



Infrastructure Planning and Management

Class 5 - Transportation Infrastructure in India



Various Transportation subsectors

- Roads and Ground Transportation
- Airports
- Ports
- Railways



National Road Sector

- India has 3.3 million kms of roads
- Roads carry 61% of freight and 85% of passenger traffic
- We have spent Rs 18,000 Cr annually on roads
- Flagship projects
 - Golden Quadrilateral (GQ) - National Highways Development Program (NHDP) Phase 1
 - North South East West Corridor (NSEW) - NHDP Phase 2
 - Both these projects are behind schedule due to Finance and Implementation Issues
 - Both projects are nearing completion



National Highways

- Key players

- NHAI (National Highways Authority of India - a Government backed organization)
- MoSRTTH (Ministry of Surface Road Transportation and Highways - a Government ministry)

- Key Programs

- NHDP (National Highways Development Program - conducted in seven stages)
- Central Road Fund



NHDP at a Glance (www.nhai.org)

Phase	Particulars	Length	Indicative Cost (Crores)
NHDP-I & II	Balance work of GQ and EW-NS corridors	13,000	42,000
NHDP-III	4-laning	10,000	55,000
NHDP-IV	2-laning	20,000	25,000
NHDP-V	6-laning of selected stretches	5,000	17,500
NHDP-VI	Development of expressways	1,000	15,000
NHDP-VII	Ring Roads, Bypasses, Grade Separators, Service Roads etc.	N.A.	15,000
	Total	45,000	1,69,500



National Roads – What is proposed?

- A lot of work is going on and will go on. For instance,
 - 4-laning of 7900 km of NSEW corridor
 - Two laning of 20,000 km (NHDP Phase IV) of highways with only one lane
 - Six-laning of 6,500 kms of 4 lane GQ
- A lot of money is to be spent
 - NHDP plans to invest 2,20,000 crore by 2012
 - 10th plan – 60,000 Crore invested
 - 11th plan – 180,000 Crore proposed



Some Government Reforms

- NHA given more independence to select and implement projects in order to aid speedy development of infrastructure
- 100% Foreign Direct Investment permitted
- 100% income tax exemption for a period of 10 years
- Automatic tolling proposed to reduce operational costs on toll-roads
- Planning for Expressways undertaken in 11th plan



Private Public Partnerships (PPP) in Roads

- NHDP Phase I and II were publicly financed through fuel cess and federal grants grants
- NHDP Phase III to VII will be undertaken in PPP mode. Toll collections will be used to finance the project
- Viability Gap Funding (VGF)
 - If the project is not commercially viable through collection of tolls and other revenue generation mechanisms, VGF funding will be provided as a grant to bridge the gap between revenue generated and outlay
 - Total value of VGF can be 40% of the total project cost
 - Contracts will be awarded to the firm/consortium that requires the least amount of viability gap funding



More PPP reforms

■ Negative Grants

- This is the opposite of VGF
- If a project is expected to be very profitable, the firm/consortium that is planning to bid for the project might offer a portion of the profits to the government, thereby providing revenue to the government. This is the negative grant
- There is no limit to the negative grant. Firms/consortia will be awarded the contract based on the highest negative grant that is proposed
- E.G. 504 Cr -ve grant for the Bharuch-Surat Highway project costing 492Cr



Private Sector Participation in Roads

- Model Concession Agreement (MCA)
 - MCA has evolved over several iterations and is now used as a standardized contract
 - Private and Public partners share risks
 - Standardized agreement increases the speed of awarding the contract
- Government subsidies and alternate arrangements in India
 - Shadow tolls where users do not pay toll directly, but the government pays the sponsor an amount equivalent to the toll collected from vehicles using a designated stretch of roadway
 - Annuity payments where the government pays a fixed annual or semi-annual amount to the project developer so that costs can be recouped. Toll is not charged to users directly



State Roads

- Often receive less attention as compared to National or Rural roads
- Multilateral funding has been provided for some states
 - WB is giving \$348 million to TN govt to improve the quality of 750 km of road, maintain 2000km and construct 14 bypasses. Govt will provide \$102 mill
 - In MP, ADB is investing 180 million, State Govt \$160 million to upgrade 1900km worth of roads.
- Central Road Fund (CRF) was set up to finance state roads
 - CRF is not working well - funds are not being used



Rural Roads

- A large part of Rural India (40%) are not yet connected by roads
- Several Plans afoot to do so
 - 1000 habitations to be connected to all weather roads in 11th 5 year plan
 - 1.72 lakh unconnected habitations will be connected in the 11th plan
 - Pradhan Mantri Gram Sadhak Yojana (PMGSY) has been set as a centre-funded scheme to provide funds for rural roads
 - Rural Infrastructure Development Fund (RIDF) has also been set up to provide funds for rural road development



Issues/Challenges with Roads

- Land Acquisition for road alignment
 - This involves the political will to acquire tracts of land, compensate the existing landholders adequately and handover the land to the project developers. Very often this process is time-consuming and leads to delays
- Environmental and Societal Concerns regarding displacement of people, deforestation etc.
 - NGOs and Special Interest Groups often raise these issues, (e.g. in the NICE corridor project in Karnataka) and this leads to delays if these concerns are not effectively mitigated
- Ridership concerns, Tariffs
 - The exact tariff that should be charged according to varying categories of consumers is a difficult decision that must be made. In addition, there are always risks that by adding a toll-charge the ridership on the road might decrease leading to an infeasible project



Airport Sector

■ New Airports

- 2 Greenfield airports in Bangalore and Hyderabad (1300 Cr each) are being built and are nearing completion
- 35 new non metro airports are to be developed

■ Privatization in airports

- Greenfield airports are to be developed in the PPP mode
- Hyderabad is being developed by a consortium headed by GMR and Bangalore by a consortium headed by L&T
- Modernization of Delhi (lead by GMR) and Mumbai (lead by GVK) airports are already underway
- Modernization of Chennai and Kolkatta airports are to follow, however PPP might not be the answer
- 10 non-metro airports including Trichy, Trivandrum and Shimoga will be modernized by 2008 (Rs 1500 Cr) through PPP



Issues in the Airport sector

- Huge Growth of 24% in this sector and lots of delays and bottlenecks in air travel due to inadequate infrastructure
- Airports authority of India is the key governmental agency in charge of developing this sector
- Bangalore airport faced some problems initially
 - Airport PPP policies had not been evolved and AAI policies indicated that private ownership was not possible in this sector
 - These policies have since been modified and the route has been cleared for private investment in this sector
- In terms of PPP
 - Major portion of the revenue accrues from leasing airport space to retail outlets as compared to revenues from airlines
 - Landside and airside operations can be privatized, but air traffic control cannot be privatized
- A new regulator is being mooted for this sector to oversee the interactions between AAI, the private airport operator and the airlines



Port Sector

- A Large Increase in Port Handling Capacity is planned
 - More ports have been and are to be added
 - Increase in Container terminals to the tune of INR 10,000 Crore is planned
 - JNPT (Jawaharlal Nehru Port Trust) alone is planning to spend 3000 Cr in expanding capacity.
- Since the plan is to attract a larger volume of maritime traffic, the objectives in the port sector are to increase capacity of existing ports and to add new ports in order to decrease turnaround time of ships berthed and to increase productivity



More on Ports

- Focus is on increasing Private Sector Participation
 - Model Concession Agreement is being prepared
 - Fees will be collected on a licensing and revenue-sharing model
- TAMP (Tariff Authority for Major Ports) is the regulator in this sector and does a good job specifying fair tariffs
- Plans are afoot to improve Road and Rail connectivity to ports thereby reducing transportation costs on goods and making the port sector more attractive
- Plans are being made to Corporatize Ports to increase operational efficiency
 - Will lead to independence from a Central Authority like Port Trust of India
 - Finds favor with port operators



Railways

- Until very recently this sector made huge losses, suffered from gross inefficiencies and was not the preferred mode of choice for freight or passengers
- After Laloo Prasad Yadav took over as Railway Minister, this sector recorded an INR 2000 Crore surplus in revenues in 06-07



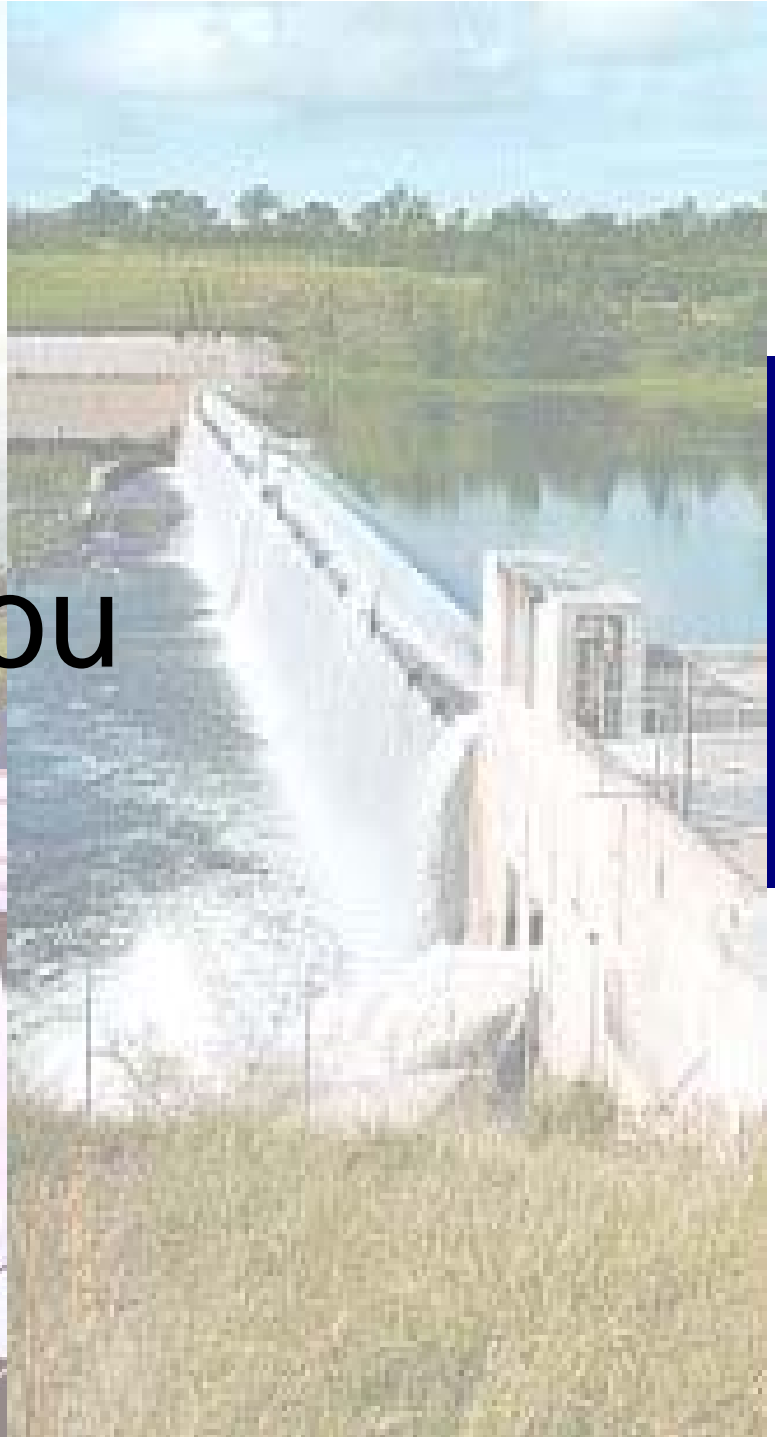
Some Key interventions

1. Increasing the utilization of existing capacity (bogeys) by cutting costs/fares
2. Tying up with private players to run trains, depots to improve quality and operational efficiency
3. Offering Volume based discounts to boost sales
4. Developing owned land and generating profits through these developments
5. Computerizing operations to improve transparency and efficiency
6. Lower passenger prices



Rail reforms on the Anvil

- A New Investment (60,000 Cr in current plan) for a dedicated Mumbai-Delhi freight corridor is in the works
 - Other dedicated corridors may come up soon
- Private participation is being sought in track laying, freight, maintenance etc (through the National Rail Vikas Yojana scheme)
- Plans are being formulated to bring in world class trains, and stations are to be built to standards that will compete with air-travel



Thank You

