Reform, Perform and Transform

Indian Railways

JULY 2017
<table>
<thead>
<tr>
<th>Challenges faced at the start of the journey</th>
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<tbody>
<tr>
<td>The scale of challenges was enormous</td>
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<table>
<thead>
<tr>
<th>Reforms agenda</th>
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<tbody>
<tr>
<td>A slew of reforms were announced aimed at eliminating issues plaguing from years</td>
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<table>
<thead>
<tr>
<th>Performance achieved</th>
</tr>
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<tbody>
<tr>
<td>Commendable progress has been made in last 3 years</td>
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<table>
<thead>
<tr>
<th>Transformation plan for 2022</th>
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<tbody>
<tr>
<td>A transformation is underway in Indian Railways in pursuit of clear, defined goals</td>
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</table>
YEARS OF UNDER-INVESTMENT IN INFRASTRUCTURE

**Overstretched Infrastructure** – with more than 60% of routes being more than 100% utilised

In the last 64 years while the freight loading has grown by 1344% and passenger kms by 1642%, the Route kms have grown by only 23%
LACK OF CUSTOMER FOCUS

Inability to meet the demands of its both freight and passenger customers

Apart from the quantum of investment, quality of delivery an issue

Cleanliness, punctuality of services, safety, quality of terminals, capacity of trains, quality of food, security of passengers and ease of booking tickets among major customer focus issues
LOW INTERNAL GENERATION OF RESOURCES

Passenger trains utilise two-thirds of capacity and generate only one-third of revenues.

High freight tariff leading to getting out-priced in market.

Inadequate carrying capacity leading to decreasing modal share in freight and huge unmet passenger demand.

Negligible diversification in commodities being catered for.

Negligible proportion of ‘Non-fare’ revenues.
ORGANISATION RIGIDITY

- Slow decision making, inadequate market orientation and silo working
- Long project approval duration - average 24 months
<table>
<thead>
<tr>
<th>Category</th>
<th>Amount (Cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Decongestion (including DFC + electrification, Doubling + electrification &amp; traffic facilities)</td>
<td>1,99,320</td>
</tr>
<tr>
<td>Network Expansion (including electrification)</td>
<td>1,93,000</td>
</tr>
<tr>
<td>National Projects (North Eastern &amp; Kashmir connectivity projects)</td>
<td>39,000</td>
</tr>
<tr>
<td>Safety (Track renewal, bridge works, ROB, RUB and S&amp;T)</td>
<td>1,27,000</td>
</tr>
<tr>
<td>Information Technology / Research</td>
<td>5,000</td>
</tr>
<tr>
<td>Rolling Stock (Locomotives, coaches, wagons – production &amp; maintenance)</td>
<td>1,02,000</td>
</tr>
<tr>
<td>Passenger Amenities</td>
<td>12,500</td>
</tr>
<tr>
<td>High Speed Rail &amp; Elevated corridor</td>
<td>65,000</td>
</tr>
<tr>
<td>Station redevelopment + logistic parks</td>
<td>1,00,000</td>
</tr>
<tr>
<td>Others</td>
<td>13,200</td>
</tr>
</tbody>
</table>

**Total:** 8,56,020 Cr
PARTNERSHIPS

JVs WITH STATE GOVERNMENTS

Railway & State Governments to be shareholders

Revenue streams from tariff and commercial exploitation of space rights

RIDF (Railways of India Development Fund)

Fund proposed to finance Rail Infrastructure; independent of Railway Budget

Will tap international pension, insurance and sovereign wealth funds and provide for entire Rail sector in India, not just Ministry of Railways

OFF-BUDGET DEBT

IR to tie up long-term fund for projects

IR PSUs to leverage free reserves/equity for raising debt
REFORMS AGENDA FOR INFRASTRUCTURE

BG lines commissioning to increase to 19 kms/day, could rise to 25 kms/day in partnership with state governments.

2 dedicated freight corridors to be commissioned by 2019; 3 NEW DFCs in pipeline.

Increased pace of electrification @ almost 4000 kms/year. Target to electrify 11,000 Kms in next 3 years.

Over 100 stations to be modernized to world class standards.
Semi-high speed trains to be operational along the golden quadrilateral.

Increased average speed of freight trains to 50 kmph and mail/express trains to 80 kmph.
- Include rural India in the digital revolution by providing Rail wire Sathi at 7000 stations - Internet enabled Kiosks which serve as single window for government schemes and departments

- Implement Enterprise Resource Planning architecture in Indian Railways
REFORMS AGENDA FOR FINANCIAL HEALTH

10-20% non fare revenue

Reduction in fuel costs

Controlling staff costs through rationalising recruitment

Increased share of non core commodities e.g., White goods, FMCG, Auto
Twitter and Facebook have already been integrated. Plan to develop this comprehensive system in next 6 months.
Unified cadre of officers working towards a common vision

Institutionalised system of performance appraisal based on objective parameters (KRAs)

Accounting reforms to establish connectivity between outcomes and inputs

Fully functional Railway University
Ambitious plan for refurbishment of 40,000+ coaches with world-class amenities, to be introduced e.g., Entertainment on board, Wi-Fi, vending machines, Autodoors.

2,000,000 rail display network screens installed across 2000 stations – New medium for adverts and information dissemination.

Less than 5 min waiting for purchase of tickets enabled through higher speeds of web interface, POS terminals, ATMs.
NEW STRUCTURES

SHRESTHA
New R&D organisation to serve the future technology needs of Railways

SUTRA
World class data analytics, simulation softwares, network optimisation & decision support systems

RAIL INVESTMENT & PLANNING ORGANISATION
Develop and own the corporate medium term and long term plans, identify investment opportunities, standardise economic assessment of projects and propose optimal modes of financing
To convert all production units as well as at least one workshop in each zonal railway as green industrial unit.

1000 MW of solar power commissioned by 2020; more than 130 MW of wind energy.
Discharge free railways- bio-toilets in all coaches

Rainwater harvesting facility on all roofs with more than 200sq.m space
Commendable progress has been made in last 3 years...
ACCELERATED CAPITAL INVESTMENTS

INVESTMENT ₹ CRORE

- AVG 2004-09: 24,307
- AVG 2009-14: 45,979
- 2014-15: 58,718
- 2015-16: 93,795
- 2016-17: 1,11,000
- 2017-18 (PLAN): 1,31,000

Secured assured funding of ₹ 1.5 Lakh Crore from LIC
Almost doubled the pace of infrastructure creation.

**Broad Gauge Lines Commissioned (KMs)**
- **Avg 2009-14**: 1,528
- **2015-16**: 2,828
- **2016-17**: 2,857
- **2017-18 (Plan)**: 3,500

**Electrification Completed (KMs)**
- **Avg 2009-14**: 1,184
- **2015-16**: 1,730
- **2016-17**: 2,013
- **2017-18 (Plan)**: 4,000
ELIMINATED ALL MG LINES IN NORTH EAST

BROAD GAUGE LINES COMMISSIONED ACROSS NORTH EAST INDIA (KMS)

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance (KMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVG 2009-14</td>
<td>100</td>
</tr>
<tr>
<td>AVG 2014-16</td>
<td>411</td>
</tr>
<tr>
<td>2016-17</td>
<td>481</td>
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</tbody>
</table>

ALL CAPITAL CITIES OF NORTH EASTERN INDIAN STATES TO BE CONNECTED WITH BROAD GAUGELINES BY 2020
COMPLETED LANDMARK STRUCTURES WHICH HAD BEEN DELAYED FOR YEARS

RAIL CUM ROAD BRIDGE ON GANGA - MUNGER

JUBLEE RAIL BRIDGE ON HOOGLY - KOLKATTA

HIGHEST RAIL BRIDGE UNDER CONSTRUCTION IN NORTH EAST

LONGEST RAIL TUNNEL COMPLETED IN NORTH EAST
RAMPED UP BUILDING OF NEW FREIGHT TERMINALS

NO. OF PVT SIDINGS AND PRIVATE FREIGHT TERMINALS COMMISIONED

- 28 AVG 2009-14
- 35 2015-16
- 45 2016-17

MISSION ‘100’ WAS LAUNCHED IN 2015-16 TO EXPEDITE COMMISSIONING OF TERMINALS TO SUPPORT FREIGHT GROWTH

PLAN TO MODERNISE GOOD SHEDS THROUGH PPP UNDERWAY
LEVERAGED THE PRIVATE SECTOR TO BUILD INFRASTRUCTURE

CONSTRUCTION IN FULL SWING AT MARWHORA

CONSTRUCTION IN FULL SWING AT MADHEPURA

PROTOTYPE OF LOCOMOTIVE TO BE 'MADE IN INDIA' BEING DEVELOPED IN UNITED STATES

Approved 2 new loco factories in Bihar (were stuck since 10 years), one of the largest FDIs in India with combined order book of ₹40,000 Crore. Factories currently under construction; Target to commission in next year.
Contracts awarded and construction commenced for Habibganj and Gandhinagar Railway Stations

25+ STATIONS under various stages of bidding

Redevelopment programme would entail investments of more than ₹1,00,000 Crore
PICKED UP ‘SPEED’

Introduced India’s fastest train

**Gatimaan Express**

@ 160kmph

Formed ‘**National High Speed Corporation**’ to undertake high speed railway construction between Mumbai & Ahmedabad

Sanctioned `17,000 crore to develop Delhi-Mumbai and Delhi-Kolkata as integrated semi high speed corridors (160-200Kmph). Contracts to be awarded this year
- For the first time ever in Indian Railways, freight rates were reduced
- Port congestion charges dropped
- Dual pricing policy of iron withdrawn

**TONNAGE MN TONNES**

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnage MN Tonnnes</th>
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<tbody>
<tr>
<td>2013-14</td>
<td>1,051</td>
</tr>
<tr>
<td>2014-15</td>
<td>1,095</td>
</tr>
<tr>
<td>2015-16</td>
<td>1,104</td>
</tr>
<tr>
<td>2016-17</td>
<td>1,109</td>
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</table>

Highest ever loading by Indian Railways
Numerous policy interventions carried out

- Multi-point loading introduced
- Siding policy liberalised
- Automatic freight rebate scheme in traditional empty flow direction introduced
- Time-tabled freight services introduced
- Last mile connectivity through Roadrailers, Roll on RollOffs
- Goods terminals opened up for handling containers
- Container sector opened up for more commodities

Performance achieved on freight sector.
BECAME MORE CUSTOMER FRIENDLY

- Appointed **Key Customer Managers** to serve as single point of contact for all major freight customers.
  - Introduced Long term contracts, which are being signed by key customers.
- Structured dialogue between Railways and Customers christened ‘Samvad’ started.
- Electronic registration of Demand and Electronic transmission of Railway Receipts started.

PERFORMANCE ACHIEVED ON CUSTOMER SERVICE
IMPROVED CUSTOMER EXPERIENCE BY GOING DIGITAL

% OF CASHLESS TRANSACTIONS

- Passenger Business: 68%
- Freight Business: 99%

Number of simultaneous internet users handling capacity: 1,20,000

System capability improved by 3 times
INSPIRED FROM ‘SWACHH BHARAT’, LAUNCHED ‘SWACHH RAIL’

<table>
<thead>
<tr>
<th>NO. OF BIO-TOILETS</th>
<th>NO. OF OBHS TRAINS</th>
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<tbody>
<tr>
<td><strong>AVG 2009-14</strong></td>
<td><strong>AVG 2009-14</strong></td>
</tr>
<tr>
<td>1,917</td>
<td>62</td>
</tr>
<tr>
<td>2016-17</td>
<td>2015-16</td>
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<tr>
<td></td>
<td>146</td>
</tr>
<tr>
<td></td>
<td>2016-17</td>
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<td>198</td>
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Over 800 trains with OBHS service
MADE PASSENGERS FEEL AT HOME

RESERVED ACCOMMODATION CAPACITY [NO. OF BERTHS IN CRORE]

End of 2014: 37.1
Present: 50

Launched all India helpline 182 to resolve passenger complaints

Launched new catering policy
Food to be prepared largely at sophisticated, world class base kitchens. Big push on E-Catering and Ready to Eat meals – Offers more choice to passengers.
BUILT ‘ONE OF ITS KIND’ COMPLAINT REDRESSAL MECHANISM IN THE WORLD

**INPUTS**
- **23 MILLION** passengers travelling /day
- **6500** tweets/day

**PROCESS**
- **24/7 operations** via a centrally managed cell
- **Tweets classified** as critical, non-critical, suggestions & others
- **For every actionable** tweet, a ticket is opened in the system
- **Critical tweets** are communicated via SMS or phone calls
- **Each ticket is monitored** at various stages in the system until resolution

**OUTPUT**
- Average response time of less than 30 mins
FOCUSSED ON REDUCING COSTS AND LOOKING AT ALTERNATIVE SOURCES OF REVENUE

Significant cost savings planned
- Launched Mission 41K - Save ₹41,000 Crores in 10 years through energy efficiency and procurement optimization

Achieved ₹ 10,100 crores of non-fare revenue in 2016-17, almost 80% increase in one year
- Various initiatives lined up to boost Non Fare Revenues further

- Train Branding – Both external and internal advertising on trains
- Railway display network – Creating a new medium for advertising and information dissemination
- Sole advertising rights for the entire Zonal Railway; On Board entertainment
Launched new trains products to meet targeted customer needs – Tejas, Humsafar, Mahamana and Antyodaya trains
Setting up an independent regulator, Rail Development Authority approved. One of the biggest reforms in Rail Sector

Created distinct Rolling Stock and Traction Departments – Led to capture of massive synergies and improved operational efficiency

Piloted merger of Rail Budget and General Budget
IMPROVED GOVERNANCE AND TRANSPARENCY

AVERAGE PROJECT APPROVAL DURATION (MONTHS)

<table>
<thead>
<tr>
<th>Earlier</th>
<th>Now</th>
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<tbody>
<tr>
<td>24</td>
<td>6</td>
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</table>

Largest ever online recruitment in the world conducted by Indian Railways

Delgation of powers to functional levels

Key result areas defined for General Managers & DRMs

100% e-procurement established. Complete digitisation of supply chain catering to annual procurement of more than ₹ 25,000 Cr
TRANSFORMATION PLAN
TO ACHIEVE VISION 2022
DECONGESTED NETWORK DUE TO DFC COMMISSIONING AND ADDITIONAL 16000 KMS OF DOUBLE LINES

Regular comprehensive reviews being conducted to ensure timely delivery of DFC

Speed of Infrastructure creation (Doubling) has already increased from 4Km/ day in 2014 to the current 7 Km/ day. Target to increase to 9.5 Km/ day in 2017-18 to 19Km/ day by 2022
90% OF ROUTE KMS ELECTRIFIED

ROADMAP

Already doubled the pace of electrification

~16,000 Km to be electrified in the next 3 years

Leveraging other PSUs e.g., PGCIL for implementation
100+ REDEVELOPED MODERN STATIONS

ROADMAP

25+ stations under various stages of bidding

Construction already started at 2 stations

Leveraging PSUs like NBCC, MRVC for development of stations

75 Years Of Independence
INDEPENDENCE FROM POOR AMENITIES
TIME TABLED FREIGHT TRAINS

First time-tabled train already being run

Pilot in conceptual stage to run time tabled container trains on NDLS-BCT sector

Plan to develop a software to manage train operations and advance charting to enable publishing of schedules for freight trains
20% Revenues from non-fare sources

Dedicated directorate set up in Railway Board

Station development program launched

Major policy changes initiated to enable partnerships with advertisement industry leaders

Land monetisation is being expanded
ZERO DISCHARGE OF HUMAN WASTE

Over 70,000 bio toilets already fitted, 2 corridors already declared as discharge free

All new coaches to be fitted with bio toilets

Bio toilets in every coach by 2019
Speed of freight trains @50kmph & Mail/Express trains @ 80 kmph. Semi high speed trains along golden quadrilateral.

**ROADMAP**

Dedicated cross-functional directorate already set-up to focus exclusively on increasing speeds on network.

Integrated corridor planning being implemented for Delhi-Mumbai and Delhi-Kolkata.

6 other corridors planned for semi-high speed operations.
37% MODAL SHARE IN FREIGHT

Growth in tonnage from 1.1bn tonnes to 2.4 bn tonnes by 2025 requires IR to grow at 8.5% CAGR

Incremental tonnage required after adjusting for BAU:
- Cement – 200mn tonnes
- Steel – 50mn tonnes
- Share gain from Road in new markets – 230mn tonnes
- Other commodities – 250mn tonnes

New delivery models to be explored to capture incremental traffic e.g., Dwarf containers have already been rolled out
PUNCTUALITY@ 95%

ROADMAP

Decongestion of network and DFC commissioning to release capacity which would lead to operational streamlining and hence higher punctuality

Predective mainteance regime being incorporated to further enhance asset reliability
Commissioning of DFC would release capacity on existing network to run mail/express trains in line with demand.

New Generation Electronic Ticketing System implementation and data analytics would lead to optimal utilisation of berth capacity.
FULLY FUNCTIONAL RAILWAY UNIVERSITY

Consultants already working on DPR for formation of university

Application for deemed university status due in September

ROADMAP

TRANSFORMATIVE AGENDA FOR BETTER SKILLS

75 Years Of Independence
INDEPENDENCE FROM POOR SKILLS