# Statistics C\&W and Performance Parameters 

P/RST

## Railway Statistics

- Railway Statistics: Essential for planning prioritizing and exceeding activities connected with
- operation.
- The railway statistics are based on four factors -
- Quantity
- Distance
- Duration and
- service.
- In Railway environment these relate to -


## Railway Statistics

1. Primary Units:

- (a) Quantity - Expressed as tonnes and number of passenger carried and earnings derived.
- (b) Distance - Expressed in kilometres.
- (c) Duration- Expressed in minutes, hours \& days
- (d) Service performed - Expressed in terms of trains, vehicles, wagons Engines.
- 2. Fundamental Units: Relationship between primary units, expressed in composite terms is called 'Fundamental units'.
- The fundamental units express two primary ideas in their relationship to one another viz.
- Tonne-kms, Passenger kilometres, Train-kilometres,
- Wagon-kilometres, Engine hours,
- Wagon days etc.


## Railway Statistics

## 3. Derived Units:

- Expresses the relationship that exists between two sets of primary or fundamental units and the results thus arrived is termed 'Derived Units'.
- The process by which this relationship is ascertained is as illustrated in the following examples.
- (a) Passenger earning (Primary): Passenger carried (Primary) = Earning per passenger
- (b) Passenger earning (Primary): Passenger kilometres (fundamental) = Earning per passenger kilometre.
- (c) Passenger kilometer (fundamental): Number of passenger (Primary) = Average distance travelled by a passenger also called lead of passenger traffic.


## Railway Statistics

- (d) Wagon kilometres (fundamental): Wagon days (fundamental) $=$ Wagon kilometres per
- wagon day.
- These ‘Derived Units’ highlight special features of transportation output and are useful in evolving
- suitable management strategies


## Railway Statistics

- Classification of Railway Statistics:
- The principal heads under which the railway statistics are generally grouped are indicated below:
- Economic and financial statistics:
- Under this head are to be included detailed statistics relating to the advance statement of gross
- earning and traffic handled i.e.the number of passenger booked and tonnage lifted and wagons
- loaded for current information and the statistics of revenue and expenditure as booked in monthly and
- yearly accounts.
- Operating statistics:
- Operating statistics are broadly be divided into
- (i) Traffic (ii) Power.(iii) Rolling Stock
- (ii) The traffic statistics include statistics of wagons loaded, wagon mobility, wagon usage, train
- loads, train mobility, productive and unproductive services, wagon detention, marshalling yard,
- terminal goods station and punctuality
- (iii) The power statistics include engine usage, fuel and energy consumption, and engine failure
- statistics etc. (iv) Rolling stock holding \& availability, repairs\& maintenance $\%$ age
- Commercial Statistics: Coaching and freight revenue and volumes and earnings by class of


## Railway Statistics

- passengers, for different commodities, claims paid for compensation of goods and parcels lost or
- damaged Rolling stock and workshop repair statistics:
- Under this head are grouped statistics dealing with POH of coaches, wagons, locomotives and other
- information relating to workshop activity.
- Administrative statistics:
- These statistics relating the staff matters, numbers, by categories and classes of staff.
- Other statistics
- Number of stations by
- Class, halt stations
- Standard of interlocking,
- Medical statistics relate to sickness of staff etc
- Engineering statistics give details of track and bridges requiring attention - ultra sonic tests done or
- overdue, track renewals, distress bridges etc.


## Railway Statistics

- Compilation of Railway Statistics:
- 1. Compilation of statistics of Indian Railways falls broadly under two categories, namely
- (i) the statistics required to be compiled by the railways for submission to the Railway Board in order to keep
- the Board generally informed about the different activities of the Indian Railways and
- (ii) further detailed Railway statistics which individual railway may undertake for their own respective domestic requirements.


## Railway Statistics

$>2$. The statistical compilation work on the zonal Railways is
in the charge of a Statistical Officer working under
Finance deptt.
$>$ The format and the methods of compilation of the monthly Statistical statements and
$>$ the Annual Statistics required to be submitted to the Board are detailed in
$>$ the Manual Statistical Instructions, Volumes I and II respectively.

## Railway Statistics

Operating Statistics:

1. Operating Statistics for the various Indian Railways are issued in the form of:
> various pamphlets published periodically by the Railway Board.
>Detailed Statistics relating to each division and gauge are contained in various parts of the 'Domestic' statistics issued quarterly (Parts, I, II and II(B \& C).
2. Some of the important statistics include.

- Operating ratio: The ratio of workings expense (excluding suspense but including appropriation to
- Depreciation Reserve Fund and Pension Fund) to Gross Earnings.
- (Expenditure incurred in connection with Administration, Operation, Maintenance and repairs of line open for traffic)


## Railway Statistics

- A - Passenger Train Performance.
- Punctuality:
- Punctuality is the main criterion for judging passenger train performance,
- some of the statistics compiled separately for 'Mail and Express trains', 'Other Passenger Trains', and 'Mixed' trains are:
(RT + NLT )
- Punctuality = ------------------------------------- x 100

Total no. of Mail/Express trains

- RT = Trains arriving Right Time
- NLT = Trains not loosing time


## Railway Statistics

- Vehicle Kilometres per Vehicles Day:
- This figure indicates by the vehicle days which are the product of average number of coaching
- vehicles on line /in use and the number of days in the period under reference.
- This figure indicates the extent to which coaching vehicles are kept 'on the move'. The main
- factors affecting its value are:
- (a) The average speed of trains
- (b) The average length of train run (average load)
- (c) The idle periods provided for in rake links.


## Railway Statistics

3. Since in the short run, train composition is not susceptible to change,
$>$ it is only by increasing the speeds of trains and tightening up rake links
$>$ that an improved performance can be achieved.
4. This result is calculated by dividing the coaching vehicles kilometres by the vehicles days
$>$ which is the product of average number of coaching vehicles on line and the number of days in the period under reference.

Coaching Vehicle Km
Vehicle km. Per Vehicle day =
Vehicle day

## Railway Statistics

## Average Speeds:

- This figure represents the average time tabled speeds of passenger trains. The higher this figure, the
- better the service to the passengers

Shunting Kilometres per 100 Train Kilometres (Passenger including proportion of Mixed) :

- 1. This figure indicates the amount of unproductive service that has to be performed per 100
- train kilometres (Passenger including proportion of mixed).
- Since the amount of shunting to be done
- on a passenger train depends upon various local factors, the figure will vary from Division to Division and from Railway to Railway,
- traffic conditions remaining constant, is indicative of wasteful shunting.


## Railway Statistics

2. The figure is arrived at by multiplying by 100 the quotient of shunting kilometres divided by train kilometres
(passenger including proportion of mixed).

- It can be depicted by formula given below:Shunting Kms x 100

Train kms.
B-Wagon Usage

- Average Starting Wagon Load :
- 1. This figure is compiled separately for coal and coke, heavy merchandise and lightmerchandise,
- thus affording an indication of the extent to which
- wagon space is utilised by stations from which traffic originates.


## Railway Statistics

- It is extremely important that wagons be given as full a load as possible
- because this means economy, in wagon usage and hence engine power and less strain on line and
- yard capacity. Even a slight improvement in the starting wagon load can mean a tremendous saving to the Railway.

2. The result is calculated by dividing the number of tonnes loaded by the number of wagons loaded (in terms of four wheelers),

- CR and TR vans as also wagons used for live stock and
- departmental purposes, however, are excluded.

Tonnes Loaded

- Average Starting Wagon Load =

No. of Wagons Loaded

## Railway Statistics

- Wagon Kilometres per Wagon Day:
- This result is obtained by dividing wagon kilometres by wagon days which is the product of
- daily average number of wagons on line and number of days in period.

Wagon Kms.

- Wagon Km. Per Wagon day =

Wagon Days

- This figure is a measure of wagon mobility and indicates the average number of kilometres
- moved by a wagon, on the average, per day, both loaded and empty journeys being included.
- Delays in marshalling yards, delays at stations when loading or unloading, or any other reason.


## Railway Statistics

- Net Tonne Kilometres per Wagon Day :

1. This unit is a measure of the revenue earning work done by the wagons and reflects both mobility and loading.

- A decrease in this figure may be due interalia to any of the causes which effect
- the figure of wagon kilometres per wagon day. The proportion of loaded to total wagon kilometer age,
- the average loaded wagon and the relative amount of heavy and light merchandise carried, are some
- of the other factors which may effect this figure.

2. The numerator in this case is the net tonne kilometres (excluding departmental) and the denominator wagon days.

Net Tonne kms.

- Net Tonne km. Per wagon day =

Wagon days

## Railway Statistics

Wagon Turn Round:

- wagon turn round represents the average period of time
- in which a particular wagon completes its average loaded trip
- and after which it again becomes available for loading.

No. of effective wagon holding

- Wagon Turn Round = ------------------------------
(Loaded Wagons + Loaded received wagons)


## Railway Statistics

Average Wagon Load during the Run :

- For obtaining this figure net tonne kilometres are divided by loaded wagon kilometres, (the figure relating to departmental trains are excluded).

Net Tonnes Kms.

- Average Wagon Load during the run =

Loaded Wagon kms.
Average Speed of Goods Trains :

- This result is calculated separately for 'through goods trains' and all goods trains and is arrived at by dividing
- the total train kilometres by total train engine hours of the concerned service.
- Detentions to goods trains at roadside stations enter into the calculations and have therefore
- the effect of bringing down average speeds.

Train kms.

- Average Speed of Goods Trains =

Train Engine hours.

## Railway Statistics

## Wagon Turn Round:

No. of effective wagon holding

- Wagon Turn Round =

> (Loaded Wagons + Loaded received wagons) Train kms.

- Average Speed of Goods Trains =

> Train Engine hours.

Average Net Train Loads (in tonnes) :

- This figure refers to the average freight load carried in tonnes, i.e., to that portion of load which earns revenue for the railway.

Net Tonne kms.

- Average Net Train Loads =

Train kms.

## Railway Statistics

- Average Gross Train Loads (in tonnes) :
- This figure represents the average overall load of goods trains i.e.
- the freight load plus the weight of the rolling stock.

Gross Tonne kms.

- Average Gross Train Loads =

Train kms.
Net Tonne Kilometres per Engine Hour :

- The figure of net tonne kilometres per Engine hour is a very useful index of the efficiency of freight
- working on a division. Net tonne kilometres indicate the amount of revenue earning work done while engine hour measure the cost of if doing it.

Net Tonne kms.

- Net Tonne Kilometers per Engine Hours = Engine hours
- Average Detention per Wagon :

Total Detention Hours
Average Detention per Wagon =

> No. of Wagons despatched

- Target figures have been laid down for each yard for detentions to all wagons and through loaded wagons.
- Such targets take into consideration the condition of work and facilities available in the yard concerned.
- Detentions in excess of this figure indicate inefficient yard work.


## Railway Statistics

## Locomotive Performance

- Engine Kilometres per Day per Engine in Use

Engine kms.

- Engine kms. per day per engine in use =

Engine days in use

- This figure is compiled separately for passenger, mixed and goods train services as well as for all services refers to 'engines in use'.
- This is affected by such factors as:
- 1. The average run of trains. 2. The average speed of trains.
- 3. The engine links
- 4. The location of engine shed with respects to the stations which they serve.
Engine Kilometres per Day per Engine on Line:
Engine kms.
- Engine kms. per day per eigine on line =

Engine days on line
This figure is also compiled by services and for all services put together.

## Railway Statistics

## Quantity of Fuel Consumed per Engine Kilometre by Service:

- This figure indicates the fuel consumption in relation to engine kilometres only and does not reflect the tonnes hauled.

Quantity of Fuel Consumed

- Quantity of fuel consumed per engine km by service $=$


## Engine kms.

Quantity of Fuel Consumed per 1000 Gross Tonne Kilometres by Services:

- This figure indicates the fuel consumption in relation to the work done and is,
- therefore, a better index of fuel consumption than the quantity of fuel consumed per engine kilometer figure.
- The main factor that influences this result is the gross load of the train. It is derived by the formula given below:
- Quantity of Fuel Consumed x 1000
- Gross Tonne kms.
- Traction Energy consumption per engine km and per 1000 gross tonne kms is worked out exactly in the same way, replacing 1000 litres of diesel by kwhs.


## Key Statistics

| Item | Unit | $2017-18$ | $2018-19$ |
| :--- | :--- | :--- | :--- |
| PLANT \& EQUIPMENT |  |  |  |
| Capital-at-Charge | Rs.in crore | $@ 3,24,725.64$ | $\# 3,48,601.77$ |
| Total Investment | Rs.in crore | $5,17,324.19$ | $5,73,641.66$ |
| Route Length | Kms. | $66,935^{*}$ | 67,415 |
| Locomotives | Nos. | 11,764 | 12,147 |
| Passenger Service Vehicles | Nos. | 65,327 | 67,597 |
| Other Coaching Vehicles | Nos. | $6,537^{*}$ | 6,406 |
| Wagons | Nos. | $2,79,311^{*}$ | $2,89,185$ |
| Railway Stations | Nos. | $7,318^{*}$ | 7,321 |

## Key Statistics Contd

| Item | Unit | 2017-18 | 2018-19 |
| :--- | :--- | :--- | :--- |
| OPERATION: |  |  |  |
| Train kms. <br> Fehicle kms |  | Millions | 26,195 |

## Key Statistics Contd

| Item | Unit | 2017-18 | 2018-19 |
| :---: | :---: | :---: | :---: |
| VOLUME OF TRAFFIC: |  |  |  |
| Passengers Originating | Millions | 8,286 | 8,439 |
| Passenger kms | Millions | 11,77,699 | 11,57,174 |
| Tonnes Originatingg:\$ |  |  |  |
| Revenue Earning:Traffic | Millions | 1,159.55 | 1,221.48 |
| Total Traffic (incl. nonrevenue) | Millions | 1,162.64 | 1,225.29 |
| Net Tonne kmsg:\$ |  |  |  |
| Revenue Earning Traffic | Millions | 6,92,916 | 7,38,523 |
| Total Traffic (incl. nonrevenue) | Millions | 6,93,281 | 7,38,923 |

## Key Statistics Contd

| Item | Unit | 2017-18 | 2018-19 |
| :--- | :--- | :--- | :--- |
| EMPLOYMENT AND WAGES: |  |  |  |
| Regular Employees | Thousands | $1,270^{*}$ | 1,227 |
| Wage Bill of Regular Employees | Rs. in crore | $1,28,714.4^{*}$ | $1,34,364.18$ |
| Average Annual Wage Per <br> Regular Employee | in units | $10,18,501^{*}$ | $10,97,370$ |
| FINANCIAL RESULTS: |  |  |  |
| Revenue | Rs.in crore | $1,78,725.31$ | $1,89,906.58$ |
| Expenses | -do - | $1,75,834.22$ | $1,84,780.30$ |
| Miscellaneous Transactions | - do - | $-1,225.48$ | $-1,352.42$ |
| Net Revenue (before dividend) | - do - | $1,665.61$ | $3,773.86$ |
| Rate of Return on Capital | Percent | 0.51 | 1.08 |
| Dividend on Capital | Rs.in crore | 0 | 0 |
| Shortfall(-)/Excess(+) | Rs.in crore | $1,665.61$ | $3,773.86$ |
| @ Includes investment (`53449.91 crore) from Capital Fund. \# Includes investment \\ (` 53449.91 crore ) from Capital | Fund. \$ Excludes Konkan Railway. | * Revised ** No |  |

## Other Important Statistics

| S.N. | Item | Unit | $2017-18$ | $2018-19$ |
| :--- | :--- | :--- | :--- | :--- |
| I | Rail Network |  |  |  |
| 1 | Route Kilometres |  |  |  |
|  | (i) BG | Kms. | $62,049^{*}$ | 62,891 |
|  | (ii) MG | Kms. | $3,201^{*}$ | 2,839 |
|  | (iii) NG | Kms. | $1,685^{*}$ | 1,685 |
|  | (iv) Total (all gauges) | Kms. | $66,935^{*}$ | 67,415 |
| 2 | Running Track Kilometres <br> (Total all gauges) " | Kms. | $94,270^{*}$ | 95,981 |
| 3 | Total Track Kilometres (Total <br> all gauges) " | Kms. | $1,22,873^{*}$ | $1,23,542$ |
| 4 | Electrified Route Kilometre <br> (Total all gauges) " | Kms. | $29,228^{*}$ | 34,319 |

## Important Definitions

## Loco Outage and Loco Utilisation

$>$ Loco Outage means the average number of locos available to traffic use in a day (24 hours).
$>$ Thus, the total hours for which the various Locos were available for Traffic use divided by 24 (number of hours in a day) would give the Loco outage.
$>$ Loco outage = Engine Hours for traffic use/ 24
$>$ Loco outage can be prepared service-wise/shed-wise/railway-wise, traction wise etc.
> The actual Loco outage should generally be around the target fixed for each Division.

## Wagon Turn Round:

Wagon Turn Round ( $\mathbf{T}$ ) = S /(L+R)
> Where ' S ' stand for the effective daily wagon holding or midnight wagon balance of a day (excluding sick, POH wagons in or waiting for shops, like departmental wagons, wagons lent for departmental use, and the wagons used for coaching traffic).
> L'stands for the total number of wagons loaded on the Division/Railways plus the wagons loaded at Transhipment Point,
$>$ ' R ' stands for the total number of loaded wagons received from other Railway/Divisions.

| SN. | Item | Unit | 2017-18 | 2018-19 |
| :---: | :---: | :---: | :---: | :---: |
| II | Rolling stock |  |  |  |
| 1 | Number of Locomotives | (in units) |  |  |
|  | (i) Steam | " | 39 | 39 |
|  | (ii) Diesel | " | 6,086 | 6,049 |
|  | (iii) Electric | " | 5,639 | 6,059 |
|  | (iv) Total | " | 11,764 | 12,147 |
| 2 | Number of Wagons | " | 279311* | 2,89,185 |
| 3 | Number of Coaches- | (in units) |  |  |
|  | (i) Passenger Carriages (including DEMU/ DHMU) | " | 55,749 | 57,134 |
|  | (ii) Other Coaching Vehicles | " | 6,537* | 6,406 |
|  | (iii) EMU and MEMU Coaches | " | 9,556 | 10,439 |
|  | (iv) Rail Cars | " | 22 | 24 |
|  | (v) Total | " | 71,864* | 74,003 |

Wagon Utilisation

| SN. | Item | Unit | 2017-18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
| 1 | Wagon KMs in terms of 8 wheelers | Million | $18,457^{*}$ | 19,364 |
| 2 | Total Carrying Capacity (All Gauges) | MillionTonnes | 16.28 | 16.95 |
| 3 | Average carrying capacity - wagon <br> (i)BG (ii) MG | Tonnes | (i)61.7 <br> (ii) 31.7 | 61.6 <br> Wagon Turn Round (in days) <br> (BG) |
| Days | 5.21 | 5.00 |  |  |
| 5 | Wagon Kms. per wagon per day <br> (BG) | Kms | 206.5 | 203.9 |
| 6 | NTKMs per wagon per day (BG) | Kms | 7405 | 7747 |
| 7 | Ineffective percentage of <br> wagons (B.G) | \%age | 3.63 | 3.61 |

## Coach Utilisation

| SN. | Item | Unit | 2017-18 | 2018-19 |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Vehicle Kms | Millions |  |  |
|  | (i) Suburban (EMU) | " | 2,053* | 2,098 |
|  | (ii) Non Suburban | " | 24,140 | 24,365 |
|  | (iii) Total | " | 26,195* | 26,463 |
| 2 | Vehicle Kms per vehicle day (B.G) | Kms. | 555 | 533 |
| 3 | Ineffective percentage of coaches(B.G) (Passenger Carriage) | Percent | 5.89 | 6.07 |
|  | Train Utilisation |  |  |  |
| a. | Passenger Train Performance |  |  |  |
| 1 | Number of Passenger trains runs daily | Nos. | 13,452 | 13,523 |
| 2 | Passenger Train Kms | Millions | 769.29 | 779.24 |
|  |  |  |  |  |


| SN. | Item | Unit | 2017-18 | 2018- 19 |
| :--- | :--- | :--- | :--- | :--- |
| b. | Goods Train Performance |  |  |  |
| 1 | Number of Goods trains runs <br> daily | Nos. | 9,141 | 9,146 |
| 2 | Goods Train Kms | Millions | 396.48 | 414.53 |
| 3 | Average Speed of All Goods Train <br> (B.G.) (i) Diesel <br> (ii) Electric <br> (iii) All Traction | Kms./ <br> Hour | (i)22.7 | 22.3 |
| 4 | (ii) 23.6 <br> (iii)23.3 | 23.8 |  |  |
| Average Net load of Goods train <br> (B.G) (All traction) | Tonnes | 1,763 | 1,738 |  |
| 5 | Average Gross load of Goods train <br> (B.G)(All traction) | Tonnes | 3025 | 2925 |
|  |  |  |  |  |

## Volume of traffic

| SN. | Item | Unit | 2017-18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
| a | Passenger Traffic (Suburban + <br> NonSuburban) |  |  |  |
| 1 | Passenger Originating | Millions | 8,286 | 8,439 |
| 2 | Passenger Kilometres | Millions | $11,77,699$ | $11,57,174$ |
| 3 | Average Lead | Kms. | 142.21 | 137.14 |
| 4 | Passenger Earnings | in crores | 48,643 | 51,067 |
| 5 | Average rate per PKMs | Paise | 41.30 | 44.13 |
| 6 | Number of Passenger carried <br> per day | Millions | 22.70 | 23.12 |

## Volume of traffic

| SN. | Item | Unit | $2017-18$ | $2018-19$ |
| :--- | :--- | :--- | :--- | :--- |
| b. | Freight Traffic (Revenue) |  |  |  |
| 1 | Tonnes originating | Millions | $1,159.55$ | $1,221.48$ |
| 2 | Lead (originating) | Kms. | 598 | 605 |
| 3 | Freight Earnings excl. <br> Demurrarge/Wharfage | in crores | $1,13,523.53$ | $1,22,580.31$ |
| 4 | Frieght NTKMs | Millions | $6,92,916$ | $7,38,523$ |
| 5 | Average rate per NTKMs | Paise | 163.83 | 165.98 |
| 6 | Earnings per million tonne | in crores | 97.90 | 100.35 |
| 7 | Freight carried per day (including <br> non-revenue) | Millions <br> Tonnes | 3.19 | 3.36 |
|  |  |  |  |  |

Train Accidents

| SN. | Item | Unit | 2017 -18 | $2018-19$ |
| :--- | :--- | :--- | :--- | :--- |
|  | Train Accidents (Excl. KRCL) | Nos. | 72 | 59 |
| 1 | Collisions | $\prime \prime$ | 3 | 0 |
| 2 | Derailment | $\prime \prime$ | 53 | 46 |
| 3 | Level Crossing | $\prime$ | 13 | 6 |
| 4 | Fire in trains | $\prime \prime$ | 3 | 6 |
| 5 | Miscellaneous | $\prime$ | 0 | 1 |
| 6 | Accident per million train kms | $\ldots$ | 0.06 | 0.05 |

Density

| SN. | Item | Unit | 2017 -18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
|  | Density |  |  |  |
| 1 | Net Tonne Kms per route <br> Km. (BG) | Km. | $11.17^{*}$ | 11.75 |
| 2 | Passenger Kms per route <br> Km. (BG) | $\ldots$ | $18.89^{*}$ | 18.34 |
| 3 | Gross Tonne Kms per route <br> Km. (BG) | $\ldots$ | $32.35^{*}$ | 33.58 |
| Comsumption of Fuel/Energy by Locomotive |  |  |  |  |

## Loco Utilisation

| SN. | Item | Unit | 2017-18 | 2018-19 |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Tractive effort per loco |  |  |  |
|  | (i) BG | Kgs. | 38,166 | 39,413 |
|  | (ii) MG | " | 16,879 | 16,226 |
| 2 | GTKMs (excl. wt. of engine \& dept.) per kg. of tractive effort. | " |  |  |
|  | (i) BG | Kms | 4,062* | 3,989 |
|  | (ii) MG | " | 383 | 401 |
| 3 | Engine kilometres per day per engine in use (Pass.) (B.G) | Kms. |  |  |
|  | (i) Diesel | " | 594 | 582 |
|  | (ii) Electric | " | 718 | 678 |

## Loco Utilisation

| SN. | Item | Unit | $\begin{aligned} & 2017- \\ & 18 \end{aligned}$ | 2018-19 |
| :---: | :---: | :---: | :---: | :---: |
| 4 | Engine kilometres per day per engine in use (Goods)(B.G) |  |  |  |
|  | (i) Diesel | Kms. | 368 | 351 |
|  | (ii) Electric | " | 393 | 387 |
| 5 | NTKMs per engine hour (BG) All traction | " | 17,474 | 16,571 |
| 6 | Ineffective percentage of locomotives (B.G) | Percent |  |  |
|  | (i) Diesel | " | 8.48 | 8.53 |
|  | (ii) Electric | " | 6.80 | 7.11 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Some Selected Financial Ratio

| SN. | Item | Unit | 2017 -18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
| (A) | Financial Ratios |  |  |  |
| 1. | Operating ratio | \%age | 98.44 | 97.29 |
| 2. | Rate of return on Capital | \%age | 0.51 | 1.08 |
| 3. | Working ratio of IR | \%age | 92.5 | 91.9 |
| 4. | Operating ratio with subsidy (Cost <br> recovery) | \%age | 80.0 | 77.4 |
| 5. | Operating ratio for <br> (i)Coaching (passenger) | \%age | 181.20 | 192.49 |
|  | (ii)Goods (Fright) | \%age | 58.83 | 58.72 |
| 6. | Debt Servicing as percentage of OWE and as a percentage of Gross receipts. |  |  |  |
|  | i. Debt servicing as percentage of <br> OWE | \%age | 13.2 | 13.6 |
|  | ii. Debt servicing as percentage of <br> Gross Receipts |  | 9.5 | 10.0 |
| 7. | Capex to Revenue ratio - Capex ( <br> from internal generation ) /Revenue | \%age | 1.7 | 2.5 |

## Some Selected Financial Ratio

| SN. | Item | Unit | 2017 -18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
| (B) | Earning/ Yield Ratios ( Based on <br> Apportion Earning) |  |  |  |
| 8. | Passenger yield/ PKMs | In Paise | 41.30 | 44.13 |
| 9. | Freight yield/NTKMs | In Paise | 163.83 | 165.98 |
|  | Productivity index |  |  |  |
|  | i. Employee Productivity |  | $* 611539$ | 669252 |
|  | ii. Infrastructure Productivity |  | $* 6322773$ | 6646180 |
|  |  |  |  |  |

## Some Selected Financial Ratio

| SN. | Item | Unit | 2017-18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
| (C) | Asset Utilization |  |  |  |
| 10. | Utilization of Assets |  |  |  |
|  | i. NTKMs per wagon per day-(BG) | KMs | 7,405 | 7747 |
|  | ii. Wagon KMs per Wagon day-(BG) | KMs | 206.5 | 203.9 |
|  | iii. Wagon turn around - BG | In days | 5.21 | 5.00 |
|  | iv. Average Load per Wagon - BG | Tonnes | 54.5 | 60.8 |
| (D). | Operating Indices |  |  |  |
| 11. | Average speed of Goods Train - (BG) - <br> All traction | KM/hour | 23.3 | 23.2 |

## Some Selected Financial Ratio

| SN. | Item | Unit | 2017 -18 | 2018-19 |
| :--- | :--- | :--- | :--- | :--- |
| 12. | Infective percentage of Rolling Stock - <br> (BG) |  |  |  |
|  | i. Diesel Locos | \%age | 8.48 | 8.53 |
|  | ii. Electric Locos | \%age | 6.80 | 7.11 |
|  | iii. EMU Coaches | \%age | 12.2 | 14.4 |
|  | iv. Passenger Carriages | \%age | 5.89 | 6.07 |
|  | v. Other Coaching Vehicles | \%age | 6.44 | 5.18 |
|  | vi. Wagons | \%age | 3.63 | 3.61 |
| 13. | Specific Fuel Consumption <br> (Consumption per 1000 GTKMs) - (BG) |  |  |  |
|  | i. Passenger service - Diesel | Litres | 3.53 | 3.74 |
|  | ii. Goods services - Diesel | Litres | $2.01^{*}$ | 1.97 |


| SN. | Item | Unit | 2017-18 | 2018- 19 |
| :--- | :--- | :--- | :--- | :--- |
| 14. | Specific Energy Consumption ( <br> Consumption per 1000 GTKMs) <br> - (BG) |  |  |  |
|  | i. Passenger service- Electricity | K.Wt. <br> Hrs. | $19.4^{*}$ | 18.9 |
| ii. Goods services -Electricity | K.Wt. <br> Hrs. | 5.89 | 5.83 |  |
| 15. | Punctuality Index - <br> Punctuality (M/Exp. Trains) <br> -(BG) | \%age | 71.39 | 69.23 |
| 16. | Accident per Million train <br> Kilometers |  | 0.06 | 0.05 |
|  | *Revised |  |  |  |

