Public Works (1890) Department.

RAILWAY BRANCH.

G.O., No. 1843 Ry.

DATED 19th November

[Despatch Abstract.]

Administration report.—Letter from the Govt of Bengal forwarding Copies of the — of Railways in Bengal for 1889-90, Communicated to the Consulting Engineer for Railways for information.

[P. W. Ry. 500—8-5-00.]

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Government of Bengal.

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

PROGRESS AND ADMINISTRATION REPORT

OF

RAILWAYS IN BENGAL

FOR

1888-89.

Calcutta:

PRINTED AT THE BENGAL SECRETARIAT PRESS.

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PROVINCIAL RAILWAYS.

GENERAL REVIEW.

THE railways under the control of the Government of this province, and for which financial responsibility has been accepted, are—

				Miles.
Eastern Bengal State Railway,	broad gauge		...	234¾
Ditto	ditto,	metre do.	...	442
Tirhoot State Railway	...	...	...	259
Nalhati State Railway	...	...	...	27½
Under the control of this Government.				
Bengal Central Railway	...	...	...	125

New lines and extensions.

The remaining portions of the Assam-Behar Railway, from Purneah north to near the Nepaul boundary, and the remaining link between Katyar and Raigunge, were nearly completed, and will be opened in about three months after the close of the year under review: the latter portion will, when opened, complete through railway communication between Northern and Eastern Bengal and Behar and the North-Western Provinces, and cannot fail to exercise an important influence upon some of the richest and most populous districts of this province. A railway from Howrah to Budge-Budge Petroleum Depôt, 11 miles, has been nearly completed: this will allow of the large and ever-increasing imports of petroleum being carried inland without danger to the town or shipping.

The Tirhoot State Railway has been extended to Pertabgunge, near the Kosi river, and the result of even a few months' opening has been most satisfactory. A large trade in rice and exports and imports into Nepaul may confidently be expected. Surveys have been made and projects are being prepared for a temporary line from here over the Kosi bed, to meet a similar temporary line in continuation of the Assam-Behar Railway on the east side with a steam ferry over the actual river; but it is doubtful whether permanent through communication can even be established here at any cost commensurate with results. A survey has been made for an extension from near Durbhunga towards the north to Sitamarhi and beyond to the river Bagmutti, and this may possibly have to be commenced as a famine work. A survey for a branch from Sakri station to Jainugger, 27 miles, has also been made, and this can be held in reserve, as a famine work, if necessary.

Financial results.

The results of the year's working have been, on the whole, satisfactory, the amount credited to Provincial funds being Rs. 25,23,480, against Rs. 22,92,740 in 1887-88, as shown in detail below:—

		Rs.	Rs.
Eastern Bengal State Railway ...	...	25,94,537	.....
Nalhati State Railway	...	5,275	.....
Tirhoot State Railway	...	.....	76,322
Total	...	+25,99,812	—76,322

Under the Provincial contract, all gross receipts over 30 lakhs on the broad gauge system of the Eastern Bengal Railway are returned to the Government of India. This amounted to Rs. 7,85,152, against Rs. 2,09,936 in 1887-88, and the increase in receipts of this portion during 1888-89 has not benefited Bengal.

What has raised Provincial receipts has been the increase of traffic on the Northern Section (Northern Bengal State Railway.)

The net receipts for the broad and metre gauge portions of the Eastern Bengal Railway during 1887-88 and 1888-89 have been:—

	1887-88.	1888-89.
Broad gauge (Eastern and Southern sections) ...	32,09,936	37,85,152
Metre gauge (Northern, Dacca, Kaunia-Durla and Assam-Behar sections)	15,27,245	19,45,023

Considering that the Dacca line is worked at a loss, that the Assam-Behar has only a portion opened, and that but recently, this increase of net receipts during the year on the system north of the Ganges is most hopeful.

A large amount of interest (Rs. 2,67,795), on what is as yet mostly unproductive capital on the Assam-Behar Railway, lessens much the net results in favour of this province during the financial year. As this line becomes productive, a yearly increase may be expected. The Tirhoot State Railway has been worked at a loss of Rs. 76,322, partly due to scarcity, which caused a reduction in the traffic in grain, but chiefly to the large increase of interest (Rs. 1,83,186) on account of capital expenditure on the newly-opened portion from Durbhunga to the Kosi river.

Taking the above into consideration, and that still the net profits to this Government exceed those of last year by Rs. 2,30,740, the financial future of railways in Bengal is encouraging.

Work done during year and remarks on each line.

On the Eastern Bengal Railway very important additions have been made for the accommodation of the staff. The additions to the workshops at Kanchrapara have been completed, and a number of additional sidings laid in at stations, where required, on the Northern Section. Additional goods sheds have been provided to meet the increased traffic, while the station yard at Sara has been remodelled, so as to give additional facilities for working passenger and goods traffic separately. Ten miles of the Southern Section have been relaid with steel rails, and on the Northern Section 17 miles of 40lb. rails have been replaced by 50lb. rails.

On the Tirhoot State Railway goods sheds have been built, and 4 A-class quarters for the staff, and fair progress has been made in renewing the old iron rails by steel rails.

On the Assam-Behar Railway, the unfinished portions of the line from Katyar to Raigunge, 37¼ miles, and from Kusba to near Nathpore, 45 miles, is practically completed. The rails are laid throughout on the first portion, and nearly to the end of the second, where a few bridges are not yet completed. The Mahanuddy bridge will be completed in April. Stations and staff quarters are nearly all completed, the supply of ballast is complete, and but a few miles have to be laid. From the 45th mile a survey has been made for a temporary line of some 5 miles to the bank of the Kosi river, opposite to where it is proposed to lay the temporary line on the Tirhoot side.

Cholera of a very severe type raged through the Purneah district with such violence as to delay the completion of the Assam-Behar line by nearly two months.

On the Nalhati State Railway the old 30lb. rails have been replaced for 2 miles with new 40lb. rails, and a large number of sleepers renewed. This short line, 27 miles, of an abnormal gauge, 4 feet, laid in a rough manner, on a district road, fulfils its duty as a carrier, and shows a profit of Rs. 5,275. The original 30lb. rails, laid down in 1863, are being replaced at the rate of 2 miles a year by 40lb. rails.

It is proposed next year to reduce the present gradients of 1 in 63, 66 and 70 to a uniform grade of 1 in 100. Locomotive and other repairs are carried out in a primitive but practical manner in a small workshop, power being given by the boiler of any engine which may happen to be laid up for repair.

The Bengal Central Railway shows a marked improvement in traffic. Considerable progress has been made in ballasting. A survey to Madaripore has been completed. This shows that a line from Singhia to that place can be constructed at a cost of Rs. 1,27,000 per mile. No final orders have yet been

given as to this extension: it would bring in a heavy traffic, and give Calcutta an alternative line for jute, and open out a district without roads and with its waterways silting up, but it is considered that it might interfere with the traffic on the Eastern Bengal Railway. This line is worked by the Eastern Bengal Railway on 40 per cent. of the gross receipts instead, of 60 per cent. as before, but the Board have not yet agreed to certain conditions, as to deterioration of rolling-stock, which would make a material difference in the contract.

The Darjeeling-Himalayan Railway has been maintained in good order, but the station arrangements are still very defective. The returns for 1888 show a large increase on those of 1887. The question of half profits over 5 per cent., since the line was opened in 1881, belonging to Government is under arbitration.

Final revised estimates of each section of the Chittagong-Chandpore-Assam Railway have been prepared, and the Government of India having in a Resolution stated they will give no guarantee, but are prepared to accept proposals for the construction of this line as a whole, a Syndicate in London have declared their willingness to undertake this work, on certain conditions, not in the nature of a money guarantee, and their proposals are now under the consideration of the Secretary of State. As far as this line lies within Bengal, its paying prospects, based on careful statistics, are good, and railway communication is urgently required in the districts it would pass through.

The Deoghur Railway, 4·79 miles, has been maintained in good order. In 1888 there was a diminution of traffic as compared with 1887, but the returns, as far as they go for 1889, are favourable. This little line just pays the interest on its capital: it is too short to expect much more.

The Tarkeswar Railway, 22 miles, worked by the East Indian Railway, has been maintained in good order. Traffic is increasing, and for 1888 it shows the high average of Rs. 244 per mile per week.

A survey has been made for an alternative line to Calcutta from Gya, *viâ* Baidynath, Soory, Culna and Cutwa, joining the East Indian Railway near Hooghly, with an alternate line to Ranaghat, with branches to Assensole and Bhugwangola. Field work has nearly been completed. A reconnaissance was also made from Gya to Sasseram. The result shows that the length from Mogul Serai to Howrah *viâ* this alignment would be 459 miles, against 469 miles of the present East Indian Railway. Detailed plans and estimates will be completed in October 1889.

East Indian Railway.—The junction with Hooghly bridge line at Hooghly station has been completed; increased accommodation for stores has been given at Howrah; additions are in progress to the junction station at Sahebgunge.

The receipts from passenger traffic have increased during 1888, but there has been a considerable falling off in goods traffic compared with the previous year, and the total earnings have been less than those for the last nine years, except in 1880 and 1884.

On the Patna-Gya line, worked by the East Indian Railway, there has been a decrease in both passenger and goods traffic, but the earnings, Rs. 168 per mile per week, are still good.

The above comprise all railways lying wholly within the province or within head-quarters in Bengal; others lying partly in this province are—

Nagpore-Bengal Railway.—Rails have been laid from Purulia to Assensole, and the Damuda bridge has been commenced. Work is in progress along the entire remaining length in this province.

Bengal and North-Western.—Additional sidings have been laid down at Sonepore to meet the requirements of the fair. At the Ganges ferry, steamers have been placed, which take vehicles across the river loaded, and the necessary barges, landing stage, &c., are complete. This is the first railway that has attempted to carry trains across a ferry in India—a practice common in America.

The traffic shows an increase over the previous year.

EASTERN BENGAL STATE RAILWAY.

The length of line worked was the same as in the previous year, and was divided into the following districts:—

i. Eastern Section, or A District, comprising the old Eastern Bengal System, including the Central Bengal Railway.
ii. Northern Section, or B District, comprising the Northern Bengal and Kaunia-Durla Railways, and the open portion of the Assam-Behar line, east of Raigunge.
iii. Dacca Section, or C District, comprising the Dacca line and the transhipment work at Goalundo.
iv. Assam-Behar Section, or D District, comprising the open portion of the Assam-Behar line, west of Raigunge.
v. Chitpore goods yard.

The mileage worked was the same as in the previous year, as given below, for the various sections:—

					Miles.
Eastern	Section	...	...	...	359·75
Northern	do.	...	...	...	317·71
Dacca	do.	...	...	...	85·92
Assam-Behar	do.	...	...	...	37·78
					801·16

The Steamer Services between Narayanganj and Goalundo, Diamond Harbour and Tumlook, Jatrapur and Dhubri, and the extensive Ferry Service between Damukdia and Sara, besides the minor ones on the Teesta and Durla, continued to be worked by the Railway Administration in addition to the railway mileage above stated.

WORKS IN PROGRESS.

CAPITAL WORKS.

Staff-quarters.—A commencement was made in the supply of adequate accommodation for the staff: five double-storied European quarters at Narculdanga, quarters for the Carriage Examiner at Naihati, and three blocks of European staff-quarters at Kanchrapara, were completed. Pucka quarters of an improved type were built at Kankinara, Jayrampur, and Munshiganj for the accommodation of the Native station staff. Menials' quarters were built at Daroani, Tiluckpur, Jaydebpur, Hajiganj, Dacca, Narculdanga, Naihati, Jayrampur, Munshiganj, and other stations on the line. A new institute for the use of the Railway employés at Kanchrapara was commenced during the year.

Chitpore line and yard.—The low level line to Chitpore was completed during the year, and some alterations in the Chitpore yard were also finished. The water tower and hydrants for protection of the goods sheds from fire were finished and made ready for use.

Bridges.—The three new bridges between miles 55 and 59 were completed during the year; the bridges on the Raigunge Section were painted, and the work of replacing the old Timber Bridge No. 9, on the Mogul Hât Branch, by an iron structure, was taken in hand.

Sidings.—The Beliaghata yard was remodelled to facilitate the working of the Southern Section, and to provide increased accommodation for East Indian Railway traffic. The interlocking apparatus to protect the line at the Municipal Railway crossing was received at the end of the year, and will shortly be in working order. The Sara yard was remodelled, and arrangements made to work goods and passenger trains on separate sidings. The grouping of points has been completed at Sara, and is in hand at other stations. The goods shed platforms and sidings at Chailhati, Daroani, and Haldibari were extended, and dead sidings were laid at Madanpur, Chogdah, Aranghata, Bogoola, Ramnagar, Jayrampur, Chooadanga, Munshiganj, Alamdanga, and Halsa. Through sidings were laid at Kissengunge, Ramnagar, Nawabganj, Jaypur, Chorkai, Phulbari, and Madhnagar.

Demarcation of land.—Good progress was made during the year in demarcating the boundary of A-class land throughout the whole system by means of masonry pillars.

Over-bridge at Parbatipur.—An over-bridge was put in at Parbatipur to connect the station platforms and facilitate the working of the station.

River face wall.—At Narayanganj a river face wall was built to protect the railway frontage from erosion by the river Lukhia.

Budge-Budge extension.—Work on the extension from Tolly's Nullah to the Budge-Budge petroleum depôt has been vigorously pushed on since receipt of sanction in November; the earthwork in embankment for 7 miles was nearly completed by the end of the year, and bridges and culverts are well in hand. The building of stations at Moonghi and Budge-Budge has been commenced. An indent was sent home for the permanent-way for this extension, and part was lost in the wreck of the *Duke of Buccleuch*. Advice has, however, been received that a new contract has been made for permanent-way to replace that lost, and this will probably arrive in time to prevent delay in completing the line.

Stations and goods sheds.—New stations were built at Mandal Ghât, Champahati, and Mallikpur, and platform shelter sheds at Naihati, Ranaghat, Dhakuria, and Sonarpur; new goods sheds were commenced at Kaliyaganj, Raigunge, Jalpaiguri, Siliguri, Haldibari, and Rungpore, some of which were completed before the close of the year. The wooden platform walls at several stations on the Northern Section were replaced by brick walls.

Dispensaries.—A cholera shed, dispensary, and compounders' quarters were provided at Parbatipur.

Kanchrapara Workshops.—The alterations to the Kanchrapara Workshops were practically completed as far as the Engineering Department is concerned, and the shifting and re-arrangement of the machinery by the Locomotive Department will shortly be finished.

Assam-Behar Section.—The ballasting and protection of bridges on the open portion of the Assam-Behar Railway were completed during the year; staff-quarters, goods sheds, gate lodges, and gangmen's quarters are in course of erection and nearly completed.

REVENUE-WORKS.

Relaying.—On the Eastern Section, 10·17 miles were relaid with steel rails; the portion now relaid extending from Calcutta to $8\frac{1}{2}$ miles north of Bogoola, or 64·77 miles in all. On the Northern Section, $17\frac{3}{4}$ miles of steel rails, weighing 50lbs. to the yard, were laid in place of the 40lb. rails.

Renewal of rails.—On the Eastern Section, 1·67 miles of rails were renewed; on the Northern Section, 1·93 miles; and on the Southern Section, ·02 mile.

Ballasting.—215,000 cubic feet spread.

Repairs.—The stations and buildings on the line were kept in good repair throughout the year.

Goalundo.—The erosion at old Goalundo still continues, but the steamer ghâts north of Rajbari, and the boat ghâts at Pachooria, were in good working order during the year, and during the floods the traffic was worked from these ghâts, as in the previous year. The Pachooria khall is, however, rapidly silting up, and the abandonment of the ghât is merely a question of time.

Damukdia.—Work at Damukdia was carried on under great difficulties during the floods, and a new goods yard, laid down to facilitate work until the river commenced to fall, had to be hurriedly abandoned on the 22nd August, when the bank was cut away with such rapidity that some rails and three goods wagons fell into the river before they could be removed, and were lost. At Kooshtea, to which the working of the goods traffic was diverted twice during the year, and at Sara, similar difficulties were experienced owing to the erosion of the river banks. The constant changes and uncertainty of river navigation during the floods handicapped the staff very heavily in their efforts to cope with the exceptionally large traffic carried during the year.

LINES UNDER SURVEY.

A survey of the river Pudda, from Ryta to Furreedpore, begun last year, was completed.

Mineral resources.

The coal used during the year in the different sections was obtained from the following sources :—

On the Eastern, Southern, and Central Sections.	Burrakur coal, supplied by the Bengal Coal Company, at Rs. 2-12 per ton, in wagons at Seetarampur.
On the Northern Section ...	... Borrea coal, supplied by the New Beerbhoom Coal Company, in wagons at the colliery, at Rs. 2-12 per ton.
On the Dacca Section ...	... Makum coal, supplied by the Assam Railways and Trading Company, stacked on the river bank at Narayanganj, at Rs. 14 per ton.
On the Assam-Behar Section	... Madhubpore coal, supplied by the Bengal Coal Company, at Rs. 2-10 per ton, in wagons at the colliery.

Towards the end of the year it was feared that there would be some difficulty in obtaining a sufficient supply of coal at moderate prices for the ensuing year, owing to the fact that the principal Coal Companies had entered into a contract with one of the Steamer Companies to supply a very large amount. These fears, however, proved groundless, and satisfactory contracts were made for next year, though at higher rates.

The rate of consumption for the year is shown in the following table :—

Section of Railway.	Gauge.	Total consumption.	Consumption per train mile.	Average cost per ton.	Cost per train-mile.
		Tons.	lbs.	Rs. A. P.	As.
Eastern ...	5′ 6″	38,829	49·84	6 6 6	2·27
Northern ...	3′ 3 3/8″ & 2′ 6″	13,805	35·47	5 14 0	1·48
Dacca ...	3′ 3 3/8″	2,051	27·90	15 0 7	2·99
Assam-Behar ...	3′ 3 3/8″	926	36·43	9 7 11	2·47

Lines open for traffic.

No new lines or extensions were opened for traffic during the year; but the double line between Canal Junction and Chitpore was worked from 13th April 1888, and the double line between Calcutta and Ballygunge from 23rd October 1888. The steamer services continued to be worked by the Railway Administration, as in the previous year; the despatch service between Goalundo and Narayanganj was strengthened by the addition of a new steamer, the *Crocodile*, and the service was made a daily one from the 1st January 1889.

The year has been a most successful one for the railway, and the work done, and the net amount earned, are greater than in any corresponding period since the State took over the late Eastern Bengal Railway Company's property, but it should be borne in mind that the jute crop, from which the revenue is mainly derived, is liable to failure occasionally.

The prospects on the newly-opened Assam-Behar line are very encouraging, both as regards passenger and goods traffic. On the Dacca Section the goods traffic was most unsatisfactory, and with the excellent water communication, and the short lead by railway, but little improvement can be expected, although the working of this line receives most careful attention.

The Munshiganj Ferry Service was taken over from the District Board to be worked by the Railway Administration as an experimental measure for six months: the results were not satisfactory, and the working of the ferry service was again transferred to the control of the local authorities.

The East Indian Railway continued to run to Calcutta and Chitpore under their running powers' agreement, and extra siding accommodation was placed at their disposal at Beliaghata to provide for an increase in coal traffic. The general traffic showed little sign of development.

The agreement for working the Bengal Central Company has been under revision, and a proposal has been made for giving more favourable terms to the

Company by reducing the percentage on receipts now paid to this Railway for working the line. Up to the close of the year nothing definite had been settled, but one feature in the draft agreement, which seems likely to lead to inconvenience, is the proposal for the Agent of the Company to have his quarters away from Calcutta.

The agreement with the Darjeeling-Himalayan Railway for the interchange of traffic at Siliguri has been under revision during the year. The revised agreement had not been executed by the close of the year, but the general arrangements proposed and most of the details of working were settled, and it is now intended to introduce the revised agreement from the 1st July 1889.

The agreement with the Port Commissioners continued in force, and no negotiations were entered into with a view to its modification.

The handling contracts let to Messrs. Bird and Company were satisfactorily carried out, but the rates paid were in excess of those given to the petty contractors who worked previously. At the same time the work was carried on efficiently, and the customary delays in the busy season were avoided. On the whole it is considered that the certainty of getting the handling done at all times without delay to vessels or rolling-stock more than compensates for the enhanced rates, and the contract will continue to be given to Messrs. Bird and Company.

The agreement with the India General Steam Navigation Company was revised during the year, and the new draft has just been approved. The Company have throughout worked in a very satisfactory manner.

Accidents.—There were 40 deaths by accidents and 88 cases of injury to life and limb, of which 2 deaths and 17 cases of injury were amongst passengers.

The most serious accident which happened during the year was near Sultanpur Station (mile 52, Northern Section), where the engine separated from the carriages, and the latter ran into the engine at the station points. Eight carriages left the line, and three were thrown down the embankment, all of them suffering considerable damage. Two third class passengers and one Railway servant were slightly injured.

On the 5th December a buffalo was run over by a passenger train at mile 100 on the Eastern Section, and the engine and five vehicles were derailed. The train was travelling at a considerable speed at the time, and the consequences of the accident were far less serious than might have been expected. The engine and three of the vehicles were seriously damaged, but no passengers or Railway servants were injured.

Persons employed.

The number of persons employed on the system during 1888 was 13,426.

Railway Police.—There was an increase of 76 in the number of cases of crime committed during the year, there being 526, against 450 during the previous year, 9 of which only are accounted for by the newly opened section of the Assam-Behar State Railway between Manihari and Kasba. The increase was entirely under Class V (minor offences against property). There were 405 offences against the State, persons and property, or property only, and 121 other minor offences. Property of the value of Rs. 16,570 was stolen in 307 cases, of which property valued at Rs. 6,734 was recovered. The only important police cases which occurred in the line were as follow.

On the 1st June a cooly employed in the Sealdah Railway Station entered the parcel office through an opening over an arched doorway, forced open a chest in which some specie received that morning from Goalundo had been locked, and took out two bags containing Rs. 4,700. A watchman seems at that time to have appeared, and the cooly left one bag on the floor of the parcel office and attempted to make off with the other when he was arrested. He was sentenced to two years' rigorous imprisonment.

In March a tin box containing ornaments was stolen from the down mail between Goalundo and Calcutta, and in August another tin box containing ornaments, valued at Rs. 1,943, was stolen from the train running between Mymensing and Dacca. In the latter case a man was sent up for trial, but discharged.

Schools.—Night schools have been maintained with fair success The following gives the numbers borne on the rolls and the average attendance:—

	Number of men on the rolls.	Average daily attendance.
Narculdanga	35	11
Bongong	29	5
Rajbari	24	11
Damukdia	31	13
Saidpur	54	26
Dacca	32	19

Medical arrangements.—Fifteen thousand nine hundred and twenty-three patients were treated at the various dispensaries on the line during the year, of which number 2,715 were Europeans and Eurasians, 8,812 Hindus, 3,813 Musalmans, and 373 other castes.

Two hundred and sixty patients were admitted into hospital for in-door treatment during 1888, viz. Saidpur 106, Sara 78, and Kaunia 76.

A very large number of emigrant coolies for the tea-gardens were carried during the year, and special measures were taken, as in previous years, to guard against an outbreak of cholera.

Traffic and working.

The following gives the comparison of earnings for the years 1887 and 1888:—

Main Heads.	1887.	1888.	Difference. More.	Difference. Less.
	Rs.	Rs.	Rs.	Rs.
Coaching	31,10,175	34,10,103	2,99,928	...
Goods	55,18,209	62,21,155	7,02,946	...
Telegraph	23,946	26,789	2,843	...
Steam-boat earnings ...	5,97,378	6,72,064	74,686	...
Sundries	1,80,691	1,89,099	8,408	...
Total ..	94,30,399	1,05,19,210	10,88,811	...
		Increase ...	Rs. 10,88,811	

The increase in the coaching traffic has been chiefly in the number of intermediate return and third class tickets issued; there was an increase of 144,053 return intermediate tickets issued, showing an increase in receipts of Rs. 66,775; and there was an increase of 249,932 third class passengers, realizing Rs. 58,691. The eclipse and Rashjatra mêlas also contributed to the increase.

The goods traffic showed an increase of Rs. 7,02,946. There has been a large increase in general merchandise; the quantity lifted during the second half of 1888 being 500,174 tons, the highest recorded quantity lifted. Jute contributed largely to the increase, the increase in receipts on this item alone reaching about four lakhs.

The steam-boat service has shown a very satisfactory improvement in earnings, both passengers and goods.

Revenue transactions during 1888.

	Rs.
Gross receipts	1,05,19,210
Working expenses (47·47 per cent.)	49,93,785
Net earnings ...	55,25,425

Locomotive Department.

During the year under reference two engines (H. class by Dübs and Company) were constructed and placed on the line. The total number of engines on the system was 89 broad gauge and 74 metre and narrow gauge. The train-mileage during the year was 2,838,179, the assisting and miscellaneous mileages 596,016, making a total of 3,434,195.

Carriage and Wagon Department.

The average number of vehicles working during the year was—

Broad gauge, coaching ...	401·5	Metre and 2′ 6″ gauges, coaching ...	344
Ditto, goods ...	1,748·5	Ditto ditto, goods ...	1,339

Of these, an average of 12·07 per cent. of coaching and 4·72 per cent. of goods were always under repair.

A supply of Canadian lubricating oil was received towards the end of the year and taken into use. No satisfactory report can be made until it has been longer in use and its lubricating qualities at varying temperatures thoroughly tested by use during each season of the year.

Trial trains, both for the Westinghouse and Vacuum Automatic Brake Company, were fitted up during the year at the Kanchrapara workshops, and the train fitted with the Vacuum brake has been running since November as one of the local trains with satisfactory results. The train fitted with the Westinghouse brake was not ready at the close of the year.

Steam-Boat Service.

A new steamer, named the *Crocodile*, of 382·8 tons and 250 horse-power, was completed during the year in the Government Dockyard, and placed on the Goalundo-Narayanganj service. The total number of steamers in the list at the end of the year was 18, exclusive of the steamer *Peri*, which was taken over from the District Board, Dacca, to work the Narayanganj-Munshiganj ferry service, and has since been returned. The total number of flats was 29, including one new A-class flat, *Sara*, of 254 tons, built in the Government Dockyard.

Of the above steamers and flats, two steamers and ten flats continued to be chartered to the India General Steam Navigation Company, as in previous years, but on the 15th February one of the steamers, the *Prince of Wales*, was returned to the Railway.

On and from the 1st January 1889 the steamer ran daily between Goalundo and Narayanganj, and during the whole year the passenger despatch service between these two places was carried on with regularity. The steamer services between Jatrapur and Dhubri, and Diamond Harbour and Tumlook, continued to be worked efficiently and regularly. The negotiations for the transfer of the Jatrapur-Dhubri Service to the Rivers Steam Navigation Company fell through, as they were not prepared to undertake the service without certain concessions which the Railway could not grant. But this, is now under the consideration of the Assam Administration, who have nearly concluded arrangements for this transfer.

Traffic Department.

The goods traffic was unprecedentedly heavy, and on the Eastern Section 250 wagons were hired from the East Indian Railway, which were returned as the traffic slackened off and the new broad gauge wagons were turned out of the Kanchrapara shops. At one time an average of 80,000 maunds a day of downwards jute traffic was being carried on the Eastern Section, and a special goods train service, with special rules for its working, had to be introduced. No less than 349,908 tons of jute were carried by the Railway during the year. On the Northern Section, too, the traffic offering was for a period far in excess of the carrying capacity of the Railway, but eventually all the stocks in the district were carried down. Proposals are under consideration for the introduction of an enhanced rate in the height of the season, and a reduced rate later on to equalise the traffic and encourage storing. That the jute crop was delayed in finding its way to Calcutta cannot be denied: the delay was partly due to insufficient rolling-stock on the Northern Section, and tonnage at the ferry, but the difficulties were much aggravated by the changes of the river at Damukdia and the want of a permanent wharf there. Additional metre gauge rolling-stock is now being erected at Saidpur.

The River Delivery Service between the Gauripur Jute Mills and Budge-Budge continued to be largely used, and the large consignments finally proved too much for the carrying capacity of the barges supplied by the Calcutta Landing and Shipping Company. The Company on several occasions failed to supply sufficient carriage, and wagons loaded with jute were detained at Shamnagar at a time when they were urgently required for work on the line. In order to work off the block, the Railway steamer *Prince Alfred*

was sent to Shamnagar to clear the consignments which the Calcutta Landing and Shipping Company had left on the hands of the Railway, and two steam launches, the *Conder* and *Kosi*, were lent to the Company to assist in towing their barges. In consequence of the failure of the Calcutta Landing and Shipping Company to carry out their agreement, notice of termination of the contract was served on the Directors, but after some discussion it was agreed to allow the contract to continue on their undertaking to increase their tonnage before the commencement of the next busy season.

For the convenience of the public branch offices for the despatch of parcels were opened in Park Street, Strand Road, and the north end of Chowringhee. The Park Street office did very little business, and has been closed: the other two have been largely used, and have evidently supplied a want without diminishing the Sealdah parcel traffic, and it is satisfactory to find that the receipts from the parcel traffic have increased considerably. The fish traffic was not so brisk as in the previous year, but this is always a fluctuating traffic. The number of consignments of goods despatched under the Value Payable System increased largely during the year.

An experimental train fitted with the automatic vacuum brake was run on the 29th October with satisfactory results. It has since been worked constantly on one of the local trains, and is favourably reported on.

TIRHOOT STATE RAILWAY.

I.—Works in progress.

METRE GAUGE.

During the year under review the third or last section of the Kosi Extension, Bhaptiahi to Pertabganj, a length of 14 miles, was completed and opened for goods traffic on the 1st October 1888, and for passengers on 1st January 1889. With the opening of this section the construction of the Kosi Extension project, comprising a length of 44 miles, from Jhanjharpur to Pertabganj, was brought to completion.

II.—Lines under survey or projected.

It is proposed to extend the line from Pertabganj further on to the banks of the Kosi, a distance of 8 miles, and surveys for the purpose have now nearly been completed.

The survey of a line from Durbhunga to Sitamarhi, and one from Sakri, a station on the Eastern Branch of the Railway to Jainugger, have also been completed, and the projects are about to be submitted to Government.

III.—Mineral resources.

Coal was supplied by the Bengal Coal Company for locomotive purposes and by the Alipore Coal Company for the flotillas and workshops, and was of very good quality. The total quantity consumed by locomotives was 9,167 tons, costing Rs. 75,770, or about Rs. 8-8 per ton; the average consumption per engine-mile being 26·29lbs.

IV.—Lines open for traffic.

The last 14 miles of the Kosi Extension having become a part of the Open Line, the total mileage open for traffic at end of the year amounted to 273 miles. No damage was done anywhere throughout this length from floods, which were not heavy, as in previous years.

Way and works.—Fairly heavy renewals of permanent-way have been made, viz. 650 tons of steel rails substituted for iron ones, and 5,400 sâl and creopine sleepers renewed during the year. It is proposed to lay down at once two miles of the 50lb. rails just received from England in place of the 40lb. iron rails which have worn out owing to the heavy weight of the latest type of engines. The most troublesome and expensive work commenced during the current year has been the strengthening of the 12 metre girders. There are some 40 spans of these girders, and under the order of Government an additional plate, 18 feet × 12 inches × $\frac{3}{8}$ inch, is to be rivetted to the top and bottom flanges of each girder, necessitating the cutting out and reclenching of some 600 rivets for each span.

A span of these strengthened girders on the Jumwaree bridge was recently tested, and it was found that the extra plates add greatly to the stiffness of the girders.

Besides several minor works the following important works were completed:—

1. Fencing Durbhunga to Jhanjharpur.
2. Improvement of water-supply at Samastipur Junction.
3. Goods shed, Bilaspur.
4. Ditto, Dholi.
5. Ditto, Segowlie.
6. Ditto, Bhagwanpur.
7. Ditto, Motihari.
8. Ditto, Ghogardiha.
9. Ditto, Raharia.
10. A-class quarters, Motihari.
11. Ditto, Mozufferpore.
12. Ditto, Samastipur.
13. Ditto, Bettiah.

V.—Persons employed.

Railway Police.—The same arrangement as in last year was in force, viz. police seeing to "law and order" and the Railway providing men for "watch and ward." This arrangement has worked satisfactorily.

Arrangements for education.—No alterations have been made in the previous year's arrangement, by which the management of the school at Samastipur was transferred to the Education Department. The grant of Rs. 30 by the Railway Department is still given.

Medical arrangement.—The medical arrangements were under the charge of Mr. Weston, assisted by an Assistant Surgeon.

Volunteer Corps.—This consisted of one officer, seven non-commissioned officers, and forty-six volunteers.

VI.—Stores.

There was only one main depôt at Samastipur under the direct charge of the Chief Store-keeper, assisted by a Sub Store-keeper.

In the latter part of the year, on the transfer of Mr. F. K. Cunliffe to the North-Western Railway, the Locomotive Superintendent was placed in charge of the Store Department in addition to his own duties. This arrangement has worked well and is economical.

VII.—Capital transactions.

	To end of the year.	For the year.
	Rs.	Rs.
The total capital expenditure amounts to	2,07,78,252	10,29,057
The following are the sections of the line under which it was expended:—		
1. Tirhoot State Railway, Open Line, including Hajipur Branch	1,60,08,350	2,58,375
2. Assam-Behar State Railway, Tirhoot Section ...		
Gunduck Bridge	19,31,293	24,445
Kosi Extension, Jhanjharpur to Pertabganj	28,38,609	7,46,237
The interest for the year at four per cent. on the total outlay amounts to...	8,17,485	.....
Net revenue for the year	7,98,875	.....
Showing a net loss to Government	18,610	.....

VIII.—Revenue transactions.

The following table shows the financial result of the year's working as compared with those of the previous year:—

Years.	Mean mileage worked.	Earnings.	Working expenses.	Net earnings.	Percentage of expenses on earnings.	Percentage of net earnings on capital outlay
		Rs.	Rs.	Rs.		
1887 ...	249·52	17,22,955	10,27,230	6,95,725	59·62	3·70
1888 ...	262·5	18,07,283	10,08,408	7,98,875	55·80	3·84
Difference more + less — ...	+12 98	+84,328	—18,822	+1,03,150	—3·82	+·14

Notwithstanding the heavy falling off in the earnings during the second-half of 1888 on account of scarcity in the northern grain-producing districts of Behar, the total earnings of the year show an increase of Rs. 84,328, or 4·89 per cent., in comparison with the previous year; whereas the working expenses show a decrease of Rs. 18,822, or 183 per cent. The net revenue of the year amounts to Rs. 7,98,875, or Rs. 1,03,150 more than that of the previous year, and yields a return of 3·84 per cent. on the total capital outlay to end of December 1888, against 3·70 of the preceding year. The percentage of working expenses on net earnings is 55·80, or 3·82 less than that of the previous year.

The following table compares the working expenses of the year with those of the previous year:—

Years.	A. Maintenance of way, works, and station.	B. Locomotive expenses.	C. Carriage and wagon expenses.	D. Traffic expenses.	E. General charges.	F. Steam-boat service.	G. Special and miscellaneous expenditure.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887	1,73,106	2,23,926	51,789	2,44,061	1,73,004	1,07,640	53,704	10,27,230
1888	1,90,235	2,44,033	59,924	2,19,442	1,52,336	1,02,421	40,017	10,08,408
Difference more + / less — ...	+17,129	+20,107	+8,135	—24,619	—20,668	—5,219	—13,687	—18,822

The increased outlay under A, B, C is due to heavy renewals, increased train mileage, and heavy repairs to engines and vehicles, and the decrease under D and E due mainly to reduction in cost of establishment. The decreases in F and G are due to deduction in rate for loading and unloading through traffic *viâ* Mokameh Ghât, and to the running on the Hajipur-Sonepur Section of Tirhoot State Railway instead of Bengal and North-Western Railway Company's vehicles, for which hire had to be paid.

IX.—Traffic and working.

(1) *Coaching traffic.*—The number of passengers carried and the receipts therefrom during the year 1888, compared with that of 1887, are as follows:—

Years.	First class.	Second class.	Intermediate class.	Third class.	Total.
1888	8,300	9,504	9,191	2,080,099	2,107,094
1887	8,088	9,567	8,355	2,021,682	2,047,692
Difference	+212	—63	+836	+58,417	+59,402
Receipts.					
1888	Rs. 26,090	Rs. 16,790	Rs. 7,518	Rs. 6,67,835	Rs. 7,18,233
1887	26,036	17,272	7,338	6,51,306	7,01,952
Difference	+54	—482	+180	+16,529	+16,281

It will be observed that there has been an increase of traffic under all classes except under second class, in which the decrease is mainly under single journey tickets. The increase under the first and intermediate classes is due to the introduction of ordinary return journey tickets at a fare and a third, and under the third to the development of through traffic with the Bengal and North-Western Railway. The average sum received for carrying a passenger mile amounted to pies 1·80, against 1·84 of the previous year.

The coaching receipts per train-mile amounts to Rs. 2·71 against 2·52 of 1887.

(2) *Goods traffic.*—The following is a summary of the number of tons lifted and the receipts realized therefrom during the year 1888 as compared with 1887:—

Years.	General merchandise.	Military stores.	Railway materials for construction.	Coal for the public and construction.	Coal for revenue.	Revenue stores.	Live-stock.	Rent, miscellaneous, &c.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
1888 ...	272,909	17	9,592	13,234	8,699	8,485	20	...
1887 ...	255,301	12	10,522	12,548	9,770	5,835	...	...
Difference ...	+17,608	+5	—930	+686	—1,071	+2,650	+20	...
Receipts.								
1888 ...	Rs. 7,53,007	Rs. 146	Rs. 31,032	Rs. 27,625	Rs. 5,931	Rs. 8,947	Rs. 224	Rs. 17,067
1887 ...	6,86,470	111	32,063	27,136	7,498	8,240	...	11,541
Difference ...	+66,537	+35	—1,031	+489	—1,567	+707	+224	+5,526

The above shows that, with the exception of railway materials and coal for revenue purposes, all other heads show an increase in comparison with that of last year, especially general merchandise. This is due to a greater export of food-grains and tobacco during the first-half of 1888, and to the import of salt in larger quantities than in the previous year. The reduction in the rate for grains and seeds during the last monsoons also gave some impulse to this traffic during the second half of the year. There was also some increase under cotton, piece-goods, oil, opium, and tobacco. The fluctuation under other heads of goods traffic is small, and calls for no particular remarks.

The average sum received for carrying a ton one mile amounted to pies 6·64 against 6 83 of 1887. The goods receipts per train-mile amounted to Rs. 2·49 against Rs. 2·60.

X.—Rates and fares.

The fares for first, second and intermediate class ordinary return tickets were reduced to one and one-third fares, and through booking of such tickets introduced with the East Indian Railway *viâ* Mokameh Ghât with a view to encourage this traffic. It has resulted in an increased demand for double journey tickets.

In order to compete with boat traffic the rate for food-grains and seeds booked from Motihari, Semra, Segowlie, Majhoulia and Bettiah to any stations beyond 70 miles towards Hajipur and Sonepur, and not below Mozufferpore, was reduced to one-seventh pie per maund per mile, which contributed to increase this traffic to some extent during the monsoons.

Return tickets at single fares, available for 14 days, were introduced for double journey to owner's risk under risk note form B for horses and ponies attending hunt meets, polo matches, and horse shows on production of a certificate either from the Manager, Tirhoot State Railway, or the Secretary of the Meeting or Polo Club. This brought about some increase in this traffic, although the receipts did not compare favourably with those of 1887.

ASSAM-BEHAR STATE RAILWAY.

At the end of the last official year the portion of the line remaining to be completed between Dinagepur and the Kosi river was 37¼ miles from Raigunge to Katyar, and 49 miles from Kusba to the Kosi. On the first section, from Raigunge to Katyar, it was found that, as usual, after every rains the earthwork at incompleted bridges suffered much and had to be repaired, and that the banks had to be raised in many places where the line passed through swampy or flooded country. This work is now complete, and it is hoped that the bridges being in and their beds, as well as the banks adjoining, well pitched, the earthwork will no longer suffer. All the minor bridges on this section were finished this year, as well as the major bridges, with exception of the Mahanuddy. As stated above, all the bridges had to be pitched heavily to protect them from the scour to which they are subjected on the fall of the rivers.

At the end of last March the wells of the Mahanuddy were about three-fourths sunk; the remainder was done by October 1888, the work having been carried on throughout the rains. It was difficult and expensive to sink wells during the floods, but it was considered desirable to do so in order to save time and ensure the completion of the bridge before the rains of 1889. Once the sinking operations were complete, the superstructure and girder work went on rapidly, so that on the 31st of March 1889 the only work remaining to be done is the part riveting of two spans, the timbering of six spans, the painting of two, and the laying of the rails right across the bridge.

Owing to the tendency of this river to cut into the east bank, heavy training works had to be constructed, and large quantities of pitching were used to protect the banks.

The foundations of the Kunkur bridge continued to give trouble until the end, but they were completed in December 1888, and the first train was passed over this bridge in November last.

Ballast.—The supply of ballast is complete, and only a few miles required to be laid. This will be done in April.

Permanent-way.—The rails are laid throughout, with the exception of those across the Mahanuddy bridge, which, it is hoped, will be linked in during April. This will complete the through communication between Manihari and the Northern Bengal State Railway at Parbatipur.

Stations.—The only station remaining unfinished is that at Barsoe, and that is so well on as only to require ten or fifteen days to complete.

Staff-quarters.—Almost all the staff-quarters are ready for occupation. What little remains to be done will be completed in April or May.

The watering arrangements at Barsoe still remain incomplete; the well and tanks are ready, and the piping only remains to be laid, and the water column erected.

Kosi extension.—This begins at Kusba, the present terminus of the open line, 22 miles north of Katyar junction, and, according to the original alignment, ended at Nathpore, the length being 49 miles.

Owing to the difficulty in crossing the churs and low land yearly subject to floods, between Nathpore and Pertabganj, (the terminal station on the Tirhoot State Railway) it was proposed to divert the line from a point at about 45 miles from Kusba to Anchra Ghât, about five miles further up the river: this will make the length of line from Kusba 51 miles instead of 49. This five miles it is proposed to make of a temporary nature, with timber bridges and low banks, as the terminal station of Anchra may have to be abandoned after any considerable flood or change in the course of the river for a more favourable crossing.

Lines under survey or projected.

The only work done under this head was the survey for the new ghât line diversion from the 67th mile to Anchra, previously adverted to.

NALHATI STATE RAILWAY.

III.—Mineral resources.

During the year under review the coal used was supplied from the Sodepur mine of the Bengal Coal Company, and the quantity consumed and the cost incurred thereon during the past three financial years are as per statements given below:—

Year.	Quantity.	Average rate per ton.	Per—		Cost per—		Remarks.
			Train-mile.	Engine mile.	Train mile.	Engine-mile.	
	Tons cwt. qr. lb.	Rs.	lb.	lb.	Rs.	Rs.	
1886-87 ...	366 17 2 16	793	19·53	17·80	1·10	1·00	
1887-88 ...	433 5 3 0	725	21·32	19·64	1·10	0·90	
1888-89 ..	419 0 2 13	583	19·41	18·02	0·80	0·75	

It will be seen that the cost of coal per train and engine-mile has been reduced by annas ·30 and ·20 respectively as compared with the previous year.

IV.—Lines open for traffic.

During the year under notice the line from Nalhati to Azimgunge was open, and traffic was carried without interruption. No accident of a serious nature occurred during 1888-89.

V.—Persons employed.

There are only two East Indians on the line—the one is the Locomotive Foreman and the other a fitter in the workshop; the rest are all natives, 154 in number.

Schools.—There is no railway school. Some of the children of the employés receive education in the local schools at Azimgunge, Nalhati, and Calcutta. A contribution is made to the school at Nalhati from the Fine Fund for the benefit of the children of the Railway employés.

Police.—The Government Railway Police has taken over the law and order duties, and the railway is only doing the watch and ward duties.

Medical.—A native doctor is in medical charge of this line, and there is an out-door dispensary at Nalhati.

VIII.—Revenue transactions.

The following statement shows the revenue transactions:—

	Earnings.	Expenditure	Profits.
	Rs.	Rs.	Rs.
1888	1,04,268	81,738	22,530
1887	92,147	65,021	27,126

XI.—Traffic and working.

Engineering department.

Relaying.—During the year the line was relaid with 41½lb. rails for a distance of 3·00 miles, bringing the total distance relaid to nearly 11½ miles. Old East Indian sâl sleepers were used for this work, the total number used being 13,000.

Two thousand five hundred and four cubic feet of ballast was laid on the line.

Sidings.—The dead siding at Takipur was converted into a through siding.

Bridges.—The girders of bridge No. 2, mile 1, were painted, and the masonry of culverts Nos. 3 and 4 was repaired.

Staff-quarters.—At Nalhati the guards' quarters commenced during the year were nearly completed. New cook-sheds were erected at Azimgunge and Noada, and the godown at the latter station was improved. Nalhati, Azimgunge, and Bokhara stations were repaired.

Two distant signals were erected at Bokhara and one at Azimgunge. The main signal at Bokhara was renewed, and a new main signal erected at Nalhati.

Locomotive department.

Engines under repairs.—The total number of engines on the line is six, of which two engines, *Ada* and *Peter Piper*, which were received from the Akra Brick-fields in January 1888, and were at Nalhati awaiting repairs up to September, have been undergoing repairs in the workshops at Kanchrapara from November last. The remaining four engines have, during the year under reference, undergone the usual amount of repairs.

The repairs to engines and vehicles were executed in the Nalhati Workshops.

TRAFFIC DEPARTMENT.

There was no alteration in the train arrangement. The following table shows the earnings under different heads as compared with the previous year:—

1887.	Particulars.	1888.
Rs.		Rs.
58,259	Coaching	62,035
32,835	Goods	39,479
714	Electric telegraph	695
339	Sundries	2,059
92,147	Total ...	1,04,268

The increase, Rs. 3,776, in coaching traffic is due to development of third class passenger traffic.

The increase, Rs. 6,644, in goods traffic is due principally to the increased coal traffic for silk factories, brick-burning purposes, and steamer service.

X.—Rates and fares.

There was no alteration in the rates and fares during the year under review.

WESTERN BENGAL RAILWAY SURVEYS.

A rough reconnaissance survey and levels have been completed from a point on the Benares-Cuttack Railway Surveys, in the neighbourhood of Sasseram, across the Sone river to Gya.

From these observations a rough estimate can be submitted, showing the probable approximate cost of a line of railway from Mogul Serai station on the East Indian Railway to Gya station, including the bridge over the river Sone, the site for which is proposed to be some four miles above the Dehree-Baroon anicut.

The total length of the line as pegged out from Gya station to Magra station is 301 miles; and estimates for all the works on this are now in hand, and are expected to be submitted, with the tracings of the plans and sections, in about a couple of months.

Magra station is 29 miles from Howrah and 33 from Sealdah *viâ* Nalhati Junction.

In addition to the work indicated in the preceding paragraphs, a branch line from Soory to Assensole was located, and the estimates for this are now in hand.

The length of this branch is nearly 40 miles.

Besides the Assensole branch, two other branches have also been surveyed for connecting the Western Bengal Railway with Ranaghat station, on the Eastern Bengal Railway.

The first takes off from mileage 245 from Gya on the main line, and about six miles to north of Cutwa, and, crossing the Bhagirratti river on the 249th mile, passes *viâ* Debagram to Santipore, and thence to Ranaghat station.

The distance from Gya to Ranaghat station by this route is about 304 miles, and to Sealdah is about 349 miles.

The second branch to Ranaghat takes off from the neighbourhood of Culna, about the 282nd mile from Gya, and, crossing the Bhagirratti river, which [is here 2,000 feet wide, proceeds *viâ* Santipore to Ranaghat station.

The distance from Gya to Ranaghat station by this route is 300½ miles, and to Sealdah is 345½ miles.

During the past working season, in accordance with the instructions received, the whole of the field work was finished, which is necessary for the purpose of framing reliable estimates of the probable cost of the proposed railway from Gya to Magra and from Gya to Ranaghat, as well as the location of the Assensole branch and the reconnaissance from Sasseram to Gya.

In October 1889 the plans and sections of the following lines will be submitted, as well as the necessary estimates showing the probable cost of each:—

(*a*) From Gya to Magra station, 301 miles.
(*b*) Branch from Soory to Assensole, 40 miles.
(*c*) Branch from the neighbourhood of Cutwa to the Ranaghat station, 59 miles.
(*d*) Branch from the neighbourhood of Culna to Ranaghat station, 19 miles.
(*e*) Rough estimate from Mogul Serai station *viâ* Sasseram across the river Sone to Gya, 129 miles.

The following list of distances is given:—

Mogul Serai to Gya *viâ* Sasseram, 129 miles.
Gya to Magra, 301 miles.
Gya to Ranaghat *viâ* Cutwa, 303 miles.
Gya to Ranaghat *viâ* Culna, 300½ miles.
Mogul Serai to Magra, 430 miles.
Mogul Serai to Ranaghat *viâ* Cutwa, 432 miles.
Mogul Serai to Ranaghat *viâ* Culna, 429½ miles.
Mogul Serai *viâ* Magra to Howrah, 459 miles.
Mogul Serai *viâ* Magra and Nalhati Junction to Sealdah, 463 miles.
Mogul Serai *viâ* Cutwa to Sealdah, 477 miles.
Mogul Serai *viâ* Culna to Sealdah, 474½ miles.

The distance from Mogul Serai to Howrah by the East Indian Railway is 469 miles, and by the East Indian Railway from Mogul Serai *viâ* Nalhati Junction to Sealdah is 464 miles.

BENGAL CENTRAL RAILWAY.

I.—Works completed.

On Ranaghat branch.

A brickwork well for drinking-water was supplied at Gangnapur.

A dead siding was provided at Gangnapur by transfer from Majergram. Goods were thereupon booked to and from Gangnapur and other stations.

Main line.

The police quarters that were sanctioned for the following stations have been completed, viz. at Baraset, Bongong, and Jessore; and station-masters' and signallers' quarters have been provided at Jhinkergatchi.

The goods siding at Nawapara has been completed, as also the alterations to siding arrangements at Jhinkergatchi and the siding at Singhia.

A second water-column has been erected at Goberdanga (south end of platform), and quarters for pump coolies have been provided.

Works in progress.

With reference to the additions to watering arrangements alluded to in paragraph 4 of last year's report, a large tank at Khoolna (the Shibbatty tank) has been deepened and a cut to connect it with the locomotive tank has been made.

A tank has also been excavated at Jessore for the supply of water to locomotive engines, and a tank at Bongong was also deepened for a similar purpose.

Brickwork wells for drinking water have been constructed at various stations.

Ballasting the first 30½ miles of the line (reckoning from Dum-Dum Cantonment onwards) is in progress.

The ballasting of 10 miles of the line at the worst places of the Khoolna division is also in hand.

The preliminary survey between Singhia and Madaripur forms the subject of a special report already in the hands of Government, and little remains to be done beyond completing the drawings and estimates, &c., connected with the work.

General.—The establishment of a salt golah at Khoolna, for the management of which rules were framed by the Board of Revenue since the passing of the Act, still remains unaccomplished, no private firm of merchants having been found willing to enter upon the undertaking.

Goods traffic.

The goods traffic on the Bengal Central Railway continues to improve, especially in respect of jute brought to Khoolna from the Madaripur district by country boats. The saving of time to merchants in sending their jute by this route, instead of sending it by country boat the whole way to Calcutta, is of the greatest importance to the trade, and is undoubtedly gaining in popularity, as the dangers of the big rivers are avoided.

The total receipts for jute in the calendar year 1888 were Rs. 1,07,156, whilst in the previous year they amounted to Rs. 66,705 only. Amongst other commodities, "oil-seeds," "coal," "sugar," and "provisions" show a considerable increase.

The through traffic in rice over the Jubilee bridge (at Hooghly) has not proved as successful as had been hoped.

II.—Lines under survey or projected.

A survey of the country lying between Singhia station and Madaripur has been carried out.

IV.—Lines open for traffic.

The Bengal Central Railway traffic arrangements are carried on by the administration on the Eastern Bengal State Railway.

The maintenance of the line, all engineering works, and the Company's stores are under the charge of the Company's own staff under the Agent and Chief Engineer.

V.—Persons employed.

Police.—The Government Railway Police.

There are no schools or volunteers connected with the Bengal Central Railway Company's own staff.

The medical staff is maintained under a joint arrangement with the Eastern Bengal State Railway.

The total number of persons in the permanent employ of the Company during the year was 613, including the Agency and the Engineering, Medical, and Stores Departments. Of these, 4 were Europeans and 2 East Indians.

VI.—Stores.

The Company's rolling-stock remains in the hands of the Manager of the Eastern Bengal State Railway, the traffic of the Company's line being carried on by the administration of that railway under a working agreement. The use of the Company's rolling-stock is not restricted to the limits of the Company's line.

Under former working agreements the depreciation charges on rolling-stock were borne by the Eastern Bengal State Railway: under the new working agreement, which was to have come into force with retrospective effect from the 1st July 1888, the depreciation charges on rolling-stock were to have been borne by the Company. The accounts for the second half of 1888 have been made up on the general basis of the new working agreements, but the depreciation charges have not been definitely accepted by the Board.

VIII.—Revenue transactions for the year ended 31st December 1888.

	Rs.
Gross revenue	7,12,901
Working expenses	—5,54,756
Net earnings ...	1,58,145

IX.—Traffic and working.

The following is the comparison of the earnings for the years 1887 and 1888:—

Main Heads.	1887.	1888.	Difference. Increase.	Difference. Decrease.
	Rs.	Rs.	Rs.	Rs.
Coaching	4,64,594	4,80,035	15,442	
Goods	1,77,802	2,25,744	47,942	
Telegraphs	1,680	1,790	110	
Steam-boats	...	...	...	
Sundries	4,419	5,332	913	
Total ...	6,48,494	7,12,901	64,407	
		Increase ...	Rs. 64,407	

The Locomotive, Carriage and Wagon Departments, as also the Traffic Department, are under the Management of the Eastern Bengal State Railway, who works the traffic of the Bengal Central Railway Company's line under a working agreement.

X.—Rates and fares.

There has not been any important alteration in the rates and fares since last report.

EAST INDIAN RAILWAY.

I.—Works completed.

Pontoon and gangways at Salt Golah yard at Howrah Station.

Shifting small landing-stages out further into the river at Howrah Station.

Increased accommodation for Carriage and Wagon Department stores at Howrah Station.

Junction with Hooghly Bridge line at Hooghly Station.

Executing earthwork for the up line sidings, extending the goods shed siding to meet the branch line, and constructing a siding for standing room for two engines and two carriages at Hooghly Bridge junction at Hooghly Station.

Dismantling bungalows Nos. 4, 5, 6, and building an eight-roomed barrack at Burdwan Station.

Quarters for Traffic staff at Seetarampur Station.

Additional over-head tanks, quarters for traffic gunners, weighbridge house, and siding at Assensole Station.

Water-supply at Jamalpur Station.

Additions and alterations at Mokameh Station.

Patna-Gya line.

Waiting shed at Ponpoon Station.

II.—Works in progress.

Increased shed accommodation on the south side of the boat dock at Howrah Station.

Junction with Hooghly Bridge line, loop line, viaduct station and flag station at Gorifa on the Naihati side.

Extension of sidings at west end of Burdwan Station.

Accommodation for guards, and junction arrangements with Bengal-Nagpur Railway at Assensole Station.

Additions and alterations at Sahebgunge Ghât Station.

Bungalow for District Traffic Superintendent at Sahebgunge.

Cost of fitting two pontoons for service as barges at Sahebgunge or elsewhere.

Additions and alterations to the station yard at Mokameh Station.
Extension of Mokameh Ghât branch line.
Improvement of Sleeper Foundry-shed at Jamalpur Station.
Additions and alterations at Bankipur Station.
Bungalow for Station Master and Assistant Station Master; extension of goods sheds and wharf accommodation at Bankipur station, and construction of the Ganges branch line at Bankipur.
Hospital and out-houses and accommodation for traffic at Dinapur Station.

Collieries.

Sinking two pits south of Bhadna.
Increased pumping power at 23 D shaft.

III.—Lines under Survey and Construction, or which have been opened during 1888.

Lines under survey.

A survey is projected of the grand chord line from Mogul Serai passing south of Gya to Burrakur.

IV.—Mineral resources.

The fuel used on the East Indian Railway, and on the branches worked by it, consists solely of coal from the Kurhurbaree and Serampore collieries, which are the property of the undertaking.

The extension of the Burrakur branch of the East Indian Railway has not yet been started. The proposed line will cross the river Burrakur, and will be carried in a westerly direction for a distance of five miles. The new Burrakur coal is reported to be of very good quality, and the thickness of the seam varies from 60 to 70 feet.

The following statements exhibit the results of the colliery operations during the year:—

	Kurhurbaree.	Serampore.
	Tons.	Tons.
Stock on 31st December 1887—		
Steam	8,500	3,260
Rubble	1,200	800
Smithy	10,500	11,187
Slack	31,783	15,328
Coke	50	180
Total	52,033	30,755
Outturn during 1888—		
Steam	131,863	64,215
Rubble	15,127	10,868
Smithy	24,774	26,283
Slack	19,659	16,008
Coke	11,106	15,237
Total	202,529	132,611
Issues during 1888—		
Steam	131,703	63,475
Rubble	15,127	10,668
Smithy	35,274	37,470
Slack	21,526	16,008
Coke	10,936	15,027
Total	214,566	142,648
Stock on 31st December 1888—		
Steam	8,660	4,000
Rubble	1,200	1,000
Smithy	*Nil.*	*Nil.*
Slack	29,916	15,328
Coke	220	390
Total	39,996	20,718

The quantity of serviceable coal (steam, rubble and smithy) in stock on the 31st December 1888 was as follows:—

	Tons.
At Kurhurbaree	9,860
„ Serampore	5,000
Making a total of	14,860
Against a stock on the 31st December 1887 of	35,447

The outturn (excluding coke) was about 22,500 tons more than the consumption, reducing the balance on 31st December 1888 by about 22,000 tons. The quantity of coal raised was 308,796 tons, against 280,220 tons in 1887.

The average cost of raising, including slack, was Re. 1-11-10 per ton, against Re. 1-12-9 the average cost in 1887.

The issue price of coal to Departments during the past year has been as follows:—

	Rs.	A.	P.
Steam	2	2	6
Rubble	2	2	0
Smithy	1	10	0
Soft coke	2	8	0
Hard coke, foundry and locomotive	2	8	0

A trial to light some of the pits by electricity was made during the year, but it failed after working well for some weeks.

V.—Lines open for traffic.

The length of railway open for traffic on the 31st of December (exclusive of sidings) was as follows:—

	Miles.	Feet.
East Indian Railway proper	1,513	2,376
Tarkeswar Railway	22	1,214
Patna-Gya State Railway	57	1,056
Dildarnagar-Ghazipur Railway	11	5,239
Scindia State Railway	74	4,657
Rajputana-Malwa Line, Agra	3	323
Eastern Bengal State Railway	23	1,290
Total	1,706	319

The explanation of the difference between the figures of 1887 and 1888 is, that in 1887 the Benares Branch, 5 miles 1,917 feet, was worked for 3 months, which length has now been handed over and forms part of the Oudh and Rohilkund Railway. In 1887 the East Indian Railway proper was put down at 1,516 miles 239 feet as the length open to traffic at the end of the year, which included half of the mileage of the Benares Branch, or 2 miles 3,599 feet. This was an error, as, the line having been worked for only three months, only one-fourth of the branch should have been added.

The figures were, however—

	Miles.	Feet.
	1,516	239
less	2	3,599
leaving	1,513	1,920

as the actual length.

This year 456 feet of sidings have been added, so that the actual length worked at end of year was—

Miles.	Feet.
1,513	2,376

The total length of railway open for traffic, and of sidings maintained by the undertaking, at the end of years 1887 and 1888, compare as follows:—

Years Ending—	Length of railway open for traffic.		Length of single track, exclusive of all sidings.		Length of sidings.		Total length of single track, inclusive of all sidings.	
	Miles.	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.	Feet.
31st December 1887	1,682	1,845	2,156	2,101	407	3,339	2,564	2,202
31st December 1888	1,679	3,982	2,153	4,694	409	2,788	2,563	160

The above table excludes 23 miles of the Eastern Bengal State Railway worked, but not maintained, by the undertaking, and also 42 miles, Cawnpore-Kalpi Section of the Indian Midland Railway, given over to the Indian Midland Railway Company during January 1888.

The following is a list of the more serious accidents which occurred during the year :—

Statement of accidents to life and limb during the year.

Particulars of persons injured or killed.	Total.	Fatal.	Non-fatal.
Passengers	41	7	34
Company's servants	68	16	52
Labour-contractors' and ballast coolies	22	8	14
Trespassers and others	49	43	6
Suicides	16	15	1

During the year there has been a decrease by one in the number of accidents happening to passengers, while the number of fatal accidents has fallen from 110 to 89.

VI.—Persons employed.

The following is a statement of the number of employés of different nationalities in the service of the Company in India during the past year :—

Nationality.	Number.
European	975
East Indian	576
Native	42,487
Total ...	44,038

The details of the reduction of 906 employés from the figures of last year are—

	Rs.
Decrease in Engineering Department employés ...	703
Ditto Traffic	418
	1,121
Increase in Locomotive and other Departments' employés ...	215
Net decrease ...	906

The following table shows the numbers of drivers, shunters, and firemen employed in the Locomotive Department on 31st December 1888 :—

	European and East Indian.	Native.	Total.
Drivers	203	107	310
Shunters	23	117	140
Firemen	81	743	824
Total ...	307	967	1,274

Schools.—English schools aided by the Company and receiving grants-in-aid from Government have been established at Raneegunge, Assensole, Madhupur, Nawadih, Sahebgunge, Jamalpur, Dinapur, Buxar, Mogul Serai, Mirzapore, Cawnpore, Tundla, Aligurh and Ghaziabad. Owing to the paucity of boys attending, Sahebgunge school was closed at the end of October last.

The average daily attendance during the year was 322·5, against the same number in 1887 and 418·5 in 1886. A number of children of European employés now are sent to the hill school at Mussoorie.

Native schools, similarly aided by the Company and Government, have been established at Burdwan, Raneegunge, Assensole, Rampore Hât, Sahebgunge, Jamalpur, Mogul Serai and Tundla. The daily average attendance at the schools during the year has been 616, as against 804 in 1887 and 798·5 in 1886.

In addition to the above, there are 20 Native adult schools established at locomotive stations. These schools have been favourably reported on.

There are night schools for apprentices at Allahabad and Jamalpur. The daily attendance was 41 during the year. The result at Allahabad school is better than for the year 1887.

The English and Native schools at Howrah, though receiving a Railway grant, do not, according to the Government Circular No. 11 Railway of 13th April 1885, come under the category of the Railway aided schools, but are classified as district schools. The average daily attendance of the English school was 79, and that of the Native school 250, during the year under review. The amount of the Railway Company's grant was Rs. 50 per mensem, or Rs. 600 for the year.

With the aid of the Sonthal Mission at Pachamba, the Manager of the Company's collieries at Giridih opened five schools for the benefit of the children of miners and native workers at the collieries. The aggregate attendance has already exceeded 250 children.

Owing to the resignation of the school-mistress of the Mirzapore school, the parents withdrew their children, and it had to be closed for a few days during the year.

Hill School.—The construction of the new school-house at Mussoorie was commenced at the end of the financial year 1885-86, and the work completed, and the boys' portion was opened in June 1888, at a cost of Rs. 1,11,592, including the cost of the land. The school is open to the children of East Indians as well as Europeans.

The girls' school was opened in February 1889. The financial position of the hill school shows Rs. 6,069 receipts in excess of expenditure.

Excluding rent of room allowed free (Rs. 8,848), the total receipts during the year from all sources were as follows :—

	Rs.
Grant from Railway revenue	15,114
Government grant	12,324
Income from school-fees	25,326
Receipts from other sources	3,666
Total ...	56,430

Of the above, the sum of Rs. 2,279 was contributed from the Fine Fund.

Medical Department.—The line is divided into 12 medical districts.

The Consulting Physician to the Company reports that the health of employés has been satisfactory. The expenditure on this department for the East Indian Railway and branches during 1888 amounted to Rs. 1,40,978, against Rs. 1,84,284 for 1887.

Police.—The expenditure during the year was Rs. 1,23,747, which is Rs. 3,979 more than the expenditure of the previous year. This is mainly due to expenditure incurred for clothing and contingencies. The amounts paid as compensation for loss of goods were for the two years 1887 and 1888, respectively, Rs. 11,834 and Rs. 12,316.

Volunteers.—During the year 1888-89 capitation allowance has been drawn for 978 extra-efficients and 163 efficients, or 1,141 in all.

The number of members who have during the year either resigned, died, been dismissed the Company's service, or struck off the roll for non-attendance at drill was 148, against 165 in the previous year.

The number of recruits enrolled during the year was 206.

The enrolled strength of the corps was 1,191, against 1,133 in 1887.

The number of non-efficients for the past season was 51—an increase of 5 on the year 1887-88.

The attendance at the annual inspection was 499.

In the annual musketry course the figure of merit for the battalion was 173·80, and the percentage of marksmen 21·41, against 20·74 for the previous year.

There are 24 ranges belonging to the corps, and a band is maintained at the head-quarters, Jamalpur.

In the capitation cash account there was a credit balance of Rs. 6,989.

Provident Fund.—The number of subscribers to the Provident Fund on 31st of December 1888 was 6,153, as compared with 6,320 on the 31st December 1887. The total subscriptions amounted to Rs. 4,28,900, against Rs. 4,31,143 in 1887. The amount standing at the credit of the subscribers at the end of the year was Rs. 75,50,866.

The amount contributed by the undertaking for the year was Rs. 3,11,084. A bonus at the rate of cent per cent. was credited on all compulsory deposits, and at Rs. 36-14 per cent. on voluntary subscriptions; the interest realized from investments allowed of a dividend of Rs. 1-14-6 per cent. on the balances at credit of the members at the end of the first half-year, and a dividend of Rs. 1-14 per cent. on the balances at the end of the second half-year.

The valuation of the securities held by the institution on the 30th of June 1888, at their market value, resulted in a net gain of Rs. 3,31,131, or Rs. 4-8-9 per cent. on members' balances. There was a net loss on valuation on the 31st December of Rs. 66,293, which necessitated a proportional reduction of Re. 0-13-9 per cent. on members' balances. So that, taking the two half-years together, the net gain has been Rs. 3-11.

Fine Fund.—The balance in hand on the 31st of December 1888 was Rs. 36,773. The amount realized from fines during the year was Rs. 4,710. The disbursements during the year amounted to Rs. 3,495.

Expenditure on the Hooghly Bridge.—The expenditure on this work up to the 31st December 1888 was Rs. 51,07,823, which is in excess of the sanctioned amount by Rs. 1,42,014. The account, however, has not yet been closed, and credits to the amount of Rs. 1,80,000 are likely to be received on the sale of material used.

The rates per open and train-mile of the earnings, expenses, preference charges, and surplus profits, also the percentages of the three last upon earnings, may be thus shown :—

Years.	Earnings.		Working Expenses.			Preference Charges.			Surplus Profits.		
	Per mile open.	Per train-mile.	Per mile open.	Per train-mile.	Per cent.	Per mile open.	Per train-mile.	Per cent.	Per mile open.	Per train-mile.	Per cent.
	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	
1880 ...	28,527·46	5·40	9,408·67	1·78	33·04	13,222·54	2·50	46·32	5,892·01	1·11	20·6
1881 ...	30,117·55	5·45	9,589·08	1·73	31·85	13,691·04	2·47	45·43	6,848·73	1·24	22·72
1882 ...	31,251·20	5·20	11,332·72	1·92	36·94	13,785·87	2·29	44·08	5,933·46	0·99	18·98
1883 ...	32,739·84	4·76	12,085·84	1·76	36·95	14,058·84	2·04	42·84	6,624·05	0·96	20·21
1884 ...	29,024·71	4·99	10,906·78	1·87	37·61	14,255·79	2·45	49·02	3,883·27	0·67	13·37
1885 ...	30,618·40	5·02	10,792·83	1·77	35·25	14,447·73	2·37	47·18	5,377·93	0·88	17·57
1886 ...	30,785·86	5·20	10,644·78	1·80	34·59	15,209·22	2·57	49·37	4,941·96	0·83	16·04
1887 ...	30,354·38	5·35	9,536·85	1·68	31·79	15,512·07	2·74	51·07	5,332·68	0·92	17·22
1888 ...	29,992·88	5·46	9,935·53	1·81	33·24	16,198·08	2·95	53·95	3,842·73	0·56	12·89

N. B.—Earnings and expenses are exclusive of steamer traffic; but it has been included in working out the percentage of working expenses upon total earnings.

The earnings during 1888 from—

		Rs.	
Coaching traffic amounted to ...	...	1,45,24,861, or 31·97 per cent.	
Goods ,, ...	...	3,01,86,940 ,, 66·43	,,
Other sources ,, ...	...	7,25,100 ,, 1·60	,,

There was an increase of Rs. 4,04,651 in the earnings from passenger traffic during the year, as compared with the earnings from the same source during the previous year. This sum is made up as follows:—

				Rs.
From 2nd class passenger traffic			...	26,636
,, Intermediate ditto	...	...	...	6,249
,, 3rd ditto	...	...	...	3,75,719
		Total	...	4,08,604
Decrease 1st class passenger traffic	...		...	3,953
		Net increase	...	4,04,651

There has thus been a small decrease in the receipts of 1st class passengers, and a considerable increase in the lower classes; mainly in the third.

The decrease is due chiefly to the fact of return-tickets being sold during the Jubilee of 1887 at single fares, and the consequent increased number of passengers and receipts that year. It is partly due to the smaller number of European officers travelling in connection with movements of troops during 1888 than in 1887.

Second Class.—The increase in 2nd class passenger traffic is to a large extent due to the difference between 2nd and 3rd class being recovered for the years 1886 and 1887 from Government for sepoys on return from furlough. This amount, as realization from Government, was included in traffic for the year 1888.

The larger number of long-journey passengers booked with the Eastern Bengal State, Tirhoot State, and Bengal and North-Western Railways caused an increase. An improvement in traffic with the Oudh and Rohilkund Railway also occurred, due to the opening of the Dufferin Bridge, rendering the route *viâ* Benares the shortest and cheapest.

Return-holiday tickets during Doorga Poojah and Christmas were issued at single fares, and this was largely availed of by the members of the Native Congress held at Allahabad amongst others.

Intermediate Class.—The causes of the increase may be enumerated as due to the development of traffic with the Eastern Bengal State Railway, carriage of recruits for the Burma Police, and to the extension of through booking arrangements with several lines.

The reduction of rate in monthly suburban tickets, and the issue of a much larger number of four-monthly return-tickets were the chief causes of the increase.

There is little doubt that the season ticket traffic might be largely and profitably increased by a reduction of rates and increase of speed. This last question—speed—depends greatly upon the introdution of automatic brakes.

Third Class.—The traffic with foreign lines exhibits a heavy increase, due to the transfer of the East Indian Railway Station at Benares to the Oudh and Rohilkund Railway, thereby diverting the traffic from local to foreign, to the extension of through-booking arrangements with the Bombay, Baroda and Central India and Great Indian Peninsula Railways, Eastern Bengal State Railways *viâ* Naihati and other lines, also to the opening of the extension of the Indian Midland Railway to Jhansi from 1st February 1888.

Owing to the abolition of tolls formerly payable to the Port Commissioners for passengers over the Hooghly Bridge from 1st April 1888, it is estimated that the Company have been exempted from payment of about Rs. 7,500.

The following table of exports shows the relative importance of the trade of the ports of Bombay and Sind as compared with that of Calcutta:—

Table of Exports of Wheat, Cotton, and Seeds from India, Bengal, Bombay, and Sind.

Years.	Wheat.				Cotton.				Seeds.			
	Total export from India.	Export from Bengal.	Export from Bombay.	Export from Sind.	Total export from India.	Export from Bengal.	Export from Bombay.	Export from Sind.	Total export from India.	Export from Bengal.	Export from Bombay.	Export from Sind.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1884	700,451	130,004	376,883	193,494	229,623	25,418	227,815	2,007	884,635	323,317	412,407	83,521
1885	1,102,725	213,750	565,376	322,593	183,523	18,583	136,709	5,4 9	922,110	233,577	465,416	73,889
1886	1,098,710	339,395	606,864	151,693	237,603	25,915	196,095	7,185	825,329	341,635	358,642	53,577
1887	736,262	231,715	468,861	35,621	288,956	42,856	204,391	7,668	751,599	302,635	322,297	57,822
1888	792,940	149,445	482,823	153,629	218,182	20,008	161,015	4,488	778,750	320,370	347,359	65,556

The above table shows that in wheat, cotton, and seeds the exports from Bengal are diminishing, and from Bombay and Sind are increasing.

TARKESWAR BRANCH—(22 Miles).

The receipts of this line from all sources were as follows:—

						Rs.
Coaching	...	...	...	...	...	2,66,276
Goods	...	...	...	..	...	13,071
Others	...	...	...	...	...	370
			Gross Receipts		...	2,79,717

As compared with last year, there has been an increase in earnings from passenger traffic of Rs. 15,009, and in goods earnings of Rs. 871.

Out of the total receipts for the year, Rs. 2,42,264 were due to 3rd class passenger traffic. The average earnings per mile open per week amounted to Rs. 244.

PATNA-GYA STATE RAILWAY—(57 MILES).

YEARS.	Receipts from Coaching.	Receipts from Goods.	Total Coaching and Goods.
	Rs.	Rs.	Rs.
1884	3,46,412	1,66,251	5,12,663
1885	3,38,465	1,74,354	5,12,819
1886	3,73,093	1,59,276	5,32,369
1887	3,70,691	1,53,919	5,24,610
1888	3,68,123	1,26,557	4,94,680

The earnings from both coaching and goods traffic have decreased, and the earnings per mile open per week were Rs. 168.

The following statement shows the traffic which may be ascribed entirely to the Jubilee bridge:—

HALF-YEAR ENDED—	COACHING.				GOODS.			
	Up.		Down.		Up.		Down.	
	No.	Rs.	No.	Rs.	Mds.	Rs.	Mds.	Rs.
June 1888	39,943	2,286	51,221½	3,017	3,22,569	2,360	22,07,465	8,496
December 1888 ...	44,224	2,575	39,115	2,265	3,95,823	2,733	16,57,352	7,717
Total ...	84,167	4,861	90,336½	5,282	7,18,392	5,093	38,64,817	16,213

The above statement excludes coal traffic of 71,12,512 maunds, and miscellaneous of 2,13,716 maunds, which have not been distinguished as up and down.

From a scrutiny of the returns it appears that the bulk of the goods traffic is in the down direction. Minerals form fully 59·5 per cent. of the whole traffic, coke 22·6 per cent., hemp and flax 11·9 per cent., lime 7·3 per cent., linseed 14·5 per cent., and wheat 11·7 per cent. of the general merchandise.

X.—TRAFFIC AND WORKING.

Engineering Department.—The expenditure on maintenance has been during the year as follows:—

	Rs.
East Indian Railway proper	51,22,443
Tarkeswar Railway	31,662
Patna-Gya State Railway	56,791
Dildarnagar-Ghazipur branch	5,364
Sindia State Railway	42,895

Rails.—The total length of road renewed and relaid with iron and steel rails was 138·59 miles. The total length of steel rails put into the road was 107·83 miles and of iron rails 30·76 miles. The amount credited to maintenance for value of permanent-way materials taken out and returned to stock was Rs. 9,67,682, against Rs. 6,90,906 in the previous year.

The iron rails put into the road are not new rails, but those in good order taken out of the road in course of relaying with steel rails.

Sleepers.—The total number of sleepers put into the road, in renewing and relaying during the year, was 337,238, against a total of 314,495½ during 1887. Of these, 183,490 were iron and the rest wooden.

Stone ballast.—The quantity of stone ballast put into the road on Revenue and Capital account was 8,462,471 cubic feet. The percentage of stone ballast in the road at the end of the year was 64·07, against 59·68 on 31st December 1887.

Locomotive Department.—The expenditure during the year was Rs. 37,35,884, showing an increase of Rs. 1,44,817. This is accounted for as follows:—

By an increase of Rs. 23,975 in the consumption of fuel, due to the increased tonnage of trains.

By an increase of Rs. 77,473, due to 13 engines and 1 tender having been replaced, as against 8 engines and 1 tender in 1887.

By an increase of about Rs. 29,300 under the head "Carriage of Revenue stores," due to a larger quantity of coal and coke having been carried to increase the reserve stock kept in hand on the line.

No new engines were received during the year, but the number of new engines put together was five.

Condemned engines.—Thirteen engines and 3 tenders were condemned during the year. The condemned engines were replaced by the new engines issued from stock. The condemned tenders were replaced by altered ones issued from store.

Repairs of engines.—The outturn of repaired engines and tenders was as under:—

	Engines.	Tenders.
Thorough repairs	129	133
Moderate ,, ...	8	9
Slight ,, ...	24	18

The following table shows the number of train and engine-miles performed by each engine daily (including those running on the line under repair, and waiting repair):—

HALF-YEAR ENDING—	Number of train-miles.	Number of engine-miles.	Total number of train-miles during the half-year.	Total number of engine-miles during the half-year.
30th June 1888	43·75	50·00	7,942·25	9,134·75
31st December 1888	37·75	44·00	6,948·25	8,082·00

The consumption of fuel was as follows:—

	1st-half of 1888.	2nd-half of 1888.
By passenger engine, per train-mile lb. ...	41·96	41·54
Ditto do., engine-mile ,, ...	41·50	41·10
By goods do., train-mile ,, ...	54·87	53·54
Ditto do., engine-mile ,, ...	45·48	43·63
Ditto and passenger engine, per train-mile lb. ...	51·93	50·45
Ditto ditto ditto, engine-mile ,, ...	44·69	43·07

The average number of Native drivers employed per month was 106·84. The average number of shunters employed was 120 per month.

The saving in wages effected during the year through the employment of Native drivers and shunters was Rs. 4,75,856.

Manauri Oil Mills.—The outturn was as follows:—

	Gals.
Castor oil, 1st quality	316,575
Do., (medicinal)	92
Linseed oil, raw	13,588
Do., boiled	6,960

Carriage and Wagon Department.—In addition to 165 wagons having been fitted with wooden wainscotting at a capital cost of Rs. 5,104, one ten-ton travelling crane was put in working order for Traffic Department, and the conversion of 23 platform trucks into open-sided wagons has been taken in hand. The number of vehicles in running order at the end of the year was 10,157.

The cost of repairs and oiling per train-mile was 2·13 annas, which is 0·06 annas less than that in the previous year.

During the year 84·88 carriages and 316·50 wagons, or about 3·82 per cent. of the total stock, was constantly under repairs, and 372 vehicles were renewed at a cost of Rs. 6,50,500.

The damages to stock from accidents are estimated at Rs. 39,767.

Traffic Department.—The gross expenditure on this department during the year was Rs. 29,46,783, against Rs. 29,58,641 in 1887, being a decrease of Rs. 11,857, principally due to decrease in the expenditure for handling goods, owing to the general fall of traffic, and the surrender of the Cawnpore-Kalpi Section of the Indian Midland Railway; to the decrease in overtime allowances to train staff, due to the decrease in the train-mileage, and to the decrease under the heads Fuel, Lighting, Water and General Charges, the latter being due in a great measure to more new lamps having been supplied in 1887 and consequently fewer in 1888; and also to the consumption of oil having been less in 1888 on account of the surrender of the Cawnpore-Kalpi Section of the Indian Midland Railway.

Gross earnings.—The gross earnings were Rs. 4,47,11,802, against Rs. 4,52,84,645 in 1887, being a decrease of Rs. 5,72,843.

Taking the East Indian Railway proper, we find that—

	In 1887. Pies.	In 1888. Pies.
The cost of a ton-mile was	1·95	2·01
The "earnings" per ton-mile were	5·83	5·68
	Tons.	**Tons.**
The average paying load of a train was	198·88	207·57
Ditto ditto wagon was	5·98	5·95

The earnings from coaching traffic increased considerably. During the 1st half of 1888, the gain was $3\frac{1}{4}$ lakhs more than in the 1st half of 1887, the highest till then recorded. And during the 2nd half of 1888 the receipts were considerably in advance of those during any corresponding period.

There was an increase in steam-boat earnings, due to the improved connection afforded by the opening of the Assam-Behar State Railway, and the running of the steamer to Munihari.

Downwards coal traffic shows large increase, due to the facilities afforded by opening the Jubilee Bridge.

Rice was the greatest revenue earner during the year.

The growth in the consumption of kerosine oil was continued.

The largest increase under any one staple was in linseed, while cotton showed a decrease.

XI.—Rates and fares.

In coaching traffic there were no alterations of fares, but the monthly suburban tickets showed increased sale, and the public availed themselves to an increased extent over the corresponding last half-year of double-journey tickets at single rates during the Doorga Poojah and Christmas holidays.

In goods traffic there were changes in rates in many of the items.

Between Patna and Calcutta, owing to the cessation of the river competition by the India General Steam Navigation Company, the rates for grain and seeds were increased from Rs. 27 to Rs. 30 per 100 maunds.

In the export of wheat and seed traffic from the Jubbulpore line, efforts were made to obtain for Calcutta a greater share of the despatches from the principal wheat station, Sihora Road, 25 miles from Jubbulpore, 759 from Howrah, and 641 from Bombay; railway charges were about 5 shillings per ton in favour of Calcutta, which rate was again reduced to Rs. 44 per 100 maunds to Howrah, from Sihora, equivalent to a further decrease of 2*s.* 3*d.* per ton, but without much effect.

The cause may be traced to a great extent to the advantage that Bombay has over Calcutta in having regular lines of steamers to the Continent of Europe, the exports to Great Britain and the Continent from Calcutta and Bombay for the 1st half of 1888—

	To Great Britain. Cwt.	To Continent. Cwt.
Having been from Calcutta	1,284,370	205,959
Having been from Bombay	1,497,077	4,254,997

The rate for grain and seeds from Etawah to Bombay *viâ* Jubbulpore was so adjusted as to equalise the charges by that route with the charges *viâ* Agra.

From Cawnpore to Howrah the rate for seeds was reduced from Rs. 53 to Rs. 51 per 100 maunds to compete against the Bombay, Baroda and Central India Railway, as up to the end of June by far the greatest part of the traffic in mustard and poppy seeds from Cawnpore had gone to Bombay for the Continent of Europe.

Imported salt from Howrah to Patna was raised from Rs. 27 to Rs. 34 per 100 maunds.

Reduced rates for betelnuts from Howrah to Patna and stations beyond have been extended to bookings from the Eastern Bengal State Railway successfully.

Rates for piece-goods and manufactured iron from Howrah to Jubbulpore were reduced with the object of sharing the Jubbulpore traffic with the Great Indian Peninsula Railway.

Rates for stone were largely reduced in competition with the river traffic.

BENGAL AND NORTH-WESTERN RAILWAY.

I.—Works in progress.

Main line.

Mahi pile bridge, 8 spans of 60 feet.—This bridge was completed and opened for traffic during the year.

Loop line.—The earthwork in raising the line above flood level and the ballasting was finished during the year. The completion of this work and of the Mahi Pile Bridge enable the loop line to be used for traffic all the year round.

Digha transhipment yard.—Two joint goods sheds, aggregating 616 feet in length, a joint platform 1,500 feet long, and sidings aggregating about 10,000 lineal feet, have nearly been completed during the year, as well as an approach to the river bank.

Sidings, Sonepore.—Two new sidings were laid in at Sonepore Station to meet the requirements of the Tirhoot State Railway traffic and the Sonepore fair.

Ganges bridge, 3 spans of 40 feet.—Flood level in the Ganges rose to the bottom of the girders of this bridge during the past rains, and if the flood had risen higher, the safety of the bridge would have been endangered.

Arrangements have been made for raising this bridge 3 feet, and the work is now well in hand. A diversion has been laid in to carry the traffic till the alterations of the bridge and of the formation have been completed.

Ganges ferry.—The 2 steamers, 4 barges, 2 landing-stages, 2 approach girders, 4 tank engines, and 2 winding engines have all been practically completed, with the exception of few minor alterations, which are required to get the ferry to work smoothly.

At the date of this report the ferry is in working order.

Rolling-stock.—The stock has been maintained in good order during the year.

The Bogie wagons have been altered and fitted with spiral springs, so as to make them less rigid in their action.

Fifty low-sided wagons have been converted into timber trucks.

Eighteen third class carriages have been fitted with rifle racks, as prescribed in Government of India, Public Works Department, Resolution No. 889RC, dated 13th October 1885.

II.—Lines under survey.

A preliminary survey was made for a branch line from Chupra to Revilganj, and the plans and estimates are under preparation.

III.—Mineral resources.

The fuel used on the railway is Bengal coal, and costs about Rs. 11 per ton delivered at Sonepore. The consumption per train mile averaged during the year 30·47lbs. and the cost 2·30 annas.

Wood fuel is being used on the Uska branch as a trial, and so far the result has been satisfactory.

IV.—Lines open for traffic.

Main line, Sonepore to Bahraich ...	...	...	...	273·58 miles.
Ajodhya branch	...	...	...	20·10 „
Ganges loop line	...	...	...	9·34 „
Uska branch	...	...	...	39·25 „
Naipalganj extension	...	...	...	33·52 „
Total miles			...	375·79

Flood.—In the month of September 1888, owing to an extraordinary rainfall along the line, there were two breaches on the Uska branch—1 bridge 7 spans 20 feet arches was partially wrecked, and 1 bridge 1 span 20 feet girder was swept away, and the embankment was breached at two places.

The traffic on the branch was stopped between Pharenda station and Uska Bazar for about a fortnight, when diversions were laid down and traffic restored.

VII.—Capital transactions.

The capital accounts for the calendar year ending 31st December 1888 are annexed.

The total capital expenditure during the year on final heads was Rs. 26,36,378, and the expenditure to date Rs. 2,43,03,654, exclusive of interest charges, amounting to Rs. 10,90,014, and suspense account, amounting to Rs. 5,24,487.

VIII.—Revenue transactions.

The gross earnings during the year amounted to Rs. 22,09,543, against Rs. 19,44,002 in previous year, and the working expenses to Rs. 12,20,699, against Rs. 11,06,997 in previous year, and the net earnings to Rs. 9,88,844, against Rs. 8,37,004 in previous year.

Out of which the Company paid Rs. 20,890 as income-tax.

This gave a dividend of 3·85 per cent. on the total capital expenditure up to 31st December 1888.

The traffic somewhat improved during the year owing to export trade in wheat and seeds being better than the year 1887.

Coaching traffic.—The passenger traffic, both local and foreign, has increased steadily during the year.

The increase over the receipts for 1887 was Rs. 31,116.

The total receipts during 1888 were :—

			Rs.
For 1st half of 1888	...	...	3,92,230
For 2nd ditto	...	...	4,16,173
Total		...	8,08,403

as compared with Rs. 7,77,287 in 1887.

The following table gives the number of passengers and the earnings for the years 1886, 1887 and 1888:—

	1886.		1887.		1888.	
	No.	Receipts.	No.	Receipts.	No.	Receipts.
		Rs.		Rs.		Rs.
First class	3,217	10,994	4,774	13,422	5,308	13,846
Second class	8,072	14,838	11,048	17,742	10,365	14,840
Intermediate class	7,852	4,811	5,679	4,449	4,720	3,914
Third class	14,59,617	5,90,754	19,11,566	6,90,541	20,96,552	7,34,426
Total ...	14,78,758	6,21,397	19,33,067	7,26,154	21,16,945	7,67,025

There is a continuous increase in all classes of passengers, except second and intermediate class.

The increase is 15 per cent. in receipts and 9 per cent. in the number of passengers carried in 1888 over 1887, and 31 per cent. in receipts and 39 per cent. in the number of passengers over 1886, which is fairly satisfactory.

Goods traffic.—The receipts for goods traffic amounted to—

			Rs.
1st half of 1888	...	...	7,06,257
2nd ditto	...	...	3,86,073
Total		...	10,92,330

as compared with Rs. 9,82,158 during 1886 and Rs. 8,84,444 during 1887.

The goods traffic receipts were thus better by Rs. 2,07,886 during the year 1888 than in 1887, and Rs. 1,10,172 than in 1886. The increase chiefly occurs under wheat and seed traffic.

The following table shows the increase in these items as compared with 1887 :—

	Seeds.		Wheat.	
	Tons.	Receipts.	Tons.	Receipts.
		Rs.		Rs.
1887	21,762	85,607	37,565	1,71,011
1888	40,644	2,05,757	42,068	2,32,381
Increase	18,882	1,10,150	4,503	61,370

The rice traffic from Uska branch increased from 24,871 tons to 45,621 tons, and the receipts from Rs. 75,083 to Rs. 1,20,709 during 1888 over 1887.

Steam-boat service.—The passenger traffic on the Ganges ferry improved considerably during 1888, the number of passengers carried being 52,206 and the receipts Rs. 5,920 more than in the year 1887.

The total earnings of the ferry during the year amounted to Rs. 2,17,361, thus—

			Rs.
1st half of 1888	...	...	1,24,491
2nd ditto	...	...	92,870
Total		...	2,17,361

against Rs. 1,80,909 for the year 1887 and Rs. 1,67,974 for 1886.

This shows a total increase of Rs. 36,452 over 1887 and Rs. 49,387 over 1886.

X.—Rates and fares, coaching.

There has been no alteration in the coaching fares during the year, and the third class fare remains as before at 2 pies per mile.

Goods rates.—The only changes in the goods rates worthy of notice are those due to the agreement come to with the East Indian Railway and Oudh and Rohilkund Railway.

With the former Railway it has been agreed to equalise rates for the traffic for Cawnpore and the west, so that the rates *viâ* Digha and the East Indian Railway will be same as those *viâ* Ajodhya Ghât and the Oudh and Rohilkund Railway.

With the latter Railway it has been agreed to equalise rates for traffic to Howrah, so that the rates for stations on the Oudh and Rohilkund Railway on the south bank of the Gogra will be the same as those by the Bengal and North-Western Railway for the north bank of the Gogra.

The East Indian Railway, Oudh and Rohilkund Railway, and Bengal and North-Western Railway have agreed to make the same charge for carriage of salt, viz., one-fifth pie per maund per mile to a distance of 250 miles and one-sixth pie per maund for greater distances.

BENGAL-NAGPUR RAILWAY.

The general progress during the year has been as follows:—The conversion of gauge from Nagpur to Raj-Nandgaon was completed and opened for traffic on the broad gauge on the 27th November 1888.

The section Raj-Nandgaon to Raipur was opened for traffic on the 4th December 1888.

The section Raipur to Bilaspur was opened for goods on the 10th January 1889, and for passenger traffic on the 14th February 1889.

The Kutni-Umaria section was taken over by the Company on the 1st April 1888.

The total length of broad gauge line now being worked is 293 miles.

Besides the above amount of open line, rails have been laid and construction trains are working over them for a distance of 195 miles.

Construction work is now in progress over the whole of the system.

The following is a more detailed account of the state of the work on the various sections:—

Main line.

Nagpur to Bilaspur.—Opened for public traffic.

Bilaspur to Raigarh.—Earthwork practically complete.

Bridges nearly all completed, except those over the Hasdeo and Mand.

At the Hasdeo (five spans of 200-feet girders) the masonry is two-thirds complete. All the ironwork has been received, and at least three spans will be erected before June 1889.

At the Mand (nine spans of 100-feet) the work is not so far advanced, but the masonry will be completed by the rains. The ironwork of the girders is in hand.

Rails have been laid to 68 miles from Bilaspur, and the plate-laying is now proceeding.

Raigarh to Sogra.—The greater portion of this district has been realigned, sanction to which was only received in December 1888. Good progress has been made with the earthwork and masonry.

At the Eeb bridge (seven spans of 150-feet girders) the well foundations are progressing satisfactorily. A very excellent sandstone is found close to the bridge site, and good stone is available, except near Raigarh, almost all along.

Sogra to Monarpur.—Earthwork well advanced, masonry in progress, but skilled labour difficult to attract and keep. At the Brahmini river, the bridge for which is 10 spans of 150-feet girders, the foundations have been put in, and work is progressing on the remainder.

Monarpur to Goilkora.—Great difficulty is being experienced in getting labour to stay in the Saranda jungle on this section. Bricks for bridges have been burnt, and work is generally being pushed on as much as possible.

Goilkora to Purulia.—Earthwork practically complete. Masonry of all bridges, except the Subunurekha, nearly finished. Rails laid for 45 miles on this section.

Purulia to Assensole.—Rails laid; line ready for inspection previous to opening for public traffic. The wells at the Damuda bridge are all being sunk, and the well-sinking will be finished by the rains.

Under the present arrangement the East Indian Railway are to work this section when passed as fit for public traffic.

Persons employed.

Open line.

The following statement gives the number of persons of all races employed on the open line:—

Year ending	Number of Employés.				Number of miles open.	Number of stations.
	Europeans.	East Indians.	Natives.	Total.		
31st December 1887 ...	85	206	4,286	4,577	149	23
31st December 1888 ...	102	343	12,954	13,399	225	28

Native drivers and shunters.

The following is a comparative statement of the number of natives employed as shunters and drivers during the calendar years 1887 and 1888:—

Railway.	Drivers.		Shunters.		Total.		Remarks.
	1888.	1887.	1888.	1887.	1888.	1887.	
Bengal-Nagpur Railway ...	2	4	5	14	7	18	

The system of training native lads is to pass them through the various grades, from Cleaners to Assistant Firemen, Firemen, Shunters, and then if they are able to read and write sufficiently well, and have proved themselves efficient in technical duties, they are allowed to take charge of engines on main line trains.

Volunteer corps.

Permission was received from Government to form a Bengal-Nagpur Railway Volunteer Corps in 1888. An Adjutant has been appointed, and at the present time the Corps has 494 men enlisted, of whom 363 were efficients on the 31st March 1889. As many of the men are scattered all over the line on the construction work, it is difficult to put them through their drill.

The following statement shows the enrolled strength and the number of efficients in the various companies:—

Company.	Enrolled strength.	Efficients.				Non-efficients.	Sergeant-instructors.	Drill-instructors.	Head-quarters.	Remarks.
		Officers.	Non-commissioned Officers.	Volunteers.	Total.					
A ... B ... C ... D ...	494	13	20	330	363	131	3	1	Nagpur.	

Provident fund.

State Railway rules were at first proposed for adoption; but as Government suggested that the Institution should be managed independently by a Committee of Railway officers, and demurred to the State Railway Rule as regards bonuses, a set of rules, based on those in force on the East Indian Railway, have been drawn up and submitted for an expression of the final orders of the Government of India and the Board.

The following statement shows the number of depositors and the sums at their credit on the 31st December 1888:—

Railway.	Number of staff depositing.	Number of depositors.		Amounts at credit on the 31st December 1888.				Remarks.
		Voluntary.	Compulsory.	Voluntary.	Compulsory.	Bonus.	Total.	
				Rs.	Rs.	Rs.	Rs.	
Bengal-Nagpur ...	268	74	243	666	18,640	12,119	31,425	

Police.

In addition to the Nagpur and Bhandara Police districts, there are now two more districts on the open line, viz. Raipur and Bilaspur, each under the orders of a District Superintendent of Police. These districts were opened and placed under the Police for purpose of law and order towards the close of the year, and the entire Police force on the whole open line, that is, from Nagpur to Bilaspur, 255 miles, consists of—

1 Inspector.	4 Head-constables.
2 European constables.	110 Constables.

The system of watch and ward by chowkidars, which was not found to give satisfaction, has now been transferred to the regular Police.

Beyond a few petty thefts, the year has been an uneventful one, and there is therefore nothing of importance to record.

Medical arrangements.

Open line.

On opening out to Bilaspur the open line charge has extended, and now includes the length from Nagpur to Bilaspur. The subsidised Civil Surgeon at Nagpur superintends this length, assisted by the Railway Apothecary at

Dongargarh. The arrangements for treating the sick are as follows:—An Assistant Surgeon at Nagpur, a Hospital Assistant for the sick along the line up to Dongargarh, with an Apothecary at Dongargarh, and a Hospital Assistant attends to the medical wants of the Railway employés stationed between Nagpur and Bilaspur, a distance of 255 miles.

The year may be considered a generally healthy one.

In consideration of the great number of Railway servants admitted into the Mayo Hospital at Nagpur, the Company has given a contribution of Rs. 200.

The annual cost of the Department has been as under:—

	Rs.
Assistant Surgeon, Nagpur	1,200
Hospital Assistant at Nagpur	438
Menial establishment at Nagpur	256
Medicines ditto	785
Apothecary at Dongargarh	2,400
Menial establishment at Dongargarh	132
Medicines ditto	725
Supervision, Civil Surgeon	1,800

Five thousand and ninety-two cases were treated during the year ending 31st March 1889, the prevailing diseases being malarial fevers (1,840 cases), diseases of the digestive system, dysentery, and ulcers. There were but two cases of small-pox and none of cholera.

Construction.

Each District Engineer on the Construction has attached to his district a fully qualified Assistant Surgeon, and each Assistant Surgeon has working under him one or two Hospital Assistants, according to the length of the district. The Assistant Surgeon is stationed at the head-quarters of each district, and has at least a three months' supply of medicines for the use of his district. Each Hospital Assistant has also a small supply of medicines with him, and can procure additional medicines from the Assistant Surgeon in a few hours.

The Principal Railway Medical Officer, with his head-quarters at Chakardarpur, superintends the line from Assensole to the Eeb.

The health of the European portion of the Construction staff on all the districts, save the Pendra, Brahmini and Saranda, has been fairly satisfactory, considering the unavoidable exposure and the total ignorance of Indian life and surroundings. Fever is the most prevalent disease, and appears in its worst form in the above-mentioned districts. Of the staff now employed at the Pendra, there are only three men left who were there when work first commenced in the early part of 1888.

The Saranda and Brahmini are no better off, the percentage of sick among the work-people during certain parts of the year being as high as 60. The sinking of wells all along the line has, however, been attended by a well-marked diminution of fever.

Cholera, too, has played its annual part, and Purulia has had more than an average attack.

Dysentery has not been as prevalent as was expected, which must be attributed to the introduction of good water.

FLOOD DAMAGES, ACCIDENTS, 1888-89.

On the 30th of October last an accident took place at the Damuda. The temporary bridge which had been constructed over this river, being damaged by a flood which came down that morning, gave way while a train was crossing it. A heavy L-class engine, four East Indian and two Bengal-Nagpur Railway wagons, and one brakevan were precipitated into the river. There was fortunately no loss of life. Damage to rolling-stock amounted to Rs. 1,294.

On the 18th December, on the Kulhan diversion, with a grade of 1 in 50, a material train parted owing to the couplings of two Great Indian Peninsula Railway wagons giving way. Twelve wagons were more or less damaged.

On the 23rd December, owing to excess speed in driving, a brakevan was derailed at mileage 162; nearly a mile of sleepers was damaged and the road cut up, the cost of which will be about Rs. 1,000. Traffic was interrupted for a day in consequence.

On the 30th January a heavy flood carried away a portion of the embankment at the temporary bridge over the Damuda.

RATES AND FARES.

The following are some of the alterations made in the rates for coaching traffic:—

(1) The intermediate class rate has been reduced from 4 pies to 3 pies per mile.
(2) The third class rate has been altered from 2 pies per mile to 2½ pies per mile by mail and 2 pies per mile by mixed trains.
(3) The minimum charge for passenger luggage has been increased from 1 anna to 2 annas.
(4) The rate for two-wheeled carriages and palanquins has been reduced from 3 annas to 2½ annas per mile, and for four-wheeled carriages from 4 annas to 3 annas per mile, the minimum charge for carriages being increased from Rs. 3 to Rs. 5.
(5) The minimum charge for horses has been increased from Rs. 3 to Rs. 5.
(6) The rate for special trains has been increased from Rs. 3 to Rs. 5 per mile, subject to a minimum charge as for 20 miles.

No changes of any importance have as yet been made in the rates for goods traffic.

DARJEELING-HIMALAYAN RAILWAY.

LINES OPEN FOR TRAFFIC.

Passenger and goods traffic was carried over the Railway throughout the year 1888 without interruption.

WORKS IN PROGRESS.

A covered way at Loop No. 2 is in progress and well advanced. This is to replace the original timber bridge.

LINES UNDER SURVEY OR PROJECTED—*Nil.*

MINERAL RESOURCES.

The Company has drawn its supply of coal from the Bengal Coal Company at a cost of Rs. 16 37 per ton delivered at Siliguri.

LINES OPEN FOR TRAFFIC.

Passenger and goods traffic was worked over the Railway throughout the year 1888 without interruption.

PERSONS EMPLOYED.

Mr. F. Prestage, Managing Director, having proceeded to Europe, Mr. S. B. Cary, Assoc., M.I.C.E., was appointed General Manager and Chief Engineer, and Mr. C. N. Barnard, Resident Engineer, acted for the General Manager, pending his joining the appointment.

CAPITAL TRANSACTIONS.

The total paid-up capital, including debenture, &c., was Rs. 27,70,000 on the 31st December 1888.

The total capital outlay to the 31st December 1888 is Rs. 27,03,754, or an average cost per mile of Rs. 53,015.

The expenditure on capital account during the year under review was Rs. 15,973.

REVENUE TRANSACTIONS.

YEAR.	Gross earnings.	Expenditure, excluding debenture interest.	Net earnings.	Percentage of expenditure to gross earnings.	Percentage of the net earnings to total capital outlay.	Train-mile.
	Rs.	Rs.	Rs.			Rs.
1887	4,77,151	2,66,528	2,10,623	55·86	7·63	1,05,823
1888	6,14,893	3,31,566	2,83,327	53 92	10·22	1,41,323

The gross earnings show an increase of Rs. 1,37,742, or 28·87 per cent., and the expenditure an increase of Rs. 65,038, or 24·40 per cent.

The net earnings have increased by Rs. 72,700, or 34·52 per cent.

The total weight of goods carried has increased by 31·90 per cent.

TRAFFIC AND WORKING.

The passenger and goods traffic for the year under review compares as follows with that of the previous year:—

TRAFFIC.	1887.		1888.		INCREASE.		DECREASE.	
	Units.	Receipts.	Units.	Receipts.	Units.	Receipts.	Units.	Receipts.
	Passenger.	Rs.	Passenger.	Rs.	Passenger.	Rs.	Passenger.	Rs.
Coaching ...	34,500	1,69,495	42,825½	2,14,442	8,325½	44,947	.....	.....
	Mds.		Mds.		Mds.		Mds.	
Goods ...	5,08,856	3,01,803	6,71,174	3,93,872	1,62,318	92,069	.....	.....

RATES AND FARES.

Rate.—Fusel oil flashing, like good quality kerosine, at or above 73°F. (Abel's test) has been classified and charged as first class on production of a certificate from the sender to that effect.

Fares.—No change has taken place in the fares.

DEOGHUR RAILWAY.

LINE OPEN.

The number of miles open is 4·79. There is no branch, nor has any new line been opened during the year, nor is any under construction.

PERSONS EMPLOYED.

Station Staff.

Station Master and Assistant	
Native Guards	2
Menials	2
	9

Locomotive and carriage.

Drivers and mechanics	
Menials	5
	10

Maintenance Staff.

Mechanic	1
Plate-layer and milemen	25

This Railway does not pay for Government Railway Police.

No contribution is given to any local or district schools.

A monthly contribution is given to the Deoghur Dispensary for medical attendance.

STORES.

	Rs.	A.	P.
Value of stores in hand is	1,529	2	10

CAPITAL TRANSACTION.

Share capital	2,75,000	0	0
Revenue expended on capital account	43	0	0
Reserve fund expended on ditto	6,136	13	0

REVENUE TRANSACTION.

The revenue of the year was as follows:—			
Traffic earning	25,652	14	3
Miscellaneous receipts	158	12	9
Total ...	25,811	11	0

Revenue expended as follows:—			
Maintenance of way, works, and station	2,746	7	6
Traffic expenses	4,301	6	10
Locomotive expenses	4,259	13	6
Carriage and wagon expenses	399	1	3
Store Department salaries and expenses	180	0	0
Charges, general	2,404	0	7
Total ...	14,290	13	8

TRAFFIC WORKING.

Traffic has been conducted without delay or obstruction during the year. It shows a falling off from the previous year, but the current year shows a complete recovery and considerable increase.

	1st January to 31st December 1887.	1st January to 31st December 1888.
Number of passengers	172,926½	166,973
	Mds.	Mds.
Weight of goods	1,84,626¼	1,61,701⅝

RATES AND FARES.

There was no alteration made in the rates and fares.

SYNOPSIS OF MILEAGE OF RAILWAYS WITHIN THE BOUNDARIES OF THE PROVINCE OF BENGAL ON THE 31ST OF MARCH 1889.

System.	Railway.	Main Sections and Branches. From	To	Gauge. Ft.	In.	Miles open. State.	Assisted.	Under construction. State.	Assisted.	State Railways under survey.	Remarks.
East Indian Railway and State Branches, and connected lines worked by the Agency of the East Indian Railway Company.	East Indian main line	.....	.....	5	6	484¼	...	...	...	...	In addition to the 738 miles of East Indian Railway which are here detailed as lying *within* the boundaries of the Province of Bengal, there are 777 miles of main and branch lines of the same railway which lie *outside* the province. The main and chord lines through the province, and as far as Mogul Serai, the future junction with the Oudh and Rohilkund Railway, are laid double; the branches are single. The Oudh and Rohilkund Railway traffic is caught at Mogul Serai, that of the Bengal and North-Western Railway at Digha Ghát, that of the Patna-Gya State Railway at Bankipur, of the Tirhoot State Railway at Mokameh, and of the Tarkeswar Railway at Sheorsphuli. In addition to the branch lines here shown there are some colliery branches belonging to coal companies.
	East Indian chord line	.....	.....	...		186¼	...	...	...	...	
	East Indian branches	.....	.....	...		67½	...	...	...	...	
	Patna-Gya	.....	.....	...		57	...	...	...	...	
	Tarkeswar	.....	.....	...		...	22	...	...	...	
			Total miles ...			795½	22	...	...	...	
			Total mileage of the system ...			817½		.....		...	
Eastern Bengal State Railway and connected lines worked under the same management.	Eastern Bengal main line ...	.....	.....	5	6	176	...	...	...	...	This whole system, containing 1,043¾ miles of railway open to traffic, is now worked by the Eastern Bengal State Railway management. The system consists of the Eastern Bengal State Railway, the Bengal Central Assisted Railway, the Calcutta and South-Eastern State Railway, the Northern Bengal State Railway, the Kaunia-Durla State Railway, the Assam-Behar State Railway, Assam-Behar Section, and the Dacca State Railway.
	Eastern Bengal southern section	.....	.....	...		56	...	...	...	...	
	Central Bengal	.....	.....	...		...	125	...	...	...	
	Ranaghat-Bhugwangola	.....	.....	...		...	...	21¼	...	93	No work, except earthwork between Ranaghat and Krishnagarh. Work long since topped.
	Dacca Railway	.....	.....	3	3½	86	...	...	...	...	
	Northern Bengal	.....	.....	3	3½	280	...	...	...	...	If the Kaunia-Dhubri Section of the Assam-Behar State Railway should ever be constructed on the metre gauge, the existing Kaunia-Durla line would get little or no traffic, and would probably cease to be kept up. Besides the 40¼ miles of Kaunia-Durla State Railway, there are 40¼ miles of ferries.
	Kaunia-Durla	.....	.....	2	6	37	...	...	...	...	
	Assam-Behar Section, A.-B.S.Ry.	.....	.....	3	3½	28	...	116·75	...	...	
			Total miles ...			673	125	138¼	...	93	
			Total mileage of the system ...			798		38¼		93	
Tirhoot and Bengal and North-Western system, which are directly connected by the Gunduck bridge.	Tirhoot State Railway	.....	.....	...		226	...	...	...	...	These 273 miles of railway, now under Provincial control, will, when completed, form one system for working.
	Tirhoot section, A.-B. S. Ry. ...	.....	.....	...		47	...	...	...	...	
	Bengal and North-Western Ry....	.....	.....	...		...	92½	...	...	...	283¼ miles of the Bengal and North-Western Railway are open *beyond* the boundaries of Bengal. The mileage shown in the schedule represents only the portion lying *within* the province.
			Total miles ...			273	92½	...	...	...	
			Total mileage of the system ...			365¼		.....		...	
Chittagong and Assam	Assam Railway	.....	.....	...		...	...	...	...	79	Includes only the section *within* the Province of Bengal.
		.....	.....	...		...	...	...	...	11	
		.....	.....	...		...	...	...	...	38	
		.....	.....	...		...	...	...	...	60	
			Total miles ...			...	...	...	...	...	
			Total mileage of the system ...			...		...		188	
Imperial projects ...	Bengal-Nagpur	.....	.....	5	6½	...	...	226	...	...	Does not include Central Provinces portion, 139 miles to Bilaspur. 16 additional miles in N.-W. Provinces from Mogul Serai to Rebhanpur. 80 miles additional in Central Provinces to Panchpara on B.-N. S. Railway.
	Benares-Cuttack	.....	.....	...		...	...	...	...	182½	
		.....	.....	...		...	...	...	...	160½	
		.....	.....	...		...	...	...	...	142	
		.....	.....	...		...	...	...	...	80	
			Total miles ...			...	...	226	...	...	
			Total mileage of the system ...			...		226		515	
Other railways which cannot be classed with either of the above system.	Darjeeling-Himalayan Railway ...	.....	.....	2	0	...	51	...	...	...	Company's Railway ... Under Provincial control.
	Nalhati Railway	.....	.....	4	0	27½	...	...	...	...	Provincial State Railways ...
	Deoghur Railway	.....	.....	3	3½	...	4	...	...	...	Company's Railway ...
			Total miles ...			27½	55	...	...	...	
			Total mileage ...			82½		...		...	

Statement showing Provincial Profit or Loss upon the Bengal State Railways during the current and previous Financial Contracts.

YEAR.	Capital outlay to end of previous year. Rs.	Capital outlay during year. Rs.	Capital outlay to end of year. Rs.	Amount of interest. Rs.	Gross receipts. Rs.	Working expenses. Rs.	Net receipts. Rs.	Profit or loss to Local Government. Rs.	REMARKS.
EASTERN BENGAL STATE RAILWAY.									
Capital outlay by the late Eastern Bengal Railway Company to end of June 1884 ...	3,58,22,845	.....	.....	.....	.....	.....	.....	.....	
Capital outlay on Porada section ...	15,60,000	.....	.....	.....	.....	.....	.....	.....	
1884-85 ...	3,73,82,845	13,45,872	3,87,28,717	.....	.....	.....	.....	.....	During these years the line was worked as an Imperial concern.
1885-86 ...	3,87,28,717	24,57,049	4,11,85,766	.....	.....	.....	.....	.....	
1886-87 ...	4,11,85,766	17,39,462	4,29,25,228	.....	.....	.....	.....	.....	
1887-88 ...	4,29,25,228	23,32,377	(a)4,52,57,605	22,95,736	95,45,668	47,36,926	48,08,742	+25,13,006	(b) Eastern Bengal ... ... 8,44,701 Northern Bengal ... ... 9,11,934 Dacca ... ... 2,62,160 Assam-Behar ... ... 2,67,795 Kaunia-Durla ... ... 38,565 24,25,155 *Add* amount credited to Imperial Fund—*vide* paragraph 7, Government of India, Public Works Department, Resolution No. 50/B-0A—B, dated 30th March 1889 (Budget orders for 1888-89) 7,85,152 32,10,307
1888-89 ...	4,52,57,605	7,86,976	4,60,44,581	(b) 32,10,307	1,07,05,894	49,01,050	58,04,844	+25,94,537	

N. B.—As the net receipts from all the sections now comprising the Eastern Bengal State Railway system are shown in the column set apart for that purpose, interest for *all the sections* during 1888-89 is shown in this statement.

(a) Excludes Rs. 93,64,759 outlay on Calcutta and South-Eastern State Railway, shown separately in page 43.

NORTHERN BENGAL STATE RAILWAY.									
1877-78 ...	1,13,00,117	43,37,360	1,56,37,537	6,00,930	1,71,114	1,64,016	7,098	−5,93,832	
1878-79 ...	1,56,37,537	38,61,802	1,94,99,339	7,90,589	10,92,892	8,95,730	1,97,162	−5,93,418	
1879-80 ...	1,94,99,339	12,36,023	2,07,35,362	9,05,281	14,67,806	12,28,647	2,39,159	−6,66,122	
1880-81 ...	2,07,35,362	3,57,343	2,10,93,005	6,41,138	17,03,253	9,25,189	7,78,064	+1,36,926	
1881-82 ...	2,10,93,005	64,613	2,11,57,618	8,40,956	19,27,411	9,60,460	9,66,951	+1,25,995	Rs. 2,62,833 Provincial; Dinagepur branch. Credit of Rs. 1,38,320 Imperial; on main line.
					Net loss during the five years' contract period ...			−15,90,451	
1882-83 ...	2,11,57,618	4,94,593	2,16,52,211	8,38,367	22,79,904	10,71,528	12,08,376	+3,70,009	Rs. 4,85,790 Provincial Dinagepur branch.
1883-84 ...	2,16,52,211	8,51,915	2,25,04,126	8,49,304	21,32,741	12,35,430	8,97,311	+48,007	Rs. 3,13,872 Provincial; Dinagepur branch.
1884-85 ...	2,25,04,126	−8,31,375	2,16,72,751	8,28,068	21,66,282	15,20,316	6,45,966	−1,82,102	Rs. 15,60,000, Imperial Capital, transferred to E. B. State Railway.
1885-86 ...	2,26,72,751	2,36,511	2,19,09,262	8,31,540	23,39,204	14,90,371	8,48,833	+17,293	
1886-87 ...	2,19,09,262	−5,511	2,19,03,751	8,36,161	26,24,013	14,11,742	12,12,271	+3,76,110	
					Net profit during the five years' contract period...			+6,27,679	
1887-88 ...	2,19,03,751	−1,74,443	2,17,29,308	(a)	(a)	(a)	(a)	(a)	(a) *See* under E. B. State Railway.
1888-89 ...	2,17,29,308	3,64,924	2,20,94,232	(a)	(a)	(a)	(a)	(a)	
	Loss by exchange since commencement		8,86,589						
	Total Capital Outlay ...		2,29,80,821						

TIRHOOT STATE RAILWAY.									
1877-78 ...	*41,27,107*	*2,09,614*	*50,36,721*	*2,13,984*	*3,43,236*	*2,36,714*	*1,07,522*	*−1,06,462*	
1878-79 ...	*50,36,721*	*2,15,688*	*52,52,409*	*2,31,495*	*4,49,808*	*3,29,930*	*1,19,878*	*−1,11,465*	{ Rs. 6,679 Provincial money; on extensions. { Rs. 504 Provincial money; on Hajipur branch.
1879-80 ...	*52,52,409*	*2,24,908*	*54,77,317*	*2,41,015*	*4,76,923*	*3,43,273*	*1,33,649*	*−1,07,366*	{ Rs. 555 Provincial money; on extensions. { Rs. 2,994 Provincial money; on Hajipur branch.
1880-81 ...	54,77,317	5,43,135	60,20,452	2,58,105	5,43,380	3,15,512	2,27,868	−30,237	Rs. 4,978 Provincial money; on Hajipur branch.
1881-82 ...	60,20,452	26,80,951	87,01,403	2,93,577	5,78,781	2,49,042	2,29,739	−63,838	Rs. 11,592 Provincial money; on Hajipur branch.
					Net loss during the five years' contract period ...			−4,19,368	
1882-83 ...	87,01,403	31,71,559	1,18,72,962	4,10,374	7,09,812	4,40,520	2,69,292	−1,41,082	
1883-84 ...	1,18,72,962	21,82,976	1,40,55,938	5,17,443	9,81,667	6,78,626	3,03,041	−2,14,405	Rs. 1,072 Provincial money; on Hajipur branch.
1884-85 ...	1,40,55,938	10,16,642	1,50,72,580	5,81,435	12,49,716	9,68,472	2,81,244	−3,00,190	
1885-86 ...	1,50,72,580	−4,90,355	1,45,82,225	5,91,961	12,80,258	9,15,584	3,64,674	−2,27,287	
1886-87 ...	1,45,82,225	2,55,176	1,48,37,401	5,87,357	15,99,212	9,85,827	6,13,385	+26,128	
					Net loss during the five years' contract period ...			−8,56,836	
1887-88 ...	1,48,37,400	3,44,660	1,51,82,060	6,28,560	18,05,037	10,61,560	7,43,947	+1,14,937	
1888-89 ...	1,51,82,060	1,83,271	1,53,65,331	(a) 8,22,326	17,08,537	9,62,543	7,45,994	−76,332	(a) Tirhoot State Railway ... ... 6,39,140 Assam-Behar, Tirhoot section 1,83,186 8,22,326
	Loss by exchange since commencement		7,04,816						
	Total Capital Outlay ...		1,60,70,147						

DACCA STATE RAILWAY.									
1877-78 ...	.....	8,973	8,973						
1878-79 ...	8,973	33,146	42,119	.....	.....	.....	.....	.....	Rs. 87,535 Provincial money.
1879-80 ...	42,119	6,639	48,759						
1881-82 ...	48,758	38,777	87,535						
1882-83 ...	87,535	3,90,613	4,78,148	7,812	.....	.....	.....	−7,812	
1883-84 ...	4,78,148	23,58,134	28,36,282	62,787	.....	.....	.....	−62,787	
1884-85 ...	28,36,282	20,76,707	49,12,989	1,51,484	.....	.....	18,518	−1,32,966*	
1885-86 ...	49,12,989	10,97,042	60,10,031	2,14,959	1,27,229	1,84,576	−57,347	−2,72,306	
1886-87 ...	60,10,031	2,89,829	62,99,860	2,42,697	2,79,936	2,86,994	−7,028	−2,49,725	
					Net loss during the five years' contract period ...			−7,25,596	
1887-88 ...	62,99,860	−89,359	62,10,501	(a)	(a)	(a)	(a)	(a)	(a) *See* under E. B. State Railway.
1888-89 ...	62,10,501	69,323	62,79,824	(a)	(a)	(a)	(a)	(a)	
	Loss by exchange since commencement		3,08,856						
	Total Capital Outlay ...		65,88,680						

ASSAM-BEHAR STATE RAILWAY—A.-B. SECTION.									
1882-83 ...	5,153	28,967	34,120	.....	.....	.....	.....	.....	Rs. 34,120 Provincial money.
1883-84 ...	34,120	3,67,517	4,01,637	7,350	.....	.....	.....	−7,350	
1884-85 ...	4,01,637	18,71,356	22,72,993	52,128	.....	.....	.....	−52,128	
1885-86 ...	22,72,993	21,31,052	44,04,045	1,31,769	.....	.....	.....	−1,31,769	Rs. 20,319 Provincial, transferred from survey.
1886-87 ...	44,04,045	16,36,055	60,40,100	2,06,705	.....	.....	.....	−2,06,705	
					Net loss during the five years' contract period ...			−3,97,952	
1887-88 ...	60,40,100	17,24,938	77,65,038	1,93,975	.....	.....	.....	−1,93,975	Total interest paid by the Province is Rs. 2,88,212, of which Rs. 94,237 interest on open line is shown under E. B. State Railway.
1888-89 ...	7,65,038	22,54,246	1,00,19,284	(a)	(a)	(a)	(a)	(a)	(a) *See* under E. B. State Railway.
	Loss by exchange since commencement		3,02,726						
	Total Capital Outlay ...		1,03,22,010						

Statement showing Provincial Profit or Loss upon the Bengal State Railways during the current and previous Financial Contracts—continued.

YEAR.	Capital outlay to end of previous year. Rs.	Capital outlay during year. Rs.	Capital outlay to end of year. Rs.	Amount of interest. Rs.	Gross receipts. Rs.	Working expenses. Rs.	Net receipts. Rs.	Profit or loss to Local Government. Rs.	REMARKS.
ASSAM-BEHAR STATE RAILWAY—T. SECTION.									
1877-78 ...	49,701	2,352	52,053	.....	.....	.....	.....	.....	Rs. 52,053 Imperial money, but no interest charged till 1881-82.
1878-79 ...	52,053	Nil.	52,053	.....	.....	.....	.....	.....	
1879-80 ...	52,053	Nil.	52,053	2,342	.....	.....	.....	.....	
1880-81 ...	52,053	Nil.	52,053	2,342	.....	.....	.....	.....	
1881-82 ...	52,053	3,729	55,782	2,082	.....	.....	.....	−2,082	Rs. 3,729 Provincial money.
					Net loss during the five years' contract period ...			−2,082	
1882-83 ...	55,782	25,068	80,850	2,082	.....	.....	.....	−2,082	Rs. 25,068 Provincial money.
1883-84 ...	80,850	66,701	1,47,551	3,416	.....	.....	.....	−3,416	
1884-85 ...	1,47,551	8,96,819	10,44,370	22,686	.....	.....	.....	−22,686	
1885-86 ...	10,44,370	18,69,450	29,13,820	78,012	.....	.....	.....	−78,012	
1886-87 ...	29,13,820	6,35,817	35,49,637	1,28,117	.....	.....	.....	−1,28,117	
					Net loss during the five years' contract period ...			−2,34,813	
1887-88 ...	35,49,647	3,82,577	39,32,214	1,59,604	.....	.....	.....	−1,59,604	
1888-89 ...	39,32,214	7,68,676	47,00,890	(a)	(a)	(a)	(a)	(a)	(a) *See* under Tirhoot State Railway.
	Loss by exchange since commencement		2,63,100						
	Total Capital Outlay ...		49,63,990						
NALHATI STATE RAILWAY.									
1877-78 ...	2,71,690	.....	2,71,690	12,260	.....	.....	2,060	−10,200	
1878-79 ...	2,71,690	69,682	3,41,372	13,794	.....	.....	40,521	+26,727	
1879-80 ...	3,41,372	6,078	3,47,450	15,498	.....	.....	31,180	+15,682	
1880-81 ...	3,47,450	−2,602	3,44,848	15,577	.....	.....	−2,385	−17,962	
1881-82 ...	3,44,848	−9,756	3,35,092	13,599	67,873	55,000	12,873	−726	
					Net profit during the five years' contract period ...			+13,521	
1882-83 ...	3,35,092	−5,077	3,30,015	13,302	74,054	50,585	23,469	+10,167	
1883-84 ...	3,30,015	25,349	3,55,364	13,708	80,622	56,317	24,305	+10,597	
1884-85 ...	3,55,364	−7,030	3,48,334	14,074	76,375	72,129	4,246	−9,828	
1885-86 ...	3,48,334	−5,299	3,43,035	13,827	78,803	66,780	12,023	−1,804	
1886-87 ...	3,43,035	−11,205	3,31,830	13,497	86,542	67,106	19,436	+5,939	
					Net profit during the five years' contract period...			+15,011	
1887-88 ...	3,31,830	−298	3,31,532	13,758	94,054	61,920	32,134	+18,376	
1888-89 ...	3,31,532	7,354	3,38,886	13,900	1,04,589	85,414	19,175	+5,275	
	Loss by exchange since commencement		12,297						
	Total Capital Outlay ...		3,51,183						
CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.									
1877-78 ...	*66,10,184*	.....	*66,10,184*	.....	.....	.....	*43,897*	*43,897*	} Bengal paid no interest on this Imperial money.
1878-79 ...	*66,10,184*	*1,46,695*	*67,56,879*	.....	.....	.....	*1,42,573*	*1,42,573*	
1879-80 ...	*67,56,879*	*−16,085*	*67,34,794*	.....	.....	.....	*34,297*	*34,297*	
1880-81 ...	*67,34,794*	*85,074*	*68,19,868*	.....	.....	.....	*56,457*	*56,457*	
1881-82 ...	*68,19,868*	*−31,846*	*67,88,022*	.....	.....	.....	*−36,948*	*−36,948*	
					Net profit during the five years' contract period ...			+2,46,276	
1882-83 ...	67,88,022	−7,565	67,80,457	.....	2,20,065	1,16,527	1,03,838	1,03,838	Rs. 25,35,767 Provincial money spent in this and former years.
1883-84 ...	67,80,457	25,84,30	93,64,759	.....	3,18,057	1,95,126	1,22,931	1,22,931	Government of India pays Bengal Rs. 30,000 per annum in lieu of receipts, and 4 per cent. interest upon Rs. 25,35,767, the Provincial share of the capital. In 1884-85 a nine months' share of this accrued to the Province; and in the first three months of that year Rs. 94,654 were received as earnings, against which Rs. 86,006 were working expenses.
1884-85 ...	.....	.....	.....	−76,073	1,17,154	86,006	31,148	1,07,221	
1885-86 ...	.....	.....	.....	−1,01,430	30,000	Nil.	30,000	1,31,430	
1886-87 ...	.....	.....	.....	−1,01,430	30,000	Nil.	30,000	1,31,430	
					Net profit during the five years' contract period ...			+5,96,850	
	Amalgamated with the Eastern Bengal State Railway.								
KAUNIA-DURLA STATE RAILWAY.									
1881-82 ...	.....	.....	8,32,482	.....	.....	.....	6,681	6,681	
					Net profit in the five years' contract period ...			6,681	
1882-83 ...	8,32,482	23,640	8,56,122	.....	1,06,275	90,392	15,883	15,883	The whole of the capital expenditure upon the Kaunia-Durla State Railway is Provincial money, and is consequently not liable for interest.
1883-84 ...	8,56,122	49,967	9,06,089	.....	1,40,794	1,00,748	40,046	40,046	
1884-85 ...	9,06,089	33,101	9,39,190	.....	1,56,755	1,19,799	36,956	36,956	Loss by exchange has always been charged direct to capital.
1885-86 ...	9,39,190	21,581	9,60,771	.....	1,29,808	1,10,191	19,617	19,617	
1886-87 ...	9,60,771	3,363	9,64,134	.....	1,45,428	1,12,288	33,140	33,140	
					Net profit during the five years' contract period ...			+1,45,642	
1887-88 ...	9,64,134	−1,849	9,62,285	(a)	(a)	(a)	(a)	(a)	(a) *See* under E. B. State Railway.
1888-89 ...	9,62,285	−10,803	9,51,412	(a)	(a)	(a)	(a)	(a)	

Statement showing all Bengal State Railway Capital Expenditure, Imperial and Provincial, since the commencement.

Head of account.	Railway.	Expenditure to end of 1883-84.		Expenditure in 1884-85.		Total to end of 1884-85.	Expenditure in 1885-86.		Total to end of 1885-86.
		Imperial.	Provincial.	Imperial.	Provincial.		Imperial.	Provincial.	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Construction of Railways charged against Revenue.	Kaunia-Durla Railway ...	.....	9,06,089	.....	33,101	9,39,190	.....	19,101 2,480	9,60,771
	Total ...	.....	9,06,089	.....	33,101	9,39,190	.....	21,581	9,60,771
Subsidised Railways, Land and Surveys.	Tarkeswar Railway (land and survey)	.....	69,445	.....	56,090	1,25,535	.....	25,968	1,51,503
	Deoghur Railway (land and survey)	.....	9,562	.....	.....	9,562	.....	.....	9,562
	Total ...	.....	79,007	.....	56,090	1,35,097	.....	25,968	1,61,065
Miscellaneous Railway expenditure.	Palamau Survey	.....	4,692	.....	.....	4,692	.....	—4,692	Refunded by
	Mozufferpore-Sitamarhi Survey	.....	7,075	.....	14,019	21,094	.....	12	21,106
	Chittagong Survey... ...	.....	63,260	.....	—2,979	60,281	.....	.....	60,281
	Calcutta Central Station...	.....	230	.....	.....	230	.....	—230	Transferred to
	Howrah-Ampta Survey ...	.....	2,900	.....	2,204	5,104	.....	.....	5,104
	Administrative charges ...	.....	1,11,201	.....	54,378	1,65,579	.....	230 58,549	2,24,358
	Durbhunga-Sitamarhi Survey...	.....	.....	.....	.....	.....	.....	.....	.....
	Sultanpur-Bogra Survey ...	.....	1,376	.....	.....	1,376	.....	—1,376	Transferred to
	Rungpore-Dhubri Surveys	.....	35,664	4,889	.....	40,553	12,327	16,953	69,833
	Assam-Behar Survey ...	.....	6,937	.....	32,815	39,752	.....	—16,953	Transferred to
	Sakri-Jainugger Survey ...							—2,480 —20,319	Transferred to Transferred to
	Total ...	.....	2,33,335	4,889	1,00,437	3,38,661	12,327	29,694	3,80,682
Construction of Railways.	Eastern Bengal State Railway	3,73,82,845	.....	13,45,872	.....	3,87,28,717	24,57,049	.....	4,11,85,766
	Calcutta and South-Eastern State Railway	68,28,992	25,35,767	—68,28,992	—25,35,767				Taken over by the
	Ranaghat-Bhugwangola State Railway	1,98,111	66,008	28,770	.....	2,92,889	.....	764	2,93,653
	Northern Bengal State Railway	2,15,01,631	10,02,405	7,28,624 —15,59,999	.....	2,16,72,751	2,36,511	.....	2,19,09,262
	Tirhoot State Railway, main line	1,22,19,867	7,234	4,33,827	.....	1,26,60,868	—4,90,355 23,90,572	21,140	1,45,82,225
	Tirhoot State Railway, Hajipur Branch	18,07,757	21,140	5,82,815	.....	24,11,712	—23,90,572	—21,140	Transferred to
	Nalhati State Railway ...	3,55,364	.....	—7,030	.....	3,48,334	—5,299	.....	3,43,035
	Dacca State Railway ...	27,48,748	87,534	20,76,707	.....	49,12,989	10,97,042	.....	60,10,031
	Assam-Behar State Railway, Tirhoot Section ...	52,053 66,701	28,797	8,96,819	.....	10,44,370	18,69,450	.....	29,13,820
	Assam-Behar State Railway, A.-B. Section ...	3,67,517	34,120	18,71,356	.....	22,72,993	21,10,733	20,319	44,04,045
	Total ...	8,35,29,526	37,83,995	—4,31,231	—25,35,767	8,43,45,623	72,75,131	21,083	9,16,41,837

Expenditure in 1886-87.		Total to end of 1886-87.	Expenditure in 1887-88.		Total to end of 1887-88.	Expenditure in 1888-89.		Total to end of 1888-89.	Loss by exchange since commencement.	Grand total to end of 1888-89.
Imperial.	Provincial.		Imperial.	Provincial.		Imperial.	Provincial.			
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
.....	3,363	9,64,134	.....	—1,849	9,62,285	.....	—10,803	9,51,482	.....	9,51,482
.....	3,363	9,64,134	.....	—1,849	9,62,285	.....	—10,803	9,51,482	.....	9,51,482
.....	1,074	1,52,577	.....	49	1,52,626	.....	5	1,52,631	.....	1,52,631
.....	.....	9,562	.....	.....	9,562	.....	—371	9,191	.....	9,191
.....	1,074	1,62,139	.....	49	1,62,188	.....	—366	1,61,822	.....	1,61,822
Government of India.										
.....	.....	21,106	.....	.....	.....	.....	.....	21,106	.....	21,106
.....	.....	60,281	11,699	.....	71,980	3,722	.....	75,702	.....	75,702
administrative charges.										
.....	.....	5,104	.....	.....	.....	.....	.....	5,104	.....	5,104
.....	54,866	2,79,224	.....	68,290	3,47,514	.....	68,246	4,15,760	.....	4,15,760
.....	.....	.....	.....	.....	.....	40,058	62,999	1,03,057	.....	1,03,057
.....	.....	.....	.....	.....	.....	.....	9,067	9,067	.....	9,067
Famine Relief.										
429	.....	70,262	11,190	.....	81,452	1,705	.....	83,157	.....	83,157
Rungpur-Dhubri Survey. Kaunia-Durla Railway. Assam-Behar Railway, A.-B. Section.							2,380	2,380		2,380
429	54,866	4,35,977	11,190	79,989	5,27,156	45,835	1,32,692	7,15,333	.....	7,15,333
17,39,462	.....	4,29,25,228	23,32,377	.....	4,52,57,605	7,86,976	.....	4,60,44,581	.....	4,60,44,581
Government of India.										
8,102	.....	3,01,755	94	.....	3,01,849	601	.....	3,02,450	.....	3,02,450
—5,511	.....	2,19,03,751	—1,74,443	.....	2,17,29,308	3,64,924	.....	2,20,94,232	8,86,589	2,29,80,821
2,55,175	.....	1,48,37,466	3,44,960	.....	1,51,82,060	1,83,271	.....	1,53,65,331	7,04,816	1,60,70,147
construction account of Tirhoot Railway.										
—11,205	.....	3,31,830	—298	.....	3,31,532	7,354	.....	3,38,886	12,297	3,51,183
2,89,829	.....	62,20,866	—89,359	.....	62,10,501	69,323	.....	62,79,824	3,08,856	65,88,680
6,35,817	.....	35,40,657	3,82,577	.....	39,32,214	7,68,676	.....	47,00,890	2,63,100	49,63,990
16,36,055	.....	60,40,100	17,24,938	.....	77,65,038	22,54,246	.....	1,00,19,284	3,02,726	1,03,22,010
45,47,734	.....	9,61,89,561	45,20,546	.....	10,07,10,107	44,35,371	.....	10,51,45,478	24,78,884	10,76,23,863

Gross Railway Receipts on Revenue Account.

Head of account.	Railway.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
XXVI—State Railways—Gross receipts.	Eastern Bengal State Railway ...	...	...	...	...	...	95,45,668	1,07,05,894
	Northern Bengal State Railway ...	22,79,904	21,32,741	21,66,282	23,39,204	26,24,013	...	...
	Calcutta and South-Eastern S. Ry.	2,20,065	3,18,057	1,17,154	30,000	30,000	...	...
	Kaunia-Durla State Railway ...	1,06,275	1,40,794	1,56,755	1,29,808	1,45,428	...	...
	Dacca State Railway	...	...	25,585	1,27,229	2,79,966	...	...
	Tirhoot State Railway	7,09,812	9,81,667	12,49,716	12,80,258	15,99,212	18,05,057	17,08,537
	Nalhati State Railway	74,054	80,622	76,377	78,803	86,542	94,054	1,04,589
	Total ...	33,90,110	36,53,881	37,91,869	39,85,302	47,65,161	1,14,44,779	1,25,19,020

Railway Working Expenditure on Revenue Account.

Head of account.	Railway.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
38—State Railways—Working expenses.	Eastern Bengal State Railway ...	...	...	...	...	...	47,36,926	49,01,050
	Northern Bengal State Railway ...	10,71,528	12,35,430	15,20,316	14,90,371	14,11,742	...	...
	Calcutta and South-Eastern S. Ry.	1,16,227	1,95,126	86,006	...	...	...	...
	Kaunia-Durla State Railway ...	90,592	1,00,748	1,19,799	1,10,191	1,12,288	...	...
	Dacca State Railway	...	...	7,067	1,84,576	2,86,994	...	...
	Tirhoot State Railway	4,40,520	6,78,625	9,68,472	9,15,584	9,85,827	10,61,560	9,62,543
	Nalhati State Railway	50,585	56,317	72,129	71,100	67,106	61,920	55,414
	Total ...	17,69,252	22,66,246	27,73,789	27,71,822	28,63,957	58,60,406	59,49,007
Interest	On all borrowed railway capital ...	12,71,938	14,54,005	15,73,801	17,60,638	19,13,003	30,81,697	32,61,381

Provincial Share of Interest Charges for Railway Expenditure.

Head of account.	Railway.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
38—State Railways—Working expenses, *Interest*.	Eastern Bengal State Railway ...	...	...	...	...	...	7,82,312	8,44,704
	Northern Bengal State Railway ...	8,38,367	8,49,302	8,28,067	8,31,540	8,56,161	9,08,124	9,11,934
	Tirhoot State Railway	4,10,374	5,17,443	5,81,435	5,91,961	5,87,257	6,28,560	6,39,140
	Calcutta and South-Eastern S. Ry.	...	...	−76,073	−1,01,430	−1,01,431	...	...
	Nalhati State Railway	13,303	13,707	14,074	13,827	13,497	13,758	13,900
	Dacca State Railway	7,812	62,787	1,51,484	2,14,959	2,42,697	2,62,561	2,62,160
	Kaunia-Durla State Railway ...	...	...	...	...	...	38,566	38,565
	Assam-Behar State Railway, A.-B. Section.	...	7,350	52,128	1,31,769	2,06,705	2,88,212	3,67,795
	Assam-Behar S. Ry., T. Section ...	2,082	3,416	22,686	78,012	1,28,117	1,59,604	1,83,186
	Total interest ...	12,71,938	14,54,005	15,73,801	17,60,638	19,13,003	30,81,697	32,61,381

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