

POLICY BRIEF

Developing Rail Freight Terminals: **Energizing Private Partnerships**



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1. Introduction

At about 120,000 track km, Indian Railways (IR) has one of the largest rail networks in the world and is often termed as the backbone of India's transportation system. In the freight sector, it hauled about 720 billion net tonne kilometres (NTKMs) in 2020–21, surpassing the 708 billion NTKM freight carried in 2019–20.¹

Historically, IR has been the main mode of moving freight traffic in India, almost 85% of freight traffic was transported by rail in 1950. However, this trend has seen a major reversal over the years with the growth of the trucking industry and road transport. Although the freight turnaround has been on a rise, the share of the railways in total land freight transport has come down from 39% in 2000–01 to 27% in 2017–18.² As of 2020, the modal share of railways in the freight transportation was only 18% and road sector grabbed the largest market with 71% share.³

The declining share of IR in freight movement has been largely attributed to capacity constraints of railways to carry additional traffic. Railways have been only a bulk carrier at present and its share in a non-bulk traffic has declined to less than 5% from healthy share of nearly 40% in the late 1980s. Lack of investments in capacity augmentation has forced railways to deliberately move towards bulk commodities.

For last 10–15 years there has been an emphasis on capacity augmentation, that is, construction of dedicated freight corridors, provision of doubling and additional lines on important routes, construction of new lines, conversion of metre-gauge and narrow-gauge systems to broad gauge under unification of gauges programme, and accelerated electrification of all important routes. There has been increased investments, especially in last 6–7 years in railways aimed at capacity augmentation, modernisation of assets and enhancing safety of operation.

Railways is the key player in India's efforts towards a sustainable transport system. The railways are more energy efficient than road. For instance, greenhouse gas (GHG) emissions from a freight train carrying 190 automobiles are 80% lower than the emissions generated by 19 trucks required as an alternative.⁴ On an average, GHG emissions from rail freight are 8 times lesser than by road and almost 7 times lesser than inland shipping.⁴

Recently at COP26 event at Glasgow, India announced its ambitious target of achieving net-zero carbon emissions in the country by 2070. Being the less polluting mode of transportation, railway will play a key role in achieving national decarbonization goals. IR has also set target of going net zero by 2030. It is important that IR achieves a modal share of 45% in the total freight transportation by 2030, as envisaged in India's the Nationally Determined Commitments under Paris Agreement in 2015.

The IR is constantly working on improving the infrastructural facilities and framing better policies to attract more freight traffic. Apart from improving route capacity to carry additional train it is necessary to increase terminal capacity. Railways have introduced Private Freight Terminal (PFT) Policy in 2010 that has been improved substantially in the subsequent years to increase the interest of private investors⁵ in developing PFTs. However, the development of PFTs has not been at expected pace. Very recently, Railways have announced major changes in their sidings and PFT policies with stated objective of increased investments in terminal development.

This study tries to examine the terminal development policies in detail and also study the performance of railway-owned terminals. The objective of this study is to suggest changes in development and operation of freight terminals of IR; which will augment railway's capability to handle more traffic, eventually leading to improved modal share.

- 1 Indian Railways Annual Reports and Accounts 2020–21. Details available at <https://indianrailways.gov.in/railwayboard/uploads/directorate/stat_econ/Annual-Reports-2020-2021/Annual-Report-English.pdf>
- 2 Indian Railways – Lifeline of the Nation (A white Paper). Details available at <https://indianrailways.gov.in/railwayboard/uploads/directorate/finance_budget/Budget_2015-16/White_Paper_-_English.pdf>
- 3 Fast Tracking Freight in India, RMI (2021). Details available at <<https://www.niti.gov.in/sites/default/files/2021-06/FreightReportNationalLevel.pdf>>
- 4 Railways as the Backbone of Environmentally Sustainable Transport and their Contribution to the Sustainable Development Goals (SDGs). Details available at - <[https://www.uncrd.or.jp/content/documents/4952Background%20Paper%20\(2\)-EST%20Plenary%20Session%2011.pdf](https://www.uncrd.or.jp/content/documents/4952Background%20Paper%20(2)-EST%20Plenary%20Session%2011.pdf)>
- 5 Private investor: company/industry/organization developing the terminal

2. Freight Terminals of Indian Railways

2.1 Types of Freight Terminals

Freight terminals in IR can be classified into two broad categories—terminals owned by Indian Railways and the terminals owned by private parties⁶.

The freight terminals are developed under different policies and have distinct sharing of roles and responsibilities with IR. Broadly, private terminals are categorised into private sidings and PFTs. These terminals majorly function under the Private Siding Policy⁷ and Private Freight Terminal Policy⁸. Recently, IR has introduced two new policies on developing freight terminals with private investment, namely Development of Goods Sheds on Road-side Terminals⁹ and Gati Shakti Cargo Terminals (GCTs)¹⁰ in 2020 and 2021, respectively.

2.2 Presence and Share of Freight Terminals

Goods Sheds account for the highest numbers in freight terminals in India, followed by private sidings and PFTs. As the policy on goods shed development and GCT is relatively new, no freight terminals are yet operational under these schemes.

Many of the freight terminals are not operational due to decline in the demand/production, inadequate terminal facilities and shift to road transport. According to the freight data of 2019–20¹¹, 76% of the all the freight terminals were used for movement of freight traffic. Under this study, all the terminals which handled more than 10

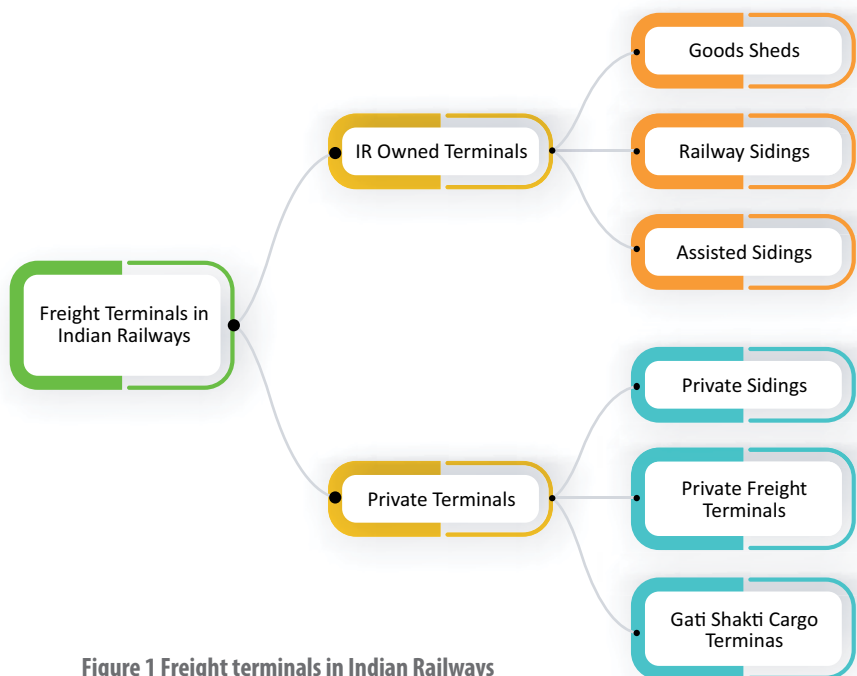


Figure 1 Freight terminals in Indian Railways

Currently, IR is largely a bulk commodity carrier. Ninety per cent of the freight traffic is bulk traffic, coal contributing to 41% share in the total freight traffic. For railways, it is high time to expand the commodity basket, which has been discussed in more detail in National Rail Plan, 2020.

Looking at the current trends of rapid growth in e-commerce market, the movement of smalls, parcels, and other non-bulk freight by railways will not only contribute to revenues of railways but will largely help in reducing current emissions. To facilitate the movement of such goods, it is crucial for IR to develop and maintain efficient goods terminals, especially those closer to consumption centres—cities.

6 Private party: the owner of private freight terminal

7 Freight Marketing Circular 11 of 2016. Details available at <https://indianrailways.gov.in/railwayboard/uploads/directorate/civil_engg/pdf/rly_sidings/siding_policy.pdf>

8 Master Circular on PFT Scheme (2020). Details available at <https://indianrailways.gov.in/railwayboard/uploads/directorate/traffic_comm/Freight_Marketing_2020/PFT%20Master%20Circular.pdf>

9 Freight Marketing Circular 20 of 2020. Details available at <https://indianrailways.gov.in/railwayboard/uploads/directorate/traffic_comm/Freight_Marketing_2020/FM%20Cir%20of%202020%20-%20Devp%20of%20Goods%20sheds%20through%20Pvt%20Investment.pdf>

10 Master Circular on Gati Shakti Multi-Modal Cargo Terminal (2021) Details available at <https://indianrailways.gov.in/railwayboard/view_section.jsp?lang=0&id=0,1,304,366,555,862,1527>

11 Sources Indian Railways, TERI Analysis

rakes/year were considered as operational.

While goods sheds have the highest share in number of freight terminals, private sidings lead the volume of traffic handled. The higher share of freight traffic at private siding is mainly due to the assured need for freight movement and efficient freight-handling systems. The PFTs also have a higher share in the freight movement as compared to

that of goods sheds.

The significant gap in the share of number of goods sheds in railway systems and the freight traffic handled by goods sheds indicate underutilization of the resources developed by IR. A number of factors are responsible for smaller share of goods sheds in freight handling, major reason being unavailability of suitable infrastructure.

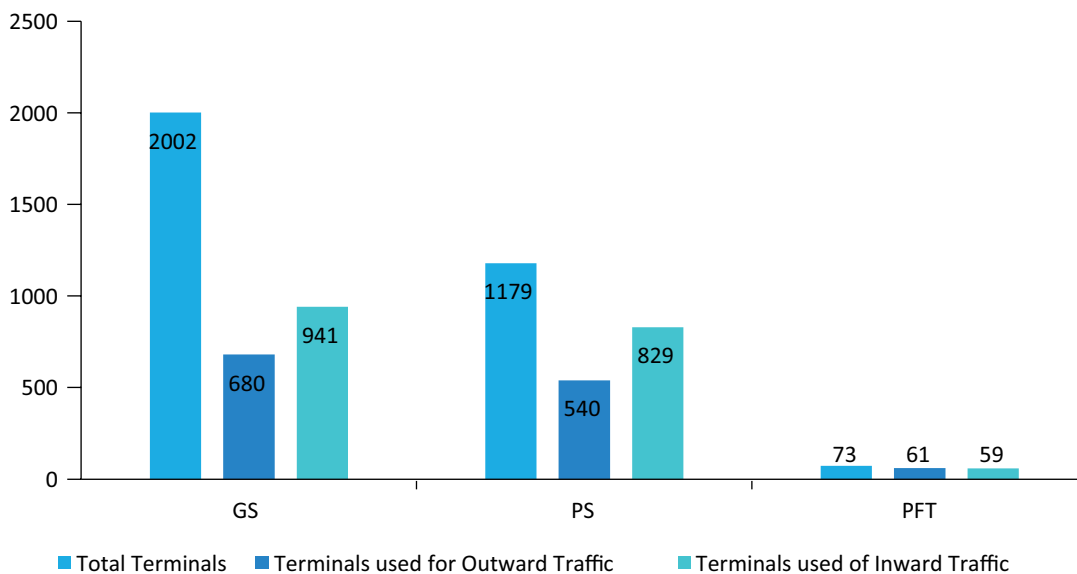


Figure 2 Freight Terminals of India

Sources Indian Railways, TERI Analysis

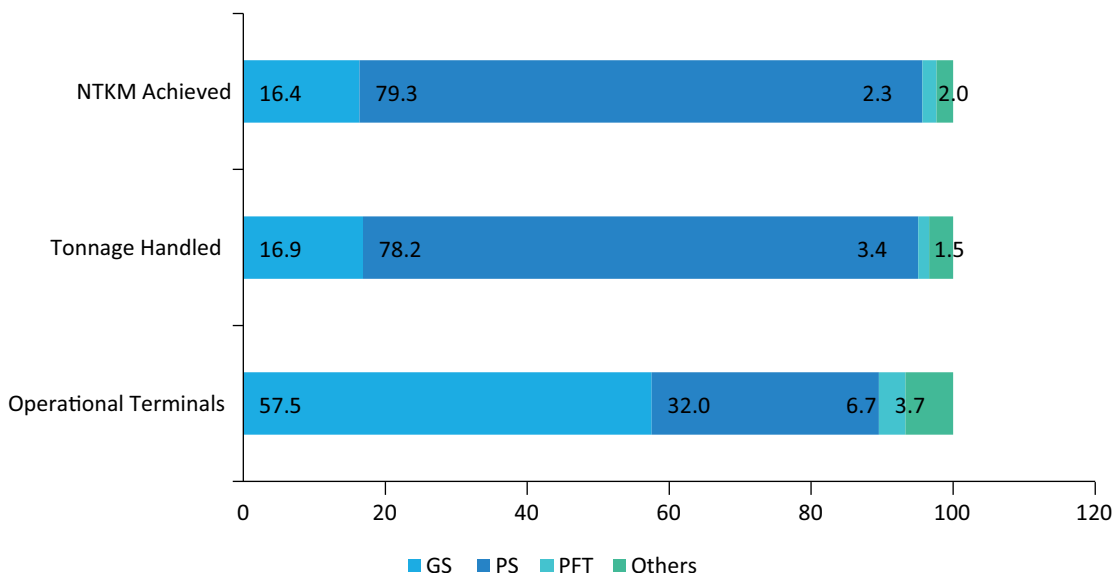


Figure 3 Performance of freight terminals

Sources Indian Railways, TERI Analysis

3. Policies Related to Private Investment in Freight Sector by Indian Railways

Indian Railways, from time to time has introduced and updated different policies to involve the private operators¹² in the freight business and to increase the efficiency and scale of operation. The incorporation of private operators in handling of goods and terminal management has widely reduced the responsibilities of IR and has helped in increasing the freight business efficiency. Majorly, Private Siding Policy and PFT Policy have contributed the most in augmenting private investment.

3.1 Private Siding Policy, 1983

Background and Key Features

The policy on private sidings was introduced almost 40 years ago, which allows industries, public sector undertakings (PSUs) and major production units to set up their own freight terminals for movement of raw materials

and finished products.

Initially, the Private Siding Policy also had the provision of railway siding and assisted sidings. The railway sidings were developed and maintained by railways on railway land only. On the contrary, assisted sidings are developed on the private land, where track infrastructure is constructed and maintained by IR and superstructure of terminal and goods-handling facilities, etc. are developed and maintained by private party. Currently, private sidings are only in operation.

Development of Infrastructure and Revenue Sharing

The private parties interested in availing the railway services to their doorsteps have to procure land and develop all the required terminal and freight handling infrastructure at their own cost. The common user facilities such as additional loop lines, V connections, crossing station, etc. will be provided and maintained by

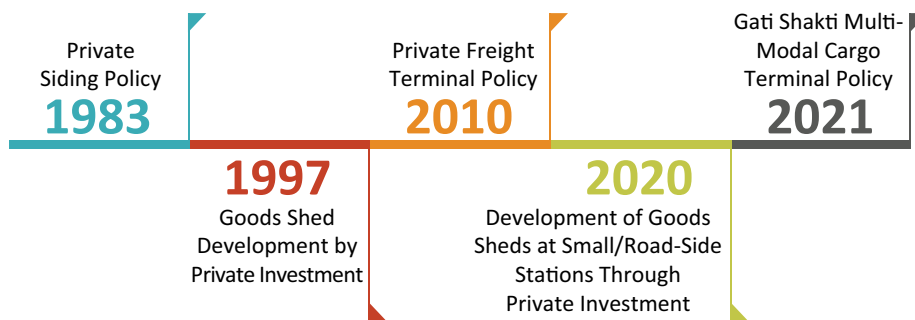


Figure 4 Policies of Indian Railways on freight terminals^{13,14}

12 Private Operator: private company/industry/organisation looking after freight and terminal management

13 Terminal Access Charges (TAC): Charges levied by IR on rail customers for handling of privately owned rakes at railway goods sheds

14 Terminal Charges (TC): Charges levied by IR on rail customers for handling of railway owned rakes at freight terminals on partial/full railway land

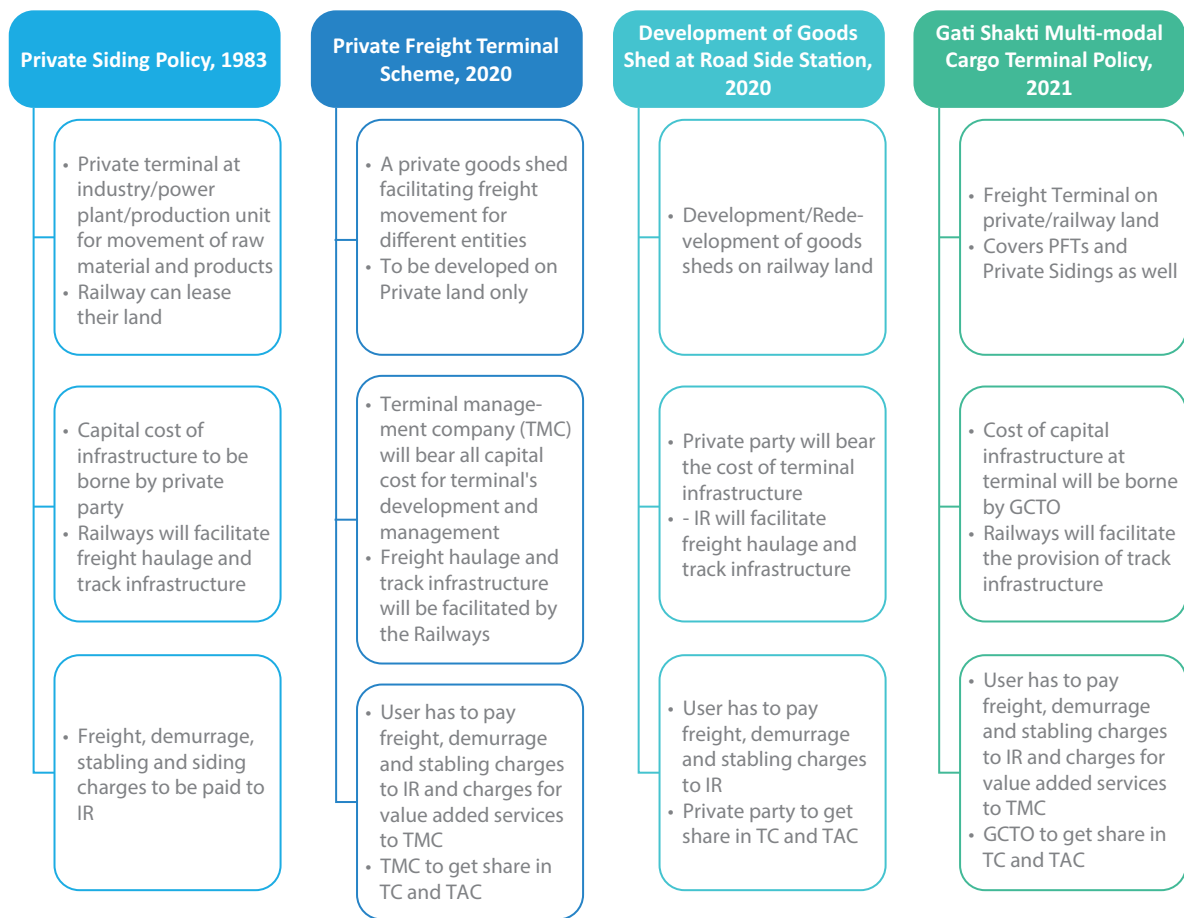


Figure 5 IR policies on freight terminals

IR. The maintenance of signalling and telecommunication (S&T) infrastructure and track infrastructure will be done by the railways and the cost will be recovered from the siding owner.

Along with the freight, demurrage and stabling charges siding owners have to pay siding charges also.

Evolution of Policy

The Private Siding Policy has undergone numerous changes, keeping the core of the policy intact. The major changes that are brought into the policy are regarding levy of certain cost/charges as indicated in the diagram contained in Figure 6.

Policy Impact

A number of PSUs and manufacturing units have developed private sidings for the movement of their raw materials and finished products. Currently, India has around 1179 private sidings, out of which 616 and 941 are operationally active for inward and outward traffic, respectively. Sidings contribute the largest share in freight incomes of IR. Private sidings alone handle around 75% of the total freight traffic of IR, in terms of tonnage and NTKMs.¹⁵

The major reason behind the wide adoption of the Policy is the ease of freight movement from the source. The railway freight rates are more suitable and cheaper as compared to roadways for longer distances, which encourages private players to opt for railways.

15 Details available at <<https://indianrailwayemployee.com/content/sidings-freight-traffic>>

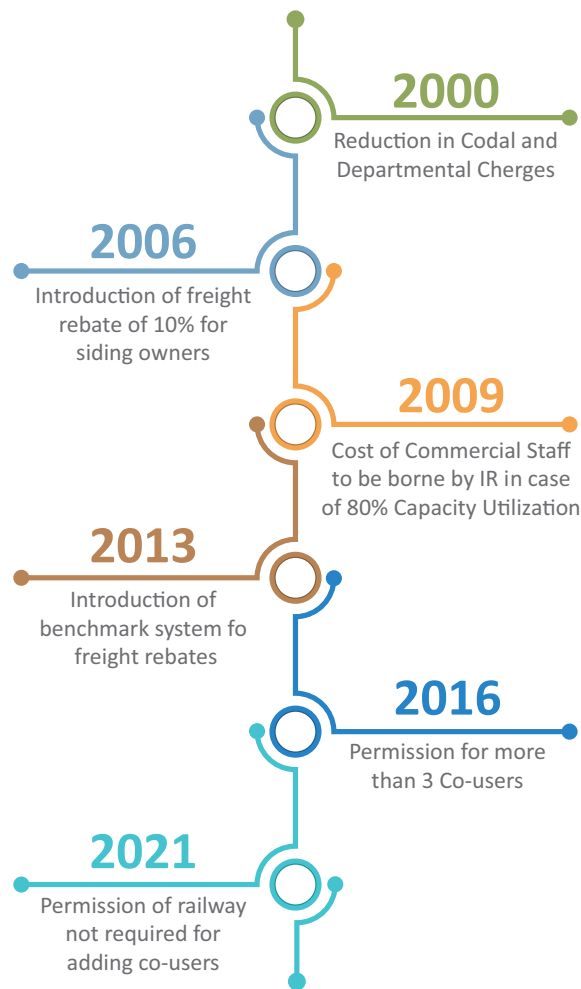


Figure 6 Evolution of Private Siding Policy

Constraints of Policy

Private Siding Policy could act as a magnet to attract more freight traffic to railways due to ease of business. Yet, the Policy has not been adopted to realize its full potential.

Cement being one of the major bulk commodities having a large share in freight transportation by railways, has experienced a decline in previous years. As of 2018-19 only 28% of the total cement produced in India has been moved by railways.¹⁶

Land Procurement

The area required for the development of siding is significantly large, and many times the process of procurement of land becomes relatively difficult, lengthy, and costly. Initially, railway land was easily available for developing private siding and connectivity portion. Since last 10 years, the availability of railway land for freight

Many private players are ready to come forward for developing the siding despite the higher capital cost, however, the complex approval processes, longer transit times, and delayed availability of rolling stock discourage them from choosing railways as primary mode of freight transport.

¹⁶ Increasing Rail Share in Freight Transport in India – Working Paper: Cement (TERI,2019)

terminal development has been nearly impossible. Non-availability of land at desired location has discouraged many industries from setting up a private siding.

Higher Infrastructure Cost

The private players interested in availing the siding facilities at their location, have to allocate substantial funds to develop the terminal and track infrastructure from nearest serving station. The railway very often demands to develop all the freight-handling facilities to be developed at the siding regardless the need of the same. The capital cost of infrastructure development along with the railway line for a basic freight terminal is around INR 20 crore, excluding the cost of land. The capital cost of developing the whole infrastructure, along with the above listed issues discourages the private parties.

3.2 Goods Sheds Development by Private Investment, 1997

Background and Key Features

Railway had introduced the policy for augmenting private investment for terminal development in 1997. The policy enabled the private parties to redevelop the terminal infrastructure such as full-length platform, covered shed and warehouses, goods-handling mechanism, pucca circulation area, and basic facilities for the labourers and staff.

Development of Infrastructure and Revenue Sharing

The capital cost of terminal infrastructure development is to be borne by private party and the provision of track infrastructure would be taken care by the Railways.

Freight, demurrage, wharfage, and stabling charges are levied as directed in engineering code. The private developer does not get any share in freight-handling/terminal management charges.

Constraints

The policy failed to take off as no incentives were provided to the private players to recover the capital cost of infrastructure development. The policy was rolled back in 2005.

3.3 Private Freight Terminal Policy, 2010

Aim: "To stimulate development of privately owned freight terminals which are not on railway land for dealing with railway traffic including parcel traffic and containers."

Background and Key Features

Launched in 2010, PFT Policy is aimed at enabling rapid development of freight terminals to attract more traffic to Railways. This policy enables the private parties to set up their own freight terminal on private land to facilitate the freight movement by Railways.

Initially, the policy did not allow the handling of outward loading of coal and coke of 'D' priority and outward iron ore, iron or iron ore pallet traffic, however, the later amendments have subsequently allowed the freight movement of iron, iron ore and iron ore pallet traffic.¹⁷

Development of Infrastructure and Revenue Sharing

Terminal management company has to bear all the capital costs including land procurement, development of terminal and related infrastructure from the take off¹⁸ point. The cost of common user facilities is also to be borne by TMC. The policy has provision of reimbursing the cost of common user facilities, but a large number of TMCs has not received the amount spent by them on common user facilities even after the commissioning of the siding. The maintenance of track and over-head equipment (OHE) inside the PFT premises is to be taken care by TMC.

The freight charges, demurrage charges, and stabling charges will be levied as directed in engineering code. TMC will have to bear the cost of one commercial staff per shift to carry out the railway functions. TMC can charge the users for the additional facilities they are providing for freight handling.

17 10.1 – Master Circular on Private Freight Terminal Scheme 2020

18 Take-off Point: The last point and crossing at serving station through which the rolling stock can be diverted towards freight terminal

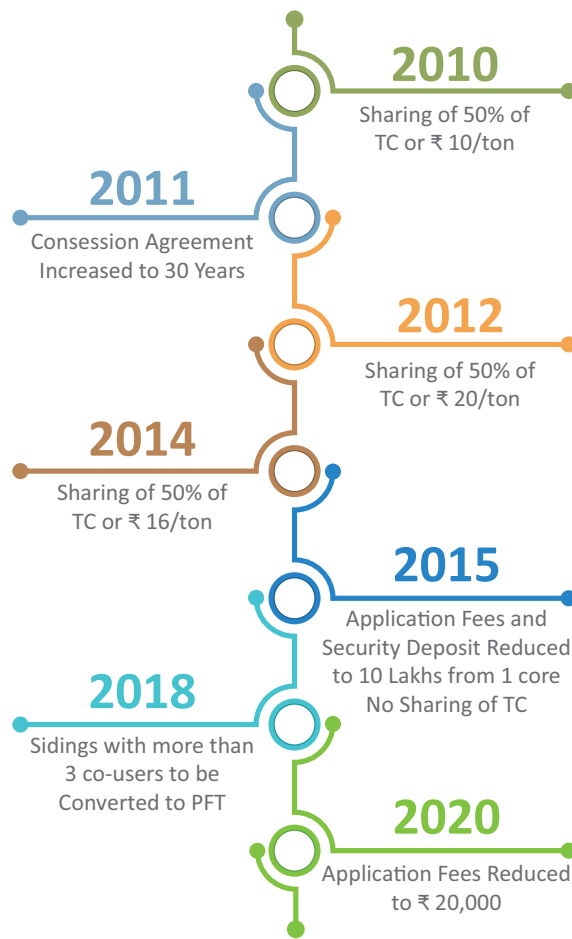


Figure 7 Evolution of Private Freight Terminal scheme

Policy Evolution

In the duration of last 11 years, the policy has been revised 3 times and undergone 13 amendments. The periodic changes in the policy are focused on streamlining the process of setting up PFTs. The major changes are focused on the finances of PFTs.

Though the policy has shown the slower adoption initially, the later amendments of the policy have attracted more private players to the business.

The presence of PFTs and traffic diversion to them has resulted into lesser occurrences of restrictions.

Policy Impact

As of August, 2021, total 73 PFTs are set up in different zones of IR and are contributing around 2% to the total freight business.

As per stakeholder interaction the success of PFTs was the reduction in the occurrences of restrictions and detentions in the divisional railways after operation of PFTs. It was emphasised that, PFTs are highly efficient in freight management.

Constraints

PFTs policy has seen relatively slower adoption due to number of issues in policy. The distinct constraints are discussed as under, while the general issues are listed at the end of the section.

Revenue and Charges (Section 8 of the Circular)

The codal charges¹⁹ and departmental charges²⁰ required for setting up PFTs are significantly high and increase the capital cost notably. Though the freight haulage is the responsibility of IR, however it recovers the cost of maintenance of track, S&T and OHE works and commercial staff from TMC. In addition, majority of TMCs have not received their security deposit back on time.

The policy does not clearly mention all the charges leviable and results in unforeseen charges.

3.4 Development of Goods Sheds at Small/ Road-side Stations through Private Investment, 2020

Aim: "Augmenting terminal capacity through private participation."

Background and Key Features

The policy on Development of Goods Sheds on Road- side Terminals allows the private parties to invest in developing new goods sheds at existing railway terminals or re-develop the existing goods sheds for better functioning. The party has to develop the infrastructure for efficient loading/unloading of goods, such as covered platforms for full rake, pucca approach road and circulation area, warehousing/storage facilities, drainage, lighting and basic facilities for workers.

The facilities so developed will be common user facilities and each user will have the equal right and opportunity

A public siding or a good shed is a railway siding laid out at a distance from the main station/goods shed. These sidings are generally open for all traffic, both inward and outward, and can be used by all consignor/ consignee/endorsee desirous of using the same. A list of such sidings, together with the traffic for which each siding is open as also the siding charges leviable, is published by individual railway administrations in their local tariffs.

to access these facilities. The private party has to quote the desired share in terminal charge and terminal access charge as a reimbursement to investment made. The selection of the developer is done through tendering system. The party demanding the lowest share in TC and TAC will be awarded the tender.

Development of Infrastructure and Revenue Sharing

The policy has provision for green field and brown field development, where in both the cases, the ownership of land and railway terminal will vest with railways. The private party will bear all the cost of development, operation and management of infrastructure facilities. The provision, operation and maintenance of track infrastructure will be undertaken by IR.

The freight, demurrage, stabling charges, etc. will be levied as directed in engineering code. The private party will get the share in TC and TAC. The private party can use the available space for setting up canteen, advertisement facilities and generate own revenue from the same.

Policy Impact

The policy was launched on 14 October, 2020; and within one year of the launch, the policy received an encouraging response from private parties. As of July, 2021, total 32 goods sheds had shown interest for redevelopment of goods sheds in 5 zones, of which, Letter of Acceptance (LOA) has been issued for 12 terminals.

The private parties have offered 0–80% of sharing of TC and TAC to IR. Western Region has received higher share of TC and TAC as compared to other regions.

Constraints

The duration of the work contract as per policy was initially kept at five years and in January 2021 extended up to ten years which is to be decided by DRM on a case-to-case basis. This time-period is less than the efforts and cost private party is investing. This can be a demotivator for wider adoption.

19 Codal charges: These are recovered for the survey done by IR after the completion of terminal construction.

20 Departmental chares: The charges recovered for utilisation of charged staff (both gazetted and non-gazetted) required for actual execution of work.

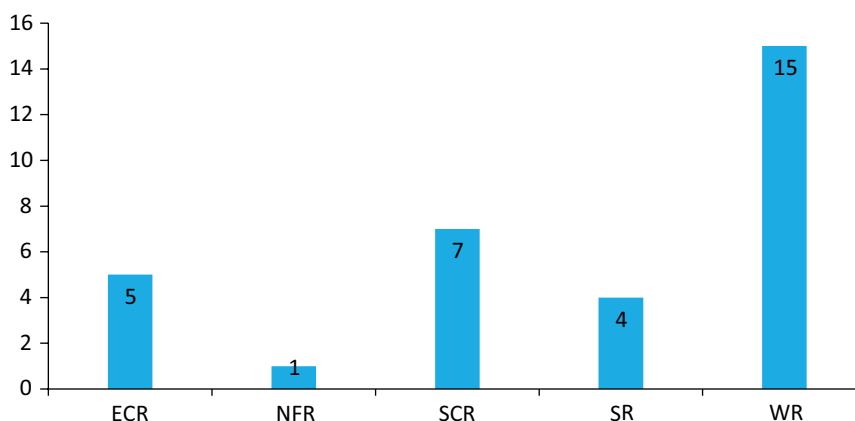


Figure 8 Open terminals for goods shed development

Sources Indian Railways, TERI Analysis

3.5 Gati Shakti Multi-Modal Cargo Terminal Policy, 2021

Aim: *“To promote the proliferation of new cargo terminals and improve existing cargo terminals to accelerate the growth in railway’s cargo traffic.”*

Background and Key Features

Ministry of Railways launched the new Gati Shakti Multi-modal Cargo Terminal Policy on 15 December, 2021 as an over-arching policy related to Private Siding Policy and Private Freight Terminal Policy. This policy is applicable to all new PFTs and sidings, private terminals, and sidings under construction. The private terminals and siding which are currently operational under old policy can be migrated to GCT Policy if the owner wishes to do so.

The GCT Policy has addressed many of the issues faced by private players for developing rail freight terminals and has also brought the parity between private siding and PFT. The new policy has also allowed to lease railway land to private players for constructing freight terminals.

GCT Policy has also diluted the stringent eligibility criteria of old policies and any Indian citizen/registered company/

LLP/joint venture/partnership firms or registered societies/trusts can apply for setting up a cargo terminal.

Development of Infrastructure and Revenue Sharing

The Gati Shakti Cargo Terminal Operator (GCTO) can set up the terminal on private land or on railway land (to be taken on lease). The entire cost of developing terminal and freight-handling mechanism starting from land procurement is to be borne by GCTO. The cost of track infrastructure from the take-off point is to be borne by GCTO, the maintenance of the same will be taken care by IR. The common user facilities at the serving station will be developed by IR on their own cost.

Indian Railways will levy the freight, demurrage, and stabling charges as directed in engineering code. GCTO can levy the suitable charges for value-added services provided.

Constraints

Though GCT Policy is a good step towards bringing all privately owned freight terminals under one umbrella and has eased out many clauses of PFT and Private Siding

Policy, there are still certain points which could be looked into.

Construction of Common User Facility (Section 5.2 of the Policy)

The GCT Policy says that, IR will provide the common user facilities to GCT at its own cost and DRM will make sure that it is provided timely, however, no certain time limit has been decided. In such a case, there are high chances that GCTO will be ready to function, but the unavailability of common user facilities will result in delayed start.

Also, the Policy has not clarified the source of finance/plan head for planning and building the required infrastructure. The provision of these facilities is expensive and policy must provide the details regarding finances.

Standard Station Layouts (Annexure C of the Policy)

GCT Policy has also included certain standard layouts for cargo terminals as reference. However, the purpose of easing the planning has not been achieved as, the layouts provided do not indicate the locations of brake-van siding, location of weighbridge, and shunting line.

Inspection of Weighbridge (Section 15.7 of the Policy)

According to para 15.7 of the GCT Policy, a nominated Senior Section Engineer/Carriage and Wagon (SSE/C&W) will conduct periodic inspections (once in a fortnight) of the weighbridge to ensure that it is being operated as per the prescribed norms and procedures. In addition, frequent joint inspection by Senior DME/C&W and Senior DCM, or by officers nominated by the IR, shall be conducted and inspection notes issued—preferably once in three months. Once the weighbridge is calibrated and certified by Weights and Measures Department statutorily for the prescribed period, no such frequent inspections are required. Also, the cost of inspection need not be recovered from the GCTO.

Period of Agreement (Section 21 of Schedule 2 of Policy)

The period of agreement for developing cargo terminal on fully or partially basis on railway land is 5 years, and it can get renewed every 5 up to 35 years. The agreement period is very short when compared to the amount of finance and hard work GCTO has to invest.

As mentioned for GCTO on private land, the agreement can be called off in case of any dispute, malfunctioning or when GCTO wants to shut down the operation. Longer period of agreement will give GCTO a better assurance for starting a business on railway land.

No Freight Rebates for GCT on Private Land

If the GCTs on railway land meet the benchmark traffic²¹, they will avail incentive equivalent to 5% of the land value. No such provision is made for GCTs on private land.

3.6 Common Issues

The policies of IR on augmenting private investment for terminal development face major constraints such as higher capital cost, complex approval processes, lack of availability of land and other resources near the rail-heads, etc. IR has actively updated the policies related to freight terminal development, yet there are certain issues which are to be suitably addressed.

Longer Approval Time

The application and clearance procedure for freight terminal is lengthy and tedious procedure. Majority of times, the plans are directed to undergo number of iterations and the assets sit idle for months due to delays in permission.

Centralised System

The delay in approval and other works is mainly due to centralized nature of approval system in IR. The GCT policy has tried to decentralise majority of the functions at divisional level, making process faster and less cumbersome. But it is very crucial to concomitantly empower the divisional officers and delegate the required financial and administrative powers to them to carry out all these functions.

21 Section 16, schedule 2, GCT Policy 2021

Higher Charges

The private parties had to pay high codal charges and departmental and general charges for developing the freight terminals. Higher charges increase the financial burden on the private party, resulting into lack of interest in developing the freight terminals. The GCT Policy has rolled out these charges to attract more players.

Uneven Share of Responsibilities

Consultations with the stakeholders reflect the need of developing better business partnership models, as the current working models of freight terminal have uneven share of responsibilities, where the private investors bear all the risks. The revenue-sharing methods are frequently revised, affecting the financial viability of projects. Frequent and unilateral revision of policies by railways threatens not only the financial sustainability but also sometimes results into loss, in volume of business, leading to financial crises on the part of the private entrepreneur.

The GCT Policy has tried to address these issues, yet further rectifications are required.

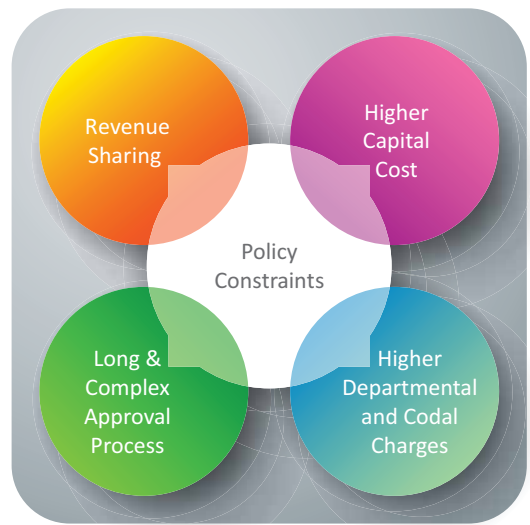


Figure 9 Major Constraints in IR Policies related to freight terminals

4. Current Challenges in Freight Movement by Indian Railways

Efforts have been made by IR to amend the policies from time to time to adjust with the market demand and attract more traffic to railways, however, still due to certain constraints it has not been able to achieve the desired modal share. The absence of customer-centric policies and inadequate infrastructure and rolling stock discourage logistics players in investing in terminals. It can be understood that IR has a number of functions and responsibilities in their basket, and hence the desired efficiency in freight operation and management is not achieved.

The major constraint in freight management through IR can be categorized into 3 key areas: policy, freight haulage, and terminal development. Section 3 has discussed the policy-related constraints, affecting engagement of private sector in terminal development. The challenges related to freight haulage and terminal infrastructure and management are discussed as under.

4.1 Haulage-related Issues

The longer transit time for freight haulage is the key constraint for railways. The transit time is majorly affected due to occurrences of restrictions and longer terminal detention time.

Restrictions in Indian Railways

TERI analysed IR's restriction data of 2019–20 to understand the nature and pattern of restrictions for different types of freight terminals. It is observed that, majority of restrictions are imposed on the GS, share being 63% of the total restrictions, followed by 36% restrictions on SDG and 1% on PFTs.

Looking at the share of terminals that experienced the restrictions, 41% of goods sheds have experienced the restriction in 2019–20, which indicates high inefficiency in running the goods sheds.

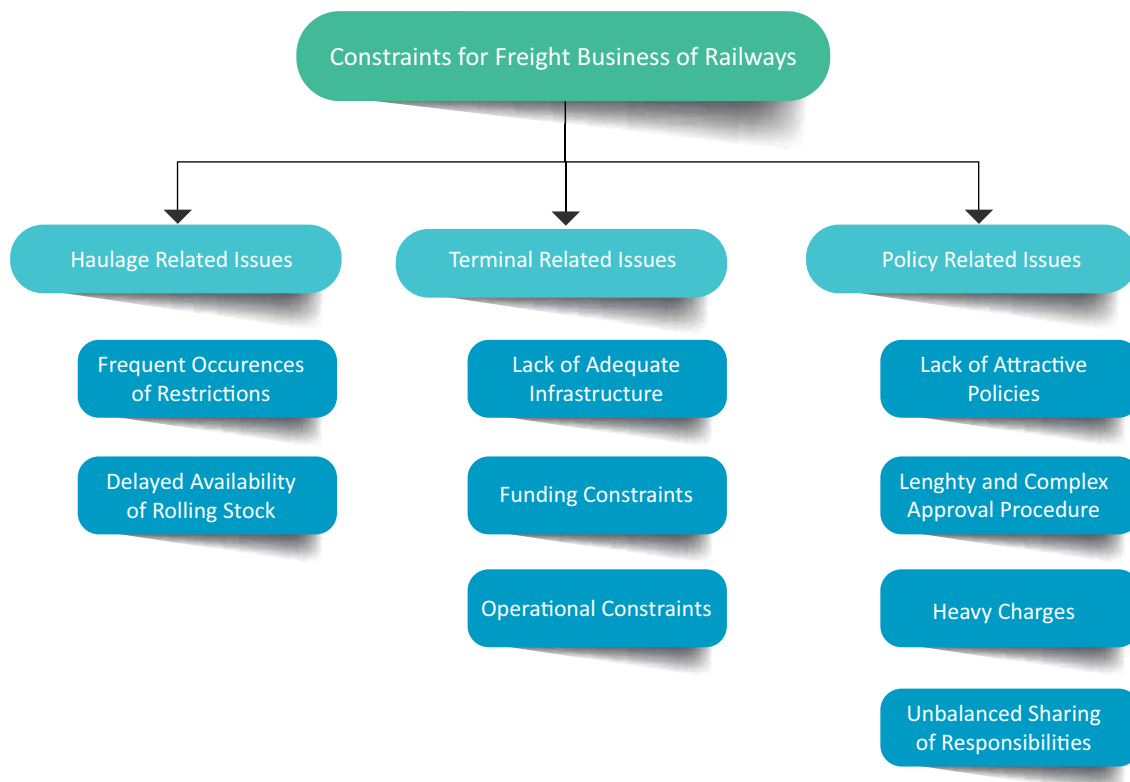


Figure 10 Key constraints in freight business of IR

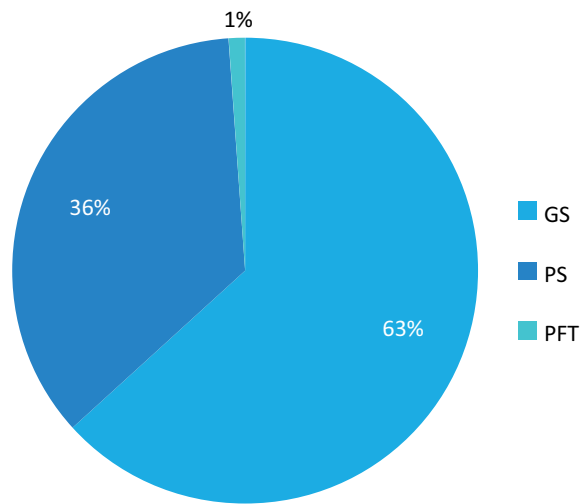


Figure 11 Restrictions on freight terminals

Sources Indian Railways, TERI Analysis

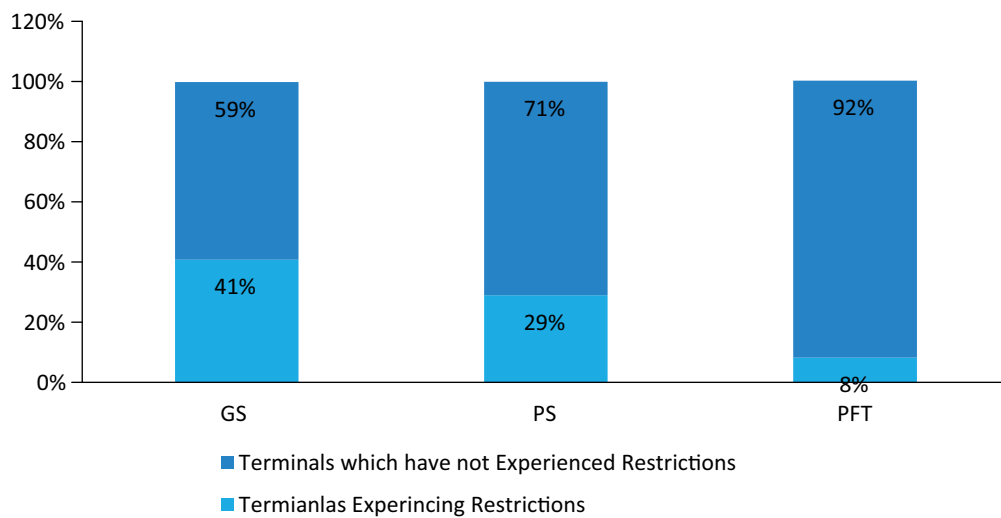


Figure 12 Restriction on freight terminals

Sources Indian Railways, TERI Analysis

When we look into the nature of restrictions for the freight terminals, it is evident that majority of the restrictions happen due to poor release and heavy pipeline, this indicates lower efficiency in terminal operation and management. Majority of times the restrictions are either due to ongoing construction and maintenance work or due to operational constraints.

Private freight terminals have the lowest share of poor release and heavy pipeline and greater share of results beyond control, indicating better terminal management systems.

Delayed Availability of Rolling Stock

Private freight terminals face difficulties with timely availability of locomotives and crew for freight haulage. In 2010–11 period, 52% of the rail users stated that locomotives were not provided on the desired time. During 2014, it was observed that 63% of the freight trains started late due to delayed availability of locomotives.

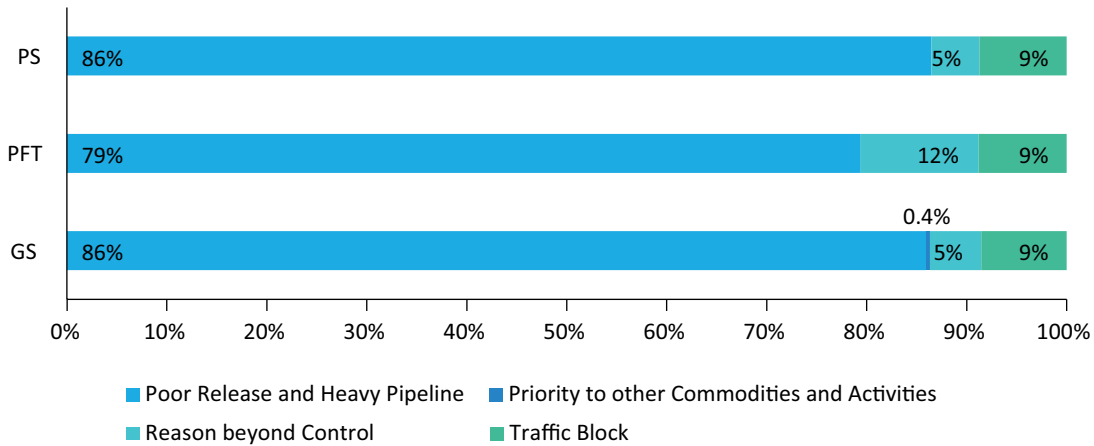


Figure 13 Reasons for restrictions in freight terminals

Sources Indian Railways, TERI Analysis

The analysis of restriction data clearly shows higher terminal and freight management efficiency at privately-owned terminals. Delegating the terminal and freight management functions to private parties could contribute to increasing efficiency.

While the terminal and freight management is handed over to the private parties, IR shall focus on provision of locomotive and crew on time in order to reduce terminal detention time.

4.2 Terminal-related Issues

Lack of Adequate Infrastructure

The Union Performance Report (UPR) of Railways 2010–11 states that 54% of the detentions on goods sheds occur while carrying out loading–unloading operations. The UPR of 2014 also stated that the majority of goods sheds and siding in the IR system lacked infrastructure facilities such as pucca circulating area and approach roads, full rake-handling facilities, goods-handling mechanisms, and basic amenities.

Capital Cost of Infrastructure Development

Development of freight terminal comes with a huge requirement for capital investment. Availability of land and sufficient funds has always been critical for both IR and private players.

Fund Utilisation by Indian Railways

Looking at the total cost of freight operation by IR, the largest chunk of the expenditure goes to the freight haulage and track-related works.

Ministry of Railways allocated a special budget for upgrading 100 goods sheds in 2007. The divisional committees were to be formed for assessment and inspection. The aim was to provide full length lines and platforms, pucca circulation area, lightning, all weather approach road etc.

The casual attitude of IR, resulted into underutilization of funds and opportunities provided. The upgradation work for only 9 terminals was completed and it was in process for 27 terminals. Non-commencement and non-completion of works up-gradation works in 15 zones resulted in continued detention of wagons with loss of earning capacity 229.36 crore per annum.

The capital expenditure for new traffic infrastructure, upgradation of existing infrastructure and development of terminal and related amenities are made under Plan Head 16 of the Union Railway Budget. The funds are first allocated to the high priority and unavoidable works related to new lines, track upgradation, bridge work, etc. As the major portion of the budget is utilised in track-related works, very small amount of fund is allocated to upgradation of freight terminal development and related infrastructure.



Private freight terminal



Railway goods shed



Figure 14 Condition of freight terminals

The image shows the difference between condition of railway siding and private siding.

Eighteen per cent of the total Pink Book budget is allocated for works related to track infrastructure and 2.5% for S&T and OHE works. Only 0.5% of budget is allocated for the rolling stock. Increasing the budgetary provisions for rolling stock is also crucial for increasing the efficiency in the movement of freight.

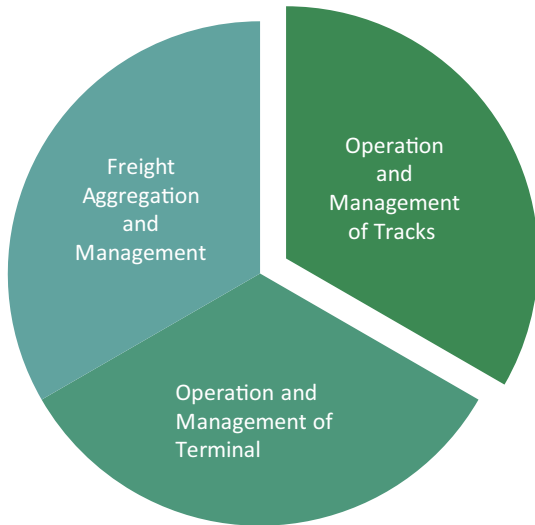


Figure 15 Cost of freight terminal for IR

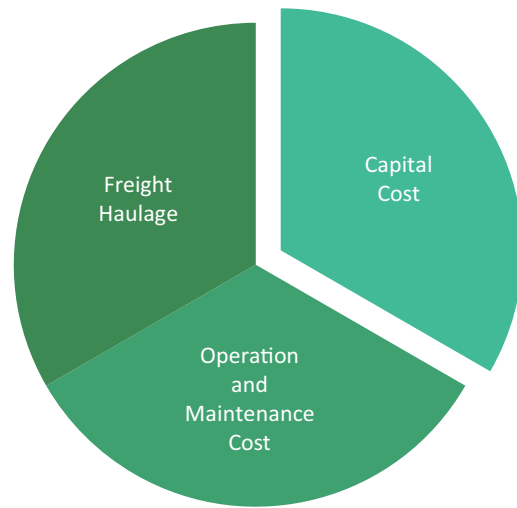


Figure 16 Cost of freight terminal by private party

Capital cost of developing freight terminals is substantially higher for both IR and private parties.

Re-developing the existing good terminals and augmenting infrastructure facilities would decrease the cost by 60%–70% when compared to developing the entirely new freight terminals.

This can be a better solution for improving the freight handling of IR in short duration.

Out of total budget allocated under Pink Book, 2019–20 for all the 17 zones of IR, only 1.13% of the budget was allocated to plan head 16: Traffic Facilities. The majority of the funds (72%) under Traffic Facilities are utilised for different freight terminal-related works such as, investments for private freight terminals and development/upgradation/extension of goods sheds.

Higher Capital Cost for Private Players

For any private party willing to collaborate with IR for freight terminals, the largest chunk of the total cost involved is utilised for developing the capital infrastructure, that is, developing freight terminal, railway lines, and related work. Many private players do not come forward to opt

private siding/private freight terminal policy due to the higher capital cost.

Operational Constraints

Indian Railways runs checks and inspections frequently to ensure the efficient movement of freight, nevertheless the time taken for such checks hinders the efficient movement of freight. The train examiner checks (TXR checks) take unreasonably longer times, and the assets and freight sit idle for days. Stamping of weighbridge and regular inspections also take longer time, reducing the freight-handling capacity. The process could be made much efficient and faster with the outsourcing of the services to the third-party consultants.

In the light of the major points discussed so far, it can be established that privately managed terminals are more efficient at handling the freight. It can also be said that, privately developed and managed freight terminals are successful in bring in more and continuous flow of freight traffic.

The core function on the part of Indian Railways is to mobilise freight and move it from one place to another. The policies where freight aggregation and management along with terminal management is vested with private players, higher efficiency in handling freight is achieved.

Function	Goods Shed	Development of GS at Road-side Station	Private Siding	Private Freight Terminal	GCT
Freight Aggregation and Business Development					
Terminal Management and Freight Loading/ Unloading					
Freight Haulage					
Provision and Maintenance of Rolling Stock					

Responsibility of private player
Responsibility of Indian Railways

Figure 17 Sharing of responsibilities in freight terminals

IR has been efficient in facilitating freight movement through length and breadth of the country.

However, IR needs to focus on customer-centric approach involving business development and efficient freight management. With the support of private parties, IR could accelerate the modal shift to railways for freight transportation

5. Recommendations

Indian Railways has taken proactive approach in the last 5–6 years for rectifying the freight marketing policies to attract more freight traffic to rail. The budgetary allocations for increasing track capacity have also increased in recent years, however, the provision of track infrastructure alone does not solve the purpose. Marketing, warehousing, and robust goods-handling mechanisms are the core of freight transportation business. IR needs to reorient the focus on marketing, infrastructure development and implementation of policies instead of relying on developing policies for private initiatives only.

TERI has tried to articulate certain suggestions for improving the terminal infrastructure and freight business of railways.

5.1 Special Focus on Freight Business

The policies of IR on freight terminal development and management have tried to address the major issues, but the implementation of these policies and initiatives is difficult in absence of focused attention. Along with augmenting private investments, IR should focus more on the upgradation of the existing goods sheds and provision of required infrastructure.

It is advisable that the special focus shall be given to the development and management of freight terminals in order to ensure the effective implementation of policies and initiatives. Required institutional arrangements shall be made to administer the development and management of all type of freight terminals under one umbrella.

Special Focus on Freight Business

- Dedicated focus on development and management of freight terminals
- Effective Implementation of policies and initiatives
- Provision of adequate infrastructure and rolling stock

Redevelopment of Existing Goods Sheds

- Emphasis on utilization of existing infrastructure
- Focus on movement of small, parcels and non-bulk traffic

Railway and Assisted Sidings

- Developing freight terminals and extending last mile connectivity to major industrial/production clusters

Amendments to Existing Policies

- Faster approval processes
- Easy availability of railway land
- Incentives for bringing in additional traffic
- Justified sharing of responsibilities and finances

5.2 Provision of Rolling Stock

Availability of adequate and efficient rolling stock is crucial for decreasing the turnaround time of freight trains. IR must give adequate emphasis on procurement of enough rolling stock to meet the envisaged freight movement.

For the cases where railway locomotives are not available on time and the private party is experiencing detentions, IR should be responsible to pay detention charge to the private party.

As shown in Figure 2, goods sheds work efficiently as freight receivers and have higher inward traffic. Increasing the capacity of goods terminals will not only increase the working efficiency, but will also attract movement of e-commerce freight to railway systems.

efficiency of existing goods terminals. In addition to the provisions in the policy, TERI suggests certain additions for wider adoption and efficient functioning of the policy.

5.3 Development of Goods Sheds on Road-side Stations

It is evident that railway-owned goods sheds lack efficient infrastructure to handle freight movement efficiently, which eventually results in longer terminal detention times. The policy on Development of Goods Sheds on Road-side Stations, 2020 is a holistic policy, which can be a great short- and medium-term measure to increase the

Infrastructure Provision and Operation

As the goods terminals would have basic terminal infrastructure, private party will develop the required infrastructure for freight handling, such as, pucca roads and circulation area, freight-handling mechanisms, adequate lighting and basic amenities, storage facilities, etc.



Figure 18 Model freight terminal redevelopment

Along with the provision of these infrastructures, the private party will be responsible to bring new customers and additional traffic to railway system. It would be the sole responsibility of private party to advertise the terminal and create a broader customer base. IR can consider giving additional benefits if a private party brings in additional traffic/new customer.

Levy of Demurrage Charges

The private party will be responsible for freight aggregation, loading, and unloading of goods. For any delays in loading/unloading activities, demurrage charges levied by IR should not only punitive and one-sided but also provide incentives for improvements. In addition to the Debit/Credit Scheme of Demurrage²², a provision of waiving off the demurrage charges in the cases of reasons beyond control shall also be incorporated. This will go a long way in restoring confidence in him about this major irritant. In short, the terminal operator should be regarded as a strategic partner and collaborator and not an adversary as the general perception prevails among them currently.

Period of Agreement

The period of agreement for developing cargo terminal on fully or partially railway land, presently is of only 5 years, and can be renewed every 5 years up to 35 years under GCT policy, and the agreement period under goods shed development policy is 10 years. The agreement periods shall be long enough to reach the break-even point and recover the capital cost of the investment. The longer period of agreement will be more inviting and give private party a better assurance for starting a business with railways.

Revenue Sharing

Indian Railways will provide all the commercial staff at their own costs for all commercial functions including acceptance of goods, issue of RRs and dispatch of goods. Similarly at destination terminal the commercial staff will collect all the revenue and other dues including freight

charges, and other charges including user and service charges as per agreement between the terminal operator and railways. The private party can levy the additional services charges from the customers for additional services provided apart from terminal facilities, if any. The user and service charges will be reimbursed to the terminal operator on monthly basis by railways.

The sharing of TC and TAC between private party and IR shall be justified based on the sharing of responsibilities related to terminal operations.

5.4 Scope of Reopening Railway and Assisted Sidings

Indian Railways shall also focus on the provision of railway siding/assisted sidings in the major industrial and production clusters. Availability of railway line near the production unit may achieve faster modal shift and development of one terminal may cater to larger customer base. IR can collaborate with industrial development units and associations for provision of railway siding and the costs can be shared.

The cost of land is one of the key concern for any private party interested in freight terminal development, as the commercial rates of land are very high. Opening up the railway lands on lease in industrial/production area for freight terminal development will attract more private investments. It is a high time for IR to open up more and more land parcels at lease rates for freight terminal development works.

5.5 Suggestions for Gati Shakti Cargo Terminals Policy

As all the new freight terminals will now operate under Gati Shakti Cargo Terminals Policy, certain changes to the Policy will attract more private players for development of freight terminals.

Starting with empowering the divisional railways, IR must ensure the capacity building of concerned authorities to efficiently carry out the responsibilities given.

Provision of common user facilities is crucial for starting

22 Corrigendum 20 to Rates Master Circular - https://indianrailways.gov.in/railwayboard/uploads/directorate/traffic_comm/Freight-Rate-Circular-2021/Debit%20and%20Credit%20Scheme%20of%20Demurrage.pdf

the terminal operations. The ambiguity regarding the provision of capital funds can result into delays in provision. IR should either devise a quick framework for the same or delegate back the provision of common user facilities to the private party.

The checks, maintenance, and inspections of infrastructure and rolling stock shall be completed in very limited time to avoid any disturbance to the business and freight operations.

6. Conclusion

Indian Railways has been playing a crucial role in transporting goods in the country. This is supported by the rapid increase in traffic from 300 billion net tonne kilometres in early 2000, to 700 BTKM in the late 2010s. However, with rapid development in national highways and inherent advantage of door-to-door service, the share of road transport in total freight traffic has increased remarkably. The rate of growth of rail traffic has also slowed down in the last few years. The constant decline has greater negative consequences, not only on IR's finances but also on the carbon emission scenario due to higher consumption of diesel by the road sector.

Logistics has been recognised as a very important factor in the growth of the economy. For last two decades, the growth of freight traffic on Indian Railways' network has been hampered by inadequacy of freight terminals. The benefits of infrastructure development on Indian Railways by way of additional lines, electrification, and

gauge conversion have been badly affected for want of adequate freight terminals. One of the key areas of action where IR should focus is the terminal development and management.

Government of India has taken a number of measures from policy development to provision of better infrastructure to enhance the freight-handling capacity of the rail network. It is now high time to enhance private participation in increasing the terminal efficiency and grow freight business.

In addition to developing 100 GCT in the next 3 years, the public-private partnership model for redeveloping the existing goods sheds shall be envisaged as a short- and medium-term measure in increasing the freight terminal capacity. The efficient business and management-oriented capacities of private players can be utilized for freight aggregation and terminal management.

For more information, please visit: <http://www.teriin.org/>

