

# Railway Projects

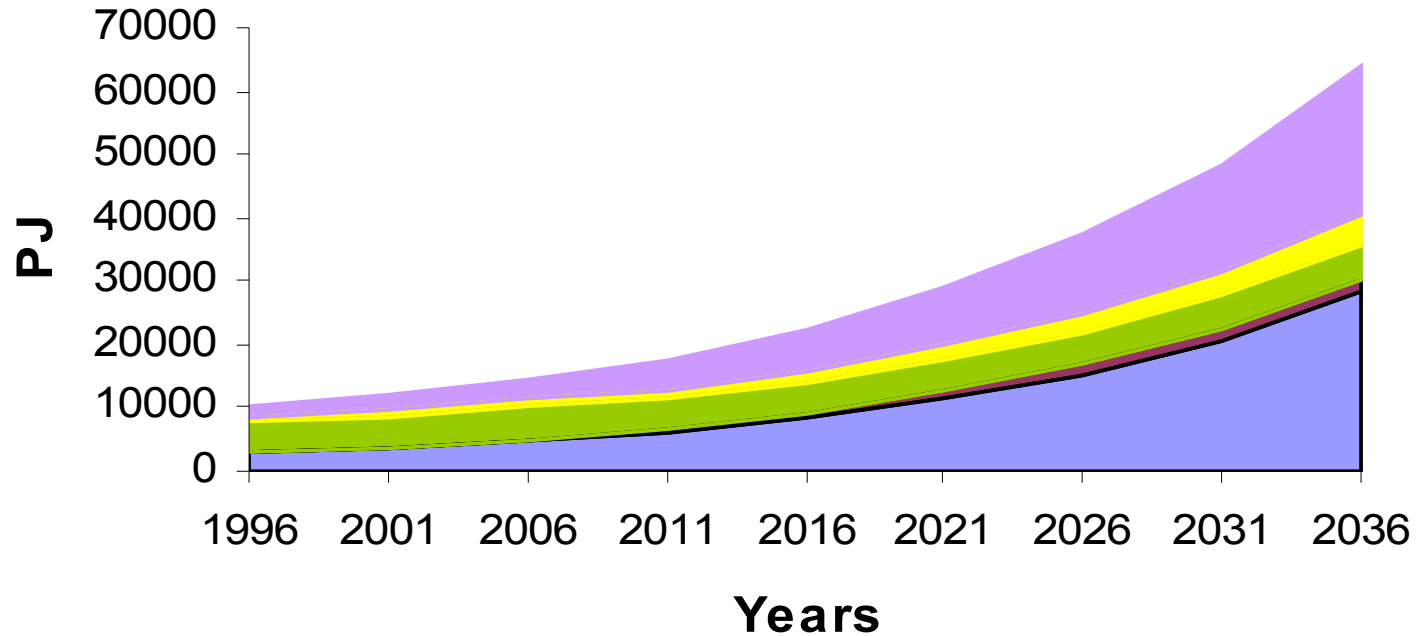
26 July 2008 CII New Delhi

# Common Sustainability Concerns

- Accessibility
- Journey time
- Reliability of services
- Noise
- Security
- Wider economic impact

- Least polluting modes of transport: Public Transport and Rail
- Rail: One of the most sustainable, carbon-friendly forms of transport, emits approximately half the CO2 per passenger kilometre of cars and a quarter that of domestic air.
- Rail should be at the forefront of sustainable development policies:
  - Better service
  - Greater capacity
  - Cost efficient

# Energy consumption (PJ)



■ Industry ■ Agriculture ■ Residential ■ Commercial ■ Transport

Source: Presentation by TERI at Railway Staff College, Vadodara

Transport sector 2<sup>nd</sup> largest consumer of commercial energy

- Largest consuming sector of oil products
- Limited scope to move to alternative fuels

## RAIL

Greatest contribution to a lower carbon society

Energy Use

Noise/vibration

Fuel/Oil Storage

Visual intrusion

Pollution

# Inherent Advantages of Rail

- Environment-friendlier
- Efficient
- Wider benefits
- Sustainable
- Reduced carbon footprint
- Reliable, affordable, clean
  - Better service
  - Central to society and economy

# Optimum Strategy

- Increase share of public transport
  - NTPC recommendation:
    - 72% freight & 60% passenger traffic movement by rail
  - Current market share: 40% in freight and 20% in passenger traffic  
(1950-51: 88% in freight and 68% in passenger)
- Maximize Railway share
- Improve efficiency (Technology, Capacity)
- Specific:
  - Interconnectivity
  - Greening: 'Reduce, Reuse, Recycle'
  - Route, Freight rationalization

# Rail-users' needs

- **Response**
- **Reach**
- **Time**
- **Frequency**
- **Safety and security**
- **Value-addition**

# Challenges

- Competition in supply chains: competition in product and service markets driving higher standards and lower costs in logistics supplier markets
- Rising energy costs
- Limited available resources

- **Focus on customer service**
- **Develop high-order marketing skills**
- **Build in pricing agility to ensure:**
  - Efficiency
  - Affordability
  - Profitability
  - Progressive roll-out
    - Cross-subsidization/Loss making routes
    - Freight modifications/Routings

# Projections: Corporate Plan

**Passenger:** Currently 6 bill

8.4 bill (2011-12); 9.5 bill (2015); 14 bill (2020)

**Freight:** Currently 700 MT

1100 MT (2011-12); 2000 MT (2020)

**Rolling Stock:**

XIth Plan (2011): Projected Shortfall

Diesel Locos: 700

Electric Locos: 700

Wheels: 124000

- **Proposed XIth Plan Outlay:**

**Rs. 2,51,000cr**

- **XIth Plan Internal Generation:**

**Rs. 90,000 cr**

# What does IR need?

- Doubling and port connectivity – 6000 Kms.
- Gauge conversion- 12,000 Kms.
- Dedicated Freight Corridors-11,500 Kms.
- Upgradation of feeder routes of DFC- 15,000 Kms.
- Asset renewal/upgradation–All HDN routes
- Modernization of passenger and freight terminals
- Augmentation of manufacturing capacity of rolling stock.
- Approximate investment – Rs.3,50,000 crores (provisional) including work in progress up to 2015

# Shelf of Projects

- 268 Projects- Rs.54371crs for completion
- New Lines: 8000kms
  - Gauge Conversion: 7900kms
  - Doubling: 3300kms
  - Electrification: 2200kms
  - Suburban Projects: 245kms
- MOUs with several State Governments for partnership in rail projects
- RVNL: Mobilization of non-budgetary resources
  - 49 projects (26 on GQ, 23 on Port Connectivity) – Rs.12000 crs
  - Project specific SPVs
  - Total government equity: Rs.1500 crs

## Focus Areas:

1. Capacity augmentation
2. Establishment of logistics parks and terminals
3. Rationalization of freight structures
4. Increased use of IT-enabled services
5. World class quality passenger amenities
6. PPP for building & operation of rail infrastructure
7. Superior rolling stock and high-capacity wagons
8. Restructuring of IR to focus on core activities

# Approach

- **Fiscal:** Remove need for up-front expenditure
- **Innovation**
- **Master planning:**
  - **Rail infrastructure**
  - **Greener, energy efficient trains**
  - **Safety and security**
  - **Managing and maintaining assets**

# Areas Identified for Private Participation

- **Dedicated Freight Corridor Projects**
- **World Class Railway Stations**
- **JVs for Manufacturing Units**
- **Operation of Container Trains**
- **Multi-modal Logistics Parks**
- **Hospitality, Tourism and Catering.**
- **Agri-retail Chains.**
- **Commercial Utilization of Surplus Land**

# Possible requirements

- **Rigorous governance framework**
- **Procedures for applying for participation**
- **Standard documentation for contracts**
- **Rules for sorting out operating priorities/conflicts**
- **Institutions and procedures for regulatory review and compliance**

# Private Sector Concerns

- Business case for risk-weighted commercial return on cost of investment
- Effort and capital to modernize/build
- Difficult interface problems, especially in brownfield projects - Lack of specific guidance
- Regulatory role of public authority

# Perceived Risks

## Railway

- **Financing risks**
- **Land acquisition: costs and time**
- **Construction risks**
- **Residual asset risks**
- **Safety risks**
- **Adverse selection**
- **Specialized skills for integration in a complex systems**

## Private Sector

- **Legal enforcement of Agreements**
- **Any government financial contribution is paid on time**
- **Regulatory risks**
- **Protection against expropriation**
- **Clear Benchmarks**
- **Independent Regulation**
- **Process stability during selection process**
- **Approvals/environmental assessment/land acquisition**

# Re-development of Stations

## Design Themes

- Sustainable development with integration of station into the local environment
- Financial issues
- Facilities and services
- Use of renewable construction materials and sustainable building techniques
- Energy conservation & management:  
Efficiency analysis/Energy audits
- Integration of power supply



# Resource Requirements for 11<sup>th</sup> Plan

Plan Head	X Plan Total Expend. From 2002-03 to 2006-07 (Expected)	XI Plan outlay proposed by subgroups (Rs. crores)
New Lines	8177	16000 (2000 kms.)
Gauge Conversion	5689	12000
Doubling	3337	19000*
Traffic Facilities	1643	5200
Electrification	813	3500
Computerisation	607	3100
Rolling Stock	26915	59120
Track Renewals	14849	24885
Bridge Works	1818	2835
Road Safety – ROB/RUB/LC	1504	12000*