ISSUES IN THE TRANSPORT SECTOR

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Issues

- Transport demand
- Spatially imbalanced growth of transport demand
- Transport myopia
- Safety
- Wear and tear
- Pollution and environmental impact
- Congestion
- Why myopia
- What next?

Growth Potential

- Transport sector expected to grow at 9% (assuming GDP growth rate as 7.5% and multiplier of 1.25)
- Freight transport expected to be around 1442 btkms in 2005-06
- Passenger transport expected to be around 4065 bpkms in 2005-06

Freight Traffic: Modal Split

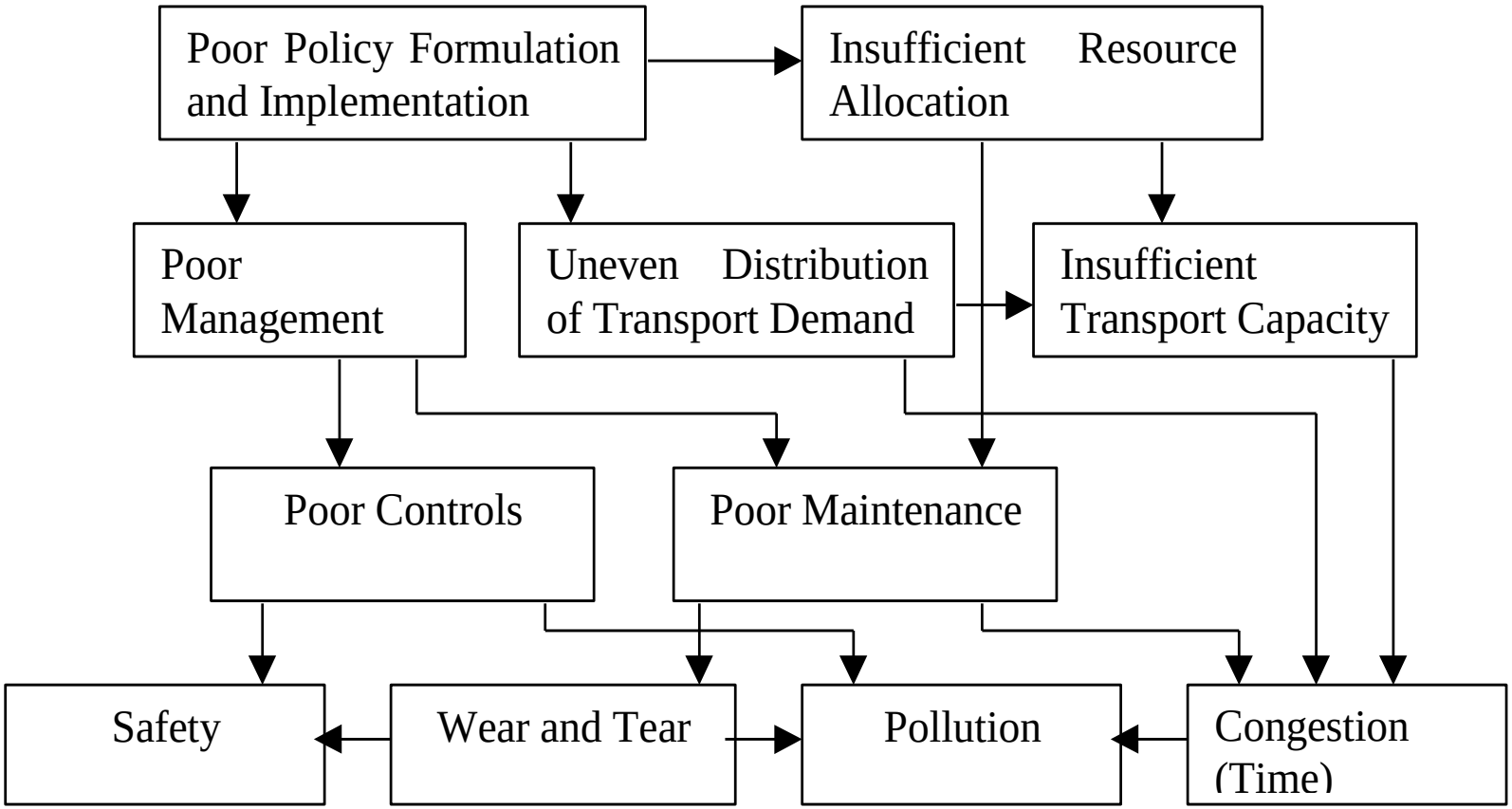
Mode	1998-99		2002-03		2003-04	
	BTKM	% Share	BTKM	% Share	BTKM	% Share
Road	449	51.7	655	55.2	694	54.1
Rail	284	32.7	356	30.0	384	30.0
Pipeline (max)	70	8.1	80	6.7	86	6.7
Coastal	66	7.6	96	8.1	118	9.2
Total	869	100.0	1187	100.0	1282	100.0

Air is a maximum of 0.14 btkms

Passenger Traffic: Modal Split

Mode	1998-99		2002-03		2003-04	
	BPKM	% Share	BPKM	% Share	BPKM	% Share
Road	2034	83.0	2775	83.3	3003	83.4
Rail	404	16.5	543	16.3	581	16.1
Air	11	0.4	13	0.4	14	0.4
Coastal (max)	1	-	1	-	1	-
Total	2450	100.0	3332	100.0	3599	100.0

Transport Myopia



Safety

Road Deaths and Vehicles, 1996

Country	Vehicles/km of Road	Road deaths/10,000 Vehicles each year
Britain	67	1.5
Netherlands	65	1.7
Germany	62	2.1
France	36	3.2
Belgium	32	3.2
India*	10	20.8

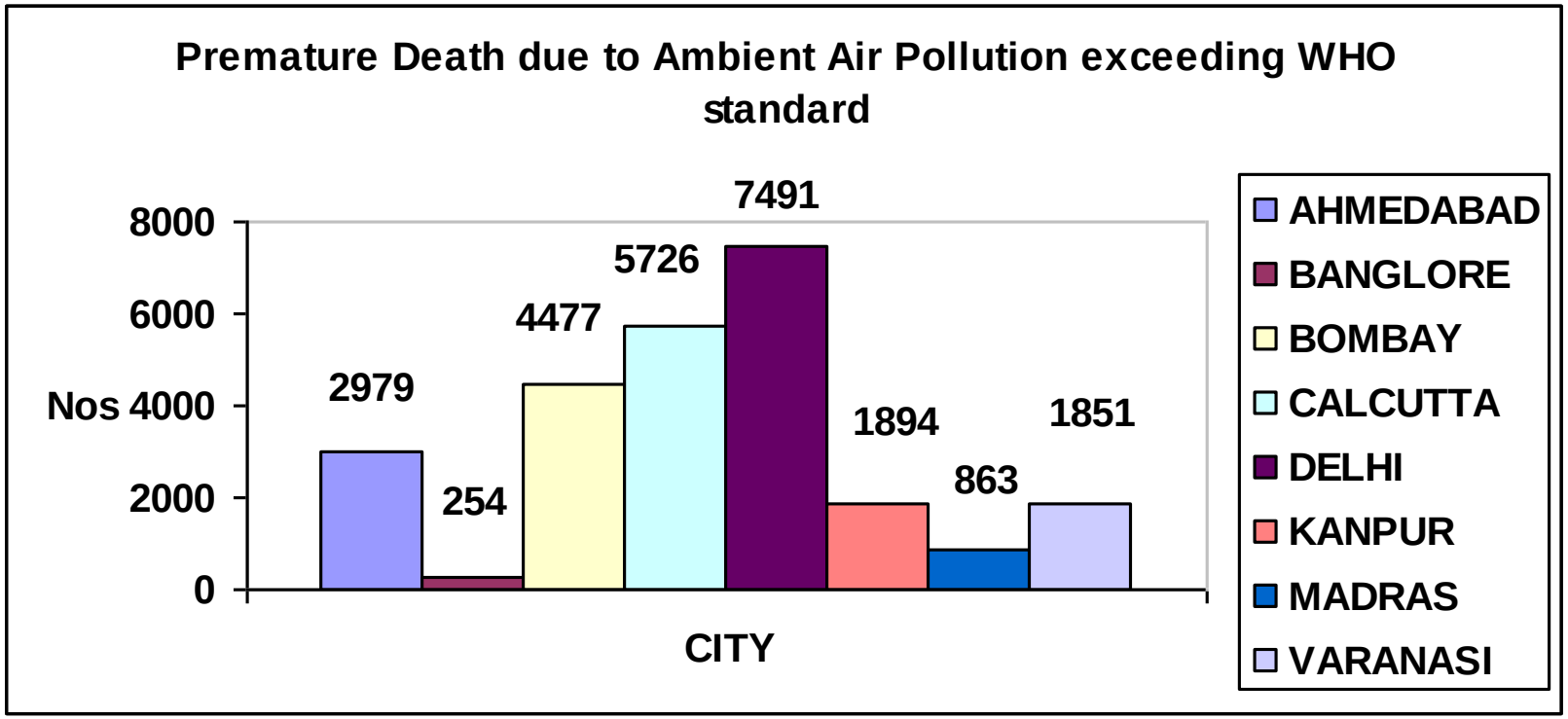
Safety

	1961	1996	2003
Road deaths	5,547	74,600	86,000
Vehicles (‘0000)	66.4	3,378.6	6,703.3
Road deaths/10,000 vehicles	83.5	22.1	12.8
MTW (‘0000)	8.8	2,325.2	4,752.5
Percentage of MTW	13	69	71
Passenger kms (bpkms)	181	1,400-1,600	2,800-3,000
Road deaths/bpkms	30.6	53.3-46.6	30.7-28.7

Wear and Tear

- Economic losses expected to be about Rs 200 to 300 bn/annum (about 2% of the GDP) in the late 90s
- Loss of about Rs 7,000/road using vehicle/year

Pollution Impact



Source: World Bank, 1995

Congestion: Roads

- Average speed of truck: 250 kms/day compared to 600 kms/day in developed countries

Congestion: Railways (2005-06)

- Average wagon turn-round time in Railways: 6.2 days, of which only 30 hours was the revenue earning run over an average lead of 661 kms
- Average speeds of mail/express and freight trains: 47 kmph and 23 kmph (2004-05) as compared to maximum speeds of 100 kmph and 75 kmph respectively. (100 kmph for container wagons)

Congestion: Ports (2004-05)

- Average turn-round times is 3.4 days as compared to the international average of 1.0 days
- Average cost of congestion at major ports in 2003-04 is Rs 19.2 billion (18,222 port calls * average ship standing charge of $10,000/day * additional 2.4 days = $ 437.30 million)

Why Myopia

- Bureaucratic mindset in managing organisations which either have to create, maintain, or deliver “Infrastructure”
- Deep rooted hierarchy orientation leading to additional tensions of administrative cadres often occupying more senior positions than those coming from the technical cadres (eg ports and road transport corporations)

Why Myopia

- Abdication of authority and lack of perceived authority by the top management (eg Indian Railways)
- Immature and “feudal” outlook (Civil Aviation minister being pulled up by Lok Sabha for the delay of a flight in which the speaker and a few other MPs from Andhra were travelling, TOI - 8/8/2000)
- Repetitive examination of issues without any implementation of solution

Transport Scenario

- Increasing
  - Share of road transport
  - Urbanization
  - Use of personalized transport
  - Energy intensity of transport
  - Concern for safety
  - Sensitivity to environment and public costs
  - Imperative to move towards a supply chain perspective
  - Gap between supply and demand for multimodal transport infrastructure and services
  - Commercial orientation of infrastructure development
  - Need for co-ordination through the governmental structure

[Source: Raghuram G, 2006. “A Framework for Analyzing Transport Policies and ADB’s Sector Assistance Programme”, A Study Sponsored by ADB]

Market Environment

- Time value of the freight unit or passenger
- Need for speedier transport of goods
- Need for better distribution networks and warehouse locations
- Need for market segment perspective
  - Freight vs Passenger
  - Urban vs Rural
- Demand for improved service performance

Framework to Segment Users

	Bulk	*Industrial*	*Consumer Durable*	*Consumer Goods*
Value Addition (VA)	Low	⟷		High
Consumer Type	Intermediary	⟷		Final Consumer
% of Logistics Costs as Proportion to VA	High	⟷		Low
Customer Sensitivity to Availability	Low	⟷		High

- At long distance level, work, tourism, and social networking are key drivers.
- At short distances including intra-urban, work, school, shopping, entertainment, and social networking are key drivers.

Challenges

- Channelize investments that have multimodal benefits
- Introduce competition
- Accountability and autonomy via privatization
- Unbundling
- Risk management

Areas for Improvement

- Asset creation efficiency
- Asset management efficiency
- Service delivery efficiency and effectiveness

Approach to Transport Infrastructure Development

- Unbundling
- Cherry picking: cross-subsidies and subsidy
- Pricing
- Low investment approaches to improving infrastructure quality and capacity
- Land acquisition and management

Approach to Transport Infrastructure Development

- Coordinated inter-sectoral development and centre-state issues
- Common carrier versus captive investment
- Technology issue
- Regulatory framework
- Other substantive “checks and balances”

System of State Involvement

Infrastructure	Owner	Contractor
Ownership and asset creation – Right of Way – Terminals – Rolling stock and equipment		

System of State Involvement

Services	Principal	Agent
1. Maintenance - Right of way - Terminals - Rolling stock and equipment		
2. Operations - Right of way - Terminals - Rolling stock and equipment		
3. Customer services - Basic services - Special services		

System of State Involvement

Regulation
1. Licensing 2. Environmental impact 3. Safety 4. Pricing 5. Service levels 6. Dispute Resolution

System of State Involvement

For each mode

And further segmentation possible based on market considerations

- Passenger vs Freight
- Urban vs Rural
- Domestic vs International

Transport Sector Components and Involvement of the State and Private Sector:

INFRASTRUCTURE	Ownership			
	Air	**Rail**	**Road**	**Water**
Right of Way	**(State controlled)** DGCA, AAI	**(State controlled)** Indian Railways	**(State controlled)** NHAI, PWD, Urban Administrations, Local Governments, Defense	**(State controlled)** Major Ports - Govt. of India, State Maritime Boards, Port Directorates
Terminals	**(State controlled)** AAI, Defense	**(State controlled)** Indian Railways, Large Industries for Captive Sidings	**(Open to all)** SRTUs, Large Industries, Trucking Companies, etc	**(Partly Open)** Major Ports - Govt. of India, State Maritime Boards, Port Directorates, Some Private and Captive Ports
Rolling Stock and Equipment	**(Open to all)** IA, AI, Other Private Airlines	**(State controlled)** Indian Railways	**(Open to all)** SRTUs, Private Vehicle Owners	**(Open to all)** SCI, Great Eastern, Essar & Others

SERVICES	Maintenance			
	Air	**Rail**	**Road**	**Water**
Right of Way	- NA -	**(State controlled)** Indian Railways	**(State controlled)** NHAI, PWD, Urban Administrations	**(State controlled)** Major Ports - Govt. of India, State Maritime Boards, Port Directorates
Terminals	**(State controlled)** AAI	**(State controlled)** Indian Railways, Large Industries for Captive Sidings	**(Open to all)** SRTUs, Large Industries, Trucking Companies, etc	**(State controlled)** Major Ports – Govt. of India, State Maritime Boards, Port Directorates, Some Private and Captive Ports
Rolling Stock and Equipment	**(Open to all)** IA, AI, Other Private Airlines	**(State controlled)** Indian Railways	**(Open to all)** Innumerable Small scale garages, Large organized work shops for SRTUs, few private sector large workshops	**(Open to all)** Port Dry Docks, HSL, CSL, Chokhani & Others

SERVICES	Operations			
	Air	**Rail**	**Road**	**Water**
Right of Way	**(State controlled)** DGCA, AAI	**(State controlled)** Indian Railways	**(State controlled)** Police Department in case of high traffic density	**(State controlled)** Major Ports - Govt. of India, State Maritime Boards, Port Directorates, Light House Authority
Terminals	**(State controlled)** DGCA, AAI	**(State controlled)** Indian Railways, Large Industries for Captive Sidings	**(Open to all)** SRTUs, Large Industries, Transport Companies, Control and State Warehousing Corporation	**(Partly open)** Major Ports - Govt. of India, State Maritime Boards, Port Directorates, Some Private and Captive Ports, Stevedores, Agents, etc
Rolling Stock and Equipment	**(Open to all)** IA, AI, Private Airlines	**(State controlled)** Indian Railways	**(Open to all)** SRTUs, Private Vehicle Owners	**(Open to all)** SCI, Great Eastern, Essar & Others

SERVICES	Customer Services			
	Air	**Rail**	**Road**	**Water**
Basic Services	**(Open to all)** IA, AI, Private Airlines	**(State controlled)** Indian Railways	**(Open to all)** SRTUs, Private Bus Operators, TCI, Patel Roadways, Forwarding Agents, etc	**(Open to all)** Brokers, Chartering Agents, Forwarding Agents
Special Services	**(Open to all)** IA, AI, Private Airlines	**(State controlled)** Indian Railways	**(Open to all)** SRTUs, Private Bus Operators, Tour Operators, TCI, Patel Roadways, Forwarding Agents, etc	**(Open to all)** Brokers, Chartering Agents, Forwarding Agents

	Regulation			
	Air	**Rail**	**Road**	**Water**
Licensing	DGCA	IR	RTO	DG Shipping
Environmental Impact	DGCA	Department of Environment	RTO	DG Shipping
Safety	DGCA	CRS	Traffic Police	DG Shipping
Pricing	-	Parliament Railway Rates Tribunal,	-	DG Shipping, TAMP
Service Levels	DGCA	IR, Railway Claims Tribunal	-	DG Shipping

Sectoral Issues: Air

Sector	Key Issues	Policy Objectives	Private Participation
Airports	- Growth in passenger and cargo traffic, especially in metro airports. - Location and land acquisition.	- Meet the future growth demands of air traffic. - Overcome congestion at airports. - Upgrade facilities to world-class standards.	- One privately financed airport has been commissioned. - Some airport operations may be privatized.
Air Services	- Appropriate unbundling of routes. - Safety and maintenance.	- Continue the current policy of open-skies and encourage more players. - Regulate safety with greater detail.	- One major scheduled airline, many air taxi operators.

Sectoral Issues: Rail

Sector	Key Issues	Policy Objectives	Private Participation
Rail	- Customer orientation is poor, resulting in reducing market shares. - Freight customers profile changing towards private sector. - Asset utilization has scope for improvement. - Reducing budgetary support and known financial resource avenues.	- Restructure railways to enable proactive private participation. - Increase avenues for resource generation. - Increase asset utilization. - Involve private participation in services. - Increase role in multimodal transport.	- A variety of peripheral examples of private involvement are available. Even in this, not always a true "partnership."

Sectoral Issues: Road

Sector	Key Issues	Policy Objectives	Private Participation
Roads	– Safety and road quality are major concerns. – Project structuring of privately financed deals, including the level of dependence on toll and government needs to be carefully considered. – Village connectivity through rural road development is insufficient. – A debate on shadow tolling has begun. – Road design is an issue.	– Expand the capacity and quality of national and state highway networks, with safety as a key consideration. – Improve maintenance of existing roads. – Attract private sector financing and development to the sector. – Government (through local bodies) will have to drive rural road development.	– Many bridges, highway bypasses and over/under passes projects have been privately financed. – A few short road stretches are being implemented in the private sector. – Long road stretches have yet to see financial closure.
Road Freight Transport	– Industry structure is highly disaggregated. – Motor Transport Workers Act (MTWA), lower interest rates for educated unemployed to buy trucks subject to low ownership numbers, and side payments at checkposts, create conditions for this.	– Remove regulatory bottlenecks to enable a professional service industry to emerge.	– Dominated by the private sector.

Sectoral Issues: Road

Sector	Key Issues	Policy Objectives	Private Participation
Road Passen-ger Transport	- About 22% of the public road passenger transport is controlled by the government. These are loss making propositions. - Rest of the industry structure is highly disaggregated. - Vehicle design is inappropriate.	- Privatize the government owned road transport undertakings. - Create conditions for more large sized players to emerge.	- Apart from pockets of government monopoly, especially in urban transportation, rest of the industry is dominated by the private sector.
Vehicle Manufac-ture	- Technology not the best in India. Scope for better design of buses, and vehicles for rural use. - Emission Standards yet to be achieved.	- Need for R&D efforts. - Verification of proper maintenance of vehicles by the users, by implementing emission standards. - Non-motorized transport should be encouraged, by focusing on vehicle and road design.	- Completely dominated by the private sector.

Sectoral Issues: Ports

Sector	Key Issues	Policy Objectives	Private Participation
Ports	- High turn-round times due to heavy congestion. - Poor evacuation infrastructure. - Poor productivity and under-investment has led to inefficient use of existing capacity. - Port is basically a viable business.	- Expand port capacity through productivity improvements, evacuation infrastructure and new projects.	- Private participation must be fully leveraged. - Captive jetties and ports must be encouraged.

Sectoral Issues: Shipping

Sector	Key Issues	Policy Objectives	Private Participation
Overseas Shipping	- Poor quality ships in usage, leading to poor operational and environmental performance.	- Competition of domestic with international ships should be encouraged.	- Open to private sector and foreign participation, though dominated by public sector company, SCI.
Coastal Shipping	- High port turn-round times and customs are deterrents. - Environmentally and economically superior to land transportation. - Most of the coastal movement driven by few large corporates.	- Promote coastal shipping by encouraging dedicated and geared jetties and ports with rail and road evacuation infrastructure, at a spacing of 300 kms along the coast line, for shipment sizes upto 5000 tonnes. - Promote port based location of industries and redistribution centres, including ICDs and CFSs.	- The investments in ports, shipping and redistribution infrastructure would be economically viable and should attract private participation. - The key issue would be coordinated development.
Ship Building and Ship Repair	- Ship building industry in the downtrend due to the *pari passu* clause. - Poor technology capability is the biggest issue in the ship building and repair industry.	- Joint ventures with international market leaders should be encouraged.	- Open for private sector, but that exists only in small vessel ship building and ship repairing.

Sectoral Issues: Pipelines

Sector	Key Issues	Policy Objectives	Private Participation
Pipelines	- Largely in the crude and petroleum product sector, as captive transport supply. - Water sector also uses pipelines. No aggregate data is available.	- Develop pipelines in the petroleum sector as a common carrier.	- Joint sector SPVs: Petronet and Petronet LNG.

Sectoral Issues: Multimodal Transport

Sector	Key Issues	Policy Objectives	Private Participation
Multi-modal Transport	- Poor coordination among transport actors.	- Passenger and domestic goods transportation should be encouraged. - Joint ventures should encouraged for quick and efficient development. - Multimodal Transport of Goods Act should be revised to remove bottlenecks of growth.	- The service sector is dominated by private participation.

THANK YOU

Congestion: Railways (2003-04)

- Average wagon turn-round time in Railways: 6.7 days, of which only 30 hours was the revenue earning run over an average lead of 684 kms
- Average speeds of mail/express and freight trains: 47 kmph and 23 kmph as compared to maximum speeds of 100 kmph and 75 kmph respectively. **(100 kmph for container wagons)**

Congestion: Railways (2002-03)

- Average wagon turn-round time in Railways: 7.0 days, of which only 28 hours was the revenue earning run over an average lead of 681 kms
- Average speeds of mail/express and freight trains: 49 kmph and 24 kmph as compared to maximum speeds of 100 kmph and 75 kmph respectively. **(100 kmph for container wagons)**

Congestion: Ports (2003-04)

- Average turn-round times is 3.5 days as compared to the international average of 1.0 days
- Average cost of congestion at major ports in 2003-04 is Rs 20.6 billion (18,750 port calls * average ship standing charge of $10,000/day * additional 2.5 days = $ 468.75 million)

Congestion: Ports (2002-03)

- Average turn-round times is 3.7 days as compared to the international average of 1.2 days
- Average cost of congestion at major ports in 2002-03 is Rs 15 billion (16,500 port calls * average ship standing charge of $8,000/day * additional 2.5 days = $ 330 million)