Proceedings of the Madras Government, Public Works Department,
11th December 1874.

No. 211. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 25th November 1874, No. 724 :—

I HAVE the honor to forward herewith the review of the Revenue Account of the Great Southern of India Railway for the half-year ending 31st December 1873.

2. The tables do not appear to call for remark, f— er than that the cost of carriage of the different items of traffic shows an inc . that of previous half-years, owing to the heavy working charges, the c which was explained generally in the note which accompanied the Revenue Account.

3. I request that the review may be printed in pamphlet form as is now usual.

No. 212. ORDER THEREON, 11th December 1874, No. 3,476.

RAILWAY, No. 33.

ORDERED that this review be forwarded to the Government of India.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

No. 213 (DOCKET No. 3,477, dated 11th December 1874.)
COPY of the above forwarded to the Government of India.
(True Extract.)

Colonel, R.E.,
Secretary to Government.

Exd E. C. Shunker.
Spare Copies

Great Southern of India Railway.

TABLE A.

GENERAL STATEMENT of Working of half-year ending 31 December 1870

TRAFFIC.		PASSENGERS OR TONS OF GOODS CARRIED.		EARNINGS.		Percentage of total earnings contributed by each description of traffic.
		Number.	Per cent of total number and total tonnage.	Amount.	Per cent. of total earnings from Coaching and from Goods.	
				Rs.		
COACHING	1st-Class	1,033	0·15	3,681	1·42	54·76
	Passengers 2nd ,,	4892	0·72	5,660	2·18	
	Passengers 3rd ,,	674,100	99·13	238,395	92·01	
	Passengers 4th ,,	*	*	*	*	
	Miscellaneous earnings	*	*	11,375	4·39	
	TOTAL ...	680,025	100·00	259,111	100·00	
		Tons.				
GOODS	General Merchandize Special	11,558	22·56	1,42,391	27·77	41·14
	General Merchandize 1st-Class	33,335	65·08	1,25,815	64·62	
	General Merchandize 2nd ,,	1,346	2·63	8,050	4·14	
	General Merchandize 3rd ,,	806	1·57	1,5,474	2·81	
	General Merchandize 4th ,,	140	0·27	1,453	0·74	
	General Merchandize 5th ,,	234	0·46	4,863	2·44	
	Government Stores	3	0·01	21	0·01	
	Railway Materials	3800	7·52	6,650	3·42	
	Minerals	*	*	*	*	
	Miscellaneous earnings			679	0·35	
	Total ...	51,222	100·00	194,696	100·00	*
Miscellaneous, including electric telegraph, and sundries.		*	*	19,399	*	4·10
	Grand Total ...	*	*	473,206	*	*
Less outstandings irrecoverable ...		*	*	*	*	*
	Grand Total ...	*	*	473,206	*	100·00

FINANCIAL RESULTS.	COACHING.			GOODS.			TOTAL (INCLUDING MISCELLANEOUS EARNINGS) AND LESS IRRECOVERABLE OUTSTANDINGS.			Percentage of profits on paid up Capital.
	Total.	Per train mile.	Per open mile per week.	Total	Per train mile.	Per open mile per week.	Total.	Per total train mile.	Per open mile per week.	
	Rs	Rs. A. P.	Rs.	Rs	Rs. A. P.	Rs.	Rs.	Rs. A. P.	Rs.	
Earnings ...	259,111	1-15-2	89·320	194,696	1-7-6	44·573	473,206	3-9-11	108·334	0·59
Expenses (M II., page 14.)	129,100	0-15-6	29·556	156,487	1-2-9	35·826	2,85,587	2-2-4	65·381	
Profits ...	1,30,011	0-15-8	29·764	38,209	0-4-8	8·747	1,87,619	1-6-7	42·953	
Percentage of expenses to earnings ...	49·82	*	*	80·38	*	*	60·35	*	*	

N.-B.—Where "ton mileage" is mentioned, it invariably refers to the total ton mileage (Table M. I., 22/, page 13).

* These divisions include mixed train mileage, which is obtained by dividing the total number of Passenger vehicles miles run in mixed trains the average number of vehicles in a Passenger Train; and the total number of goods vehicle miles in such trains by the average number of vehicles Goods Train.

TABLE A.—(Continued.)

GENERAL STATEMENT of Working of half-year ending 31 December 1873 (Continued.)

Haulage.	Passenger.	Goods.	Mixed.	Total.
Number of Trains run for public traffic ...			1387	1387
Train mileage (D. I, 1, page 4.) ...			133,030	133,030
Gross ton mileage (M. I, 22, page 13)				24923,891

Average composition of trains.		Average Number of Vehicles.			Average Number of Seats per Vehicle.		Average weight of Trains.	
		Passenger trains.	Goods trains.	Mixed trains.	Provided.	Used.	Freight or live load.	Dead load, exclusive of Engine and Tender, and Brakes.
							Tons.	Tons.
Passenger ...	1st Class ...			0406	30319	1·294		
	2nd " ...			0827	37048	2·596		
	3rd " ...			6343	49036	27·799	11·463	48·496
	4th " ...							
	Others (including Brakes) ...			7755				
					Carrying capacity in tons.	Average weight of freight.		
Goods. (Vehicles of all kinds including brakes) ...				8851	24 tons according to nature of goods carried.		26·574	50·628
	Total			17382			38·037	99·124

(N. B.—For average load per vehicle, see page) MIC

Open Mileage on			Mean mileage worked.	Average number of stations maintained.	Capital expended on open mileage, inclusive of Rolling Stock.	Cost per mile open.	Total length of the following gradients:—			Steepest Gradients worked by			
										Fixed power.		Locomotives.	
Single.	Double.	Total.					1/100 and less.	1/101 to 1/200	1/201 to 1/300	Length.	Inclination.	Length.	Inclination.
					£	£	M. Ch.	M. Ch.	M. Ch.	M. Ch.		M. Ch.	
167		167	167	21	1403,563	8405	3-46	9-11	11-8	Nil		3-46	1 in 100

TABLE B.

Statement showing in comparison the Coaching Traffic of the half-years ending 31st Dec
and 31st Dec. 1873.

Reference to Revenue Account.		Details.	Number.		Fare per Mile.		Receipts.		Average M
Table and Main-head.	Sub-head.		2d Half 1872.	2d Half 1873.	2d Half 1872	2d Half 1873	2d Half 1872.	2d Half 1873.	2d Half 1872.
					Pies.	Pies.	Rs.	Rs.	
X. H. 1	...	1st Class Passengers—							
		Single Journey ...	910	862	12·47	9·75	3194	3029	5570
		Excess Fares ...			12·47	7·79	95	112	"
		Return Journey ...	152	168	6·00	6·65	270	360	5677
		Troops and Police...	2		12·47	"	11	"	"
		Total...	1064	1030	9·53	9·56	3570	3501	55·86
		Season Tickets...	3	3	5·63	5·63	165	180	1877
	1	2nd Class—							
		Single Journey ...	3576	3912	5·20	4·82	4824	4385	4396
		Excess Fares ...			6·20	3·03	161	166	"
		Return Journey ...	932	912	2·50	1·94	804	884	6637
		Troops and Police...	85	66	5·20	4·32	148	125	"
		Total...	4593	4890	3·96	3·84	5737	6560	4829
		Season Tickets...		2	2·34	2·34	50	100	4096
	1	3rd Class—							
		Single Journey ...	544,500	596,324	2·04	2·07	166316	187973	28·95
		Excess Fares ...	"	"	2·04	1·81	295	339	"
		Return Journey ...	43768	76,844	1·73	1·62	30,413	49,416	77·02
		Troops and Police...	2,677	932	2·04	1·52	1964	667	"
		Total...	590,945	674,100	1·99	1·95	198988	238,395	32·51
		Season Tickets...	"	"	"	"	"	"	"
	1	4th Class—							
		Single Journey ...							
		Excess Fares ...							
		Return Journey ...							
		Troops and Police...							

TABLE B.—(*Continued.*)

Statement showing in comparison the Coaching Traffice of the half-years ending 31st December 1872 *and 31st December 1873.*

Reference to Revenue Account. Table and Main-head.	Sub-head.	Details.	Number. 2d Half 1872	Number. 2d Half 1873.	Fare per Mile. 2d Half 1872	Fare per Mile. 2d Half 1873	Receipts. 2d Half 1872	Receipts. 2d Half 1873.	Average Mileage. 2d Half 1872.	Average Mileage. 2d Half 1873.
			Ton Miles.	Ton Miles.	Pies	Pies				
2	...	Passengers' Luggage ...	6011	5285	8·98	5·42	1846	1580	69·13	69·05
3	...	Military Baggage ...	459	133	58·54	42·91	133	29	86·28	93·62
			No.	No.						
4	1	Public. Carriages ...	70	62	24·8	23·2	683	572	77·74	76·65
	2	Horses ...	221	273	15·7	16·2	1283	1582	73·45	66·54
	3	Dogs ...	392	346	20·9	23·3	268	264	62·93	62·76
			No.	No.						
5	1	Military. Carriages ...								
	2	Horses ...	3	23	15·02	9·83	20	57	86·00	63·83
	3	Dogs ...	4		4·31		1		86·00	
			Ton Miles.	Ton Miles.						
6	...	Parcels	11079	12415	6·51	5·74	5569	5671	69·93	67·69
			Train miles No.	Train miles No.	Cts	Cts				
7		Special Trains ...	190	473	3·78	3·35	728	1584		
8	"	Post Office								
		Haulage and hire of Post Office Vehicles...								
8	1	Special Trains ...								
	2	Parcels	98				49	36		
	3									
		Total...					10,580	11,375		
		Grand Total...					218,490	259,141		
		Less outstandings irrecoverable					69			
							218,421			

TABLE C.

Statement showing in comparison the Goods Traffic of the half-year ending 31st December 1872 and 31st Dec. 1873.

Reference to Revenue Account. Table and Main head.	Sub-head.		Quantity. 2d half of 1872 Up.	Quantity. 2d half of 1872 Down.	Quantity. 2d half of 1873 Up.	Quantity. 2d half of 1873 Down.	Rate per Ton Mile. 2d half of 1872	Rate per Ton Mile. 2d half of 1873	Receipts. 2d half of 1872	Receipts. 2d half of 1873	Average Mileage. 2d half of 1872	Average Mileage. 2d half of 1873
			Tons. Miles	Tons. Miles	Tons. Miles	Tons. Miles	Pies.	Pies.	Rs.	Rs.		
		General Merchandize—										
		Special Class ...	184,165	629,883	459,771	533,533	8·17	8·19	34,640	42,391	62·79	65·97
		1st " ...	654,259	865,637	237,863	189,062	11·89	11·97	105,876	125,815	66·56	60·54
		2nd " ...	103,406	136,069	30,865	79,907	13·98	13·95	17,432	8,960	83·88	82·30
(1.)	1	3rd " ...	20,778	114,720	16,820	41,616	7·94	7·99	12,659	6,473	82·82	72·50
		4th " ...	6096	17,920	15,41	10,200	23·68	23·76	2,962	1,453	86·39	83·86
		5th " ...	9,92	15,316	6668	13,279	38·67	41·77	4,923	4,163	94·0	56·24
		Total ...	977,396	769,545	353,628	1,858,997	11·63	11·20	178,492	187,345	66·86	67·75
2	...	Military Stores ...	235		229		21·14	17·87	26	21	86·08	76·33
3	...	Railway Materials for Construction ...	31,766	9,624	320,585	1017	9·29	3·97	2,003	6,650	12·46	64·63
		Minerals—										
		For the public ...										
		" Company ...										
6	...	(*Construction only*)										
		Total ...	32,001	9,624	320,814	1017			2029	6,671		
		GRAND TOTAL ...							181,055	194,696		
			No.	No.	No.	No.	Rate per animal per mile.					
		Live Stock—										
		Horses ...										
4	...	Cattle	12	31	4	20	8·41	7·61	114	74	66·33	78·04
		~~Sheep~~ *Sheep* ...		236	62		0·50	0·62	33	7	54·23	42·73
		Poultry			1150	600		0·14		55		41·90
		Military Live Stock—										
		Horses ...										
5	...	Cattle	1				18·00		8		86·00	
		~~Sheep~~ *Sheep* ...										
		Poultry										
		Rents demurrage warfages &c.							379	644		
		Interest on outstanding bills										
		Total ...							534	680		

TABLE C—(1).

Comparative Statement showing the weight and earnings of the principal commodities carried during the above half-year.

Description.	Quantity. 2d half 1872	Quantity. 2d half 1873	Receipts. 2d half 1872	Receipts. 2d half 1873	Increase in Quantity.	Decrease in Quantity.	Increase in Receipts.	Decrease in Receipts.
	Tons.	Tons.	Rs.	Rs.	Tons.	Tons.	Rs.	Rs.
Arecanuts	1,017	1,016	5565	4731	-	1	-	834
Cloth	905	1,082	6184	6245	177	-	61	-
Fruit and Cliffs	1,386	1,502	8376	7982	116	-	-	394
Grains & Vegetables	2,250	1,120	11,174	5908	-	1,130	-	5,266
Granite, all kinds	13,365	17,427	37,821	48,376	4,062	-	10,552	-
Hides	3,844	2,482	4825	4047	-	1,362	-	778
Oil and Stones	434	416	1,670	2,325	-	18	655	-
Oil cake, Ghee	721	602	4050	3,337	-	119	-	713
Salt	1,104	579	5726	2,647	-	525	-	3,079
Seeds of	6195	7,454	33,098	41,221	1,259	-	8,123	-
Sundries, all kinds	2,932	2,074	15,890	10,795	-	858	-	5,095
Tobacco	9,227	10,622	39,341	41,774	1,395	-	2,433	-
	292	390	1149	2,180	98	-	1,031	-
Total...	43,672	46,766	174,872	181,568	3,094	-	6,696	-

TABLE D.

Statement of mileage maintained from Revenue Funds.

Reference to Revenue Account. Table and main-head.	Sub-head.	Details.		2d half of 1872 Departmentally	2d half of 1872 By Contract.	2d half of 1872 Total.	2d half of 1873 Departmentally	2d half of 1873 By Contract.	2d half of 1873 Total.	Total Increase.	Total Decrease
IX. (A.)	...	1. Mean miles of line maintained ...	Single ...	167	-	167	167	-	167	-	-
		2.	Double ...	-	-	-	-	-	-	-	-
		3.	Total ...	167	-	167	167	-	167	-	"
		4. „ Sidings maintained, Total.		13½	-	13½	12¾	-	12¾	-	½
		5. „ Single Track Total including Sidings		180¼	-	180¼	179¾	-	179¾	-	½

TABLE D—I.

Statement of Train Mileage.

Details.	Train Miles run for Traffic Department.	Train Miles run for Locomotive Department.	Train Miles run for Maintenance Department.	Hours of Assisting Engines.	Hours of Shunting, Piloting, &c.	Hours of Miscellaneous Services.
Reference to Revenue Account	XIV. 1.	XIV. 2.	XIV. 3.	XIV. 4.	XIV. 5.	XIV. 6.
				H. M.	H. M.	H. M.
1. 2d half, 1872 Passenger.	-	-	-	-	-	-
Goods ...	-	-	-	-	-	-
Mixed ...	123,560	-	2319	-	5250-42	1147 - 50
Total ...	123,560	-	2319	-	5250-42	1147 - 50
2. 2d half, 1873 Passenger.	-	-	-	-	-	-
Goods ...	-	-	-	-	-	-
Mixed ...	133,030	629	5201	6 - 35	6215-53	1437 - 40
Total ...	133,030	629	5201	6 - 35	6215-53	1437 - 40
3. Increase in 1873 Passenger.	-	-	-	-	-	-
Goods ...	-	-	-	-	-	-
Mixed ...	9,470	629	2,882	6 - 35	965-11	289 — 50
Total ...	9,470	629	2,882	6 - 35	965-11	289 — 50
4. Decrease in 1873 Passenger.	-	-	-	-	-	-
Goods ...	-	-	-	-	-	-
Mixed ...	-	-	-	-	-	-
Total ...	-	-	-	-	-	-

The division between Passenger, Goods and Mixed Trains need only be carried out, unless desired for local purposes, in the Train-mileage run for the Traffic Department, which is the Train mileage to be used for the purposes of calculation.

TABLE E.

MAINTENANCE of Way, Works, and Stations.

Reference to Revenue Account.			2d HALF OF 1872	2d HALF OF 1873.		
Table and Main head.	Sub-head.		Total.	Total,	Increase.	Decrease.
XIV.	...	Train Mileage run for Traffic Dep. D. I xiv. 1.	123,560	133,030	9,470	.
		Ton Mileage do. do. M. I....	2,340,561	2,923,591	583,030	.

Reference to Revenue Account.		DETAILS.	2d HALF OF 1872	2d HALF OF 1873.			Per mile of line maintained. D. 3.	Per mile of Track including Sidings. D. 5.	Per Train Mile.	Per 1,000 Ton Miles.
Table and Main head.	Sub-head.		Total.	Total.	Increase.	Decrease.				
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	As.	Rs.
IX. (A.) 1.		SUPERINTENDENCE—								
	1 & 2	Engineer's salaries & allowances.	5154	5404	250	.	32.36	30.64	0.650	0.217
	3 to 5	Inspectors' and Plate-layers' salaries and allowances, including over-time	3195	3450	255	.	20.058	19.493	0.415	0.138
	6	Office expenses	2503	2329	.	174	13.946	12.957	0.280	0.093
		MAINTENANCE AND RENEWALS OF PERMANENT WAY—								
2	1	Wages	19,499	20,233	734	.	124.57	112.62	2.433	0.812
	2	Materials	9,882	20,946	11,064	.	126.426	116.529	2.519	0.840
3		REPAIRS OF BRIDGES, &c., WAGES AND MATERIALS—								
	1	Bridges and Tunnels	185	33	.	152	0.197	0.184	0.004	0.001
	2	Miscellaneous	275	485	210	.	2.904	2.698	0.058	0.019
4		REPAIRS OF STATIONS AND BUILDINGS: WAGES AND MATERIALS—								
	1	Repairs of all except Staff Quarters	2587	2514	.	73	15.054	13.986	0.302	0.101
	2	Repairs of Staff Quarters ...	317	196	.	121	1.174	1.090	0.024	0.008
5		MAINTENANCE BY CONTRACT—								
		UNCLASSIFIED EXPENDITURE—								
6		Plantations	181	.	.	181	.	.	.	.
	2	Tools and Plant	141	39	.	102	0.233	0.217	0.005	0.002
	3	Loss on Stores, &c.	.	13	13	.	0.077	0.072	0.002	0.001
		TOTAL ...	43,899	55,142	11,743	.	333.456	309.552	6.692	2.220

IF DONE DEPARTMENTALLY.

TABLE E—I.

MAINTENANCE of Way.

RAILS.

Number.	DETAILS.	Double headed (B.S.)	Bridge	Flat-footed	Others		Total.
1	Miles of rail in way, including sidings (miles and decimals of a mile)	M. 359·50 Yds.	M. Yds.	M. Yds.	M. Yds.	M. Yds.	M. 359·50 Yds.
2	Average age of rails in way at the middle of the half-year (years and decimals of a year)	9·00	"	"	"	"	9·00
3	Rails inverted { Number	1332	"	"	"	"	1332
	{ Miles (and decimals of a mile)	M. 2·65	M. "	M. "	M. "	M. "	M. 2·65
4	Proportion inverted per mile of (1) rail	0·00737	"	"	"	"	0·00737
5	Rails renewed { Number	112	"	"	"	"	112
	{ Miles (and decimals of a mile)	M. 0·223	M. "	M. "	M. "	M. "	M. 0·223
6	Proportion renewed per mile of (1) rail	0·00062	"	"	"	"	0·00062
7	Average number of tons hauled over each kind of rail in the half-year	149,227	"	"	"	"	149,227
8	Thousands of tons hauled on an average over each kind of rail during the average age of rails in way (2) ...	2657,000	"	"	"	"	2657,000

N.B.—One of the objects of this Table is to endeavour to ascertain the relation between the lives of different kinds of rails and the duty done by them. Other Tables show the speed of trains and the greatest weight brought on any point of the rails. By an accurate record of these facts, it is hoped that useful deductions may be made. The average age of the rails in the way (2) must be, in the first instance, calculated by noting the dates on which the different lengths of line were opened and the subsequent renewals of each kind of rail in each half-year, supposing the latter to have taken place in the middle of each half-year. After this has once been ascertained, the entries for future periods can be easily calculated. The entries for the different kinds of rails under (7) will agree or vary according as the train service over the line is uniform or not. Where the record of ton-mileage is kept in districts, the absolute facts are available. Where this is not done, but the traffic is nevertheless variable, the weight hauled over any part of the line can be approximately found by noting the number of trains that have been run on it, and multiplying this by the average gross weight of a train including the engine and tender. The average of these district results will give the general figures for each kind of rail. The entries under (8) will be the sums of the weights recorded for the immediately preceding half-years.

TABLE E—II.

MAINTENANCE of Way.

SLEEPERS.

Number.	DETAILS.	Wood Creosoted fir	Wood Total	Wood Creosote fluid 10"×10"×5"	Iron Pot sleepers (pairs)
1	Number of sleepers in way, including sidings	No. Yds.	No. Lineal Yds.	No. Yds.	No. Lineal Yds. 180,884 Yds.
2	Average age of sleepers in way at the middle of half-year (years and decimals of a year)	No. record kept	No.	1200	6·25
3	Number renewed ...	No.	No.	33,674	25
4	Ditto per cent. of (1)			24,858	0·0138

* Since receipt by Store Department.

TABLE F.

Locomotive Department Expenses.

Reference to Revenue Account. Table and Main head.	Sub-head.		2nd half of 1872 Total.	2nd half of 1873 Total.	Increase.	Decrease.	Per Train Mile.	Per 1,000 Ton Miles.
XIV.	...	Train Mileage (D. 2, I. p. 7)	123,560	133,030	9470	-		
		Ton Mileage (M. I. 22, p. 16)	23140,261	24922,591	1783,330	-		
		DETAILS.	2nd half of 1872 Total.	2nd half of 1873 Total.	Increase.	Decrease.	Per Train Mile.	Per 1,000 Ton Miles.
			Rs.	Rs.	Rs.	Rs.	A.	Rs.
		General Superintendence—						
IX. (B) 1	1 & 2	Salaries of Locomotive Superintendents and Assistants, including allowances.	4,267	3994	-	273	0·480	0·160
	3 to 5	Ditto of Foremen, including allowances and overtime	9,870	8,649	-	1,221	1·042	0·347
	6	Office Expenses	3,881	3,442	-	439	0·414	0·138
		Running Expenses—						
	1 & 2	Wages of Drivers and Firemen, including overtime	13,603	15,607	2,104	-	1·877	0·626
2	3	Fuelling, cleaning, and looking after Engines	1,089	1,400	311	-	0·168	0·056
	4	Contingent Expenses	-	1	1	-	-	-
		Fuel—						
3	1	Coal	23,006	42,587	19,681	-	5·122	1·709
	2	Coke	-	3,570	3,570	-	0·429	0·143
	3	Patent Fuel	7,549	334	-	7,215	0·040	0·013
	4	Wood	930	14,846	13,916	-	1·785	0·596
4	1,2 & 3	Water—	1167	979	-	188	0·119	0·039
5	...	Oil, Tallow, &c.—	1,713	2,236	523	-	0·269	0·090
		Maintenance and Renewals—						
6	1 & 2	Wages, including overtime ...	5140	5061	-	79	0·608	0·203
	3	Materials	2,696	17,224	14,528	-	2·071	0·692
7	...	Services of other Lines—	-	-	-	-	-	-
8	...	Unclassified Expenditure—	-	-	-	-	-	-
		Total ...	74,811	119,930	45,119	-	14·424	4·812

			Total Quantity.	Total Quantity.	Increase	Decrease.	Quantity per Train Mile.	Quantity per 1,000 Ton Miles.
			Tons.	Tons.	Tons.	Tons.	lbs.	lbs.
XI. (B) 3	1	Coal consumed	1,239	1420	181	-	23·910	27·621
	2	Coke do.	-	84	84	-	1·414	1·549
	3	Patent Fuel do.	409	11	-	398	0·186	0·989
	4	Wood do.	181	2474	2291	-	1·192	1·222·347

TABLE F—I

Locomotive Power.

Reference to Revenue Account. Table and Main head.	Sub-head.	DESCRIPTION.	Passenger.	Passenger. Goods	Goods.	Tank.	Total.
		Locomotives ... Wheels coupled ...	4 coupled	6 coupled	4 coupled	4 coupled	
		Locomotives ... Weight on driving axle	9 tons.	10½ tons.	9½ tons.	8 tons	
		Locomotives ... Total weight in steam, exclusive of tender ...	23½ tons.	29½ tons.	28 tons.	16 tons	
XII.	...	1.—Number of Locomotives erected and made over to Locomotive Department	9	6	4	2	21
		2.—Average number of Locomotives constantly under repairs ...	1·56	0·71	0·28	0·06	2·61
		3.—Average number of Locomotives at work (1—2)	7·44	5·29	3·72	1·94	18·39
		4.—Train miles hauled by each class of Locomotives at work (3) ...	42,355	47,843	42,832	"	133,030
		5.—Average train miles hauled by each Locomotive at work (3) ...					
		Per half-year	5693	9044	11,514	-	7234
		Per day	31	49	63	-	39
		6.—Average speed between stations of trains ... Passenger ...	28 miles per hour through mail trains				
		6.—Average speed between stations of trains ... Goods ...					
		6.—Average speed between stations of trains ... Mixed ...	21 miles per hour, local mixed trains				
		7.—Average through speed of trains ... Passenger ...	20 miles per hour, through mixed trains.				
		7.—Average through speed of trains ... Goods ...					
		7.—Average through speed of trains ... Mixed ...		14 miles per hour, local mixed trains			
		8.—Weight of coal, &c., used per train mile ... To be separated if possible among the classes of Locomotives.	29·60	24·10	13·72	-	
		9.—Weight of wood used—per train mile ... To be separated if possible among the classes of Locomotives.	3·97	49·20	55·10	-	
		10.—Average gross weight of the trains hauled by each class of Locomotive.	111·19	233·47	158·06	-	179·282

N. B.—8, 9, and 10 are not absolutely prescribed as there may be at first some difficulty in furnishing the information for all lines; but the to should be given if possible.

* This includes weight of Engine & Tender.

TABLE G.

Carriage and Waggon Expenses.

Reference to Revenue Account. Table and Main head.	Sub-head.	DETAILS.	2d half of 1872. Total.	2d half of 1873. Total.	Increase.	Decrease.
XIV.	...	Train mileage run for Traffic Dept. (DI. XIV. I.) ...	123,560	133,030	9,470	•
		Vehicle mileage run for Traffic Dept. — Coaching (M. I. 8,) ...	943,406	1098,801	155,395	•
		Vehicle mileage run for Traffic Dept. — Goods (M. I. 14,) ...	1042,428	1174,785	132,357	•
		Vehicle mileage run for Traffic Dept. — Total	1985,834	2273,586	287,752	•

Reference to Revenue Account. Table and Main head.	Sub-head.	DETAILS.	2d half of 1872. Total.	2d half of 1873. Total.	Increase.	Decrease.	Cost per Train Mile.	Cost per 1,000 Vehicle Miles.
			Rs.	Rs.	Rs.	Rs.	As.	Rs.
		General Superintendence—						
IX. (C) 1	1 & 2	Salaries of Superintendents and allowances	813	750	•	63	0·090	0·330
	3 to 5	Salaries of Foremen and allowances, including overtime ...	1,710	1,443	•	267	0·174	0·635
	6	Office expenses	665	572	•	93	0·069	0·252
		Repairs and Renewals of Vehicles and Machinery—						
2	1 to 3	Coaching Vehicles. Wages, including overtime.	1,728	587	•	1,141	0·071	0·534
		Coaching Vehicles. Materials	4,329	3,044	•	1,285	0·366	(a) 2·770
	1 to 3	Goods Vehicles. Wages, including overtime.	3,199	3,466	267	•	0·417	(b) 2·950
		Goods Vehicles. Materials	6,315	9,124	2,809	•	0·097	(b) 7·767
3	1	Cleaning and Oiling—						
	2	Labour, including wages of oilers, &c.	1,363	1,109	•	254	0·133	0·488
		Stores...	1,211	1,275	64	•	0·153	0·560
4	...	Unclassified Expenditure—	•	•	•	•	•	•
		Total ...	21,333	21,370	37	•	2·570	9·399

~~The vehicle mileage is defined (Table M. I.) as that of *all* vehicles running on the line. The cost of repairs and renewals will, however, depend on the mileage of home vehicles whether running on the parent line or on foreign lines. If this foreign mileage of home vehicles is greatly in excess of the home mileage of foreign vehicles, (a) and (b) should be shown in terms of 1,000 vehicles miles of home vehicle run on both the parent and foreign lines, and this vehicle mileage should be stated.~~

(a). Cost per 1000 Coaching vehicle miles (b) Cost per 1000 Goods Vehicle miles.

TABLE H.

Traffic Expenses

Reference to Revenue Account. Table and Main head	Sub-head.	DETAILS	2d half of 1872. Total.	2d half of 1873. Total.	Increase.	Decrease.
XIV.	...	Train Mileage (run for Traffic Dept. D. I.)	123,560	133,030	9,470	•
		Vehicle mileage run for Traffic Dept. D. I. — Coaching (M. I.) ...	943,406	1098,801	155,395	•
		Vehicle mileage run for Traffic Dept. D. I. — Goods (M. I. 14,) ...	1042,428	1174,786	132,357	•
		Vehicle mileage run for Traffic Dept. D. I. — Total ...	1985,834	2273,586	287,752	•

Reference to Revenue Account. Table and Main head	Sub-head.	DETAILS	2d half of 1872. Total.	2d half of 1873. Total.	Increase.	Decrease.	Cost per Train Mile.	Cost per 1,000 Vehicle Miles.
			Rs.	Rs.	Rs.	Rs.	As.	Rs.
		Salaries, Wages, &c.—						
IX. (D.) 1	a (1 & 3)	General Superintendence, including travelling allowances	3640	3576	36	•	0·430	1·573
	a (2 & 4)	Office Establishment and contingencies	862	948	86	•	0·102	0·417
	b	Station Staff	13,715	15,063	1,348	•	1·812	6·625
	c	Train Staff	2,760	3,191	431	•	0·384	1·404
2	1 to 3	Fuel, Lighting, Water, and General Stores	1,321	1,698	377	•	0·204	0·747
	3	Clothing, ...	641	816	175	•	0·098	0·359
	4	Printing, Stationery, and Tickets ...	1,753	2,168	415	•	0·261	0·954
	5	Cattle used for Traffic purposes, and Delivery and Collection of Goods ...	•	•	•	•	•	•
	6	Miscellaneous Expenses	347	278	•	69	0·033	0·122
		Payments to other Lines—						
7	1	Hire of Vehicles	•	•	•	•	•	•
	2	Mileage of Foreign Stock ...	1,275	5,805	4,530	•	0·498	2·553
	3	Expenses at joint stations ...	6,148	6,924	776	•	0·833	3·045
8	...	Unclassified Expenditure						
		Total ...	22,362	40,467	8,105	•	4·867	17·799

TABLE J.

General Charges.

Reference to Revenue Account. Table and Main head.	Sub-head.	Details.	2nd half of 1872 Total.	1st half of 1873. Total.	Increase.	Decrease.	Cost per Train Mile.
			Rs.	Rs.	Rs.	Rs.	As.
IX. (E.) 1	...	Home Expenditure	2,949	8,266	5,317	"	0·994
		Indian Management—					
	1	Agent's Office, including travelling and other allowances ...	2907	9,328	6,421	"	1·122
	2	Auditor's Office ditto ...	6882	11,138	4,256	"	1·339
	3	Accounts Office ditto ...					
2	4	Pay Master's Office ditto ...	1,628	5,195	3,567	"	0·625
	5	Store Department ditto ...	553	1,811	1,258	"	0·218
	6	Medical Department ditto ...	334	1	"	333	"
	7	Rents	586	1,663	1,077	"	0·200
	8-10	Contingencies, Stationery and Medicine					
3	...	Police (*Total Charges*)	81	238	157	"	0·029
4	...	Advertising					
		Electric Telegraph—					
5	1 to 4	Salaries, &c.	2814	3376	562	"	0·406
	5	Maintenance (labour and Stores ...	143	257	114	"	0·031
6	...	Clearing Accounts with other Lines ...	"	"	"	"	"
7	...	Unclassified Expenditure Loss on Stores	"	"	"	"	"
		Funeral expenses	7	"	"	7	"
		Total ...	18,914	44,273	22,359	"	4·904

TABLE K.

Steam Boat Servcie.

Reference to Revenue Account. Table and Main head.	Sub-head.	Details.	2nd half of 1872 Total.	2nd half of 1873. Total.	Increase.	Decrease.
		Working vessels	"	"	"	"
		Repairs	"	"	"	"
		Fuel	"	"	"	"
		Miscellaneous stores	"	"	"	"
		Steam traffic Agencies	"	"	"	"
		Unclassified expenditure	"	"	"	"
		Total ...	"	"	"	"

TABLE L.

Special and Miscellaneous Expenditure.

Reference to Revenue Account. Table and Main head.	Sub-head.	Details.	Rs.	Rs.	Rs.	Rs.
IX. (G.) 1	...	Law Charges—	81	9	"	72
		Compensation—				
2	1	For goods lost or damaged	"	42	42	"
	2	Personal Injury	"	"	"	"
	3	For other claims	4716	1854	"	2,862
3	...	Rates and Taxes—				
		Contributions to Special Funds—				
4	1	Fire Insurance Fund	5000	5000	"	"
	2	P. W. Renewal Fund	"	"	"	"
	3	Casualty Fund	"	"	"	"
		Total ...	9797	6905	"	2892

ANALYSIS OF CARRYING COST.

TABLE M—I.

Definitions.

The unit of passenger traffic is—1 passenger plus free luggage.
" " carriages is—1 carriage.
" " horses is—1 horse.
" " luggage is—1 ton.
" " post-office vehicles is—1 "
" " goods is—1 "
" " cattle is—1 "

The approximate weight of units adopted in these calculations.

	Cwt.	Ton.
Coaching—		
1st-class Passenger with free luggage ...	1·75	= 0·0875
2nd " " " " ...	1·75	= 0·0875
3rd " " " " ...	1·25	= 0·0625
4th " " " " ...	1·25	= 0·0625
A carriage (average for two and four-wheeled)	6·75	= 0·3375
Coaching—(Concld)		
A horse	8·75	= 0·4375
A dog	0·20	= 0·0100
Goods—		
A head of horned cattle	5·00	= 0·2500
A head of sheep, goats, etc.	0·50	= 0·0250
Poultry		= 0·0025

Data for calculating the incidence of carrying cost per unit per mile for each class of Passenger Traffic and for goods and Minerals.

	Details.	Total mileage of each description of Rolling Stock. (a)	Total mileage of units of traffic. (b)	Average contents in units of each Vehicle. No. (c)	Average contents in units of each Vehicle. Weight in Tons. (d)	Average weight of Rolling Stock in Tons. (e)	Total average weight including contents of each Vehicle in Tons. (f)	Tons of Vehicles and freight per ton of freight. (g)	Ton Mileage. Of freight. (h)	Ton Mileage. Of dead weight (i)	Total Ton Mileage. Excluding Engines and Tenders and Brake Vans. (k)	Total Ton Mileage. Including Engines and Tenders and Brake Vans. (l)
	Coaching—											
1	1st Class	53,970	69834	1·294	0·113	7·269	7·382	65·201	6,110	392,308	398,418	
2	2nd "	110,084	285751	2·596	0·227	6·998	7·225	31·810	25,003	770,368	796,871	
3	3rd "	843,776	2345763	27799	1·737	5·587	7·324	4·215	1465,985	4714,178	6180,163	
4	4th "	"	"	"	"	"	"	"	"	"	"	
5	Carriage Trucks	4,517	4752	1·052	0·356	5·060	5·415	15·251	1,604	22856	24460	
6	Horse Boxes	23,745	19,403	0·816	0·357	7·090	7·447	20·857	8,489	168,565	177,054	
7	Luggage including parcels & clubs Vans ...	62,679	18,048	"	0·288	6·110	6·398	22·220	18,048	382,969	401,017	
7	Post Office Vehicles ...	"	"	"	"	"	"	"	"	"	"	
8	Total ...	1098,801	"	"	"	"	"	"	1525239	6445,244	7976,483	
9						42121				2708045		
10	Passenger Engines and Tenders ...	64,292	"	"	"	6·110	"	"	"	382,969	"	11067,497
	Passenger Brake Vans ...	62,697	"	"	"							
11	Total Coaching Ton mileage ...	"	"	"	"	"	"	"	1525239	9542,258	"	

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‖ Mail carrying vehicles, whether specially constructed sorting carriages or not, are reckoned as Post Office Vehicles. When only portions of vehicles are used for carrying mails, the mileage is apportioned in the foot-note to Table A.

¶ The number of Post Office Vehicles is assumed on the best data available.

† The average weight of the contents (including the Post Office servants) of a Post Office Vehicle with No. 7 Luggage Van.

‡ In averaging weights Vans are loaded with luggage or parcels, the remarks are included with luggage. If not so carried they will be incorporated with goods.

§ This is shown separately when minerals are carried entirely in special vehicles.

(a) This includes the mileage of all vehicles—home and foreign, running on the line, and excludes the mileage of home vehicles on foreign lines.

(b) taken from station to station returns, or, in default of these, arrived at by dividing the receipts from each class of traffic by the average rate or fare per unit per mile.

$$(c) = \frac{a}{b}; \quad (d) \text{ for coaching} = c \times \text{by weights of units as per definitions, and for goods and luggage} = \frac{a}{b} = \text{measurement goods being converted to weight at an arbitrary rate;} \quad (e) \text{ from returns furnished by Railway Companies;} \quad (f) = d + e; \quad (g) = \frac{f}{d}; \quad (h) = a \times d; \quad (i) = a \times e;$$

(k) or $(l) = h + i$.

(l)—is the ton mileage used for purposes of calculation in analysis expenditure of departments.

* Carr. 448
Mails 55
Parcels 320
843

M—IV.

Classified cost of working over one mile a vehicle including its freight, also Total cost of carrying over one mile unit of each Description of Traffic.

Details.	First Class.	Second Class.	Third Class.	Fourth Class.	Carriage Trucks.	Horse Boxes.	Luggage Vans.	Post Office Vehicles.	Goods Vehicles.	Cattle Vans.	Mineral Trucks.
	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.	Pies.
Maintenance	4·517	4·416	4·479	"	3·313	4·554	3·912	"	4·947	3·570	"
Locomotive	9·729	9·521	9·651	"	7·133	9·811	8·431	"	10·662	7·727	"
Carriage and Wagon	1·069	1·069	1·069	"	1·069	1·069	1·069	"	2·493	2·493	"
Traffic	3·417	3·417	3·417	"	3·417	3·417	3·417	"	3·417	3·417	"
General	3·485	3·485	3·485	"	3·485	3·486	3·485	"	3·485	3·485	"
Special and Miscellaneous. { Permanent Way Renewal Fund											
Special and Miscellaneous. { Other items	0·583	0·583	0·583	"	0·583	0·583	0·583	"	0·583	0·583	"
Total...	22·800	22·491	22·684	"	19·000	22·919	20·897	"	25·587	21·275	"
† Cost per unit ...	17·621	8·664	0·816	"	1·8061	28083	72·576	"	8481	82·860	"

* The cost as per M—III. to be divided by the Vehicle mileage for each Class of traffic [M—I.(a)]
† The above totals to be divided by the average contents of each Vehicle [M—I c (for numbers) d (for weights)].

M—V.

Statement showing in comparison the receipts and the carrying cost per unit per mile of Coaching and Merchandize Traffic.

Details.	Average receipt per unit per mile (a).	Actual cost per unit per mile (b).	Profit per unit per mile.	Loss per unit per mile.	Proportion per cent. of profits to receipts.
COACHING.—	Pies.	Pies.	Pies.	Pies.	
1st Class	10·121	17·621	"	7·500	"
2nd ,, ...	3·803	8·664	"	4·861	"
3rd ,, ...	1·951	0·816	1·135	"	58·163
4th ,, ...	"	"	"	"	"
Carriages	23·111	18·061	5·050	"	21·851
Horses	16·219	28·083	"	11·864	"
Luggage	80·257	72·576	7·681	"	9·570
Post Office Vehicles	"	"	"	"	"
GOODS.—					
Merchandise, including Government Stores and Railway materials	10·540	8·481	2·059	"	19·535
Cattle	30·959	82·860	"	51·901	"
Minerals	"	"	"	"	"

(a.) Total receipts under each class as per Revenue Account divided by the total mileage of that Class [*M.—I. b.*]
(b.) To be taken from *M—IV.*

Lieut Col. R.E.
Consulting Engineer for Railways.

RAILWAY DEPARTMENT.

From The Consulting Engineer for Railways,

To The Secretary to Government, P. W. Department, Fort Saint George.

Dated 20th Nov 1874.
Recd. 20th "

No. 724.

Sir:

I have the honor to forward herewith the Estimate of the Q. Pt. Rail Road for Utukkottai for the year ended 31st December 1873.

I have the honor to be Sir Your most obedient humble Servant

Chas. Elliott
Consulting Engineer for Railways

Madras 20th Nov. 1874.

Enclosed I have the honor to forward herewith the Estimate of the Q. Pt. Rail Road for the year ended 31st December 1873.

Q. Pt. Rail Road Estimate.

Dated 20th Nov 1874.

Rec'd 24th "

Consulting Engineer for Railways

Forwarded with compliments

Chas. Elliott

Dated 25th November 1874.

7434

Govt. of Fort St. George.

PUBLIC WORKS.

To The Secretary to the Govt. of India

Dated 11th Dec. 1874.

Rec'd

Encl.

G. O. 3476 3477

Nos. 211-213.

Great Sn of India Pe

The Review the Re
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Railways for the
half year ending 31st
Dec/73 -

The Review the Re
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for the half year
ending 31st Dec/73,
delivered to be forwarded
to the Sec: of India -