RAILWAY STATIONS AND YARDS AND PASSENGER AMENITIES

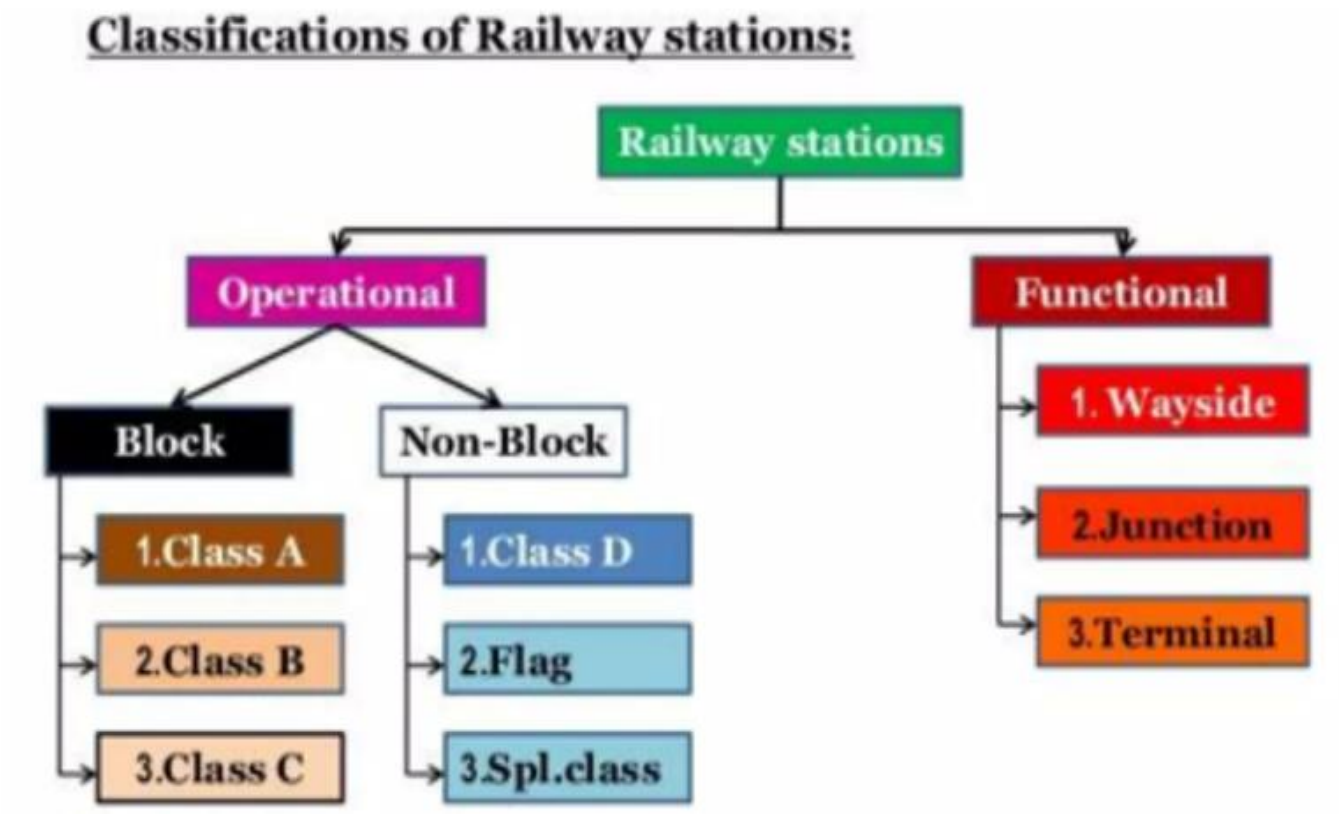
✓Stations & yards are the field control units of the railway system or communication and they serve as waiting & repairing places for the idle wagons

✓A **rail yard, railway yard** or **railroad yard** is a complex series of **railroad** tracks for storing, sorting, or loading and unloading, **railroad** cars and locomotives. **Railroad yards** have many tracks in parallel for keeping rolling stock stored off the mainline, so that they do not obstruct the flow of traffic.

Station:

A place on a railway line where traffic is dealt & booked and authority to proceed is given to a train.

Railway stations



Purpose of Railway station

- ✓For exchange of passengers and goods.
- ✓For control of train movements
- ✓To enable the trains on a single line track to cross from opposite directions.
- ✓To enable the following express trains to overtake
- ✓For taking diesel or coal and water for locomotives
- ✓For detaching engines and running staff

a. Types of Stations based on functions

1.Wayside Stations

2.Junction Stations

3.Terminal Station

1.Wayside Stations

In this type arrangements are made for crossing or for overtaking trains.

Wayside stations are of the following types.

i.Halt stations,

ii.Flag Stations,

iii Road side or Crossing stations

i.Halt stations,

A **halt**, is a small station, usually unstaffed and with few or no facilities. In some cases, trains stop only on request, when passengers on the platform indicate that they wish to board, or passengers on the train inform the crew that they wish to alight.

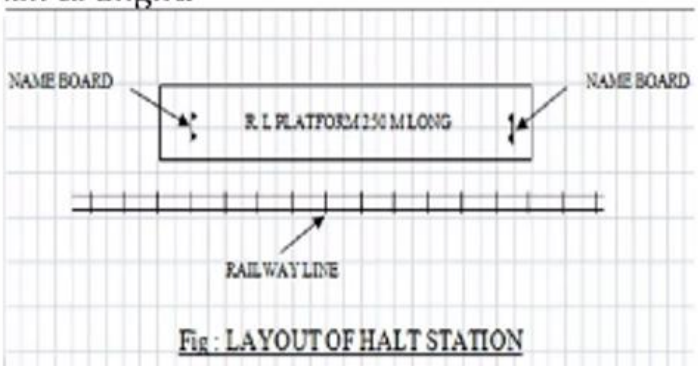


Fig : LAYOUT OF HALT STATION

ii. Flag stations,

✓**Flag stations** describes a stopping point at which trains stop only on an as-need or request basis; that is, only if there are passengers to be picked up or dropped off.

✓These stations have no overtaking or crossing facilities and arrangements to control the movement of trains.

✓These stations have buildings, staff and telegraph facilities.

✓Some of the flag stations have sidings also in the form of loops.

ii. Flag stations,

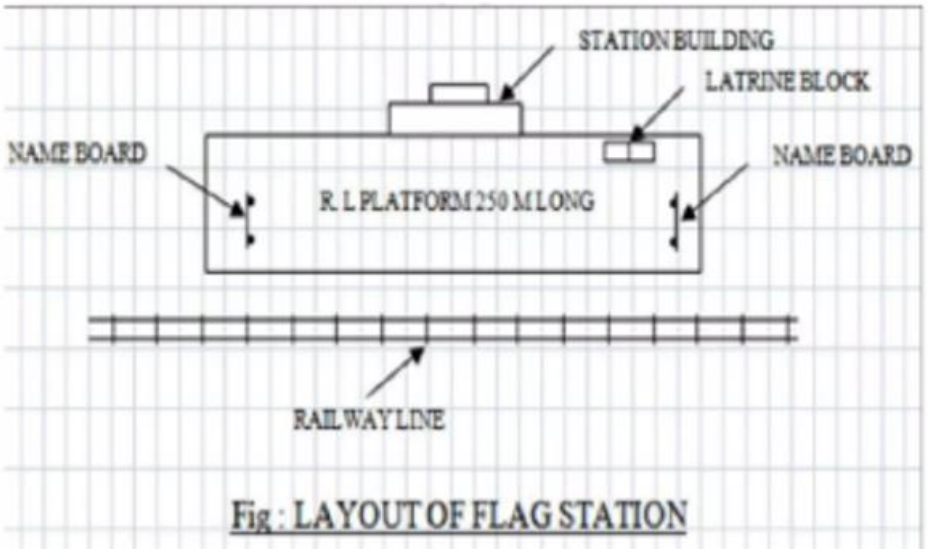


Fig : LAYOUT OF FLAG STATION

iii. Road side or Crossing stations,

✓Provided with facilities for crossing In this type at least one loop line is provided to allow another train if one track is already occupied by a waiting train.

✓Generally the train to be stopped is taken on the loop line and the through train is allowed to pass on the main line.

iii. Road side or Crossing stations

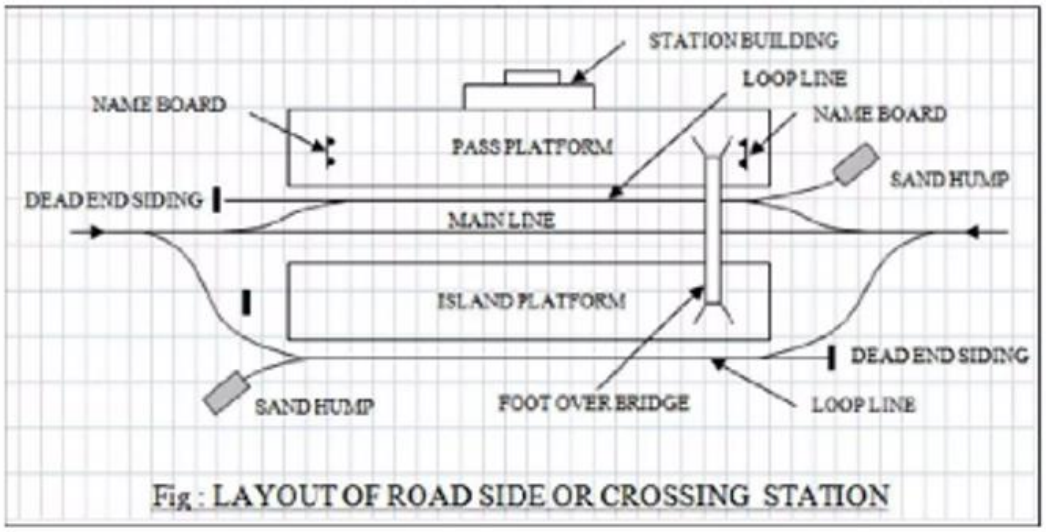


Fig : LAYOUT OF ROAD SIDE OR CROSSING STATION

2.Junction stations:

✓ At a junction stations, lines from three or more directions meet

✓ The stations where a branch line meets the main line are known as junctions

Arrangements in junction stations

✓Facilities for interchange of traffic between main and branch line

✓Facilities to clean and repair the compartments of the trains

✓Facilities for good sidings, engine sheds, turn table etc.

2.Junction stations

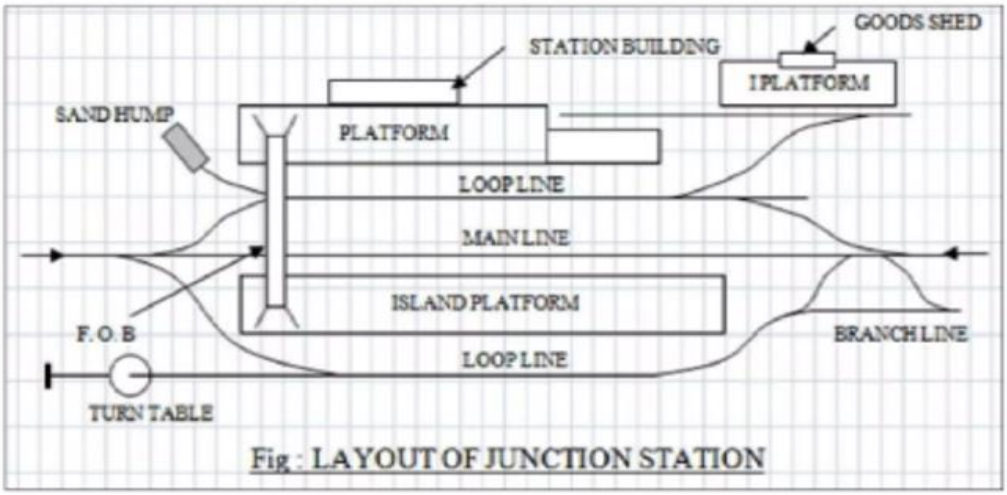


Fig : LAYOUT OF JUNCTION STATION

3.Terminal Stations:

✓It is a station where a railway line or one of its branches terminates

Facilities required in terminal stations

✓Watering, coaling, cleaning, servicing the engine

✓Turn table for the change of direction of the engine

✓Facilities for dealing goods traffic. Such as

✓marshalling yard, engine sheds, sidings etc.

✓In circulating area, ticket office, restaurant etc are

✓provided and it is directly connected to the road

3.Terminal Stations:

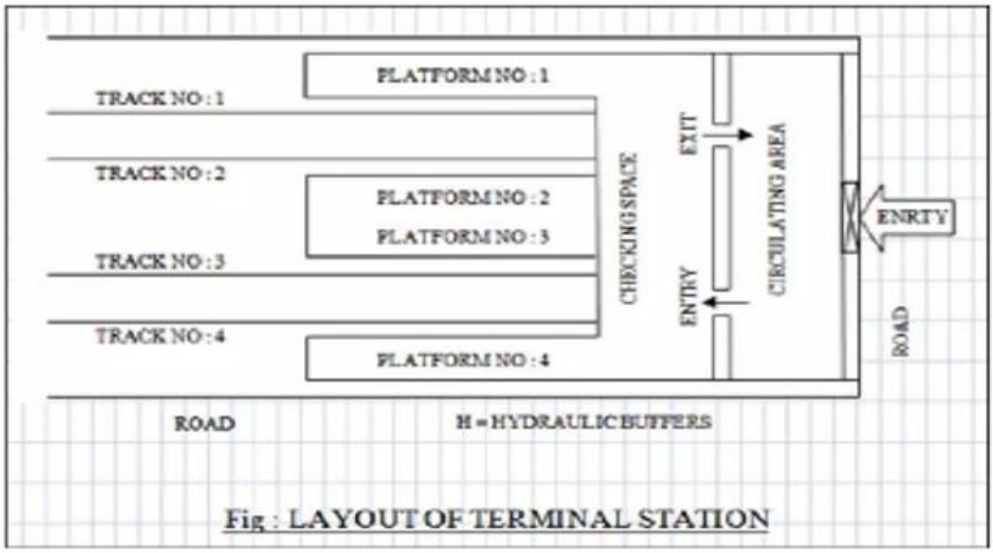
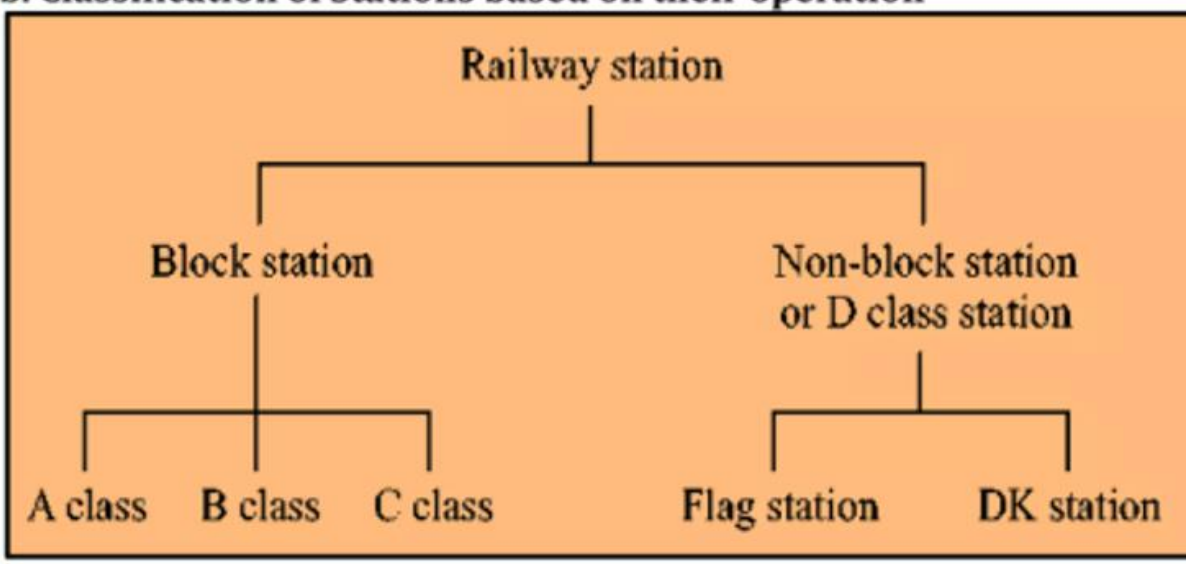


Fig : LAYOUT OF TERMINAL STATION

b. Classification of Stations based on their operation



1.Block Stations:

✓The stations at the end the block sections are called Block Station.

✓Authority to proceed is given in the shape of token at These station.

Class A Station:

✓On these stations the track is cleared up to 400m beyond the home signal for giving permission to approach a train.

Class B Station:

✓In such stations, the other signal is provided at about within the station

Non Block Stations:

✓Also known as Class D station or Flag station Situated between two consecutive block stations

✓May not be telegraphically connected to the adjacent station.

✓No equipment or staff is provided for controlling the movement of trains.

✓Trains are stopped by flag signals only

Railway yards

✓*An area consisting of a network of railway tracks, sidings, and sheds for storing, maintaining, and joining engines and carriages.*

✓A yard is defined as a system of tracks laid within definite limits for various purposes such as receiving sorting and dispatch of vehicles.

Types of Yards:

1.Passenger yards (Basic amenities)

2.Goods yards,

3.Marshalling yards,

(i)Flat yard

(ii)Gravity yard

(iii)Hump yard

4. Locomotive yards

2.Goods yards

3.Marshalling yards:

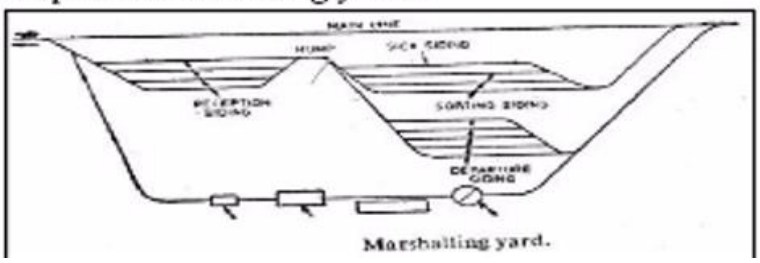
✓**Marshalling yard** is a railroad yard.

✓It is the place where goods wagons received from different centers are sorted out and placed in order to detached at different stations.

✓The marshalling yards are distribution centre.

✓ Empty wagons are also kept in marshalling yards

(wagons -a vehicle used for transporting goods or another specified purpose.)



Marshalling yard.

(i)Flat yard:

✓Flat yards are constructed on flat ground, or on a gentle slope. Freight vehicles are pushed by a locomotive and coast to their required location.

✓A **flat yard** has no hump, and relies on locomotives for all car movement. (**locomotive** - a powered railway vehicle used for pulling trains.) (**hump** -a rounded raised mass of earth or land)

(ii) Gravity yard:

✓The whole yard is set up on a continuous falling gradient and there is less use of shunting engines.

✓Typical locations of gravity yards are places where it was difficult to build a hump yard due to the topography.

(ii) Gravity yard:

✓Gravity yards also have a very large capacity but they need more staff than hump yards and thus they are the most uneconomical classification yards.

(iii)Hump-yard:

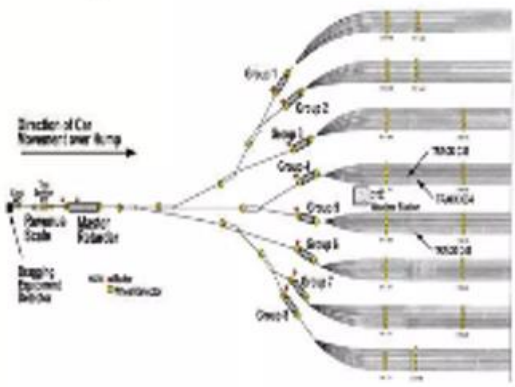
✓These are the largest and most effective classification yards, with the largest shunting capacity—often several thousand cars a day.

✓The heart of these yards is the hump: a lead track on a hill (hump) that an engine pushes the cars over.

✓Single cars, or some coupled cars in a block, are uncoupled just before or at the crest of the hump, and roll by gravity onto their destination tracks.

(iii)Hump-yard:

A hump yard has a constructed hill, over which freight cars are shoved by yard locomotives, and then gravity is used to propel the cars to various sorting tracks.



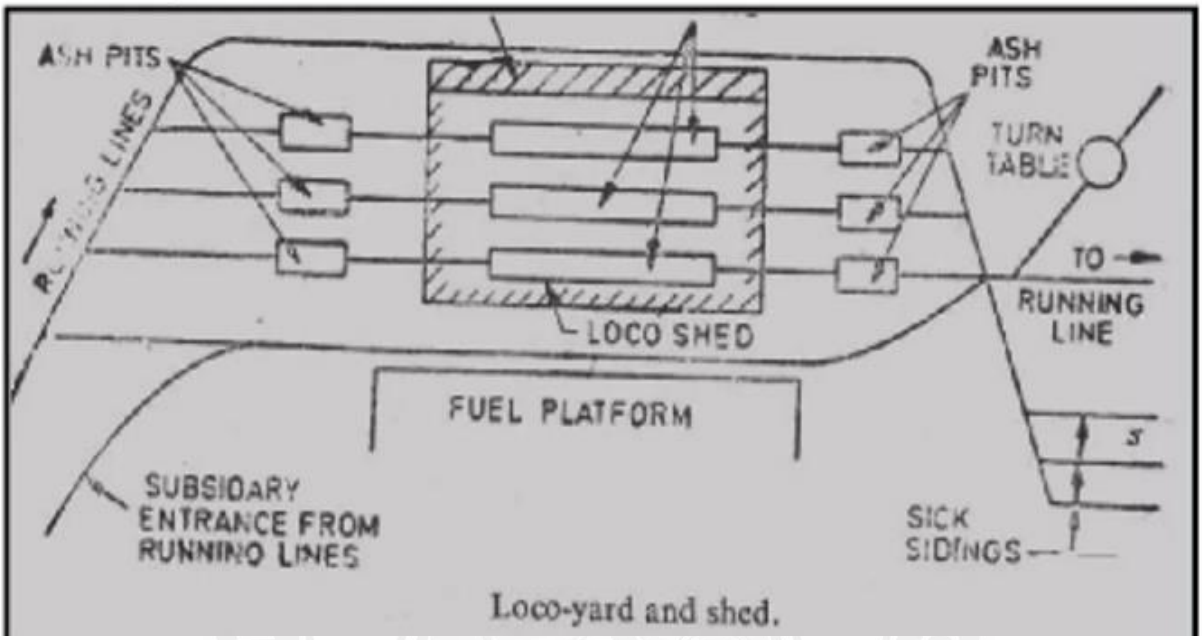
3.Locomotive yards:

This is the yard which houses the locomotives for various facilities such as watering, fueling, cleaning, repairing, servicing etc.

Essential Requirements:

- ✓Clear run from traffic yard to turntable.
- ✓Turn table should not be an obstruction.
- ✓Second entrance should be available to the fuel platform.
- ✓Loop line for fuel platform should be long enough to accommodate longest trains.
- ✓Engine shed should accommodate maximum number of engines.
- ✓OHT and loco well should be as near as possible.

3.Locomotive yards:



Loco-yard and shed.