b.t.km) during 2008–09.

16.114 IWAI has increased its capacity to implement the project and, therefore, the pace of expenditure has picked up. However, in terms of throughput, there has been very little progress.

16.115 It is necessary that IWAI's development programme is implemented through a project mode, with a view to clearly identifying the benefits and throughput that will be generated. A study needs to be undertaken to assess the benefits of the investment already made. This would help in evolving schemes for the development of the IWT sector.

WAY AHEAD

- The performance of major ports in adding new capacities has been far below expectations in the initial two years of the Plan. Hence, against the target of 1,016.55 MT the likely achievement by the end of the Plan could be between 790 MT to 840 MT. In order to attain even these levels, a detailed plan will need to be prepared indicating important milestones, which will have to be monitored closely and at regular intervals.
- In order to reduce dwell time, it is necessary to complete the introduction of EDI and extensive mechanization of operations and also to complete port connectivity projects.
- The implementation of RMS needs to be reviewed with a view to taking corrective measures.
- The dredging plan along with sources of financing needs to be firmed up.

- A comprehensive policy that may cover cabotage strengthening, cargo support for overseas trade, provision of level playing field on taxation, and access to cost-effective funding of ships acquisition needs to be formulated.
- IWAI may focus on making the existing NWs fully functional. The IWAI development programme may be implemented through the project mode.
- There is a need to incentivize the Indian shipping industry by promoting coastal shipping, the ship-building industry, and increasing the share of Indian flag vessels.

CIVIL AVIATION

16.116 The main objectives of the civil aviation sector for the Eleventh Plan are to provide world-class infrastructure; safe, reliable, and affordable air services to encourage growth in passenger and cargo traffic and air connectivity to remote and inaccessible areas, particularly the North-Eastern parts of the country.

16.117 These objectives are to be achieved through: (i) the modernization/upgradation of metro and non-metro airports; (ii) construction of Greenfield airports; (iii) upgradation/modernization of Air Traffic Management Systems; (iv) setting up of a multi-modal international passenger and cargo hub; (v) addressing the acute shortage of operating manpower; and (vi) acquisition of modern fuel efficient aircraft fitted with the latest equipment. A number of policy interventions have been undertaken to support these (Box 16.2).

16.118 The capacity-building process in both airlines and airports is to be enhanced mainly through increased private sector participation. Delhi and Mumbai airports are being modernized/expanded through PPP. City-side development of 35 non-metro airports is also proposed through the PPP mode. A similar strategy is also envisaged for the development of Greenfield airports at Mopa (Goa), Navi Mumbai (Maharashtra), and Kannur (Kerala). Besides, there are some more airport projects where private sector participation is envisaged under the state sector. Two Greenfield airports in Bangalore and Hyderabad, developed through PPP, have become operational.

Box 16.2**Some Major Developments in Civil Aviation Sector**

- FDI norms have been liberalized, allowing 100 per cent FDI through the automatic route for setting up Greenfield airport projects.
- A policy for construction of Greenfield airports, addressing procedure for approval of Greenfield airports within 150 km of existing airports, airports for cargo, and/or non-scheduled flights and for heliports, has been put in place.
- The Airport Economic Regulatory Authority (AERA) has been established. The functions to be carried out by AERA include fixing, reviewing, and approving tariff structures for aeronautical services and users' fees which may be levied by the service providers for airport development and monitoring prescribed performance standards relating to quality, continuity, and reliability of service.
- The two national carriers Air India Ltd. and Indian Airlines have been merged to optimize fleet acquisition, leverage the asset base, strengthen network, and achieve economy of scales.
- In order to address the acute shortage of operational manpower in the aviation sector, the Indira Gandhi Rashtriya Udyan Academy (IGRUA) has been upgraded and a new flying training institute at Gondia has been established and the management has been passed on to CAE Flight Training (India) Private Limited, a wholly owned subsidiary of CAE Inc, Canada.

PROGRESS IN THE ELEVENTH PLAN

16.119 During the first four years of the Eleventh Plan, the sector is likely to spend only Rs 34,613.78 crore against an approved outlay of Rs 43,560.57 crore at constant 2006–07 prices, that is, 79.46 per cent of the total Plan outlay.

16.120 With regard to GBS, the progress is not up to the mark. Against an approved outlay of Rs 1,680 crore, the Ministry of Civil Aviation is likely to spend Rs 450.13 crore, that is, only about 27 per cent of the approved GBS during the first three years of the Eleventh Plan. However, the ministry has been allocated Rs 1,200 crore for The National Aviation Co. of India Limited (NACIL) for Annual Plan 2010–11. This would enhance the likely expenditure under GBS to Rs 1,254.73 crore, that is, 74.69 per cent of the GBS during the first four years of the Eleventh Plan. The situation is worse in case of the Airports Authority of India (AAI), which is the major recipient of GBS. As against the allocation of Rs 1,301.22 crore of GBS to AAI during the Plan, only Rs 226.24 crore (about 17 per cent) is likely to be spent during the first three years. This may result in slow progress in the development and modernization of airport infrastructure in the North-Eastern region and other crucial areas. As such, in the remaining two years of the Plan, AAI would need to step up progress to absorb the substantial amount of GBS provided to it.

Rs 600.50 crore has been allocated for Annual Plan 2010–11, which is likely to improve the utilization of GBS to 56.8 per cent in the first four years.

16.121 Both domestic and international traffic witnessed a negative growth during 2008–09 mainly on account of the slowdown in the global economy and increase in air fares due to increase in ATF prices. Passenger traffic, which had grown at 21 per cent during 2007–08 declined by 7 per cent during 2008–09 and similarly, freight traffic, which had grown at 12 per cent during 2007–08 declined by about 1 per cent during 2008–09.

16.122 This slowdown was reflected in the performance of passenger traffic. Against a passenger traffic target of 2,054.00 lakh (540.37 lakh international and 1,513.63 lakh domestic passengers) in the Eleventh Plan, it could reach the level of 1,089 lakh (316 lakh international and 773 lakh domestic passengers) during 2008–09. Similarly, the cargo traffic could reach a level of 1,702 Thousand Metric Tonnes (TMTs) (1,150 TMTs international and 552 TMTs domestic cargo) during the same period, as against the target of 2,683 TMTs (1,823 TMTs international and 860.78 TMTs domestic cargo).

16.123 Air India and Indian Airlines were merged in 2007–08 with a view to optimizing fleet acquisition,

leveraging the asset base, strengthening the network, and for achieving economies of scale. The merger of the two airlines has not shown positive results possibly because no effective merger of operations was attempted. Meanwhile, the slowdown in air traffic has had a negative effective on NACIL and financial performance, in terms of profitability, has deteriorated over the years. The NACIL, which was earning a net profit of Rs 55.50 crore (AI—Rs 12.00 crore and IA—Rs 43.00 crore) at the end of the Tenth Plan started incurring losses during the Eleventh Plan. During 2007–08 it incurred a loss of Rs 2,226 crore. In 2009–10 as well it is expected to incur a loss of around Rs 5,200 crore.

16.124 The performance in terms of NACIL's physical productivity indicators is also not very encouraging (see Annexure 16.7). Fall in the load factor and yield would require a persistent route rationalization exercise. While a part of these losses is attributable to a general downturn in the aviation industry, NACIL has clearly failed to optimize the benefits of the merger of the two airlines. The airlines need to cut costs, improve productivity, and develop a revival plan.

16.125 Modernization of Indira Gandhi International Airport in Delhi and Chhatrapati Shivaji International Airport airport in Mumbai through private sector participation and of Kolkata and Chennai airports through internal resources is under implementation.

16.126 Of the modernization and augmentation of capacity at 48 non-metro airports (35 non-metro airports and 13 others), work at 21 airports (12 at non-metro airports and nine at other airports) has already been completed and work on the remaining is likely to be completed by 2010.

16.127 There has been considerable time and cost overruns in several projects, especially projects pertaining to the modernization and augmentation of capacity at the 48 non-metro airports, including city-side development and also airport infrastructure development in the North-Eastern region and in other crucial areas taken up by the AAI, which needs

to be checked by putting in place an effective plan and monitoring mechanism.

16.128 During the Plan, AAI had made a capital expenditure plan of Rs 12,434 crore to be financed through Rs 1,471.68 crore of GBS, Rs 2,650 crore from borrowings, and the balance from internal resources. However, from the financial performance in terms of the profitability of AAI, it seems that the targeted generation of internal resources by AAI to the tune of Rs 8,313 crore will not be feasible. AAI's net profit, which was Rs 1,081.87 crore in 2007–08 fell to Rs 684 crore in 2008–09, and is likely to reach Rs 530 crore during 2009–10. Keeping this in view, AAI should work out an alternative mode of funding and finance more projects through the PPP mode.

16.129 In view of safety and security issues assuming greater importance in the international environment in recent decades, a substantial amount of funds, that is, Rs 218.25 crore was provided to the Bureau of Civil Aviation Security but no progress has been made in this regard. Till 2008–09, the organization could spend only Rs 0.55 crore and is likely to spend another Rs 14 crore during 2009–10. The slow rate of progress is mainly due to non-finalization of major schemes. In view of the critical role played by regulatory organizations of the Ministry of Aviation, they need to be strengthened by developing appropriate technology, training, and equipment.

POLICY ISSUES: THE WAY AHEAD

16.130 There are a number of policy issues that need to be addressed.

- i. There is a need to formulate a comprehensive Civil Aviation Policy keeping in view the role of the sector in promoting tourism, trade, and also inter-modal considerations.
- ii. The Eleventh Plan envisaged restructuring of AAI. Progress in this regard has been slow. This needs to be given priority.
- iii. Although the Domestic Air Transport Policy provides for foreign equity participation of up to 49 per cent and investment by Non-Resident Indians (NRIs) up to 100 per cent in domestic air transport services foreign airlines are not

- permitted to participate in equity, directly or indirectly. In view of the developments taking place in the aviation sector, this policy needs to be reviewed to attract new technology and management expertise.
- iv. In order to tap the vast potential of growth of traffic and to encourage a balanced growth of civil aviation, regional airlines need to be promoted through more liberal policies, provision of better infrastructure facilities, and simplified rules and procedures governing entry.
 - v. The policy of providing air services to the North-Eastern and other inaccessible areas through Route Dispersion Guidelines (RDGs) needs to be reviewed in view of the significant changes that have taken place in the civil aviation sector since the policy was laid down in 1994. This could be done either by making the obligation tradable or by providing direct subsidies to operators willing to operate in inaccessible and isolated areas. The operators on trunk routes may be asked to contribute towards the subsidy.
 - vi. An unsatisfactory performance, both in physical and financial terms experienced by NACIL is a cause of concern. The problem being faced by NACIL is vast and complex. It seems that restructuring of NACIL is necessary over the entire cross-section starting from financial and route network through customer and marketing services and the organization of manpower resources. This would require an in-depth analysis of the problem, a study of future prospects, evolving financial strategies, fleet planning, and route rationalization.
 - vii. NACIL had planned to acquire 111 aircraft, of which 46 have joined the fleet. However, in view of the falling passenger load factor (63.8 per cent in 2007–08 to 59.6 per cent in 2009–10) indicating thereby an idle capacity, the acquisition plan along with the leasing policy of the company needs to be reviewed.
 - viii. The aviation sector being highly capital intensive, means that the private sector investment has a greater role to play. In so far as the development of airport infrastructure is concerned, private investment has started flowing in. To keep this trend moving and to diversify private sector participation in other areas of the aviation sector, such as development of Maintenance, Repair, and Overhaul (MRO) facility, efforts would be needed to encourage private sector participation through enabling policies.
 - ix. Provision of better air connectivity is crucial for the socio-economic development of the people in the North-Eastern parts of the country. Keeping this in view, augmentation of airport infrastructure and provision of better air services was envisaged in the Eleventh Plan. However, other than the construction of the Greenfield airport at Pakyong, not much progress has been made in this direction. Therefore, there is an urgent need to address this issue on a priority basis.
 - x. The process of segregating Air Traffic Control (ATC) from AAI, which has been initiated, needs to be expedited.
- 16.131** Various modes of transport differ significantly from one another in terms of technical and operational capabilities. It has, therefore, become necessary that transport development is guided by an integrated transport policy. A National Transport Development Policy Committee has been set up, which is expected to report by September 2011.
- TOURISM SECTOR**
- 16.132** The main objective during the Eleventh Plan was to achieve 10 million international visitors and 812 million domestic tourist visitors by the end of the Plan and to develop new forms of tourism like rural tourism, cultural tourism, adventure tourism, cruise tourism, MICE tourism, and medical tourism.
- 16.133** The Eleventh Plan vision for tourism development is to be achieved through the following key strategic objectives:
1. Positioning and maintaining tourism development as a national priority
 2. Enhancing and maintaining India's competitiveness as a tourism destination
 3. Improving and expanding product development
 4. Creating world-class infrastructure

5. Drawing up effective marketing plans and programmes
6. Developing human resources and capacity building of service providers

REVIEW OF THE ELEVENTH PLAN

16.134 During the Eleventh Plan, the tourism sector under the Central Plan was allocated an outlay of about of Rs 4,559 crore at constant prices. The progress on expenditure during the first three years of the Eleventh Plan is satisfactory as it is likely to spend Rs 2,626 crore, which is about 58 per cent of the total approved outlay for the Eleventh Plan. An outlay of Rs 1,050 crore has been approved for 2010–11.

16.135 During the first two years of the Eleventh Plan, Foreign Tourist Arrivals (FTAs) as well as domestic tourist visits grew by 9.85 per cent and 10.49 per cent respectively to reach levels of 5.37 and 5.63 million respectively. FTAs, however, have shown negative growth since November 2008 with the trend continuing till May 2009. The decline in growth rate in 2008 was primarily due to the global economic slowdown and the terrorist attack in Mumbai. The downward trend in FTAs has been arrested and in the first quarter of 2010 it registered a growth of 12.8 per cent over the corresponding period in 2009. Several initiatives, such as visit India year 2009 campaign, promotion of niche products like wellness tourism, MICE tourism, heli tourism, and extensive road shows in partnerships with stakeholders in major overseas source markets contributed to this development.

16.136 The Eleventh Plan has put emphasis on three major schemes: Product/Infrastructure Development for Destinations and Circuits, a CSS, which focuses on improving existing products and developing new tourism products of world standard. Under this scheme, during the first two years of the Eleventh Plan, the ministry sanctioned 346 infrastructure projects, including 17 mega projects in various states and is likely to sanction another 150, including one mega project in 2009–10.

16.137 The second important scheme is the Overseas Promotion and Publicity scheme, including Market Development Assistance and its objective is to position

India as the most favoured destination in the overseas travel market through a vigorous campaign. Under this scheme, the ministry has been consistently working on a two-pronged strategy for marketing Incredible India, that is, branding the same in the existing as well as emerging markets. The opening of the fourteenth overseas India Tourism Office in Beijing in April 2008 was one outcome of this strategy. Besides, with a view to ensuring that limitations of language do not hamper promotional activities, publicity is being undertaken in local languages for better impact (for example, Spanish, Chinese, and French)

16.138 Third, with a view to creating adequate infrastructure to trained tourism manpower resources and also to bring professionalism in the country's hospitality industry, emphasis was placed on opening new institutes and broad-basing the scope of the schemes relating to development of human resources associated with the tourism and hospitality sector. Consequently, during the first two years of the Eleventh Plan, besides sanctioning 11 state institutes of hotel management, the guidelines for 'Capacity Building of Service Providers', assistance to the institutes of hotel management/food craft institutes/National Council of Hotel Management and Catering Technology/Indian Institute of Tourism and Travel Management were also revised.

16.139 Besides, recognizing the criticality of developing hotel accommodation, especially budget hotels for tourists, so as to minimize the shortage of accommodation in Delhi, a new scheme on Creation of Land Bank for Hotels was introduced during the Eleventh Plan. This has not yet taken off. The scheme, therefore, needs to be reviewed and alternatives suggested.

ISSUES

16.140 The tourism sector in India has tremendous potential for growth in view of the availability of a variety of tourist themes offered by various destinations in the country and has the potential to stimulate other economic sectors through its backward and forward linkages and cross-sectoral synergies. However, despite persistent efforts made by the government, the tourism sector has failed to realize its potential as is evident from the fact that India's share in world's

tourist arrivals is still below 1 per cent. The major reason for this seems to be the lack of a long-term vision and the fragmented approach of various government departments like forest, tourism, ASI, transport, art and culture, and finance. Thus, in order to realize the full tourism potential in the country, the following issues need to be addressed urgently:

- i. The availability of infrastructural facilities, including transport infrastructure plays an important role in realizing the tourism potential of the country. The issue of tourism infrastructure is being addressed through putting emphasis on developing tourist infrastructure under the existing schemes of the tourism sector and creating an enabling environment for private sector participation. Similarly, the issue of transport infrastructure is being addressed through the development of roads under NHDP, SARDP in the North-Eastern region, and the modernization/upgradation of metro and non-metro airports; construction of Greenfield airports, including Pakyong and liberalizing the Bilateral Air Services Agreement between India and other countries. However, in view of the tremendous tourism potential of the country, which is yet to be realized, more needs to be done. An integrated approach, keeping in view the availability of financial as well as manpower resources, would need to be taken by all the concerned government departments in putting in place the requisite infrastructure as the availability of strong basic infrastructure throughout the country, per se, will not only help in growing tourism but also in expanding the sector by providing a perfect platform for fresh private investment. While formulating schemes for developing transport infrastructure, inputs from the Ministry of Tourism may be taken.
- ii. The tourism satellite account for India estimates that the contribution of tourism to GDP and employment increased to 5.92 per cent and 9.24 per cent during 2007–08 as against 5.83 per cent and 8.27 per cent respectively in 2002–03. Although separate estimates of the contribution by domestic tourism are not available, there is evidence that indicates that domestic tourism plays an important role. Moreover, tourism in India has grown from the pursuit of the privileged few to a mass movement of people with the urge to discover the unknown, to explore new and strange places, to seek changes in the environment, and to undergo new experiences, which suggests that there is huge potential for domestic tourism. Therefore, it is essential to know the taste and preferences of the visitors. This will help develop need-based infrastructure to satisfy their expectations. A study needs to be undertaken to know the tastes and preferences of tourists; composition of tourists; and purpose of visits.
- iii. Tourism is an industry with great reliance on attraction and amenities, along with dependence on the goodwill of the local community. Of late, the social and economic consequences of tourism have raised various issues related to environment and the impact on the host community. Therefore, in order to have sustainable tourism development, the involvement of local people would be of utmost importance.
- iv. Hotel accommodation being a vital area of concern was accorded priority in the Eleventh Plan. Land being the critical constraint for building hotels, state governments and the Ministry of Railways were requested to identify hotel sites and make them available to entrepreneurs on suitable terms, preferably on long-term lease. But this has not fructified, probably because of the multiple uses of the land. In view of this, some structure needs to be developed for private sector participation wherein local people, state governments, and other agencies who own land can be involved on a revenue-sharing basis.
- v. Tourism being a multi-sectoral activity, involves a large number of inter-ministerial issues, such as safety and security of tourists, high and differential rate of taxes, entry tax, and availability of land and policy regarding private sector participation, which need to be resolved at the highest level. In this regard a high level committee, involving representatives from the concerned ministries as well as from the states, need to be established.
- vi. The tourism sector has tremendous potential for attracting private sector participation as the major beneficiaries of tourism development

are private sector agencies like tour operators, hotels, transport operators, and restaurants. However, the experience in this regard has not been very encouraging, probably due to the lacklustre response from the government agencies concerned. The government must take innovative and friendly initiatives to create an enabling environment. The introduction of single-window clearances could be one such initiative.

WAY FORWARD

16.141 There is an urgent need to develop a long-term vision, development plan, and implementation strategy, which involves all concerned departments for an integrated approach towards tourism development during the Twelfth Plan.

16.142 The vision should be to make India the most popular tourist destination through an optimal utilization of resources with the focus on integrated development of the infrastructure sector conserving and preserving the country's heritage and environment and enhancing productivity, income, creating employment opportunities, and alleviating poverty thereby making tourism the most important sector for socio-economic development.

16.143 Without a challenging and comprehensive vision that inspires and unites all stakeholders, the efforts will not synergize and India will not obtain the benefits that it should from tourism.

16.144 The vision should also focus on developing tourism from people's perspective by involving local panchayats and local communities from the stage of project formulation to project implementation as this will help in understanding the social, cultural, and environmental impacts of tourism projects on local communities enabling the development of tourism in a sustainable manner.

The Vision could look into the following:

- Who are 'tourists'? Are they foreign business-class travellers, back-packers, domestic middle-class tourists, or lower middle-class travellers?
- What is the 'portfolio of products' that is needed for these customers? Different customer groups want/need different products.
- Whereas vocational training must be enhanced to improve the quality of tourism products, the training must respond to the various products' requirements. Five-star hotels may need skills different from those required for small eating establishments.
- Where are the places that different customer groups can be attracted to and how?
- All tourist locations are within our states. Therefore, states have a critical role to play in developing these locations and for stimulating tourism. The states must see the economic benefits for their people from the development and care of these locations.
- Development of tourism sites, keeping in mind urban/archaeological attractions or natural attractions and affects on the local population. Such development should benefit the local population through increase in income opportunities as well as improvement in the infrastructure that they use.
- A one size fits all solution will not work (for example, Holiday Inns and McDonalds in the US). Indeed uniformity may destroy the heterogeneity and diversity that is Incredible India's USP.

16.145 A committee would be set up to conduct a participative process of creating this vision with the involvement of key stakeholders to form the basis of development of tourism in subsequent Plans.

ANNEXURE 16.1
Physical Performance of Ministry of Railways during the First Three Years of Eleventh Plan

S. No.	Scheme	Eleventh Plan Targets	2007-08		2008-09		2009-10	
			Target	Achievements	Target	Achievements	Target	Anti. Ach.
1	New lines	2,000	500	156	357	357	250	258
2	Gauge conversion	10,000	1,800	1,549	563	563	1,400	1,516
3	Doubling	6,000	700	426	1,000	363	500	450
4	Track renewals	16,500	3,789	4,002	3,975	3,841	3,500	3,500
5	Electrification projects	3,500	500	502	1,000	797	1,000	1,117
6	Rolling stock	-	-	-	-	-	-	-
7	Wagons	1,55,000	25,500	22,753	27,500	24,115	13,500	13,068
8	Coaches	17,500	3,003	3,102	2,734	3,193	4,234	3,494
9	EMU	2,800	253	193	781	535	855	855
10	MEMU/DEMU	2,200	393	66	446	102	444	444
11	Diesel locomotives	1,800	200	222	250	257	250	258
12	Electric locomotives	1,800	220	200	220	220	230	240
13	Total locomotives	3,600	420	422	470	477	480	498

ANNEXURE 16.2
Overall NHDP Status at a Glance

(as on 30.9.2009)

Phases	Total Length in km	Target Date of Completion	Length Completed in km	Length under Imp.	To be Awarded	Likely Date of Completion
I GQ, EW-NS corridors, Port connectivity & others	7,498	-	7,227	265	6	99 per cent of GQ will be completed by March 2010
II 4/6-laning North-South-East-West Corridor, Others	6,647	December, 2004	3,451	2,444	752	December 2010
III A Upgradation, 4/6-laning	4,815	December, 2009	937	2,155	1,723	December 2013
III B Upgradation, 4/6-laning	7,294	-	-	-	7,294	December 2013
IV Two-laning with paved shoulders	20,000	-	-	-	-	December 2015 (as per financing plan)
V Six-laning of GQ and high density corridor	6,500	-	131	899	5,470	December 2012
VI Expressways	1,000	-	Nil	Nil	Nil	December 2015
VII Ring roads, bypasses and flyovers, and other structures	700 km or ring roads/ bypass + flyovers	-	-	19	681	December 2014

ANNEXURE 16.3
Physical Targets and Achievements of Non-NHDP Sections of NHs during the Eleventh Plan

S. No.	Category	2007-08		2008-09		2009-10	
		Target (km/no.)	Achv. (km/no.)	Target (km/no.)	Achv. (km/no.)	Target (km/no.)	Achv. (up to March 2010) (km/no.)
1	Missing link (km)	22	36	26	16	8.80	3.2
2	Widening to two-lanes (km)	919	950	1,176	1,153	1,321	1,233.85
3	Strengthening (km)	577	911	706	1,010	1,058	1,012.70
4	Improvement of riding quality (km)	1,602	1,657	1,350	2,470	2,510	3,168.02
5	Widening to four-lanes (km)	34	36	51	63	80	68.64
6	Bypasses (No.)	3	6	8	4	6	0
7	Bridges/ROBs (No.)	107	86	92	77	132	122

ANNEXURE 16.4
Bharat Nirman

Physical Achievements in Years 2005-09 up to 31 August 2009: New Connectivity Habitations

S. No.	State	2005-06		2006-07		2007-08		2008-09		Cumulative Achievement (2005-09)	Per cent Cumulative Achievement (2005-09)	Balance to be Achieved (2009-10)	Target (2009-10)	Achievements (up to 31 Aug 2009)		
		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Andhra Pradesh	236	0	11	0	4	0	0	2	0	15	6	221	190	0	0
2	Arunachal Pradesh	104	22	0	65	3	67	19	25	19	41	39	63	30	8	8
3	Assam	4,445	421	346	1,988	804	2,701	656	1,800	1,210	3,016	68	1,429	1,350	115	115
4	Bihar	9,956	896	0	2,062	1,183	3,214	174	1,120	842	2,199	22	7,757	4,500	107	107
5	Chhattisgarh	3,831	478	497	1,310	632	2,007	648	2,000	1,154	2,931	77	900	840	98	98
6	Goa	2	0	2	0	0	0	0	0	0	2	100	0	0	0	0
7	Gujarat	1,332	230	212	246	264	251	249	180	222	947	71	385	175	28	28
8	Haryana	0	0	0	0	0	0	0	0	0	0	NA	0	0	0	0
9	Himachal Pradesh	922	127	98	209	145	166	168	260	172	583	63	339	250	12	12
10	Jammu & Kashmir	1,468	57	3	352	16	593	41	175	187	247	17	1,221	350	89	89
11	Jharkhand	2,991	526	101	1,295	108	901	97	400	363	669	22	2,322	1,100	91	91
12	Karnataka	17	0	1	0	4	0	2	10	10	17	100	0	0	0	0
13	Kerala	73	0	6	0	19	0	12	25	13	50	68	23	15	0	0
14	Madhya Pradesh	7,055	768	929	1,760	1,345	2,399	1,916	2,300	2,361	6,551	93	504	504	228	228
15	Maharashtra	295	0	46	0	135	0	10	82	60	251	85	44	40	4	4
16	Manipur	249	11	37	48	0	48	0	45	41	78	31	171	45	0	0
17	Meghalaya	128	35	13	30	4	31	6	10	7	30	23	98	10	4	4
18	Mizoram	130	12	7	39	1	39	11	10	6	25	19	105	40	0	0
19	Nagaland	37	9	7	10	0	10	5	5	7	19	51	18	12	4	4
20	Orissa	5,672	493	361	874	322	1,087	321	1,450	2,205	3,209	57	2,463	1,500	62	62
21	Punjab	50	0	7	0	43	0	0	0	0	50	100	0	0	0	0
22	Rajasthan	3,009	743	753	1,252	1,222	1,225	889	145	90	2,954	98	55	40	4	4
23	Sikkim	154	22	35	30	18	31	7	60	16	76	49	78	55	6	6
24	Tamil Nadu	83	0	46	0	0	0	3	25	30	79	95	4	2	0	0
25	Tripura	810	66	12	183	53	248	52	200	164	281	35	529	280	29	29
26	Uttar Pradesh	3,874	1,236	944	1,533	979	1,323	1,023	600	787	3,733	96	141	320	111	111
27	Uttarakhand	771	95	16	106	15	257	46	125	115	192	25	579	80	18	18
28	West Bengal	6,954	787	720	2,738	960	3,473	685	1,600	1,314	3,679	53	3,275	1,272	39	39
	Total	54,648	7,034	5,210	16,130	8,279	20,071	7,040	12,654	11,395	31,924	58	22,724	13,000	1,057	1,057

ANNEXURE 16.5
Eleventh Plan—Physical Targets and Achievements for Major Ports

(unit traffic in MT)

S. No.	Port	Eleventh Plan target	Annual Plan 2007-08		Annual Plan 2008-09		Annual Plan 2009-10
			Target	Ach.	Target	Ach.	Target
1	Kolkata	57.93	58.88	57.33	57.29	54.05	56.11
2	Mumbai	71.05	58.76	57.04	61.03	51.88	53.46
3	JNPT	66.04	49.38	55.84	63.50	57.28	67.88
4	Chennai	57.50	55.86	57.15	64.00	57.49	64.00
5	Cochin	38.17	16.94	15.80	15.94	15.23	18.96
6	Vishakhapatnam	82.20	64.27	64.60	65.00	63.91	67.09
7	Kandla	86.72	60.00	64.92	72.77	72.22	78.00
8	Mormugao	44.55	38.94	35.13	40.60	41.68	45.00
9	Paradip	76.40	45.83	42.44	55.00	46.41	56.03
10	New Mangalore	48.81	34.34	36.01	40.34	36.69	40.34
11	Tuticorin	31.72	20.40	21.48	24.06	22.01	22.01
12	Ennore	47.00	11.70	11.56	10.56	11.50	12.45
	Total	708.09	515.30	519.30	570.09	530.35	581.33

ANNEXURE 16.6
Eleventh Plan—Port-wise Capacity

(in million tonne)

S. No.	Port	Annual Plan 2006-07	Eleventh Plan Projection	Capacity Addition by 2011-12	Annual Plan 2007-08	Annual Plan 2008-09
1	2	3	4	5	6	7
1	Kolkata	56.90	96.95	40.05	61.26	62.46
2	Mumbai	44.65	92.81	48.16	44.70	43.70
3	JNPT	52.40	96.30	43.90	54.34	57.96
4	Chennai	50.00	73.50	23.50	53.35	55.75
5	Cochin	20.15	55.55	35.40	28.37	28.37
6	Visakhapatnam	58.50	110.90	52.40	61.15	62.23
7	Kandla	61.30	120.10	58.80	62.60	77.24
8	Mormugao	30.00	67.46	37.46	33.05	33.05
9	Paradip	56.00	111.00	55.00	56.00	71.00
10	New Mangalore	41.30	63.80	22.50	43.50	44.20
11	Tuticorin	20.55	63.98	43.43	20.75	22.81
12	Ennore	13.00	64.20	51.20	13.00	16.00
	Total	504.75	1016.55	511.80	532.07	574.77

ANNEXURE 16.7
Physical Performance of NACIL during the First Three Years of the Eleventh Plan

Particulars	Eleventh Plan Targets	2007-08		2008-09		2009-10	
		Targets	Ach.	Targets	Ach.	Targets	Ant. Ach.
Available tonne km (million)	5,859	913	645	1,168	843	1,348	1,061
Revenue tonne km(million)	4,602	705	438	900	637	1,058	839
Overall load factor (per cent)	78.5	77.2	67.9	77.1	75.6	78.5	79.1
Available seats km(million)	56,015	8,690	5,961	11,176	8,155	12,899	10,662
Revenue passenger km (million)	45,075	6,892	4,244	8,816	6,181	10,372	8,131
Passenger load factor (per cent)	80.5	79.3	71.2	78.9	75.8	80.4	76.3
Aircraft utilization(hours/per annum)	—	—	3,577	—	3,650	—	3,833