Stoppage analysis by elimination/provision: Based on the sale of tickets, some halts may be eliminated. Based on the demand and requirement, stoppages may be provided.

Train on demand: During festival seasons and other occasions during which demand for travel shoots up, special trains are planned and run to cater to the particular time period.

Apart from the above operational marketing efforts, other efforts like increase in the capacity of the coaches, better berth utilization and providing better passenger terminals with world class facilities also help in improving passenger satisfaction.

Freight Train Operations

Freight Transportation involves movement of raw material from production centers to industries and semi-finished/finished goods to consuming areas. It plays an important role in economic and industrial development of a country. The freight business is the major source of revenue for the Indian Railways. Main activity centers of freight operation include sidings, goods sheds and examination yards.

Type of Freight trains

Pilot Trains are those moving between serving station and siding for loading or unloading.

Through goods trains are freight trains transporting goods from one goods yard to the next without stoppage at intermediate points. Most of the freight trains run in the Indian Railways fall in this category.

Merry Go Round (MGR) Trains: Certain circuits are planned to make continuous trips between loading and unloading points with captive loco / formation. In SCR, such a system is functioning for supplying coal from Singareni Collieries at Mancherial station to NTPC power plant at Ramagundam station. The track is arranged in a bulb like formation so that there is no requirement for Engine reversal since the movement is circular. Since these trains make continuous round trips between dedicated loading and unloading points virtually without detention, they are named as Merry Go Round trains.

Block rake: Depending upon the type of wagon, a full train length is determined as a block rake. Most of the freight trains in Indian Railway fall in this category. Usually this train is booked for a single destination and gets a fare benefit of Train Load.

Mini Rake: It is a short rake composed of half the number of wagons specified for a Block Rake. These rakes are generally formed during slack seasons to promote loading with lesser quantity than Block Rake.

Long Haul Trains: With the increase in freight traffic disproportionate to increase in line capacity, Indian Railways has been innovating on increasing throughput per train. Improving design of wagon for a better pay to tare weight ratio, improved axle load etc. are long term solutions requiring expenditure. However, Long Haul Trains which are formed by joining two or three block rakes and run in a single path, doubles/triples the section capacity and through put. With the success of running such trains, Longer Loop lines are being developed in one station for every stretch of 50-60 km. In SCR long haul trains with two rake composition are called python rakes and trains' name are suffixed with 'P'.

Two Point Rake is a freight train carrying two sets of wagons destined for two terminals. This is generally permitted for authorized pair of destinations.

Multi Point Rake is a train carrying sets of wagons destined to more than two destinations. This type of loading is permitted only during slack season.

Crack Trains: These trains are planned to run through bypassing an intermediate crew changing point without changing of crew. They are given a good path so as to reach the destination/interchange point/another crew change point within crew hours. By running crack specials average speed of goods trains are increased thereby improving wagon turn-round, sectional through put and reducing crew detentions.

Private Trains: Though most of the freight trains are owned by Indian Railways, there are fleets owned by private companies too. Most container trains fall under this category. Some special type of wagon trains and automobile carriers are also owned by private companies.

Freight Locomotives

Locomotives for freight operations are usually of higher hauling power in order to work loaded trains. Except in some captive circuits, freight locomotives do not work in specific links.

Load chart

In order to ensure adequate powering for a freight train, including the factors like ruling gradient, trailing load, a section wise tabulation is provided in WTT for various combinations of freight locomotives and formation loads. This table known as Load chart also provides special conditions like running through at a station, providing banker, etc.

Power Plan

The requirement of freight locomotives worked out for running freight and other trains is known as power plan. It is prepared once in a year on the basis of the number of trains run section wise in the previous year. A prescribed additional % engine kms are added for anticipated traffic growth.

Types of wagons

Based on the different goods to be transported in freight trains, the following types of wagon have been designed and put in use.

Open wagons – They carry coal, ores, limestone etc. which are not drastically affected by atmosphere during transit. These wagons can be tippled or be unloaded through flap doors provided. They are also used for loading bagged commodities duly covering them with tarpaulins to avail benefits of back loading or empty flow.

Covered wagons – Normally used for goods which are prone to damage during transit by the atmosphere conditions such as good grains, cement, fertilizers, etc.

Flat wagons – Normally used for transportation of steel coils, rail sleepers, etc. are wagons without any side walls.

Container wagons – These are special flat wagons designed for handling containers. These wagons are provided with semi-permanent coupling.

Hopper wagons: Special wagons designed for rapid discharge from bottom used for transporting coal and ballast.

Well wagons – wagons having a well-shaped under frame normally used for transportation of larger consignments like military tanks, heavy equipment etc.

Tank wagons – These are wagons designed to carry liquid consignment like petroleum products, milk, edible oils, etc.

Automobile carriers – These are specially designed to carry automobiles. Passenger coaches modified to suit loading of automobiles are called NMGs.

BOXN

BCN

NMG

Wagon syntax

All wagons are provided with alphabetical code which indicates the type or purpose of the wagon.

Code	*Details*
B	Bogie Wagon
O	Open Wagon
C	Covered Wagon
T	Tank Wagon
P	Petrol
LPG	Liquid Petroleum Gas
BR	Bottom Rapid Discharge
BY	Bottom Mech. Discharge
R	Rails
C	Container
L	Low Plat form
ST	Steel Load
N	Air Brake Stock
X	All welded construction
HS	High speed
HL	High Load
HA	Higher axle load
LW	Light weight

Wagon Pooling

Every zonal railway of IR has been allotted with a fleet of freight wagons by the Directorate of Wagon Interchange (DWI) under the IRCA for coordinating wagon interchanges. Of these, most wagons are contributed to the general pool. Zones are restricted to maintain their wagon balances proportionate to their contribution to the general pool of wagons. Wagons not contributed to the general pool of wagons are marked as Non-Pooled Wagons ('NP). These are usually some special-purpose high-capacity wagons earmarked for specific operations on particular routes.

Train examination

Freight trains are examined in nominated yards having the facilities for examination and wagon attention. The examination normally gets done when the wagons are in empty condition with a few exceptions of loaded examinations permitted by extant instructions / JPO. There are three kinds of freight examination - Closed circuit examination, Premium examination & End to end examination. As CC rakes are valid for a higher number of days, they can be loaded multiple times before subsequent examination and hence have a positive effect on Wagon Turn Round.

Crew

In case of freight trains, crew is booked through Crew Management System (CMS) on the basis of first in and first out for the first week and in subsequent week based on the number of duty hours they performed.

Complexity in Freight Operation

Unlike Passenger Train operations which are time tabled & scheduled, freight operations are dynamic and require constant intervention in all stages viz., examination, empty run to loading point, loading, loaded run to unloading point, unloading. At each of the above stages, the operations are prone to variations like number of sick arising in examination; change in demand by customers; factors affecting loading operations and so on.

Some wagons have competing commodities and demands. For example, BOXN wagons are loaded with coal, clinker etc. When coal demand goes up and there is a power shortage in the country, supply for coal is prioritized and clinker loading gets affected. Similar is the case for BCN, which can carry food grains, bagged cement and variety of other commodities. As loaded freight trains require higher hauling power than empty trains, there arises a continuous need for power balancing. Hence, sometimes freight trains are over powered and sometimes under powered requiring banking.

Loading

A customer wanting to dispatch goods by railway has to register an indent furnishing particulars of commodity; type of wagon required and destination terminal by paying the required Wagon demand registration fee (WDRF). Empties are supplied duly checking for restrictions / quota allotment on the day of supply. Allotment / loading orders are issued in accordance with the priority of registration as per preferential traffic order. Loading order given by the SrDOM is called as Specific Loading Order (SLO).

Freight charges as prescribed in IRCA Goods Tariff Part-1 & 2 of Vol.II are collected duly issuing an RR. All commodities transported by freight trains are grouped in four classes ‘A’, ‘B’ ‘C’ & ‘D’ for assigning priority in allotment of wagons. Apart from the priority SrDOM may give preference for traffic offered in block rakes, traffic covered by contractual obligations and/or guaranteed under specific Schemes, traffic in rakes loaded from a Siding/Goods shed of the station having round the clock working and having mechanized system of loading.

Quotas: In order to regulate the inflow of wagons into areas where facilities are not available to handle the sufficient incoming traffic, ‘quotas’ are fixed for loading of wagons to such areas.