Public Works (1890) Department.

RAILWAY BRANCH.

G.O., No. 499-800 Ry.

DATED 7th June

[Despatch Abstract.]

Madras Railway.—Ordered that the report by heads of Departments of the—for the second half of 1889, be forwarded to the Director-General of Railways.

Forwarded

Indexed.

[P. W. Ry. 1. 760—25-9-99.]

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

MADRAS RAILWAY.

REPORTS BY HEADS OF DEPARTMENTS FOR THE HALF-YEAR ENDING 31ST DECEMBER 1889.

MADRAS RAILWAY.

REPORTS BY HEADS OF DEPARTMENTS FOR THE HALF-YEAR ENDING 31ST DECEMBER 1889.

CONTENTS.

	PAGE		PAGE
Agent	1	Locomotive Superintendent	14
Chief Engineer	3	Traffic Manager	17
Telegraph Engineer	5	Chief Auditor	51
Deputy Chief Engineer	7	Consulting Physician	71

From F. H. TREVITHICK, Esq., Acting Agent and Manager, Madras Railway Company, to the Secretary, Madras Railway Company, London, dated Madras, 7th May 1890, No. 1932.

I have the honor to submit, for the information of the Directors, a report in form of a summary of the operations of the company in India for the half-year ending 31st December 1889. Full details are furnished in the several reports of the heads of departments, viz., by the Chief Engineer, forwarded to you on the 5th March; and by the Acting Locomotive Superintendent, Traffic Manager, Chief Auditor, Telegraph Engineer, and Medical Officer, forwarded to you on the 23rd April.

2. The accounts show the very satisfactory general result of a steady growth in the business of the company and of the net profit earned. No additions have been made to the length of line worked, but more passengers and more goods have been carried, and the gross receipts from both and the earnings per mile of line and per train mile continue to improve.

3. The work done may be summarised in round figures as $1\frac{1}{4}$ million train miles run and $4\frac{1}{4}$ million passengers and half a million tons of goods carried. To do this the company spent in working expenses $28\frac{1}{4}$ lakhs of rupees and received in payment 46 lakhs, making thus a net profit for the half-year of $17\frac{3}{4}$ lakhs.

4. In exact figures the net revenue, viz., Rs. 17,70,805, is Rs. 22,785 larger than it was in the corresponding period of last year; it is equivalent to a return on the capital of the company of £ 1-10-5 per cent. for the half-year and makes up the dividend for the whole year 1889 to £ 3-4-4 per cent. The return for 1888 was £ 3-0-7 per cent. and for 1887 £ 2-9-6 per cent. and the dividend now available is the largest yet earned by the company since 1877 (the famine year).

5. The gross revenue, Rs. 46,04,546, is Rs. 3,35,854 equal to 7·8 per cent. more than it was in the corresponding period of last year, to which result passenger traffic contributed an increase of Rs. 33,867 and goods Rs. 2,96,697.

6. The passenger receipts were affected by an alteration in fares dating from the 1st July, viz., a reduction in pies per mile, in 1st class, from 18 single and 27 return to 12 for each journey; and in 2nd class, from 7 single and $10\frac{1}{2}$ return to 6 for each journey. The effect of this has been felt in the 1st class by an increase in numbers of 509 passengers but with a diminution of receipts of Rs. 6,956; and in the 2nd class, by a diminution in the numbers carried of 1,285 passengers but with a small increase of Rs. 385 in receipts. The Traffic Manager writes of these apparently anomalous results, that the reduction in 1st-class fares has so far failed to attract native gentlemen in any numbers to the 1st-class carriages and financially the reduction has not proved a success; and that the small increase in receipts from 2nd-class passengers is due to the fact that a double journey now cost slightly more than before the alteration, viz., 6 pies a mile to $5\frac{1}{4}$ pies a mile.

7. No change was made in the 3rd-class fares which remain at 2 pies per mile for mail trains and $1\frac{1}{2}$ pies by ordinary trains; 4,218,179 3rd-class passengers were carried yielding Rs. 13,92,223 in money. These figures show a steady and healthy growth of 266,625, equal to $6\frac{3}{4}$ per cent. in numbers and Rs. 57,934, equal to $4\frac{1}{4}$ per cent. in money. Of the total receipts for passengers the 3rd class contributes 99·4 per cent in number and 90·8 per cent. in money.

8. The goods traffic was affected by an abnormal receipt of Rs. 1,12,036 for carriage of materials for new State railways under construction; besides this the regular traffic of the line yielded an increase of Rs. 1,79,974 from all sources, the principal items in which are cotton, food-grains, oil-seeds, sugar, coal, &c. The total carriage of grain throughout the line shows an

increase of 10·7 per cent. in weight and 12·4 per cent. in money earned, due to a great extent to larger exports from Bangalore City Station at a time when continued drought thereatened scarcity if not partial famine. With the prosperity of the gold mines the traffic in coal, firewood, timber, &c, at Kolar road continues to increase very rapidly, the record compared with the corresponding period of last year showing an increase of 9,218 tons equal to 42 per cent. in weight and Rs. 48,050 equal to 65 per cent. in money.

9. The total working expenses, Rs. 28,33,741, are Rs. 3,13,070 equal to 12·4 cent. more than they were in the corresponding period of last year to which excess the Permanent-way department contributes Rs. 1,29,579, the Locomotive and Carriage department Rs. 1,65,835 and general charges Rs. 21,130.

10 The working expenses have thus increased more in proportion than the earnings. They are now 61½ per cent. of the receipts and in the corresponding period of 1888 they were 59 per cent. and the cost per train mile has risen in the same comparison from Rs. 2·097 to Rs. 2·405. Notwithstanding this net earnings per train mile show an improvement from Rs. 1·455 to Rs. 1·503.

11. The working expenses have been swelled by the inclusion of an abnormal charge, viz., the transfer from capital of Rs. 1,94,324, part of the cost of the Calicut extension. Revenue also provided Rs. 97,170 for reconstruction of large bridges, viz., the Chitrávati and Pennér and Rs. 22,854 for new minor works, chiefly enlargement and improvement of stations.

12 For renewals of rolling-stock 99 new vehicles were provided at the cost of revenue, viz, 2 composite carriages, 2 inspection vans, 15 timber trucks and 80 covered goods vans, in addition to which there were provided at the cost of capital, 4 new brake-vans, 50 iron mineral wagons and 40 iron-covered goods wagons.

13. The cost of fuel is a very important item in the expenses of the Locomotive department and it accounts partly by reason of a rise in price of patent fuel and partly because of the increasing consumption of that material to take the place of the gradually failing supply of wood fuel for the engines for no less than Rs. 60,344 of the total increase of cost in the Locomotive department. Rs. 58,883 more were spent in renewals of rolling-stock mainly in consequence of the substitution of covered goods wagons in place of the worn-out open goods wagons.

14. By a careful readjustment of the loads of trains to the varying gradients of the line and by increasing the carrying capacity of the new vehicles built, the average paying loads of the goods trains have been raised from 86·5 tons per train to 104 tons per train.

15. As explained in detail by the Traffic Manager, the increase in the 3rd-class traffic by mail trains is becoming unmanageable and to meet this it is in contemplation to add to the passenger train service on certain parts of the line and also to increase the 3rd-class fares by mail train only. It is also in contemplation, at the instance of the G. I. P. Railway, to accelerate the speed of the mail train service between Madras and Bombay.

16. The medical officer reports that of zymotic diseases, mainly cholera and small-pox, there have been very few cases, but that fever has been unusually prevalent. Vaccination of railway employés and their families was made compulsory by order of Government, dated June 1889, since which date 3,452 persons have been vaccinated. In August ambulance classes for instruction in first aid to the wounded were instituted at all the more important stations; they have been fairly well attended and some practical good has already resulted from the instruction thus imparted.

17. Railway schools are established at 8 of the more important stations, with a total number of 341 children on the register. Of these the average attendance has been 273·78, and the net cost of the schools to the company, after allowing for receipts from fees and Government grants, amounted to Rs. 5,154, equal to Rs. 15·11 per head on the register.

18. The following movements in the company's staff in India are recorded :—

Mr. F. B. Hanna, Agent and Manager, proceeded to England on 18 months' furlough on the 11th December.

Mr. W. R. Robinson, Chief Engineer, retired from the service on the 22nd of August.

Mr. W. Hyde, Chief Draughtsman, Locomotive Department, resigned the service and proceeded to England on the 23rd August.

Mr. H. C. West, Deputy Chief Engineer, returned to duty from furlough on the 8th July.

Mr. F. H. Trevithick, Locomotive Superintendent, returned to duty from furlough on the 11th November.

Mr. H. J. Stanley, newly appointed Chief Draughtsman to the Locomotive Department, arrived in Madras on the 12th November.

Mr. F. H. Trevithick took over the duty of Acting Agent and Manager from Mr. Hanna on the 12th December.

Mr. C. E. Phipps, Deputy Locomotive Superintendent, took over the duty of Acting Locomotive Superintendent from Mr. Trevithick on the 12th December.

19. Major H. L. Ansted, Acting Commandant of the Madras Railway Volunteers, reports the total strength of the corps on the 31st March 1890 to be 863 officers and men, including an increase of 27 of all ranks. The figure of merit in musketry had improved from 157·28 to

172·55 and His Excellency the Commander-in-Chief reported, as the result of his annual inspection, that the condition of the corps was "very satisfactory and calls for no remark." At the instigation of Captain Phipps a cadet corps of the sons of the company's employés at Perambúr works has been raised and attached to the regiment; the lads take great interest in the volunteer movement and the cadet corps has been a decided success. The liberal gift of the Directors of £100 for new band instruments is very highly appreciated; the playing of the band has greatly improved and it compares favorably with the bands of the regular regiments.

From H. R. P. CARTER, Esq., Chief Engineer, Madras Railway Company, to the Chairman and Directors, Madras Railway Company, London, dated Madras, 20th February 1890.

I have the honor to submit my report for the half-year ending 31st December 1889.

The permanent-way is in good order throughout and calls for no special notice, but the heavy rain in October followed by dry weather has affected the cotton soil banks on 2nd and 3rd divisions, north-west line, where in parts the running is not as smooth as could be wished. A full report has already been submitted as to the damage done on the north-west line by the cyclone in October.

The cost of maintenance per mile compared with that of the previous half-years is as follows :—

Half-year ending 31st December 1888.

	Rs..	A.	P.
Cost of maintenance including sidings	581	11	11
Extra expenditure	77	0	3
Ordinary expenditure ...	504	11	8

Half-year ending 30th June 1889.

Cost of maintenance including sidings	573	3	3
Extra expenditure	133	5	4
Ordinary expenditure ...	439	13	11

Half-year ending 31st December 1889.

Cost of maintenance including sidings	615	8	0
Extra expenditure	135	14	3
Ordinary expenditure ...	479	9	9

The ordinary maintenance is less than the corresponding half-year, as credit to the amount of Rs. 50,000 was given during half-year, being value of old rails sold :—

The number of miles inclusive of Calicut extension maintained on the south-west line is	572⅜	= 993⅝ Miles.
The number of miles maintained on the north-west line is	309	
Sidings, south-west and north-west lines	111⅞	

	Rs.	A.	P.
Total cost of maintenance during half-year ending 31st December 1889 is	6,11,578	6	5
Cost of maintenance per mile $\frac{6,11,578\ 6\ 5}{993\frac{5}{8}}$ =	615	8	0

The details of extraordinary expenditure for half-year ending 31st December 1889 is as follows :—

	Rs.	A.	P.
South-west line—			
Watering arrangements on third division	317	13	3
Additional minor works chargeable to Revenue	10,977	4	2
Rebuilding single 9-feet girder bridge at 2-8 miles	15	0	0

		Rs.	A.	P.	Rs.	A.	P.
North-west line—							
Revenue portion of the expenditure incurred in the re-construction of the Pennér and Chitrávati bridges		97,170	2	8			
Protective works from 201-12 to 203-11 miles		2,085	6	0			
Laying new permanent-way over Tungabhadra bridge		9,224	11	11			
Break at 258-10 and 266-/11-13 miles		2,949	12	6			
Engine turn-table at Cuddapah ...		406	7	0			
Additional minor works chargeable to Revenue		11,877	13	6			
	Total ...	1,35,024	7	0			
Cost of extra expenditure per mile.		$\frac{1,35,024\ 7\ 0}{993\frac{2}{8}}$			=	135	14 3
Cost of ordinary expenditure per mile						479	9 9

The number of rails renewed on the south-west and north-west lines for three half-years is as follows:—

For half-year ending	31st December 1888	6,437
	30th June 1889	6,803
	31st December 1889	7,492

Bridges.—The Pennér bridge was opened for public traffic on 1st October 1889.

The minor works in connection with it are nearly completed and the old bridge is being dismantled.

Chitrávati.—The progress of the work at this bridge has been most satisfactory and it will be opened for traffic in March.

We have disposed of 7 pairs of the old girders to the South Indian Railway on favorable terms.

Pápaghni.—Active preparations are being made for commencing work at this bridge, sidings have been laid in to facilitate the delivery of materials, and bungalows for the staff and store sheds are being erected.

Tungabhadra.—Many of the wooden sleepers on this bridge require renewal and the time being opportune for erecting the new permanent-way the work has been commenced.

The two single 6-feet girder bridges at 201/1 and 2 miles have been completed.

Plans for rebuilding the bridge at 258/10 miles, north-west line, the abutment of which was undermined in October last, have been submitted and sanctioned by Government. I have utilized some old cast-iron cylinders which supported a portion of the old Pennér bridge for this work and added a span of 35 feet to the length of the bridge.

Stations.—The stations and station yards throughout the line are clean and in good order.

At the Bangalore Cantonment station much inconvenience has for some years been experienced in consequence of there being only one platform available both for arrival and departure. A scheme has now been submitted and sanctioned which at a moderate cost will enable us to utilize an existing platform for trains arriving from Madras whilst departing trains only will use the platform hitherto used for both purposes.

Improvements and alterations are being made in the siding accommodation at the important stations of Arkónam and Jalárpet.

Wells.—I regret to say that the wells at Salem and Raichur show no signs of improvement although both have been deepened. I therefore propose to bring forward the scheme referred to in my last report for carrying the water by pipes to the former station.

Staff.—The opening of the Pennér and the anticipated early completion of the Chitrávati bridge have afforded me an opportunity of carrying out the wishes of the Board in their letter No. 786 of 4th November 1887, to divide the north-west line, which has hitherto consisted of three divisions, into two divisions with effect from 1st February, the first extending from the north points of Arkónam station to Kondapuram and the second from Kondapuram to Raichur.

New station.—A new crossing station at Siddhavattam and a trial station at Molagavalle on the north-west line have been opened during the half-year.

Extensions of platforms and through sidings have been completed at the undermentioned stations during the half-year:—

Vániyambádi.	Tirutani.
Ottapalam.	Nagari.
Kuttipuram.	Peddapad.

From G. K. WINTER, Esq., Telegraph Engineer, Madras Railway Company, to the Agent and Manager, Madras Railway Company, dated Arkónam, 9th April 1890, No. 52.

Report for the half-year ending 31*st December* 1889.

I beg to submit the following report of the Telegraph Department for the half-year ending 31st December 1889.

During the half-year single needle and block instruments were fixed at Siddhavattam.

A needle instrument was fixed at Singanellur in consequence of convicts from Coimbatore jail being encamped there owing to an outbreak of cholera amongst them at the latter place.

Electric starting semaphores were fixed at Kadalundi, Ferok, Kallai, Calicut, Olavakód and Pálghat stations.

A Morse sounder was fixed at Ráyapuram block-house in connection with the local circuit, Ráyapuram and Perambúr.

Block instruments were fixed at Tyakal.

The teak posts were renewed with iron rails between Sevvapet and Perambúr.

The needle instruments at Sevvapet was shifted into the new station building.

Serious damage was caused to the telegraph lines by the cyclone of October last. Communication was interrupted on all circuits between Gooty and Raichur and was restored as follows:—

No. 1. Interrupted from 11 A.M., 16th October, to 12·35 P.M., 17th.
No. 2. do. do. do. to 8·30 A.M., 17th.
No. 3. do. do. do. to 1 P.M., 18th.

The undermentioned new vehicles were fitted with electrical inter-communication appliances at the Perambúr works.

Covered goods wagons	88
Iron Do.	32
Timber trucks	15
Brake vans	6
First class	2
Composites	2
Open goods wagons	49
Tank engines	3

The following are comparative statements of interruption on the ordinary telegraph lines, the block lines and inter-communication in trains:—

—	South-west Line.		North-west Line.		Total.
	Interruptions caused by the neglect and carelessness of the signallers.	Accidental interruptions.	Interruptions caused by the neglect and carelessness of the signallers.	Accidental interruptions.	
Average of corresponding half-years of previous ten years	1·8	11 1	0·6	5·3	18·8
Half-year ending 31st December 1889 ..	4	9	2	7	22

Of the accidental interruptions—
7 were due to disconnection.
7 do. to contact of wires.
2 were due to earth.

Interruption in block-working.

—	Miles opened.	Number of circuits.	South-west Line.		North-west Line.		Total.
			Interruptions caused by the neglect and carelessness of the signallers.	Accidental interruptions.	Interruptions caused by the carelessness and neglect of signallers.	Accidental interruptions.	
Half-year ending 31st December 1889	796	95	5	33	8	18	64

Of the accidental interruptions—
16 were due to disconnection.
2 do. to contact of wires.
1 was due to earth.
22 were due to lightning.
2 do. to weak battery.
8 do. to instrumental faults.

The following statement shows the working of the electrical inter-communication in trains :—

	Half-year ending 31st December 1888.	Half-year ending 31st December 1889.
Total mileage of fitted trains	1,107,459	1,082,440
Mileage of fitted trains with complete communication	1,101,521	1,077,663
Percentage of interruption	0·54	0·43

I enclose a list of cases in which electrical inter-communication was used and trains stopped; also statements showing the total cost of maintenance of electric telegraph during the half-year and the working of electric clocks.

Summary of the working of electric clocks for the half-year ending 31st December 1889.

	Mean of six months.
	Per cent.
Clock failure ... { Caused by circumstances beyond signallers' control.	1·65
Clock failure ... { Caused through the negligence of signallers ...	0·94
Clock errors two minutes and over	0·11
Clock errors under two minutes but one minute and over	0·14
Clock stopped	0·00
Clock under one minute	97·16
Total ...	100·00

Madras Railway Electric Telegraph Department.

Abstract of cases in which electrical inter-communication was used and trains stopped during the half-year ending 31st December 1889.

Date.	Particulars taken from the Guards' journals.
	Derangement in rolling-stock.
15th July ...	To bring the train to a stand at Tiruvallur as she had nearly passed the platform of that station. When questioned, the driver said that the engine was beyond his control.
15th December ...	To cool the hot axle of H.S.O.G., No. 1038, from Bangalore city to Erode.
	Safety of passengers and public property.
1st July ...	To take charge of a passenger who jumped into a 3rd-class carriage when the train was in motion.
9th „ ...	To pick up a bag of bones which dropped off the H. S. 29, Salt Cotaurs to Kullai, at $\frac{7}{8}$ mile.
8th September ...	To hand over to station-master two passengers who jumped into the train when in motion without tickets.
13th „ ...	The roof lamp broke through over heat; the bottom dropped on a passenger and bruised his head slightly. An alarm being made the train was stopped.
19th „ ...	To take up the officers of the troops who missed the troop train.
10th October ...	To hand over to station-master a female passenger who jumped out of train when in motion.
10th November ...	To hand over a passenger who jumped on foot-board of a 3rd-class carriage when the train was in motion.
20th „ ...	To know if a man who fell from the train on to the platform at Sholinghur was a passenger.
	Interference.
21st October ...	Under-guard Murray who was under the influence of liquor interfered with the plunger.
28th „ ...	Driver having received danger signals.
8th December ...	Do. do.
	Miscellaneous.
12th July ...	Seeing the smoke of engine brake blocks the under-guard thought that something was on fire and stopped the train.

From H. C. WEST, Esq., Deputy Chief Engineer, Madras Railway Company, to the Chief Engineer, Madras Railway Company, dated Madras, 28th October 1889.

I beg to submit the following report upon the way and works for the half-year ending 30th September 1889, together with abstracts of the cost of maintenance during that period.

South-West Line.

My inspection of the south-west line was made on 30th September, 1st, 2nd, 3rd and 4th October, and the Telegraph Engineer (Mr. Winter) accompanied me from Jalárpet to Calicut, examining the electric semaphores.

1. *Earthwork.*—From trial pits specially sunk at 37/12, 38/9 and 39/10 miles, I was able to test the condition of the banks on this portion of the "double line;" the clay soil afforded every indication that the rubble stone drains were acting efficiently.

The protective measures adopted to arrest the slips at 20/12 and 20/13 miles continue to prove successful.

The slopes of the embankment at 47/3-17 and 99/8-14, where the line runs through tanks, require to be revetted, and this work is being estimated for. At 60/5 the weir of the Telangai tank has been cut down by the Revenue authorities to the level of the bed of the tank for a width of 12 feet, and a further opening in the bund opposite to 60-5 is being made.

At 85-6 miles the revetted bank constructed by the Public Works Department to prevent the encroachment of the drainage at this mileage on the public road has been completed. In other respects the general condition of the banks and cuttings is satisfactory.

2. *Fencing.*—The vegetable fence throughout is in good order, except between 180 and 187 miles, where the aloes are being destroyed by the wild pigs, and will have to be replaced by wire fencing.

The following is a summary of the cattle trespass during the half-year :—

Divisions.	Number of cases.
1st Division	11
2nd do.	1
3rd do.	3
4th do.	3
Total ...	18

3. *Bridges.*—The large bridges were efficiently maintained. On the Cauvery bridge the thin washers used with bolts inserted to preserve the longitudinal timbers from cracking require to be replaced by some of thicker section.

At the Thootha bridge, 373-12, and that at 395th mile, some of the old Pennér bridge girders will have to be substituted for the existing ones, which are of a weak type; and provision for this work is, as you are aware, being made in the budget for the ensuing year. The condition of all minor bridges call for no special notice, with the exception of those at 2-8 and 497-18 miles, where the remedial measures proposed with respect to them cannot be carried out until the water subsides.

The over-bridges for foot passengers at Perambúr station and Perambur works are in course of erection.

4. *Stations.*—I found the buildings, yards, latrines, platforms and premises at all stations clean and well kept, but the following call for remarks.

At Ráyapuram the zinc covering of the passenger shed needs renewal throughout. At Katpadi the drainage from the roof of station-house requires attention. At Ulli the land for erection of the station-house was applied for on the 17th April 1889 and has not yet (October 21st) been handed over. At Bangalore cantonment station the floor of the porters' lines needs raising and the roof retiled almost throughout. At Bangalore city station the disposal of the drainage of the approach road requires some special treatment to prevent it flooding the rooms and platform during heavy rains.

5. *Wells.*—The water-supply throughout the south-west line appears to be ample for all locomotive requirements, except at Salem, where No. 2 well has shown marked signs of failure. The only remedy appears to be the conveyance of water by iron pipes from 204-2 miles, a distance of $2\frac{3}{4}$ miles and provision for this scheme is being entered in the ensuing year's budget.

6. *Permanent-way.*—On the 30th September 1889 the south-west line contained the following proportion of steel and iron rails.

	Miles.
Steel rails, 75 lb.	190·
Iron rails, 84 „	54·34
Do. 75 „	163·50
Do. 65 „	239·50
Total ...	647·34

I examined the several descriptions of patent bolts and fastenings, including strengthened pot-sleepers laid in the line for experimental purposes. These consists of—

(1) Strengthened cast-iron pot-sleepers weighing 99 lb. each laid on 15th May 1889 in the "down line" from $\frac{14}{16}$ to $\frac{14}{16}$ miles. These have not yet been long enough in the road to afford any trustworthy conclusion as to their efficiency.

(2) Coiled iron keys inserted on the line betweeen $\frac{1}{16}$ and $\frac{2}{2}$ miles; main line in March 1881. It was found that they did not prevent the rails travelling any less than wooden keys. They, moreover, become rusty and are difficult to remove.

(3) Ibbotson's patent spring nuts and steel fish bolts inserted in 1/12-13 miles "down line" in April 1885 and at 41-16 "up line" in February 1885 on section 2 of 1st division, south-west line. These were found firm and in good order, unscrewed readily, and were quite bright when they were inspected.

(4) Patent "Eureka" lock-nuts inserted at 0-5 miles, Ráyapuram branch and at 40-0 "up line" in July 1887. These unscrewed readily and have not worked loose since they were inserted.

(5) Grover's washers inserted in "up line" from 4-13 to 9-12 miles in June 1889. These permit the nut to be taken off without difficulty and retain their set perfectly. Moreover the thread of the fish-bolt is not in any way deformed.

(6) "Perfect" patent lock-nut and washer inserted at 39-0 miles "up line" in February 1889 found to be very slightly loose after one or two months but now remain firm.

Mr. G. F. Jackson, covenanted inspector of points and crossings and signals, arrived at Madras on 29th August 1889, and is now occupied making a detail examination of the yards at all large stations.

7. *Maintenance of road.*—On 1st division I found the road was well maintained and fully ballasted. On sections 1 and 2 (double line) the 7th mile showed a marked improvement. The running on sections 3 and 4 was very smooth and the line in excellent order. On section 5 a large number of defective rails are still retained, as they are not sufficiently worn to justify their removal, but the condition of the section was otherwise very satisfactory.

On 2nd division section 1 was in spite of recent heavy rain quite up to our required standard and fairly well ballasted. Section 2 was specially noticeable for its improved condition except at the 159, 172 and 173rd miles, where the recent rains had affected the high banks. Sections 3 and 4 continue to retain their usual high standard in all respects.

On 3rd division the running on section 1 was highly satisfactory, notwithstanding the situation of this length in a feverish locality, and its consequent effect on the health of the gangs. Sections 2 and 3 were uniformly good throughout, with the exception of slight slacks at some of the smaller girder bridges. I found the road on section 4 in excellent condition and ballasted up to full section.

Fourth division.—The road on section 1 was very satisfactory in all respects. On sections 2 and 3 the running was uniformly good, except in a few places where the effects of heavy rain were perceptible. On that part of section 4 which forms the Calicut extension slacks were noticeable on many of the small girder bridges, the result of the monsoon on recently formed banks, but the rest of the section was in excellent order. Section 5 (Nílgiri branch) continues to retain its very high standard in all respects.

The following is the statement showing the progress of works:—

Ráyapuram station—	
"Additional office accommodation for clerks of Agent and Manager's office"	Finished.
"Extra signal for locomotive lines"	Do.
Crane lines, &c., in General Stores yard	Do.
"Extension of laterite siding"	Do.
Central station—	
"Sun-shades over entrance to west platform" ...	Do.
"Pandal at north-west of Traffic Manager's office"	Materials being collected.
Salt Cotaurs—	
"Clerks office"	Finished.
"Flagging a portion of the new cotton shed" ...	Do.
"Alterations to fire engine-house"	Do.
"Altering the old shed lately used by Cash department"	In progress.
"Reconstruction of the single 9-feet openings at $\frac{2}{8}$"	Work not commenced.

Perambúr Works—	
"Proposed foot bridge at west end"	In progress.
"Over-bridge at east end"	Materials being collected.
"Extension of drain"	Finished.
"New Railway school-house"	Materials being collected.
"Tiffin room"	In progress.
Connur station—	
"Proposed platform"	Finished.
"Raising the pitching of the Ambatúr tank from $\frac{1}{6}$ to $\frac{10}{13}$ and $\frac{10}{20}$ to $\frac{11}{8}$ miles"	Materials being collected.
Avadi station—	
"Alterations and additions to goods shed" ...	Nearly finished.
Sevvapet road—	
"Station house, &c."	Do.
Chinnammapet—	
"Brick wall round sappers grave"	Land not handed over.
Tiruvallam station—	
"Extension of platform"	Finished.
"Extension of through siding"	Do.
"Material siding at 82nd mile"	Do.
Virinjipuram station—	
"Filling and levelling the ground at east end"..	Do.
"Enclosure for water Brahmin"	Do.
Ulli station—	
"Station house, &c."	Waiting for land.
"Level crossing gate at 104/10-11 miles ...	Nearly finished.
Vániyambádi station—	
"Extention of platform and through siding" ...	In progress.
Kagankarai station—	
"Stationmaster's house"	Finished.
Samalpati station—	
"Shifting water column at west end"	Do.
"Raising tank"	In progress.
Buddireddipatty—	
"Station house, &c."	Finished.
Salem station—	
"Enlarging and deepening locomotive well No. 2"	Do.
"Native latrine"	In progress.
Ariyanur station—	
"Proposed platform"	Nearly finished.
"Station house, &c."	Materials being collected.
Sankaridrug station—	
"Extension of goods godown and loading bank."	In progress.
Erode station—	
"Extension of goods shed"	Walls half way up.
"Transhipping platform"	Nearly finished.
Perundurai station—	
"Third-class waiting room"	Finished.
Mangalam station—	
"Erecting 3-ton crane"	Do.
Singanallur station—	
"Extension of platform"	Do.
Pódanúr station—	
"Alterations to Assistant Traffic Manager's office"	Do.
"Additional godown for the Stationmaster's bungalow"	In progress.
Wálayár station—	
"Native latrine"	Finished.
"Alterations and additions to station house" ...	Do.

Kanyikod station—	
"Extension of through siding"	In progress.
Ottapalam station—	
"Extension of platform and through siding" ...	Finished.
Kuttipuram station—	
"Extension of platform and through siding" ...	In progress.
Tirur station—	
"Station house converted into goods shed and goods shed into station house"	Finished.
"Removing water column further east" ...	Do.
"Re-roofing with Mangalore tiles, &c., the wharf shed and filling in sides with zinc sheets"...	In progress.
Mettupálaiyam station—	
"Extension of loading bank"	Finished.
"Extension of platform verandah"	In progress.

Bangalore Branch.

Patchur station—	
"Crossing station"	Finished.
Mulanur station—	
"Crossing station"	Do.
Kuppam station—	
"Catch siding"	Waiting for land.
Kamasamudram—	
"Additional siding"	Nearly finished.
Kolar Road station—	
"Alterations and additions to sidings" ...	Finished.
"Station master's bungalow"	Walls up to roof level.
"Weigh-bridge and alteration of cross-over road"	Cross-over road laid. Weigh-bridge in progress.
"Raising ground for loading purposes" ...	In progress.
"Alterations of main line and additional sidings."	Nearly finished.
Tyakal station—	
"Station house"	Finished.
"Through siding"	In progress.
Kadgudi station—	
"Watering arrangements"	Finished.
"Flooring single 12-feet arch at $2\frac{1}{3}$ miles" ...	Nearly finished.
Bangalore cantonment—	
"Proposed extension of platform"	Finished.
Bangalore city—	
"30-ton weigh-bridge and siding"	Nearly finished.
"Road from goods shed to gate"	In progress.

Memorandum of renewals and cost of maintenance.

Renewals.

1st Division, pots renewed during half-year, No.	2,467	or	24·8	per mile per annum.		
2nd	do.	do.	do.	„	264	or	3·4	„	„
3rd	do.	do.	do.	„	278	or	4·2	„	„
4th	do.	do.	do.	„	245	or	3·2	„	„

Cost of maintenance.—A reference to the accompanying abstracts will show the cost of maintenance to have averaged during the half-year (April to September 1889) Rs. 86-13-3 per mile per mensem or Rs. 1,041-15-0$\frac{1}{3}$ per mile per annum including sidings.

The extra expenditure for the half-year ending 30th September 1889 is as follows:—

	Rs.	A.	P.
Watering arrangements on 3rd division	1,918	15	8
Additional works chargeable to revenue	9,734	5	1
Total ...	11,653	4	9

equal to a charge of Rs. 3-0-0 $\frac{5}{6}$ per mile per month, which being deducted from the total cost (Rs. 86-13-3) would give Rs. 83-13-2$\frac{1}{6}$ as the ordinary cost of maintenance.

The expenditure for the half-year ending March (October 1888 to March 1889) was Rs. 90-13-4 per mile per mensem or Rs. 1,090 per mile per annum.

Divisional expenditure.—The detailed expenditure on the several divisions has been as follows:—

Divisions.	Half-year ending 30th September 1889. Rs.	A.	P.	Half-year ending 31st March 1889. Rs.	A.	P.
1st Division, average per mile per mensem	85	8	1	102	12	7
2nd do. do. do.	83	12	$3\frac{1}{6}$	77	6	$0\frac{1}{6}$
3rd do. do. do.	83	13	$10\frac{5}{6}$	96	2	$6\frac{2}{3}$
4th do. do. do.	94	1	$4\frac{1}{3}$	83	14	$11\frac{2}{3}$

Rails.—Five thousand five hundred and five defective rails have been removed from the main line; 1,966 rails worn out on the top table have been inverted during the half-year.

North-West Line.

My inspection of the north-west line was made (to Gooty only) on the 14th, 15th and 16th October 1889, and I was accompanied by the Telegraph Engineer (Mr. Winter) who inspected the electric semaphores.

8. *Earthwork.*—Notwithstanding the continuous rain of the past week, the banks and cuttings were in good order. The diversion of the drainage by the new channel cut at 201/14, and the protective wall along the public road at 203/7 miles will, it is hoped, avert all danger from future inundations at these points.

9. *Fencing.*—The portion of the vegetable fence between the 50th and 53rd miles requires to be strengthened in several places by fresh planting. Elsewhere the aloes continue to form an efficient fence, and in soils unfavorable to their growth wire fencing has to be retained.

The following is a summary of the cattle trespass during the half-year.

Divisions.	Number of cases.	Remarks.
1st Division	4	* Including three heads of 5, 4 and 6 cattle on 24th, 28th April, and 16th May 1889 on 2nd and 3rd Divisions.
2nd do.	15	
3rd do.	20	
Total ...	* 39	

10. *Bridges.*—The road over the Cheyair, Pápaghni and Chitrávati bridges is well maintained. In compliance with your instructions arrangements have been made to secure communication across the two last mentioned rivers in the event of these structures being damaged by the heavy floods expected at this season. At the former a wire rope is being stretched across, with the ends fastened to a screw pile on each bank to facilitate the working of a raft or boat across the strong current. At the latter the temporary siding laid through the river bed for the delivery of material at the new bridge is being connected with the main line at the north bank, so as to form a loop line, which could be speedily made available for all trains to traverse, should the old bridge fail.

The new Chitrávati bridge has, under Mr. Stoney's excellent direction and supervision, made most satisfactory progress.

The following is the condition of this work on 30th September 1889.

South abutment.—Finished.

Piers Nos. 1 *to* 8.—Completed and filled with concrete and masonry up to full height.

Piers Nos. 9 *and* 10.—Finished and filled with concrete up to level of river bed.

Pier No. 11.—Still being sunk through the stratum of large boulders into which it has penetrated 11 feet. This work is attended with great difficulties, as the boulders are troublesome to remove.

Piers Nos. 12 *to* 18 (*last*).—Sunk to full depth and bedded and filled with concrete up to level of river bed.

North abutment.—All brick wells, except one, in foundations sunk to full depth and partly filled with concrete. Masonry in superstructure not yet commenced.

Girders, erection and lifting.

Those over spans Nos. 1 to 6 finished and fixed on bearings; those over spans N
to 10 revetted and being lifted; those over spans Nos. 11 to 14 revetted and being lifte
floods; those over spans Nos. 15 to 19 three parts fitted and revetted; those over
not yet commenced.

The earthwork in both approaches has been made up and the road laid and partly ballasted on the south approach. All minor bridges have been completed with the exception of one, for which the girders have to be transferred from the existing line.

It is hoped that the new Chitrávati bridge will be opened for traffic in the early part of the ensuing year.

The new Pennér bridge was completed and opened for traffic on the 1st October, when the tests under the load of three engines were found highly satisfactory. The timely completion of this work was most fortunate, inasmuch as the unprecedented flood (15 feet) in the river on the 16th, due to abnormal rainfall and the bursting of two large tanks, swept away piers Nos. 7, 9, 10, 11 and 13 of the old bridge, the girders being carried for some distance down the river.

The minor bridges are in good order. On the 2nd Division. The hand rail on bridges fitted with the new type of permanent-way requires to be more firmly fixed in the standards in order to obviate the rattle heard when trains traverse them.

11. *Stations.*—The station buildings, platforms, yards, latrines and premises were clean and orderly. Siddhavattam, although originally constructed as a crossing station, would have better prospects of development as regards traffic were it connected with the important town after which it is named by a road, which is much needed, the distance being about 3½ miles.

12. *Wells.*—The water-supply throughout the North-west line has received much benefit from the continuous rain which had recently fallen. At Thocock, 82-5 miles, the construction of the new well is at a standstill, as the land applied for on 5th May 1888 has not yet (October 23rd) been handed over by the Revenue authorities.

13. *Permanent-way.*—On the 30th September 1889 the North-west line contained the following proportion of steel and iron rails:—

	MILES.
Steel rails, 75 lb.	65·78
Iron rails, 84 lb.	3·025
Do. 75 lb.	273·42
Do. 65 lb.	5·
Total ...	347·225

14. *Maintenance of Road.*—On 1st Division, sections 1 and 2 were in very good order and fairly well ballasted. On sections 3 and 4 the running was very satisfactory, although a few long slacks were noticeable on high banks, the effects of continuous rain.

On 2nd Division I found sections 1 and 2 well maintained and highly satisfactory in spite of the heavy rain during the previous night to which the few slacks on the 198th and 199th miles were attributable.

Sections 3 and 4 were in very fair running order in all respects.

My inspection was not continued over the 3rd Division North-west line, as I was detained at Gooty in consequence of the damage by floods to the line at 257-14, 258-10 and 266/11-13 miles, the particulars of which have been forwarded to you in a separate report.

The following is the statement showing the progress of works:—

Arkónam station—	
"Proposed pottery kiln"	Finished.
Tirutani station—	
"Extension of platform and through siding" ...	In progress.
Nagari station—	
"Extension of platform and through siding." ...	Do.
Pudi station—	
"Stationmaster's house"	Finished.
"Auxiliary well at Thocock"	Land not yet handed over.
Rénigunta station—	
"Five-ton crane"	Nearly finished.
Mámandúr station—	
"Extension of platform"	Work not commenced.
Peddapad station—	
"Extension of platform and through siding" ...	In progress.
Nandalúr station—	
"Proposed double house for Stationmaster" ...	Finished.
Siddhavattam—	
"Crossing station"	Do.

Cuddapah station—	
"Verandah to Stationmaster's bungalow" ..	In progress.
"Proposed gatekeeper's lodge"	Materials being collected
"Alterations of sidings, &c."	Work not commenced.
"Proposed accommodation for Native drivers in coke shed"	Do. do.
Krishnapuram—	
"Station-house, &c."	In progress.
Vallúr station—	
"Semaphore"	Finished.
Yerraguntla station—	
"Extension of goods shed lay-bye"	In progress.
"Protective works at 201-12 to 203-11 miles" ..	Do.
Vanganur—	
"Station-house"	Do.
Ráyalcheru station—	
"Pointsmen's huts"	Finished.
"Extension of platform"	Materials being collected.
Jakkulcheruvu—	
"Station-house, &c."	In progress.
Gooty station—	
"Staff quarters"	Finished.
"Two guards' bungalows"	Do.
"Locomotive Foreman's bungalow"	In progress.
"Additional kitchen to Signallers' bungalow" ..	Do.
"Verandah to Assistant Traffic Manager's bungalow"	Materials being collected.
"Emergency stock shed"	In progress.
Guntakal junction—	
"Horse and carriage dock siding"	Finished.
"Native Signallers' bungalow"	In progress.
"Thirty-ton weigh-bridge and siding"	Do.
"Sub-Inspector's bungalow"	Materials being collected.
Nancherla station—	
"Pointsmen's huts"	Finished.
"Stationmaster's house"	Do.
Aspari station—	
"Pointsmen's huts"	Do.
"Stationmaster's house"	Do.
"Police huts"	In progress.
Kósgi station—	
"Double house for Stationmaster"	Nearly completed.
"Pointsmen's huts"	Do.
Tungabhadra station—	
"Pointsmen's huts"	Finished.
"Police huts"	In progress.
Matmari station—	
"Stationmaster's house"	Finished.
"Pointsmen's huts"	Do.
"Extension of platform"	Materials being collected.
Raichur station—	
"Alterations and additions to station-house" ..	Finished.
"Bungalows for three Eurasian clerks" ..	Do.
"Native clerks' houses to accommodate eight men for Traffic Department	Nearly completed.
"Shelves for the lamp room"	Waiting for materials.

Memorandum of renewals and cost of maintenance.

Renewals.—1st Division pots renewed during ½ year, No. 595 or 8·8 per mile per annum.
2nd do. do. do. „ 270 or 5·1 do. do.
3rd do. do. do. „ 390 or 7·4 do. do.

Cost of Maintenance.—A reference to the accompanying abstract will show the cost of maintenance to have averaged during the half-year (April to September 1889) Rs. 132-11-11$\frac{1}{12}$ per mile per mensem, or Rs. 1,592-15-1 per mile per annum including sidings.

The extra expenditure for the half-year ending September 1889 is as follows :—

	Rs.	A.	P.
Expenditure incurred on the revenue portion of the Pennér and Chitrávati bridges	88,664	13	1
Protective works from 201-12 to 203-14 miles	2,651	9	7
Laying new permanent-way over Tungabhadra bridge ..	84	5	4
Additional works chargeable to Revenue	14,560	10	7
Total ..	1,05,961	6	7

equal to a charge of Rs. 51-0-0$\frac{5}{6}$ per mile per month, which being deducted from the total cost (Rs. 132-11-11$\frac{1}{12}$) would give Rs. 81-11-10$\frac{1}{4}$ as the ordinary cost of maintenance.

The expenditure for the half-year ending March 1889 (October 1888 to March 1889) was Rs. 121-1-11$\frac{1}{8}$ per mile per mensem, or Rs. 1,453-7-1 per mile per annum.

Divisional Expenditure.—The detailed expenditure on the several divisions has been as follows :—

Divisions.	Half-year ending 30th September. 1889.			Half-year ending 31st March 1889.		
	Rs.	A.	P.	Rs.	A.	P.
1st Division average per mile per mensem ..	90	13	4$\frac{1}{2}$	89	15	9$\frac{1}{6}$
2nd do. do. do. ..	235	7	7$\frac{5}{6}$	107	6	8$\frac{1}{3}$
3rd do. do. do. ..	84	6	3	70	5	4$\frac{1}{2}$

Rails.—One thousand six hundred and thirteen defective rails have been removed from the main line; 2,296 rails worn out on the top table have been inverted during the half-year.

From C. E. PHIPPS, Esq., Acting Locomotive Superintendent, to the Acting Agent and Manager, Madras Railway, dated Perambúr Works, 14th April 1890, No. A/14795-81.

I have the honor to submit, for transmission to the Board of Directors, my report upon the working of this department for the half-year ended 31st December 1889.

2. I also enclose the usual tabular statements giving in detail the expenditure under each of the several headings of account as compared respectively with the half-years ending 31st December 1888 and 30th June 1889.

3. The general totals for these half-years are as follows :—

—	Total mileage.	Total cost of department including all charges.	Total cost per mile.
		Rs.	As. P.
Half-year ending 31st December 1888	1,407,113	11,12,823	12 7·84
Do. 30th June 1889	1,397,737	11,86,022	13 6·92
Do. 31st December 1889	1,387,136	12,78,658	14 8·98

and a comparison of the working for the same periods shows the final results to be —

—	Half-year ending 31st December 1889 as compared with	
	Preceding half-year.	Corresponding half-year.
Miles run	Decrease 0·76 per cent. ..	Decrease 1·42 per cent.
Total cost of department including working and repairs of engines, vehicles, loss by exchange, carriage of revenue stores, &c.	Increase 7·81 per cent. ..	Increase 14·90 per cent.
Total cost as above per mile	Increase 8·63 per cent. ..	Increase 16·56 per cent.

4. It will be observed that, as compared with the corresponding period of 1888, the total mileage worked has fallen from 1,407,113 to 1,387,136, being a reduction of 19,977 miles, while the total gross expenditure has been increased by Rs. 1,65,835.

5. The reduction in the mileage has been general throughout the company's system, the total number of special trains run during the half-year having been 381 less than during the period with which comparison is being made, and although the effect of this is to enhance the departmental cost per mile, inasmuch as the company's operations have not declined in like manner, but, on the contrary, have, I believe, considerably increased, the reduction conduces finally to the general interest of the railway and points to economy in working.

6. The increase in the total expenditure can be broadly accounted for by—

				Rs.
(1)	Increase in cost of patent fuel			60,344
(2)	Cost of Singarenni coal purchased as an experiment			2,660
(3)	Increased expenditure in drivers' and firemen's wages			3,063
(4)	Do.	do.	in cost of castor-oil	2,971
(5)	Do.	do.	on repairs and renewals of vehicles ..	58,883
(6)	Do.	do.	on loss by exchange	26,644
(7)	Do.	do.	on carriage of revenue stores	9,981
			Total ..	1,64,546

And with regard to these items I would explain as follows.

7. The increase in the cost of patent fuel was very fully dealt with in my report for last half-year, and further reference to it does not therefore now seem necessary. The issue price of patent fuel has, for the reasons already given, viz., enhancement in the English cost and also in that of freight, been raised to Rs. 24-12-0 per ton as compared with Rs. 17, the rate ruling for the corresponding half of 1888. Owing also to the partial failure of the wood-supply it was found necessary to burn patent fuel to a larger extent and over districts where such has not hitherto been the case, and the total quantity burnt is therefore greater. A corresponding decrease in the total quantity of wood burnt will be observed, while the average quantity of both wood and patent fuel consumed per mile is shown to have risen from 85·07 and 26·20 to 88·88 and 30·15, respectively. This may be accounted for by the increase in the gross weight of the train loads, of which I am writing below.

8. The charges entered under the heading of cost of Singarenni coal come into the accounts as a new item, and though this fuel of course took the place of a certain quantity of patent fuel, it was, as was explained in the special report made upon it, considerably higher both in cost and in quantity consumed per mile.

9. With regard to the slight increase which appears under the heading of Enginemen's wages, there are one or two causes which have led up to this, amongst them being that the amount paid to drivers and firemen for sick allowances was about Rs. 1,000 more than during the corresponding term, and again that, owing to a change which it has been considered desirable to make, the Bangalore branch and Cuddapah divisions have been abolished as separate divisions and added to the charge of the Foreman at Jalárpet and Gooty, respectively, drivers in charge being substituted for the Locomotive Foremen originally resident at these stations. A reduction, it will be noticed, appears under the head of Superintendence, which should therefore be set off against the increase in enginemen's wages. It should also be borne in mind that although the total mileage worked has fallen, inasmuch as the reduction is almost, if not entirely, all in the number of special trains, a corresponding reduction in the number of enginemen kept at out-stations cannot be looked for, since so long as the requisitions for engine power are of a spasmodic nature, this department is bound to maintain a staff of men and engines available in case they are required, though in many cases these are doing nothing at all for several days together.

10. On comparing the cost of renewals and repairs of vehicles during the half-year with the expenditure under the same heading during the corresponding half-year, an increase of Rs. 58,883 will be noticed, and, in explanation of this, I would state that in the first place the figures for the half-year now under review were abnormally swelled by a sum of Rs. 9,345, being the cost of 40 sets of ironwork manufactured for covered goods wagons, which it was originally intended to build, but which were finally crowded out by other work, and in the second, that although the total number of vehicles built on Revenue account was seven less than the number built in the corresponding term, the former vehicles were generally of a more expensive type. The number of vehicles that passed through the shops was also 641 larger than during the last half of 1888.

11. The increase under the head of Carriage of Revenue stores may be explained by the fact that owing to the failure of the supply of firewood on the Jalárpet district, almost the whole of the fuel used on that and on the Bangalore divisions had to be brought from Salem where the stocks were more plentiful.

12. The question of increasing the gross loading of the engines has already been considered in correspondence and, as you are aware, an experiment was made in July 1889 and the following months to ascertain if, without overtaxing or unduly forcing the locomotive engines, it would

be possible to discontinue the difference hitherto allowed for in the mode of reckoning the eight and ten ton wagon stock when making up the train loads. When the old system of counting was first introduced, the bulk of the company's stock was of 8-ton capacity, but as this is now no longer the case and the large majority of the wagons are of 10-ton capacity, the effect of the rule was to considerably curtail the number of wagons hauled on each of the trains.

13. It is therefore satisfactory to be able to report that the result of the experiment has been very successful, and though at first the increased loading gave some little trouble, this has been overcome and the general effect has been that the average total weight of a goods train hauled has increased from 287·77 tons for the half-year ending 31st December 1888 to 318·16 for the half-year now under review, the paying load being increased from 85·34 tons to 103·68 tons during the same period. This extra loading has, of course, to some extent increased the fuel consumption per mile, but the increase is not of large extent and, as the men get more used to the heavier trains, the difference will probably be less apparent.

14. *Running Expenses of Locomotives.*—The gross expenditure under this heading is Rs. 64,288 more than in the corresponding half-year, which, with the reduced train mileage, produces an increase in the cost per mile of working of 9·82 pies, the figures being, respectively, 6 annas 1·93 pies as against 5 annas 4·11 pies. The principal factor in this increase is, as has already been explained, the cost of patent fuel itself together with the larger proportion of the total mileage worked by engines burning patent fuel, the increase in this respect being over 29 per cent.

15. *Repairs of Locomotives.*—The number of engines that passed through the shops for repairs was 46 as compared with 52 in the corresponding half-year. Rs. 2,35,937 was spent on this work against Rs. 2,29,738, being an increase of Rs. 6,199. This slight difference may be accounted for by the fact that the renewals of crank axles was rather higher than during the corresponding half-year.

16. *Running Expenses of Carriages and Wagons.*—The slight increase under this head is attributable almost entirely to the increase in the cost of castor-oil. Some additional expenditure has also been incurred in consequence of changes in the train service having rendered it necessary to engage night carriage examiners at one or two additional stations.

17. *Repairs and Renewals of Carriages and Wagons.*—Two thousand four hundred and eighty-five vehicles passed through the shops for repairs as against 1,844 in the corresponding period. The following vehicles were renewed at cost of Revenue:—

Composite carriages	2
Vans for Inspector of station machinery	2
Covered goods wagons	80
Timber trucks	15

in addition to which 4 brake-vans were constructed on Capital account and there were received from England and erected also on Capital account—

Iron covered goods wagons	40
Iron stone wagons	50

18. It is to be regretted that it has not yet been possible to secure the reduction under this head of account which was anticipated and which has been referred to in previous half-years, though I hope this may now be within measurable distance. When dealing with the question in former reports it was understood that the old high-sided open goods wagons were the chief, if not the only type, of the company's rolling stock then remaining to be renewed, but, as you are aware, it has since been decided that all renewals of these vehicles shall be made in the form of covered goods wagons and since, as was pointed out in my letter No. A/11594-273 of the 16th May 1888 to your address, the cost of a covered wagon is Rs. 1,800, whereas the cost of an H.S.O.G. wagon is Rs. 1,350 only, the expenditure incurred in renewals is considerably higher than it was presumed it would be.

19. *Staff.*—Mr. F. H. Trevithick resumed duty on the 11th November 1889 and held charge of the department until the 11th December, when he again vacated and took over charge of the agency from Mr. Hanna.

20. Mr. W. Hyde, Locomotive Draughtsman, resigned the service on the 24th August 1889, and Mr. Stanley, who was appointed to succeed him, left England on the 19th October arriving in Madras on the 11th November.

21. Carriage Foreman W. Heaton, whose departure on furlough was referred to in the last report, resumed duty on the 23rd October.

22. Locomotive Foreman T. Putnam has been absent in England on leave during the whole of the half-year.

23. I have much pleasure in recording that the conduct of the staff has been satisfactory and that their several duties have been performed willingly and well.

Private.

MADRAS RAILWAY COMPANY.

REPORT

OF THE

TRAFFIC MANAGER

FOR

THE HALF-YEAR ENDING 31ST DECEMBER, 1889.

C. 485 A. & M.

TRAFFIC MANAGER'S OFFICE,
MADRAS, 11*th April*, 1890.

To

THE ACTING AGENT AND MANAGER,
Madras Railway Company,
Rayapuram.

SIR,

I have the honor to submit my report upon the traffic of the Madras Railway for the half-year ended 31st December 1889.

2. *Open Mileage.*—The open mileage was the same as in the corresponding half-year, *viz.*, 840.

3. *Train Service.*—On the 1st July 1889, two additional goods trains (one each way daily) were added to the train service between Jalarpet and Salem.

4. *Rates and Fares.*—On the 1st July 1889, the 1st and 2nd class fares were reduced as under, subject to a minimum of 4 annas for 1st, and 2 annas for 2nd class passengers. The fares in force during the last half-year and corresponding half-year of 1888 were :—

Classes.	1889.	1888.
First class ... Single	12 pies.	18 pies.
Do. ... Return	.....	27 pies.
Second class ... Single	6 pies.	7 pies.
Do. ... Return	.....	10½ pies.
Third class ... Single Mail	2 pies.	2 pies.
Do. ... Other trains	1½ pies.	1½ pies.

First and second class return fares were abolished, and from the 1st July 1889 single fares at reduced rates were levied upon travellers.

The following additions and alterations in other Passenger fares and Goods rates were brought into operation during the half-year.

In July.

Reserved Accommodation—

Whole of a Double Saloon altered from 6 to 8 full single 1st class fares.
Half do. do. 3 to 4 do. do.

2nd class Sleeping Carriage (4) compartments altered from 20 to 24 full single 2nd class fares.

Second class single compartment altered from 5 to 6 full single 2nd class fares.

The name of Vellore Station was altered to Katpadi, and Nagarur Station si[illegible] between Aspari and Adoni on the N. W. L. was closed for traffic.

Timber.—The rate for timber in wagon loads of 216 maunds for distances of [illegible] than 300 miles, of 5 pies per 27 maunds per mile, was *altered* as follows :—

In wagon loads of 270 maunds for distances of 200 miles and above, 5 pies per 27 maunds per mile, and for less distances than 200 miles, 7 pies per 27 maunds per mile.

In August.

Avaloo (Rice beaten) and (Rice parched) Poree or Kheela, the rate of 8·53 pies per 27 maunds per mile was made applicable to a minimum of 81 maunds per wagon.

Old rates.	New rates.	
36 pies.	36 pies.	*Bath Chairs* ... Fixed at 5th class, from "goods not specified."
6·80 ,,	8 ,,	*Conjee water* ... Changed to Special class at 8 pies, from 6·80 pies.
18 ,,	18 ,,	*Filters, Zinc* (McNamara)... 3rd class, from as "machinery in small lots"—3rd class.
16 pies.	13·61 pies.	*Hones* ... ... 2nd class from "goods not specified."
36 ,,	36 ,,	*Jhinrickshaws* ... ... 5th do. ,, do.
36 ,,	36 ,,	*Perambulators* (Adults) ... 5th do. ,, do.

Iron—Rated 1st class, (except Bell chairs, pot sleepers and rails). The minimum weight of 162 maunds per wagon at 8 pies per ton per mile was increased to 270 maunds. Iron unmanufactured, in wagon loads of 6 tons from Madras to Arkonam and Erode at 6 pies per 27 maunds per mile, the minimum of 162 maunds (6 tons) increased to 270 maunds (10 tons).

In September.

Old rates.	New rates.	
13·61 pies.	10 pies.	*Soda Water*—In bottles, 2nd class as before, but if in quantities of 10 maund from Madras to Coimbatore 1st class.

In October.

36 pies.	13·61 pies.	*Hose Canvass* ... ... 2nd class, from "goods not specified."

In December.

18 pies.	13·61 pies.	*Cinnamon* bark ... ... 2nd class, from 3rd class.
35 ,,	*8·53 ,,	*Khokam* ... ... Same as Tamarind raw, from "goods not specified."
	†6·80 ,,	
	‡4·53 ,,	
13·61 pies.	6 pies.	*Gypsum*, 2nd class, as before, but if in wagon loads of 270 maunds from Erode to Calicut and Kallai, 6 pies per 27 maunds per mile at Owner's risk.

* For small consignments at Company's risk.

† For consignments of 270 maunds and above and for distances less than 200 miles at Owner's risk.

‡ For consignments of 270 maunds and above and for distances of 200 miles and over at Owner's risk.

5. *Traffic train miles.*—The traffic train mileage for the December half-years of 1888 and 1889 is shown in the following table.

Allocation.	Description of train.	1888.	1889.
		Miles.	Miles.
Coaching ...	Mail	324,137	323,671
	Passenger	75,932	75,950
	Special	3,593	4,502
	Troops	2,200	5,460
Mixed ...	Ordinary	358,716	363,609
Goods ...	Ordinary	196,310	216,979
	Extra	175,732	134,010
	Ballast Trains for construction ...	5,106	660
	Light Engines	14,684	17,450
	Maintenance	22,736	11,373
	Fuel	22,774	24,481
	Total ...	1,201,920	1,178,155

Exclusive of miles run for maintenance and fuel, the aggregate train mileage was 1,142,301 against 1,156,410, or a decrease of 14,109 miles, equivalent to 1·23 per cent. accounted for by a decrease mainly in the extra Goods train miles, but taking the figures as shown in the Capital and Revenue accounts where mixed trains and light engine mileage is divided between the Coaching and Goods traffic, there is an increase of 11,173 in Coaching and a decrease of 25,282 in Goods mileage.

6. *Train Loads.*—At the Officers' Meeting in March 1889, I represented that our trains were not so heavily loaded as the trains running over other standard gauge Railways in India, and I asked that the loads might be increased where the gradients were favourable. After considerable discussion, your predecessor in office suggested that I should write to him on the subject and I did so on the 23rd March 1889 as follows :—

"With reference to the discussion at the Officers' Meeting held on the 18th instant, I beg to address you on the subject of the maximum loads of Engines working trains over the Madras Railway."

"The load table printed on page 32 of the Working Time Book is arranged for 8 ton stock, and it will be seen on reference to this table that the greatest number of Vehicles one Engine can haul over any section of the line, is that entered in columns 1 and 2 under the K. A. 2 and S. A. 2 class of Engines, *viz.* 60 Vehicles from Arkonam to Madras. The run from Arkonam to Madras is 42 miles only and Engines of the class I have referred to can haul between the two points named, a gross maximum load of 840 tons, the line being I believe for the whole distance, on a gradient falling in the direction of Madras."

"From Jalarpet to Arkonam and between Jalarpet and Tirupatur where the gradients are also favourable the heaviest classes of our Engines according to the printed load table, are allowed to haul a gross maximum load of 630 tons."

"As a matter of fact however these gross loads are seldom, if ever, worked up to, the character of our traffic being as a rule light and bulky, and it seems to me that the load table should be reconsidered with reference to the actual loading of our trains, and you will remember that at Monday's Committee the Acting Loco. Superintendent read a letter he had received from me, asking that the loads the Engines were capable of hauling, should be expressed in tons instead of by the number of Vehicles as at present."

"I have compiled from the Weigh-Bridge lists, prepared at our Salt Cotaurs goods station, figures showing the net loading of all inwards and outwards wagons passed over the weigh-bridges during the month of February last, and the result briefly stated is as follows :—

"1423 wagons were *loaded and despatched* during the month and the net tonnage arrived at was 7760 tons 4 cwt. showing an average load per wagon of 5 tons, 9 cwt. only. The most favorable figures for the month were taken on the 6th February when 61 wagons giving a net tonnage of 408 tons 8 cwt. were passed over the Weigh-Bridges, the average load per wagon being 6 tons 13 cwt.

"1829 wagons were *received* during the month and the net tonnage arrived at was 10,478 tons 7 cwt. showing an average load per wagon of 5 tons 14 cwt. only. The most favorable figures for the month were taken on the 6th February when 85 wagons giving a net tonnage of 557 tons 17 cwt. were passed over the Weigh-Bridges, the average load per wagon being 6 tons 11 cwt."

"For the same month the outwards and inwards wagons dealt with at Calicut gave the following result.":—

"314 wagons were *loaded and despatched* during the month, and the net tonnage arrived at was 1776 tons 13 cwt., showing an average load per wagon of 5 tons 13 cwt. only. The most favorable figures were taken on the 5th February when 16 wagons giving a net tonnage of 123 tons 5 cwt., were passed over the Weigh-Bridges, the average load per wagon being 7 tons 14 cwt."

"520 wagons were *received* during the month and the net tonnage arrived at was 3455 tons 14 cwt. showing an average per wagon of 6 tons 12 cwt. only. The most favorable figures were taken on the 27th February when 18 wagons giving a net load of 138 tons 19 cwt. were passed over the Weigh-Bridges, the average load per wagon being 7 tons 14 cwt."

"To put the matter in another form a large Engine hauling a goods or mixed train from Madras to Jalarpet is capable, according to the load table, of hauling a gross load of 560 tons. The actual gross load of the 5-20 A.M. goods train when leaving Madras on the 15th March was 335 tons 4 cwt., and on the 20th March 354 tons 2 cwt. only. On both days the trains left with their full vehicle loads according to the load table."

"I can, if necessary, give you numerous similar instances, but the figures for the 2 days prove I think, that so long as the load table is arranged by the number of Vehicles and not on the gross tonnage an Engine is capable of hauling, so long shall we continue to show but a poor result when compared with some of the Northern Railways."

In para. 11 of a circular issued by the Locomotive Superintendent of the East Indian Railway and dated the 8th October 1887 the following loads are provided, *viz.* :—

Class of Engines.	Load in ton.	Speed over level portion of the Train Loop and Jubbulpore Lines.
Nos. 100 to 160 and 531 to 645	600	20 Miles an hour.
	700	18 " "
	800	16 " "
	1000	16 " "
Nos. 462 to 530	500	20 " "
	600	18 " "
	700	16 " "
	800	16 " "
Bogies 1 to 64	500	20 " "
	600	18 " "
	700	16 " "
Other coupled Engines	450	18 " "
	500	16 " "

"Para. 10 of the same circular notifies that the heavy 6 wheeled coupled Engines will take a gross load of 1000 tons on the level portion of the line."

"The same circular provides for the load of District, through road, and Brake Vans being reckoned as 4 tons, arranges for the tare of each wagon to be taken on the nearest ton; and provides for the contents of each loaded wagon being reckoned as one ton below its marked carrying capacity, except in the case of wagons carrying coal which are to be reckoned at their full carrying capacity."

"I do not know if the East Indian Railway 6 wheeled coupled Engines are of a more powerful type than the 6 wheeled coupled heavy Engines working on this Railway, but there can, I think, be no doubt, that if the Engines of both Railways are of the same power, then our Engines working from Jalarpet to Madras, from Vontimitta to Kodur, and between Calicut and Olavakode, should haul greater loads than they do at present."

"Looking at the light tonnage hauled by our trains and the light loading of our wagons, I am disposed to think, if the Locomotive Superintendent objects to the tonnage scale, that our load table as it stands should be held to apply to either 10, 8 or 6 ton wagons, two of our 15 ton wagons when loaded being considered equivalent to 3 loaded wagons of the lower class. I am further of opinion that on those sections of the line where the gradients are specially favorable, the number of vehicles allowed to be hauled by mixed or Goods trains should be increased."

"The Working Time Table can be re-arranged if necessary, to give more time to the heavier trains."

"In the official year 1886-87, the average loading of trains is reported by the Government of India to have been as follows, on the various broad gauge Indian Railways, *viz.* :—

	1st Half.	2nd Half.
"East Indian	Tons 186·01	Tons 192·43
"Great Indian Peninsula	" 120·28	" 116·28
"North Western	" 120·50	" 135·08
"Oude and Rohilkund	" 156·51	" 108·58
"Bombay, Baroda and Central India Railway	" 178·87	" 172·92
"Eastern Bengal	" 118·50	" 115·22
"Madras	" 85·30	" 86·38

"Madras Railway trains are run throughout many sections of the line over exceptionally heavy gradients, but these figures show I think that if our trains are more heavily loaded where the gradients allow of increased loads being carried with safety, the differences between the Madras Railway figures and the figures given for the Northern Railways may be considerably reduced.

"Some of the Northern Railways are, as you are aware, replacing their stock by Bogie wagons capable of carrying 18 tons, and unless we move in the same direction or haul heavier trains than we are at present running, the comparison between us will become year by year still more unfavourable."

The Acting Locomotive Superintendent very loyally agreed as a tentative measure to accept increased loading from the 1st July last.

The following figures, which have been taken from the analysis prepared by the Chief Auditor, shew the average number of tons in Goods trains week by week from the 1st July to the 28th December during the half-year just closed, and the corresponding period of 1888.

Statement showing the average number of tons conveyed in Goods trains from July to December 1888 and 1889.

1888. Week ending.		Average No. of tons in a Goods train.	1889. Week ending.		Average No. of tons in a Goods train.
1888.			1889.		
July ...	7	88·049	July ...	6	101·674
" ...	14	91·670	" ...	13	116·493
" ...	21	90·639	" ...	20	98·077
" ...	28	85·288	" ...	27	105·397
August..	4	85·225	August..	3	105·892
" ...	11	82·127	" ...	10	112·705
" ...	18	82·563	" ...	17	87·711
" ...	25	81·666	" ...	24	113·324
Septr....	1	87·804	" ...	31	98·167
" ...	8	82·927	Septr....	7	96·285
" ...	15	85·180	" ...	14	101·555
" ...	22	79·913	" ...	21	108·460
" ...	29	77·017	" ...	28	98·326
October.	6	94·420	October.	5	101·613
" ...	13	86·846	" ...	12	97·164
" ...	20	84·321	" ...	19	92·158
" ...	27	90·522	" ...	26	99·085
Nov. ...	3	77·227	Nov. ...	2	93·070
" ...	10	85·166	" ...	9	116·388
" ...	17	91·141	" ...	16	119·522
" ...	24	102·968	" ...	23	111·121
Dec. ...	1	77·701	" ...	30	105·696
" ..	8	82·925	Dec. ..	7	94·038
" ...	15	84·120	" ...	14	131·494
" ...	22	93·811	" ...	21	93·698
" ...	29	99·384	" ...	28	107·402

The Northern Railways appear to aim at carrying a gross load of 9 tons upon each axle and to base the paying load upon the dead weight of their vehicles.

Some of the East Indian Railway Company's 4 wheeled wagons that are loaded to us carry a paying load of 11 and 12 tons, while the Great Indian Peninsula Railway, the Oude and Rohilkund Railway and the North-Western Railway have vehicles marked to carry 10¾ and 11 tons.

The Madras 4 wheeled stock is being converted from 8 to 10 ton stock the exception being the double bolster timber trucks which are now being marked to carry a paying load of 12 tons.

7. *Gross and net traffic for years* 1880 *to* 1889.—The following table is designed to show the gross traffic receipts, total expenses, net receipts, number of passengers, tonnage of goods, traffic expenses and percentage of traffic expenses on gross receipts for 10 years ending 31st December 1889.

Years.	Gross Receipts.	Total Expenses.	Net Receipts.	No. of Passengers carried including Troops and Police.	Tons of Goods carried including Railway material and Revenue stores.	Expenses of Traffic Department.	Percentage of Traffic expenses on Gross Receipts.
	Rs.	Rs.	Rs.	No.	No.	Rs.	Rs.
1880 ..	61,62,546	42,05,409	19,57,137	4,003,047	632,851	6,60,139	10·7
1881 ...	63,11,313	42,35,456	20,75,857	4,269,642½	693,613	6,52,798	10·3
1882 ...	69,18,571	43,47,729	25,70,842	4,346,227½	710,067	6,90,463	9·9
1883 ...	66,31,909	41,05,360	25,26,549	4,436,431½	708,310	6,81,596	10·2
1884 ...	71,41,318	42,05 631	29,35,686	5,185,114	989,136	7,02,473	9·8
1885 ...	76,57,993	43,78,825	32,79,168	5,534,403	891,147	7,31,146	9·5
1886 ...	79,66,098	47,36,854	32,29,244	6,328,308	902,023	7,65,000	9·6
1887 ...	81,72,535	52,92,507	28,80,028	7,021,631½	996,352	7,70,612	9·4
1888 ...	85,31,053	50,09,408	35,21,645	7,789,690½	1,088,774	8,00,613	9·3
1889 ...	91,10,895	53,72,473	37,38,422	8,528,953	1,097,441	7,99,976	8·7

8. *Gross and net earnings.*—Compared with the corresponding period of 1888, the earnings from all sources for the half-year ended December 1889 were Rs. 46,04,547 against Rs. 42,68,692 or an increase of Rs. 3,35,855 equivalent to 7·8 per cent., and the net earnings were Rs. 17,70,805 against Rs. 17,48,021. The working expenses were Rs. 28,33,741 against Rs. 25,20,671 or 61·54 per cent. and 59·05. The average receipt per train mile was Rs. 3·90 against 3·55.

The increase in the gross earnings is shown in the following table :—

Heads.	Earnings.		Increase.	Decrease.	Net increase.
	Dec. 1888.	Dec. 1889.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Passengers	14,80,510	15,31,873	51,363	...	
Troops and police ...	62,682	40,228	...	22,454	
Passengers' luggage ...	68,901	67,919	...	982	
Parcels	1,22,873	1,22,052	...	821	
Parcels (Revenue) ...	1,496	1,615	119	...	
Horses, carriages and dogs	41,770	40,632	...	1,138	
Special trains	1,889	9,044	7,155	...	
Goods...	22,74,259	25,60,379	2,86,120	...	
Goods (Revenue) ...	51,890	68,259	16,369	...	
Railway material ...	27,316	16,047	...	11,269	
Live stock	12,091	13,501	1,410	...	
Rents and demurrage ...	4,555	4,792	237	...	
Miscellaneous	1,556	6,043	4,487	...	
Haulage of postal vans ...	11,789	11,758	...	31	
Sundries	96,173	1,00,893	4,720	...	
Telegraph	8,942	9,512	570	...	
Total ...	42,68,692	46,04,547	3,72,550	36,695	3,35,855

9. The increase in the working expenses is shown in the following table :—

Heads.	Expenditure.		Increase.	Decrease.	Net increase.
	Dec. 1888.	Dec. 1889.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent way	7,34,951	8,64,530	1,29,579	...	
Locomotive	8,16,382	9,12,009	95,627	...	
Repairs to carriages & wagons.	2,96,441	3,66,649	70,208	...	
Traffic	4,00,946	4,01,941	995	...	
General charges	2,46,050	2,67,180	21,130	...	
Special and miscellaneous ...	25,901	21,432	...	4,469	
Total ...	25,20,671	28,33,741	3,17,539	4,469	3,13,070

10. The receipts from passengers (exclusive of troops and police) were Rs. 15,31,873 against Rs. 14,80,510 or an increase of Rs. 51,363 equivalent to 3·4 per cent. The lowest class contributed in money 90·81 per cent. against 90·12 per cent. and in number 99·40 per cent. against 99·34 per cent.

11. The receipts of each class of passengers are shown in the following table :—

Half-years ending	First class.	Second class.	Third class.	Total.
	Rs.	Rs.	Rs.	Rs.
31st December 1889	72,084	67,566	13,92,223	15,31,873
Do. 1888	79,040	67,181	13,34,289	14,80,510
Increase in 1889	...	385	57,934	51,363
Decrease in 1889	6,956	...	...	...
Increase per cent.	...	0·5	4·3	3·4
Decrease do	8·8	...	...	...

The decrease in the first class rate has so far failed to attract native gentlemen in any numbers to the 1st class carriages and financially the reduction has not proved a success.

This result is in keeping with our experience of former years when the 1st class fare was reduced as an experiment.

The slight increase in the money earned by carrying 2nd class passengers may be put down to the return journey fares collected from this class of travellers. Previous to the 1st July 1889 return 2nd class passengers were charged 7 pies per mile for the outwards journey and 3½ pies per mile for the return journey or a total of 10½ pies per mile for the double journey. From the 1st July 2nd class passengers have been booked at single fares only at 6 pies per mile. The numbers it will be noticed from the figures below have been affected but not to any appreciable extent.

12. The number carried in each class was :—

Half-years ending	First class.	Second class.	Third class.	Total.
31st Decemben 1889	6,871	18,552½	4,218,179	4,243,602½
Do. 1888	6,362	19,838	3,951,553½	3,977,753½
Increase in 1889	509	...	266,625½	265,849
Decrease in 1889	...	1,285	...	...
Increase per cent.	8·0	...	6·74	6.6
Decrease do.	...	6·5	...	...

The number of 3rd class passengers carried continues to increase steadily and as additional facilities for travelling are afforded to this class of passengers, we may expect the numbers to increase still further.

We have experieneed difficulty in dealing with the number of 3rd class passengers who have offered themselves for carriage by the Mail trains and we have not always been able to take forward the passengers booked to proceed by these trains.

The Mail trains run with a limited load and it is not possible to add to the vehicles to be hauled by Mail trains if the trains are to run to time.

The difference between the local and the Mail train fares is not sufficiently great to induce passengers in all cases to travel by the local trains, although by adding to the number of these trains every effort has been made to cope with the difficulty that has been presenting itself for some time, and we have in the near future to consider what remedy is to be applied to meet the difficulty I have referred to.

We have lately accelerated the speed of the Mail trains running between Madras and Mettupalaiyam and between Jalarpet and Bangalore and to run to time at the accelerated speed we have been compelled to reduce the loads of these trains.

8. *Gross and net earnings.*—Compared with the corresponding period of 1888, the earnings from all sources for the half-year ended December 1889 were Rs. 46,04,547 against Rs. 42,68,692 or an increase of Rs. 3,35,855 equivalent to 7·8 per cent., and the net earnings were Rs. 17,70,805 against Rs. 17,48,021. The working expenses were Rs. 28,33,741 against Rs. 25,20,671 or 61·54 per cent. and 59·05. The average receipt per train mile was Rs. 3·90 against 3·55.

The increase in the gross earnings is shown in the following table :—

Heads.	Earnings.		Increase.	Decrease.	Net increase.
	Dec. 1888.	Dec. 1889.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Passengers	14,80,510	15,31,873	51,363	...	
Troops and police ...	62,682	40,228	...	22,454	
Passengers' luggage ...	68,901	67,919	...	982	
Parcels	1,22,873	1,22,052	...	821	
Parcels (Revenue) ...	1,496	1,615	119	...	
Horses, carriages and dogs	41,770	40,632	...	1,138	
Special trains	1,889	9,044	7,155	...	
Goods...	22,74,259	25,60,379	2,86,120	...	
Goods (Revenue) ...	51,890	68,259	16,369	...	
Railway material ...	27,316	16,047	...	11,269	
Live stock	12,091	13,501	1,410	...	
Rents and demurrage ...	4,555	4,792	237	...	
Miscellaneous	1,556	6,043	4,487	...	
Haulage of postal vans ...	11,789	11,758	...	31	
Sundries	96,173	1,00,893	4,720	...	
Telegraph	8,942	9,512	570	...	
Total ...	42,68,692	46,04,547	3,72,550	36,695	3,35,855

9. The increase in the working expenses is shown in the following table :—

Heads.	Expenditure.		Increase.	Decrease.	Net increase.
	Dec. 1888.	Dec. 1889.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent way	7,34,951	8,64,530	1,29,579	...	
Locomotive	8,16,382	9,12,009	95,627	...	
Repairs to carriages & wagons.	2,96,441	3,66,649	70,208	...	
Traffic	4,00,946	4,01,941	995	...	
General charges	2,46,050	2,67,180	21,130	...	
Special and miscellaneous ...	25,901	21,432	...	4,469	
Total ...	25,20,671	28,33,741	3,17,539	4,469	3,13,070

10. The receipts from passengers (exclusive of troops and police) were Rs. 15,31,873 against Rs. 14,80,510 or an increase of Rs. 51,363 equivalent to 3·4 per cent. The lowest class contributed in money 90·81 per cent. against 90·12 per cent. and in number 99·40 per cent. against 99·34 per cent.

11. The receipts of each class of passengers are shown in the following table :—

Half-years ending	First class.	Second class.	Third class.	Total.
	Rs.	Rs.	Rs.	Rs.
31st December 1889	72,084	67,566	13,92,223	15,31,873
Do. 1888	79,040	67,181	13,34,289	14,80,510
Increase in 1889	...	385	57,934	51,363
Decrease in 1889	6,956	...	...	...
Increase per cent.	...	0·5	4·3	3·4
Decrease do	8·8	...	...	...

The decrease in the first class rate has so far failed to attract native gentlemen in any numbers to the 1st class carriages and financially the reduction has not proved a success.

This result is in keeping with our experience of former years when the 1st class fare was reduced as an experiment.

The slight increase in the money earned by carrying 2nd class passengers may be put down to the return journey fares collected from this class of travellers. Previous to the 1st July 1889 return 2nd class passengers were charged 7 pies per mile for the outwards journey and 3½ pies per mile for the return journey or a total of 10½ pies per mile for the double journey. From the 1st July 2nd class passengers have been booked at single fares only at 6 pies per mile. The numbers it will be noticed from the figures below have been affected but not to any appreciable extent.

12. The number carried in each class was :—

Half-years ending	First class.	Second class.	Third class.	Total.
31st December 1889	6,871	18,552½	4,218,179	4,243,602½
Do. 1888	6,362	19,838	3,951,553½	3,977,753½
Increase in 1889	509	...	266,625½	265,849
Decrease in 1889	...	1,285	...	...
Increase per cent.	8·0	...	6·74	6.6
Decrease do.	...	6·5	...	...

The number of 3rd class passengers carried continues to increase steadily and as additional facilities for travelling are afforded to this class of passengers, we may expect the numbers to increase still further.

We have experieneed difficulty in dealing with the number of 3rd class passengers who have offered themselves for carriage by the Mail trains and we have not always been able to take forward the passengers booked to proceed by these trains.

The Mail trains run with a limited load and it is not possible to add to the vehicles to be hauled by Mail trains if the trains are to run to time.

The difference between the local and the Mail train fares is not sufficiently great to induce passengers in all cases to travel by the local trains, although by adding to the number of these trains every effort has been made to cope with the difficulty that has been presenting itself for some time, and we have in the near future to consider what remedy is to be applied to meet the difficulty I have referred to.

We have lately accelerated the speed of the Mail trains running between Madras and Mettupalaiyam and between Jalarpet and Bangalore and to run to time at the accelerated speed we have been compelled to reduce the loads of these trains.

We have now before us a proposal to accelerate the speed of the Madras and Bombay Mail trains and in the settlement of this proposal we shall have to consider what is to be the rate for carrying 3rd class passengers by limited trains running at high speed.

13. The percentage of numbers and average mileage of each class :—

Period.	Percentage of numbers.			Average mileage.		
	First class.	Second class.	Third class.	First class.	Second class.	Third class.
Half-year ended 31st Dec. 1889.	0·16	0·44	99·40	218	138	38
Do. do 1888.	0·16	0·50	99·34	228	124	38

14. The average fare paid by each passenger :—

Period.	First class.	Second class.	Third class.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Half-year ended 31st Dec. 1889	10 7 10	3 10 3	0 5 3
Do. do 1888	12 6 9	3 6 2	0 5 4

15. In the 1st class passenger traffic there was a decrease of 8·0 per cent. in number, and a decrease of 8·8 per cent. in money. In the 2nd class there was a decrease of 6·5 per cent. in number and an increase of 0·5 per cent. in money. In the 3rd class there was an increase of 6·74 per cent. in number and 4·3 per cent. in money. The average sum paid by a third class passenger by *all* trains was Annas 5·3 against Annas 5-4. The average value by mail trains was Annas 10-2 against Annas 10-4 and the average value by other trains was Annas 3-8 against Annas 3-8. The percentage of numbers carried by the mail trains was 22 against 23 and by other trains 78 against 77.

16. The return fare and festival traffic is shown in the following table :—

Period, Half-year	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
31st Dec. 1889...	134	4,134	285	3,176	50,239	9,573	50,658	16,883
Do. 1888 ...	3,683	34,698	13,030	35,164	64,035	12,075	80,748	81,937
Increase in 1889..	...	.....	...	.....	.....	.....	.. ...	...
Decrease in do..	3·549	30,564	12,745	31,988	13,796	2,502	30,090	65,054

17. The first and second class return traffic shows a decrease owing to the withdrawal of return tickets from 1st July 1889, but in the net result there is really very little change. The decrease in the third class return traffic is due to the large half-yearly festivals falling in the corresponding half-year and not occurring in the half-year under review.

18. The number of third class passengers booked by all trains on different sections of the line in the second half-years of 1888 and 1889 is shown in the following table :—

Between	Half-year ending December		Increase per cent.
	1888.	1889.	
Madras and Jalarpet	1,353,738	1,467,604	8·4
Bangalore Branch	300,337	338,717	12·7
Tirupatur and Erode	361,002	374,266	3·6
Perandurai and Coimbatore	324,982	325,887	0·3
Nilghiri Branch	99,816	102,669	2·8
Madukarai and Calicut	575,639	599,840	4·2
Tirutani and Cuddapah	447,700	487,451	8.8
Krishnapuram and Guntakal	213,657	243,447	13·9
Nancherla and Raichur	126,780	139,619	10·1
Great Indian Peninsula, Southern Mahratta, Mysore State and South Indian Railways ...	113,899	124,053	8·8

The development of the 3rd class traffic will be seen from the figures below :—

Years.	Number.	Receipts Rs.
1880	3,907,491	18,01,384
1885	5,438,030	22,60,400
1888	7,675,843½	25,83,121
1889	8,417,122	27,49,477

19. Of the total number of passengers carried in 1889, *viz.* 8,528,953, the additional stations opened during the last ten years contributed no less than 1,166,076 passengers or 13 per cent. while the 7 Junction Stations contributed 1,392,022 passengers or 16 per cent. of the total number. These figures conclusively prove that our policy in opening new stations is sound.

During the last 3 years I have utilized the various goods trains for carrying passengers wherever it has been possible and 3rd Class carriages continue to be attached to these trains daily.

With the increased facilities for travelling which these goods trains offer, I am hopeful of still further increasing the number of passengers carried and as the numbers increase we may introduce from time to time additional mixed trains to our published train service.

During the current half-year or from the 1st April instant the Government has sanctioned the addition of mixed trains between Jalarpet and Bangalore and between Podanur and Palghaut.

I have introduced also with success three distinct series of 3rd class tickets marked respectively "Mail," "Local," and "Mail and Local." The latter tickets enable a passenger to travel by the mail train from Raichur or Gooty or some other distant station on the North-West Line as far as Arkonam and permit the holder of the ticket to join the local day passenger train for Salem, Bangalore, Mettupalaiyam and other stations at Arkonam Junction.

A passenger from the North can now make his journey at much less cost than when he was furnished with a through mail ticket direct to destination and he can accomplish his journey quicker as he has not to wait at Arkonam for the mail train to take him forward.

Passengers who were accustomed to travel and who made the through journey once or twice a year found out that it was possible to purchase a mail ticket to Arkonam and to rebook at the junction station, purchasing a local ticket at a lower fare for his onward journey but this fact was not known to the bulk of our passengers.

Our through long distance traffic has largely increased since the introduction of the three series of tickets and a part of the increased number of passengers we have carried

is undoubtedly due to the concession extended to them in the shape of "Mail and Local" through tickets.

20. *Parcels.*—Compared with the corresponding period of 1888 there is an increase of 9 per cent. in number and a decrease of ·6 per cent. in receipts. The average receipt per parcel was Rs. 0·96 against Rs. 1·05.

The following table shows the number and revenue derived from parcels for the December half-year of the last 5 years.

Half-years ending December.	Number.		Receipts.		Total.	
	Local.	Foreign.	Local.	Foreign.	Number.	Receipts.
			Rs.	Rs.		Rs.
1885	81,716	24,370	77,279	30,242	106,086	1,07,521
1886	71,717	26,939	69,460	30,562	98,656	1,00,022
1887	68,105	36,334	71,793	38,709	104,439	1,10,502
1888	72,523	43,760	79,248	42,624	116,283	1,22,872
1889	75,506	51,251	78,504	43,548	126,757	1,22,052

The decrease in the local parcels traffic is due to a falling off in consignments of Indigo from stations on the North-West Line owing to a smaller demand from England for Indigo at the prices obtaining, and to the supply of oranges from Coorg not being so plentiful as formerly.

The opening of the Southern Mahratta Railway through to Bangalore also drew from Bangalore for the North parcels which we should otherwise have carried *viâ* Arkonam and Raichur.

The Parcels rates agreed to at the Railway Conference are fixed on a mileage basis and the Southern Mahratta Railway having the shorter distance between Poona and Bombay and Bangalore necessarily command the traffic.

21. *Goods Traffic.*—Compared with the corresponding period of 1888, the receipts from goods traffic (exclusive of Railway material and revenue stores) were Rs. 25,60,379 against Rs. 22,74,159, or an increase of 12 per cent., the tonnage being 429,927 against 369,875, or an increase of 16 per cent. The average receipt per ton lifted was Rs. 5·95 against Rs. 6·14 and the average receipt per ton per mile was 7·82 pies against 7·99 pies. The receipt from Cotton was Rs. 1,66,786.

22. The following table is designed to show the weight and revenue of the Public goods traffic for the last ten years.

Years.	Goods traffic exclusive of Madras Railway material and revenue stores.	Government stores and foreign Railway material.	For the Public.	
			Weight.	Receipts.
	Rs.	Rs.	Tons.	Rs.
1880	32,59,796	1,62,579	410,180	30,97,217
1881	33,49,083	1,75,521	423,314	31,73,562
1882	37,34,088	95,434	481,174	36,38,654
1883	36,19,965	2,07,968	511,565	34,11,997
1884	38,16,539	1,75,429	601,398	36,41,110
1885	41,20,156	3,61,977	619,011	37,58,179
1886	42,58,649	2,44,430	640,093	40,14,219
1887	44,18,429	3,03,778	688,376	41,14,651
1888	44,23,337	84,748	717,803	43,38,589
1889	49,78,001	2,13,405	763,428	47,64,596

23. Statement showing receipts and tonnage of goods traffic for the December half of 1888 and 1889.

Detail.	Half-year ending Dec. 1888.	Half-year ending Dec. 1889.
Receipts from goods ... ...Rs.	22,74,159	25,60,379
Tonnage of goods ... ...Tons	369,875	429,927
Average receipt, per ton lifted ... ...Rs.	6·14	5·95
Do. per ton per mile ... ...Pies	7·99	7·82

24. The increase and decrease in each important commodity composing the goods traffic for half-year ended 31st December 1889.

Description.	Increase.		Description.	Decrease.	
	Tons.	Rs.		Tons.	Rs.
Coal and Coke ...	5,772	31,296	Cotton, manufactured ...	92	6,033
Cotton, unmanufactured...	4,021	50,673	Drugs and Chemicals ...	65	1,386
Grain ...	11,806	63,520	Dyes and Tans ...	981	18,405
Jute	351	2,468	Hides and Skins ...	746	14,346
Leather, manufactured ...	559	7,624	Liquors	83	...
Liquors	...	3,454	Metals	...	3,636
Metals	586	..	Stone and Lime ...	198	1,925
Oils	820	6,478	Tea	46	1,519
Oil Seeds	10,896	37,869	Wood	1,033	...
Provisions ...	6,096	6,380	Tobacco	158	2,685
Railway Plant and Rolling Stock	24,202	1,12,036	Manure and Oil Cake ...	609	1,267
			Government Stores ...	...	5,230
Salt	1,681	2,378	All other articles ...	5,520	5,915
Spices	58	1,203			
Sugar	2,628	14,941		9,531	62,347
Wood ...	...	7,723	Increase ...	60,052	2,86,120
Government Stores ...	5	...			
Items less than 1,000 Rs.	102	424			
Total ...	69,583	3,48,467	Total...	69,583	3,48,467

In para. 23 of my report, dated the 11th April 1889, and in para. 41 of Mr. Darke's report of the 21st October 1839 allusion was made to traffic for Bellary and other towns passing from the G. I. P. Railway at Poona and Hudgi Junctions instead of travelling *viâ* Raichur.

No arrangement has yet been made by which we are to secure the traffic which undoubtedly belongs to us, and it will not be possible to divert the traffic again to its legitimate route so long as the G. I. P. Company's rates are retained on their present basis.

During the last half year the Southern Mahratta Railway has been opened through to Bangalore and printed placards advise the public that special and reduced rates have been agreed to between the G. I. P. and Southern Mahratta Railways by which traffic can now be carried more cheaply from Bombay *viâ* Poona and the Southern Mahratta Railway to Bangalore and Mysore and other Southern towns.

To obtain this concession from the G. I. P. Railway I understand the Southern Mahratta Railway has agreed to divert *viâ* Poona the grain traffic from the West Deccan Line which formerly was carried to Bombay *viâ* Marmagoa.

I have endeavoured, so far without success to convince the Traffic Manager of the G. I. P. Railway that his policy in parting with traffic for the South at Poona, instead of carrying it to Raichur was not sound in the interests of his own Company and was not in good faith with his old neighbour the Madras Railway.

is undoubtedly due to the concession extended to them in the shape of "Mail and Local" through tickets.

20. *Parcels.*—Compared with the corresponding period of 1888 there is an increase of 9 per cent. in number and a decrease of ·6 per cent. in receipts. The average receipt per parcel was Rs. 0·96 against Rs. 1·05.

The following table shows the number and revenue derived from parcels for the December half-year of the last 5 years.

Half-years ending December.	Number.		Receipts.		Total.	
	Local.	Foreign.	Local.	Foreign.	Number.	Receipts.
			Rs.	Rs.		Rs.
1885	81,716	24,370	77,279	30,242	106,086	1,07,521
1886	71,717	26,939	69,460	30,562	98,656	1,00,022
1887	68,105	36,334	71,793	38,709	104,439	1,10,502
1888	72,523	43,760	79,248	42,624	116,283	1,22,872
1889	75,506	51,251	78,504	43,548	126,757	1,22,052

The decrease in the local parcels traffic is due to a falling off in consignments of Indigo from stations on the North-West Line owing to a smaller demand from England for Indigo at the prices obtaining, and to the supply of oranges from Coorg not being so plentiful as formerly.

The opening of the Southern Mahratta Railway through to Bangalore also drew from Bangalore for the North parcels which we should otherwise have carried *viâ* Arkonam and Raichur.

The Parcels rates agreed to at the Railway Conference are fixed on a mileage basis and the Southern Mahratta Railway having the shorter distance between Poona and Bombay and Bangalore necessarily command the traffic.

21. *Goods Traffic.*—Compared with the corresponding period of 1888, the receipts from goods traffic (exclusive of Railway material and revenue stores) were Rs. 25,60,379 against Rs. 22,74,159, or an increase of 12 per cent., the tonnage being 429,927 against 369,875, or an increase of 16 per cent. The average receipt per ton lifted was Rs. 5·95 against Rs. 6·14 and the average receipt per ton per mile was 7·82 pies against 7·99 pies. The receipt from Cotton was Rs. 1,66,786.

22. The following table is designed to show the weight and revenue of the Public goods traffic for the last ten years.

Years.	Goods traffic exclusive of Madras Railway material and revenue stores.	Government stores and foreign Railway material.	For the Public.	
			Weight.	Receipts.
	Rs.	Rs.	Tons.	Rs.
1880	32,59,796	1,62,579	410,180	30,97,217
1881	33,49,083	1,75,521	423,314	31,73,562
1882	37,34,088	95,434	481,174	36,38,654
1883	36,19,965	2,07,968	511,565	34,11,997
1884	38,16,539	1,75,429	601,398	36,41,110
1885	41,20,156	3,61,977	619,011	37,58,179
1886	42,58,649	2,44,430	640,093	40,14,219
1887	44,18,429	3,03,778	688,376	41,14,651
1888	44,23,337	84,748	717,803	43,38,589
1889	49,78,001	2,13,405	763,428	47,64,596

23. Statement showing receipts and tonnage of goods traffic for the December half of 1888 and 1889.

Detail.	Half-year ending Dec. 1888.	Half-year ending Dec. 1889.
Receipts from goods ... ...Rs.	22,74,159	25,60,379
Tonnage of goods ... ...Tons	369,875	429,927
Average receipt, per ton lifted ... ...Rs.	6·14	5·95
Do. per ton per mile ... ...Pies	7·99	7·82

24. The increase and decrease in each important commodity composing the goods traffic for half-year ended 31st December 1889.

Description.	Increase.		Description.	Decrease.	
	Tons.	Rs.		Tons.	Rs.
Coal and Coke ...	5,772	31,296	Cotton, manufactured ...	92	6,033
Cotton, unmanufactured...	4,021	50,673	Drugs and Chemicals ...	65	1,386
Grain ...	11,806	63,520	Dyes and Tans ...	981	18,405
Jute	351	2,468	Hides and Skins ...	746	14,346
Leather, manufactured ...	559	7,624	Liquors	83	...
Liquors	...	3,454	Metals	...	3,636
Metals	586	..	Stone and Lime ...	198	1,925
Oils	820	6,478	Tea	46	1,519
Oil Seeds	10,896	37,869	Wood	1,033	...
Provisions ...	6,096	6,380	Tobacco	158	2,685
Railway Plant and Rolling Stock	24,202	1,12,036	Manure and Oil Cake ...	609	1,267
Salt	1,681	2,378	Government Stores ...	...	5,230
Spices	58	1,203	All other articles ...	5,520	5,915
Sugar	2,628	14,941		9,531	62,347
Wood ...	...	7,723	Increase ...	60,052	2,86,120
Government Stores ...	5	...			
Items less than 1,000 Rs.	102	424			
Total ...	69,583	3,48,467	Total...	69,583	3,48,467

In para. 23 of my report, dated the 11th April 1889, and in para. 41 of Mr. Darke's report of the 21st October 1889 allusion was made to traffic for Bellary and other towns passing from the G. I. P. Railway at Poona and Hudgi Junctions instead of travelling *viâ* Raichur.

No arrangement has yet been made by which we are to secure the traffic which undoubtedly belongs to us, and it will not be possible to divert the traffic again to its legitimate route so long as the G. I. P. Company's rates are retained on their present basis.

During the last half year the Southern Mahratta Railway has been opened through to Bangalore and printed placards advise the public that special and reduced rates have been agreed to between the G. I. P. and Southern Mahratta Railways by which traffic can now be carried more cheaply from Bombay *viâ* Poona and the Southern Mahratta Railway to Bangalore and Mysore and other Southern towns.

To obtain this concession from the G. I. P. Railway I understand the Southern Mahratta Railway has agreed to divert *viâ* Poona the grain traffic from the West Deccan Line which formerly was carried to Bombay *viâ* Marmagoa.

I have endeavoured, so far without success to convince the Traffic Manager of the G. I. P. Railway that his policy in parting with traffic for the South at Poona, instead of carrying it to Raichur was not sound in the interests of his own Company and was not in good faith with his old neighbour the Madras Railway.

At the present time the Cigar traffic from Trichinopoly for Bombay is passing, not *viâ* Arkonam and Raichur the shortest route, but *viâ* Erode, Bangalore City and the Southern Mahratta Railway to Poona. A slight reduction in the broad guage rates which we have expressed our perfect willingness to agree to, will turn the traffic again *viâ* Raichur, but unless the G. I. P. Company joins us in reduced rates the traffic will continue to pass *viâ* Bangalore City.

We do not as a matter of fact lose so much in mileage as the South Indian and the G. I. P. Railways inasmuch as we command the carriage between Erode and Bangalore while the South Indian Railway loses the long mileage between Trichinopoly and Arkonam and the G. I. P. Railway the long mileage between Raichur and Poona.

25. The total quantity of grain carried over the whole system was 122,061 tons yielding a receipt of Rs. 5,74,152 against 110,255 tons and a receipt of Rs. 5,10,632 or an increase of 10·7 per cent. in weight and 12·4 per cent. in money. The increased tonnage is due to larger exports from Bangalore City Station. The average receipt per ton lifted was Rs. 4·70 against Rs. 4·63

26. The following table is designed to show the tonnage of grain *sent* from and *received* at each district during the half-years ended 31st December 1888 and 1889.

Districts.	1888.				1889.			
	Sent from		Received at		Sent from		Received at	
	Tons.	Percentage of tons.	Tons.	Percentage of tons.	Tons.	Percentage of tons.	Tons.	Percentage of tons.
Madras	8,389	7·7	18,111	16·5	7,824	6·4	21,002	17·2
North Arcot ...	35,715	32·4	4,980	4·5	35,608	30·0	11,372	9·4
Salem	8,880	8·1	9,530	8·7	10,757	8·8	9,187	7·5
Coimbatore	5,021	4·5	23,278	21·2	3,348	2·1	19,775	16·2
Malabar	10,832	9·9	26,928	24·5	11,076	9·0	35,024	28·7
Cuddapah	6,777	6·1	2,453	2·2	4,893	4·0	1,513	1·2
Bellary	7,348	6·6	4,699	4·2	5,024	4·1	3,565	2·9
South Indian Railway...	2,374	2·1	2,846	2·5	5,883	4·8	9,074	7·5
Great Indian Peninsula Railway ...	3,229	2·9	6,459	5·8	2,921	2·3	1,487	1·2
Mysore Dominions ...	18,750	17·1	7,515	6·8	31,480	25·8	6,204	5·0
Intra	2,940	2·6	3,456	3·1	3,307	2·7	3,858	3·2
Total ...	110,255	100·0	110,255	100·0	122,061	100·0	122,061	100·0

27. The following table shows the tonnage of grain brought into Madras during the two periods by sea, by Buckingham Canal, and by the Madras Railway.

Means of transport.	1888.	1889.
	Tons.	Tons.
Sea	5,684	5,917
Buckingham Canal	21,423	20,876
Madras Railway	18,118	19,920
Total ...	45,225	46,713

28. The cotton was contributed by the following stations :—

Stations.	Half year ending 31st Dec. 1888.			Half year ending 31st Dec. 1889.		
	Pressed Tons.	Loose Tons.	Total Tons.	Pressed Tons.	Loose Tons.	Total Tons.
Southern Mahratta Railway ...	1,879	161	2,040	2,268	917	3,185
Adoni	1,640	61	1,701	3,076	113	3,189
Raichur	83	730	813	387	1,205	1,592
Tadpatri	519	188	707	647	74	721
Guntakal	856	...	856	776	204	980
Yerragoontla	211	16	227	512	10	522
Krishnapuram	363	2	365	582	37	619
Great Indian Peninsula Railway...	60	22	82	...	43	43
Tirupur	859	255	1,114	1,058	124	1,182
Coimbatore	685	119	804	483	37	520
Somanur	263	15	278	148	10	158
Erode	3	42	45	102	71	173
Minor stations	27	93	120	11	278	289
Total...	7,448	1,704	9,152	10,050	3,123	13,173

29. And was distributed as follows :—

Stations.	Half year ending 31st Dec. 1888.			Half year ending 31st Dec. 1889.		
	Pressed Tons.	Loose Tons.	Total Tons.	Pressed Tons.	Loose Tons.	Total Tons.
Madras	6,142	558	6,700	9,093	1,244	10,337
Adoni	...	966	966	...	904	904
Malabar	972	10	982	417	55	472
Guntakal	...	...	...	...	6	6
Southern Mahratta Railway ...	3	30	33	...	90	90
Great Indian Peninsula Railway...	292	4	296	414	7	421
Coimbatore...	3	10	13	...	35	35
Bellary District	...	...	...	45	516	561
Minor stations	36	126	162	81	266	347
Total...	7,448	1,704	9,152	10,050	3,123	13,173

30. The condition in which the cotton was carried is shown in the following table.

Condition.	December 1888.		December 1889.	
	Tons.	Rs.	Tons.	Rs.
Loose	1,704	18,495	3,123	29,562
Full pressed	7,448	97,618	10,050	1,37,224
Total...	9,152	1,16,113	13,173	1,66,786

31. The following table shows the quantity of Cotton brought into Madras during the two half-years under comparison.

Districts.	1888.	1889.
	Tons.	Tons.
Coimbatore and Salem	1,187	1,386
North-West Line	3,542	5,911
Great Indian Peninsula Railway	82	...
Southern Mahratta Railway	1,889	3,036
Total ...	6,700	10,333

32. Tonnage of Cotton delivered by Railway and the tonnage exported from Madras during the last and corresponding half-years.

Period.	Delivered by Railway at Madras.	Exported at Madras.
	Tons.	Tons.
Half-year ending December 1888	6,700	6,181
Do. December 1889	10,337	9,382

33. The following statement shows the Cotton traffic during the December half of the last five years.

Half-years.	Pressed.	Loose.	Total.		Average Receipt per ton lifted.
			Weight.	Receipts.	
	Tons.	Tons.	Tons.	Rs.	Rs.
December 1885	3,177	982	4,159	55,065	13
Do. 1886	8,116	2,476	10,592	1,44,928	13½
Do. 1887	9,297	2,105	11,402	1,47,130	12 9/10
Do. 1888	7,448	1,704	9,152	1,16,113	12 2/5
Do. 1889	10,050	3,123	13,173	1,66,786	12½

34. The following table exhibits the tonnage of Coffee carried over the whole system and the tonnage carried from Bangalore to Madras during the December half of the last five years.

Half-years.	Over the whole line.		From Bangalore to Madras.		
			Total.	Messrs. Binny and Co.	Other merchants.
	Tons.	Rs.	Tons.	Tons.	Tons.
December 1885	777	6,742	45	5	40
Do. 1886	1,424	8,966	43	4	39
Do. 1887	1,773	9,791	7	7	...
Do. 1888	875	5,107	7	2	5
Do. 1889	1,073	5,923	12	...	12

35. The Coffee was contributed and distributed to the following stations :—

Stations.	Half-year ending Dec. 1888.		Half-year ending Dec. 1889.	
	Sent from	Received at	Sent from	Received at
	Tons.	Tons.	Tons.	Tons.
Mettupalaiyam	651	...	702	...
Coimbatore	72	712	222	336
Calicut, (Malabar District)	...	40	43	630
Salem	54	...	18	...
Palghaut	43	...	...	...
Madras	...	48	6	82
Bangalore	16	...	19	9
Minor Stations	39	75	63	16
Total...	875	875	1,073	1,073

36. The total quantity of Salt carried over the whole system was 32,147 tons yielding a receipt of Rs. 2,05,026 against 30,466 tons and a receipt of Rs. 2,02,648 or an increase of 1,681 tons in weight and Rs. 2,378 in money. The exports from Madras were 21,617 tons or 67 per cent. of the traffic carried. The receipt per ton lifted was Rs. 6·3 against Rs. 6·6.

37. The following statement shows the Salt carried from stations other than Madras; and the districts to which it was sent.

Stations.	Half-year ending 31st Dec. 1888.		Half-year ending 31st Dec. 1889.	
	Sent from	Received at	Sent from	Received at
	Tons.	Tons.	Tons.	Tons.
Calicut	3,551	...	4,572	...
Ferok	495	...	..	...
Tirur	1,905	...	2,212	...
Nellore	1,999	...	1,119	...
Vencatachellum	...	...	456	...
Erode	88	...	128	...
Palghaut	88	...	22	...
Salem	101	...	21	...
Minor Stations	53	..	32	...
Coimbatore District	...	2,590	...	2,552
Salem ,, ...	...	524	...	2,240
Malabar ,, ...	...	2,977	...	2,104
Cuddapah ,, ...	...	1,527	...	830
Bellary ,, ...	...	551	...	625
Minor Stations	...	111	...	211
Total...	8,280	8,280	8,562	8,562

41. The inwards traffic at Kolar Road and Kamasamudrum (the principal stations for the gold fields) for the half-years ended 31st December 1888 and 1889 is summarised in the following tables :—

KOLAR ROAD.

Description of goods.	1889. Total traffic.		1888. Total traffic.	
	Tons.	Rs.	Tons.	Rs.
Coal, Coke and Patent Fuel ...	7,834	44,741	2,790	16,440
Timber	2,128	17,566	1,238	10,196
Firewood	17,093	28,667	13,512	19,333
Machinery	366	4,972	661	8,730
Not classified	3,616	26,266	3,618	19,463
Total ...	31,037	1,22,212	21,819	74,162

KAMASAMUDRAM.

Description of goods.	1889. Total traffic.		1888. Total traffic.	
	Tons.	Rs.	Tons.	Rs.
Coal, Coke and Patent Fuel... ...	671	3,595	13	99
Timber	7	15	25	64
Firewood	2,328	2,956	3,058	3,039
Machinery	...	...	5	71
Not classified	328	1,542	353	1,355
Total ...	*3,334*	8,108	4,054	4,628

42. The following table shows the interchange of the principal commodities with Foreign Railways during the two half years under review :—

Commodities.	1889.		1888.	
	Tons.	Rs.	Tons.	Rs.
Cotton ..	3,752	41,031	2,457	23,869
Do. manufactured	2,550	32,720	2,487	34,117
Dyes and Tans	2,774	36,914	3,539	50,601
Grain...	26,753	1,23,944	21,430	1,03,485
Hides and Skins	5,700	1,06,669	5,592	1,12,395
Metals	1,966	24,369	2,216	30,556
Oil Seeds	9,205	27,466	6,241	95,760
Provisions	15,095	76,409	11,519	80,436
Railway Plant and Rolling Stock	100	903	163	4,113
Salt	4,831	32,227	5,060	40,704
Sugar	4,428	26,118	3,733	20,575
Wood	3,917	28,042	5,907	31,473
Government Stores	609	24,384	575	30,384
All other articles of merchandise	2,870	57,695	6,527	53,812
Total...	84,550	6,38,891	77,446	6,47,280

44. *Working Expenses.*—The Traffic expenses show an increase of Rs. 995 only due to a part of the pay disbursed to Station Master and Assistant Station Masters being charged against the Telegraph Department for the half year ended 31st December 1889.

General Results.—I assumed charge of the Traffic Department of the Madras Railway at the close of December 1886, and in December last I had held office for 3 years.

The success attained in working this Railway during the 3 years is briefly shown in the following figures.

Gross Receipts.

	Rs.
1889	91,10,895
1886	76,66,098
Increase	14,44,797
Do. per cent.	18·84

	Passengers carried. No.	Receipts. Rs.
1889	8,528,953	31,80,362
1886	6,328,308	28,40,986
Increase ...	2,200,645	3,39,376
Do. per cent.	34·8	11·9

	Goods carried.	Receipts.
1889 ...	Tons 1,097,441	51,48,939
1886 ...	Do. 902,023	43,88,028
Increase	195,418	7,60,911
Do. per cent.	21·6	17·3

	Parcels carried.	Receipts.
1889 ...	No. 239,924	2,36,378
1886 ...	Do. 189,271	1,89,020
Increase...	50,653	47,358
Do. per cent.	26·7	25·0

	Train miles	Receipts per train mile.
1889	2,370,897	3·8
1886	2,273,073	3·5

Percentage of Late trains for 1886 *and* 1889.

Years.	January.	February.	March	April.	May	June.	July.	August.	September.	October.	November.	December	Average percentage per month.
1886 ...	2·42	3·12	6·45	5·69	10·62	16·94	11·29	8·73	6 11	5·91	15·83	10·88	8·66
1889 ..	2·19	2·43	2·96	1·73	2·96	6·26	5·42	4·25	3·73	4·26	1·86	8·39	3·87

Abstract of Commodities.—A detailed statement of the principal commodities carried during the half years under review will be found printed on pages 17 and 18 of the Capital and Revenue accounts for the half year ended December 1889.

45. *Appendices.*

The undermentioned statements are enclosed.

1. Coaching traffic receipts in each month.
2. Goods do. do.
3. Comparison of Coaching receipts for 1888 and 1889.
4. Do. Goods do. do.
5. Average receipt per mile open and per mile run during 1888 and 1889.
6. Expenditure table of 1888 and 1889.
7. Percentage of Working Expenses for 1888 and 1889.
8. Do. Revenue do. do.
9. Passenger Traffic exclusive of return fares and Soldiers for 1889.
10. Average receipt per mile open.
11. Passenger Traffic inclusive of return fares but exclusive of Soldiers for 1889.

12. Average receipts per mile open.
13. Return fare Traffic for 1889.
14. Comparison of Passenger Traffic inclusive of return fares but exclusive of Soldiers for 1888 and 1889.
15. Do. do. exclusive of do. do. do.
16. Comparison of Return fare Traffic for 1888 and 1889.
17. Treasure and Passenger Traffic for 1888 and 1889.
18. Gross Earnings and Tonnage of Goods Traffic.
19. Comparison of Goods Traffic, 1888 and 1889.
20. Comparative statement of Traffic expenses, 1888 and 1889.
21. Table of Coaching Traffic in and out at stations for 1888 and 1889.
22. Table of Goods do. do. do. do.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) LOUIS S. MOSS,

Traffic Manager.

APPENDIX

TO

TRAFFIC MANAGER'S HALF-YEARLY REPORT FOR 31st DECEMBER, 1889.

1. *Coaching traffic receipts in each month for the half-year ending 31st December,* 1889.

Months	Passengers.		Passengers' luggage.		Carriages, horses and dogs.		Parcels.		Special trains.	Miscellaneous.	Haulage of post office vehicles.	Total.
	Passengers and season tickets.	Troops and police.	Ordinary.	Military.	Ordinary.	Military.	Ordinary.	Revenue.				
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
July	2,45,770	7,200	10,475	743	7,121	96	18,964	261	4,221	174	1,976	2,97,001
August	2,46,259	6,110	12,274	1,004	3,842	174	21,901	278	...	120	1,976	2,93,938
September... ...	2,63,812	8,533	8,065	2,814	8,711	527	21,255	255	...	123	1,912	3,16,007
October	2,71,288	10,118	9.858	1,961	8,019	422	19,620	283	4,498	398	1,976	3,28,441
November... ...	2,39,328	8,267	7,638	2,868	6,032	368	18,225	264	...	595	1,912	2,85,497
December	2,65,416	...	10,219	...	4,977	343	22,087	274	325	557	2,006	3,06,204
Total...	15,31,873	40,228	58,529	9,390	38,702	1,930	1,22,052	1,615	9,044	1,967	11,758	18,27,088

2. *Goods traffic receipts in each month for the half-year ending 31st December,* 1889.

Months.	Merchandise and military stores and coal for the public.	Railway material for construction.	Revenue stores.	Live stock		Rents and demurrage.	Miscellaneous.	Total.
				Ordinary	Military.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
July	4,82,494	438	10,657	770	...	1,360	654	4,96,373
August	4,40,060	...	10,385	903	...	953	455	4,52,756
September	3,70,581	8,873	11,250	1,122	3,268	676	1,025	3,96,795
October	3,84,556	...	12,494	1,047	1,124	576	682	4,00,479
November	4,42,358	6,490	10,983	863	230	542	484	4,61,950
December	4,40,330	246	12,490	1,568	2,606	685	776	4,58,701
Total	25,60,379	16,047	68,259	6,273	7,228	4,792	4,076	26,67,054

3. *Comparison of the coaching traffic for the half-years ending December* 1888 *and June and December* 1889.

Half-years.	Passengers.		Passengers' luggage.		Carriages, horses and dogs.		Parcels.		Special trains.	Miscellaneous.	Haulage of post office vehicles.	Total.
	Passengers and season tickets.	Troops and police.	Ordinary.	Military.	Ordinary.	Military.	Ordinary.	Revenue.				
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
December 1888...	14,80,510	62,682	54,818	14,083	38,136	3,634	1,22,873	1,496	1,839	1,310	11,789	17,93,220
June 1889...	15,24,328	83,934	67,892	20,530	53,104	4,349	1.14,325	1,342	6,828	2,431	11,539	18,90,892
December 1889...	15,31,873	40,223	58,529	9,390	38,702	1,930	1,22,052	1,615	9,044	1,967	11,758	18,27,088

4. *Comparison of the goods traffic for the half-years ending December 1888 and June and December 1889.*

Half-years.	Merchandise and military stores and coal for the public.	Railway material for construction.	Revenue stores.	Live Stock.				Rents and demurrage.	Miscellaneous.	Total.
				Ordinary.		Military.				
				Horses.	Other live stock.	Horses.	Other live stock.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
December 1888...	22,74,259	27,316	51,890	1,184	3,501	7,406	...	4,555	246	23,70,357
June 1889...	24,17,622	35,053	51,580	1,645	5,625	16,215	2,037	4,894	2,503	25,37,174
December 1889...	25,60,379	16,047	63,259	2,020	4,253	7,228	...	4,792	4,076	26,67,054

5. *Average receipt per "mile open" and per "mile run" for the same period.*

Period.	Per mile open.	Per mile run.
	Rs.	Rs.
Half-year ending December 1888	5,081·77	3·55
Do. do. June 1889	5,364·70	3·76
Do. do. December 1889	5,431·60	3·90

6. *Table of expenditure for the half-years ending December 1888 and June and December 1889.*

Period.	Permanent way.	Locomotive.	Repairs to carriages and wagons.	Traffic.	General charges.	Special and miscellaneous.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Half-year ending December 1888...	7,34,951	8,16,332	2,96,441	4,00,946	2,46,050	25,901	25,20,671
Do. do. June 1889...	6,74,031	8,33,761	3,52,261	3,98,035	2,63,869	16,775	25,38,732
Do. do. December 1889...	8,64,530	9,12,010	3,66,649	4,01,941	2,67,180	21,432	28,33,742

7. *Percentage of working expenses for the same period.*

Period.	Permanent way.	Locomotive.	Repairs to carriages and wagons.	Traffic.	General charges.	Special and miscellaneous.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Half-year ending December 1888...	29·15	32·39	11·76	15·90	9·77	1·03	100·00
Do. do. June 1889...	26·55	32·84	13·88	15·68	10·39	0·66	100·00
Do. do. December 1889..	30·51	32·18	12·93	14·19	9·43	0·76	100·00

8. *Percentage of revenue for the same period.*

Period.	Permanent way.	Locomotive.	Repairs to carriages and wagons.	Traffic.	General charges.	Special and miscellaneous.	Profits.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Half-year ending December 1888...	17·22	19·13	6·94	9·39	5·76	0·61	40·95	100·00
Do. do. June 1889 ...	14·96	18·50	7·82	8·83	5·86	0·37	43·66	100·00
Do. do. December 1889...	18·78	19·81	7·96	8·73	5·80	0·46	38·46	100·00

9. *Passenger traffic, exclusive of return fares and soldiers, in each month for the half-year ending December 1889.*

Months.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
July	959½	9,573	2,839	10,232	714,128	2,20,207	717,926½	2,40,012
August	1,074	10,712	2,888	10,242	711,135	2,22,751	715,097	2,43,705
September	1,058½	11,260	3,026	10,375	696,198	2,39,094	700,282½	2,60,729
October	1,186	13,060	3,023½	10,460	698,861½	2,45,677	703,071	2,69,197
November...	1,206	11,433	2,932½	9,457	672,468½	2,16,957	676,607	2,37,847
December...	1,253	11,913	3,558½	13,625	675,149	2,37,964	679,960½	2,63,502
Total...	6,737	67,951	18,267½	64,391	4,167,940	13,82,650	4,192,944½	15,14,992

10.

	Average Miles open.	First class.	Second class.	Third class.	Total.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Average receipt per mile open	840	80 14 4	76 10 5	1,646 0 2	1,803 8 11
Average percentage of numbers		0·16	0·44	99·40	100·00
Average mileage of passengers		161	113	38	...
Average percentage of receipts		4·49	4·25	91·26	100·00

11. *Passenger traffic in each month, inclusive of return fares, but exclusive of soldiers.*

Months.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
July	985½	11,033	2,871	10,855	733,508	2,23,881	737,364½	2,45,769
August	1,086	11,353	2,929	10,703	719,308	2,24,203	723,323	2,46,259
September	1,094½	12,047	3,140	11,375	702,915	2,40,390	707,149½	2,63,812
October	1,208	13,722	3,067½	11,029	703,188½	2,46,537	707,464	2,71,288
November	1,224	11,611	2,966½	9,768	677,448½	2,17,949	681,639	2,39,328
December	1,273	12,318	3,578½	13,836	681,811	2,39,263	686,662½	2,65,417
Total...	6,871	72,084	18,552½	67,566	4,218,179	13,92,223	4,243,602½	15,31,873

12.

	Miles open.	First class.	Second class.	Third class.	Total.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Average receipt per mile open	849	85 13 0	80 7 0	1,657 6 6	1,823 10 6
Average percentage of numbers	...	0·16	0·44	99·40	100·00
Average mileage of passengers	...	218	138	38	...
Average percentage of receipts	...	4·70	4·42	90·88	100·00

13. *Return fare traffic for the half-year ending 31st December 1889.*

Months.	Periodical tickets.						Return tickets.						Total.	
	First class.		Second class.		Third class		First class.		Second class.		Third class.			
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
July ...	7	1,116	16	476	642	176	19	344	16	147	18,738	3,498	19,438	5,757
August ...	2	531	21	286	638	177	10	109	20	176	7,535	1,275	8,226	2,554
September...	2	150	18	179	602	176	34	637	96	821	6,115	1,120	6,867	3,083
October ...	2	220	8	200	683	201	20	443	36	369	3,644	659	4,393	2,092
November ..	...	...	14	149	678	204	18	178	20	162	4,302	788	5,032	1,481
December ...	1	90	12	122	648	180	19	316	8	89	6,014	1,119	6,702	1,916
Total...	14	2,107	89	1,412	3,891	1,114	120	2,027	196	1,764	46,348	8,459	50,658	16,883

14. *Comparison of the passenger traffic inclusive of return fares, but exclusive of soldiers, for the half-years ending December 1888 and June and December 1889.*

Half-years.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Half-year ending December 1888	6,362	79,040	19,838	67,181	3,951,553½	13,34,289	3,977,753½	14,80,510
Do. do. June 1889	6,357	91,223	19,904½	74,851	4,198,942½	13,57,254	4,225,204	15,23,328
Do. do. December 1889	6,871	72,084	18,552½	67,566	4,218,179	13,92,223	4,243,602½	15,31,873

15. *Comparison of the passenger traffic, exclusive of return fares and soldiers, for the half-years ending December 1888 and June and December 1889.*

Half-years.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
December 1888	2,679	44,341	6,808	32,018	3,887,518½	13,22,214	3,897,005½	13,98,573
June 1889	3,215	60,369	10,022½	43,404	4,184,370	13,44,542	4,197,607½	14,48,315
December 1889	6,737	67,951	18,267½	64,391	4,167,940	13,82,650	4,192,944½	15,14,992

16. *Comparison of the return fare traffic for the half-years ending December 1888 and June and December 1889.*

Period.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Half-year ending December 1888. **Trivellore** ...	...	...	**183**	**69**	**25,034**	**4,682**	**25,217**	**4,751**
Half-year ending December 1888. Other excursions ...	3,683	34,698	12,847	35,095	39,001	7,393	55,531	77,186
Half-year ending June 1889. **Trivellore** ...	**4**	**3**	**154**	**58**	**41,213**	**7,717**	**41,371**	**7,778**
Half-year ending June 1889. Other excursions ..	3,298	31,087	11,528	32,873	25,400	5,395	40,226	69,355
Half-year ending December 1889. **Trivellore** ...	...	...	...	...	**12,884**	**2,408**	**12,884**	**2,408**
Half-year ending December 1889. Other excursions ...	134	4,134	285	3,176	37,355	7,165	37,774	14,475

17. *Treasure and passengers' luggage traffic for the half-years ending December 1888 and June and December 1889.*

Period.	Parcels.			Luggage.				
	No.	Rs.	Revenue parcels.	Ordinary.		Military.		Total.
				Public.	Treasure	By ordinary trains.	By troop trains.	
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
December 1888...	116,283	1,22,873	1,497	42,539	12,279	11,729	2,354	68,901
June 1889...	113,167	1,14,325	1,343	48,868	19,024	10,146	10,384	88,422
December 1889...	126,757	1,22,051	1,615	45,294	13,235	1,968	7,423	67,920

18. *Gross earnings and tonnage of goods, exclusive of Railway materials and Revenue stores, for the half-year ending 31st December 1889.*

Months.	Tons.	Rupees.
July	75,117	4,82,494
August	71,191	4,40,060
September	62,698	3,70,581
October	66,996	3,84,556
November	75,645	4,42,358
December	78,280	4,40,330
Total ..	429,927	25,60,379

19. *Comparison of the goods traffic, exclusive of Railway materials and Revenue stores, for the half-years ending December 1888 and June and December 1889.*

Period.	Tons.	Rupees.
Half-year ending December 1888	369,875	22,74,159
Do. do. June 1889	370,690	24,17,622
Do. do. December 1889	429,927	25,60,379

20. *Comparative statement of the traffic expenses for the half-years ending December 1888 and June and December 1889.*

Period.	Traffic Manager and Assistants.	Office establishment.	Travelling allowances.	Contingencies.	Station Masters, Clerks and Porters.	Guards and Assistant Guards.	Overtime allowance.	Fire, lights, water and general stores.	Wagon covers & ropes.	Office and station fittings and furniture.	Clothing of Guards and Porters.	Printing, stationery and tickets.	Miscellaneous.	Loss on exchange.	Carriage of revenue stores.	Charges for delivery and collection of goods.	Total.
	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1888 Dec.	30,126	21,084	3,823	3,857	1,89,968	44,783	58	39,232	13,689	3,550	1,957	33,424	3,455	9,352	1,398	1,190	4,00,946
1889 June	30,211	22,094	3,685	4,259	1,84,712	46,333	63	37,197	14,570	3,780	5,053	31,015	2,381	10,433	1,252	997	3,98,035
1889 Dec.	29,294	21,257	3,184	4,269	1,89,220	46,326	69	37,979	11,011	2,117	5,203	35,905	3,103	10,608	1,384	1,012	4,01,941

21. The following Table shows the Coaching Traffic in and out of the following Stations on the Madras Railway for the half-years ending 31st December 1888 and 1889.

STATIONS.	Number of Passengers.						Coaching Receipts.					
	1888.			1889.			1888.			1889.		
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.
							Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras	320,958	273,266	594,224	335,559	272,294	607,853	2,94,742	2,60,447	5,55,189	2,92,350	2,28,641	5,20,991
Salt Cotaurs..	...	...	...	...	...	...	...	...	...	...	...	...
Rayapuram...	15,945	42,395	58,340	21,617	44,565	66,182	1,196	12,590	13,786	1,486	12,542	14,028
Washermenpet	9,384	46,009	55,393	11,406	48,873	60,279	730	13,504	14,234	1,576	13,960	15,536
Perambur	38,965	64,261	103,226	41,717	71,959	113,676	2,024	15,426	17,450	2,248	16,143	18,391
Connur	21,425	20,797	42,222	26.069	24,076	50,145	1,324	1,578	2,902	1,627	1,915	3,542
Ambatur	13,753	13,943	27,696	14,806	14,517	29,323	1,203	1,257	2,460	1,285	1,339	2,624
Avadi	61,847	56,465	118,312	60,617	53,877	114,494	9,006	8,464	17,470	8,095	8,153	16,248
Tinnanur	30,979	31,569	62,548	33,344	35,032	68,376	4,061	4,448	8,509	4,224	5,022	9,246
Sevvapet Road	14,097	15,243	29.340	16,294	17,868	34,162	1,996	2,299	4,295	2,330	2,646	4,976
Trivellore	113,080	85,288	198,368	99,025	84,637	183,662	23,886	18,113	41,999	19,284	18,134	37,418
Kadambatur	20,337	22,218	42,555	22,912	25,372	48,284	3,654	3,998	7,652	4,007	4,640	8,647
Chinnamapett	20,356	21,864	42,220	17,958	19,923	37,881	3,774	4,029	7,803	3,190	3,607	6,797
Arkonam	139,929	142,988	282,917	159,741	158,235	317,976	81,376	81,064	1,62,440	97,268	86,611	1,83,879
Tirutani	103,288	63,869	167,157	111,253	74,395	185,648	21,509	13,326	34,835	22,196	15,012	37,208
Nagari	39,000	40,210	79,210	42,998	46,677	89,675	6,952	7,553	14,505	7,175	8,076	15,251
Puttur	41,720	45,495	87,215	45,983	52,022	98,005	7,557	8,710	16,267	8,306	9,720	18,026
Pudi	24,112	26,361	50,473	25,901	28,189	54,090	4,046	5,019	9,065	4,166	5,008	9,174
Renigunta	108,657	96,445	205,102	104,147	93,626	197,773	68,877	54,264	1,23,141	68,237	57,394	1,25,631
Mamandur	5,122	5,260	10,382	3,174	3,554	6,728	468	577	1,045	317	513	830
Peddapad	6,335	6,734	13,069	6,277	6,509	12,786	945	1,168	2,113	959	1,150	2,109
Kodur	19,987	19,528	39,515	20,970	19,613	40,586	4,557	4,603	9,160	5,046	4,551	9,597
Urampad	11,067	11,289	22,356	12,453	12,596	25,049	1,697	1,932	3,629	1,877	2,173	4,050
Reddipalli	17,238	17,062	34,300	17,874	17,748	35,622	3,542	4,892	8,434	3,689	4,785	8,474
Rajampet	23,457	23,278	46,735	26,858	26,996	53,854	6,077	6,176	12,253	6,530	6,965	13,495
Nandalur	20,170	20,013	40,183	22,539	22,295	44,834	3,743	4,059	7,802	4,180	4,337	8,517
Vontimitta	17,820	17,420	35,240	19,491	18,707	38,198	3,455	5,213	8,668	3,823	5,053	8,876
Siddhavattam*	...	...	...	1,573	1,882	3,455	...	...	...	129	220	349
Cuddapah	60,954	58,952	119,906	71,666	70,307	141,973	32,934	34,463	67,397	38,077	39,693	77,689
Vallur	153	337	490	7,230	7,810	15,040	10	29	39	515	1,054	1,569
Kamalapuram	19,008	19,287	38,295	19,855	19,491	39,346	3,358	4,305	7,663	3,586	3,975	7,561
Yerraguntla	23,095	22,023	45,118	24,938	23,650	48,588	7,852	8,939	16,791	7,846	9,412	17,258
Muddanur	13,900	14,426	28,326	15,311	15,668	30,979	4,629	4,787	9,416	5,138	5,093	10,231
Mangapatnam	2,291	2,650	4,941	3,146	3,181	6,327	339	418	757	388	507	895
Kondapuram	14,965	14,447	29,412	16,020	16,329	32,349	4,893	5,208	10,101	4,980	5,593	10,573
Vanganur	4,102	4,887	8,989	5,827	7,155	12,982	713	1,121	1,834	978	1,362	2,340
Tadpatri	28,599	27,044	55,643	33,280	31,100	64,380	11,014	10,034	21,048	12,363	11,617	23,980
Penner	10,399	11,564	21,963	14,456	15,470	29,926	1,958	2,248	4,206	2,278	2,749	5,027
Rayalcheru	11,616	11,263	22,879	14,199	13,635	27,834	2,486	2,393	4,879	3,066	2,929	5,995
Jakkulacheru	2,360	2,540	4,900	3,192	3,592	6,784	347	426	773	401	577	978
Gooty	35,412	34,401	69,813	37,299	36,098	73,397	14,149	12,562	26,711	15,161	13,355	28,516
Patakottacheru	4,156	4,207	8,363	4,697	4,794	9,491	446	641	1,087	520	680	1,200
Timmancherla	14,422	13,560	27,982	13,429	13,948	27,377	5,200	4,358	9,558	4,579	3,763	8,342
Guntakal Junction...	19,492	19,152	38,644	22,624	22,059	44,683	17,881	16,700	34,581	19,442	16,311	35,753
Nancherla	5,052	4,664	9,716	6,121	4,941	11,062	1,112	1,229	2,341	1,173	1,138	2,311
Molagavelli†	..	...	...	1,451	2,788	4,239	..	...	...	242	589	831
Aspari	7,683	7,421	15,104	9,010	8,017	17,027	2,308	2,107	4,415	1,951	2,227	4,178
Adoni	41,330	41,275	82,605	47,164	46,474	93,638	14,674	13,783	28,457	19,402	17,503	36,905
Kupgal	7,867	8,286	16,153	9,912	10,338	20,250	975	1,138	2,413	1,417	1,597	3,014
Kosgi	11,870	11,721	23,591	13,996	13,732	27,728	2,407	2,481	4,888	2,642	2,879	5,521
Tungabhadra	9,941	10,391	20,332	12,179	12,529	24,708	2,943	2,473	5,416	3,782	3,005	6,787
Matmari	10,328	10,762	21,090	12,862	13,512	26,374	1,634	2,109	3,743	2,144	2,474	4,618
Raichur	28,002	28,618	56,620	29,262	29,686	58,948	34,077	30,992	65,069	35,989	34,591	70,580
Munnal	13,628	15,049	28,677	16,606	17,453	34,059	2,170	2,770	4,940	2,576	3,196	5,772
Sholinghur	23,683	25,604	49,257	28,086	29,969	58,055	5,282	6,331	11,613	6,288	7,172	13,460
Arcot	85,024	85,035.	170,059	92,834	90,414	183.248	30,221	30,568	60,789	30,351	31,719	62,070
Tiruvallam	16,977	18,499	35,476	20,729	22,017	42,746	4,175	4,278	8,453	3,878	5,001	8,879
Vellore (Katpadi)	126,038	123,284	249,322	147,660	142,372	290,032	52,039	31,619	1,03,712	62,643	56.879	1,19,522
Virinjipuram	23,677	24,407	48,084	26,213	26,833	53,046	4,064	5,246	9,310	3,990	5,134	9,124
Gudiyatam	60,474	56,543	117,017	65,321	61,908	127,229	14,479	16,321	30,818	15,620	17,630	33,250
Ulli	13,693	15,230	28,923	15,282	17,947	33,229	2,054	2,769	4,823	2,269	3,214	5,483
Mailpati	21,685	24,166	45,851	24,630	24,888	49,518	3,935	4,897	8,832	4,440	4,875	9,315
Ambur	51,334	53,945	105,279	52,707	55,381	108,088	9,717	11,960	21,677	10,657	11,828	22,485
Vaniyambadi	58,302	57,812	116,114	58,614	58,970	117,584	14,686	14,163	28,849	14,479	14,164	28,643
Ketandapatti	5,510	5,773	11,283	6,391	6,681	13,072	493	911	1,404	553	975	1,528
Jalarpet	57,142	60,899	118,041	63,969	64,737	128,706	18,514	20,787	39,301	21,320	21,861	43,181

* Siddhavattam opened 1st July 1889.

† Molagavelli opened 5th August 1889.

21. The following Table shows the Coaching Traffic in and out of the following Stations on the Madras Railway for the half-years ending 31st December 1888 and 1889.

STATIONS.	Number of Passengers.						Coaching Receipts.					
	1888.			1889.			1888.			1889.		
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.
							Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras	320,958	273,266	594,224	335,559	272,294	607,853	2,94,742	2,60,447	5,55,189	2,92,350	2,28,641	5,20,991
Salt Cotaurs..	...	...	...	...	...	...	...	...	...	...	...	...
Rayapuram...	15,945	42,395	58,340	21,617	44,565	66,182	1,196	12,590	13,786	1,486	12,542	14,028
Washermenpet	9,384	46,009	55,393	11,406	48,873	60,279	730	13,504	14,234	1,576	13,960	15,536
Perambur	38,965	64,261	103,226	41,717	71,959	113,676	2,024	15,426	17,450	2,248	16,143	18,391
Connur	21,425	20,797	42,222	26,069	24,076	50,145	1,324	1,578	2,902	1,627	1,915	3,542
Ambatur	13,753	13,943	27,696	14,806	14,517	29,323	1,203	1,257	2,460	1,285	1,339	2,624
Avadi	61,847	56,465	118,312	60,617	53,877	114,494	9,006	8,464	17,470	8,095	8,153	16,248
Tinnanur	30,979	31,569	62,548	33,344	35,032	68,376	4,061	4,448	8,509	4,224	5,022	9,246
Sevvapet Road	14,097	15,243	29,340	16,294	17,868	34,162	1,996	2,299	4,295	2,330	2,646	4,976
Trivellore	113,080	85,288	198,368	99,025	84,637	183,662	23,886	18,113	41,999	19,284	18,134	37,418
Kadambatur	20,337	22,218	42,555	22,912	25,372	48,284	3,654	3,998	7,652	4,007	4,640	8,647
Chinnamapett	20,356	21,864	42,220	17,958	19,923	37,881	3,774	4,029	7,803	3,190	3,607	6,797
Arkonam	139,929	142,988	282,917	159,741	158,235	317,976	81,376	81,064	1,62,440	97,268	86,611	1,83,879
Tirutani	103,288	63,869	167,157	111,253	74,395	185,648	21,509	13,326	34,835	22,196	15,012	37,208
Nagari	39,000	40,210	79,210	42,998	46,677	89,675	6,952	7,553	14,505	7,175	8,076	15,251
Puttur	41,720	45,495	87,215	45,983	52,022	98,005	7,557	8,710	16,267	8,306	9,720	18,026
Pudi	24,112	26,361	50,473	25,901	28,189	54,090	4,046	5,019	9,065	4,166	5,008	9,174
Renigunta	108,657	96,445	205,102	104,147	93,626	197,773	68,877	54,264	1,23,141	68,237	57,394	1,25,631
Mamandur	5,122	5,260	10,382	3,174	3,554	6,728	468	577	1,045	317	513	830
Peddapad	6,335	6,734	13,069	6,277	6,509	12,786	945	1,168	2,113	959	1,150	2,109
Kodur	19,987	19,528	39,515	20,970	19,613	40,586	4,557	4,603	9,160	5,046	4,551	9,597
Urampad	11,067	11,289	22,356	12,453	12,596	25,049	1,697	1,932	3,629	1,877	2,173	4,050
Reddipalli	17,238	17,062	34,300	17,874	17,748	35,622	3,542	4,892	8,434	3,689	4,785	8,474
Rajampet	23,457	23,278	46,735	26,858	26,996	53,854	6,077	6,176	12,253	6,530	6,965	13,495
Nandalur	20,170	20,013	40,183	22,539	22,295	44,834	3,743	4,059	7,802	4,180	4,337	8,517
Vontimitta	17,820	17,420	35,240	19,491	18,707	38,198	3,455	5,213	8,668	3,823	5,053	8,876
Siddhavattam*	...	...	...	1,573	1,882	3,455	...	..	...	129	220	349
Cuddapah	60,954	58,952	119,906	71,666	70,307	141,973	32,934	34,463	67,397	38,077	39,603	77,680
Vallur	153	337	490	7,230	7,810	15,040	10	29	39	515	1,054	1,569
Kamalapuram	19,008	19,287	38,295	19,855	19,491	39,346	3,358	4,305	7,663	3,586	3,975	7,561
Yerraguntla	23,095	22,023	45,118	24,938	23,650	48,588	7,852	8,939	16,791	7,846	9,412	17,258
Muddanur	13,900	14,426	28,326	15,311	15,668	30,979	4,629	4,787	9,416	5,138	5,093	10,231
Mangapatnam	2,291	2,650	4,941	3,146	3,181	6,327	339	418	757	388	507	895
Kondapuram	14,965	14,447	29,412	16,020	16,329	32,349	4,893	5,208	10,101	4,980	5,593	10,573
Vanganur	4,102	4,887	8,989	5,827	7,155	12,982	713	1,121	1,834	978	1,362	2,340
Tadpatri	28,599	27,044	55,643	33,280	31,100	64,380	11,014	10,034	21,048	12,363	11,617	23,980
Penner	10,399	11,564	21,963	14,456	15,470	29,926	1,958	2,248	4,206	2,278	2,749	5,027
Rayalcheru	11,616	11,263	22,879	14,199	13,635	27,834	2,486	2,393	4,879	3,066	2,929	5,995
Jakkulacheru	2,360	2,540	4,900	3,192	3,592	6,784	347	426	773	401	577	978
Gooty	35,412	34,401	69,813	37,299	36,098	73,397	14,149	12,562	26,711	15,161	13,355	28,516
Patakottacheru	4,156	4,207	8,363	4,697	4,794	9,491	446	641	1,087	520	680	1,200
Timmancherla	14,422	13,560	27,982	13,429	13,948	27,377	5,200	4,358	9,558	4,579	3,763	8,342
Guntakal Junction...	19,492	19,152	38,644	22,624	22,059	44,683	17,881	16,700	34,581	19,442	16,311	35,753
Nancherla	5,052	4,664	9,716	6,121	4,941	11,062	1,112	1,229	2,341	1,173	1,138	2,311
Molagavelli†	..	...	...	1,451	2,788	4,239	..	...	...	242	589	831
Aspari	7,683	7,421	15,104	9,010	8,017	17,027	2,308	2,107	4,415	1,951	2,227	4,178
Adoni	41,330	41,275	82,605	47,164	46,474	93,638	14,674	13,783	28,457	19,402	17,503	36,905
Kupgal	7,867	8,286	16,153	9,912	10,338	20,250	975	1,138	2,413	1,417	1,597	3,014
Kosgi	11,870	11,721	23,591	13,996	13,732	27,728	2,407	2,481	4,888	2,642	2,879	5,521
Tungabhadra	9,941	10,391	20,332	12,179	12,529	24,708	2,943	2,473	5,416	3,782	3,005	6,787
Matmari	10,328	10,762	21,090	12,862	13,512	26,374	1,634	2,109	3,743	2,144	2,474	4,618
Raichur	28,002	28,618	56,620	29,262	29,686	58,948	34,077	30,992	65,069	35,989	34,591	70,580
Munnal	13,628	15,049	28,677	16,606	17,453	34,059	2,170	2,770	4,940	2,576	3,196	5,772
Sholinghur	23,683	25,604	49,257	28,086	29,969	58,055	5,282	6,331	11,613	6,288	7,172	13,460
Arcot	85,024	85,035.	170,059	92,834	90,414	183.248	30,221	30,568	60,789	30,351	31,719	62,070
Tiruvallam	16,977	18,499	35,476	20,729	22,017	42,746	4,175	4,278	8,453	3,878	5,001	8,879
Vellore (Katpadi)	126,038	123,284	249,322	147,660	142,372	290,032	52,039	31,619	1,03,712	62,643	56.879	1,19,522
Virinjipuram	23,677	24,407	48,084	26,213	26,833	53,046	4,064	5,246	9,310	3,990	5,134	9,124
Gudiyatam	60,474	56,543	117,017	65,321	61,908	127,229	14,479	16,321	30,818	15,620	17,630	33,250
Ulli	13,693	15,230	28,923	15,282	17,947	33,229	2,054	2,769	4,823	2,269	3,214	5,483
Mailpati	21,685	24,166	45,851	24,630	24,888	49,518	3,935	4,897	8,832	4,440	4,875	9,315
Ambur	51,334	53,945	105,279	52,707	55,381	108,088	9,717	11,960	21,677	10,657	11,828	22,485
Vaniyambadi	58,302	57,812	116,114	58,614	58,970	117,584	14,686	14,163	28,849	14,479	14,164	28,643
Ketandapatti	5,510	5,773	11,283	6,391	6,681	13,072	493	911	1,404	553	975	1,528
Jalarpet	57,142	60,899	118,041	63,969	64,737	128,706	18,514	20,787	39,301	21,320	21,861	43,181

* Siddhavattam opened 1st July 1889.

† Molagavelli opened 5th August 1889.

The following Table shows the Coaching Traffic in and out of the following Stations on the Madras Railway for the half-years ending 31st December 1888 and 1889—*continued.*

STATIONS.	Number of Passengers.						Coaching Receipts.					
	1888.			1889.			1888.			1889.		
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.
							Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Patchur	5,955	9,244	15,199	9,286	10,752	20,038	1,754	1,751	2,522	1,170	2,204	3,374
Malanur	5,313	...	5,313	4,657	3,983	8,640	424	1	425	393	493	886
Kuppam	26,239	27,668	53,907	28,118	28,093	56,211	8,083	8,069	16,152	8,178	7,814	15,992
Kamasamudram	24,033	24,260	48,293	24,933	24,850	49,783	5,975	6,121	12,096	5,676	6,276	11,952
Kolar Road...	58,622	55,993	114,615	63,258	60,866	124,124	25,010	19,863	44,873	26,596	22,459	49,055
Tyakal	10,933	11,468	22,401	12,798	13,091	25,889	1,473	2,363	3,836	1,732	1,963	3,695
Malur	26,333	25,006	51,339	29,149	28,242	57,391	11,447	14,496	25,943	9,836	13,363	23,199
Davangoondi	2,996	3,716	6,712	9,637	10,342	19,979	401	546	947	1,242	1,452	2,694
Kadgoodi	20,804	19,333	40,137	22,258	21,650	43,908	3,871	3,594	7,465	3,995	3,961	7,956
Krishnarajapuram	10,654	13,363	24,017	12,878	14,883	27,761	1,287	2,308	3,595	1,481	2,242	3,723
Bangalore Cantonment	108,712	67,698	176,410	120,741	79,345	200,086	1,45,167	1,01,199	2,46,366	1,32,409	98,584	2,30,993
Do City	4,962	41,230	46,192	5,906	47,250	53,156	12,642	38,111	50,753	14,431	42,221	56,652
Tirupatur	69,312	64,298	133,610	67,879	62,026	129,905	20,643	19,028	39,671	20,337	18,633	38,970
Kagankarai...	7,862	8,962	16,824	8,352	9,756	18,108	822	1,382	2,204	924	1,529	2,453
Samalpati	15,977	15,119	31,096	15,632	16,724	32,356	5,301	4,646	9,947	4,467	5,455	9,922
Kallavi	7,300	8,665	15,965	8,606	9,635	18,241	1,019	1,532	2,551	1,324	1,796	3,120
Morappur	20,464	19,284	39,748	21,672	20,843	42,515	6,448	6,133	12,581	6,886	6,823	13,709
Baddireddipatti	5,156	5,612	10,768	6,007	6,165	12,172	1,015	1,358	2,373	1,151	1,671	2,822
Mullapuram	11,465	11,936	23,401	12,477	12,778	25,255	2,787	3,188	5,975	3,027	3,444	6,471
Kadiampatti	7,735	7,274	15,009	7,998	7,426	15,424	1,590	1,376	2,966	1,430	1,426	2,856
Thinnappatti...	8,618	8,268	16,886	10,123	9,049	19,172	879	1,271	2,150	1,007	1,413	2,420
Salem	80,182	81,135	161,317	81,339	84,610	165,949	42,494	46,917	89,411	43,569	49,207	92,776
Ariyanur	3,708	4,458	8,166	5,604	5,863	11,467	389	629	1,018	622	735	1,357
McDonald's Choultry	10,271	10,763	21,034	11,873	11,634	23,507	1,638	1,875	3,513	1,909	2,013	3,922
Sankaridrug	28,221	26,752	54,973	27,912	26,678	54,590	5,862	5,695	11,557	5,517	5,793	11,310
Cauvery	4,770	4,622	9,392	5,214	5,559	10,773	665	967	1,632	678	1,029	1,707
Erode	94,970	88,452	183,422	97,151	87,049	184,200	52,550	45,141	97,691	52,536	42,226	94,762
Perundurai	21,550	19,298	40,848	21,907	20,786	42,693	4,431	3,783	8,214	3,723	4,234	7,957
Uttukuli	15,057	15,305	30,362	15,047	15,233	30,280	3,395	4,027	7,422	3,335	4,173	7,508
Tirupur	39,440	38,537	77,977	38,727	38,065	76,792	14,966	13,114	28,080	13,673	13,042	26,715
Mangalam	17,328	18,116	35,444	18,697	19,383	38,080	3,719	4,432	8,151	3,890	4,671	8,561
Somanur	13,619	13,777	27,396	14.018	13,904	27,922	2,505	2,770	5,275	2,581	2,829	5,410
Sulur	14,015	14,723	28,738	15,038	14,943	29,981	2,498	3,084	5,582	2,427	2,864	5,291
Singanallur	13,359	14,846	28,205	16,964	16,954	33,918	1,901	2,357	4,258	2,332	2,623	4,955
Podanur	58,690	61,182	119,872	54,359	55,307	10,966	17,945	17,810	35,755	16,896	16,098	32,994
Coimbatore...	138,617	126,876	265,493	137,055	127,555	264,610	42,942	42,017	84,959	42,052	37,558	79,610
Tudiyalur	17,976	18,409	36,385	17,468	18,981	36,449	1,701	1,862	3,563	1,659	1,837	3,496
Gudalur	8,158	10,222	18,380	8,811	10,495	19,306	738	1,037	1,775	789	982	1,771
Karaimadai...	17,942	16,788	34,730	19,006	17,780	36,786	2,045	2,166	4,211	2,150	2,266	4,416
Mettupalaiyam	50,767	57,597	108,364	49,847	55,722	105,569	43,748	61,510	1,05,258	42,571	56,054	98,625
Madukarai	6,538	7,648	14,186	68,53	7,851	14,704	1,391	1,788	3,179	1,443	1,642	3,085
Walayar	4,091	5,249	9,340	4,014	5,611	9,625	676	1,084	1,760	612	1,057	1,669
Kanyikod	11,231	11,896	23,127	11,077	11,968	23,045	2,719	3,314	6,033	2,619	3,392	6,011
Olavakode	53,621	59,916	113,537	59,058	63,545	122,603	16,273	18,468	34,741	18,535	18,723	37,258
Palghat	38,589	28,823	67,412	34,898	28,047	62,945	19,411	13,103	32,514	17,800	11,990	29,790
Parli	15,792	18,399	34,191	16,173	18,789	34,962	3,620	4,405	8,025	3,643	4,268	7,911
Lakkidi	18,857	19,584	38,441	20,097	20,562	40,659	4,413	4,917	9,330	4,491	4,783	9274
Ottapalam	27,364	27,155	54,519	28,483	28,176	56,659	6,877	7,099	13,976	6,563	6,857	13,420
Shoranur	28,308	27,534	55,842	30,996	29,251	60,247	15,507	13,201	28,708	18,232	13,942	32,174
Pattambi	28,001	26,514	54,515	28,230	26,968	55,198	8,709	11,773	20,482	8,845	12,939	21,784
Pallipuram	9,071	9,625	18,696	10,751	10,387	21,138	1,596	1,951	3,547	2,042	2,063	4,105
Kuttipuram...	13,601	13,400	27,001	12,112	12,289	24,401	3,184	3,397	6,581	2,778	2,936	5,714
Edakolam	5,913	7,099	13,012	9,262	11,028	20,290	1,212	1,435	2,647	1,861	2,308	4,169
Tirur	47,885	44,776	92,661	48,261	45,923	94,184	12,693	13,865	26,558	12,304	15,362	27,666
Tanore	22,611	24,080	46,691	24,604	25,709	50,313	3,106	4,515	7,621	3,153	5,854	9,007
Parpanangadi	44,155	43,161	87,316	47,917	47,169	95,086	6,137	11,252	17,389	6,070	9,978	16,048
Kadalundi	17,355	17,644	34,999	15,964	16,774	32,738	1,587	1,836	3,423	1,345	1,655	3,000
Ferok	52,168	49,012	101,180	53,294	52,327	105,621	4,845	4,860	9,705	4,984	5,230	10,214
Kallai	25,082	34,366	59,448	25,616	36,222	61,838	4,774	7,019	11,793	4,615	7,152	11,767
Calicut	105,871	103,024	208,895	108,793	100,951	209,744	52,956	47,617	1,00,573	47,313	47,962	95,275
Southern Mah. Ry...	36,820	37,497	74,317	34,269	38,468	72,737	57,845	49,185	1,07,030	51,376	48,729	1,00,105
Great Indian Peninsula Ry. ...	17,941	18,934	36,875	17,307	18,503	35,810	95,555	94,467	1,90,022	81,484	96,875	1,78,359
Mysore State Ry.	778	1,314	2,092	...	...	...	6,371	6,638	13,009	...	...	...
South Indian Ry.	38,679	72,253	110,932	52,865	84,346	137,211	45,466	59,588	1,03,054	45,941	62,051	1,07,992

The following Table shows the Goods traffic in and out of the following Stations on the Madras Railway, for the half-years ending 31st December 1888 and 1889, together with the gross traffic receipts.

STATIONS.	Tonnage of Goods and Railway Materials.						Goods Receipts.						Gross Receipts, Coaching & Goods, Inwards & Outwards.	
	1888.			1889.			1888.			1889.				
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	1888.	1889.
							Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras ...	...	...	...	...	...	...	12,908	6,920	19,828	15,642	5,752	21,394	5,75,016	5,42,384
Salt Cotaurs ...	89,544	65,098	154,642	113,244	98,118	211,362	5,65,339	6,12,752	11,78,091	6,69,553	6,90,901	13,60,454	11,78,091	13,60,454
Rayapuram ...	...	2,235	2,235	6	1,808	1,814	95	16,687	16,782	152	9,624	9,776	20,569	23,803
Washermenpet ...	...	...	...	...	...	...	...	...	...	2	...	2	14,234	15,539
Perambur ...	173	34	207	254	61	315	823	286	1,109	839	466	1,305	18,560	19,696
Connur ...	...	...	...	...	...	...	...	...	...	...	...	...	2,901	3,542
Ambatur ...	45	7,715	7,760	2	5,908	5,910	46	3,303	3,349	13	2535	2,548	5,808	5,172
Avadi ...	624	2,094	2,718	710	635	1,345	1,804	1,301	3,105	2,379	4,479	6,858	20,575	23,106
Tinnanur ...	70	1,638	1,708	133	1,677	1,810	161	1,218	1,379	476	1,247	1,723	9,888	10,968
Sevvapet Road ...	204	909	1,113	258	416	674	227	842	1,069	529	584	1,113	5,365	6,088
Trivellore ...	1,173	2,161	3,334	1,209	3,392	4,601	3,658	2,866	6,524	4,865	3,880	8,745	48,522	46,164
Kadambatur ...	484	1,372	1,856	238	1,355	1,593	913	1,860	2,773	618	2,535	3,153	10,424	11,799
Chinnamapet ...	230	1,857	2,087	202	2,164	2,366	546	2,566	3,112	460	3,069	3,529	10,915	10,326
Arkonam ...	2,546	3,560	6,106	2,191	4,012	6,203	6,345	9,113	15,458	7,183	13,763	20,946	1,77,898	2,04,824
Tirutani ...	2,448	2,834	5,282	2,072	2,857	4,929	10,285	5,292	15,577	8,626	6369	14,995	50,412	52,203
Nagari ...	989	3,355	4,344	1,068	3,129	4,197	3,639	5,477	9,116	3908	7,153	11,061	23,621	26,312
Puttur ...	556	2,209	2,765	596	1,954	2,550	1,905	6,569	8,474	2,050	6,498	8,548	24,741	26,575
Pudi ...	215	1,906	2,121	151	1,647	1798,	731	6,712	7,443	570	6,047	6,617	16,507	15,791
Renigunta ...	1,166	2,496	3,662	13,531	2,554	16,085	5,356	10,373	15,729	84,618	12,454	97,072	1,38,870	2,22,702
Mamandur ...	41	1,490	1,531	37	1,043	1,080	63	4,385	4,418	29	3,719	3,748	5,493	4,578
Peddapad ...	91	1,583	1,674	92	1,645	1,737	73	6,159	6,232	110	6,506	6,616	8,345	8,725
Kodur ...	516	3,033	3,549	321	1,557	1,878	1,809	7,975	9,784	1,232	5,632	6,864	18,944	16,461
Urampad ...	66	736	802	67	931	998	338	2,064	2,402	360	3,249	3,609	6,031	7,658
Reddipalle ...	57	391	448	45	370	415	336	1,954	2,290	300	1,907	2,207	10,724	10,683
Bajampet ...	1,316	1,868	3,184	1,072	2,324	3,396	5,813	9,383	15,196	5,415	11,984	17,399	27,448	30,894
*Siddhavattam ...	...	...	...	5	13	18	...	...	..	13	10	23	...	372
Cuddapah ...	7,120	7,722	14,842	6,909	6,745	13,654	33,529	41,851	75,380	32,738	37,305	70,043	1,42,778	1,47,723
Krishnapuram ...	527	550	1,077	970	880	1,850	2,945	7,148	10,093	4,240	9,792	14,032	14,810	18,407
Vallur ...	...	...	...	141	272	413	...	...	...	410	783	1,193	39	2,762
Kamalapuram ...	1,065	495	1,560	937	280	1,217	3,607	1,957	5,564	3,912	1,312	5,224	13,227	12,785
Yerraguntla ...	964	3,552	4,516	1,010	4,349	5,359	6,387	18,750	25,137	7,195	19,051	26,246	41,928	43,504
Muddanur ...	649	465	1,114	798	555	1,353	4,397	3,112	7,509	5,711	4,216	9,927	16,926	20,159
Mangapatnam ...	7	8	15	70	69	139	31	42	73	184	169	353	830	1,248
Kondapuram ...	2,806	238	3,044	3,447	700	4,147	17,180	1,289	18,469	10,519	2,259	12,778	28,571	23,350
Vanganur ...	23	12	35	22	24	46	147	79	226	107	110	217	2,060	2,558
Tadpatri ...	1,996	2,757	4,753	2,152	2,690	4,842	15,598	19,346	34,944	14,474	23,282	37,756	55,992	61,736
Penner ...	912	327	1,239	895	391	1,286	4,051	723	4,774	1,913	883	2,796	8,981	7,822
Rayalcheru ..	236	566	802	386	398	784	1,555	1,821	3,376	2,165	1,419	3,584	8,255	9,578
Jakkulacheruvu ...	2	6	8	2	7	9	11	17	28	13	24	37	801	1,015
Gooty ...	3,386	1,943	5,329	2,051	1,428	3,479	13,499	14,654	28,153	17,697	10,858	28,555	54,864	57,072
Patakottacheru ...	31	84	115	6	26	32	39	197	236	18	185	203	1,322	1,403
Timmancherla ...	802	1,746	2,548	934	1,473	2,407	5,387	19,688	25,075	4,556	19,656	24,212	34,633	32,554
Guntakal Junction..	504	197	701	276	82	358	4,627	4,800	9,427	2,472	827	3,299	44,010	39,052
Nancherla ...	83	530	613	132	288	420	502	1,083	1,585	723	479	1,202	3,926	3,513
† Molagavalli ...	...	...	...	6	58	64	...	...	...	14	59	73	...	904
Aspari ...	38	465	503	54	56	110	184	637	821	399	489	888	5,236	5,067
Adoni ...	6,441	5,379	11,820	6,883	7,653	14,536	28,984	36,050	65,034	34,763	53,019	87,782	93,491	1,24,687
Kupgal ...	91	38	129	38	32	70	78	122	200	217	29	246	2,613	3,259
Kosgi ...	374	390	764	387	175	562	2,245	1,022	3,267	2,384	441	2,825	8,156	8,346
Tungabhadra ..	13	110	123	11	220	231	34	122	156	122	253	375	5,572	7,162
Matmari ...	71	400	471	32	218	250	280	5,775	6,055	112	2,910	3,022	9,797	7,640
Raichur ...	2,416	1,402	3,818	2,789	2,106	4,895	17,558	9,105	26,663	21,864	16,276	38,140	91,733	1,08.721
Munnal ...	333	731	1,064	625	617	1,242	983	1,217	2,200	2,171	1,155	3,326	7,141	9,098
Sholinghur ...	589	2,820	3,409	886	3,100	3,986	1,990	10,320	12,310	2,903	9,989	12,892	23,922	26,352
Arcot ...	5,025	11,266	16,291	8,265	10,544	18,809	24,776	61,200	85,976	34,976	57,459	92,435	1,46,765	1,54,506
Tiruvallam ...	97	269	366	101	184	285	522	1,076	1,598	473	703	1,176	10,052	10,056
Vellore (Katpadi)...	8,581	20,323	28,904	21,596	24,788	46,384	48,555	1,17,168	1,65,723	1,21,037	1,51,273	2,72,310	2,69,435	3,91,833
Virinjipuram ...	164	317	481	110	838	948	829	1,730	2,559	617	2,879	3,496	11,869	12,620
Gudiyatam ...	2,947	4,863	7,810	2,945	3,852	6,797	15,592	24,638	40,230	17,074	20,908	37,982	71,049	71,232
Ulli	75	326	401	142	561	703	479	1,662	2,141	948	3,046	3,994	6,964	9,477
Mailpati	570	1,613	2,183	197	722	919	6,433	8,893	15,326	1,300	4,203	5,503	24,158	14,819
Ambur	5,270	2,727	7,997	2,143	2,654	4,797	52,252	15,780	68,032	33,909	15,240	49,149	89,708	71,634
Vaniyambadi ...	4,238	6,592	10,830	5,280	7,997	13,277	24,273	23,214	47,487	28,374	30,821	59,195	76,336	87,838
Ketandapatti ...	4	192	196	10	653	663	18	834	852	47	1,422	1,469	2,256	2,996

* Siddhavattam opened 1st July 1839 † Molagavalli opened 5th August 1889.

The following Table shows the Goods traffic in and out of the following Stations on the Madras Railway, for the half-year ending, &c.—continued.

STATIONS.	Tonnage of Goods and Railway Materials.						Goods Receipts.						Gross Receipts. Coaching & Goods, Inwards & Outwards.	
	1888.			1889.			1888.			1889.				
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	1888.	1889.
							Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Jalarpet	540	855	1,395	353	633	986	2,094	2,297	4,391	1,965	2,141	4,106	43,692	47,289
Patchur	...	...	...	101	1,584	1,685	...	...	...	216	2,205	2,421	2,522	5,795
Mulanur	2	...	2	...	...	...	24	...	24	5	7	12	449	898
Kuppam	814	10,459	11,273	711	6,671	7,382	3,031	10,184	13,215	2,954	9,029	11,983	29,368	27,975
Kamasamudram ...	4,054	257	4,311	3,334	641	3,975	4,628	856	5,484	8,108	821	8,929	17,580	20,881
Kolar Road ...	21,819	6,541	28,360	31,037	8,013	39,050	74,162	32,369	1,06,531	1,22,212	40,107	1,62,319	1,51,403	2,11,374
Tyakal	120	363	483	215	566	781	111	946	1,057	516	1,402	1,918	4,892	5,613
Malur	754	3,832	4,586	780	4,388	5,168	5,931	10,181	16,112	5,914	14,856	20,770	42,054	43,970
Devankundi ...	...	...	...	24	393	417	...	...	...	58	1,521	1,579	947	4,273
Kadgedi ...	259	1,192	1,451	204	2,197	2,401	2,267	5,122	7,389	1,602	7,163	8,765	14,853	16,721
Krishnarajapuram..	90	265	355	115	77	192	883	535	1,418	1,160	268	1,428	5,014	5,152
Bangalore Cant. ...	14,687	6,219	20,906	12,281	9,250	21,531	1,36,377	59,539	1,95,916	1,16,818	77,405	1,94,223	4,42,282	4,25,217
Do. City ...	9,898	15,751	25,649	7,955	21,934	29,889	94,143	93,606	1,87,749	77,044	1,27,179	2,04,223	2,38,502	2,60,876
Tirupatur ...	4,013	7,121	11,134	5,405	7,865	13,270	19,887	31,196	51,083	24,529	34,056	58,585	90,753	97,555
Kagankarai ..	12	91	103	22	343	365	40	278	318	30	683	713	2,522	3,167
Samalpati ...	153	1,840	1,993	268	2,693	2,961	970	5,264	6,234	1,175	7,969	9,144	16,181	19,066
Kallavi	44	1,410	1,454	38	1,983	2,021	112	4,160	4,272	184	5,514	5,698	6,823	8,818
Morappur ...	1,162	3,317	4,479	1,485	3,576	5,061	8,314	12,833	21,147	9,997	14,526	24,523	33,727	38,232
Baddireddipatti ...	621	510	1,131	75	554	629	363	1,501	1,864	432	1,998	2,430	4,237	5,252
Mallapuram ...	30	1,363	1,393	226	1,734	1,960	128	4,556	4,684	512	5,726	6,238	10,658	12,709
Kadiampatti ...	5	237	242	40	367	407	47	761	808	155	1,370	1,525	3,774	4,382
Thinnappatti ...	1	11	12	1	8	9	5	44	49	1	29	30	2,199	2,449
Salem	12,436	5,629	18,065	12,364	5,811	18,175	85,682	31,986	1,17,668	84,506	34,587	1,19,093	2,07,079	2,11,869
Ariyanur	...	...	...	...	...	...	...	...	...	...	...	...	1,017	1,358
McDonald's Choultry.	145	98	243	167	405	572	738	495	1,233	724	1,670	2,394	4,746	6,317
Sankaridrug ...	3,406	3,108	6,514	1,780	3,576	5,356	19,152	13,249	32,401	9,935	14,608	24,543	43,958	35,853
Cauvery	57	134	191	475	318	793	305	515	820	3,762	1,483	5,245	2,452	6,952
Erode	10,513	2,106	12,619	7,608	3,823	11,955	49,686	14,496	64,825	41,685	20,405	62,090	1,62,516	1,54,851
Mangalam ...	1,712	331	2,043	1,494	397	1,891	7,901	1,808	9,709	6,943	1,857	8,800	17,860	17,361
Somanur	549	544	1,093	606	339	945	2,185	3,069	5,254	2,945	2,267	5,212	10,528	10,621
Sulur	574	349	923	413	301	714	2,911	2,020	4,931	1,850	1,475	3,325	10,513	8,616
Singánallúr ...	211	162	373	234	128	362	1,120	929	2,049	1,175	648	1,823	6,307	6,777
Podanur	975	1,144	2,119	771	741	1,512	3,585	5,064	8,649	2,167	4,431	6,598	44,404	39,592
Coimbatore ...	14,325	7,314	21,639	14,799	6,622	21,421	68,954	41,299	1,10,253	71,949	39,351	1,11,300	1,95,212	1,90,910
Tudiyalur ...	66	162	228	106	156	262	256	230	486	192	304	496	4,050	3,992
Gudalur	1	8	9	10	7	17	..	6	6	54	11	65	1,781	1,836
Karaimadai ...	356	117	473	457	108	565	1,881	452	2,333	2,398	408	2,806	6,544	7,222
Mettupalaiyam ...	8,139	3,289	11,428	7,143	4,116	11,259	67,689	46,323	1,14,012	69,838	65,872	1,35,710	2,19,270	2,34,336
Madukarai ...	55	354	409	60	432	492	155	1,723	1,878	242	1,897	2,139	5,056	5,223
Walayar	18	1,488	1,506	12	1,403	1,415	104	1,775	1,879	23	2,038	2,061	3,639	3,730
Kanyikod ...	15	2,097	2,112	56	1,637	1,693	100	6,670	6,770	203	5,073	5,276	12,802	11,287
Olavakode ...	596	6,046	6,642	685	7,602	8,287	2,390	40,517	42,907	2,979	37,755	40,734	77,648	77,991
Palghat	6,444	8,469	14,913	7,134	8,312	15,446	38,066	43,186	81,252	39,494	44,912	84,406	1,13,766	1,14,196
Purli	502	4,665	5,167	465	3,933	4,398	1,951	12,738	14,689	1683	11,250	12,933	22,714	20,844
Lackkidi	322	479	801	421	727	1,148	1,201	1,256	2,457	1,909	1,979	3,888	11,787	13,162
Ottapalam... ...	553	2,270	2,823	601	1,696	2,297	1,528	7,618	9,146	2,167	5,787	7,954	23,122	21,374
Shoranur ...	1,485	1,428	2,913	3,723	1,467	5,190	6,296	9,773	16,069	14,668	9,443	24,111	44,777	56,283
Pattambi ...	568	1,248	1,816	679	1,099	1,778	1,491	8,933	10,424	2,080	9,503	11,583	30,907	33,368
Pallipuram ...	2	1	3	11	2	13	10	3	13	50	19	69	3,559	4,174
Kuttipuram ...	240	182	422	332	239	571	767	899	1,666	1,420	1,274	2,694	8,247	8,408
Edakolam ...	...	...	...	...	...	...	...	...	...	...	...	...	2,647	4,169
Tirur	6,305	5,500	11,805	12,018	5,503	17,521	26,793	29,480	56,273	61,966	32,839	94,805	82,831	1,22,470
Tanore	1,492	1,888	3,380	1,519	1,591	3,110	7,091	17,770	24,861	6,356	15,156	21,512	32,482	30,518
Parpanangadi ...	1,875	1,249	3,124	1,786	1,288	3,074	6,994	8,016	15,010	6725	9,233	15'958	32,399	32,006
Kadalundi ...	1	...	1	1	...	1	9	7	16	19	14	33	3,439	3,032
Ferok	6,548	2,692	9,240	6,918	2,397	9,315	37,232	17,948	55,180	40,685	18,153	58,838	64,885	69,052
Kallai	1,866	722	2,588	1,189	2,252	3,441	6,875	6,692	13,567	7,165	21,822	28,987	25,360	40,753
Calicut	21,834	7,054	28,888	20,067	9,853	29,920	50,142	58,222	2,08,364	1,48,191	77,878	2,26,069	3,08,937	3,21,345
Foreign for all Rys.	42,330	42,622	84,952	45,598	46,841	92,439	52,268	3,68,255	7,20,523	3,24,629	3,94,469	7,19,098	7,20,523	7,19,098
Sundries. S. M. Railway	...	...	...	...	...	...	4	276	280	16	3,189	3,205	1,07,310	1,03,310
Sundries. G. I. P. do.	...	...	..	...	...	...	5,867	5,548	11,415	20,989	9,256	20,245	2,01,437	2,08,603
Sundries. M. S. do.	...	...	...	...	...	...	9	...	9	...	...	...	13,018	...
Sundries. S. I. do.	...	...	...	...	...	..	12	48	60	21	222	243	1,03,114	1,08,235

MADRAS RAILWAY,
TRAFFIC MANAGER'S OFFICE,
MADRAS, 11*th April* 1890.

(Signed) LOUIS S. MOSS,

Traffic Manager.

Madras Railway,

CHIEF AUDITOR'S OFFICE,

Madras, 31st March, 1890.

THE ACTING AGENT AND MANAGER,

DEAR SIR,

The usual statements of the Company's Accounts for the half year ending 31st ecember, 1889, are submitted herewith.

2. The construction outlay of the half year amounts to Rupees 5,88,178-2-10, which has en reduced by a sum of Rupees 1,94,324-6-10, being the amount transferred from Capital Revenue, in the revised Estimate of the Calicut Extension sanctioned in G. O., No. 144-R, ted 24th January, 1890, and leaving the net outlay of the half year Rupees 3,93,853-12-0 under—

	RS.	A.	P.
Cash Expenditure	2,00,189	0	8
Stores do.	3,87,989	2	2
	5,88,178	2	10
Less transferred to Revenue of Calicut Extension Expenditure	1,94,324	6	10
Net Outlay...	3,93,853	12	0

3. The outlay on Engineering Works, *vide* Form V of the half yearly accounts, has en Rupees 1,91,280-7-11 and the outlay on Working Stock Rupees 2,02,573-4-1.

4. The works on which Engineering expenditure has been incurred are the following :

Extension of Line.

	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
Calicut Extension	2,545	10	5						
Cr.	2,03,456	14	9						
				Cr. 2,00,911	4	4			
Palghat Extension				232	13	2			
							Cr. 2,00,678	7	2
Bridges—									
Reconstruction of Chittravati Bridge				1,22,934	12	3			
Do. Penner do.				41,691	15	10			
Do. Papaghni do.				19,475	5	6			
							1,84,102	1	7
Protective Works to Bridges $\frac{201}{12}$ to $\frac{203}{11\&13}$ miles, N. W. Line							2,250	15	4

Alterations and Additions at Stations.

	RS.	A.	P.			
Madras—Rayapuram	3,700	11	3			
Perambur	14,856	6	2			
Guntakal Junction	65,187	13	3			
Kolar Road	13,300	7	8			
Tayakal	8,198	10	9			
Jakkulacheruvu	7,517	1	0			
Sevvapet	7,333	5	6			
Raichur	5,177	3	4			
Vanganur	5,142	9	5			
Carried forward...	1,30,414	4	4	**Cr.** 14,325	6	3

Alterations and Additions at Stations.—(*Continued.*)

	Rs.	A.	P.	Rs.	A.	P.
Brought forward ..	1,30,414	4	4	Cr. 14,325	6	3
Kamasamudrum	5,137	1	11			
Bangalore City	4,719	10	5			
Kuttipuram	4,297	7	7			
Peddapad	3,129	11	3			
Vaniyambadi	3,052	8	3			
Salem	2,875	14	3			
Kristnapuram	2,851	6	6			
Renigunta	2,795	2	11			
Tiruvallam	2,780	5	8			
Kanyikod	2,705	3	5			
Erode	2,683	14	1			
Gooty	2,625	12	6			
Ottopalam	2,505	0	11			
Nagari	2,317	7	1			
Ariyanur	2,224	5	7			
Jalarpet	2,131	14	1			
Sankaridrug	1,944	13	10			
Yerraguntla	1,926	9	8			
Coimbatore	1,505	8	1			
Mulanur	1,442	6	0			
Cuddapah	1,033	1	10			
Other Stations including a sum of Rupees 8,380-0-8 expended on "New Minor Works" in excess of limit under that head transferred from Revenue	11,632	8	8			
				1,98,732	2	10

Other Expenditure.

Extension of Block System and Semaphore signals ...	1,799	6	9			
Material siding at 82 miles, S. W. Line	3,757	7	7			
Raising embankment Ambatur Tank	1,316	13	0			
				6,873	11	4
Total Engineering Rs.				1,91,280	7	11

5. The detail expenditure on Rolling Stock has been as under—

	Rs.	A.	P.
50 Iron Wagons for Stone Traffic	92,033	15	4
200 Iron Covered Goods Wagons	80,222	9	5
12 Brake Vans	30,237	1	9
Ambulance Carriages, &c....	79	9	7
Total Rolling Stock Rs.	2,02,573	4	1

6. The following is a summary of the operations on the Store Accounts during the half year:—

	Rs.	A.	P.	Rs.	A.	P.
Store Balances, 30th June, 1889				24,51,449	7	8
Add receipts—						
From England	4,61,236	0	11			
„ Local purchases...	5,57,331	12	2			
				10,18,567	13	1
				34,70,017	4	9
Deduct issues—						
Capital Account	3,87,989	2	2			
Revenue do.	9,35,835	9	5			
Sales	72,271	5	4			
				13,96,096	0	11
Stores balances, 31st December, 1889				20,73,921	3	10

7. With reference to G. O., No. 246 R., dated 15th February last, it will be observed that the Government Examiner estimates the amount of overdrawn Capital at 31st December last at Rupees 1,78,318. Our accounts shew that capital was somewhat overdrawn at the close of the months of October and November last, but that at the 31st December these advances had been repaid, and that a balance of £1,055-2-5 of subscribed capital remained in the Government Treasury.

THE REVENUE ACCOUNT.

8. The mean mileage worked for Traffic during half year ended 31st December, 1889, is the same as in the corresponding half of 1888, *viz.*, 840 miles.

9. The Train mileage has been 1,178,155 against 1,201,920 in the corresponding half year shewing a decrease of 23,765 miles.

10. The Gross Revenue has been Rupees 46,04,546-14-8, against Rupees 42,68,692-6-8, shewing an increase of Rupees 3,35,854-8-0 or 7·87 per cent.

11. The Revenue expenditure in the past half year amounted to Rupees 28,33,741-12-9, as compared with Rupees 25,20,671-10-8 in the corresponding half of 1888, shewing an increase of Rupees 3,13,070-2-1 or 12·42 per cent.

12. The percentage of expenditure to gross receipts for the past three half years has been as under—

December 1888	59·05
June 1889	56·34
December „	61·54

13. The Net Revenue is Rupees 17,70,805-1-11 as compared with Rupees 17,48,020-12-0 in the corresponding half year. It gives at 1/10d. exchange £162,323-16-1 sterling equivalent to a dividend at the rate of £1-10-5 per cent. for the half-year on capital bearing interest raised at 31st December, 1889, *viz.*, £10,657,630-0-0.

14. The following results of our Traffic operations in the way of dividend are continued from the last report:—

PERIOD.	Miles open.	Capital raised at 31st December.	Net Revenue.			Average per cent. per annum for periods of 5 years, &c.		
		£.	£.	s.	d.	£.	s.	d.
Average for 5 years 1871-75	845	10,280,682	235,549	1	0	2	6	0
„ 1876-80	858	10,526,673	224,439	17	6	2	2	9
„ 1881-85	860	10,638,258	245,448	10	6	2	6	1
The year 1885	861	10,657,630	300,590	8	5	2	16	5
„ 1886	861	10,657,630	296,013	19	3	2	15	6
„ 1887	831	10,657,630	264,002	12	5	2	9	6
„ 1888	840	10,657,630	322,817	9	4	3	0	7
„ 1889	840	10,657,630	342,688	12	9	3	4	4

15. Taking a general view of the results of the half-years working, it will be found that the receipts show steady improvement in the 3rd class passenger traffic, the increase in numbers, as compared with the corresponding half-year, being 266,626, and in receipts Rupees 57,934-5-6. The total increase in the goods traffic reaches the large amount of Rupees 2,96,697-1-5, but of this total Rupees 1,12,036, is abnormal, being derived from the carriage of Railway Materials for State Lines under construction. The increase in the ordinary goods traffic of the line (excluding coal) is Rupees 1,48,678 and is due chiefly to a larger traffic in cotton, food grains, oil seeds, sugar, &c. The increase in coal, chiefly consigned to the Kolar Gold Mines, is Rupees 31,296. Turning to the charges the total expenditure of the half-year exceeds that of the corresponding period by Rupees 3,13,070-2-1, which is mainly accounted for—

(1) by the large amount of extraordinary charges brought to account in Abstract A including the sum of Rupees 1,94,324-6-10, debited to Revenue for expenditure incurred upon the Calicut Extension. G. O., No. 144 R., dated 24th January, 1890.

(2) by a large increase in the cost of fuel Abstract B.

(3) by an increased outlay on the repairs of Carriages and Wagons, Abstract C.

16. A note to Abstract H. Coaching Traffic explains that the receipts of the half-year for Troops and Military Baggage have been reduced by large refunds on account of admitted overcharges. The charges referred to extend over a period of some four years and have been in dispute with the Examiner of Commissariat Accounts, Madras, who claimed larger amounts. With reference to his claims I beg to refer you to G. O, No. $\frac{931}{A.}$ R., dated 27th August, 1889, and to correspondence in your office, *viz.*, letter from Examiner, Commissariat Accounts, No. 7060, dated 17th December, 1888, this office reply enclosing copy of Traffic Manager's letter, No. 73,712, dated 16th February, 1889, this office letter, No. C. F. 334, dated 7th April, 1887, &c. All old claims against the Company are now practically settled, but a sum for under-charges of longstanding is still due to the Company by the Examiner of Commissariat Accounts, Poona, the early adjustment of which is expected.

17. The amount charged to Revenue in this half-year on account of "Loss by Exchange" on the value of Revenue Stores and amount of Home Expenditure is Rupees 1,50,826-12-0. The rate of exchange is fixed by G.O., No. 273-R., dated 20th February last, at 16·478d. per Rupee, which is ·273d. better than the rate of the preceding half-year.

DETAILS OF REVENUE RECEIPTS.

Coaching Traffic.

18. The following table gives the Comparative results under each of the four heads into which the Revenue is divided :—

FORM No. VIII. OF THE HALF YEARLY ACCOUNTS.

TRAFFIC.	Half-year ending December, 1889.			Half-year ending December, 1888.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Coaching Traffic	18,27,087	10	10	17,93,220	2	11	33,867	7	11	...	...	...
Goods do.	26,67,054	5	3	23,70,357	3	10	2,96,697	1	5	...	...	...
Electric Telegraph ...	9,511	13	3	8,941	15	0	569	14	3	...	...	...
Sundries	1,00,893	1	4	96,173	0	11	4,720	0	5	...	...	...
	46,04,546	14	8	42,68,692	6	8	3,35,854	8	0	...	...	...

19. Abstract H. Coaching Traffic, Form No. X of the accounts presents the following results when compared with the corresponding half year :—

		Rs.	A.	P.
Abstract H. December, 1889	...	18,27,087	10	10
Do. December, 1888	...	17,93,220	2	11
Increase	...	33,867	7	11

Passengers' ordinary and Periodical 2nd and 3rd classes ...	Rs.	58,319	11	4
Passengers' Luggage, Horses, Dogs, Parcels for Revenue, Special Trains and Miscellaneous	„	12,936	8	9
Increased Revenue from the above sources		71,256	4	1

Deduct—

		Rs.	A.	P.
Ordinary 1st class and Periodical ...		6,956	7	9
Troops and Police, all classes ...		22,455	6	7
Carriages		1,005	3	0
Parcels		821	11	0
Haulage of Post Office Vans ...		29	4	0
Military Baggage, Horses and Dogs ...		6,398	2	9
		37,666	3	1
Minus outstandings irrecoverable in 1888		277	6	11
Decreased Revenue from the above sources	Rs.	37,388	12	2
Net Increase...		33,867	7	11

20. The details of the above results are given in the following table :—

TRAFFIC.	Half year ending December, 1889.			Half year ending December, 1888.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Ordinary Pass, 1st Class ..	69,976	10	10	76,156	10	7	...	...	...	6,179	15	9
Periodical ...	2,106	8	0	2,883	0	0	...	...	...	776	8	0
2nd Class ...	66,155	7	1	66,081	13	3	73	9	10	...	...	...
Periodical ...	1,411	0	0	1,099	4	0	311	12	0	...	...	...
3rd Class ...	13,91,109	5	3	13,33,422	7	9	57,686	13	6	...	...	...
Periodical ...	1,114	8	0	867	0	0	247	8	0	...	...	...
Troops & Police, 1st Class.	4,622	3	0	9,488	12	6	...	...	...	4,866	9	6
2nd Class ...	13,073	7	4	23,905	4	6	...	...	...	10,831	13	2
3rd Class ...	22,531	4	1	29,288	4	0	...	...	...	6,756	15	11
Passengers' Luggage ...	58,528	11	5	54,817	10	10	3,711	...	7	...	...	...
Carriages ...	8,307	10	0	9,312	13	0	...	...	...	1,005	3	0
Horses ...	27,712	7	0	26,505	0	0	1,207	7	0	...	...	...
Dogs ...	2,682	11	3	2,318	2	9	364	8	6	...	...	...
Parcels ...	1,22,051	4	4	1,22,872	15	4	...	...	...	821	11	0
Do. for Revenue ...	1,615	4	0	1,496	4	0	119	...	...	...	...	...
Special Trains ...	9,043	10	0	1,888	9	0	7,155	1	0	...	...	...
Miscellaneous ...	1,967	2	0	1,587	10	4	379	7	8	...	...	...
Haulage and hire of Post Office Vans ...	11,759	4	0	11,788	8	0	...	...	...	29	4	0
MILITARY.												
Military Baggage ...	9,390	12	3	14,083	4	0	...	...	...	4,692	7	9
Carriages ...	...	...	...	...	...	...	...	...	...	...	...	...
Horses ...	1,889	1	0	3,520	4	0	...	...	...	1,631	3	0
Dogs ...	39	8	0	114	0	0	...	...	...	74	8	0
Total...	18,27,087	10	10	17,93,497	9	10	71,256	4	1	37,666	3	1
Deduct outstandings irrecoverable ...	...	...	...	277	6	11	...	...	...	277	6	11
	18,27,087	10	10	17,93,220	2	11	71,256	4	1	37,388	12	2
Deduct Decrease ...							37,388	12	2			
Net Increase Rs. ...							33,867	7	11			

21. The ordinary Coaching Traffic ascertained by eliminating all Troops and Police, and Military items of Traffic is continued from the last Report—

			Rs.	A.	P.
December	1880	... ...	11,47,898	1	5
June	1881	... ...	12,54,404	1	5
December	1881	... ...	12,18,181	7	10
June	1882	... ...	12,78,447	11	0
December	1882	... .	13,02,002	4	1
June	1883	... ...	12,97,015	15	6
December	1883	... ...	12,73,014	2	7
June	1884	... ...	14,10,745	4	7
December	1884	... ...	13,85,847	11	7
June	1885	... ...	14,63,321	5	7
December	1885	... ...	15,29,401	15	10
June	1886	... ...	15,02,885	3	6
December	1886	... ...	15,49,747	3	4
June	1887	... ...	15,84,759	3	3
December	1887	... ...	15,31,357	3	9
June	1888	... ...	16,61,024	2	10
December	1888	... ...	17,13,097	12	10
June	1889	... ...	17,81,789	6	8
December	1889	... ...	17,75,541	7	2

22. Statement shewing 3rd and 4th class Receipts minus Troops and Police from 1873 to 1889.

PERIOD.	3rd class single journey excess, Return journey and season Tickets.			4th or Cooly class.			Total 3rd and 4th classes.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Half-year ending June, 1873 ...	8,54,760	15	9	93,640	13	0	9,48,401	12	9
" December, 1873 ...	8,41,653	1	4	1,08,073	9	0	9,49,726	10	4
" June, 1874 ...	7,89,366	1	11	1,13,226	15	0	9,02,593	0	11
" December, 1874 ...	8,31,655	4	7	1,18,789	11	0	9,50,444	15	7
" June, 1875 ...	7,32,250	15	8	1,68,858	13	0	9,01,109	12	8
" December, 1875 ...	6,72,465	4	6	1,73,676	13	0	8,46,142	1	6
" June, 1876 ...	7,16,531	11	6	2,03,373	9	0	9,19,905	4	6
" December, 1876 ...	7,41,657	1	7	2,19,170	13	0	9,60,827	14	7
" June, 1877 ...	6,38,448	12	8	2,42,352	2	6	8,80,800	15	2
" December, 1877 ...	8,79,633	13	10	1,20,088	11	0	9,99,722	8	10
" June, 1878 ...	9,01,376	1	3	67,642	11	0	9,69,018	12	3
" December, 1878 ...	8,04,743	8	3	1,14,829	12	0	9,19,573	4	3
" June, 1879 ...	6,35,114	10	2	2,65,729	13	0	9,00,844	7	2
" December, 1879 ...	9,29,071	10	9	...	...	...	9,29,071	10	9
" June, 1880 ...	9,04,920	9	10	...	...	...	9,04,920	9	10
" December, 1880 ...	8,96,463	1	1	...	...	...	8,96,463	1	1
" June, 1881 ...	9,52,306	12	1	...	...	...	9,52,306	12	1
" December, 1881 ...	9,43,731	12	9	...	...	...	9,43,731	12	9
" June, 1882 ...	9,72,568	4	7	...	...	...	9,72,568	4	7
" December, 1882 ...	10,05,113	6	2	...	...	...	10,05,113	6	2
" June, 1883 ...	10,10,789	4	7	...	...	...	10,10,789	4	7
" December, 1883 ...	9,61,665	0	1	...	...	...	9,61,665	0	1
" June, 1884 ...	10,58,699	12	8	...	...	...	10,58,699	12	8
" December, 1884 ...	10,47,457	10	4	...	...	...	10,47,457	10	4
" June, 1885 ...	10,95,135	7	6	...	...	...	10,95,135	7	6
" December, 1885 ...	11,65,264	9	5	...	...	...	11,65,264	9	5
" June, 1886 ...	11,59,988	9	10	...	...	...	11,59,988	9	10
" December, 1886 ...	11,84,455	6	3	...	...	...	11,84,455	6	3
" June, 1887 ...	12,20,247	9	0	...	...	...	12,20,247	9	0
" December, 1887 ...	11,61,859	8	10	...	...	...	11,61,859	8	10
" June, 1888 ...	12,48,832	15	11	...	...	...	12,48,832	15	11
" December, 1888 ...	13,34,289	7	9	...	...	...	13,34,289	7	9
" June, 1889 ...	13,57,252	6	7	...	...	...	13,57,252	6	7
" December, 1889 ...	13,92,223	13	3	...	...	...	13,92,223	13	3

23. The number, mileage and earnings of 3rd class ordinary Traffic leaving out Troops and Police from the commencement of the 2 pie rate are as follows :—

PERIOD.	Number.	Mileage.	Earnings.		
			Rs.	A.	P.
Half year ending December, 1879	1,774,690	76,638,889½	(a) 9,29,071	10	9
" June, 1880	1,964,346	79,706,402	(b) 9,04,920	9	4
" December, 1880	1,943,145	86,424,275	8,96,463	1	1
" June, 1881	2,111,075	91,844,076	9,52,306	12	1
" December, 1881	2,067,218½	90,818,781	9,43,731	12	9
" June, 1882	2,189,409	93,761,162	9,72,568	4	7
" December, 1882	2,046,457	96,895,425	10,05,113	6	2
" June, 1883	2,195,218½	97,623,795	10,10,789	4	7
" December, 1883	2,150,308	97,581,832	(c) 9,61,665	0	1
" June, 1884	2,593,543	108,370,675	10,58,669	12	8
" December, 1884	2,488,817	108,124,439	10,47,457	10	4
" June, 1885	2,639,473½	112,860,077	10,95,135	7	6
" December, 1885	2,798,556	121,224,909	11,65,264	9	5
" June, 1886	2,928,490	120,522,393	11,59,988	9	10
" December, 1886	3,288,543½	135,980,143	(d) 11,84,455	6	3
" June, 1887	3,543,684½	140,170,209	12,20,247	9	0
" December, 1887	3,372,135	133,848,628	11,61,859	8	10
" June, 1888	3,724,290	142,695,239	(e) 12,48,832	15	11
" December, 1888	3,951,553½	151,690,598	13,34,289	7	9
" June, 1889	4,198,943	155,414,335	13,57,252	6	7
" December, 1889	4,218,179	159,361,635	13,92,223	13	3

Note.—(*a*). Half year ending December, 1879, 2 pies for ordinary Trains from 1st July, 1879, and 4 pies for Mail Trains.

(*b*). Half year ending June, 1880, 2 pies are charged for ordinary Trains and 4 pies for Mail Trains for first four months and 2 pies by all trains for the last 2 months, *viz.*, from 1st May, 1880.

(*c*). Fare and a half for Return Tickets from 1st October, 1883.

(*d*). One and half pies for single Journey Passengers for ordinary Trains and 2 pies for Mail Trains but to and from stations between Podanur and Mettupalaiyam and Podanur and Beypore 1½ pie is charged by Mail Trains.

(*e*). Half year ending June, 1888, on and after 5th March, 1888, 2 pies are charged for Passengers booked to and from stations west of Podanur by Mail Trains except that for stations on the Nilgiri and Palghat Branches the fares by Mail Trains are 1½ pies per mile.

24. The Receipts from Parcels Traffic (Public) during the past ten years have been as follows :—

	Rs.	A.	P.
Half year ending June, 1880	45,079	3	3
" December, 1880	47,839	8	1
" June, 1881	58,378	3	3
" December, 1881	56,273	15	3
" June, 1882	58,474	13	10
" December, 1882	68,219	14	9
" June, 1883	60,354	5	2
" December, 1883	81,808	9	8
" June, 1884	78,156	3	5
" December, 1884	96,567	14	10
" June, 1885	88,992	5	9
" December, 1885	1,07,520	9	0
" June, 1886	88,999	5	11
" December, 1886	1,00,021	9	5
" June, 1887	99,437	10	6
" December, 1887	1,10,502	0	8
" June, 1888	1,13,351	13	6
" December, 1888	1,22,872	15	4
" June, 1889	1,14,325	6	2
" December, 1889	1,22,051	4	4

GOODS TRAFFIC.

25. Abstract I, page 12 of the Capital and Revenue Accounts for the half year shews the following results when compared with the corresponding period :—

	Rs.	A.	P.
Abstract I, December, 1889	26,67,054	5	3
" 1888	23,70,357	3	10
Increase Rs.	2,96,697	1	5

26. It will be seen from a comparison of the several heads of Abstract I that the following have been the fluctuations which have led to the above net increase of Rupees 2,96,697-1-5 :—

TRAFFIC.	Half-year ending December 1889.			Half-year ending December 1888.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
1. Merchandise, General...	24,84,279	11	1	22,23,566	1	3	2,60,713	9	10	.....	...	...
2. Military Stores ...	29,722	4	0	34,952	10	0	.....	...	...	5,230	6	0
3. Railway Materials ...	16,046	11	0	27,317	0	0	.....	...	...	11,270	5	0
4. Coal	48,068	2	0	16,015	3	0	32,052	15	0	.....	...	...
5. Revenue Stores ...	66,568	8	0	51,613	8	0	14,955	0	0	.....	...	...
6. Live Stock ...	6,272	12	0	4,685	3	4	1,587	8	8	.....	...	...
7. Military Live Stock ...	7,227	12	0	7,405	6	0	.....	...	...	177	10	0
8. Rents and Demurrage..	4,792	8	2	4,554	5	7	238	2	7	.....	...	...
9. Interest on Outstanding Bills ...	.....	...	...	.....	...	...	.....	...	...	.....	...	...
10. Miscellaneous ...	4,076	1	0	2,983	10	8	1,092	6	4	.....	...	...
	26,67,054	5	3	23,73,092	15	10	3,10,639	10	5	16,678	5	0
Less Outstandings irrecoverable ...	... ..	...	...	2,735	12	0	.....	...	...	2,735	12	0
	26,67,054	5	3	23,70,357	3	10	3,10,639	10	5	13,942	9	0
							Deduct Decrease Rs ..			13,942	9	0
							Net Increase Rs...			2,96,697	1	5

27. Abstract of Commodity Statement. Out of a Total of 80 commodities recorded an increase will be found under 43 heads.

Decrease	,,	36	,,
No Traffic	,,	1	,,
		80	

28. The following are the items of Goods Traffic from which increased Revenue above Rs. 5,000 has been derived :—

				Rs.
I.—	Coal and Coke ...	Tons.	5,772	... 31,296
II.—1.	Cotton, Raw ...	,,	4,021	... 50,673
V.—2.	Rice	,,	1,439	... 27,684
4.	Gram	,,	1,323	... 7,614
5.	Raggy	,,	8,179	... 43,500
6.	Grain, others ...	,,	6,554	... 15,302
X.—	Leather Manufactured ...	,,	559	... 7,624
XII.—	Metals, others ...	,,	1,294	... 8,976
XIII.—2.	Oils, Kerosine ...	,,	723	... 6,339
XIV.—3.	Til or Gingelly seeds ...	,,	2,266	... 16,729
4.	Castor do. ...	,,	1,358	... 8,296
5.	Oil seeds, others ...	,,	7,287	... 13,111
XVII.—3.	Betel Nuts ...	,,	625	... 8,004
XVII.—5.	Provisions, others ...	,,	6,320	... 6,535
XVIII.—	Railway Plant and Rolling Stock	,,	24,202	... 1,12,036
XXIII.—2.	Sugar undrained ...	,,	2,470	.. 13,449
XXVI.—2.	Firewood ...	,,		... 7,963

The following are the items of Goods Traffic which show a falling off in Revenue above Rupees 5,000 :—

				Rs.
II.—3*a*.	Piece Goods, Indian ...	Tons.	427	... 9,325
IV.—5.	Bark Tanning ...	,,	858	... 16,445
V.—1.	Wheat ...	,,	903	... 7,034
3.	Cholum and Camboo ...	,,	4,786	... 23,546
VI.—2.	Skins of Sheep, &c. ...	,,	920	... 18,627
XII.—2.	Iron ...	,,	915	... 14,622
XVII.—2.	Cocoanuts ...	,,	999	... 7,277
XXXII.—3.	Ordnance Stores ...	,,	113	... 7,836

29. The following Table prepared from the Analysis will show the Progress of our Business and the Economy observed in conducting it :—

TRAFFIC.	June 1881.	Dec. 1881.	June 1882.	Dec. 1882.	June 1883.	Dec. 1883.	June 1884.	Dec. 1884.	June 1885.	Dec. 1885.	June 1886.	Dec. 1886.	June 1887.	Dec. 1887.	June 1888.	Dec, 1888.	June 1889.	Dec. 1889.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs,	Rs.	Rs.
Total Earnings per Train mile	3·37	3·17	3·75	3·75	3·74	3·78	3·19	3·80	3·83	3·89	3·53	3·59	3·87	3·48	3·84	3·52	3·78	3·908
Working Expenses per Train mile	2·21	2·01	2·30	2·98	2·47	2·19	1·53	1·93	2·04	1·26	2·36	2·29	2·67	2·89	2·93	2·97	2·28	2·405
,, Net Earnings	1·16	·996	1·245	1·377	1·327	1·359	1·466	1·287	1·479	1·463	1·517	1·330	1·320	1·159	1·491	1·455	1·650	1·503
COACHING TRAFFIC.																		
Average sum received for carrying a unit one mile.	Pies.	Pies.	Pies.	Pies.	Pies	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.
First class	16·21	15·40	14·71	13·94	14·32	12·44	14·30	13·65	14·90	13·09	13·95	11·81	15·29	10·50	13·54	10·95	14·67	9·37
Second class	6·30	5·19	6·28	6·07	5·67	5·79	6·06	5·96	5·85	5·56	6·03	5·51	5·58	5·51				
Lowest class	1·99	2·00	1·99	1·99	1·99	1·94	1·88	1·86	1·87	1·85	1·66	1·66	1·66	1·67	1·70	1·70	1·68	1·68
Average for all classes	2·27	2·23	2·29	2·26	2·22	2·19	2·13	2·09	2·11	2·05	2·06	1·88	1·86	1·86	1·92	1·87	1·87	1·81
Average cost of hauling a Coaching unit one mile																		
Per Passenger unit	1·37	1·39	1·28	1·18	1·13	1·09	1·09	1·14	1·13	1·12	1·10	·98	1·10	1·21	1·03	1·01	·99	1·07
Average Profit per Passenger	·90	·84	1·01	1·08														
Average sum received for other Coaching Traffic per Ton per mile	36·34	38·97	37·57	41·11	36·28	32·66	32·55	28·89	36·95	34·46	35·35	35·01	36·53	36·27	35·59	37·30	39·25	35·31
Average cost of hauling other Coaching Traffic per Ton per mile	16·34	19·61	16·68	12·04	13·21	10·08	13·47	13·06	15·21	14·16	15·25	15·68	15·57	16·80	13·49	13·46	14·06	14·39
Average profit per Ton	20·20	19·36	20·89	29·07	23·07	22·58	19·08	15·83	21·74	20·30	20·10	19·33	20·96	19·47	22·10	23·84	25·19	20·92
GOODS TRAFFIC.																		
Average sum received for carrying a Ton one mile	9·61	9·13	8·79	8·99	8·87	8·60	7·75	7·69	7·93	7·65	7·76	7·59	7·73	7·75	7·83	7·79	7·90	7·60
Average cost of hauling a Goods unit, *viz.*, one Ton one mile	6·78	6·76	6·19	6·39	6·36	6·08	5·29	5·57	5·16	5·00	5·00	5·25	5·23	5·38	4·91	5·02	4·73	4·88
Average profit on working a Goods unit, (*viz.*, one Ton one mile	2·83	2·87	2·60	2·60	2·60	2·51	2·52	2·46	2·12	2·77	2·65	2·76	2·84	2·50	2·97	2·92	2·77	3·17	2·72

30. The following classification of all Goods carried is designed to shew Country and Foreign Trade :—

DESCRIPTION.	Half-year ending December, 1889.		Half-year ending December, 1888.	
	Maunds.	Rupees.	Maunds.	Rupees.
Country Trade.				
Food Grains	3,322,761	5,74,152	3,001,397	5,10,632
Miscellaneous articles for Domestic Consumption	2,305,279	4,45,759	1,824,395	3,98,033
Salt and Saltpetre	877,908	2,05,842	834,175	2,04,058
Firewood and Fuel	849,896	52,871	876,645	44,908
Materials used in building construction and Manufacture	859,687	1,96,201	850,490	2,02,002
Cloths, Piece Goods and Twist (Indian) ...	140,991	61,516	141,410	67,261
Sundries	972,528	3,00,142	1,154,282	3,32,374
Total...	9,329,050	18,36,483	8,682,794	17,49,268
Foreign Trade.				
Exports or Colonial Produce	1,114,619	4,21,599	937,863	3,63,962
Imports, Cloths, Piece Goods and Twist, (European)	86,982	42,957	89,083	43,245
European Stores for consumption in India ...	109,666	53,824	111,934	50,370
Coal and Coke for the Public	268,489	53,539	111,331	22,243
Do for the Company	22,948	1,691	14,949	275
Government Stores	20,936	29,722	20,832	34,952
Railway Materials	902,420	1,38,302	258,079	37,536
Total...	2,526,060	7,41,634	1,544,071	5,52,583
Grand Total...	11,855,110	25,78,117	10,226,865	23,01,851

31. The following Statement is framed to give a comparison of the Internal Trade (sub-divided into Food grains and other Commodities) and the External or Foreign Trade (Exports or Imports) passing over the Railway for a series of years :—

PERIODS.	Country Trade.				Foreign Trade, Exports or Imports.		Government Stores.		Railway Stores.		Total.	
	Food grains.		Other Commodities.									
	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.
	Maunds.	Rupees.	Maunds.	Rupees.	Maunds.	Rupees.	Maunds.	Rupees.	Maunds.	Rupees.	Maunds.	Rupees.
December, 1876	6,448,865	15,09,576	8,147,737	15,96,579	1,961,615	10,20,858	128,875	1,27,925	31,521	4,791	16,718,613	42,59,729
Do. 1877	20,037,072	47,11,730	5,404,879	16,25,584	1,323,601	5,65,916	121,515	1,25,701	36,818	6,159	26,923,885	70,35,090
Do. 1878	6,068,324	12,59,187	6,779,428	14,31,125	1,508,633	6,72,187	117,811	1,52,581	38,055	4,646	14,512,251	35,19,726
Do. 1879	5,724,530	12,24,775	9,999,199	16,06,598	1,791,713	7,66,609	69,672	78,146	27,769	3,755	17,612,883	36,79,883
Do. 1880	3,553,664	6,58,852	11,014,234	17,01,821	1,876,213	7,99,668	92,832	92,347	51,461	8,685	16,588,404	32,61,373
Do. 1881	3,377,162	6,38,158	7,996,265	17,66,455	2,112,658	8,52,893	74,244	75,564	85,805	16,013	13,646,134	33,49,083
Do. 1882	3,380,180	6,44,323	7,032,339	19,46,539	2,676,042	10,35,624	99,611	1,07,681	2,723	528	13,190,895	37,34,695
Do. 1883	3,158,585	4,90,871	8,075,372	20,37,915	2,679,301	9,82,154	93,562	1,09,135	5,067	1,387	14,011,887	36,21,462
Do. 1884	4,757,712	7,03,707	8,552,134	21,13,790	3,044,239	9,05,763	75,999	93,449	2,242,349	20,133	18,672,433	38,36,842
Do. 1885	5,392,637	7,60,500	9,243,368	22,36,514	2,306,882	7,83,519	77,438	71,660	716,531	2,81,658	17,736,856	41,33,851
Do. 1886	4,919,219	7,42,809	9,448,170	21,94,224	3,070,405	10,77,417	57,316	61,217	612,079	2,16,169	18,107,189	42,91,836
Do. 1887	4,764,534	7,00,158	10,986,294	23,37,815	3,022,418	10,77,268	59,331	70,978	977,516	2,80,148	19,810,093	44,66,367
Half-year ending June, 1888...	2,395,887	3,44,430	5,691,193	12,03,567	1,531,220	5,61,652	20,966	32,509	298,715	45,277	9,937,981	21,87,435
Do. Dec., 1888...	3,001,397	5,10,632	5,681,397	12,38,636	1,265,160	4,80,095	20,832	34,952	258,079	37,536	10,226,865	23,01,851
Do. June, 1889...	2,581,027	5,34,620	5,561,604	11,82,429	1,745,540	6,39,585	22,011	38,914	432,871	57,567	10,343,053	24,53,115
Do. Dec., 1889...	3,322,761	5,74,152	6,006,289	12,62,331	1,602,704	5,73,610	20,936	29,722	902,420	1,38,302	11,855,110	25,78,117

The total in the foregoing for the past Half-year, *viz.*, Rupees 25,78,117 is made up from items in Abstract I of the Revenue Account thus :—

1.	Merchandise	Rs.	24,84,280
2.	Military Stores	„	29,722
3.	Railway Materials	„	16,047
4.	Coal for the Public, &c. ...	„	48,068
		Rs.	25,78,117

32. The following are the Chief Commodities interchanged with Foreign Railways working with the Madras Railway in the Half-year under review, and the corresponding Half-year in 1888:—

DESCRIPTION OF COMMODITY.	To and from Foreign Railways.			
	Half-year ending December, 1889.		Half-year ending December, 1888.	
	Tons.	Rs.	Tons.	Rs.
I. Coal and Coke	182	1,427	...	...
II. Cotton.—				
1. Raw	3,753	41,031	2,457	28,869
2. Twist and Yarn—				
(a). European	310	3,821	300	3,384
(b). Indian	672	6,042	450	4,084
3. Piece Goods—				
(a). European	349	6,294	322	5,516
(b). Indian	1,219	16,563	1,415	21,133
III. Drugs and Chemicals.—				
1. Intoxicating, other than Opium	...	...	...	...
2. Non-intoxicating—				
(a). Cinchona bark ...	...	...	...	...
(b). Others	163	2,121	147	2,004
IV. Dyes and Tans.—				
1. Indigo	202	3,438	269	4,800
2. Myrabolams	...	...	...	...
3. Aniline dyes	...	...	...	...
4. Dye or Redwood ...	147	1,020	218	1,225
5. Bark (tanning)... ...	2,001	29,811	2,559	39,587
6. Others...	373	2,267	400	4,440
V. Grain.—				
1. Wheat	2,498	17,998	3,387	25,014
2. Rice	5,892	31,744	7,503	38,527
3. Cholum and Cumboo ...	651	2,062	2,234	7,293
4. Gram	2,881	17,083	3,027	13,741
5. Raggy...	6,825	36,133	2,023	8,162
6. Others...	8,006	18,924	3,256	10,748
VI. Hides and Skins.—				
1. Hides of Cattle... ...	710	12,056	459	7,982
2. Skins of Sheep, &c. ...	4,991	94,613	5,133	1,04,413
VII. Horns.—	53	538	67	678
VIII. Jute.—				
1. Raw	...	...	...	...
2. Gunny bags and cloth ...	755	7,422	671	6,934
IX. Lac.—				
1. Stick	...	...	...	...
2. Shell-lac	...	...	...	...
X. Leather Manufactured.— ...	...	...	...	...
XI. Liquors.—				
1. Beer	1,120	29,378	995	23,333
2. Wines	33	636	35	684
3. Spirits	367	3,056	600	4,643
XII. Metals.—				
1. Copper, unwrought ...	44	563	...	...
2. Iron	1,160	14,911	1,985	26,501
3. Tin	...	...	...	...
4. Others	748	8,547	196	3,548
XIII. Oils.—				
1. Castor	537	1,567	958	1,975
2. Kerosine	265	3,370	258	3,241
3. Others	440	2,103	307	2,355
Carried forward...	47,347	4,16,539	41,631	4,04,814

DESCRIPTION OF COMMODITY.	To and from Foreign Railways.			
	Half year ending December, 1889.		Half year ending December, 1888.	
	Tons.	Rs.	Tons.	Rs.
Brought forward...	47,347	4,16,539	41,631	4,04,814
XIV. Oil Seeds.—				
1. Linseed	...	...	...	...
2. Mustard and Rape ...	...	...	...	...
3. Til or Gingelly... ...	2,528	16,490	1,646	8,484
4. Castor...	988	4,480	460	1,895
5. Others...	5,624	6,330	4,049	14,925
XV. Opium	...	...	...	...
XVI. Paper and Paste Board ...	...	...	...	...
XVII. Provisions.—				
1. Ghee	234	2,809	247	3,065
2. Cocoanuts	1,650	12,729	2,129	17,567
3. Betel nuts	2,058	24,766	1,663	18,710
4. Vegetables	1,135	8,425	1,545	11,705
5. Others...	10,018	27,680	5,935	29,389
XVIII. Railway Plant & Rolling Stock.	100	903	163	4,113
XIX. Salt	4,831	32,227	5,061	40,704
XX. Saltpetre	...	...	...	...
XXI. Silk.—				
1. Raw—				
1. Foreign	...	...	...	...
2. Indian	...	...	...	...
2. Piece Goods—	450	4,946	436	5,160
XXII. Spices.	680	5,474	641	4,589
XXIII. Sugar.—				
1. Drained	3,748	20,644	3,092	15,986
2. Undrained	967	3,270	708	3,074
XXIV. Stone and Lime				
XXV. Tea.—				
1. Foreign	...	...	...	...
2. Indian.	21	1,162	26	1,266
XXVI. Wood.—				
1. Timber	3,609	25,816	4,082	29,693
2. Firewood	307	2,226	1,825	1,780
XXVII. Tobacco.	1,029	10,410	1,029	10,110
XXVIII. Umbrellas.	...	...	...	...
XXIX. Wool.—				
1. Raw	...	...	...	...
2. Piece Goods—				
(a.) European ...	...	...	...	...
(b.) Indian	109	1,420	145	1,719
3. Shawls	...	...	...	...
XXX. Coffee	...	...	...	...
XXXI. Manure—Bones and Oil cake. ...	888	3,722	804	2,508
XXXII. Government Stores.—				
1. Military Baggage ...	...	...	...	...
2. Commissariat Stores ...	300	9,848	237	7,041
3. Ordnance Stores ...	309	14,536	338	23,250
XXXIII. All other Articles of Merchandise.—				
1. Unmanufactured ...	262	2,680	197	1,496
2. Manufactured.—				
(a.) Combustibles ...	81	1,953	87	1,892
(b.) Others	2,725	53,062	6,243	50,424
Other Items	442	4,551	535	5,164
Total...	92,440	7,19,098	84,954	7,20,523

33. The interchange of Passenger Traffic with the Railways that are connected with the Madras Railway is given in the following Table and shews an increase in numbers of 21538 and decrease in amount of Rupees 24,122-15-3, as compared with the corresponding Half-year;—

PASSENGER TRAFFIC.	To and From Foreign Railways.							
	Half-year ending December 1889.				Half-year ending December 1888.			
	No.	Amount.			No.	Amount.		
		Rs.	A.	P.		Rs.	A.	P.
Passengers ... ... 1st Class...								
" ... .. 2nd Class... ..	1,339½	23,192	11	9	818½	18,831	13	0
" ... ... 3rd Class... ...	2,315½	16,618	2	10	1,466	12,233	1	10
Soldiers ... ... 1st Class..	220,643	2,19,994	9	6	200,862	2,27,885	6	9
" ... ... 2nd Class... ...	220½	2,142	4	0	292	5,891	8	0
" ... ... 3rd Class... ...	2,232	5,374	8	5	2,721½	14,090	3	0
Return Fares ... 1st Class... ...	11,035	15,485	10	1	9,277½	22,325	7	10
" ... ... 2nd Class... ...	108	1,934	12	0	204	4,536	8	0
" ... ... 3rd Class... ...	118	1,252	6	0	449	4,288	4	0
Excess ... ... 1st Class... ...	7,745	628	14	0	8,128	676	6	6
" ... ... 2nd Class... ...	...	22	0	0	..	20	0	0
" ... ... 3rd Class... ...	...	72	8	0	...	9	5	0
...	...	134	2	4	...	187	8	3
TOTAL...	245,756½	2,86,852	8	11	224,218½	3,10,975	8	2

Details of Revenue Expenditure.

34. The following are the charges shewn in the several Departmental Abstracts as compared with the corresponding charges in the 2nd half of 1888 with such explanations of the differences as are known in this office:—

Abstract A. Maintenance of Way, Works and Stations.

	Second half of 1888.			Second half of 1889.			Increase in 1889.			Decrease in 1889.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
General Superintendence ...	1,28,163	9	6	1,28,517	6	10	353	13	4	...	...	...
Maintenance and Permanent Way	2,84,325	7	0	2,45,893	13	4	...	...	...	38,431	9	8
Repairs of Bridges, &c. ...	1,59,132	2	9	1,54,601	6	6	...	...	...	4,530	12	3
Other Expenditure	1,63,329	11	10	3,35,623	10	3	1,72,293	14	5	...	...	...
	7,34,950	15	1	8,64,636	4	11	1,72,647	11	9	42,962	5	11
Charges paid from Fire Insurance Fund...	...	...	...	106	9	9	106	9	9	...	...	...
	7,34,950	15	1	8,64,529	11	2	1,72,541	2	0	42,962	5	11
Net Increase Rupees...							1,29,578	12	1			

The total cost of "General Superintendence" for the two periods has been nearly the same. The salaries drawn by Engineers show a considerable reduction due mainly to Mr. Robinson's retirement on the 23rd August 1889 and to the bonus drawn by Mr. Stoney in the half year December 1888; on the other hand the allowances and Office Expenses have been higher.

"Maintenance and Renewal of Permanent Way" shews a considerable reduction in the cost of materials as the issue rate of these Stores has been reduced in the past half year, and a credit of Rs. 23,817-13-0 has been given for value of materials returned to stock from the Calicut Extension.

Under "Repairs of Bridges, &c.," the outlay on re-construction of Bridges, &c., as shewn at foot of the abstract has been Rs. 5,710 less than in the corresponding half year.

Under the other heads of account "Repairs of Stations and Buildings" shews a very large increase due to the transfer of expenditure on the Calicut Extension per G. O., No. 144 R., dated 24th January 1890.

A less amount of English Stores issued has reduced the charge under "Loss by Exchange."

On the whole the ordinary expenditure under Abstract **A** is less than in the corresponding half year and the large increase shewn in the total is solely accounted for by the large amount of extraordinary charges brought to account.

The extraordinary charges noted at the foot of the Abstract amount to Rs. 3,10,994-1-3 and they are allocated to sub-heads as under—

II.	Maintenance and Renewal of Permanent Way.							
	1. Wages					11,071	2	1
	2. Materials					7,021	15	2
							18,093	1 3
III.	Repairs of Bridges, &c.							
	1. Bridges and Tunnels					1,15,720	7	9
	2. Miscellaneous					4,019	15	1
							1,19,740	6 10
IV.	Repairs of Stations and Buildings							
	1. Repairs of Buildings, &c.					1,58,431	9	2
	2. do. Staff Quarters					14,729	0	0
							1,73,160	9 2
						Total...	3,10,994	1 3

Abstract B. Locomotive Expenses.

	Second half of 1888.			Second half of 1889.			Increase in 1889.			Decrease in 1889.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
General Superintendence ...	52,519	1	10	50,007	2	4	...	...	...	2,511	15	6
Running Expenses ...	1,58,727	12	4	1,62,103	4	2	3,375	7	10	...	...	...
Fuel	2,83,324	11	8	3,42,077	10	2	58,752	14	6	...	...	...
Maintenance, &c., Engine and Machinery	2,29,738	0	0	2,35,629	2	10	5,891	2	10	...	...	...
Other Expenditure	92,072	10	10	1,22,192	4	11	30,119	10	1	...	...	...
	8,16,382	4	8	9,12,009	8	5	98,139	3	3	2,511	15	6
Net Increase Rs. .							95,627	3	9			

The salaries and allowances charged under "General Superintendence" (Abstracts B and C) have been practically the same for the two periods, the decrease shewn above under this head being due to the transfer of the Locomotive Accountant to the Audit Office and to a saving effected in the cost of office stationery.

The increase under "Running Expenses" is chiefly caused by larger payments for overtime.

The important feature of this Abstract is the increase cost of "Fuel" amounting to Rs. 58,752-14-6 notwithstanding a reduction in the train mileage of 23,765 miles.

The consumption of fuel per train mile and the average cost of it per ton charged to Revenue for the two half years has been as under—

Half year.	Average consumption per Train mile.	Average cost per ton to Revenue.
	lbs.	Rs.
December, 1888...	105·43	5·01
Do. 1889...	112·56	5·78

The quantity of Wood used during the half year has been 2121 tons less, and that of Patent Fuel 1,416 tons more, than in the corresponding half year; while the issue rate of the latter has been Rs. 24·75 per ton against an issue rate of Rs. 17 per ton in December 1888, which the Locomotive Accountant explains to be due mainly to a large increase in the cost price of Patent Fuel during the year 1889.

"Loss by Exchange" shows a considerable increase due in some measure to increased consumption of coal and Patent Fuel.

Abstract C. Carriage and Wagon Expenses.

	Second half of 1888.			Second half of 1889.			Increase in 1889.			Decrease in 1889.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
General Superintendence	20,796	11	3	20,621	11	2	...	...	...	175	...	1
Repairs & Renewals of Vehicles, &c.	2,30,107	13	9	2,85,793	2	4	55,685	4	7	...	...	...
Cleaning and Oiling	26,631	6	10	29,157	8	1	2,526	1	3	...	...	...
Other Expenditure	21,930	9	7	31,076	5	2	9,145	11	7	...	...	...
	2,99,466	9	5	3,66,648	10	9	67,357	1	5	175	...	1
Charges paid from Fire Insurance Fund	3,025	9	8	...	...	...	...	...	...	3,025	9	8
	2,96,440	15	9	3,66,648	10	9	67,357	1	5	**Cr.** 2,850	9	7
Net Increase Rs.							70,207	11	...			

The large increase shewn under "Repairs and Renewals, &c.," is almost entirely for a larger value of materials used. The statement of Rolling Stock, Form No. 12 shews a much larger number of repairs and renewals than in the corresponding half year. The increase in "Loss by Exchange" is accounted for by the increased quantity of materials referred to.

Abstract D. Traffic Expenses.

	Second half of 1888.			Second half of 1889.			Increase in 1889.			Decrease in 1889.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Salaries, Wages, &c.	2,93,698	8	5	2,93,619	8	11	...	...	...	78	15	6
Fuel, Lighting, &c.	56,470	13	6	51,107	2	6	...	...	...	5,363	11	0
Other Expenditure	50,887	7	6	57,214	11	2	6,327	3	8	...	...	...
	4,01,056	13	5	4,01,941	6	7	6,327	3	8	5,442	10	6
Charges paid from Fire Insurance Fund.	110	15	9	...	...	...	...	...	...	110	15	9
	4,00,945	13	8	4,01,941	6	7	6,327	3	8	5,331	10	9
Net Increase Rs...							995	8	11			

The chief variations in the Official salaries of the Traffic Department are that full salary has been drawn by Mr. Byron who was on leave in 1888, but on the other hand, nothing has been charged for Messrs. Johnstone and Smith who were employed in the Official Grade in the corresponding half year.

The full salary of Mr. Read also is now charged to the Agent and Manager's office.

The charges under "Station Staff" have been reduced by a transfer of Rs. 9,512-11-11 to the cost of Signallers, Telegraph Department Abstract **E**., being $\frac{1}{3}$ of the cost of Station Masters and Assistants employed at Stations where there are no Signallers.

Lights, Stores, &c., show a decrease and Clothing an increased outlay.

Abstract E. General Charges.

	Second half of 1888.			Second half of 1889.			Increase in 1889.			Decrease in 1889.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Home Expenditure ...	32,402	1	5	32,370	5	1	.....	...	...	31	12	4
Salaries, &c., General Offices ...	1,24,580	1	8	1,32,991	5	10	8,411	4	2	.....	...	...
Police	21,712	1	5	23,313	14	1	1,601	12	8	.....	...	...
Telegraph	50,821	13	8	61,676	6	6	10,854	8	10	.....	...	...
Other Expenditure	19,527	11	8	19,411	6	0	.....	...	...	116	5	8
	2,49,043	13	10	2,69,763	5	6	20,867	9	8	148	2	0
Charges paid from Fire Insurance Fund	2,993	10	2	2,583	2	3	.....	...	...	410	7	11
	2,46,050	3	8	2,67,180	3	3	20,867	9	8	**Cr.** 262	5	11
Net Increase Rs.							21,129	15	7			

The following particulars explain important differences in the cost of the General Offices for the two periods, the net result being an increase of Rupees 8,411-4-2 as shewn above.

Agent and Manager's Office.—Increase Rupees 2,166-15-2 includes full salary of Mr. Read, while only half of it was charged in the corresponding half year. The full salary of a Head Clerk who was entertained in June last is also included.

Audit Office.—Increase Rs. 6,361-6-1 due to the sanction of the Audit Staff with effect from October last, to the salary of the Locomotive Accountant being now charged here and to the special temporary allowance of Rs. 100 a month given to an Accountant, which lapsed at the close of the half year.

Stores Department.—Decrease Rs. 516-2-1 due to the transfer of Mr. Dunsterville to the Audit and the consequent employment of an Acting General Storekeeper.

Medical Department.—Increase Rs. 779-13-6 caused by increases of salaries drawn by some Apothecaries and to the temporary employment of a Vaccination Staff.

Police.—Increase Rupees 1,601-12-8 due to an increase of pay to the Superintendent of Watchmen, &c., and to a larger staff being employed. The cost of Clothing also was greater than in the corresponding half year.

Electric Telegraph Department.—Increase Rs. 10,854-8-10 of which Rs. 9,512-11-11 is the amount transferred from Station Staff Abstract D as explained under that Abstract. The cost of Maintenance has also been higher than in the corresponding period.

Abstract G. Special and Miscellaneous Expenditure.

	Second half of 1888.			Second half of 1889.			Increase in 1889.			Decrease in 1889.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Law Charges	3,543	5	8	**Cr.** 202	14	4	...	...	...	3,746	4	0
Compensation	10,817	11	0	4,255	11	1	...	...	...	6,561	15	11
Rates and Taxes	9,194	3	10	7,456	4	10	...	...	...	1,737	15	0
Payments to other Lines ...	...	...	...	1,130	7	0	1,130	7	0	..	...	...
Other Expenditure	8,987	11	5	8,792	12	0	...	...	...	194	15	5
	32,542	15	11	21,432	4	7	1,130	7	0	12,241	2	4
Charges paid from Fire Insurance Fund	6,641	10	1	...	...	...	...	...	...	6,641	10	1
	25,901	5	10	21,432	4	7	1,130	7	0	5,599	8	3
Net Decrease Rs...										4,469	1	3

In consequence of the recovery of all costs in the suit brought by Davasegamony against the Company the "Law Charges" of the Half-year result in a credit amount of Rs. 202-14-4.

In "Compensation" also there is a large reduction as no claims chargeable to the Fire Insurance Funds have been incurred in the past Half-year, while in the Half-year, December 1888, claims were paid on this account amounting to Rs. 6,641-10-1.

The reduction under "Rates and Taxes" is due to the charges for assessment on Buildings in Madras for the Half-year ending 31st December 1888, covering a period of 9 Months instead of 6 Months.

35. The notes against each head of expenditure in the following table show generally in a comparative form the work done in each Department for each Half-year:—

Expenditure.

DEPARTMENTS.	HALF-YEAR ENDING DECEMBER 1889.					HALF-YEAR ENDING DECEMBER 1888.				
	Work of Departments.	Cost.			Per cent. of Revenue.	Work of Departments.	Cost.			Per cent. of Revenue.
	Ms. ch. ft.	Rs.	A.	P.		Ms. ch. ft.	Rs.	A.	P.	
ABSTRACT **A.** Maintenance of Way, Works and Stations	995 73 32½	8,64,529	11	2	18·78	991 7 5	7,34,950	15	1	17·22
ABSTRACT **B.** Locomotive expenses ...	Gross Mileage of Engines 1,387,136 Number of Engines under repair at any one time, 40.	9,12,009	8	5	19·81	Gross Mileage of Engines, 1,407,113 Number of Engines under repair at any one time, 49.	8,16,382	4	8	19·13
ABSTRACT **C.** Carriage and Wagon expenses	Number of Vehicles under repair at any one time, 190. Number constructed, 199.	3,66,648	10	9	7·96	Number of Vehicles under repair at any one time, 234. Number constructed 7.	2,96,440	15	9	6·94
ABSTRACT **D.** Traffic expenses ...	Profitable Train Mileage, 1,178,155 Number of Stations, 128.	4,01,941	6	7	8·73	Profitable Train Mileage, 1,201,920 Number of Stations 127.	4,00,945	13	8	9·39
ABSTRACT **E.** General charges ...	Miles open, 840.	2,67,180	3	3	5·80	Miles open, 840.	2,46,050	3	8	5·76
ABSTRACT **G.** Special and Miscellaneous expenses	.....	21,432	4	7	·46	.....	25,901	5	10	·61
	TOTAL...	28,33,741	12	9		TOTAL...	25,20,671	10	8	

RAILWAY SCHOOLS.

36. The particulars of the attendance and cost of all the Schools, during the Half-year are given in the following table:—

NAME OF SCHOOL.	Number on Register.	Average Attendance.	Expenditure.			Receipts.			Net Cost.		
			Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Perambur	84	73·33	*a* 1,627	12	11	369	0	0	1,258	12	11
Katpadi	17	11·92	475	8	3	61	9	8	413	14	7
Jalarpet	48	36·67	767	1	10	197	2	6	569	15	4
Salem	47	35·17	1,066	7	5	186	7	10	879	15	7
Podanur	58	43·00	1,079	7	5	218	11	6	860	11	11
Renigunta	21	16·67	346	6	0	85	5	4	261	0	8
Gooty	35	25·32	576	7	5	140	1	8	436	5	9
Raichur	31	31·70	1,045	15	11	571	13	0	474	2	11
Total ...	341	273·78	6,985	3	2	1,830	3	6	5,154	15	8

a. The Expenditure on the Perambur School includes the Cost of the Gymnastic Instructor.

37. The usual Statistics and list of Statements forwarded herewith are annexed.

Yours faithfully,

(Signed) J. Crump

Chief Auditor.

From H. L. ANSTED, Esq., Medical Officer, Madras Railway, to the Acting Agent and Manager, Madras Railway, dated Ráyapuram, 8th April 1890, No. 315.

I have the honor to submit my report upon the health and sanitary condition of the line during the half-year ending 31st December 1889.

During this period the total number of employés admitted on the sick list is 7,968 as against a total of 6,795 in the corresponding half of the preceding year.

Of zymotic disease, notably cholera and small-pox, there have been very few cases indeed; on the other hand, fever in its several types has been unusually prevalent.

2. *Small-pox.*—Only four cases of small-pox were reported amongst employés, all of modified or mild type. They occurred at different up-country stations and all recovered.

Vaccination of railway employés and their households was made compulsory under an order of Government, dated 13th June 1889. Arrangements for vaccinating with calf lymph on a large scale were completed as rapidly as possible, a staff of vaccinators entertained and vaccination was fairly started on the 18th September when all the officers at Ráyapuram and a number of subordinates were operated on. From this date to the end of the year 3,452 persons were vaccinated with an average of 97 per cent. of successful results, and with practically no opposition on the part of employés.

3. *Measles.*—Four cases only were reported.

4. *Fever.*—Fevers have been very prevalent during the half-year, especially the true malarial or intermittent fever.

5. *Cholera.*—Three cases of cholera occurred, of which two proved fatal, and one case of choleraic diarrhœa, also fatal, occurred at Gooty in October.

6. *Dysentery.*—As is often the case in bad "fever years," dysentery has been very prevalent, the number of cases admitted being well above the average.

7. *Mortality.*—The total number of deaths reported during the half-year is five. Of these three were caused by cholera and choleraic diarrhœa, one by dysentery and one by aneurysm of the heart. No fatal accidents are reported to have occurred amongst employés.

8. *Ambulance Classes.*—In August ambulance classes for instruction in "first aid" to the wounded were started at all the most important stations and have been fairly well attended by guards, drivers and other employés. I have examined these classes on several occasions and have been satisfied with the progress made and the intelligent interest taken in the course by most of the employés. Attendance at the classes is voluntary, and although in the case of guards, drivers, &c., it is by no means easy, the numbers have been fairly large. Some practical good has already resulted from the knowledge gained at these classes, as in my letter No. 751 of 30th September 1889 I had the pleasure of bringing to your notice the valuable assistance rendered to a seriously injured cooly by Permanent-way Inspector Patton and Guard Dyer, while on a subsequent occasion Mr. Theobald, Chief Telegraph Inspector, rendered efficient aid to another cooly who had his hand blown off by the explosion of an electric fuse detonator.

I have made the usual half-yearly inspection of the North-west and South-west lines and have found the sanitation and conservancy of stations, barracks, &c., in good order, and the dispensaries, medicines and books in satisfactory working order.

COMPARATIVE STATEMENT of cases treated during the half-years ending 31st December 1888 and 31st December 1889.

Dates.	Small-pox.	Measles.	Simple fever.	Intermittent fever.	Remitent fever.	Cholera.	Choleraic diarrhœa.	Dysentery.	Diarrhœa.	Accidents and other diseases.	Total treated.
1888.											
July	2	..	98	97	1	9	..	50	51	801	1,109
August	1	1	83	122	..	1	..	33	56	815	1,112
September	1	..	139	120	1	2	..	38	65	777	1,143
October	..	..	131	200	..	2	..	39	38	771	1,181
November	1	..	131	178	..	..	..	42	60	808	1,220
December	3	..	114	183	2	2	..	29	30	667	1,030
Grand Total ..	8	1	696	900	4	16	..	231	300	4,639	6,795
1889.											
July	1	1	113	217	2	1	..	65	63	878	1,341
August	1	2	150	210	..	..	..	51	50	916	1,380
September	1	2	113	240	2	..	..	45	57	859	1,319
October	..	..	157	253	..	1	1	38	44	791	1,285
November	..	..	150	286	1	1	..	34	45	742	1,259
December	1	..	136	336	1	..	..	28	48	834	1,384
Grand Total ..	4	5	819	1,542	6	3	1	261	307	5,020	7,968

P W Encl
5226/90.

Form No. 1.

PUBLIC WORKS DEPARTMENT.

OFFICE OF CONSULTING ENGINEER FOR RAILWAYS,
Madras, 4th June 1890.

15 Copies of Reports by Heads of Departments of the Madras Railway for the half year ending 31st December 1889.

No. 386

~~Government.~~

SUBMITTED. for the information of Government and for transmission to the Director General of Railways.

J. & R.
A reminder was recd: from India. Inl

Sidney Smith
Major, R.E.
Offg: Cons: Engr: for Railways
Jul

P.W.C. No. 5226.

B. No. 799 R 9th June 190.

Form No. 3

From

THE CONSULTING ENGINEER

FOR RAILWAYS,

MADRAS,

No. 886

Dated 4th } June 1890
Received 4th }

No. OF ENCLOSURES. 1 + (+145 C)

Subject.

Reports by heads of departments of the Madras Railway for the Decennial half of 1889.

Ordered to be forwarded to the Director General of Railways.

B. No. 800 R 9th June 1890

Forwarded.

P.W.C. 10.6.90
W for R

Received with 1 copy of the Report by the Hon'ble the Secretary of State

I shall send this sent by Packet Post.

B
11/6

B. No. 799/800 R 9th June 1890.

To

The Comptr. Engr for Rys
" Exr Gl. Rly Secrets.

R. 9.6.90

R