Public Works (1890) Department.

RAILWAY BRANCH.

G.O., No. 1805-6 Rys.

DATED 14th November

[Despatch Abstract.]

Reports by heads of departments, Madras Railways—
Ordered that the — for the 1st half of 1890,
be forwarded to the Director-Genl of Railways.

Forwarded

[P. W. Dy.]

Indexed.

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 30TH JUNE 1890.

Madras Railway Company.

CHIEF ENGINEER'S OFFICE.

MADRAS, *26th August 1890.*

To

THE CHAIRMAN AND DIRECTORS,
MADRAS RAILWAY COMPANY,
LONDON.

GENTLEMEN,

I have the honor to submit my report for the half-year ending 30th June 1890.

The Way and Works both on the South-West and North-West Line have been well maintained and the road is in excellent order, the running is as smooth as can be expected considering the age of the rails but there is no doubt that the joints are more felt than was formerly the case, when the line was newer and the engines lighter. The rails on the 1st and 4th Divisions South-West Line and on the Bangalore Branch are wearing out rapidly, and considerable expenditure will have to be incurred on this account during the next few years. We have hitherto been crediting the value of old rails sold, to the stock in hand, so that the price of new rails was put down at considerably less than their actual value. Government has now ruled that this is irregular, consequently a charge of about 3 lacs of Rupees is to be debited to our stock in hand, and credited to Abstract K General Revenue. Thus although the Company will get credit for this amount, the Engineering Department will be debited with it.

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

Half-year ending 30th June 1889.

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

Half-year ending 31st December 1889.

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

Half-year ending 30th June 1890.

	RS.	A.	P.
Cost of maintenance including sidings	672	13	4
Extra expenditure	187	2	10
Ordinary expenditure ...	485	10	6

The ordinary expenditure for maintenance is Rs. 45-12-7 more per mile than that of the corresponding half-year owing to increased expenditure under almost every heading.

The number of miles, inclusive of Calicut Extension, maintained on the

South-West Line is	572¾
Do. do. North-West Line is	309
Sidings South-West and North-West Lines	113 7/12 = 995⅓

	Rs.	A.	P.
Total cost of maintenance during half-year ending 30th June 1890	6,69,692	8	11

Cost of maintenance per mile Rs. $\frac{6,69,692\text{-}8\text{-}11}{995\frac{1}{3}}$ = Rs. 672 13 4

The details of extraordinary expenditure for half-year ending 30th June 1890 are as follows :—

		Rs.	A.	P.
S. W. Line.	Watering arrangements on 2nd and 3rd Divisions ...	1,216	0	11
	Additional works chargeable to Revenue	9,943	13	7
	Re-building single 9 feet Girder Bridge at ⅔ miles ...	2,693	12	8
	Pitching Bank to tank 99/8 to 99/14 miles	210	15	4
N. W. Line.	Revenue portion of expenditure incurred in the re-construction of the Penner and Chitravati Bridges ...	1,58,175	0	0
	Laying New Permanent Way over Tungabhadra ...			
	Restoration of breaks at 258/10, 266/11 and 257/1-3			
	Repairing damage to the line at 238/7 to 244/4-5 miles, protective bund	2,686	4	0
	Cuddapah Engine Turn Table	3,130	11	2
	Additional works chargeable to Revenue	8,250	4	3
	Total Rupees...	1,86,306	13	11

	Rs.	A.	P.
Cost of extra expenditure per mile Rs. $\frac{1,86,306\text{-}13\text{-}11}{995\frac{1}{3}}$ =	187	2	10
Cost of ordinary expenditure per mile	485	10	6

The number of rails renewed on the South-West and North-West Lines for three half-years is as follows :—

For half-year ending 30th June 1889 ...	6,803.
Do. do. 31st Dec. 1889 ...	7,492.
Do. do. 30th June 1890 ...	7,838.

BRIDGES.

Chitravati.—The Chitravati Bridge was opened for Public traffic on 6th March. The tests were most satisfactory, the iron work very excellent and the carrying out of the work by Mr. Stoney in the short space of 22 months with a saving on the estimate of over 3 lacs of Rupees is most creditable and will I hope meet with some special recognition from the Board.

Papaghni.—The protective bund is being carried out. The houses for the staff are built and the necessary temporary lines in the river laid. No iron work has yet been received from England and as will be seen by the enclosed diagrams, floods may now be expected at any time so that even when the cylinders do arrive sinking them cannot advantageously be commenced before January. I regret to say that cholera broke out at the bridge in June and all work of every sort had to be suspended.

Tungabhadra.—Thirty out of fifty eight spans have had new Permanent Way laid over them which is very creditable considering the constant fever from which the staff and workmen have been suffering.

Bridge at 258/10 N. W. L.—This is the bridge which was injured in October last. Great difficulty was experienced in getting down the abutment wells owing to enormous boulders which had to be got out by divers. The wells and Cylinders were taken down to and bedded on rock and it is hoped that it will be opened for traffic early in September, although the wing walls will not be finished by that time.

Telangai Tank.—In the case of the Telangai tank in the 60th mile South-West Line, I put forward a proposition to build a bridge large enough to carry the whole of the water from this series of tanks even should they all burst, shewing a saving of Rs. 9,258, as compared with the original scheme which is now being carried out, and which involves abandoning a considerable area of wet cultivation which the Company will have to pay for. I would invite the Boards' attention to this with a view, should they consider that my proposition fully met the case, to ask Government to reduce the amount payable to them by the difference in the cost of the two schemes.

I have already referred to the question of weak girders on the line and have received the Consulting Engineer's letter on the subject, which I hope to reply to shortly. I may however mention that we have sold a large number of the old girders from the Chitravati to the South Indian Company.

In connection with this subject, I beg to call attention to the fact that the space between the rails in the Cauvery, Cheyair, Chitravati, Penner and Tungabhadra bridges is open, and that there are no rail guards on any of these bridges, so that if a hook of a coupling chain caught hold of one of the cross ties which hold the longitudinal sleepers together, or if there was a derailment on the bridge the result might be disastrous.

Stations.—The stations and yards are clean and in good order.

The alterations at Bangalore Cantonment Station have been almost completed and the station is now much improved and more convenient for the Public than it used to be.

It is proposed to build a new station house at Bangalore City, the present one being wholly unsuitable and the question is now being discussed with the Southern Mahratta Railway. The line between Bangalore Cantonment and the City was originally so badly laid out by the Mysore State Railway and the curves in the station are so sharp that in order to ease them we shall have to alter the line for about half a mile outside the station. Plans for this work are being got out.

The station buildings and goods shed at Palghat are built of bamboos and palmyra leaves and are liable at any time to be burnt or blown down. In the event of a fire, every thing in the goods shed would be destroyed and the Company suffer a heavy loss. We can do nothing in the way of getting out plans for a permanent station until the Government let us know what they intend to do about the extension of the broad gauge, or junction with the metre gauge to Dindigul.

Wells.—The trial well at Bangalore Cantonment has turned out so successful that I propose to sink a larger one next season. The wells at Arkonam, Cuddapah, and Adoni are low and the supply at Raichur very short. The well at Jalarpet is also very low and will I think have to be enlarged. Salem well has completely failed and the scheme referred to in my last report to carry water in pipes from 204/6 miles has gone forward for Government sanction.

Trial Station.—A trial station at Vepagunta between Nagari and Puttur on the North-West Line has been opened during the half-year.

Extension of Platforms and Through Sidings.—Extension of platforms and through sidings have been completed at Kamalapuram and Kondapuram during the half-year.

Survey.—Government sanction for the Nellore-Guntur Survey was unfortunately only received in February when Mr. West took charge of it. As during the hot weather not half the proper amount of work could be done and the staff were suffering from the heat, I stopped the survey during the months of May and June. I expect the whole of the survey from Nellore to Guntur including the alternative line to Bezwada will be completed about the middle of September.

Staff.—I have been very short-handed during the last half-year. Mr. West and Mr. Parsons were on survey and owing to the lamented death of Mr. Wilkinson, I was obliged to put the 3rd and 4th Divisions South-West Line under one Engineer (Mr. Ewing). Mr. Winter, the Telegraph Engineer, in the kindest way came forward and proposed to take a Division which offer I gladly accepted and put him in charge of 1st Division South-West Line for 2 months. I have no doubt that the two Engineers lately sent out by the Board will ultimately be useful but men from home have to gain Indian experience before they are of much value on the staff.

I have the honor to be,

Gentlemen,

Your Most Obedient Servant,

H. R. P. CARTER,

Chief Engineer.

MADRAS RAILWAY COMPANY.

TELEGRAPH ENGINEER'S OFFICE,

ARKONAM, *31st August 1890.*

No. 166.

To

THE ACTING AGENT AND MANAGER.

REPORT FOR THE HALF-YEAR ENDING 30th JUNE 1890.

MY DEAR SIR,

I beg to submit the following report of the Telegraph Department for the half-year ending 30th June 1890.

During the half-year single needle and Block instruments were fixed at Jakkulacheruvu station.

Electric Starting Semaphores were fixed at Sulur, Thinnappatti and Munnal stations on the South-West Line and at Patchur, Mallanur and Tyakal stations on the Bangalore branch.

The Teak posts were replaced by iron rails between Tiruvallur and Sevvapet.

The undermentioned new vehicles were fitted with electrical intercommunication appliances at the Perambur Works.

Iron Covered Goods Wagons	98
Powder Brake Vans	2
Saloon	1
Composite	5
Third Class Carriages	15

The following are comparative statements of interruptions on the ordinary Telegraph lines, the Block lines and intercommunication in trains.

Interruptions on Telegraph lines.

	S. W. LINE.		N. W. 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 corresponding half-years of previous 10 years.	1·9	13·8	1·3	9·2	26·2
Half-year ending 30th June 1890	2	28	2	12	44

Of the accidental interruptions,

13 were due to contact of wires.
9 were due to disconnection.
14 were due to earth and
4 were due to lightning.

Interruptions in Block Working.

	Miles opened.	Number of Circuits.	S. W. Line.		N. W. 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.	
Half-year ending 30th June 1890.	796	96	8	35	9	15	67

Of the accidental interruptions,

11 were due to disconnection.
2 were due to contact of wires.
4 were due to earth.

22 were due to lightning.
3 were due to weak battery and
8 were due to instrumental faults.

Percentage of Semaphore failures for the half-year ending 30th June 1890.

Particulars.	1890.						Total and mean percentage.
	January.	February.	March.	April.	May.	June.	
(a.) Due to station staff.	0·44	0·42	0·22	0·41	0·37	0·31	0·36
(b.) Due to faults in apparatus caused by lightning and interference without Inspector's knowledge.	0·05	0·02	0·05	0·06	0·05	0·00	0·04
(c.) Due to other faults in apparatus.	0·27	0·18	0·31	0·22	0·15	0·16	0·21
(d.) Total ...	0·76	0·62	0·58	0·69	0·57	0·47	0·61

The following statement shows the working of the Electrical intercommunication in trains.

	Half-year ending 30th June 1889.	Half-year ending 30th June 1890.
Total Mileage of fitted trains	1,208,974	1,083,574
Mileage of fitted trains with complete communication	1,203,908	1,079,830
Percentage of interruption	0·42	0·34

I enclose a list of cases in which Electrical intercommunication 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.

Yours very truly,

G. K. WINTER,

Telegraph Engineer.

Summary of the working of Electric Clocks for the months of January, February, March, April, May and June 1890.

		1890.						Mean of six months.
		January.	February	March.	April.	May.	June.	
Clock failures.	Caused by circumstances beyond Signallers' control ... per cent.	0·00	0·71	2·15	1·11	3·01	2·00	1·50
	Caused through the negligence of Signallers ... "	3·74	1·43	1·93	0·22	3·23	1·11	1·94
	Clock errors 2 minutes & over ... "	0·00	0·00	0·00	0·00	0·00	0·00	0·00
	Clock errors under 2 mts. but 1 minute & over ... "	0·23	0·00	0·00	0·00	0·00	0·00	0·04
	Clock under 1 minute ... "	96·03	97·86	95·92	98·67	93·76	96·67	96·48
	Do. stopped ... "	0·00	0·00	0·00	0·00	0·00	0·22	0·04
		100·00	100·00	100·00	100·00	100·00	100·00	100·00

G. K. WINTER,

Telegraph Engineer.

Abstract of cases in which Electrical Intercommunication was used and trains stopped during the half-year ending 30th June 1890.

Date 1890.		Particulars taken from the Guards' Journals.
		Derangement in Rolling Stock.
January ...	21	To remove the damaged centre chain of a wagon.
February ...	23	The bridle rod of a wagon dropping off.
		Safety of Passengers and Public Property.
January ...	28	To extinguish fire in a 2nd class.
February ...	6	To hand over the man to the Police who was hiding on the wagon.
May ...	16	To pick up a soldier left behind.
" ...	24	To extinguish fire in H. S. Wagon.
" ...	28	To extinguish fire in a 2nd class.
June ...	9	To pick up two baskets of mangoes that fell out of brake van.

G. K. WINTER,

Telegraph Engineer.

From E. W. STONEY, Esq., Acting Deputy Chief Engineer, Madras Railway Company, to the Chief Engineer, Madras Railway Company, dated Madras, 30th April 1890.

I beg to submit the following report upon the Way and Works for the half-year ending 31st March 1890, together with abstracts of the cost of maintenance during that period. (not printed)

SOUTH-WEST LINE.

1. *Earthwork.*—The banks and cuttings throughout the South-West Line are in good order.

2. *Fencing.*—The fencing with the following exceptions is generally in good orders:—

On the 1st division, between Gudiyátam and Gudiyátam bridge, the vegetable fence requires repairing and strengthening to make it efficient.

On the 3rd division, between Mallapuram and Kadiampatti, the vegetable fence is in many places completely destroyed by wild creepers and jungle; the stone wall is also continually falling, and as the expense of keeping the fence clear of jungle is excessive, it will be necessary to fence a considerable portion of this length (chiefly that part between the foot of the ghât and Mallapuram) with wire.

The Resident Engineer has been requested to send in a detailed statement showing the lengths of wire fencing required.

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

Divisions.	Number of cases.
First division	16
Second do.	1
Third do.	...
Fourth do.	9
Total ...	26

3. *Bridges.*—These are all well maintained, and with very few exceptions the running over them was particularly smooth.

I examined the old foundations of the 9-feet girder at 2/8 miles and found them good, and walked over the Cauvery bridge on which the permanent-way appears as straight and good as when laid seven years ago.

I also walked over the Pálár bridge. Stops were made to enable me to examine the Thootha bridge at 373/12, Tirur bridge at 387/12, and 3-70-feet bridge at 395/5 miles; the two latter have screw pile piers, and all three are, as I believe you are aware, spanned by girders of an old and weak type, exactly similar to those used on the old Cauvery bridge. I also walked over the Kalpathi, Ferôk and Kallai bridges; the public roadway on these bridges is in excellent order.

4. *Stations.*—The station-houses, yards and buildings are all very clean and neat, Salem yard being particularly noticeable for the great improvement made in its appearance.

At Arkónam rags, paper and rubbish were thrown on the bank slope opposite the salt godown by the merchants who occupy this.

5. *Wells.*—I made particular inquiries from the Resident Engineers and Locomotive Foremen as to wells and water for locomotive purposes, and all stated that the present supply was good, and that they had no anxiety on the subject of scarcity during the hot season.

At Salem, however, the well in the yard is only used for washing out, the water for other purposes being taken by all engines from the well at 204/2 miles. A scheme for bringing this into Salem is, I believe, being considered by you.

The new well at Bangalore continues so far to give good results.

The watering arrangements at the Noyil bridge are completed, and there is a good supply in the two Pódanúr locomotive wells.

6. *Permanent-way: Road, First Division.*—Section 1 is in good order, with the exception of portions between the Central Station and Ambatúr which were a little rough. Some ballast is wanted near Perambúr level-crossing gate. On section 2 the road was in very good running order. Sections 3 and 4 are generally in good order; there was slight oscillation at 64/8 and 67/10-15 miles on section 3, and at 92/7-8, 93/4-10 and 99/12 on section 4. Section 5 is in excellent order, the running being smooth and uniform throughout.

Second Division, Bangalore Branch.—Section 1 is in very good order, a little ballast only being required between Krishnarajapuram and Bangalore. Section 2 is also in good running order, with the exception of a short bit near Kamasamudram and another at 164/16 miles. Section 3 is all in first-rate order. Section 4 is generally in very good order, with the exception of a few rough places between Kallavi and Morappúr and at 171 and 172/7 miles where there was a little oscillation.

Third Division.—Sections 1 and 2 are in very good order; there was slight oscillation at 194 and 200 miles on the former, and from Salem to 208/8 and at 236/13 on the latter. I have never seen Salem yard in such good order. The third section is in most excellent order, and section 4 is also in very good running order with the exception of a short bit between 295½ and 296 miles which was not quite so good as the rest.

Fourth Division.—Section 5, Nílgiri Branch, was in good order, with the exception of slight roughness coming on and going off of the large bridge at 309 miles and at places between Pódanúr and Coimbatore.

On section 1 the road between Pódanúr and Madukarai is in very good order, the remainder of the section is generally good, but between the foot of the ghát and Kanyikod there are several places which are a little rough and also at 325/14-19 miles. The Inspector of this section was laid up with fever for sometime before my inspection. The road on sections 2 and 3 is very good throughout, with the exception of short lengths on section 3 at 380/6-8 and 381/12 miles where there was a little oscillation due to old rails not yet bad enough to be taken out. The road on section 4 is also generally in very good order; there was a little oscillation between Parpanangádi and 400 miles.

Mr. Ewing has had charge of the 3rd and 4th divisions without an assistant for the last 2½ months, and their condition is very creditable to him.

I examined most of the locking bars on the 2nd, 3rd and 4th divisions and found them generally in good working order. The Resident Engineers and Inspectors of these divisions state that no trouble whatever has been experienced in maintaining them, and that there is practically no creep or movement of the sleepers. These have had a thorough trial in Jalárpet yard, where there are No. 15 in daily use for several years. The first having been laid on the 11th November 1883.

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

Central Station—	
"Pandal at north-west of Traffic Manager's office"	Finished.
"Proposed road approach at east side"	Do.
Salt Cotaurs—	
"Altering the old shed lately used by Cash department"	Do.
"Reconstruction of the single 9 feet opening at 2/8 miles"	Temporary girders in one abutment taken down.
Perambúr Works—	
"Proposed foot-bridge at west end"	Finished.
"Proposed over-bridge at east end"	Do.
"Proposed tiffin-room"	Do.
"Waiting sheds"	In progress.
"New Railway school-house"	Do.
"Sky-lights in saw mills"	Do.
"Sky-lights in Boiler shop"	Do.
"Raising the pitching of the Ambatúr tank from 10/6 to 10/13 and 10/20 to 11/8 miles." ...	Finished.
Avadi Station—	
"Alterations and additions to goods-shed" ...	Finished.
Sevrápet Road—	
"Station-house, &c."	Do.
Kadambatúr—	
"Pointsmen and scavengers' huts"	Set out; not yet begun.
Chinnammápet—	
"Brick wall round Sapper's grave"	Finished.
"Extension of platform"	In progress.
Arkónam Station—	
"Additional siding and cross-over road"	Earthwork nearly done.
"Proposed drain for porters' lines"	Finished.
"Conversion of European latrine into sugar godown for Messrs. Parry and Co."	Do.
"Guard's bungalow for two families"	Materials being collected.
Sholinghur—	
"Extension of through siding"	In progress.
Gudiyátam—	
"Extension of through siding"	Finished.
Ulli—	
"Station-house, &c."	In progress.
"Level-crossing gate at 104/10-11 miles" ...	Finished.
Vániyambádi—	
"Extension of platform and through siding" ...	Do.
Tirupatúr—	
"Extension of through siding"	Do.
Sámalpati—	
"Raising tank"	Do.
Mallapuram—	
"Pointsmen and scavengers' huts, &c."	Up to roof level.
Kadiampatti	
"Extension of platform"	Finished.
Thinnappatti—	
"Proposed latrine"	Do.
Salem Station—	
"Native latrine"	Do.
"Five-ton crane"	Nearly finished.
Ariyanur Station—	
"Proposed platform"	Finished.
"Stationmaster's house"	Do.
McDonald's Choultry—	
"Stationmaster and Assistant Stationmaster's house"	In progress.
Sankaridrug—	
"Extension of goods godown and loading bank."	Finished.
"Assistant Stationmaster's house"	Do.
Erode Station—	
"Extension of goods shed"	Do.
"Transhipping platform"	Do.
Viziamangalam—	
"Through siding"	In progress.
Uttukuli—	
"Stationmaster and Assistant Stationmaster's house."	Do.
Sómanúr—	
"Loading bank and goods godown"	Nearly finished.
"Watering arrangements at Noyil river" ...	Finished.

Pódanúr—
" Additional godown for the Stationmaster's bungalow" ... ... Finished.
" Guard's bungalow for two families" ... ... In progress.
" Permanent-way Inspector's bungalow" ... Collecting materials.

Madukarai—
" Goods godown" ... ... Finished.

Kanyikod—
" Extension of through siding" ... ... Do.

Olavakód—
" Proposed siding and cross-over road" ... ... Do.

Pallipuram—
" Station-house, &c." ... ... In progress.

Kuttipuram—
" Extension of platform and through siding" ... Finished.

Tirúr Station—
" Re-roofing with Mangalore tiles and enclosing (the sides with zinc) the dock goods shed"... Do.
" Lay-bye and crane" ... ... Crane finished, lay-bye in progress.

Parpanangádi—
" Goods godown" ... ... In progress.

Calicut—
" Signal to control engines leaving the locomotive side of the yard" ... ... Finished.

Coimbatore-Nilgiri Branch—
" Extension of through siding" ... ... Do.

Tudiyalúr—
" Extension of platform" ... ... Finished.

Gúdalúr—
" Waiting shed" ... ... In progress.

Mettupálaiyam—
" Extension of platform verandah" ... ... Finished.

BANGALORE BRANCH.

Jalárpet Station—
" Alteration of tank-house" ... ... Finished.
" Alteration and addition to locomotive sidings"... Nearly finished.
" Six temporary huts" ... ... Started.
" Alteration of catch siding" ... ... In progress.

Kuppam—
" Alteration of goods shed line" ... ... Finished.
" Catch siding" ... ... In progress.

Kámasamudram—
" Additional siding" ... ... Finished.

Kolar Road—
" Stationmaster's bungalow" ... ... Do.
" Raising ground for loading purposes" ... Do.
" Alteration of main line and additional sidings" Do.
" Cross-over road" ... ... Do.
" Weigh-bridge and alteration of cross-over road". Weigh-bridge in progress.
" Alterations and additions to station-house" ... In progress.

Tyakal—
" Station-house" ... ... Finished.
" Through siding" ... ... Do.
" Level-crossing gate at 189/12 miles" ... ... Gates being made.
" Flooring single 12 feet arch at 213/3" ... ... Finished.

Krishnarajapuram—
" Proposed latrine" ... ... Do.

Bangalore Cantonment—
" Auxiliary well, 20 feet diameter" ... ... Finished, except parapet wall.
" Alteration and addition to station house" ... In progress.

Bangalore City—
" Thirty-ton weigh bridge and siding" ... ... Finished.
" Road from goods shed to gate" ... ... Do.
" Temporary shed for refreshment room" ... Do.

Memorandum of renewals and cost of maintenance—

Renewals.	1st division, pots renewed during half-year,	...	No.	1924 or 18·7	per mile per annum.	
	2nd do.	do.	"	522 or 6·7	do.	do.
	3rd do.	do.	"	195 or 2·9	do.	do.
	4th do.	do.	"	322 or 4·09	do.	do.

Cost of maintenance.—A reference to the accompanying abstracts will show the cost of maintenance to have averaged during the half-year (October 1889 to March 1890) Rs. 81-12 $0\frac{1}{4}$ per mile per mensem or Rs. 981-0-3 per mile per annum including sidings.

The extra expenditure for the half-year ending 31st March 1890 is as follows :—

	Rs.	A.	P.
" Rebuilding bridge at $\frac{3}{8}$ miles"	850	7	11
" Watering arrangements on 2nd and 3rd divisions" ...	818	10	0
" Additional works chargeable to revenue"	10,273	6	4
Total ...	11,942	8	3

equal to a charge of Rs. 3-1-$1\frac{1}{2}$ per mile per mensem, which being deducted from the total cost (Rs. 81-12-$0\frac{1}{4}$) would give Rs. 78-10-$10\frac{3}{4}$ as the ordinary cost of maintenance.

The expenditure for the half-year ending September (April to September 1889) was Rs. 86-13-3 per mile per mensem or Rs. 1,041-15-$0\frac{1}{2}$ per mile per annum.

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

	Half-year ending 31st March 1890. Rs.	A.	P.	Half-year ending 30th September 1889. Rs.	A.	P.
1st division, average per mile per mensem ...	79	15	$5\frac{2}{3}$	**85**	**8**	**1**
2nd do. do. do. ...	79	1	$11\frac{5}{6}$	**83**	**12**	**$3\frac{1}{6}$**
3rd do. do. do. ...	77	8	$3\frac{1}{2}$	**83**	**13**	**$10\frac{5}{6}$**
4th do. do. do. ...	90	0	$3\frac{2}{3}$	**94**	**1**	**$4\frac{1}{3}$**

Rails.—Six thousand five hundred and fifty-one defective rails have been removed from the main line ; 1,565 rails worn out on the top-table have been inverted during the half-year.

NORTH-WEST LINE.

7. *Earthwork.*—The earthwork is in good order throughout, but the cotton-soil banks on the second division show cracks as is usual in the hot weather.

The new approaches to the Chitrávati and Pennér bridges are in very good order.

8. *Fencing.*—The vegetable fencing is generally in good condition, with the exception of a portion in the tank just beyond Nagari station, through which wire fence will require to be used.

The stone wall fencing on the second section of the first division requires to be repaired in many places, especially between Rénigunta and Mámandúr.

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

Divisions.	Number of cases.
1st division	5
2nd do.	1
Total ...	6

9. *Bridges.*—The new Pennér and Chitrávati bridges were completed and opened by you since last inspection and the work of dismantling the old bridges is now in progress; at Pennér this work is practically finished and at Chitrávati one set of girders had the bracing frames cut out in place and was being taken down by Derricks as arranged, while I had charge of the works.

Laying new permanent-way on the Tungabhadra bridge was commenced on the 16th January 1890, but so far the progress has been slow, chiefly owing to sickness and the difficulty of getting labor.

At Pápaghni, good progress is being made with the bungalows and stores and with the sidings in the station yard.

When walking over the Cheyár bridge, I noticed that the rail ends were in many places much too close together, so that there was not sufficient room for expansion.

The diversion at 258/10 miles was opened for traffic on the 17th March 1890 and the new bridge works commenced; the foundations of the old north abutments were exposed for my inspection.

The work in them is rough but of very fair quality, the mortar has been washed out from portions and the Engineer in charge has been instructed to rebuild and underpin such portions with hydraulic mortar before putting a concrete apron round them.

10. *Stations.*—The station yards and buildings were clean and neatly kept.

11. *Wells.*—No complaints as to scarcity of water were made and there is a good supply in all wells.

12. *Permanent-way* on the 1st division, section 1, is in good order, with the exception of some short lengths from 62 to 64 miles between Nagari and Puttur.

The road on sections 2, 3 and 4 is in very good order and the running uniform; a little ballast is required between 151 and 153 miles on section 4. The line on sections 5 and 6 is also in very good running order, with the exception of a little oscillation at 170/5 and 174/5 miles between Krishnapuram and Kamalápuram on the former and at 209/2-3 between Mangapatnam and Kondápuram on the latter section.

On the second division the road on section 1 is in good order. That on section 2 does not appear as good as it might be, oscillation being noticeable at 240/6-12, 248/1, 249/4 and 254/13 miles. The road on section 3, considering the nature of the banks, which are cotton soil, is in good order. There was some oscillation at 268, 269, 283/14, 284/6 and 298 miles. Sections 4 and 5 are in excellent order and the bridges on the division are particularly noticeable for their smoothness.

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

Tirutani station—	
"Extension of platform and through siding" ...	Finished.
Nagari station—	
"Extension of platform and through siding" ...	Finished.
"Extension of salt godown"	In progress.
"Auxiliary well at Thocock"	Do.
Rénigunta—	
"Five-ton crane"	Finished.
"Pandals to eight bungalows"	Do.
"Workshop alongside the engine-shed"	In progress.
"Double engine drivers' bungalow"	Do.
Mámandúr—	
"Extension of platform"	Finished.
Peddapád—	
"Extension of platform and through siding" ...	Finished.
Urampad—	
"Station-master's house"	Half built.
Reddipalli—	
"Station-master's house"	In progress.

Cuddapah—	
"Verandah to station-master's house"	Finished.
"Proposed gate-keeper's lodge"	Do.
"Pandals to bungalows"	Do.
"Proposed accommodation for native drivers in coke shed"	Do.
"Alteration of sidings, &c."	In progress.
Krishnapuram—	
"Station house, &c."	Finished.
Kamalápuram—	
"Extension of platform and through siding" ...	Finished.
Yerragúntla—	
"Extension of goods-shed lay-bye"	Finished.
"Protective works from 201/12 to 203/11 miles" ...	Do.
Kondápuram—	
"Extension of platform and through siding" ...	Platform finished; through siding in progress.
Vanganur—	
"Station house"	In progress.
Tádpatri—	
"Extension of through siding"	Finished.
"Pointsmen and scavengers' huts"	Begun.
Pennér—	
"Station house, &c."	Commenced.
"Tank house to be erected on 15-feet arch bridge No. 242"	Begun.
"Repairing the damages to the line between 238/7 and 244/4-5 miles"	In progress.
Rayalcheru—	
"Extension of platform"	Finished.
Jukkulacheruvu—	
"Station house, &c."	Almost done.
Gooty station—	
"Locomotive Foreman's bungalow"	Finished.
"Additional kitchen to signaller's bungalow" ...	Do.
"Verandah to Assistant Traffic Manager's bungalow"	Nearly done.
"Emergency stock shed"	Finished.
"Repairing bridge No. 312 at 257/13 miles" ...	Commenced.
"Pandals to five bungalows"	Materials being got.
"Houses for twelve native firemen"	Materials being collected.
"Restoring bridge No. 316 at 258/10 miles damaged by the late floods of 16th October 1889" ...	In progress.
"Masonry wall for protecting bank at Pattakottacheru tank at 266/4 miles"	Materials collected, waiting for tank to dry.
Guntakal junction—	
"Native signaller's bungalow"	In progress.
"30-ton weigh bridge and siding"	Finished.
"Sub-Inspector's bungalow"	In progress.
Aspari station—	
"Police huts"	Finished.
Kupgal—	
"Lay-bye, loading bank, &c."	Nearly finished.
Kosgi station—	
"Double house for station-master"	Finished.
"Pointsmen's huts"	Do.
Tungabhadra station—	
"Police huts"	Finished.
Matmari—	
"Extension of platform"	Finished.

Raichur station—
"Shelves for the lamp room" ... ... Finished.
"Native clerks' house for Traffic Department" ... Do.
"Latrine for native refreshment room" ... ... Collecting materials.
"Alterations, &c., to school house" ... ... Do.

Memorandum of renewals and cost of maintenance—

Renewals. 1st division, pots renewed during half-year, ... No. 438 or 4·6 per mile per annum.
2nd do. do. „ 544 or 6·8 do. do.

Cost of maintenance.—A reference to the accompanying abstracts will show the cost of maintenance to have averaged during the half-year (September 1889 to March 1890) Rs. 155-5-0 per mile per mensem or Rs. 1,863-12-8½ per mile per annum including sidings.

The extra expenditure for the half-year ending 31st March 1890 is as follows:—

	Rs.	A.	P.
Expenditure incurred on the revenue portion of the Pennér and Chitrávati bridges	1,02,559	2	1
Protective works from 201/12 to 203/14 miles	993	8	0
Laying new permanent-way over the Tungabhadra bridge	30,085	6	7
Restoration of breaks at 258/14, 266/11-13 and 257/13 ...	8,111	2	4
Engine turn-table at Cuddapah	3,484	7	11
Additional works chargeable to revenue	9,332	3	6
Total ...	1,54,565	14	5

equal to a charge of Rs. 74-2-11⅔ per mile per mensem, which being deducted from the total cost (Rs. 155-5-0) would give Rs. 81-3-10⅓ as the ordinary cost of maintenance.

The expenditure for the half-year ending 30th September 1889 (April to September) was Rs. 132-11-11$\frac{1}{12}$ per mile per mensem or Rs. 1,592-15-1 per mile per annum.

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

Divisions.	Half-year ending 31st March 1890. For four months from October 1889 to January 1890.		Half-year ending 30th September 1889.		Remarks.
	Rs. A. P.	Rs. A. P.	Rs. A. P.		
1st division, average per mile per mensem ..	88 3 0	120 2 11½	90 13 4½		The *three divisions were incorporated into two since 1st February 1890.
2nd do. do. do. ..	209 15 0	151 8 2½	235 7 7½		
3rd do. do. do. ..	169 10 7½	..	84 6 3		

Rails.—One thousand six hundred and sixty-five defective rails have been removed from the main line; 1,088 rails worn out on the top-table have been inverted during the half-year.

Madras Railway Company,
LOCOMOTIVE SUPERINTENDENT'S OFFICE,
PERAMBUR WORKS, 30TH SEPT. 1890.

No. A$\frac{15425}{82}$.

From

C. E. PHIPPS, Esq.,
Ag. Locomotive Superintendent,

To

F. H. TREVITHICK, Esq.,
Ag. Agent and Manager,
MADRAS RAILWAY.

SIR,

I have pleasure in submitting, for transmission to the Board of Directors and to Government, my report upon the working of the Locomotive and Carriage and Wagon Department of this Railway for the half-year ending 30th June 1890.

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

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

Half-year ending	Total mileage.	Total cost of department including all charges.			Total cost per mile.		
		Rs.	A.	P.	Rs.	A.	P.
June 1889	13,97,737	11,86,021	11	5	0	13	6·9
December 1889	13,87,136	12,78,658	3	2	0	14	8·98
June 1890	14,04,108	10,96,310	9	4	0	12	5·91

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

	Half-year ending 30th June 1890 as compared with			
	Preceding half-year.		Corresponding half-year.	
Miles run	Increase	1·22	Increase	·46
Total cost of department, including working and repairs of engines and vehicles, loss by exchange, carriage of revenue stores, &c.	Decrease	14·26	Decrease	7·56
Total cost as above per mile	Decrease	15·30	Decrease	7·98

4. There has been, it will be observed, a slight increase in the total mileage, which is 6,371 more than in the corresponding half-year, but although this has to some extent affected the final totals, the increase is too small to do so to any appreciable extent. Owing chiefly to a diminution in the cost of repairs and renewals of carriages and wagons, the gross expenditure of the department shows the very satisfactory reduction of Rs. 89,711-2-1, equal to 7·56 per cent. upon the total cost of working.

LOCOMOTIVE ENGINES: *RUNNING.*

5. An increase of Rs. 5,253 is noticed in the total cost of wages under this head, as compared with the figures for the corresponding half-year, though as compared with the previous half-year this charge has declined. The increase is accounted for by the general growth of the traffic throughout the line, our engines having been, sometimes for days together, turned round and sent out again almost as soon as they arrived. This has been especially the case on the Bangalore Branch, and on the Jalarpet and Salem Divisions.

6. The fuel question once more presses for consideration, and a reference to the statement will show that we have, during the half-year, burnt 17,70,000 lbs. less firewood and 26,037 cwts. more patent fuel and coal than during the first half of 1889. The effect of this is very apparent on a comparison of the cost per mile for the two half-years of coal, patent fuel and wood, which it will be seen, has swelled from Rs. 0-3-4·38 for the half-year ending June 1889, to Rs. 0-3-6·68 for the last half-year, although the cost per mile of wood alone has fallen from Rs. 0-3-3·31 to Rs. 0-3-2·52 for the same periods.

7. Owing to the very large increase in the original cost and freight of patent fuel, our average issue rate was raised from Rs. 18-8-0 to Rs. 22 per ton. This rate is Rs. 2-12-0 less than that ruling during the preceding half-year, but is still very much higher than it has been in the past. It is therefore very fortunate that the Company has been able to make arrangements, which I trust may be permanent, for a sufficient supply of Indian coal at what seems to be very favorable rates.

8. It may be of interest to quote, from the correspondence which has passed upon this subject, the results of the competitive trials of the Borakur coal as against patent fuel. A special set of experiments was arranged for and conducted in March last, when it was found that although the consumption per mile of the Borakur coal was 31·16 lbs., as compared with 26·99 lbs. of patent fuel, its price per ton being Rs. 17-13-8 as against Rs. 29-11-5, the cost, inclusive of loss by exchange and all charges, of patent fuel, a saving of 30·59 per cent. in money was effected by its use.

9. The Borakur coal is now being regularly burnt in all our mail and passenger engines on the Madras Division, and is doing well. At first some trouble was caused by the very large quantity of ashes which accumulated in the fires and ash pans, and detentions to trains were in a few cases caused, but, as the men have got more used to the fuel, this has now to a great extent been got over. So long as it is possible to obtain a sufficient supply of this coal at favorable rates, there is no doubt but that it is to the Company's advantage to discontinue entirely importing English fuel.

10. I much regret to have to report that the difficulties in obtaining supplies of wood fuel, to which attention has in previous reports been directed, show no sign of abatement. On the Cuddapah and Gooty Divisions our supplies are now *nil*, and all engines working over this section have been burning patent fuel for the last five months. Although this will of course affect the expenditure in the current half-year, more than it has done that of the term now under review, the subject is one of such importance as regards the working of this department, that I have deemed it well to once more refer to it.

11. The new rules lately introduced for regulating the working of the Government forests in the Cuddapah District were taken exception to by the whole of our contractors, who stated that they could not accept the responsibility of seeing that they were carried out, and all work was in consequence entirely stopped. A lengthy correspondence has passed between myself and the officers of the Forest Department, in the hope that it might have been possible to arrange terms to which the contractors would agree, but I much regret this has not been the case, and although the Forest officers have made offers to cut and deliver wood to us departmentally, I fear the conditions they find it necessary to impose will render this impracticable. The loss to Government in consequence of this stoppage of supply seems to be twofold, as, not only are our expenses swelled by our being compelled to use a more costly fuel, but the Government loses the revenue it would otherwise derive from the forests.

12. An increase will be observed in the quantity of coal and patent fuel used per mile, as compared with the corresponding half-year, which is explained by the fact that the engines were burning patent fuel during the former period instead of, as during the latter one, Borakur coal.

13. The quantity of wood burnt per mile is also larger than in the first half of 1889, but the consumption is, on the other hand, lighter than during the second half of the year. A slight increase must, as I explained in my last report, be looked for in this respect, owing to the increase in the loading, but it is satisfactory to note that, as was anticipated, this increase has already declined.

LOCOMOTIVE ENGINES: *REPAIRS.*

14. Thirty-eight engines passed through the shops as against thirty-six, the number dealt with in the corresponding half-year. Included in this total is the conversion of the last two of the B. A. class engines to P. B. class. These twelve engines are doing good work, and have proved themselves to be powerful and handy shunting engines. Owing however to the increase in work at the several junctions, it is found that we still require a larger amount of shunting power, and it is proposed shortly to construct, in the same manner as has already been done, four more engines of this pattern.

15. A slight excess has occurred in the expenditure under the head of Locomotive repairs, due partly to the larger number of engines repaired, and partly to an abnormal charge of Rs. 6,400 for some duplicate wheels imported recently for the K. A_2 class engines.

CARRIAGES AND WAGONS: *RUNNING.*

16. The figures under this head call for little comment. The slight enhancement that has occurred is due in part to the increase in the cost of castor

oil, and in part, as mentioned in my report for the last half of 1889, to the necessity that has arisen for the maintenance of a larger number of carriage examiners.

CARRIAGES AND WAGONS: *REPAIRS.*

17. A marked reduction is noticeable under this head, and although to the total of Rs. 1,68,156 should properly be added the sum of Rs. 9,345 expended, as was explained in my last report, during the preceding term on work actually finished in the period now under consideration, even this total of Rs. 1,77,501 is Rs. 93,421 less than the total for the corresponding half of 1889. The reduction is due to the fact that during the half-year the workshops were engaged chiefly on capital work, the following being the numbers of vehicles turned out:—

On Revenue Account.		
Wooden covered goods wagons	15	
I. and II. class composite carriages	4	19
On Capital Account.		
III. class carriages	15	
I. and II. class composite carriages	1	
Brake vans	8	24
While there were also put together and erected:—		
Iron covered goods wagons received from England ...	99	
		142

making a total of 142 new vehicles actually passed out of the workshops.

18. The greater part of the renewal of the Company's carriage and wagon stock has now been completed, and with the exception of a few of the old open wagons, which are, as you are aware, being renewed as covered wagons, this work is well up to date. I hope in future years to be able to report a continued reduction in the expenditure in this direction.

STAFF.

19. Mr. W. G. Pavey, Asst. Locomotive Superintendent, was granted furlough to England for 16 months, and left Madras on the 1st February 1890.

20. Locomotive Foreman T. Putnam, whose departure on leave was recorded in my report for the half-year ending 30th June 1889, returned to duty on the 9th April last.

21. Locomotive Foreman W. R. Pratt, in charge of Raichur, died in the General Hospital at Madras on the 9th April 1890. Mr. Pratt held a Captain's commission in the Railway Volunteer Corps, and as one of its best and most successful shots, the regiment lost in him a very valuable officer.

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

I have the honor to be,

Sir,

Your most obedient Servant,

C. E. PHIPPS,

Ag. Locomotive Superintendent.

Madras Railway.

Abstract of Expenditure for working and maintaining Locomotive Engines, Carriages and Wagons for the Half-year ending 30th June 1890.

LOCOMOTIVE DEPARTMENT.

LOCOMOTIVE ENGINES—Running.

Half-year ending	Total Engine Miles worked.	Wages and Salaries: Drivers and Firemen. Rs.	A.	P.	Cleaners, Water and Fuel Coolies. Rs.	A.	P.	Total. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.	Coal and Patent Fuel: Total Consumption. Quantity. Cwts.	Cost. Rs.	A.	P.	Per Mile. Quantity. Lbs.	Cost. Rs.	A.	P.	Firewood: Total Consumption. Quantity. Lbs.	Cost. Rs.	A.	P.	Per Mile. Quantity. Lbs.	Cost. Rs.	A.	P.	Average Cost per Mile of Coal, Patent Fuel and Firewood. Rs.	A.	P.	Oil, Tallow, Waste, &c.: Actual Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.
June 1889	13,97,787	1,32,107	10	5	33,680	2	11	1,65,787	13	4	0	1	10·77	72,475 4/14	67,039	8	10	28·03	0	3	8·46	10,13,28,500	2,26,898	14	0	91·43	0	3	3·31	0	3	4·38	18,913	3	6	0	0	2·60	4,78,639	7	8	0	5	5·74
December 1889	13,87,136	1,36,410	15	2	33,997	6	5	1,70,408	5	7	0	1	11·59	96,944 11/14	1,18,498	15	5	30·15	0	5	3·16	10,00,34,410	2,23,578	10	9	97·41	0	3	5·80	0	3	11·35	21,653	2	11	0	0	2·99	5,34,139	2	8	0	6	1·93
June 1890	14,04,108	1,36,923	0	9	34,117	8	6	1,71,040	9	3	0	1	11·39	98,512 4/14	1,02,377	13	9	30·76	0	4	6·79	9,95,58,500	2,09,731	9	0	95·23	0	3	2·52	0	3	6·68	23,215	13	9	0	0	3·17	5,06,365	13	9	0	5	9·24

LOCOMOTIVE ENGINES—Repairs.

Half-year ending	Total Engine Miles worked.	Cost of: Material. Rs.	A.	P.	Wages of Workmen. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.
June 1889	13,97,737	88,474	3	10	1,48,982	2	3	2,37,456	6	1	0	2	8·62
December 1889	13,87,136	89,905	11	8	1,46,031	11	9	2,35,937	7	5	0	2	8·65
June 1890	14,04,108	92,251	12	0	1,51,103	1	0	2,43,354	13	0	0	2	9·28

LOCOMOTIVE ENGINES—Gross Cost of Running and Repairs.

Half-year ending	Running, Total Cost. Rs.	A.	P.	Repairs, Total Cost. Rs.	A.	P.	Proportion of Supervision and Office Expenses. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.
June 1889	4,78,639	7	8	2,37,456	6	1	52,201	11	8	7,68,297	9	5	0	8	9·53
December 1889	5,34,139	2	8	2,35,937	7	5	50,007	2	4	8,20,083	12	5	0	9	5·51
June 1890	5,06,365	13	9	2,43,354	13	0	52,107	6	11	8,01,828	1	8	0	9	1·65

CARRIAGE AND WAGON DEPARTMENT.

CARRIAGES AND WAGONS—Running.

Half-year ending	Total Engine Miles worked.	Cost of: Material. Rs.	A.	P.	Wages of Workmen. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.
June 1889	13,97,737	11,503	4	8	14,972	14	6	26,476	3	2	0	0	3·64
December 1889	13,87,136	13,050	2	11	16,107	5	2	29,157	8	1	0	0	4·04
June 1890	14,04,108	13,007	14	9	15,886	2	6	28,894	1	3	0	0	3·95

CARRIAGES AND WAGONS—Repairs.

Half-year ending	Cost of: Material. Rs.	A.	P.	Wages of Workmen. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.
June 1889	1,72,903	15	3	98,019	5	10	2,70,923	5	1	0	3	1·22
December 1889	1,91,137	15	11	94,827	3	5	2,85,965	3	4	0	3	3·58
June 1890	79,031	7	0	89,125	8	8	1,68,156	15	8	0	1	10·99

CARRIAGES AND WAGONS—Gross Cost of Running and Repairs.

Half-year ending	Running, Total Cost. Rs.	A.	P.	Repairs, Total Cost. Rs.	A.	P.	Proportion of Supervision and Office Expenses. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.
June 1889	26,476	3	2	2,70,923	5	1	22,262	13	10	3,19,662	6	1	0	3	7·91
December 1889	29,157	8	1	2,85,965	3	4	20,621	11	2	3,35,744	6	7	0	3	10·47
June 1890	28,894	1	3	1,68,156	15	8	14,399	7	1	2,11,450	8	0	0	2	4·90

SUMMARY—*Total Gross Cost of working the Locomotive and Carriage and Wagon Departments.*

Half-year ending	Locomotives, Total Cost. Rs.	A.	P.	Carriages & Wagons, Total Cost. Rs.	A.	P.	Total Cost. Rs.	A.	P.	Cost per Mile. Rs.	A.	P.	Loss by Exchange and Carriage of Revenue Stores. Rs.	A.	P.	Final Total Cost of Working. Rs.	A.	P.	Final Total Cost per Mile. Rs.	A.	P.
June 1889	7,68,297	9	5	3,19,662	6	1	10,87,959	15	6	0	12	5·44	98,061	11	11	11,86,021	11	5	0	13	6·92
December 1889	8,20,083	12	5	3,35,744	6	7	11,55,828	3	0	0	13	3·98	1,22,830	0	2	12,78,658	3	2	0	14	8·98
June 1890	8,01,828	1	8	2,11,450	8	0	10,13,278	9	8	0	11	6·55	83,031	15	8	10,96,310	9	4	0	12	5·91

PERAMBUR WORKS,
30th September 1890.

C. E. PHIPPS,
Ag. Locomotive Superintendent.

& CO., PRINTERS, MADRAS.

Private.

MADRAS RAILWAY COMPANY.

REPORT

OF THE

TRAFFIC MANAGER

FOR

THE HALF-YEAR ENDING 30TH JUNE, 1890.

C. 1164 A. & M.

TRAFFIC MANAGER'S OFFICE,
MADRAS, *4th October*, 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 30th June 1890.

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

3. *Train Service.*—A new mixed train was introduced between Podanur and Coimbatore from April 1890 and the following Goods trains were inserted in the working time book.

(1) Between Bangalore Cantonment and Bangalore City, from January to March 1890.
(2) Between Kolar Road and Jalarpet, from January 1890.
(3) Between Bangalore Cantonment and Jalarpet, from January 1890.
(4) Between Palghat and Olavakode, from May 1890.
(5) Between Katpady and Arkonam, from April 1890.

4. *Rates and Fares.*—The ordinary passenger fares were as under for the half-years ending 30th June 1889 and 1890. Return fares for 1st and 2nd classes were abolished on the 1st July 1889.

Classes.	1889.	1890.
First class ... Single	18 pies.	12 pies.
Do. ... Return	27 pies.	...
Second class ... Single	7 pies.	6 pies.
Do. ... Return	10½ pies.	...
Third class ... Single Mail	2 pies.	2 pies.
Do. ... Other trains	1½ pies.	1½ pies.

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

PASSENGER FARES.

In January.

The third class minimum fares by Mail trains between Bangalore Cantonment and City and between Podanur and Coimbatore were reduced from one anna to six pies.

GOODS RATES.

	Formerly Classified.	Now Classified.
Bobbins (wooden)	As wood manufactured, articles not otherwise specified 18 pies per ton per mile.	3rd class at 18 pies per ton per mile.
Bottles dispensing	(Goods not specified) 36 pies per ton per mile	5th class at 36 pies per ton per mile.
Bristles, Hog's hair	(As Hair, Horse, 18 pies per ton per mile	3rd class 18 pies per ton per mile.
Camphor	36 pies per ton per mile	3rd class 18 pies per ton per mile at O. R. 4th class 24 pies do. do. C.R.
Soap sand	In small quantities 6·80 pies	8 pies per ton per mile.
Soap sand	In consignments of less than 200 mds. at 6·80 pies per ton per mile.	In full 10 ton (270 mds.) wagon loads at O. R. 6·80 pies per ton per mile.
Soap sand	In consignments of 200 mds. and upwards at O. R., for distances of 200 miles and above 4·53 pies.	In full 10 ton (270 mds.) wagon loads at O. R., for distances of 200 miles and over 4·53 pies.
Woollens	(As piece goods) press packed and iron bound or in cases 13·61 pies per ton per mile.	Woollens Khake cloth and White drill when packed in gunny cloth and not press packed or covered with water-proof cloth at 18 pies per ton when at O. R., 13·61 per ton per mile.

In February.

Bricks and Tiles	(Common) in wagon loads of 162 mds. at 8 pies.	A minimum of 216 mds. for each wagon at 8 pies per ton per mile.
Bricks and Tiles	In wagon loads of 216 mds. for distances of 250 miles 6 pies.	In wagon loads of 270 mds. for distances of 250 miles and over at O R., 6 pies per ton per mile.
Machinery	Requiring a truck 13·61 pies subject to a minimum of 81 mds. per wagon used.	13·61 pies subject to a minimum of 135 mds. per wagon used.
Cil cake, Onions, and Stone, common, dressed or undressed.	In consignments less than 200 mds. 6·80 pies	In full 10 ton (270 mds.) wagon loads at O. R., 6·80 pies per ton per mile.
Do.	In consignments of 200 mds. and upwards at O. R., for distances of 200 miles and above 4·53 pies.	In full 10 ton (270 mds.) wagon loads at O. R. for distances of 200 miles and over 4·53 pies.
Tarward seed	As seed not otherwise specified 10 pies per ton per mile.	13·61 pies per ton per mile.

In March.

Aniseed, Mowri, Shopah, Coriander (Dhuniah).	In consignments less than 200 mds., 6·80 pies.	In full 10 ton (270 mds.) wagon loads at O. R., 6·80 pies per ton per mile.
Do.	In consignments of 200 mds. and upwards for distances of 200 miles and above 4·53 pies at O. R.	In full 10 ton (270 mds.) wagon loads at O. R., for distances of 200 miles and over 4·53 pies per ton per mile.
Garlic or Lussoon	In consignments less than 200 mds., 6·80 pies per ton per mile.	10 pies per ton per mile at C. R. 8·53 pies do. at O. R.
Garlic or Lussoon	In consignments of less than 200 mds., for distances less than 200 miles, 6·80 pies per ton per mile.	In full 10 ton (270 mds.) wagon loads at O. R., for distances less than 200 miles 6·80 pies per ton per mile.
Garlic or Lussoon	In consignments of 200 mds. and above for distances of 200 miles and upwards at O. R., 4·53 pies per ton.	In full 10 ton (270 mds.) wagon loads at O.R., for distances of 200 miles and above 4·53 pies per ton per mile.
Muriatic Acid (not explosive)	As goods not specified 36 pies per ton per mile	5th class 36 pies per ton per mile
Oil, Kerosine	13·61 pies per ton per mile	10 pies at O. R. 13.61 pies at C. R.
Onions	In small quantities 10 pies at C. R.	8·53 pies at O. R., 10 pies at C.R.
Slag	13·61 pies per ton per mile	In small quantities 10 pies. In wagon loads of 135 and 162 mds. respectively for each 8 and 10 ton wagon used 8 pies at O. R. In wagon loads of 27 mds. for distances of 100 miles and above 6 pies at O. R. In wagon loads of 270 mds. for distances of 250 miles and above 5 pies at O. R.
Slate in slabs Do. roofing	13·61 pies per ton per mile	In small quantities 13·61 pies at O. R. In full 10 ton (270 mds.) wagon loads at O. R. 6·80 pies and for distances of 200 miles and above at O. R. 4·53 pies

In April.

Ajwan, Omam, Owa or Jewan. Myrabalams. Coosoomba or Safflower seeds.	In consignments of less than 270 mds. 8·53 pies. 270 mds. and upwards at 6·80 O. R. 270 mds. and upwards for distances of 200 miles and over at O. R. 4·53 pies.	In small quantities 8·53 pies. In full 10 tons (270 mds.) wagon loads at O. R., 6·80 pies. Do. do. for distances of 200 miles and above 4·53 pies.
Cement, Portland	10 pies per ton per mile	In small quantities 10 pies. In full 10 ton (270 mds.) wagon loads at O. R. 8 pies per ton per mile.
Cloth (common country)	13·61 pies per ton per mile	13·61 pies at O. R. 18 pies at C. R.

In May.

Black Cummin seed. Cotton, surkee. Galnuts, Indian.	In consignments of less than 270 mds. 8·53 pies. In consignments of 270 mds. and upwards at O. R. 6·80 pies and for distances of 200 miles and above at O. R. 4·53 pies.	In small lots 8·53 pies. In full 10 ton (270 mds.) wagon loads at O. R. 6·80 pies and for distances of 200 miles and above 4·53 pies.
Indigo seeds	In consignments of less than 270 mds. 8·53 pies. In consignments of 270 mds. and upwards at O. R. 6·80 pies and for distances of 200 miles and above 4·53 pies.	10 pies at O. R. 13·61 pies at C. R.

In June.

Coffins as Empty Packages	18 pies	Coffins 18 pies classified.
Copper Tape (as copper manufactured)	10 pies	13·61 pies.
Cummin seeds, Jeera. Gatchacoy. Ground nuts.	In consignments of less than 270 mds. at 18·53 pies. In consignments of 270 mds. and upwards at O. R. 6·80 pies, and for distances of 200 miles and above at O. R. 4·53 pies.	In small quantities 8·53 pies. In full 10 ton (270 mds.) wagon loads at O. R. 6·80 pies and for distances of 200 miles and above 4·53 pies.
Goat or Sheep Skins and Hides, wet or dry.	In consignments of 200 mds. and above at 8 pies.	8 at pies O. R. 10 at pies C. R.
Goat or Sheep Skins and Hides, wet.	In consignments of less than 200 mds. at 10 pies.	10 pies at O. R 13·61 pies at C. R.
Goat or Sheep Skins and Hides, dry.	In consignments of less than 200 mds. 13·61 pies.	13·61 pies at O. R. 18 pies at C. R.
Kakhi Drill Caps as wearing apparel.	18 pies	18 pies classified.
Paper Drawing (as Stationery)	18 pies	18 pies do.
Screw jacks (as Iron ware)	13·61 pies	2nd class 13·61 pies.
Tinning materials (as tin ware)	13·61 pies	2nd class 13·61.
Tobacco, (Native Raw)	1st class 10 pies	2nd class 13·61 pies.
Do. (do. Manufactured)	Do. 10 pies	3rd class 18 pies.
Do. (European or American, Raw)	1st class 10 pies	2nd class 13·61 pies.
Do. (Manufactured)	1st clsss 10 pies	3rd class 18 pies.
Do. (Dust and Stalks)	1st class 10 pies	2nd class 13·61 pies.

Most of the changes made in the Goods rates were adopted either to secure better loading for our trucks or to adjust rates on a mileage basis with the ruling rates on other Railways.

This principle although not universally adopted was agreed to by most of the Railway representatives who assembled at the Simla Conference of 1888.

5. *Traffic train miles.*—The traffic train mileage for the June half-years of 1889 and 1890 is shown in the following table.

Allocation.	Description of train.	1889.	1890.
		Miles.	Miles.
Coaching	Mail	318,920	318,885
	Passenger	74,670	90,320
	Special	5,846	7,299
	Troops	8,678	6,680
Mixed	Ordinary	357,740	367,947
Goods	Ordinary	189,060	245,355
	Special	183,792	87,888
	Ballast Trains for construction	763	986
	Light Engines	15,431	20,923
	Maintenance	17,929	18,748
	Fuel	19,913	22,527
	Total	1,192,742	1,187,558

Exclusive of miles run for maintenance and fuel, the aggregate train miles was 1,146,283 against 1,154,900 or a decrease of 8,617 miles equivalent to 0·75 per cent. This is accounted for by the heavier loading of wagons and by a decrease in the number of extra goods trains run.

Taking the figures as shown in the Capital and Revenue Accounts, where mixed train and light engine mileage is divided between, the Coaching and Goods traffic, an increase of 17,699 occurs in coaching and a decrease of 26,316 in goods mileage.

6. *Gross and Net Earnings.*—Compared with the corresponding period of 1889 the gross earnings from all sources show Rs. 47,22,838 against Rs. 45,06,348 or an increase of Rs. 2,16,490 equivalent to 4·8 per cent. The net earnings show Rs. 22,17,892 against Rs. 19,67,616. The working expenses were Rs. 25,04,946 against Rs. 25,38,732 or 53·04 per cent. and 56·34 per cent. respectively, of revenue. The average receipts per train mile show 3·98 against 3·76.

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

Heads.	Earnings.		Increase.	Decrease.	Net increase.
	June 1889.	June 1890.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Passengers	15,24,328	15,17,771	...	6,557	...
Troops and police ...	83,934	82,693	...	1,241	...
Passengers' luggage ...	88,422	75,563	...	12,859	...
Parcels	1,14,325	1,06,372	...	7,953	...
Parcels (Revenue) ...	1,342	1,803	461	...	...
Horses, carriages, and dogs	57,653	47,148	...	10,505	...
Special trains	6,828	21,470	14,642	...	...
Goods	24,17,622	24,56,520	38,898	..	...
Goods (Revenue) ...	51,580	81,030	29,450	...	...
Railway material ...	35,053	8,495	...	26,558	...
Live stock	25,522	11,642	...	13,880	...
Rents and demurrage ...	4,894	4,482	...	412	...
Miscellaneous	4,934	4,731	...	203	...
Haulage of postal vans ...	11,539	11,568	29	...	...
Sundries	68,778	2,82,046	2,13,268	...	...
Telegraph	9,594	9,504	...	90	...
Total ...	45,06,348	47,22,838	2,96,748	80,258	2,16,490

7. The increase in the working expenses is explained, thus :—

Heads.	Expenditure.		Increase.	Decrease.	Net decrease.
	June 1889.	June 1890.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent way ...	6,74,031	7,01,883	27,852	...	...
Locomotive	8,33,761	8,72,886	39,125	...	...
Repairs to carriages & wagons.	3,52,261	2,23,425	...	1,28,836	...
Traffic	3,98,035	4,03,973	5,938	...	...
General charges	2,63,869	2,82,381	18,512	..	...
Special and miscellaneous ...	16,775	20,398	3,623	...	33,7
Total ...	25,38,732	25,04,946	95,050	1,28,836	

8. The receipts from passengers (exclusive of troops and police) were Rs. 15,17,771 against Rs. 15,24,328, or a decrease of Rs. 6,556 equivalent to 0·4 per cent. The [illegible]

class contributed in money 99·21 per cent. against 89·10 per cent., and in number 99·37 per cent. against 99·38 per cent.

9. 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.
30th June 1890	77,185	71,365	13,69,222	15,17,772
Do. 1889	91,223	75,851	13,57,254	15,24,328
Increase in 1890	...	...	11,968	...
Decrease in 1890	14,038	4,486	...	6,556
Increase per cent.	...	...	0·9	...
Decrease per cent.	15·4	5·9	...	0·4

10. The number carried in each class was :—

Half-years ending	First class.	Second class.	Third class.	Total.
30th June 1890	7,365½	19,005	4,184,208	4,210,578½
Do. 1889	6,357	19,904½	4,198,943	4,225,204½
Increase in 1890	1,008½	...	...	...
Decrease in 1890	...	899½	14,735	14,626
Increase per cent.	15·9	...	...	...
Decrease per cent.	...	4·5	0·4	0·3

11. The percentage of numbers and the 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 30th June 1890	0·18	0·45	99·37	172	142	37
Do. do 1889	0·15	0·47	99·38	192	143	37

12. The average fare paid by each passenger :—

Period.	First class.	Second class.	Third class.
	Rs. As. P.	Rs. As. P.	Rs. As. P.
Half-year ended 30th June 1890	10 7 8	3 12 1	0 5 3
Do. do 1889	14 5 7	3 12 2	0 5 2

13. In the first class passenger traffic there was an increase of 15·9 per cent. in number, and a decrease of 15·4 per cent. in money. In the 2nd class there was a decrease of 4·5 per cent. in number and 5·9 per cent. in money. The reduction in the fares for 1st and 2nd class passengers introduced on the 1st July 1889 explains partly the decrease in the revenue derived from the higher class of passengers. The opening of the S. M. Railway through from Poona to Bangalore, has too affected the gross receipts obtained from carrying 1st and 2nd class passengers.

The distance between Poona and Bangalore is now much in favour of the Metre Gauge Railway and we cannot hope to obtain in the future more than a share of this traffic. The acceleration of the Mail Trains between Bombay and Arkonam and the introduction of the new service on the 1st October 1890 will probably enable us to hold our own against S. M. Railway competition.

In the 3rd class there was a decrease of 0·4 per cent. in number and an increase of 0·9 per cent. in money. The average sum paid by a third class passenger by *all* trains was annas 5-3 against annas 5-2. The average value by Mail trains was annas 10-0 against annas 9-5 and the average value by other trains was annas 3-10 against annas 4-1. The percentage of numbers carried by the Mail trains was 23 against 19, and by other trains 77 against 81.

We carried a less number of 3rd class passengers in the half year just closed as compared with the corresponding half year of 1889, a result due entirely to Cholera prevailing very extensively from Podanore westwards during three months of the half year, and to a severe outbreak of influenza which checked travelling over the whole line.

The increase in money earned from third class passengers is due to fractions of an anna being abolished in fares over 4 annas to equalize our system of quoting through fares to that in force on the G. I. P. Railway.

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

Period.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
June 1890 ...	67	1,744	222	2,824	71,665	13,901	71,954	18,469
Do. 1889 ...	3,302	31,090	11,682	32,931	66,613	13,112	81,597	77,133
Increase in 1890..	...	...	...	...	5,052	789	...	...
Decrease in 1890..	3,235	29,346	11,460	30,107	...	...	9,643	58,664

15. The first and second class return traffic shows a large decrease owing to the withdrawal of return tickets from 1st July 1889. The money comes to us now in single instead of return fares.

16. The number of third class passengers booked by all trains on different sections of the line in the first half years of 1889 and 1890 will be found in the following table :—

Between	Half-year ending June.		Increase per cent.	Decrease per cent.
	1889.	1890.		
Madras and Jalarpet	1,445,687	1,502,101	3·90	...
Bangalore Branch	332,027	335,380	0·99	...
Tirupatur and Erode	356,270	358,989	0·76	...
Perandurai and Coimbatore	327,558	307,039	...	6·26
Nilghiri Branch	118,003	101,192	...	13·39
Madukarai and Calicut	646,248	605,470	...	6·30
Tirutani and Cuddapah	448,461	459,829	2·53	...
Krishnapuram and Guntakal	244,502	239,302	...	2·13
Nancherla and Raichur	136,454	142,183	4·12	...
Ex-Great Indian Peninsula, Southern Mahratta, and South Indian Railways	125,022	122,222	...	2·24

17. *Parcels.*—Compared with the corresponding period of 1889, there is an increase of 9·8 per cent. in number and a decrease of 6·9 per cent. in money.

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

Half-years ending June.	Number.		Receipts.		Total.	
	Local.	Foreign.	Local.	Foreign.	Number.	Receipts.
			Rs.	Rs.		Rs.
1886	61,641	28,974	57,953	31,046	90,615	88,999
1887	62,181	36,018	61,576	37,862	98,199	99,438
1888	65,466	44,915	68,557	44,794	110,381	1,13,351
1889	56,437	56,730	59,795	54,531	113,167	1,14,326
1890	63,692	60,641	56,190	50,182	124,333	1,06,372

The falling of in the receipts from local traffic is due to our losing a large share of the larger parcels owing to the opening through of the S. M. Railway from Bangalore.

Vegetables and Fruit now leave Bangalore for Belgaum, Bellary and other stations by the S. M. Railway.

The Betel leaf traffic on the Western Coast has fallen off considerably and this is due I am told a late season for Betel traffic. The despatches of Mangoes from Salem were not so heavy as usual due to an inferior fruit as compared with other years, and there was less movement in Indigo traffic from the North West Line.

18. *Goods Traffic.*—Compared with the corresponding half-year of 1889, the receipts from goods traffic (exclusive of Railway Material and Revenue Stores) were Rs. 24,56,520 against Rs. 24,17,622, or an increase of 1·6 per cent., the tonnage being 403,571 against 370,690, or an increase of 8·9 per cent. The average receipt per ton lifted was Rs. 6·08 against Rs. 6·52 and the average receipt per ton per mile was pies 8·05 against pies 8·06. The receipts from Cotton were Rs. 1,51,116.

19. The following table represents the weight and revenue of the goods traffic carried for the public, for the five years ending June 1890.

Years ending 30th June.	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.
1886	41,73,421	3,49,588	621,231	38,23,833
1887	43,73,751	2,54,242	673,528	41,19,509
1888	43,13,070	1,64,189	699,206	41,48,881
1889	46,91,781	1,06,599	727,583	45,85,182
1890	50,16,899	2,63,139	791,394	47,53,760

20. Statement showing earnings and tonnage of goods traffic for the half-years ending 30th June 1889 and 1890.

Detail.	Half-year ending June 1890.	Half-year ending June 1889.
Receipts from goods ... ...Rs.	24,56,520	24,17,622
Tonnage of goods ... ...Tons	403,571	370,690
Average receipt, per ton lifted ... ...Rs.	6·09	6·52
Do. per ton per mile ... ...Pies	8·05	8·06

21. The increase and decrease in each commodity composing the goods traffic for the half-year ended 30th June 1890.

Description.	Increase.		Description.	Decrease.	
	Tons.	Rs.		Tons.	Rs.
Coal and Coke ...	675	...	Coal and Coke	..	4,244
Cotton, manufactured ...	74	...	Cotton, Unmanufactured.	1,398	35,887
Grain ...	2,653	...	Do. Manufactured ...	...	2,236
Leather, manufactured ...	106	1,047	Dyes and Tans ...	510	20,101
Metals	...	1,183	Grain	...	76,003
Oils	476	5,656	Hides and Skins ...	510	20,384
Oil Seeds	5,215	37,508	Metals	51	...
Provisions ...	1,677	18,462	Spices	286	3,588
Railway Plant and Rolling Stock	5,031	62,168	Sugar	1,280	...
Salt	1,065	2,323	Manure	...	1,503
Sugar	...	15,042	Government Stores ...	116	12,434
Stone and Lime	2,053	2,189	Items less than Rs. 1,000	84	910
Wood ...	3,299	13,695			
Tobacco	1,373	10,820			
Coffee	438	3,449	Increase ...	32,881	38,898
Manure	242	...			
All other Articles of Merchandise	12,739	42,646			
Total ...	37,116	2,16,188	Total...	37,116	2,16,188

22. The total quantity of grain carried was 97,466 tons, yielding a revenue of Rs. 4,58,617 against 94,813 tons and a revenue of Rs. 5,34,620, or an increase of 2·80 per cent. in weight and a decrease of 14·22 per cent. in money. The average amount earned per ton lifted was Rs. 4·70 against Rs. 5·63.

The smaller receipt earned from the carriage of grain traffic is accounted for by an almost total cessation of the Rice traffic usually carried from Katpadi (Vellore) to the Malabar Coast. Scarcity prevailed for some months in the Tanjore District and the higher prices offering for Rice in this district diverted the North Arcot Rice traffic by the S. I. Ry. direct to the towns and villages where scarcity existed. The Malaber Coast obtained its supply of Rice by Steamers from Coconada and other parts on the Eastern Coast instead of by Railway from Katpadi and Arcot stations.

23. The following table is designed to show the tonnage of grain *sent* from and *received* in each district during the half-years ended 30th June 1889 and 1890.

Districts.	1889.				1890.			
	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	6,427	6·8	13,861	14·6	3,991	4·0	18,351	18·8
North Arcot ...	32,410	34·2	5,384	5·7	22,682	23·3	9,428	9·7
Salem	10,290	10·9	9,861	10·4	7,692	7·9	8,565	8·8
Coimbatore	3,770	3·9	17,644	18·6	3,454	3·6	17,855	18·3
Malabar	7,014	7·4	28,605	30·2	4,778	4·9	13,352	13·7
Cuddapah	3,209	3·4	1,927	2·0	3,841	4·0	1,736	1·8
Bellary	4,333	4·6	3,410	3·6	10,820	11·1	2,924	3·0
South Indian Railway...	3,297	3·5	2,216	2·3	1,096	1·1	17,574	18 1
Great Indian Peninsula Railway ...	3,688	3·9	2,342	2·5	2,860	2·9	490	0·5
Mysore Dominions ...	18,538	19·5	7,092	7·5	35,953	36·9	6,225	6·3
Intra	1,837	1·9	2,471	2·6	299	0·3	966	1·0
Total ...	94,813	100·0	94,813	100·0	97,466	100·0	97,466	100·0

24. The tonnage of grain brought into Madras by sea, by Buckingham Canal, and by the Madras Railway, during the two periods under notice was :—

Means of transport.	1890.	1889.
	Tons.	Tons.
Sea	5,968	4,335
Buckingham Canal	12,400	8,376
Madras Railway	17,655	15,136
Total ..	36,023	27,847

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

Stations.	Half year ending 30th June 1889.			Half year ending 30th June 1890.		
	Pressed Tons.	Loose Tons.	Total Tons.	Pressed Tons.	Loose Tons.	Total Tons.
Southern Mahratta Railway ...	1,977	204	2,181	1,685	305	1,990
Adoni	3,438	324	3,762	2,267	401	2,668
Raichur	207	787	994	211	1,026	1,237
Tadpatri	1,723	673	2,396	1,423	420	1,843
Timmancherla	577	169	746	731	106	837
Muddanur	...	303	303	...	407	407
Yerragoontla	1,253	8	1,261	937	61	998
Krishnapuram	16	...	16	27	...	27
Great Indian Peninsula Railway...	...	17	17	...	10	10
Tirupur	801	138	939	849	208	1,057
Coimbatore	449	23	472	233	77	310
Somanur	156	25	181	77	19	96
Erode	19	94	113	370	58	428
Minor stations	32	221	253	25	304	329
Total...	10,648	2,986	13,634	8,835	3,402	12,237

26. And was distributed as under :—

Stations.	Half year ending 30th June 1889.			Half year ending 30th June 1890.		
	Pressed Tons.	Loose Tons.	Total Tons.	Pressed Tons.	Loose Tons.	Total Tons.
Madras	9,188	1,075	10,263	8,219	763	8,982
Southern Mahratta Railway ...	...	197	197	...	120	120
Adoni	...	917	917	...	312	312
Malabar	613	94	707	170	67	237
Guntakal	...	111	111	...	380	380
Cuddaph	...	...	...	...	274	274
Bellary District	...	236	236	...	1,069	1,069
Great Indian Peninsula Railway...	662	71	733	354	5	359
Tirupur	...	20	20	...	2	2
Coimbatore	3	51	54	...	105	105
Erode	...	...	...	...	10	10
Mysore Dominions...	113	22	135	3	...	3
Minor stations	69	192	261	89	295	384
Total...	10,648	2,986	13,634	8,835	3,402	12,237

There were less despatches of pressed cotton from stations on the North West Line owing in the first place to a late season and in the second place to the fluctuations in the rate of exchange rendering it difficult and hazardous for merchants to effect sales with the London market

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

Condition.	June 1889.		June 1890.	
	Tons.	Rs.	Tons.	Rs.
Loose	2,986	35,296	3,401	29,026
Full pressed	10,648	1,51,707	8,835	1,22,090
Total...	13,634	1,87,003	12,236	1,51,116

28. The quantity of cotton brought into Madras during the two half-years under comparison was as follows :—

Districts.	1889.	1890.
	Tons.	Tons.
North-West Line	7,133	5,765
Southern Mahratta Railway	2,107	1,762
Great Indian Peninsula Railway	6	...
Coimbatore and Salem	1,017	1,446
Total ...	10,263	8,973

29. Tonnage of cotton delivered at Madras by Railway and the tonnage exported therefrom during the last and corresponding half-years.

Period.	Delivered by Railway at Madras.	Exported at Madras.
	Tons.	Tons.
Half-year ending June 1889	10,263	5,711
Do. June 1890	8,973	4,880

30. The following figures show the cotton traffic during the June half of the last five years.

Period.	Pressed.	Loose.	Total.	Receipts.
	Tons.	Tons.	Tons.	Rs.
June 1886	5,163	4,179	9,342	1,18,418
Do. 1887	8,543	3,357	11,900	1,63,561
Do. 1888	8,269	2,550	10,819	1,40,171
Do. 1889	10,648	2,986	13,634	1,87,003
Do. 1890	8,835	3,401	12,236	1,51,116

31. The following table exhibits the tonnage of Coffee carried over the whole system and the tonnage carried from Bangalore to Madras, during the June half-years 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.
June 1886...	7,279	59,984	1,225	1,192	33
Do. 1887...	5,299	44,794	704	695	9
Do. 1888...	4,424	41,799	1,280	1,139	141
Do. 1889...	4,342	39,371	714	660	54
Do. 1890...	4,780	42,820	845	821	24

32. The Coffee was contributed by and received at the following stations :—

Stations.	Half-year ending June 1889.		Half-year ending June 1890.	
	Sent from	Received at	Sent from	Received at
	Tons.	Tons.	Tons.	Tons.
Beypur and Calicut	...	1,881	...	1,885
Madras	...	1,191	3	1,345
Coimbatore	1,146	1,264	1,362	1,461
Mettupalaiyam	1,183	...	1,392	... 7
Bangalore	714	...	837	...
Kadiampatti	71	...	57	...
Salem	176	...	169	...
Mysore	442	...	465	... 69
Palghat	332	...	216	...
Parli	80	...	125	...
South Indian Railway	183	...	151	... 13
Minor Stations	15	6	3	
Total...	4,342	4,342	4,780	4,780

33. The total quantity of Salt carried over the whole system was 32,257 tons yielding a revenue of Rs. 2,03,241 against 31,192 tons and a revenue of Rs. 2,00,918, or an increase of 1,065 tons in weight and Rs. 2,323 in money. The sum earned per ton lifted was Rs. 6-3

against Rs. 6-4. The exports from Madras amounted to 19,734 tons, or 61 per cent. of the salt carried.

34. The following statement shows in tons the Salt carried from stations other than Madras, and the districts to which it was sent.

Stations.	Half-year ending June 1889.		Half-year ending June 1890.	
	Sent from	Received at	Sent from	Received at
	Tons.	Tons.	Tons.	Tons.
Tirur	2,379	...	1,806	...
Ferok	226	...	886	...
Calicut	6,035	...	6,979	...
Nellore	1,441	...	735	...
Vencatachellum	1,054	...	822	...
Erode	82	...	131	...
Kalai	78	..	61	...
Salem District	...	1,190	...	2,793
Coimbatore District	...	2,022	...	2,760
Malabar ,, ...	...	5,628	...	3,399
Cuddapah ,, ...	...	1,051	...	748
Bellary ,, ...	...	1,452	...	760
Minor Stations	372	324	51	75
Mysore State Railway	...	...	...	936
Total...	11,667	11,667	11,471	11,471

35. Tonnage of Salt carried out of Madras to the various districts during the half-years ended 30th June 1889 and 1890.

Districts.	1889.		1890.	
	Tons.	Tons.	Tons.	Tons.
Between Madras, Arkonam and Conjeveram.	...	951	...	931
Cuddapah	465	...	731	...
Other Stations on North-West Line ...	2,871	...	3,265	...
		3,336		3,996
Arcot and Katpadi	...	4,029	...	3,801
Between Gudiyatam and Vaniyambadi ...	...	1,645	...	1,850
Bangalore	1,927	...	2,163	...
Mysore	1,095	...	918	...
Other Stations on Bangalore Branch ...	868	...	917	...
		3,890		3,998
Salem	30	...	68	...
Other Stations in Salem District... ...	2,007	...	1,811	...
		2,037		1,879
Erode, Tirupur and Coimbatore	...	2,445	...	2,244
Southern Mahratta Railway	...	1,110	...	1,035
South Indian Railway	...	...	...	...
Bellary-Kistna State Railway	...	82	...	...
Great Indian Peninsula Railway	...	...	...	...
Total...	...	19,525	...	19,734

36. The following table shows the Salt traffic carried out of Madras in each year for the five years ending 30th June 1890.

Districts.	1886.	1887.	1888.	1889.	1890.
	Tons.	Tons.	Tons.	Tons.	Tons.
Between Madras, Arkonam and Conjeveram.	2,291	2,287	1,930	1,956	1,907
Cuddapah	2,327	2,052	1,669	1,182	1,841
Other Stations on North-West Line ...	14,473	12,556	9,292	6,121	6,496
Arcot and Katpadi	8,423	8,273	6,978	7,871	7,320
Gudiyatam and Vaniyambadi	2,918	3,171	3,347	3,227	3,871
Bangalore	4,958	4,856	4,897	4,272	4,708
Mysore State Railway	2,529	1,859	1,829	2,618	1,920
Other Stations on Bangalore Branch ...	2,349	2,292	2,294	1,859	1,783
Salem	4,220	2,351	1,202	809	363
Other Stations in Salem District	5,204	4,480	4,004	4,011	3,733
Erode, Tirupur and Coimbatore	7,871	5,834	4,982	5,168	5,268
Malabar	166	85	37	...	20
Southern Mahratta Railway	203	1,300	1,997	2,140	2,014
South Indian Railway	97	8	8	...	...
Great Indian Peninsula Railway	30	...	...	...	...
Bellary-Kistna State Railway	...	...	158	177	107
Total...	58,059	51,404	44,624	41,711	41,351

37. In the other commodities the following remarks will explain the increase and decrease in the Traffic.

Coal and Coke.—The increase is due to larger exports of *Coal* from Madras to Kolar Road and of Charcoal from Gudiyatam to the North Arcot District.

Cotton Manufactured.—The increase is due to larger exports of Indian Twist from Madras to North Arcot and from Bangalore City to Madras.

Leather, Manufactured.—The increase is due to larger exports from Bangalore Cantonment to Madras.

Oils.—The increase is due to larger exports of Castor Oil from Sankaridrug to S. I. Ry., to larger despatches of Kerosine Oil from Madras to Mysore Dominions and from Malabar to Coimbatore District, and to larger consignments of "*other oils*" from Tirupatur and Arcot to Madras.

Oil Seeds.—The increase is due to larger exports of Gingelli Seeds from North Arcot, Cuddapah and Raichur to Madras. Larger exports of Castor Seeds from Salem, Raichur, Morappur, Adoni, Gooty and S. M. Ry. to Madras, and larger exports of "other oil seeds" from Arcot, Sankaridrug, Tiruvalum and Cuddapah to Madras, from Bangalore City to the S. I. Ry. and from the S. M. Ry. to Cuddapah District.

Provisions.—The increase is due to larger exports of "other provisions" from Katpadi and Tirupatur to Madras, from Palghaut to the S. I. Ry., and from Erode to North Arcot.

Railway Plant and Rolling Stock.—The increase is due to larger exports of Railway materials from Madras, Arkonam and Renigunta to the Bellary District and from the S. I. Ry. to Gooty.

Stone and Lime.—The increase is due to larger despatches of stone from Yerragoontla to Madras and to stations in the Bellary District, and from Kodur to the Cuddapah Nellore State Railway.

Wood.—The increase is due to larger exports of firewood from Malur, Kullavi, Vaniyambadi and Patchur to Kolar Road, from Peddapad to Madras and from Kanykode to Coimbatore.

Tobacco.—The increase is due to larger despatches from Palghat to Malabar District, from Sulur and Tirupur to North Arcot, and from Coimbatore to Gudiyatam.

Manure.—The increase is due to larger despatches of Oil Cakes from Arcot to Madras and from the S. M. Ry. to the Cuddapah District.

All other Articles of Merchandise.—The increase is due to larger exports of Laterite from Umbatur and Avadi to Madras, of Tiles from Ferok to Coimbatore District and of "other sundry articles" from Palghat to the S. I. Ry.

Tanning Bark.—The decrease is due to smaller despatches of "Tanning Bark" from G. I. P. Ry., Gooty and Tadpatri to Madras, and from Madras to North Arcot.

Hides and Skins.—The decrease is due to smaller exports of sheep skins from G. I. P. Ry., Arcot and Bangalore Cantonment to Madras, and from Madras to North Arcot.

Metals.—The decrease is due to smaller exports of Iron, from Madras to Mysore Dominions, from the S. I. Ry. to the Coimbatore District and from the Bangalore Branch to Madras.

Spices.—The decrease is due to smaller exports from Palghat to the S. I. Ry., from Gudiyatam to North Arcot, and from Calicut to Stations on the Malabar District.

Sugar.—The decrease is due to smaller exports of undrained sugar, from the S. M. Ry. and Bangalore Cantonment to Madras, from Sankaridrug to Erode, and from Perandurai to Coimbatore.

Government Stores.—The decrease is due to smaller despatches of Ordnance Stores, from the G. I. P. and S. M. Rys. to Madras.

38. The inwards traffic at Kolar Road and Kamasamudrum (the principal stations for the gold fields) for the half-years ended June 1889 and 1890, is summarised in the following tables.

KOLAR ROAD.

Description of goods.	1890.		1889.	
	Total traffic.		Total traffic.	
	Tons.	Rs.	Tons.	Rs.
Coal, Coke and Patent Fuel ...	4,134	23,437	3,427	26,943
Timber	1,787	13,559	1,253	10,686
Firewood	16,412	26,915	13,903	19,420
Machinery	715	9,325	245	3,502
Not classified	3,510	52,270	4,039	24,660
Total ...	26,558	1,25,506	22,867	85,211

KAMASAMUDRAM.

Description of goods.	1890.		1889.	
	Total traffic.		Total traffic.	
	Tons.	Rs.	Tons.	Rs.
Coal, Coke and Patent Fuel... ...	17	99	270	469
Timber	17	96	8	14
Firewood	3,149	4,555	3,426	4,243
Machinery	45	535	1	15
Not classified	835	1,819	389	1,843
Total ...	4,063	7,104	4,094	6,584

39. The interchange of the principal commodities with Foreign Railways during the two half-years under review, is shown below.—

Commodities.	1890.		1889.	
	Tons.	Rs.	Tons.	Rs.
Cotton, raw	2,491	28,313	3,143	33,636
Do. manufactured	2,347	31,697	2,351	32,876
Dyes and Tans	2,977	35,965	3,476	46,993
Grain...	27,514	1,37,281	16,189	88,295
Hides and Skins	5,278	93,324	5,478	1,09,091
Metals	1,763	22,152	2,043	28,099
Oils	1,786	8,406	1,607	7,105
Seeds	8,920	25,896	7,282	25,273
Provisions	12,399	72,323	13,249	87,465
Railway Plant and Rolling Stock	695	7,247	112	2,037
Salt	4,893	33,362	5,680	41,386
Sugar	5,095	46,328	8,548	57,770
Wood	5,207	39,461	4,734	33,820
Coffee	637	8,995	636	8,528
Government Stores	494	19,088	518	21,988
All other articles of merchandise	4,957	43,672	4,232	49,571
Tobacco	1,325	13,588	840	8,647
Liquors	1,427	21,808	1,170	19,050

40. *Working Expenses.*—The increase in the working expenses of the Traffic Department for the half-year amounted to Rs. 4,984, the chief increase being due to the opening of new Trial stations and the employment of additional Station Masters and Clerks at those and other stations.

41. *Abstract of Commodities.*—A detailed statement of the principal commodities carried during the half years under review will be found printed on pages 17, 18 & 19 of the Capital and Revenue accounts prepared by the Chief Auditor for the half year ended June 1890.

42. APPENDICES.

The undermentioned statements are enclosed.—

1. Coaching traffic receipts in each month.
2. Goods do. do.
3. Comparison of Coaching receipts for 1889 and 1890.
4. Do. Goods do. do.
5. Average receipts per mile open and per mile run during 1889 and 1890.
6. Expenditure table for 1889 and 1890.
7. Percentage of Working Expenses for 1889 and 1890.
8. Do. Revenue do. do.
9. Passenger traffic exclusive of return fares and soldiers for 1890.
10. Average receipts per mile open.
11. Passenger traffic inclusive of return fares but exclusive of soldiers for 1890.
12. Average receipts per mile open.
13. Return fare traffic for 1890.
14. Comparison of Passenger traffic inclusive of return fares but exclusive of soldiers for 1889 and 1890.
15. Comparison of Passenger traffic exclusive of return fares and soldiers for 1889 and 1890.
16. Comparison of Return fare traffic for 1889 and 1890.
17. Treasure and Passenger traffic for 1889 and 1890.
18. Gross earnings and tonnage of goods traffic.
19. Comparison of goods traffic for 1889 and 1890.
20. Comparative statement of traffic expenses for 1889 and 1890.
21. Table of Coaching traffic in and out at stations for 1889 and 1890.
22. Do. Goods 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 30th JUNE, 1890.

1. *Coaching traffic receipts in each month for the half-year ending 30th June, 1890.*

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.
January ...	2,62,126	9,676	9,637	2,127	6,700	488	19,100	251	1,523	293	1,976	3,13,897
February ...	2,30,638	13,215	7,223	2,570	5,172	341	15,791	280	7,272	287	1,785	2,84,574
March ...	2,50,415	11,077	9,647	2,943	11,162	418	18,745	304	10,207	121	1,976	3,17,015
April ...	2,47,233	15,797	8,185	2,924	8,661	561	18,411	396	...	431	1,913	3,04,422
May ...	2,56,638	16,955	12,975	3,040	5,052	422	17,336	308	1,121	156	1,976	3,15,979
June ...	2,70,721	15,974	11,412	2,879	7,787	384	16,990	355	1,346	153	1,942	3,29,943
Total...	15,17,771	82,694	59,079	16,483	44,534	2,614	1,06,373	1,804	21,469	1,441	11,568	18,65,830

2. *Goods traffic receipts in each month for the half-year ending 30th June, 1890.*

Months.	Merchandise and military stores and coal for the public.	Railway materials for construction.	Revenue stores.	Live stock		Rents and demurrage.	Miscellaneous.	Total.
				Ordinary	Military.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
January	3,87,516	1,732	9,336	1,603	1,354	869	489	4,02,899
February	3,61,883	906	13,531	1,890	785	527	481	3,80,008
March	4,23,057	...	11,353	1,698	135	792	500	4,37,535
April	3,79,996	2,725	15,255	1,186	553	986	671	4,01,372
May	4,30,064	1,998	16,404	997	...	617	669	4,50,749
June	4,73,999	1,134	15,151	665	775	691	480	4,92,895
Total...	24,56,520	8,495	81,030	8,039	3,602	4,432	3,290	25,65,458

3. *Comparison of the coaching traffic for the half-years ending June and December, 1889 and June, 1890.*

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.
June 1889...	15,24,328	83,934	67,892	20,530	53,104	4,549	1,14,325	1,342	6,828	2,431	11,539	18,90,802
December 1889...	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
June 1890...	15,17,771	82,694	59,079	16,483	44,534	2,614	1,06,373	1,804	21,469	1,441	11,568	18,65,830

4. *Comparison of the goods traffic for the half-years ending June and December, 1889 and June, 1890.*

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.
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
June 1890...	24,56,520	8,495	81,030	1,962	6,077	3,375	227	4,482	3,290	25,65,458

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 June 1889	5,364·70	3·76
Do. do. December 1889	5,481·60	3·90
Do. do. June 1890	5,622·43	3·98

6. *Table of expenditure for the half-years ending June and December, 1889 and June, 1890.*

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 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
Do. do. June 1890...	7,01,883	8,72,886	2,23,425	4,03,973	2,82,381	20,398	25,04,946

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 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
Do. do. June 1890...	28·02	34·85	8·92	16·13	11·27	0·81	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 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
Do. do. June 1890 ...	14·86	18·48	4·73	8·56	5·98	0·43	46·96	100·00

9. *Passenger traffic, exclusive of return fares and soldiers, in each month for the half-year ending June 1890.*

Months.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
January	1,326	13,706	3,490	14,028	663,623½	2,29,614	668,444½	2,57,348
February	1,082	9,615	2,893	8,896	646,563½	2,07,969	650,538½	2,26,480
March	1,282	12,440	3,051	11,112	699,794	2,23,623	704,127	2,47,175
April	1,269	14,342	2,967	10,591	645,190½	2,20,298	649,426½	2,45,231
May	1,167½	12,132	3,179½	11,944	715,534½	2,30,533	719,881½	2,54,609
June	1,172	13,206	3,202½	11,971	741,832	2,43,283	746,206½	2,68,460
Total...	7,298½	75,441	18,783	68,542	4,112,543	13,55,320	4,138,624½	14,99,303

10.

	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	846	89 12 11	81 9 7	1,613 7 7	1,784 14 1
Average percentage of numbers		0·17	0·45	99·37	100·00
Average mileage of passengers		165	117	37	...
Average percentage of receipts		5·03	4·57	90·40	100·00

11. *Passenger traffic in each month, inclusive of return fares, but exclusive of soldiers for the half-year ending June 1890.*

Months.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
January	1,339	14,046	3,537	14,572	683,489½	2,33,509	688,365½	2,62,127
February	1,088	9,678	2,935	9,359	665,738½	2,11,601	669,761½	2,30,638
March	1,306	13,155	3,090	11,748	709,512	2,25,512	713,908	2,50,415
April	1,277	14,564	2,995	11,056	651,462½	2,21,613	655,734½	2,47,233
May	1,177½	12,439	3,209½	12,312	722,540½	2,31,887	726,927½	2,56,638
June	1,178	13,303	3,238½	12,318	751,465	2,45,100	755,881½	2,70,721
Total...	7,365½	77,185	19,005	71,365	41,84,208	13,69,222	4,210,578½	15,17,772

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	91 14 2	84 15 4	1,630 0 5	1,806 13 11
Average percentage of numbers		0·18	0·45	99·37	100·00
Average mileage of passengers		172	142	37	...
Average percentage of receipts		5·09	4·70	90·21	100·00

13. *Return fare traffic for the half-year ending 30th June 1890.*

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.
January ...	1	75	15	296	638	273	12	266	32	248	19,223	3,621	19,921	4,779
February ...	...	...	14	154	648	186	6	63	28	309	18,527	3,446	19,223	4,158
March ...	2	117	21	364	637	182	22	597	18	273	9,081	1,707	9,781	3,240
April ...	...	...	12	294	628	172	8	222	16	172	5,644	1,142	6,308	2,002
May ...	2	120	14	144	638	179	8	187	16	225	6,368	1,175	7,046	2,030
June ...	...	...	22	221	607	177	6	97	14	124	9,026	1,641	9,675	2,260
Total...	5	312	98	1,473	3,796	1,169	62	1,432	124	1,351	67,869	12,732	71,954	18,469

14. *Comparison of the passenger traffic inclusive of return fares, but exclusive of soldiers, for the half-years ending June and December 1889 and June 1890.*

Half-years.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Half-year ending June 1889	6,357	91,223	19,901½	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	13,02,223	4,243,602½	15,31,873
Do. do. June 1890	7,365½	77,185	19,005	71,365	4,184,208	13,69,222	4,210,578½	15,17,772

15. *Comparison of the passenger traffic, exclusive of return fares and soldiers, for the half-years ending June and December 1889 and June 1890.*

Half-years.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
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
June 1890	7,298½	75,441	18,783	68,542	4,112,543	13,55,320	4,138,624½	14,99,303

16. *Comparison of the return fare traffic for the half-years ending June and December 1889 and June 1890.*

Period.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
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
Half-year ending June 1890. **Trivellore** ...	...	...	...	...	**43,545**	**8,223**	**43,545**	**8,223**
Half-year ending June 1890. Other excursions ...	67	1,744	222	2,824	28,120	5,678	28,409	10,246

17. *Treasure and passenger luggage traffic for the half-years ending June and December 1889 and June 1890.*

Period.	Parcels.			Luggage.				
	No.	Rs.	Revenue parcels.	Ordinary.		Military.		Total.
				Public.	Treasure	By ordinary trains.	By troop trains.	
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
June 1889...	113,167	1,14,325	1,313	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
June 1890...	124,333	1,06,372	1,803	44,508	14,571	9,908	6,574	75,561

18. *Gross earnings and tonnage of goods, exclusive of Railway materials and Revenue stores, for the half-year ending 30th June 1890.*

Months.	Tons.	Rupees.
January	65,840	3,87,516
February	59,565	3,61,888
March	69,462	4,23,057
April	63,738	3,79,996
May	69,774	4,30,064
June	75,192	4,73,999
Total ...	403,571	24,56,520

19. *Comparison of the goods traffic, exclusive of Railway materials and Revenue stores, for the half-years ending June and December 1889 and June 1890.*

Period.	Tons.	Rupees.
Half-year ending June 1889	370,690	24,17,622
Do. do. December 1889	429,927	25,60,379
Do. do. June 1890	403,571	24,56,520

20. *Comparative statement of the traffic expenses for the half-years ending June and December 1889 and June 1890.*

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.
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
1890 June	29,241	21,782	3,450	5,269	1,90,363	47,491	91	39,325	9,975	3,577	5,028	35,156	2,819	7,673	1,436	1,294	4,03,973

21. The following Table shows the Coaching Traffic in and out of the following Stations on the Madras Railway for the half-years ending 30th June 1889 and 1890.

STATIONS.	Number of Passengers.						Coaching Receipts.					
	1889.			1890.			1889.			1890.		
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.
	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras	342,029	302,566	644,595	343,047	303,996	647,043	2,87,882	2,93,869	5,81,751	2,78,449	2,94,021	5,72,470
Salt Cotaurs..	...	...	...	...	...	...	...	...	...	...	...	...
Rayapuram...	18,906	46,921	65,827	23,648	49,680	73,328	1,358	13,134	14,492	2,000	13,518	15,518
Washermenpet	9,765	51,226	60,991	10,024	55,539	65,563	787	14,209	14,996	1,060	15,375	16,435
Perambur	38,511	70,126	108,637	42,321	76,513	118,834	1,870	17,453	19,323	2,304	16,179	18,483
Connur	24,328	23,972	48,300	23,839	23,322	47,161	1,585	1,989	3,574	1,546	1,963	3,509
Ambatur	15,226	14,724	29,950	23,987	22,074	46,061	1,366	1,410	2,776	2,085	1,997	4,082
Avadi	63,437	58,328	121,765	61,091	55,004	116,095	9,418	8,696	18,114	9,204	8,900	18,104
Tinnanur	40,052	41,746	81,798	37,680	38,232	75,912	5,115	5,807	10,922	4,977	5,524	10,501
Sevvapet Road	16,704	18,277	34,981	17,376	17,911	35,287	2,346	2,750	5,096	2,583	2,782	5,365
Trivellore	149,295	103,387	252,682	144,231	96,639	240,870	31,367	21,936	53,303	30,908	21,686	52,594
Kadambatur	23,100	26,675	49,775	22,333	25,678	48,011	4,100	4,840	8,940	4,067	4,832	8,899
Chinnamapett	18,755	19,009	37,764	22,485	22,631	45,116	3,452	3,444	6,896	4,219	4,457	8,676
Arkonam	145,647	141,328	286,975	145,767	144,822	290,529	87,301	78,433	1,65,734	80,444	76,301	1,56,745
Tirutani	83,601	60,844	144,445	89,791	64,088	153,879	16,644	12,476	29,120	17,690	13,669	31,359
Nagari	40,902	44,094	84,996	43,772	47,213	90,985	7,063	8,026	15,089	7,578	8,356	15,934
Tirumalakuppam*	...	...	...	2,459	3,256	5,715	...	...	...	252	456	708
Puttur	44,342	48,263	92,605	43,679	47,425	91,104	7,719	8,881	16,600	7,919	9,122	17,041
Pudi	25,121	27,625	52,746	25,376	27,109	52,485	3,773	4,787	8,560	3,968	4,746	8,714
Renigunta	101,394	84,736	186,130	87,100	78,145	165,245	57,773	46,373	1,04,146	50,125	44,190	94,315
Mamandur	2,971	3,406	6,377	3,334	3,480	6,814	275	462	737	372	484	856
Peddapad	6,021	6,136	12.157	6,623	6,678	13,306	898	997	1,895	1,025	1,104	2,129
Kodur	20,357	19,631	40,018	20,314	18,966	39,280	4,602	4,350	8,952	4,769	4,378	9,147
Urampad	11,536	11,742	23,278	11,730	12,173	23,903	1,687	1,958	3,645	1,692	2,002	3,694
Reddipalli	18,052	18,665	36,717	16,172	16,660	32,832	3,758	4,476	8,234	3,302	3,932	7,234
Rajampet	25,667	25,891	51,558	28,390	28,109	56,499	6,474	6,629	13,103	6,963	6,956	13,919
Nandalur	20,588	20,430	41,018	20,149	20,321	40,470	4,036	4,013	8,049	3,950	4,327	8,277
Voutimitta	20,963	20,452	41,420	20,879	19,840	40,719	4,351	5,361	9,712	4,373	5,235	9,608
Siddhavattam	...	...	...	1,788	1,879	3,667	...	...	...	153	232	385
Cuddapah	*63,746*	*63,218*	*126,964*	*64,890*	*64,144*	*129,034*	*33,578*	*38,697*	*72,275*	*35,358*	*37,033*	*72,391*
Krishnapuram	*12,061*	*13,305*	*25,366*	*12,223*	*13,627*	*25,850*	*1,519*	*2,149*	*3,668*	*1,587*	*2,328*	*3,915*
Vallur	*6,560*	*7,399*	*13,959*	*6,521*	*6,837*	*13,358*	*482*	*750*	*1,232*	*505*	*708*	*1,213*
Kamalapuram	*20,578*	*20,499*	*41,077*	*21,498*	*20,947*	*42,445*	*4,051*	*4,323*	*8,374*	*4,600*	*4,497*	*9,097*
Yerraguntla	*25,772*	*24,999*	*50,771*	*23,464*	*22,579*	*46,043*	*9,599*	*10,352*	*19,951*	*9,095*	*8,996*	*18,091*
Muddanur	*15,549*	*15,586*	*31,135*	*15,428*	*15,827*	*31,255*	*5,209*	*4,872*	*10,081*	*5,773*	*5,353*	*11,126*
Mangapatnam	*3,292*	*3,662*	*6,954*	*2,715*	*3,105*	*5,820*	*395*	*561*	*956*	*362*	*506*	*868*
Kondapuram	*17,172*	*17,321*	*34,493*	*14,661*	*14,993*	*29,654*	*5,243*	*5,779*	*11,022*	*4,521*	*4,859*	*9,380*
Vanganur	*5,465*	*6,489*	*11,954*	*5,809*	*6,777*	*12,586*	*890*	*1,264*	*2,154*	*999*	*1,382*	*2,381*
Tadpatri	*33,022*	*31,771*	*64,793*	*33,358*	*31,865*	*65,223*	*12,556*	*12,434*	*24,990*	*13,604*	*12,573*	*26,177*
Penner	*13,116*	*14,006*	*27,122*	*11,995*	*12,724*	*24,719*	*2,151*	*2,594*	*4,745*	*2,012*	*2,303*	*4,315*
Rayalcheru	*15,212*	*15,166*	*30,378*	*14,959*	*15,252*	*30,211*	*3,136*	*3,238*	*6,374*	*3,199*	*3,286*	*6,485*
Jakkulacheru	*3,218*	*3,830*	*7,048*	*4,152*	*4,459*	*8,611*	*424*	*618*	*1,042*	*574*	*719*	*1,293*
Gooty	*35,874*	*35,218*	*71,092*	*37,540*	*36,269*	*73,809*	*13,749*	*13,637*	*27,386*	*14,279*	*13,469*	*27,748*
Patakottacheru	*4,485*	*4,790*	*9,275*	*5,464*	*5,597*	*11,061*	*554*	*669*	*1,223*	*629*	*847*	*1,476*
Timmancherla	*14,382*	*13,930*	*28,312*	*13,873*	*14,041*	*27,914*	*5,120*	*3,935*	*9,055*	*4,531*	*4,213*	*8,744*
Guntakal Junction...	*21,385*	*18,330*	*39,715*	*27,547*	*21,258*	*48,805*	*18,209*	*14,595*	*32,804*	*22,095*	*14,759*	*36,854*
Nancherla	*6,364*	*5,919*	*12,283*	*5,789*	*4,805*	*10,594*	*1,383*	*1,400*	*2,783*	*1,251*	*1,135*	*2,386*
Mallagavalli	...	...	...	*2,487*	*2,992*	*5,479*	...	...	...	*400*	*657*	*1,057*
Aspari	*8,937*	*8,917*	*17,854*	*8,162*	*8,427*	*16,589*	*1,833*	*2,026*	*3,859*	*1,687*	*1,990*	*3,677*
Adoni	*45,093*	*45,427*	*90,520*	*45,557*	*45,182*	*90,739*	*15,778*	*14,547*	*30,325*	*17,035*	*15,066*	*32,101*
Kupgal	*9,272*	*9,568*	*18,840*	*10,520*	*10,283*	*20,803*	*1,220*	*1,521*	*2,741*	*1,321*	*1,601*	*2,992*
Kosgi	*14,391*	*14,763*	*29,154*	*14,940*	*15,743*	*30,683*	*2,752*	*3,014*	*5,766*	*2,826*	*3,145*	*5,971*
Tungabhadra River	*9,673*	*10,012*	*19,685*	*9,788*	*10,450*	*20,238*	*3,612*	*2,279*	*5,891*	*3,474*	*2,923*	*6,397*
Matmari	*10,885*	*11,631*	*22,516*	*11,328*	*11,457*	*22,785*	*1,827*	*2,317*	*4,144*	*2,326*	*2,251*	*4,577*
Raichur	*27,223*	*27,011*	*54,234*	*28,683*	*28,445*	*57,128*	*33,789*	*32,418*	*66,207*	*34,597*	*30,540*	*65,137*
Munnal	*14,987*	*15,797*	*30,784*	*15,755*	*16,887*	*32,642*	*2,297*	*3,356*	*5,653*	*2,334*	*2,933*	*5,267*
Sholinghur	*25,440*	*27,232*	*52,672*	*26,773*	*28,264*	*55,037*	*5,881*	*6,854*	*12,735*	*6,200*	*6,850*	*13,050*
Arcot	*87,464*	*83,579*	*171,043*	*90,365*	*85,946*	*176,311*	*31,527*	*32,634*	*64,161*	*32,482*	*32,333*	*64,815*
Tiruvallam	*16,689*	*18,920*	*35,609*	*18,871*	*21,461*	*40,332*	*3,260*	*4,399*	*7,659*	*3,988*	*5,076*	*9,064*
Katpadi	*123,078*	*119,204*	*243,282*	*138,278*	*130,241*	*268,519*	*54,643*	*54,040*	*1,08,683*	*60,864*	*60,539*	*121,403*
Virinjipuram	*23,877*	*23,291*	*47,168*	*23,734*	*24,970*	*48,704*	*3,889*	*5,194*	*9,083*	*3,638*	*5,307*	*8,945*
Gudiyatam	*59,180*	*55,093*	*114,273*	*63,487*	*60,847*	*124,334*	*15,087*	*16,308*	*31,395*	*15,607*	*18,039*	*33,646*
Ulli	*14,170*	*15,566*	*29,736*	*14,923*	*15,730*	*30,653*	*2,148*	*2,809*	*4,957*	*2,144*	*2,808*	*4,952*
Mallipati	*20,767*	*21,143*	*41,910*	*22,990*	*24,685*	*47,675*	*3,744*	*4,071*	*7,815*	*4,355*	*5,070*	*9,425*
Ambur	*46,566*	*48,675*	*95,241*	*51,928*	*53,766*	*105,694*	*9,187*	*10,324*	*19,511*	*11,871*	*11,103*	*22,974*
Vaniyambadi	*56,755*	*57,288*	*114,043*	*61,561*	*61,838*	*123,399*	*14,326*	*13,587*	*27,913*	*15,301*	*14,842*	*30,143*
Ketandapatti	*6,327*	*7,056*	*13,383*	*6,807*	*7,110*	*13,917*	*536*	*1,016*	*1,552*	*605*	*978*	*1,583*
Jalarpet	*61,933*	*64,243*	*126,176*	*65,700*	*66,943*	*132,643*	*19,497*	*20,769*	*40,266*	*22,297*	*21,222*	*43,519*
Patchur	*9,593*	*11,556*	*21,149*	*10,204*	*12,025*	*22,229*	*1,122*	*2,155*	*3,277*	*1,400*	*2,349*	*3,749*

* Tirumalakuppam opened 1st April 1890.

The following Table shows the Coaching Traffic in and out of the following Stations on the Madras Railway for the half-years ending 30th June 1889 and 1890—*continued.*

STATIONS.	Number of Passengers.						Coaching Receipts.					
	1889.			1890.			1889.			1890.		
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.
	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Malanur	5,212	4,237	9,449	5,206	4,396	9,602	419	421	840	425	478	903
Kuppam	28,533	27,383	55,916	28,810	27,573	56,383	8,413	7,602	16,015	8,469	7,978	16,447
Kamasamudram	25,565	25,755	51,320	26,791	27,182	53,973	5,913	6,592	12,505	6,448	6,847	13,295
Kolar Road...	65,109	60,881	125,990	65,925	61,257	127,182	27,094	21,667	48,761	27,814	24,044	51,858
Tyakal	13,023	13,829	26,852	14,225	13,733	27,958	1,794	1,969	3,763	1,798	1,837	3,635
Malur	20,635	27,903	57,538	28,760	28,736	57,496	10,220	8,006	18,226	9,119	9,350	18,469
Davangoondi	8,247	8,654	16,901	10,372	10,254	20,626	1,390	1,298	2,688	1,378	1,568	2,946
Kadgoodi	21,944	20,857	42,801	22,892	21,619	44,511	3,819	3,641	7,460	3,861	3,786	7,647
Krishnarajapuram	12,003	14,882	26,885	11,951	14,481	26,432	1,375	2,164	3,539	1,364	2,181	3,545
Bangalore Cantonment	113,531	71,686	185,217	118,444	71,920	190,364	1,44,928	1,05,750	2,50,678	1,33,002	92,738	2,25,740
Do City	6,592	43,996	50,588	5,475	47,933	53,408	7,708	37,171	44,879	4,437	37,450	41,887
Tirupatur	67,732	63,211	130,943	66,053	60,654	126,707	19,691	18,518	38,209	20,052	17,882	37,934
Kagankarai...	8,585	9,523	18,108	8,394	9,799	18,193	875	1,262	2,137	934	1,387	2,321
Samalpati	13,770	13,556	27,326	13,426	13,018	26,444	3,518	3,737	7,255	3,952	3,840	7,792
Kaliavi	7,312	8,486	15,798	7,361	8,721	16,082	1,106	1,456	2,562	1,106	1,462	2,568
Morappur	18,941	17,650	36,591	19,081	17,725	36,806	6,165	5,945	12,110	6,665	5,893	12,558
Baddireddipatti	5,491	5,973	11,464	5,567	6,206	11,773	1,035	1,382	2,417	1,127	1,485	2,612
Mullapuram	12,265	12,721	24,986	12,397	12,290	24,687	2,823	3,230	6,053	3,006	3,275	6,281
Kadiampatti	8,698	7,793	16,491	8,482	6,457	14,939	1,580	1,549	3,129	1,544	1,065	2,609
Thinnappatti...	10,215	9,325	19,540	11,805	11,559	23,364	1,051	1,274	2,325	1,166	1,521	2,687
Salem	79,173	80,929	160,102	81,963	85,509	167,472	43,461	47,932	91,393	46,573	51,123	97,696
Ariyanur	4,502	4,974	9,476	4,989	5,901	10,890	472	630	1,102	474	747	1,221
McDonald's Choultry	10,411	10,808	21,219	10,814	10,970	21,784	1,798	1,916	3,714	1,909	2,004	3,913
Sankaridrug	27,989	26,076	54,065	28,013	26,186	54,199	5,642	5,518	11,160	5,889	5,947	11,836
Cauvery	4,079	4,043	8,122	4,088	4,260	8,348	597	957	1,554	622	971	1,593
Erode	87,022	84,607	171,629	88,658	83,902	172,560	48,651	42,837	91,488	50,199	42,859	93,058
Perundurai	21,896	20,307	42,203	20,709	19,976	40,685	4,042	3,831	7,873	3,747	3,760	7,507
Viziamangalam	4,214	5,355	9,569	4,949	6,530	11,479	504	971	1,475	654	1,265	1,919
Uttukuli	14,322	14,139	28,461	13,675	13,212	26,887	3,115	3,440	6,555	3,097	3,121	6,218
Tirupur	40,401	37,771	78,172	42,527	37,947	80,474	13,340	11,631	24,971	14,554	12,085	26,639
Mangalam	*20,362*	*19,576*	*39,938*	*20,277*	*19,583*	*39,860*	*4,568*	*4,543*	*9,111*	*4,698*	*4,606*	*9,304*
Somanur	*13,085*	*12,231*	*25,316*	*13,089*	*12,628*	*25,717*	*2,563*	*2,267*	*4,830*	*2,675*	*2,533*	*5,208*
Sulur	*13,803*	*14,609*	*28,412*	*13,456*	*13,439*	*26,895*	*2,199*	*2,789*	*4,988*	*2,343*	*2,559*	*4,902*
Singanallur	*12,469*	*14,157*	*26,626*	*12,062*	*12,869*	*24,931*	*1,772*	*2,399*	*4,171*	*1,806*	*2,187*	*3,993*
Podanur	*57,342*	*59,829*	*117,171*	*53,551*	*56,059*	*109,610*	*18,090*	*17,749*	*35,839*	*17,956*	*15,972*	*33,928*
Coimbatore...	*143,090*	*133,581*	*276,671*	*134,491*	*123,184*	*257,675*	*45,362*	*44,449*	*89,811*	*45,869*	*44,391*	*90,260*
Tudiyalur	*17,325*	*18,654*	*35,979*	*14,529*	*15,843*	*30,372*	*1,660*	*1,881*	*3,541*	*1,683*	*1,772*	*3,455*
Gudalur	*9,058*	*11,365*	*20,423*	*7,129*	*8,895*	*16,024*	*787*	*1,050*	*1,837*	*748*	*991*	*1,739*
Karaimadai...	*35,235*	*29,003*	*64,238*	*26,191*	*23,193*	*49,384*	*4,390*	*3,612*	*8,002*	*3,662*	*3,413*	*7,075*
Mettupalaiyam	*54,854*	*59,217*	*114,071*	*50,066*	*54,574*	*104,640*	*82,264*	*55,527*	*1,37,791*	*71,374*	*50,030*	*121,404*
Madukarai	*6,826*	*7,670*	*14,496*	*7,522*	*8,701*	*16,223*	*1,491*	*1,619*	*3,110*	*1,541*	*1,736*	*3,277*
Walayar	*4,469*	*5,956*	*10,425*	*4,580*	*5,593*	*10,173*	*735*	*1,111*	*1,846*	*733*	*1,086*	*1,819*
Kanyikod	*11,871*	*12,823*	*24,694*	*11,488*	*12,856*	*24,344*	*2,762*	*3,384*	*6,146*	*2,971*	*3,508*	*6,479*
Olavakode	*54,795*	*63,506*	*118,301*	*51,951*	*61,732*	*113,683*	*16,424*	*19,588*	*36,012*	*16,497*	*20,232*	*36,729*
Palghat	*37,042*	*28,595*	*65,637*	*37,013*	*27,802*	*64,815*	*17,894*	*12,097*	*29,991*	*18,445*	*12,366*	*30,811*
Parli	*18,221*	*20,404*	*38,625*	*16,807*	*18,661*	*35,468*	*4,093*	*4,643*	*8,736*	*3,982*	*4,312*	*8,294*
Lakkidi	*22,966*	*23,360*	*46,326*	*21,663*	*21,824*	*43,487*	*5,283*	*5,383*	*10,666*	*5,175*	*5,324*	*10,499*
Ottapalam	*26,870*	*27,456*	*54,326*	*25,931*	*25,126*	*51,057*	*6,390*	*6,617*	*13,007*	*6,411*	*6,264*	*12,675*
Shoranur	*32,820*	*32,542*	*65,362*	*30,466*	*31,867*	*62,333*	*17,145*	*15,018*	*32,163*	*16,084*	*21,651*	*37,735*
Pattambi	*29,181*	*30,476*	*59,657*	*27,040*	*27,061*	*54,101*	*8,891*	*10,898*	*19,789*	*9,155*	*10,618*	*19,773*
Pallipuram	*10,490*	*11,975*	*22,465*	*10,768*	*11,556*	*22,324*	*1,880*	*2,362*	*4,242*	*2,049*	*2,450*	*4,499*
Kuttipuram...	*11,706*	*13,122*	*24,828*	*10,719*	*12,140*	*22,859*	*2,616*	*2,951*	*5,567*	*2,416*	*2,994*	*5,410*
Edakolam	*10,313*	*11,488*	*21,801*	*9,850*	*11,141*	*20,991*	*2,004*	*2,413*	*4,417*	*1,972*	*2,479*	*4,451*
Tirur	*57,454*	*52,330*	*109,784*	*51,377*	*48,152*	*99,529*	*14,466*	*13,147*	*27,613*	*12,739*	*12,324*	*25,063*
Tanore	*25,062*	*26,553*	*51,615*	*22,731*	*23,699*	*46,430*	*3,418*	*4,426*	*7,844*	*3,062*	*3,853*	*6,915*
Parpanangadi	*48,927*	*48,058*	*96,985*	*46,418*	*45,561*	*91,979*	*6,410*	*6,593*	*13,003*	*6,188*	*6,664*	*12,852*
Kadalundi	*18,814*	*18,934*	*37,748*	*14,914*	*15,833*	*30,747*	*1,799*	*1,881*	*3,680*	*1,545*	*1,617*	*2,962*
Ferok	*63,841*	*59,152*	*122,993*	*56,503*	*56,213*	*112,716*	*6,228*	*6,030*	*12,258*	*5,600*	*7,506*	*13,106*
Kallai	*28,468*	*40,198*	*68,666*	*22,825*	*37,405*	*60,230*	*5,313*	*7,772*	*13,085*	*4,328*	*7,512*	*11,840*
Calicut	*123,622*	*119,168*	*242,790*	*112,521*	*102,930*	*215,451*	*54,884*	*48,836*	*1,03,720*	*53,333*	*49,608*	*102,941*
Southern Mah. Ry... ...	36,266	38,000	74,266	31,352	38,099	69,452	57,037	47,151	1,04,188	53,634	48,580	102,214
Great Indian Peninsula Ry. ...	16,874	17,779	34,653	19,309	18,279	37,588	97,954	1,03,177	2,01,131	97,773	81,354	179,127
Mysore State Ry.	651	2,070	2,721	...	..	...	5,657	9,381	15,038	...	...	...
South Indian Ry.	54,720	79,521	134,241	54,098	81,965	136,063	45,851	64,645	1,10,496	47,779	65,375	113,154

22. *The following Table shows the Goods Traffic in and out of the following Stations on the Madras Railway, for the half-years ending 30th June 1889 and 1890, together with the gross traffic receipts.*

STATIONS.	Tonnage of Goods and Railway Materials.						Goods Receipts.						Gross Receipts, Coaching & Goods, Inwards & Outwards.	
	1889.			1890.			1889.			1890.				
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	1889.	1890.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras ...	...	...	...	...	...	...	20,089	34,208	54,297	8,185	18,543	26,728	6,36,048	5,99,198
Salt Cotaurs ...	*92,316*	*60,842*	*153,158*	*97,784*	*69,099*	*166,883*	*6,72,442*	*5,19,005*	*11,91,447*	*6,06,937*	*6,01,798*	*12,08,735*	*11,91,447*	*12,08,735*
Rayapuram ...	*66*	*3,509*	*3,575*	...	*577*	*577*	*990*	*21,885*	*22,875*	*200*	*3,999*	*4,199*	*37,368*	*19,717*
Washermenpet ...	...	...	...	...	...	...	...	...	...	5	1	6	14,996	16,441
Perambur ...	242	51	293	253	87	340	959	370	1,329	1,142	625	1,767	20,652	20,250
Connur ...	...	...	...	...	...	...	...	...	...	...	...	...	3,575	3,510
Ambatur ...	9	3,979	3,988	9	9,142	9,151	340	1,923	2,263	28	3,896	3,924	5,040	8,006
Avadi ...	732	1,031	1,763	805	5,804	6,609	2,697	5,520	8,217	2,399	3,568	5,967	26,331	24,071
Tinnanur ...	107	820	927	99	482	581	235	729	964	297	405	702	11,887	11,204
Sevvapet Road ...	166	1,049	1,215	125	73	198	421	1,756	2,177	326	114	440	7,273	5,806
Trivellore ...	1,324	2,105	3,429	859	1,804	2,663	3,982	3,355	7,337	3,080	2,236	5,316	60,640	57,910
Kadambatur ...	316	1,341	1,657	355	937	1,292	781	2,572	3,353	951	1,246	2,197	12,293	11,096
Chinnamapet ...	272	2,265	2,537	224	1,182	1,406	862	3,266	4,128	490	1,725	2,215	11,023	10,891
Arkonam ...	2,079	3,445	5,524	3,566	3,046	6,612	5,963	12,462	18,425	11,564	11,848	23,412	1,84,159	1,80,158
Tirutani ...	1,858	2,095	3,953	2,249	1,810	4,059	6,974	4,118	11,092	8,705	4,612	13,317	40,212	44,676
Nagari ...	878	2,922	3,800	1,091	2,263	3,354	3,259	5,701	8,960	3,859	5,405	9,264	24,049	25,199
Tirumalakuppam* ...	...	...	...	...	12	12	...	...	...	...	13	13	...	721
Puttur ...	519	1,766	2,285	686	859	1,545	1,917	4,658	6,575	2,449	3,117	5,566	23,175	22,608
Pudi ...	281	1,213	1,494	241	1,225	1,466	887	4,581	5,468	1,009	4,055	5,064	14,029	13,779
Renigunta ...	2,220	2,243	4,463	7,384	2,980	10,354	9,726	8,748	18,474	32,462	19,763	52,225	1,22,621	1,46,541
Manandur ...	20	1,019	1,039	9	1,036	1,045	23	3,102	3,125	47	2,681	2,728	3,862	3,584
Peddapad ...	15	1,045	1,060	13	1,452	1,465	33	4,870	4,903	71	12,104	12,175	6,798	14,304
Kodur ...	658	2,803	3,461	419	2,434	2,853	1,223	9,067	10,290	1,308	10,454	11,762	19,241	20,909
Urampad ...	57	1,120	1,177	104	1,345	1,449	265	4,881	5,146	491	7,597	8,088	8,791	11,782
Reddipalle ...	72	418	490	93	479	572	340	2,248	2,588	391	2,547	2,938	10,822	10,172
Rajampet ...	1,536	1,880	3,416	1,493	2,530	4,023	6,813	9,477	16,290	6,297	14,490	20,787	29,394	34,706
Nandalur ...	107	253	360	78	314	392	441	1,495	1,936	424	1,659	2,083	9,985	10,359
Vontimitta ...	*120*	*465*	*585*	*93*	*616*	*709*	*535*	*2,271*	*2,806*	*495*	*4,430*	*4,825*	*12,518*	*14,533*
Siddhavatiam ...	...	...	...	*9*	*59*	*68*	...	...	...	*13*	*449*	*462*	...	*847*
Cuddapah ...	*5,600*	*6,193*	*11,797*	*9,171*	*7,912*	*17,083*	*27,647*	*35,302*	*62,949*	*34,972*	*62,934*	*97,906*	*1,35,223*	*1,70,298*
Krishnapuram ...	*431*	*364*	*795*	*383*	*244*	*627*	*1,701*	*3,015*	*4,716*	*2,312*	*1,563*	*3,875*	*8,384*	*7,791*
Vallur ...	*61*	*272*	*333*	*49*	*275*	*324*	*252*	*500*	*752*	*274*	*580*	*854*	*1,985*	*2,067*
Kamalapuram ...	*649*	*301*	*950*	*1,068*	*693*	*1,761*	*3,260*	*1,503*	*4,763*	*4,091*	*2,024*	*6,115*	*13,137*	*15,211*
Yerraguntla ...	*1,207*	*6,457*	*7,664*	*1,592*	*5,698*	*7,290*	*8,571*	*34,970*	*43,541*	*9,935*	*30,393*	*40,328*	*63,492*	*58,418*
Muddanur ...	*825*	*824*	*1,649*	*942*	*1,099*	*2,041*	*5,481*	*8,923*	*14,404*	*5,561*	*13,092*	*18,653*	*24,484*	*29,779*
Mangapatnam ...	*59*	*24*	*83*	*55*	*52*	*107*	*113*	*111*	*224*	*190*	*234*	*424*	*1,181*	*1,293*
Kondapuram ...	*5,799*	*250*	*6,049*	*1,035*	*352*	*1,387*	*21,490*	*1,151*	*22,641*	*3,923*	*1,727*	*5,650*	*33,662*	*15,029*
Vanganur ...	*11*	*23*	*34*	*29*	*44*	*73*	*52*	*104*	*156*	*133*	*189*	*322*	*2,310*	*2,703*
Tadpatri ...	*2,390*	*4,511*	*6,901*	*2,823*	*4,829*	*7,652*	*17,011*	*46,598*	*63,609*	*19,316*	*38,926*	*58,242*	*88,599*	*84,419*
Penner ...	*1,598*	*261*	*1,859*	*408*	*240*	*648*	*7,461*	*945*	*8,406*	*1,510*	*631*	*2,141*	*13,151*	*6,456*
Rayalcheru ...	*214*	*720*	*934*	*264*	*455*	*719*	*1,314*	*1,949*	*3,263*	*1,412*	*2,822*	*4,234*	*9,637*	*10,719*
Jakkulacheruvu ...	*4*	*4*	*8*	*26*	*41*	*67*	*11*	*18*	*29*	*102*	*134*	*236*	*1,071*	*1,529*
Gooty ...	*2,904*	*1,939*	*4,843*	*2,400*	*2,921*	*5,321*	*16,246*	*17,495*	*33,741*	*16,153*	*24,160*	*40,313*	*61,128*	*68,060*
Patakottacheru ...	*7*	*74*	*81*	*7*	*261*	*268*	*58*	*188*	*246*	*35*	*994*	*1,029*	*1,470*	*2,505*
Timmancherla ...	*1,047*	*1,695*	*2,742*	*1,407*	*1,453*	*2,860*	*5,781*	*16,841*	*22,622*	*6,345*	*13,903*	*20,248*	*31,677*	*28,993*
Guntakal Junction ..	*288*	*74*	*362*	*4,659*	*92*	*4,751*	*10,658*	*5,358*	*16,016*	*56,390*	*1,620*	*58,010*	*48,820*	*94,863*
Nancherla ...	*352*	*199*	*551*	*156*	*354*	*510*	*1,307*	*318*	*1,625*	*1,111*	*933*	*2,044*	*4,408*	*4,430*
Mallagavalli ...	...	...	...	*9*	*13*	*22*	...	...	...	*26*	*24*	*50*	...	*1,106*
Aspari ...	*54*	*114*	*168*	*35*	*488*	*523*	*328*	*211*	*539*	*382*	*3,443*	*3,825*	*4,398*	*7,501*
Adoni ...	*6,747*	*5,998*	*12,745*	*6,781*	*9,279*	*16,063*	*35,169*	*57,916*	*93,085*	*31,026*	*54,337*	*85,363*	*1,23,410*	*1,17,464*
Kupgal ...	*24*	*12*	*36*	*46*	*18*	*64*	*42*	*27*	*69*	*26*	*104*	*130*	*2,811*	*3,052*
Kosgi ...	*407*	*335*	*742*	*324*	*827*	*1,151*	*2,298*	*757*	*3,055*	*1,998*	*4,507*	*6,505*	*8,821*	*12,475*
Tungabhadra ..	*8*	*91*	*99*	*6*	*176*	*182*	*33*	*131*	*164*	*59*	*201*	*260*	*6,055*	*6,657*
Matmari ...	*27*	*260*	*287*	*36*	*248*	*284*	*181*	*4,460*	*4,641*	*93*	*2,228*	*2,321*	*8,785*	*6,898*
Raichur ...	*3,052*	*1,997*	*5,049*	*3,225*	*2,830*	*6,055*	*22,329*	*14,590*	*36,919*	*26,038*	*21,425*	*47,463*	*1,03,126*	*1,12,600*
Munnal ...	*307*	*370*	*677*	*432*	*552*	*984*	*955*	*675*	*1,630*	*1,685*	*1,137*	*2,822*	*7,284*	*8,088*
Sholinghur ...	*680*	*2,464*	*3,144*	*648*	*2,699*	*3,347*	*2,627*	*7,410*	*10,037*	*2,566*	*6,111*	*8,677*	*22,773*	*21,725*
Arcot ...	*5,842*	*11,963*	*17,805*	*6,977*	*9,240*	*16,217*	*29,870*	*67,634*	*97,504*	*27,105*	*32,078*	*59,183*	*1,61,666*	*1,23,998*
Tiruvallam ...	*96*	*744*	*840*	*117*	*1,106*	*1,223*	*391*	*2,464*	*2,855*	*498*	*2,431*	*2,929*	*10,514*	*11,993*
Katpadi ...	*16,035*	*23,235*	*39,270*	*15,006*	*20,320*	*35,326*	*74,254*	*2,00,840*	*2,74,094*	*82,564*	*1,19,009*	*2,01,573*	*3,83,777*	*3,22,976*
Virinjipuram ...	*86*	*883*	*969*	*117*	*874*	*991*	*487*	*3,617*	*4,104*	*636*	*3,127*	*3,763*	*13,188*	*12,707*
Gudiyatam ...	*3,195*	*4,088*	*7,283*	*3,779*	*3,966*	*7,745*	*20,785*	*21,359*	*42,144*	*30,783*	*19,454*	*50,237*	*73,540*	*83,882*
Ulli	*283*	*378*	*661*	*368*	*412*	*780*	*2,381*	*2,084*	*4,465*	*3,100*	*2,320*	*5,420*	*9,421*	*10,372*
Mailpati	*569*	*1,269*	*1,838*	*460*	*1,289*	*1,749*	*6,919*	*7,915*	*14,834*	*3,401*	*6,444*	*9,845*	*22,649*	*19,270*
Ambur	*2,249*	*2,353*	*4,602*	*2,063*	*2,244*	*4,307*	*38,111*	*12,298*	*50,409*	*20,168*	*12,141*	*32,309*	*69,920*	*55,284*
Vaniyambadi ...	*4,417*	*6,125*	*10,542*	*4,835*	*7,733*	*12,568*	*26,114*	*26,835*	*52,949*	*28,037*	*30,030*	*62,067*	*80,863*	*92,210*
Ketandapatti ..	*11*	*407*	*418*	*18*	*406*	*424*	*41*	*1,062*	*1,103*	*38*	*880*	*918*	*2,654*	*2,501*

* Tirumalakuppam opened 1st April 1890.

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.	
	1889.			1890.			1889.			1890.				
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	1889.	1890.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Jalarpet	401	1,059	1,460	542	798	1,340	1,969	3,353	5,322	2,699	3,014	5,713	45,588	49,232
Patchur	72	1,453	1,525	178	3,022	3,195	139	1,609	1,748	349	3,993	4,342	5,026	8,091
Mulanur	104	...	104	74	19	93	205	2	207	246	29	275	1,047	1,178
Kuppam	911	8,291	9,202	852	5,630	6,482	3,130	8,664	11,794	3,415	7,289	10,704	27,809	27,151
Kamasamudram ...	4,067	663	4,730	4,063	325	4,388	6,553	760	7,313	7,115	512	7,627	19,818	20,922
Kolar Road ...	21,804	5,573	27,377	26,558	7,835	34,393	76,174	28,307	1,04,481	1,25,630	41,119	1,66,749	1,53,242	2,18,607
Tyakal	202	516	718	57	988	1,045	456	1,430	1,886	243	1,945	2,188	5,649	5,824
Malur	775	3,766	4,541	845	3,651	4,496	5,947	10,709	16,656	5,666	11,190	16,856	34,882	35,324
Devankandi ...	...	25	25	58	763	821	1	109	110	150	3,289	3,439	2,799	6,385
Kadgodi ...	215	729	944	192	1,622	1,814	1,433	4,101	5,534	1,082	6,120	7,202	12,995	14,848
Krishnarajapuram..	110	41	151	117	152	269	976	233	1,209	1,113	690	1,803	4,749	5,348
Bangalore Cant. ...	12,602	7,747	20,349	14,225	7,535	21,760	1,39,071	78,632	2,17,703	1,27,145	69,562	1,96,707	4,68,380	4,22,437
Do. City ...	8,634	17,490	26,124	8,005	26,699	34,704	88,755	1,06,088	1,94,843	68,428	1,57,830	2,26,258	2,39,722	2,68,144
Tirupatur ...	4,040	8,968	13,008	5,968	8,752	14,720	21,102	38,678	59,780	24,635	36,688	61,323	97,989	99,257
Kagankarai ..	39	411	450	67	339	406	40	673	713	665	1,132	1,797	2,850	4,118
Samalpati ...	160	2,912	3,072	120	2,135	2,225	968	8,379	9,347	689	5,833	6,522	16,602	14,315
Kallavi	212	1,506	1,718	40	2,723	2,763	228	4,262	4,490	612	7,110	7,722	7,053	10,290
Morappur ...	1,044	2,288	3,332	1,205	2,952	4,157	7,097	8,931	16,028	9,638	11,951	21,589	28,139	34,147
Baddireddipatti ...	395	457	852	57	560	617	848	1,246	2,094	317	1,784	2,101	4,511	4,713
Mallapuram ...	48	1,152	1,200	112	1,664	1,776	187	3,532	3,719	840	5,706	6,546	9,772	12,827
Kadiampatti ...	70	581	651	65	235	300	465	2,610	3,075	288	1,310	1,598	6,205	4,208
Thinnappatti ...	3	7	10	11	22	33	12	42	54	396	294	690	2,379	3,377
Salem	11,925	6,873	18,798	12,046	7,197	19,243	85,471	36,863	1,22,334	90,153	42,662	1,32,815	2,13,726	2,30,510
Ariyanur	...	...	...	...	...	...	...	...	...	4	...	4	1,102	1,226
McDonald's Choultry.	88	293	381	89	271	360	330	847	1,177	414	1,221	1,635	4,891	5,548
Sankaridrug ...	3,916	3,006	6,922	2,026	3,259	5,285	19,199	13,677	32,876	13,482	13,116	26,598	44,036	38,434
Cauvery	393	176	569	189	273	462	2,900	894	3,794	1,406	1,600	3,066	5,348	4,598
Erode	8,304	2,740	11,044	6,230	4,598	10,828	41,617	23,754	65,371	41,014	35,144	76,158	1,56,859	1,69,215
Perundurai ...	191	683	874	140	259	399	597	3,286	3,883	434	1,420	1,854	11,755	9,361
Viziamangalam ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uttukuli	*122*	*993*	*1,115*	*52*	*91*	*143*	*1*	...	*1*	*215*	*387*	*602*	*1,477*	*2,521*
Tirupur	*6,108*	*3,972*	*10,080*	*728*	*1,153*	*1,881*	*505*	*2,355*	*2,860*	*2,764*	*2,699*	*5,463*	*9,416*	*11,681*
Mangalam ...	*973*	*286*	*1,259*	*5,802*	*4,007*	*9,809*	*38,147*	*35,634*	*73,781*	*40,888*	*38,672*	*79,560*	*98,751*	*1,06,199*
Somanur	*376*	*411*	*787*	*1,561*	*521*	*2,082*	*4,236*	*1,371*	*5,607*	*7,066*	*2,342*	*9,408*	*14,717*	*18,712*
Sulur	*412*	*725*	*1,137*	*767*	*643*	*1,410*	*1,742*	*3,043*	*4,785*	*3,573*	*4,420*	*7,993*	*9,615*	*13,201*
Singánallúr ...	*333*	*272*	*605*	*423*	*986*	*1,409*	*1,948*	*5,814*	*7,762*	*2,175*	*9,046*	*11,221*	*12,751*	*16,122*
Podanur	*851*	*914*	*1,765*	*272*	*238*	*510*	*4,089*	*2,653*	*6,742*	*1,710*	*2,532*	*4,242*	*10,913*	*8,236*
Coimbatore ...	*13,194*	*7,340*	*20,534*	*848*	*792*	*1,640*	*2,699*	*4,242*	*6,941*	*2,810*	*4,163*	*6,973*	*42,781*	*40,902*
Tadiyalur ...	*36*	*183*	*219*	*15,551*	*7,001*	*22,552*	*64,416*	*41,445*	*1,05,861*	*67,612*	*44,256*	*1,11,868*	*1,95,672*	*2,02,128*
Gudalur	*9*	*8*	*17*	*118*	*154*	*272*	*142*	*399*	*541*	*199*	*269*	*468*	*4,083*	*3,923*
Karaimadai ...	*538*	*82*	*620*	*6*	*2*	*8*	*18*	*9*	*27*	*58*	*2*	*60*	*1,863*	*1,799*
Mettupalaiyam ...	*9,694*	*2,811*	*12,505*	*582*	*111*	*693*	*2,586*	*363*	*2,949*	*3150*	*448*	*3,598*	*10,952*	*10,672*
Madukarai ...	*19*	*462*	*481*	*8,298*	*2,759*	*11,057*	*83,181*	*31,958*	*1,15,139*	*77,587*	*26,686*	*1,04,273*	*2,52,930*	*2,25,677*
Walayar	*109*	*957*	*1,066*	*147*	*707*	*854*	*84*	*2,549*	*2,633*	*405*	*3,287*	*3,692*	*5,743*	*6,968*
Kanyikod ...	*45*	*1,418*	*1,463*	*32*	*849*	*881*	*105*	*2,574*	*2,679*	*42*	*1,692*	*1,734*	*4,526*	*3,552*
Olavakode ...	*532*	*6,815*	*7,347*	*99*	*3,371*	*3,470*	*83*	*5,128*	*5,211*	*315*	*6,953*	*7,268*	*11,357*	*13,746*
Palghat	*7,334*	*8,116*	*15,450*	*732*	*6,175*	*6,907*	*1,582*	*43,294*	*44,876*	*3,457*	*41,061*	*44,518*	*80,889*	*81,246*
Purli	*473*	*4,204*	*4,677*	*7,393*	*8,064*	*15,457*	*39,660*	*53,819*	*93,479*	*45,355*	*53,802*	*99,157*	*1,28,471*	*1,29,968*
Lackkidi	*505*	*553*	*1,058*	*429*	*2,604*	*3,033*	*1,625*	*12,231*	*13,856*	*1,579*	*8,360*	*9,939*	*22,592*	*18,233*
Ottapalam	*563*	*1,338*	*1,901*	*477*	*415*	*892*	*1,959*	*1,569*	*3,528*	*2,003*	*1,176*	*3,179*	*14,194*	*13,677*
Shoranur	*2,111*	*1,376*	*3,487*	*535*	*1,146*	*1,681*	*1,425*	*4,535*	*5,960*	*1,448*	*3,542*	*4,990*	*18,966*	*17,665*
Pattambi	*746*	*1,035*	*1,781*	*1,421*	*993*	*2,414*	*12,154*	*10,018*	*22,172*	*15,501*	*12,269*	*27,770*	*54,335*	*65,505*
Pallipuram ...	*6*	...	*6*	*929*	*1,024*	*1,953*	*1,869*	*6,600*	*8,469*	*2,719*	*7,034*	*9,753*	*28,259*	*29,526*
Kuttipuram ...	*246*	*223*	*469*	*53*	*16*	*69*	*17*	..	*17*	*46*	*53*	*99*	*4,259*	*4,597*
Edakolam ...	...	...	...	*322*	*212*	*534*	*799*	*1,027*	*1,826*	*1,021*	*897*	*1,918*	*7,393*	*7,328*
Tirur	*8,786*	*4,763*	*13,549*	...	...	...	...	..	...	...	...	..	*4,417*	*4,451*
Tanore	*1,361*	*2,006*	*3,367*	*4,575*	*4,186*	*8,761*	*48,065*	*27,703*	*75,768*	*22,151*	*22,160*	*44,311*	*1,03,381*	*69,374*
Parpanangadi ...	*1,654*	*978*	*2,632*	*1,402*	*1,654*	*3,056*	*6,150*	*18,064*	*24,214*	*5,777*	*15,697*	*21,474*	*32,059*	*28,388*
Kadalundi ...	*12*	*12*	*24*	*1,347*	*817*	*2,164*	*5,269*	*5,786*	*11,055*	*4,280*	*5,735*	*10,015*	*24,058*	*22,867*
Ferok	*7,074*	*3,652*	*10,726*	...	...	...	*8*	*27*	*35*	*11*	*17*	*28*	*3,715*	*2,990*
Kallai	*1,735*	*1,468*	*3,203*	*4,856*	*3,252*	*8,108*	*39,995*	*31,131*	*71,126*	*30,292*	*21,400*	*51,692*	*83,384*	*64,798*
Calicut	*19,863*	*10,114*	*29,977*	*1,140*	*1,946*	*3,086*	*8,776*	*11,564*	*20,340*	*5,735*	*16,629*	*22,364*	*33,425*	*34,205*
Foreign for all Rys.	*39,405*	*45,605*	*85,010*	*15,754*	*12,232*	*27,986*	*1,65,528*	*85,403*	*2,50,931*	*1,31,118*	*92,834*	*2,23,952*	*3,54,651*	*3,26,893*
S. M. Railway }	...	...	...	*54,941*	*39,739*	*94,680*	*3,35,545*	*4,01,339*	*7,36,884*	*3,92,809*	*3,29,118*	*7,21,927*	*7,36,884*	*7,21,927*
G. I. P. do. } Sundries.	...	...	..	...	...	...	*966*	*10*	*976*	*546*	*230*	*776*	*1,05,165*	*1,02,990*
M. S. do. }	...	...	...	...	...	...	*23,521*	*13,633*	*37,154*	*14,973*	*15,960*	*30,933*	*2,38,286*	*2,10,059*
S. I. do. }	...	...	...	...	...	...	...	*49*	*49*	...	...	...	*15,087*	...
				..	...	..	*188*	*8*	*196*	*57*	*2,275*	*2,332*	*1,10,692*	*1,15,487*

MADRAS RAILWAY,
TRAFFIC MANAGER'S OFFICE,
MADRAS, *4th Oct.* 1890.

(Signed) LOUIS S. MOSS,
Traffic Manager.

LAWRENCE ASYLUM PRESS, MADRAS

Madras Railway,

CHIEF AUDITOR'S OFFICE,

Madras, 27th September, 1890.

To

THE ACTING AGENT AND MANAGER.

DEAR SIR,

I have the pleasure to submit herewith the usual statements of the Company's Accounts for the half year ending 30th June, 1890.

2. The construction outlay for the half year amounts to Rupees 4,68,770-11-3 which has been reduced by a sum of Rupees 1,25,508-8-7 as per details below, leaving the net outlay for the half year Rupees 3,43,262-2-8, thus—

Cash Expenditure								RS. 1,59,942	A. 4	P. 10
Stores do.								3,08,828	6	5
								4,68,770	11	3
Less transferred to Revenue of cost of reconstruction of Chittravati Bridge						RS. 98,181	A. 7	P. 0		
Received from Calicut Municipality of half their contribution towards the cost of Ferok and Kallai Bridges..						11,250	0	0		
Received from Southern Mahratta Railway, value of zinc roofing, &c., at Timmancherla Station						7,384	0	0		
Amount received for 5 old Locomotives sold						8,693	1	7	1,25,508	8 7
								Net outlay Rs.	3,43,262	2 8

3. The outlay on Engineering Works, *vide* Form V of the half yearly accounts, has been Rupees 60,844-13-8, and the outlay on Working Stock Rupees 2,82,417-5-0.

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

Extension of Line.

Calicut Extension	RS. 421	A. 9	P. 9		
	Cr. 11,479	8	0	**Cr.** 11,057	14 3

Bridges.

Reconstruction of Papaghni Bridge	RS. 65,338	A. 14	P. 10					
Do. Chittravati do.	47,200	2	3					
Do. Penner do.	22,159	12	3	1,34,698	13	4		
Credit Chittravati Bridge	1,84,148	13	3					
Do. Penner do.	15,883	0	8	2,00,031	13	11	**Cr.** 65,333	0 7

Alterations and Additions at Stations.

Perambur	RS. 7,140	A. 9	P. 1		
Cuddapah	12,006	6	6		
Bangalore Cantonment	11,556	13	3		
Kolar Road	10,329	3	9		
Jakkulacheruvu	6,340	5	8		
Arkonam	6,267	10	0		
Penner	5,998	7	1		
Olavokode	5,659	15	3		
Carried forward...	65,299	6	7	**Cr.** 76,390	14 10

by the orders of Government, being an adjustment between the actual and nominal value of Permanent way material in stock with the Chief Engineer: this may very fairly be considered as a Revenue earning, as it otherwise would have gone to reduce expenditure under Abstract A. Maintenance.

15. Turning to the charges, the total expenditure for the half-year under review is lower than that of the corresponding half of 1889 by Rupees 33,785-9-1: the less expenditure under Abstract C, Carriage and Wagon expenses, of Rupees 1,28,835-9-4, more than accounts for this result, there being increases more or less under all the other heads.

16. I may here mention that we have not as yet been able to recover from the Examiner of Commissariat Accounts, Poona, the amount for under-charges due to the Company, which have been so long outstanding.

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 80,894-6-6. The rate of exchange, as fixed by G. O., No. 1275, R., dated 28th August 1890, is 17·878*d.* per rupee, which is 1·4*d.* higher than 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 June, 1890.			Half-year ending June, 1889.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Coaching Traffic	18,65,829	14	11	18,90,802	4	9	...	...	...	24,972	5	10
Goods do.	25,65,457	10	4	25,37,174	1	9	28,283	8	7	... 89	12	0
Electric Telegraph ...	9,504	6	0	9,594	2	0	...	...	...	...	...	...
Sundries	2,82,045	15	6	68,777	5	10	2,13,268	9	8	...	1	10
	47,22,837	14	9	45,06,347	14	4	2,41,552	2	3	25,062		

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, June, 1890	18,65,829	14	11
Do. June, 1889	18,90,802	4	9
Decrease	24,972	5	10

	Rs.	A.	P.
Passengers' ordinary 1st & 2nd classes, Periodical, 1st, 2nd and 3rd classes, Troops and Police, 1st & 3rd classes ...	25,461	15	1
Passengers' Luggage, Carriages, Horses, Parcels, Miscellaneous Military Baggage, Military Horses and Dogs ...	32,397	7	9
Decreased Revenue from the above sources	57,859	6	10
Deduct—			
Passengers' ordinary 3rd class and Troops and Police, 2nd class ... ... Rs. 17,665 0 3			
Dogs, Parcels for Revenue Special Trains, Haulage of Post Office Vans, and Military Carriages ... ... „ 15,222 0 9			
Increased Revenue from the above sources	32,887	1	0
Net decrease...	24,972	5	10

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

TRAFFIC.	Half-year ending June, 1890.			Half-year ending June, 1889.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Ordinary Pass, 1st Class ..	76,873	0	0	90,266	0	5	...	...	...	13,393	0	5
Periodical ...	312	0	0	957	0	0	...	...	...	645	0	0
2nd Class ...	69,893	4	2	74,356	5	10	...	...	...	4,463	1	8
Periodical ...	1,472	0	0	1,496	12	0	...	...	...	24	12	0
3rd Class ...	13,68,052	1	1	13,56,043	10	7	12,008	6	6	...	...	...
Periodical ...	1,169	4	0	1,208	12	0	...	...	...	39	8	0
Troops & Police, 1st Class.	5,553	0	0	10 092	4	4	...	...	...	4,539	4	4
2nd Class ...	31,983	10	7	26,327	0	10	5,656	9	9	...	...	...
3rd Class ...	45,157	2	7	47,514	7	3	...	...	...	2,357	4	8
Passengers' Luggage ...	59,079	3	5	67,891	15	3	...	...	...	8,812	11	10
Carriages ...	9,379	0	0	11,404	7	0	...	...	...	2,025	7	0
Horses ...	32,109	11	0	38,690	12	0	...	...	...	6,581	1	0
Dogs ...	3,045	11	1	3,008	9	0	37	2	1	...	...	...
Parcels ...	1,06,372	12	1	1,14,325	6	2	...	...	...	7,952	10	1
Do. for Revenue ...	1,803	12	0	1,342	8	0	461	4	0	...	...	...
Special Trains ...	21,468	9	3	6,827	12	7	14,640	12	8	...	...	...
Miscellaneous ...	1,441	4	9	2,430	11	10	...	...	...	989	7	1
Haulage and hire of Post Office Vans ...	11,568	0	0	11,538	12	0	29	4	0	...	...	...
MILITARY.												
Military Baggage Carriages ...	16,482	13	11	20,529	15	8	...	...	...	4,047	1	9
Horses ...	53	10	0	...	...	...	53	10	0	...	...	...
Dogs ...	2,527	7	0	4,468	6	0	...	...	...	1,940	15	0
...	32	10	0	80	12	0	...	...	...	48	2	0
	18,65,829	14	11	18,90,802	4	9	32,887	1	0	57,859	6	10
									Deduct Increase ...	32,887	1	0
									Net Decrease ...	24,972	5	10

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
June 1890	17,64,039	8	10

22. Statement showing 3rd and 4th class Receipts minus Troops and Police from 1873 to 1890.

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
,, June, 1890 ...	13,69,221	5	1	...	...	...	13,69,221	5	1

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
,, June, 1890	4,184,208	156,902,111	(f)	13,69,221	5	1
,,						

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 rate 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.

(*f*). From 1st of March, 1890, the fares by Mail Trains throughout the Line are 2 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 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
,, June, 1890	1,06,372	12	1

GOODS TRAFFIC.

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

	Rs.	A.	P.
Abstract I, June, 1890	25,65,457	10	4
,, June, 1889	25,37,174	1	9
Increase Rs.	28,283	8	7

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 28,283-8-7 :—

TRAFFIC.	Half-year ending June 1890.		Half-year ending June 1889.		Increase.		Decrease.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
1. Merchandise, General...	24,11,705	0 2	23,52,494	2 0	59,210	14 2	.....	.. ..
2. Military Stores ...	25,660	11 0	38,914	8 0	.....	... ...	13,253	13 0
3. Railway Materials ...	8,495	3 0	35,053	0 0	.....	... ...	26,557	13 0
4. Coal ...	19,829	13 0	26,654	0 0	.....	... ...	6,824	3 0
5. Revenue Stores ...	80,353	15 4	51,138	11 0	29,215	4 4	.....	... ...
6. Live Stock ...	8,038	10 0	7,270	7 0	768	3 0	.....	.. 8
7. Military Live Stock ...	3,602	6 0	18,251	14 8	.....	... ...	14,649	8 0
8. Rents and Demurrage..	4,482	6 10	4,894	5 10	.....	... ...	411	15 0
9. Interest on Outstanding Bills ...	.....	... ...	.....	... ...	.....	... ...	.....	... ...
10. Miscellaneous ...	3,289	9 0	2,503	1 0	786	7 9	.....	... ...
TOTAL...	25,65,457	10 4	25,37,174	1 9	89,980	13 3	61,697	4 8
Deduct Decrease ...					61,697	4 8		
Net Increase ...					28,283	8 7		

27. Abstract of Commodity Statement. Out of a Total of 80 Commodities recorded an increase will be found under 45 heads.

Decrease ,, 34 ,,

No Traffic ,, 1 head

80

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

			Rs.
IV.—	Dyes and Tans, 6 others	Tons	472 ... 6,947
V.—4.	Gram	,,	3,096 ... 37,196
,, 5.	Raggy	,,	11,289 ... 57,856
,, 6.	Grain, others	,,	2,303 ... 23,069
XII.—4.	Metals, others	,,	795 ... 9,293
XIII.—3.	Oils, others	...	... 5,133
XIV.—4.	Oil seeds, Castor	...	... 15,885
,, 5.	Oil seeds, others	,,	2,415 ... 20,471
XVII.—4.	Vegetables	,,	2,435 ... 5,535
,, 5.	Provisions, others	,,	800 ... 23,527
XVIII.—	Railway Plant and Rolling Stock	,,	1,919 ... 62,168
XXIII.—2.	Sugar undrained	...	5,031 ... 13,112
XXVI.—1.	Timber	...	... 5,661
2.	Firewood	,,	3,617 ... 8,034
XXVII.—	Tobacco	,,	1,373 ... 10,820
XXXIII.—26.	All other articles of Merchandise, Manufactured others	,,	2,799 ... 36,606

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

			Rs.
II.—1.	Cotton Raw ...	Tons.	1,398 ... 35,887
IV.—5.	Bark Tanning ...	,,	1,617 ... 31,255
V.—1.	Wheat ...	,,	637 ... 7,595
,, 2.	Rice ...	,,	12,944 ... 1,84,431
VI.—2.	Skins of Sheep, &c. ...	,,	987 ... 24,950
XII.—2.	Iron ...	,,	987 ... 9,728
XVII.—2.	Cocoanuts ...	,,	821 ... 11,812
XXXII.—3.	Ordnance Stores ...	,,	86 ,, 11,868

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.	June. 1890.
	Rs.	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	3·197	3·475	3·575	3·574	3·478	3·419	3·280	3·483	3·389	3·553	3·459	3·587	3·448	3·584	3·552	3·778	3·908	3·977
,, Working Expenses per Train mile ...	2·21	2·201	2·230	2·198	2·247	2·119	1·953	1·993	2·004	1·926	2·036	2·129	2·267	2·289	2·093	2·097	2·128	2·405	2·109
,, 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	1·868
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.	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	11·66
Second class	6·30	5·19	6·28	6·07	5·67	5·79	5·93	6·06	5·96	5·85	5·56	5·97	6·03	5·51	6·10	5·58	5·51	5·21	5.33
Lowest class	1·99	2·00	1·99	1·99	1·99	1·94	1·88	1·86	1·87	1·85	1·85	1·66	1·66	1·67	1·70	1·70	1·68	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	1·84
Average cost of hauling a Coaching unit one mile.																			
Per Passenger unit	1·37	1·39	1·28	1·18	1·13	1·09	·89	·95	·98	·93	·96	·98	1·10	1·21	1·03	1·01	·99	1·07	·90
Average Profit per Passenger	·90	·84	1·01	1·08	1·09	1·10	1·24	1·14	1·13	1·12	1·10	·90	·76	·65	·89	·86	·88	·74	·94
Average sum received for other Coaching Traffic per Ton per mile	36·54	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	38·60
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	12·17
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	26·43
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	7·83
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	4·13
Average profit on working a Goods unit, (*viz.*, one Ton) one mile,...	2·83	2·37	2·60	2·60	2·51	2·52	2·46	2·12	2·77	2·65	2·76	2·34	2·50	2·37	2·92	2·77	3·17	2·72	3·70

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

DESCRIPTION.	Half-year ending June, 1890.		Half-year ending June, 1889.	
	Maunds.	Rupees.	Maunds.	Rupees.
COUNTRY TRADE.				
Food Grains	2,653,237	4,58,617	2,581,027	5,34,620
Miscellaneous articles for Domestic Consumption	2,246,209	4,65,762	2,016,648	3,97,209
Salt and Saltpetre	881,633	2,04,327	853,235	2,02,145
Firewood and Fuel	804,094	46,819	705,635	38,785
Materials used in building construction and Manufacture	967,025	2,18,361	921,158	2,09,328
Cloths, Piece Goods and Twist (Indian) ...	131,047	61,223	126,709	60,017
Sundries	1,248,647	2,86,065	938,219	2,74,945
Total...	8,934,892	17,41,173	8,142,631	17,17,049
FOREIGN TRADE.				
Exports or Colonial Produce	1,360,935	4,91,418	1,404,651	5,18,288
Imports, Cloths, Piece Goods and Twist, (European)	82,399	42,675	87,692	46,116
European Stores for consumption in India ...	103,014	40,995	103,297	41,400
Coal and Coke for the Public	153,481	29,097	135,118	33,341
Do for the Company	17,803	676	14,782	440
Government Stores	18,819	26,480	22,011	38,914
Railway Materials	425,610	93,177	432,871	57,567
Total...	2,162,061	7,24,518	2,200,422	7,36,066
Grand Total...	11,096,953	24,65,691	10,343,053	24,53,115

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
Do. 1888	5,397,284	8,55,062	11,372,590	24,42,203	2,796,380	10,41,747	41,798	67,461	556,794	82,813	20,164,846	44,89,286
Half-year ending 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
Do. June, 1890...	2,653,237	4,58,617	6,281,655	12,82,556	1,717,632	6,04,861	18,819	26,480	425,610	93,177	11,096,953	24,65,691

The Total in the foregoing for the past Half-year, *viz.*, Rupees 24,65,691 is made up from items in Abstract I of the Revenue Account thus :—

1.	Merchandise ...	...	Rs. 24,11,705
2.	Military Stores ...	...	„ 25,661
3.	Railway Materials ...	...	„ 8,495
4.	Coal for the Public, &c.	...	„ 19,830
			Rs. 24,65,691

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 1889:—

DESCRIPTION OF COMMODITY.	To and from Foreign Railways.			
	Half-year ending June, 1890.		Half-year ending June, 1889.	
	Tons.	Rs.	Tons.	Rs.
I. Coal and Coke	147	1,424	207	3,054
II. Cotton.—				
1. Raw	2,491	28,313	3,143	33,636
2. Twist and Yarn—				
(a). European	218	3,108	232	2,985
(b). Indian	538	5,075	605	5,645
3. Piece Goods—				
(a). European	429	6,958	395	7,406
(b). Indian	1,166	16,556	1,120	16,840
III. Drugs and Chemicals.—				
1. Intoxicating, other than Opium	...	...	...	...
2. Non-intoxicating—				
(a). Cinchona bark ...	...	...	...	... 2,180
(b). Others	250	3,102	135	
IV. Dyes and Tans.—				3,564
1. Indigo	241	4,052	221	...
2. Myrabolams	117	979	...	... 2,085
3. Aniline dyes	...	...	...	38,591
4. Dye or Redwood ...	173	904	453	2,172
5. Bark (tanning)... ...	1,855	25,597	2,385	
6. Others...	590	4,433	329	
V. Grain.—				22,947
1. Wheat	2,356	14,773	3,133	27,599
2. Rice	1,779	11,011	4,357	3,146
3. Cholum and Cumboo ...	461	1,304	974	16,376
4. Gram	4,217	31,496	3,331	7,323
5. Raggy...	12,169	62,479	1,676	10,904
6. Others...	6,531	16,218	2,718	
VI. Hides and Skins.—				7,832
1. Hides of Cattle... ...	621	9,671	420	1,01,259
2. Skins of Sheep, &c. ...	4,657	83,653	5,058	
VII. Horns.—	...	...	...	...
VIII. Jute.—				
1. Raw	...	...	...	... 6,528
2. Gunny bags and cloth ...	854	8,701	680	
IX. Lac.—				...
1. Stick	...	...	...	...
2. Shell-lac	...	...	...	
X. Leather Manufactured.— ...	...	...	...	...
XI. Liquors.—				15,236
1. Beer	926	17,057	777	728
2. Wines	29	540	51	3,086
3. Spirits	472	4,211	342	
XII. Metals.—				... 25,240
1. Copper, unwrought ...	43	918	... 1,820	... 2,373
2. Iron	1,258	15,488		
3. Tin	...	...	... 189	
4. Others	439	5,317		
XIII. Oils.—				1,197
1. Castor	971	1,620	574	1,604
2. Kerosine	146	1,307	129	4,304
3. Others	670	5,479	904	
Carried forward...	46,814	3,91,744	36,358	3,75,840

DESCRIPTION OF COMMODITY.	To and from Foreign Railways.			
	Half year ending June, 1890.		Half year ending June, 1889.	
	Tons.	Rs.	Tons.	Rs.
Brought forward...	46,814	3,91,744	36,358	3,75,840
XIV. Oil Seeds.—				
1. Linseed	...		...	
2. Mustard and Rape ...	...	...	...	...
3. Til or Gingelly... ...	875	...	...	...
4. Castor...	1,046	5,980	1,273	8,352
5. Others...	6,855	4,985	330	1,611
		14,613	5,518	14,778
XV. Opium	..	...	...	...
XVI. Paper and Paste Board ...	...	...	...	...
XVII. Provisions.—				
1. Ghee	189	3,023	262	3,195
2. Cocoanuts	1,329	11,800	2,140	21,640
3. Betel nuts	2,076	24,119	1,912	21,128
4. Vegetables	1,619	12,725	1,481	10,439
5. Others...	7,186	20,656	7,455	31,063
XVIII. Railway Plant & Rolling Stock.	695	7,247	112	2,037
XIX. Salt	4,893	33,362	5,680	41,386
XX. Saltpetre	84	738	63	623
XXI. Silk.—				
1. Raw—				
1. Foreign	..	...	...	..
2. Indian	...	...	...	...
2. Piece Goods—				
1. Foreign	...	...	...	...
2. Indian	...	...	...	...
XXII. Spices.	...	...	...	...
XXIII. Sugar.—	627	7,108	878	11,062
1. Drained	855	6,838	813	6,216
2. Undrained	4,241	39,490	7,735	51,554
XXIV. Stone and Lime	1,419	4,259	659	2,071
XXV. Tea.—				
1. Foreign	...			
2. Indian.	14	790	24	1,098
XXVI. Wood.—				
1. Timber	5,057	39,085	3,962	30,827
2. Firewood	...	...	...	...
XXVII. Tobacco.	1,325	13,588	840	8,647
XXVIII. Umbrellas.	...	...	...	...
XXIX. Wool.—				
1. Raw	...	...	...	...
2. Piece Goods—				
(a.) European ...	...	...	...	...
(b.) Indian	89	1,176	158	2,104
3. Shawls	...	...	...	...
XXX. Coffee	637	8,995	636	8,528
XXXI. Manure—Bones and Oil cake. ...	793	3,110	690	2,846
XXXII. Government Stores.—				
1. Military Baggage ...	...	...	...	...
2. Commissariat Stores ...	238	7,712	194	6,175
3. Ordnance Stores ...	253	11,272	324	15,813
XXXIII. All other Articles of Merchandise.—				
1. Unmanufactured ...	258	3,960	350	3,983
2. Manufactured.—				
(a.) Combustibles ...	88	2,224	103	1,742
(b.) Others	4,612	37,488	3,778	43,846
Other Items	513	3,840	1,282	8,280
Total...	94,680	7,21,927	85,010	7,36,884

33. The interchange of Passenger Traffic with the Railways that are connected with the Madras Railway is given in the following Table and shews a decrease in numbers of 2778 and in amount of Rupees 18,432-9-6, as compared with the corresponding Half-year:—

PASSENGER TRAFFIC.	To and From Foreign Railways.								
	Half-year ending June 1890.				Half-year ending June 1889.			
	No.	Amount.			No.	Amount.		
		Rs.	A.	P.		Rs.	A.	P.
Passengers ... ... 1st Class...								
" ... .. 2nd Class... ..	1,473½	23,790	13	9	963	26,751	14	0
" ... ... 3rd Class... ...	2,704	19,186	1	10	1,470	14,151	11	0
Soldiers ... ... 1st Class.. ...	216,184½	2,03,222	7	4	224,753	218,874	7	8
" ... ... 2nd Class... ...	281½	2,799	9	0	230	4,429	6	0
" ... ... 3rd Class... ...	3,227½	11,541	12	9	1,869½	10,625	6	8
Return Fares ... 1st Class... ..	12,442	25,605	13	8	10,311½	22,833	15	10
" ... ... 2nd Class... ...	66	1,451	8	0	189	4,533	3	0
" ... ... 3rd Class... ...	134	1,380	2	0	520	4,945	10	0
Excess ... ... 1st Class... ...	6,588	656	14	6	5,573	1,049	9	10
" ... ... 2nd Class... ...	...	11	0	0	..	54	0	0
" ... ... 3rd Class... ...	...	255	11	0	...	66	1	9
...	...	115	2	0	...	134	3	7
Total...	243,101	2,90,016	15	10	245,879	3,08,449	9	4

Details of Revenue Expenditure.

34. The following are the charges shewn in the several Departmental Abstracts as compared with the corresponding charges in the 1st half of 1889 with such explanations of the differences as are known in this office:—

Abstract A—Maintenance of Way, Works and Stations.

	First half of 1889.				First half of 1890.				Increase in 1890.				Decrease in 1890.		
		Rs.	A.	P.		Rs.	A.	P.	Rs.	A.	P.		Rs.	A.	P.
General Superintendence ...		1,29,106	6	2		1,28,426	2	7	...	...	...		680	3	7
Maintenance and Permanent Way		2,62,043	6	0		3,21,624	11	6	59,581	5	6		...	...	...
Repairs of Bridges, &c.		1,41,800	0	5		1,96,929	2	4	55,129	1	11		...	...	...
Other Expenditure		1,60,724	9	5		1,38,153	9	3	...	...	...		22,571	0	2
		6,93,674	6	0		7,85,133	9	8	1,14,710	7	5		23,251	3	9
Charges paid from Fire Insurance Fund ...	1889. Rs. 19,643	A. 1	P. 9	1890. Rs. ...	A. ..	P. ...									
Value of stores returned to stock	...	...	...	83,250	0	0									
	19,643	1	9		83,250	0	0		63,606	14	3		...	...	...
	6,74,031	4	3		7,01,883	9	8		51,103	9	2		23,251	3	9
Net Increase, Rupees...									27,852	5	5				

The decrease in "General Superintendence" is accounted for by the lower rate of pay drawn by those Engineers who have taken the place of Messrs. W. R. Robinson and A. T. Wilkinson, but the decrease has been made smaller than it otherwise would have been by the increase of Rs. 6,160 under Office expenses for contingencies and Establishment.

"Maintenance and Renewal of Permanent Way" shows an increase of Rs. 59,581, due to the cost of laying new permanent way over the Tungabudhra Bridge, N.-W. Line.

"Repairs of Bridges." The increase of Rs. 55,129 is more than accounted for by the transfer from Capital to Revenue of Rs. 98,181 part of cost of re-construction of the new Chittravati Bridge.

Under the other heads of account the noticeable items are the decrease of Rs. 45,098 in "Loss by Exchange" owing to the higher rate and smaller amount of stores used for Revenue purposes, and the increase of Rs. 17,784-15-0 in the charge for carriage of Revenue Stores.

The credit of Rs. 83,250 is due to the return into stock of Girders from the old Chittravati and Penner Bridges.

Abstract B—Locomotive Expenses.

	First half of 1889.				First half of 1890.				Increase in 1890.				Decrease in 1890.		
		Rs.	A.	P.		Rs.	A.	P.	Rs.	A.	P.		Rs.	A.	P.
General Superintendence ...		47,125	14	0		52,107	6	11	4,981	8	11		...	...	...
Running Expenses		1,57,812	0	3		1,62,464	7	7	4,652	7	4		...	...	...
Fuel		2,93,938	6	10		3,12,109	6	9	18,170	15	11		...	...	...
Maintenance, &c., Engines and Machinery		2,35,602	10	5		2,43,354	13	0	7,752	2	7		...	...	..
Other Expenditure		99,282	3	8		1,02,849	8	2	3,567	4	6		...	...	...
		8,33,761	3	2		8,72,885	10	5	39,124	7	3		...	...	...

The salaries and allowances charged under "General Superintendence" (Abstracts B and C) shew a net decrease of Rupees 7,958, which is mainly due to the absence on furlough of Mr. Pavey, Assistant Locomotive Superintendent, and to the salary of the Locomotive Superintendent being charged under "Abstract E," as Mr. Trevithick is acting as Agent and Manager.

The increase under "Running Expenses" is accounted for by the larger payments for overtime and the increase in Engine-mileage of 6,371 miles.

Notwithstanding a reduction in the train-mileage of 5,184 miles there has been an increase in expenditure on Fuel of Rupees 18,170-15-11.

The average cost of Fuel per ton has been Rupees 5·27 against Rupees 5·24 in the corresponding half of 1889. The quantity of wood used has been 790 tons less and the quantity of Patent Fuel used has been 70 tons less than in the first half of 1889, but there has been an increase of 1,372 tons in the quantity of Coal used on the Railway. The extra coal cost Rs. 24,200 and although there was a decrease in the quantity of Patent Fuel, the cost was increased by the sum of Rs. 11,139: the decrease in the cost of wood was Rs. 17,167.

"Maintenance, &c., Engines and Machinery." The number of Engines that were repaired during this half year was 2 higher than in the first half of 1889.

"Loss by Exchange" shows a decrease, owing to the higher rate, and the smaller quantity of English Stores used on Revenue Account.

There was an increase of Rs. 11,950-1-4 in the amount charged for the carriage of Revenue Stores.

Abstract C—Carriage and Wagon Expenses.

	First half of 1889.			First half of 1890.			Increase in 1890.			Decrease in 1890.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
General Superintendence ...	27,338	11	6	14,399	7	1	...	...	...	12,939	4	5
Repairs & Renewals of Vehicles,&c.	2,70,419	15	5	1,71,522	15	8	...	...	...	98,896	15	9
Cleaning and Oiling	26,476	3	2	28,894	1	3	2,417	14	1	...	...	...
Other Expenditure	28,025	10	2	11,974	6	11	...	...	...	16,051	3	3
	3,52,260	8	3	2,26,790	14	11	2,417	14	1	1,27,887	7	5
Charges paid from Fire Insurance Fund				3,366	0	0	3,366	...	...	...	...	...
	...	...	...									
	3,52,260	8	3	2,23,424	14	11	Cr. 948	1	11	1,27,887	7	5
Net Decrease ...										1,28,835	9	4

The large decrease of Rs. 98,896-15-9 under "Repairs and Renewals of Vehicles, &c" is explained by the decrease of 450 in the number of vehicles repaired and of 87 in the number renewed.

Of "other expenditure" Rs. 15,270-8-7 is accounted for by the decrease in "Loss by Exchange."

Abstract D.—Traffic Expenses.

	First half of 1889.			First half of 1890.			Increase in 1890.			Decrease in 1890.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Salaries, Wages, &c.	2,91,356	8	11	2,97,691	0	8	6,334	7	9	...	...	...
Fuel, Lighting, &c.	55,547	13	8	52,876	15	1	...	...	...	2,670	14	7
Other Expenditure	51,629	5	10	53,426	13	4	1,797	7	6	...	...	...
	3,98,533	12	5	4,03,994	13	1	8,131	15	3	2,670	14	7
Charges paid from Fire Insurance Fund	499	2	0	21	13	3	...	...	...	477	4	9
	3,98,034	10	5	4,03,972	15	10	8,131	15	3	2,193	9	10
Net Increase...							5,938	5	5			

The chief variation in the Official salaries of the Traffic Department are that Mr. Darke and Mr. Taylor were on half pay from the 12th March and 16th March 1890 respectively, that Mr. Butcher died on the 15th March last, and that Messrs. Johnstone and Smith drew pay in the Official grade from 14th and 20th March respectively. Mr. Gavaghan drew an acting allowance as Deputy Traffic Manager, and during the half year now under review the whole of Mr. Read's pay was charged to the Agent and Manager's Office, whereas in the first half of 1889 half of his pay for two months was charged to the Traffic Department.

There was an increase of Rs. 5,651-4-0 in "Station Staff," made up by increases under the following heads—Coaching Clerks, &c., Rs. 1,480-4-2, Head Porters Rs. 1,939-9-2 and Porters, &c., Rs. 2,515-10-8.

The decrease under "Fuel, Lighting, &c.," is entirely caused by the smaller outlay on Tarpaulin material.

"Printing, Stationery and Tickets" shows an increase of Rs. 4,140-15-9 and "Loss by Exchange" a decrease of Rs. 2,760-0-1.

Abstract E.—General Charges.

	First half of 1889.			First half of 1890.			Increase in 1890.			Decrease in 1890.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Home Expenditure	33,692	15	3	33,447	4	4	...	...	...	245	10	11
Salaries, &c., General Offices ...	128,927	6	8	146,049	2	9	17,121	12	1	...	...	...
Police	21,852	12	10	23,116	9	8	1,263	12	10	...	...	...
Telegraph	61,753	0	4	65,242	10	6	3,489	10	2	...	...	...
Other Expenditure	21,467	6	8	21,342	3	11	...	...	...	125	2	9
	267,693	9	9	289,197	15	2	21,875	3	1	370	13	8
Charges paid from Fire Insurance Fund	3,824	12	8	6,817	5	5	2,992	8	9	...	...	...
	263,868	13	1	282,380	9	9	18,882	10	4	370	13	8
Net Increase...							18,511	12	8			

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 18,511-12-8 as shown above.

Agent and Manager's Office.—Increase Rupees 7,241-11-7 is more than accounted for by the additional charge to this office of Mr. Trevithick's full pay as Acting Agent and Manager, by the pay of Mr. Read, as Acting Assistant, having been fully charged to this office, and to the pay of Mr. Chisholm having also been charged from the 11th June, when taking Mr. Read's place during his absence on privilege leave.

Audit Office.—Increase Rupees 7,040-9-5 due to the re-arrangement of the official staff from October last. Mr. Dunsterville's pay appears for the first time for the full period now under review, and also the pay of the newly appointed 4th Assistant (Mr. Parr) and these two items alone account for Rs. 5,159-10-10: there is also an increase of Rs. 1,717 in salaries of subordinates.

Stores Department.—Decrease Rs. 1,649-5-0, due to the smaller salary now drawn by the General Storekeeper.

Medical Department.—Increase Rs. 1,098-6-9 caused by the gratuity of Rs. 500 paid to Apothecary Hoossain Baig and to increased cost of Vaccinators.

Police.—Increase Rupees 1,263-12-10, due to increased salary drawn by the Superintendent of Watchmen, and Chief Prosecuting Inspector, gratuity of Rs. 375 paid to Inspector Wells and increases under "Watchmen."

Electric Telegraph Department.—Rupees 3,489-10-2 increase, due to the increased proportion of Station Masters' salaries charged to "Signallers", to the amount Rs. 1,166-8-0 paid to Mr. Pigott for arrears of Batta and to an increase of Rs. 1,531-10-1 under Maintenance.

Under "Unclassified Expenditure" the noticeable items are an increase in Expenses connected with Fire Engines of Rs. 2,992-8-9 owing to extraordinary charges of Rs. 3,728-8-6 in connection with the Fire Engines at Salt Cotaurs, and a decrease of Rs. 3,279-9-6 under "Loss by Exchange."

Abstract G.—Special and Miscellaneous Expenditure.

	First half of 1889.			First half of 1890.			Increase in 1890.			Decrease in 1890.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Law Charges	2,246	8	10	950	0	4	...	...	...	1,296	8	6
Compensation	2,563	15	0	1,946	12	2	...	...	...	617	2	10
Rates and Taxes	4,064	10	5	7,020	7	5	2,955	13	0	...	...	...
Payments to other Lines ...	2,580	15	0	2,251	12	0	...	...	...	329	3	0
Other Expenditure	6,832	15	11	8,234	10	10	1,401	10	11	...	...	...
	18,289	1	2	20,403	10	9	4,357	7	11	2,242	14	4
Charges paid from Fire Insurance Fund	1,513	15	11	5	8	0	...	...	...	1,508	7	11
	16,775	1	3	20,398	2	9	4,357	7	11	734	6	5
Net Increase...							3,623	1	6			

Law Charges.—Decrease Rs. 1,296-8-6, caused by the payment in May, 1889, of Rs. 1,124-9-11, on account of the case Davasigamoney Chetty v. The Company.

Rates & Taxes.—Increase Rs. 2,955-13-0, caused by extra assessments on Company's buildings at Calicut, Rayapuram, Central Station, &c.

Miscellaneous.—An Arbitration fee of Rs. 500 was paid to Mr. Conder for his services in connection with a demurrage claim between this Company and the Southern Mahratta Railway Company.

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 JUNE 1890.					HALF-YEAR ENDING JUNE 1889.				
	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	997 77 16½	7,01,883	9	8	14·86	993 23 24	6,74,031	4	3	14·96
ABSTRACT **B.** Locomotive expenses ...	Gross Mileage of Engines 1,404,108 Number of Engines under repair at any one time, 42.	8,72,885	10	5	18·48	Gross Mileage of Engines, 1,397,737 Number of Engines under repair at any one time, 42.	8,33,761	3	2	18·50
ABSTRACT **C.** Carriage and Wagon expenses	Number of Vehicles under repair at any one time, 183. Number constructed, 143.	2,23,424	14	11	4·73	Number of Vehicles under repair at any one time, 244. Number constructed 193.	3,52,260	8	3	7·82
ABSTRACT **D.** Traffic expenses ...	Profitable Train Mileage, 1,187,558 Number of Stations, 129.	4,03,972	15	10	8·56	Profitable Train Mileage, 1,192,742 Number of Stations 127.	3,98,034	10	5	8·83
ABSTRACT **E.** General charges ...	Miles open, 840.	2,82,380	9	9	5·98	Miles open, 840.	2,63,868	13	1	5·86
ABSTRACT **G.** Special and Miscellaneous expenses	.....	20,398	2	9	·43	.....	16,775	1	3	·37
	TOTAL...	25,04,945	15	4		TOTAL...	25,38,731	8	5	

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	83	71·17	a 1,680	14	0	1,086	0	6	594	13	6
Katpadi	18	11·17	481	5	10	49	6	10	431	15	0
Jalarpet	49	33·00	855	15	3	509	15	10	345	15	5
Salem	34	28·46	931	15	3	323	1	6	608	13	9
Podanur	75	53·83	1,138	7	4	662	3	9	476	3	7
Renigunta	22	17·83	404	12	9	124	12	6	280	0	3
Gooty	26	21·16	572	15	3	111	4	10	461	10	5
Raichur	37	31·43	994	4	9	547	3	3	447	1	6
Total ...	344	268·05	7,060	10	5	3,414	1	0	3,646	9	5

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

37. The following movements have taken place in the Audit Office staff during the half-year under review :—

Mr. J. Cramp, Chief Auditor, proceeded to England on furlough on the 5th May, 1890.

Mr. F. Dunsterville, 1st Assistant Auditor, took over the duties of Acting Chief Auditor from Mr. Cramp on the 5th May, 1890.

Mr. A. Edwards, Cashier, proceeded to England on furlough on the 16th March, 1890.

Mr. F. O'Sherman took over the duties of Acting Cashier from Mr. Edwards on the 16th March, 1890.

Mr. W. J. Parr, 4th Assistant Auditor, arrived from England on the 2nd April, 1890, and assumed charge of the Locomotive Accountant's Office on the 3rd idem from Mr. D. R. Johnson transferred to the General Stores Department.

Mr. A. Corben, Locomotive Accountant, arrived from England on the 18th June, 1890, and took over the duties of his office from Mr. Parr the same day, the latter returning to the Audit Office.

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

Yours faithfully,

F. D. Dunsterville

Acting Chief Auditor.

No. 835.

MADRAS RAILWAY COMPANY,
MEDICAL OFFICER'S OFFICE,
RAYAPURAM, *12th September 1890.*

To

THE ACTING AGENT AND MANAGER,
Madras Railway.

REPORT FOR THE HALF-YEAR ENDING 30th JUNE 1890.

DEAR SIR,

I have the honor to submit my report upon the health and sanitary condition of the line during the half-year ending 30th June 1890.

During this period the total number of employés admitted upon the sick list is 8,582 as against a total of 7,335 in the corresponding half of last year, showing an increase of 1,247. This increase is in very great measure due to the prevalence of Influenza in the months of March, April and May. The epidemic which before visiting India had made itself felt throughout Europe, first appeared in Bombay in February or early in March, and travelled eastward along the line of Railway, the first station on the Madras Railway attacked being Raichur, from here it spread pretty rapidly over the whole of South India. The type was not a severe one and on an average only kept the patient on the sick list 4 and 5 days. An attack was not often followed by important sequelœ, and in fact much resembled an ordinary attack of what is popularly known in this country as "Fever," with brow ague and general muscular pains, generally accompanied by cough. Only one case is reported as having terminated fatally.

Mortality.—Notwithstanding the increase in the number of sick, the mortality still keeps very low, the total number of deaths during the half-year being six. Of these five died of Cholera and one of Influenza.

Cholera.—Sixteen cases of Cholera and seven of Choleraic Diarrhœa were treated with only five deaths. Most of these cases occurred in January and February in Katpadi, while in June an epidemic threatened amongst the coolies working on the New Papaghni Bridge, eight cases occurring.

Small-Pox.—Thirteen cases of Small-Pox are reported, all recovering. The cases were isolated cases scattered generally over the line.

Vaccination is proceeding steadily, nearly every station having been visited by the Vaccinating Staff giving nearly every employé in the Company's service and their families, the opportunity of gratuitous vaccination with fresh Calf Lymph. There has been some practical difficulty in keeping up the supply of calves as herdsmen and cattle owners have a prejudice against letting their stock for the purpose and are not even willing to sell them outright.

The Vaccinators are now at Cuddapah from whence they proceed to Gooty and Raichur, and should return to Madras, having vaccinated at every station on the line before the end of the year. I hope then to be in a position to reduce the expenses of the department, keeping up a smaller staff for the vaccination of newly entertained employés, &c.

Fever.—The number of "Fever" cases will be seen to be above the average, and this is no doubt due to many cases of Influenza, especially on the first appearance of the disease, having been so described. As an attack of Influenza is generally ushered in by a shivering or ague fit, it was often extremely difficult to diagnose in the early stage between it and an ordinary attack of Ague (Intermittent Fever).

Dysentery and Diarrhœa.—The number of admissions for these conditions is lower than for the corresponding period in 1889.

I have made the usual Inspections of the Line, Dispensaries, &c., and have found the Sanitation and Conservancy of stations in good order, and the work of the department satisfactory.

Yours faithfully,

H. LESLIE ANSTED,

Medical Officer,

Madras Railway.

Comparative Statement of Cases treated during the Half-years ending 30th June 1889 and 30th June 1890.

Date.	Small-Pox.	Measles.	Simple Fever.	Intermittent Fever.	Remittent Fever.	Influenza.	Cholera.	Choleraic Diarrhœa.	Dysentery.	Diarrhœa.	Accidents and other Diseases.	Total treated.
1889.												
January	3	...	123	175	...	...	2	...	41	32	784	1,160
February	2	...	109	232	...	3	...	...	38	39	755	1,178
March	6	2	89	248	...	1	1	...	53	59	943	1,402
April	4	1	84	158	...	...	...	...	44	44	807	1,142
May	2	3	136	138	...	...	...	...	41	57	869	1,246
June	1	...	105	147	2	...	...	...	37	53	862	1,207
Grand Total ...	18	6	646	1,098	2	4	3	...	254	284	5,020	7,335
1890.												
January	1	...	123	307	...	...	3	7	35	54	779	1,309
February	4	4	91	288	...	...	2	...	37	31	818	1,275
March	4	7	215	325	...	231	...	...	38	48	804	1,672
April	3	...	113	383	2	711	...	...	20	37	610	1,879
May	1	...	128	179	...	155	...	...	36	36	749	1,284
June	...	4	117	133	...	3	11	...	43	43	809	1,163
Grand Total ...	13	15	787	1,615	2	1,100	16	7	209	249	4,569	8,582

Rw Trsl 1
1076 3/90

Form No. 2.

PUBLIC WORKS DEPARTMENT.

OFFICE OF CONSULTING ENGINEER FOR RAILWAYS,

Madras, 11th November 1890.

15 copies of Reports by Heads of Departments, Madras Railway, for the half year ending 30th June 1890

No. 785

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

2. The report by the Agent and Manager, Madras Railway, is not yet ready owing to illness, and will be submitted on receipt.

Sidney Smith
Major R.
for Offg: Cons: Engr
for Ry

P. W. Cde. 1076 v

B. Form No. 2 1805 R 3/14 Nov 7/90

Dr S 12/11/90
Ordered to be for-
warded to the Director
General of Railways

Dr. No 1806 R 3/14 Nov 90
Forwarded

11/11
W.S.R

From

THE CONSULTING ENGINEER
FOR RAILWAYS,
MADRAS.

No. 785

Dated 11th } November 1890.
Received 11 }

No. of Enclosures. 1 (one)

Subject.

Submitting Reports by
Heads of Departments,
Madras Railway, for
the first half of 1890
and stating that the
Report by the Agent &
Manager will follow.

B

No. 1805-6 R 3/14 Nov/90.

2
No Comptg for Rs
Exd Rs Accts

11/11 R 13/11 2.C. 17.11 8 10/11