RAILWAY.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated July, 29th.

Rcd. Encl.

G.O., 29th July 1890, No. 1076 R.

JULY.

Mr. Phipps, Deputy Locomotive Superintendent, Madras Railway

Letter from the Government of India sanctioning the grant to — the full pay of his own substantive office *plus* a special allowance of Rs. 300 a month while acting for the Locomotive Superintendent, communicated to the Consulting Engineer for Railways.

Govt. of {18 } Madras.

PUBLIC WORKS.

Dated

Rcd. Encl.

G.O., 19 th May 1892, No. 688-89 R

4
688R.

Analysis of working of the
M Ry.

Forwd Ret the — for the
second half of 1889 in forwd
to the D. G. of Rys & W the
Secy of State.

Analysis of working of the
M Ry.

Forwd the — for the second
half of 1889.

Acc 89/1 5/2

Forwd: the Analysis
of working of the M Ry
for the second half
of 1889.

Lab. 25/100. K 28.4.92

Ry. Bnch. 2741 & 6.4.88.

A

Form No. 3.

Ry. 688 R & 19th May/90.

Ordered to be forwarded to the Director General of Railways and to the Secretary of State.

Rly. No. 689 R & 19 May April 1890

Forwarded.

To The Comptroller for Rys & Exr Cos Records: 28/5

Rly. No 688 R & 19th May 1890

To

The Rt Hon: the Secy: of State for India.

My Lord,

We have the honour to forward a copy of our Progs. No. 688 R dated 19th May 1890, embodying the analysis of working of the Madras Railway for the second half of 1889.-

Rwcds

24/5 28.4.90 Ack on 12

24/4 R 30.4.90

Ap. 25/4/90. R 28.4.90

From THE CONSULTING ENGINEER FOR RAILWAYS, MADRAS,

No. 282

Dated 22d April 1890

Received 23

No. of Enclosures. 7 (7 G.S.C)

Subject.

Submitting 10 copies of the Analysis of working Madras Railway for the h.y. ended 31.12.89.

A

Rly. 688-89 R & 19th May/90.

8ª Bov. 2741 & 6.4.88.

A

Form No. 3.

Ag. 688 R & 19th May/90.

Ordered to be forwarded to the Director General of Railways and to the Secretary of State.

Ag. No. 689 R & 19 ~~April~~ May 1890

Forwarded.

To the Comptroller for Rys
4 Exp Co Rly accts: 5/6 28/5

Ag. No 688 R & 19th May 1890

To

The Rt Hon: the Secy: of State
for India.

My Lord,

We have the honour to forward a copy of our Progs: No. 688 R dated 19th May 1890, embodying the Analysis of working of the Madras Railway for the second half of 1889.

We have &c

24/5 28.4.90 W for R

0 24/4 R 30.4.90
Ag. No. 254/90 A 28.4.90

From THE CONSULTING ENGINEER FOR RAILWAYS, MADRAS,

No. 282

Dated 22d April 1890
Received 23

No. of Enclosures. 7

(7 G.S.C)

Subject.

Submitting 10 copies of the Analysis of working Madras Railway, for the h.y. ended 31.12.89.

A
Ag. 688-89 R & 19th May/90.

R

Form No. 1.

Public Works Department.

Office of Consulting Engineer for Railways,

Madras, 22nd April 1890.

Ten copies of the analysis of working, Madras Railway, for the half year ended the 31st December 1889.

No. 282.

Submitted ——— to ——— Government for transmission to the Director General of Railways with reference to letter from the Government of India No 204 R.E., dated 23rd March 1888, embodied in the Proceedings of Government No 274 R, dated 6th April 1888.

Sidney Smith
Major R.E,
Dy consg. Engr for Rys

Madras Railway Company.

ANALYSIS OF WORKING

FOR THE

Half-Year ending 31st December, 1889.

VEST AND COMPANY, PRINTERS, MADRAS.

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Form No. 1.

MADRAS RAILWAY COMPANY.

Analysis of Working for the Half-year ended 31st December, 1889.

Progressive Number.	Headings.			Remarks.
	No. I.			
	DESCRIPTION OF RAILWAY WORKED.		Ft. In.	
1	Gauge of Railway		5 6	
2	Mean mileage worked	*Miles*	839·298	
3	Number of Stations	*No.*	128	
4	Total length of the following gradients:—			
	(*a*) $\frac{1}{80}$ and less	*Miles*	*Nil.*	
	(*b*) $\frac{1}{81}$ to $\frac{1}{80}$	„	17·99	
	(*c*) $\frac{1}{81}$ to $\frac{1}{100}$	„	48·09	
	(*d*) $\frac{1}{101}$ to $\frac{1}{200}$	„	197·14	
	(*e*) $\frac{1}{201}$ to $\frac{1}{300}$	„	123·86	
5	Steepest gradient worked—			
	(*a*) Length	*Miles*	·80	
	(*b*) Inclination		1 in 60	
	No. II.			
	FINANCIAL RESULTS.			
6	Percentage of net earnings (including Steam-boat traffic) on Capital outlay	*Per cent.*	1·52	
7	Percentage of net earnings on paid up capital ...	„	1·52	Excluding £12,014-1-4, Capital not bearing interest.
	No. III.			
	OUTLAY, EARNINGS AND EXPENSES.			
	(*Exclusive of Steam-boat Service.*)			
8	Capital outlay per mile open	*Rs.*	1,36,158	
9	Total earnings per mile open per week	„	211·01	
10	Total working expenses per mile per week ...	„	129·86	
11	Total earnings per train-mile	„	3·908	
12	Total working expenses per train-mile	„	2·405	
13	Net earnings per train-mile	„	1·503	
14	Cost per 1,000 gross ton-miles moved (freight and dead weight)	„	8·28	
15	Percentage of total working expenses upon total earnings	*Per cent.*	61·54	
16	Percentage of total working expenses upon total earnings, excluding from both sides of the account the charges for carriage of revenue stores... ...	„	60·95	
	(*Inclusive of Steam-boat Service.*)			
17	Percentage of total working expenses on total earnings (for details, see Table No. VII)	„	61·54	
	No. IV.			
	DIVISION OF EXPENDITURE BETWEEN COACHING AND GOODS TRAFFIC.			
18	Total Working Expenses for both coaching and goods traffic, excluding Steam-boat expenses, and after deducting telegraph and sundry receipts and leaving only the balance of payments to other lines for mileage, &c.	*Rs.*	27,45,324	
	Proportions, *dividing expenditure in ratio of gross ton-mileage (freight and dead load.)*			
19	Coaching	„	10,33,453	
20	Goods ...	„	17,11,871	

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

Progressive Number.	Headings.					Remarks.
	No. V.					
	COACHING TRAFFIC.					
	GROSS RECEIPTS AND TRAIN-MILEAGE—					
21	Receipts from coaching traffic			*Rs.*	18,27,088	
22	Coaching train-miles run			*No.*	528,389	
23	Average coaching receipts per train-mile			*Rs.*	3·46	
	UNITS AND UNIT MILEAGE—					
	Number of units carried one mile—					
24	1st Class			*Unit miles*	1,570,742	
25	2nd „			„	2,972,326	
26	3rd or Intermediate class			„	.....	
27	4th or Lowest „			„	161,974,335	
28	Total passenger unit mileage			„	166,517,403	
29	Other coaching traffic			*Ton-miles*	1,386,393	
	Average sum received for carrying a unit one mile—					
30	1st Class			*Pies*	9·37	
31	2nd „			„	5·21	
32	3rd or Intermediate class			„	.....	
33	4th or Lowest „			„	1·68	
34	Average for all classes			„	1·81	
35	Other coaching traffic per ton-mile ...			„	35·31	
	Average number of units in a train—					
36	1st Class			*No.*	2·97	
37	2nd „			„	5·63	
38	3rd or Intermediate class			„	.....	
39	4th or Lowest „			„	306·54	
40	Total passenger units			„	315·14	
41	Other coaching traffic			*Tons*	2·62	
	VEHICLES AND VEHICLE MILEAGE—					
	Number of coaching vehicles hauled one mile—					
42	1st Class			*Vehicle miles*	817,384	
43	2nd „			„	895,651	
44	3rd or Intermediate class			„	... ..	
45	4th or Lowest „			„	5,931,115	
46	Other vehicles			„	884,208	
47	Brake Vans			„	1,143,147	
48	Total			„	9,671,505	
	Average number of vehicles in a coaching train—					
49	1st Class			*No.*	1·55	
50	2nd „			„	1·70	
51	3rd or Intermediate class			„	.....	
52	4th or Lowest „			„	11·22	
53	Other vehicles			„	1·67	
54	Brake Vans...			„	2·16	
55	Total			„	18·30	
	Average earnings per coaching vehicle per mile—					
56	1st Class			*Pies*	18·02	
57	2nd „			„	17·29	
58	3rd or Intermediate class			„	.....	
59	4th or Lowest „			„	45·80	
60	Other vehicles			„	55·37	

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

Progressive Number.	Headings.					Remarks.
	No. V.					
	COACHING TRAFFIC—(*Contd.*)					
	Carrying capacity hauled one mile (excluding brakes)—					
61	1st Class			*Seats*	9,761,587	
62	2nd „			„	30,290,220	
63	3rd or Intermediate class			„	.....	
64	4th or Lowest „			„	325,667,387	
65	Other vehicles			*Tons.*	4,551,361	
	Percentage of freight upon capacity hauled—					
66	1st Class			*Per cent.*	16·09	
67	2nd „			„	9·81	
68	3rd or Intermediate class...			„	.....	
69	4th or Lowest „			„	49·74	
70	Other vehicles			„	30·46	
	WEIGHT OF TRAIN AND TON-MILEAGE—					
	Gross ton-mileage of all coaching trains—					
71	Freight			*Ton-miles.*	11,499,713	
72	Dead weight			„	113,304,895	
73	Total			„	124,804,608	
	Average weight of a coaching train—					
74	Freight			*Tons.*	21·76	
75	Dead weight			„	214·44	
76	Total			„	236·20	
	COST OF WORKING AND PROFITS—					
77	Average cost of hauling a coaching train one mile ...			*Rs.*	1·96	
78	Average cost of hauling a coaching vehicle with its load one mile			*Pies.*	23·27	
	Average cost of hauling a coaching unit one mile—					
79	Per passenger unit			*Pies.*	1·07	
80	Other traffic per ton			„	14·39	
81	Average profit on working a coaching train one mile...			*Rs.*	1·50	
	Average profit on working a coaching vehicle one mile—					
82	1st Class			*Pies.*	*Minus* 5·25	
83	2nd „			„	„ 5·98	
84	3rd or Intermediate class...			„	.....	
85	4th or Lowest „			„	22·53	
86	Other vehicles			„	32·10	
	Average profit on working a coaching unit one mile—					
87	Per passenger unit			*Pies.*	·74	
88	Other traffic per ton			„	20·92	

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

Progressive Number.	Headings.			Remarks.
	No. VI.			
	GOODS TRAFFIC.			
	Gross Receipts and Train-Mileage—			
89	Receipts from goods traffic	*Rs.*	26,67,054	
90	Goods train-miles run	*No.*	649,766	
91	Average goods receipts per train-mile	*Rs.*	4·10	
	Units and Unit Mileage—			
92	Tons of goods carried one mile	*Ton-miles*	67,368,606	
93	Average sum received for carrying a ton one mile ...	*Pies.*	7·60	
94	Average number of tons in a train	*Tons.*	103·68	
	Vehicles and Vehicle Mileage—			
	Number of goods vehicles hauled one mile—			
95	Loaded	*Vehicle miles*	11,468,498	
96	Empty	,,	2,613,915	
97	Brake Vans	,,	1,283,712	
98	Total	,,	15,366,125	
	Average number of vehicles on a goods train—			
99	Freight vehicles	*No.*	21·67	
100	Brake Vans	,,	1·98	
101	Total	,,	23·65	
102	Average earnings per goods vehicle per mile (excluding brakes)	*Pies.*	36·36	
103	Carrying capacity hauled one mile (excluding brakes)	*Tons.*	120,076,348	
104	Percentage of freight upon capacity hauled. ...	*Per cent.*	52·19	
105	Average load of a goods vehicle (including both loaded and empty)	*Tons.*	4·78	
106	Average load of a loaded goods vehicle	,,	5·87	
	Weight of Train and Ton-Mileage—			
	Gross ton-mileage of all goods trains—			
107	Freight	*Tons.*	67,368,606	
108	Dead weight	,,	139,365,037	
109	Total	,,	206,733,643	
	Average weight of a goods train—			
110	Freight	*Tons.*	103·68	
111	Dead weight	,,	214·48	
112	Total	,,	318·16	
	Cost of Working and Profit—			
113	Average cost of hauling a goods train one mile ...	*Rs.*	2·63	
114	Average cost of hauling a goods vehicle with its load one mile	*Pies.*	23·34	
115	Average cost of hauling a goods unit (*viz.*, one ton) one mile	,,	4·88	
115A	Do. do. do. do. including interest on capital expended on open line, &c. ...	,,	10·05	
116	Average profit on working a goods train one mile ...	*Rs.*	1·47	
117	Average profit on working a goods vehicle with its load one mile	*Pies.*	13·02	
118	Average profit on working a goods unit (*viz.*, one ton) one mile	,,	2·72	

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

Progressive Number.	Headings.			Remarks.
	No. VII.			
	DETAILED PERCENTAGES OF EARNINGS AND EXPENDITURE.			
	Percentage to Total Earnings—			
119	Coaching Traffic	*Per cent.*	39·68	
120	Goods Traffic	,,	57·92	
121	Sundries, including telegraph	,,	2·40	
122	Steam-boat Earnings	,,	...	
	Total Earnings	,,	100·00	
	Percentage of Working Expenses upon Total Earnings—			
123	Maintenance	*Per cent.*	18·78	
124	Locomotive Expenses	,,	19·81	
125	Carriage and Wagon Expenses	,,	7·96	
126	Traffic Expenses	,,	8·73	
127	General Charges	,,	5·80	
128	Miscellaneous Charges	,,	·46	
129	Steam-boat Expenses	,,	...	
130	Total Working Expenses	,,	61·54	

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

No. VIII.—WORKING EXPENSES.

TABLE A.

Maintenance of Way, Works and Stations.

If done departmentally.	Reference to Revenue Account. Table and main head.	Sub-head	Progressive number in analysis.	Details.	Per mile of line maintained. (839·30)	Per mile of track, including sidings. (995·92)	Per total train-mile. (1,178,155)	Per 1,000 gross ton-miles. (331,538,251)
				General Superintendence—	Rs.	Rs.	As.	Rs.
	IX (A)	...		Engineers' salaries and allowances ...	72·33	60·96	·82	·18
	1	1 & 2		Subordinate Superintendents' salaries and allowances, including overtime ...	43·67	36·80	·50	·11
		3 to 5		Office expenses	37·12	31·28	·42	·10
		6						
			131	Total...	153·12	129·04	1·74	·39
				Maintenance and Renewal of Permanent-way—				
	2	1		Wages	178·15	150·13	2·03	·45
		2		Materials	114·83	96·77	1·31	·29
			132	Total...	292·98	246·90	3·34	·74
				Repairs of Bridges, &c.—				
				Wages and Materials—				
	3	1		Bridges and tunnels	149·89	126·32	1·71	·38
		2		Miscellaneous	34·31	28·92	·39	·09
			133	Total...	184·20	155·24	2·10	·47
	3(A)	...	134	*Conservancy of Rivers*	...	...	...	...
				Repairs of Stations and Buildings—Wages and Materials—				
	4	1		Repairs of all, except staff quarters ...	251·03	211·55	2·86	·63
		2		Repairs of staff quarters	42·53	35·84	·49	·11
			135	Total...	293·56	247·39	3·35	·74
				Maintenance by Contract—				
	5	1		Amount paid to contractors ...	...	...	...	...
		2		Materials supplied by the Railway ...	...	...	...	...
				Total...	...	...	...	...
	6	...		*New Minor Works*	15·00	12·64	·17	·04
				Unclassified Expenditure—				
	7	1		Plantations	1·60	1·35	·02	·01
		2		Tools and Plant	5·09	4·29	·06	·01
		3		Loss by exchange	48·47	40·85	·55	·12
		4		Loss on stores, &c.	...	...	...	...
		5		Freight on stores	36·17	30·48	·41	·09
				Total...	91·33	76·97	1·04	·23
				Total, Heads 5, 6 and 7	106·33	89·61	1·21	·27
				Less Credits	·13	·11	...	...
			136	*Net Total, other charges*	106·20	89·50	1·21	·27
			137	*Total Maintenance...*	1,030·06	868·07	11·74	2·61

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

No. VIII.—WORKING EXPENSES.

TABLE B.

Locomotive Expenses.

Reference to Revenue Account. Table and main-head.	Sub-head.	Progressive number in analysis.	Details.	Per Total train-mile. (1,178,155)	Per engine mile. (1,387,136)	Per 1,000 gross ton-miles. (331,538,251)
			General Superintendence—	As.	As.	Rs.
IX (B) 1	1 & 2		Salaries of superintendents and assistants, including allowances	·18	·16	·04
	3 to 5		Do. of subordinate do. including do. ...	·30	·25	·07
	6		Office expenses	·20	·17	·04
		138	Total...	·68	·58	·15
			Running Expenses—			
2	1 & 2		Wages of drivers and firemen, including overtime...	1·85	1·57	·41
	3		Fuelling, cleaning and looking after engines ...	·35	·30	·08
	4		Contingent expenses	...	...	...
		139	Total...	2·20	1·87	·49
				lbs.	lbs.	lbs.
			Fuel—(In terms of wood.)			
3	1 to 4		Average quantity consumed	112·56	95·60	399·98
				As.	As.	Rs.
			Average price per ton Rs. 5·78.			
		140	Do. cost	4·65	3·95	1·03
4	...	141	*Water*—(including wages and stores.)	·17	·14	·04
5	...	142	*Oil, Tallow and other Stores*	·24	·20	·05
			Maintenance and Renewals—			
6	1 & 2		Wages, including overtime	1·98	1·69	·44
	3		Materials	1·22	1·03	·27
		143	Total...	3·20	2·72	·71
7	...		*New Minor Works—*	...	...	...
8	...		*Payments to other Lines—*	...	...	...
			Unclassified Expenditure—			
9	1		Loss by exchange	·74	·63	·17
	2		Loss on stores, &c.	...	...	...
	3		Freight on stores	·51	·43	·11
			Total...	1·25	1·06	·28
			Total, Heads 7, 8 and 9	1·25	1·06	·28
			Less Credits	...	...	...
		144	*Net Total, other charges*	1·25	1·06	·28
		145	*Total Locomotive Expenses*	12·39	10·52	2·75

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

No. VIII.—WORKING EXPENSES.

TABLE C.

Carriage and Wagon Expenses.

Reference to Revenue Account. Table and main-head.	Sub-head.	Progressive number in analysis.	Details.	Per total train-mile. (1,178,155)	Per 1,000 vehicle miles run by home vehicles. (24,804,937)
				As.	Rs.
			General Superintendence—		
IX (C) 1	1 & 2		Salaries of superintendents, including allowances	·08	·23
	3 to 5		Do. of subordinate do. including do.	·12	·36
	6		Office expenses	·08	·24
		146	Total...	·28	·83
			Repairs and renewals of vehicles and machinery—		
2	1 to 3		Coaching vehicles ... Wages, including overtime ...	·51	3·83
			Materials	·32	2·47
		147	Total...	·83	*(a)* 6·30
	1 to 3		Goods vehicles ... Wages, including overtime ...	·78	3·82
			Materials	2·27	11·08
		148	Total...	3·05	*(b)* 14·90
			Cleaning and oiling—		
3	1		Labour, including wages of oilers, &c.	·22	·65
	2		Stores	·18	·53
		149	Total...	·40	1·18
4			*New Minor Works*	...	...
			Unclassified Expenditure—		
5	1		Loss by exchange	·42	1·24
	2		Loss on stores, &c.	...	...
	3		Freight on stores	...	...
			Total...	·42	1·24
			Total, Heads 4 and 5	·42	1·24
			Less Credits	...	...
		150	*Net Total, other charges*	·42	1·24
		151	*Total Carriage and Wagon Expenses*	4·98	14·78

(*a*.) Per 1,000 Coaching Vehicle Miles.
(*b*.) Per 1,000 Goods Vehicle Miles.

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

No. VIII.—WORKING EXPENSES.

TABLE D.

Traffic Expenses.

Reference to Revenue Account. Table and main-head.	Sub-head.	Progressive number in analysis.	Details.	Per total train-mile. (1,178,155)	Per cent. of traffic earnings. Abstracts H and I. (44,94,142)
				As.	Per cent.
			General Superintendence—		
IX (D) 1	(*a*) 1 & 3		Traffic Manager, Assistants, &c., including travelling allowances	·44	·72
	(*a*) 2 & 4		Office establishment and contingencies	·35	·57
		152	Total ...	·79	1·29
	(*b*)	153	*Station Staff*	2·57	4·21
	(*c*)	154	*Train Staff*	·63	1·03
2	1 to 3	155	*Fuel, Lighting, Water and General Stores*	·69	1·14
3	...	156	*Clothing*	·08	·11
4	...	157	*Printing, Stationery and Tickets*	·49	·80
5	...	158	*Charges for Delivery and Collection of Goods, &c.*	·01	·02
6	...	159	*Miscellaneous Expenses*	·04	·07
			Payments to other Lines—		
7	1	160	Expenses at joint stations	...	...
			Unclassified Expenditure—		
8	1		Loss by exchange	·14	·24
	2		Loss on stores, &c.	...	...
	3		Freight on stores	·02	·03
			Total, Head 8 ...	·16	·27
			Less Credits	...	...
		161	*Net Total, other charges*	·16	·27
		162	*Total Traffic Expenses*	5·46	8·94

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

No. VIII.—WORKING EXPENSES.

TABLE E.

General Charges.

Reference to Revenue Account. Table and main-head.	Sub-head.	Progressive number in analysis.	Details.	Per total train-mile. (1,178,155)	Per cent. on total earnings. (46,04,547)
IX (E) 1	1 to 4	163	*Home Expenditure*	As. ·44	Per cent. ·70
			Indian Management—		
	1	164	Agent's Office, including travelling allowances and contingencies	·33	·52
	2		Auditor's Office ditto ditto	·95	1·52
	3		Accounts' Office ditto ditto		
	4		Paymaster's Office ditto ditto		
2		165	Total 2 to 4 ...	·95	1·52
	5	166	Store Department, ditto ditto	·15	·25
	6	167	Medical Department, ditto ditto	·24	·39
	7		Rents	...	...
	8 to 10		Miscellaneous expenses, including printing, stationery, medicine and contributions to Hospitals	·13	·21
		168	Total 7 to 10 ...	·13	·21
				·32	·51
3	1 to 3	169	*Police*	·03	·04
4	...	170	*Advertising*		
			Electric Telegraph—	·63	1·01
	1 to 4		Salaries, &c.	·20	·32
	5		Maintenance (wages and stores)		
5	6		Government Telegraph Department for rent, maintenance and inspection	·01	·01
		171	Total ...	·84	1·34
				...	...
6	...		*Clearing accounts with other Lines*		
			Unclassified Expenditure—	...	...
	1		Loss on stores, &c.	·04	·06
	2		Expenses connected with Fire-engines	·19	·31
7	3		Loss by exchange	·01	·01
	4		Freight on stores		
			Total...	·24	·38
				·24	·38
			Total, Heads 6 and 7	**·04**	**·06**
			Less Credits	·20	·32
		172	*Net Total, other charges*	3·63	5·80
		173	*Total General Charges*		

ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

No. VIII.—WORKING EXPENSES.

TABLE F.

Steam Boat Service.

NIL.

TABLE G.

Special and Miscellaneous Expenditure.

Reference to Revenue Account. Table and main-head.	Sub-head.	Progressive number in analysis.	Details.	Per cent. on total earnings. (46,04,547)
				Per cent.
IX (G) 1	...	174	*Law Charges*	...
			Compensation—	
			For goods lost or damaged	·09
2	1		„ personal injury	...
	2		„ other claims	...
	3		Total...	·09
		175		·16
3	...	176	*Rates and Taxes*...	
			Payments to other Lines—	...
			Hire of locomotives	...
4	1 ...		„ of vehicles	·03
	2 ...		Mileage of foreign stock	...
	3 ...		Rent of stations, &c., jointly occupied	
	4 ...		Total...	·03
		177		...
5	...	...	*Contributions to Special Funds (in detail)*...	·19
6 to 8	...	...	*Miscellaneous*	·19
			Total, Heads 5 to 8	...
			Less Credits	·19
		178	*Net Total, other charges*	·47
		179	*Total Special and Miscellaneous Expenses*	

MADRAS RAILWAY,
CHIEF AUDITOR'S OFFICE,
9th April, 1890.

J. CRAMP,
Chief Auditor.

F. H. TREVITHICK,
Ag. Agent and Manager.

APPENDICES.

APPENDICES TO ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

APPENDIX I.

Working of Locomotives.

Reference to Revenue Account.			Passenger.	Goods.	Tank.	Total.
Table and main-head.	Sub-head.					
		Locomotives — 1.—Wheels coupled ...	Single driving wheels.	4 and 6 wheels coupled.	Single driving wheels 4 wheels coupled.	
		Locomotives — 2.—Weight on driving axle ...	Tons. 13·25	Tons. 12·16	Tons. 10·93	
		Locomotives — 3.—Weight of engine in steam ...	32·30	32·38	29·84	
		Locomotives — 4.—Weight of tender loaded ...	25·15	26·09	...	
XII	5	1.—Number of locomotives erected and made over to Locomotive Department ...	2	133	16	151
	11	2.—Average number of locomotives constantly under repairs and renewals	...	39	1	40
		3.—Number of locomotives laid by as spare ...	...	...	...	...
		4.—Ditto lent or hired out to other lines ...	...	...	...	...
		5.—Average number of locomotives 1—(3+4)...	2	133	16	151
		6.—Total mileage of locomotives (5) ...	33,736	1,248,644	104,756	1,387,136
		7.—Average miles run by a locomotive of each class 6÷5	16,868	9,388	6,547	9,186
		Per diem...	91·67	51·02	35·58	49·92
			lbs.	lbs.	lbs.	lbs.
		8.—Weight of Coal, &c., used per engine-mile } *To be separated, if possible, among the classes of locomotives.*	65·07	98·01	76·65	95·60
		9.—Weight of wood used per engine-mile ... } *To be separated, if possible, among the classes of locomotives.*				
			Passenger trains.	Goods trains.	Mixed trains.	
		10.—Average gross weight of trains hauled. *Tons.*	144·73	290·53	247·24	228·42
		11.—Average speed between stations... *Miles per hour.*	23·65	15·93	18·27	
		12.—Average through speed... *Miles per hour.*	18·89	11·82	13·64	
		13.—Average consumption of fuel per engine mile, lbs..	...	...	...	95·60

APPENDICES TO ANALYSIS OF WORKING
For the Half-year ended 31st December, 1889.

APPENDIX II.

Working of Vehicles.

DESCRIPTION OF VEHICLES.	Total number on the list at end of the half-year.	Average Weight in Tons.		Average Carrying Capacity.		Average number laid by as spare.	Average number lent or hired out.	Average number working.
		Of each description of vehicles.	Of each group.	Of each description of vehicles.	Of each group.			
Coaching Stock.						*f.*		
State Saloon Carriages	2	10·16	...	3	...	...	...	2
First Class Sleeping Carriages ...	...	...	...	8	...	...	...	...
Do do Day do ...	5	7·55	...	12	...	...	...	5
Reserved Saloons	4	11·14	...	3	...	...	...	4
Double Saloon 1st Class Night Carriages.	26	9·66	...	8	...	...	...	26
Second Class Carriages	70	10·50	...	39	...	...	...	70
Third Class Carriages	327	8·42	8·38	56	55	1	...	326
Do do do with Post Office Compartments		10·23						
Do do do with Brakes ...		6·37		40				
Composite Carriages Sleeping ...	31	8·75	8·68	20	...	6	...	25
Do do Day ...	2	7·55		20	...	...	...	2
Engineers' Inspection Carriage ...	1	9·50	...	2	...	...	...	1
Consulting Engineers' do ...	1	10·15	...	3	...	...	...	1
Telegraph do do ...	1	7·50	...	2	...	...	...	2
Invalid Carriages	2	8·80	...	10	...	...	...	9
Post Office Vans	9	10·56	...	3·25	...	...	...	21
Carriage Trucks	21	5·15	...	6·00	...	...	...	24
Baggage Vans	24	6·35	...	6·00	...	...	...	46
Horse Boxes	46	7·81	...	6·00	...	...	...	150
Brake Vans	151	9·62	...	4·50	...	1	...	
Total...	723	8·75	8·75	Nil.	Nil.	8	...	715
Goods Stock.								
Open Goods Wagons, 15 Tons. ...	50	7·45	...	15·00	9·09	84	...	50
Do do do 10 Tons. ...	810	6·29	5·94	10·00				810
Do do do 8 Tons. ...	940	5·55	...	8·00				835
Ballast Wagons 8 Tons. ...	217	5·07	...	8·00	...	...	...	217
Stone do ... 16 Tons. ...	50	8·00	...	16·00	...	...	...	50
Fuel do	130	5·67	...	6·00	...	...	...	130
Cattle do	50	6·45	...	6·00	...	...	...	50
Covered Goods Wagons, Wood ...	240	7·09	7·67	10·00	9·72	2	...	238
		6·37		6·00				301
Do do Iron	301	8·22	...	10·00	...	1	...	149
Timber Trucks	150	5·20	...	6·00	...	...	...	4
Water do	4	5·41	...	4·50	...	...	...	3
Platform do	3	7·22	...	10·00	13·33	...	...	4
Powder Vans	4	8·88	...	20·00		...	...	6
Travelling Cranes	6	14·29	...	6·00	...	...	...	...
Brake Vans	...	...	...	3·00	5·33	...	...	
				10·00				
				...	...	...	...	
Total...	2,955	6·20	6·20	8·88	8·88	...	...	2,847
Grand Total...	3,678	Nil.	Nil.	Nil.	Nil.	...	Nil.	3,562

Column *f.*—We have no Vehicles laid by as spare, but in this column has been entered the number of Vehicles broken up awaiting renewal.

Average Mileage per diem run on home line by Coaching Vehicles (including brakes) 52,543·34.
Do. do. Goods do. do. 83,608·92.

Mileage of						Ton-mileage of vehicle dead weight hauled on Home Line.
Foreign vehicles on Home Line.		Home vehicles on Home Line.		Home vehicles on foreign lines.	Carrying capacity hauled on Home Line.	
Loaded.	Empty.	Loaded.	Empty.			
					15,564	52,710
		2,389	911	...	...	...
1,888	...	...	...	...	1,243,884	782,610
...	...	28,056	7,641	...	34,062	126,484
67,774	186	9,214	954	...	3,650,416	4,407,877
1,186	...	441,138	15,164	...	25,450,698	6,852,111
...	...	558,731	90,965	...		
2,328	558				324,730,725	49,477,154
7,283	2,511	5,749,455	144,946	...		
					9,946,140	4,316,625
		486,945	9,769	...		
593	...	12,980	1,406	...	28,772	136,667
...	...	...	...	...	...	...
...	...	...	...	...	21,860	19,237
...	...	1,793	393	...	919,503	2,987,677
...	...	220,146	...	...	532,854	457,366
62,778	...	48,540	37,661	...	1,285,830	1,360,837
1,304	1,304	148,075	66,230	...	1,749,798	2,277,654
...	...	158,527	92,130	...	...	10,997,074
20,488	20,488	...	1,141,589	...		
...	1,558					
165,622	26,605	7,865,989	1,609,759	273,844	Nil.	84,252,083
					87,907,421	57,202,204
		7,299,548	1,636,623	...		
326,056	326,056				338,608	214,593
		11,718	30,608	...	...	...
...	...	...	...	...	333,192	314,866
...	...	27,122	28,410	...	1,074,756	1,155,362
...	...	88,001	91,125	...		
...	...				36,932,005	29,142,847
		3,526,223	273,366	...	2,299,092	1,992,546
...	...	167,180	216,002	...	19,868	23,885
...	...	2,539	1,876	...	88,724	48,056
...	...	2,282	4,374	...	232,032	343,407
...	...	33,197	5,475	...	13,581	36,410
...	...	2,548	...	...	...	12,249,309
...	...	...	1,283,712	...		
...	...					
326,056	326,056	11,160,358	3,571,571	323,416	Nil.	102,723,485
491,678	352,661	19,026,347	5,181,330	597,260	Nil.	186,975,568

APPENDICES TO ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

APPENDIX III.

Distribution of Mileage according to the traffic carried, giving total mileage of home and foreign stock on home line.

DESCRIPTION OF VEHICLES.	Mileage of Vehicles.	Mileage of Carrying capacity.	Mileage of Dead weight.	Remarks.
Coaching—				
First Class	817,384	9,761,587	7,460,546	
Second "	895,651	30,290,220	8,962,213	
Third "	5,931,115	325,667,387	49,695,703	
Total passenger vehicles	7,644,150	365,719,194	66,118,462	
Other coaching vehicles	884,208	4,551,361	7,133,224	
Total paying coaching mileage ...	8,528,358	Nil.	73,251,686	
Passenger brake-vans	1,143,147	Nil.	10,997,074	
Total coaching mileage including brakes ...	9,671,505	Nil.	84,248,760	
Goods—				
Loaded vehicles	11,468,498	105,845,831	74,844,320	
Empty vehicles	2,613,915	23,230,517	15,996,512	
Total paying goods mileage ...	14,082,413	129,076,348	90,840,832	
Goods brake-vans	1,283,712	Nil.	12,249,309	
Total goods mileage, including brakes ...	15,366,125	129,076,348	102,590,141	
Miscellaneous—				
Free mileage for inspections, &c. ...	14,386	28,772	186,667	
Grand Total ...	25,052,016	Nil.	186,975,568	

APPENDICES TO ANALYSIS OF WORKING

For the Half-year ended 31st December, 1889.

APPENDIX IV.—*Maintenance of Way-Rails.*

	Details.	Iron. Double headed weighing 65 lbs. per yard.	Iron. Double headed weighing 75 lbs. per yard.	Iron. Double headed weighing 84 lbs. per yard.	Iron. Others.	Iron. Total.	Steel. Steel weighing 75 lbs. per yard.	Steel. Steel flat footed on Bridges weighing 75 lbs. per yd.	Steel. Total.	Total Iron and Steel.
1	Miles of rail in way, including sidings ...	487·3206	869·7316	107·3320	...	1,464·3842	520·7990	6·6540	527·4530	1991·8372
2	Average age of rails in way at the middle of the half-year	22·801	20·465	25·015	...	21·744	14·340	12·390	12·385	22·197
3	Rails renewed, Miles	10·600	10·282	2·663	...	23·545	·011	...	·011	23·556
4	Proportion renewed per mile of rail	·022	·012	·025	...	·016	·00002	...	·00002	·012
5	Average number of tons hauled over each kind of rail in the half-year	384,060	341,355	487,121	...	365,839	421,356	351,035	420,217	380,359
6	Thousands of tons hauled on an average over each kind of rail during the average age of rail in way	14,836	10,453	25,225	...	...	10,746	6,354	...	12,754

APPENDIX V.—*Maintenance of Way-Sleepers.*

	Details.	Wood. Transverse. Teak. 16′×12″×6″	14′×12″×6″	12′×12″×6″	10′×12″×6″	10′×10″×5″	Jungle. 10′×12″×6″	10′×10″×5″	Total.	Creosoted Pine. 10′×10″×5″	Iron Bowls. Sleepers.
1	Number of sleepers in way, including sidings at the commencement of the half-year	2,552	146	9,262	1,554	6,826	2,713	14,777	37,830	91	3,124,017
2	Average age of sleepers in way at the middle of the half-year. Years...	12·83	17·61	17·57	8·94	8·78	5·36	6·48	8·92	4·41	19·35
3	Number removed	29	...	42	...	141	69	693	* 974	* 38	* 3,745
4	Number laid	17	...	35	4	67	114	861	* 1,098	* 103	* 11,688
5	Percentage of removals on total of each class ...	1·14	...	·45	...	1·81	3·25	4·40	2·49	24·36	·12
6	Number of sleepers in way, including sidings, at the end of the half-year	2,540	146	9,255	1,558	7,769	2,124	15,760	39,152	156	3,129,564

* Difference used in lieu of Wooden Sleepers.

Increased mileage of Main Line, Guntakal Junction		·0251
Increased mileage of sidings, South-West Line	1·9010	
Do. do. do North-West Line	·7005	2·6015
Total Miles...		2·6266

E1
O.W. 3882
/90

RAILWAY.

Govt. of {1890} Madras

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following papers :—

From the Consulting Engineer for Railways, dated 22nd April 1890, No. 282.

Ten copies of the Analysis of Working, Madras Railway, for the half-year ended the 31st December 1889.

Submitted to Government for transmission to the Director-General of Railways with reference to letter from the Government of India, No. 204 R.E., dated 23rd March 1888, embodied in the Proceedings of Government, No. 274 R., dated 6th April 1888.

ORDER—dated 19th May 1890, No. 688 R., Public Works.

Ordered to be forwarded to the Director-General of Railways and to the Secretary of State.

(Here enter No. 689 R., dated 19th May 1890.)

(True Extract.)

(Signed) SIDNEY SMITH, Major, R.E.,
Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
„ Examiner, Guaranteed Railway Accounts.

ENDORSEMENT—dated 19th May 1890, No. 689 R., Public Works.

Forwarded.

(By Order.)

Lieut.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

Exd. A. Aubert.
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Forwarding the — for the second half of 1889.

No. 204 R. E.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY ESTABLISHMENT.

Calcutta, the 23rd March 1888.

Amalgamation of the office of the Director General of Railways with that of the Railway Branch of the Public Works Department, and procedure in regard to work done by the Director General of Railways, on behalf of the Government of India, in connection with returns relating to Construction, Traffic, Stores, and compilation of Railway statistics generally.

Read again :—

1.—Circular No. XXXVII Ry., dated September 6th, 1881, defining the functions of the Director General of Railways and other Railway officers.

2.—Correspondence between the Secretary of State and the Government of India regarding the constitution, duties, and establishment charges of the Office of the Director General of Railways, ending with Despatch from the Secretary of State, No. 75, dated 14th July 1887.

3.—Note by the Director General of Railways on Despatch from the Secretary of State, No. 75, dated 14th July 1887.

OBSERVATIONS.—The Office of the Director General of Railways was constituted on its present footing in November 1884, but as the arrangements which were then provisionally introduced have not received the approval of the Secretary of State, the Government of India has had under consideration the alterations which it is necessary to make in order to give effect to the Secretary of State's orders. These orders contemplate a further decentralization of the executive control of Railways, and after a full consideration of the subject the Government of India has decided that the wishes of the Secretary of State can best be carried out by amalgamating the Office establishment of the Director General of Railways with that of the Railway Branch of the Public Works Department, and by transferring the control of the Tonghoo-Mandalay Extension and the Bengal and North-Western Railway, from the Director General of Railways to the Chief Commissioner, Burma, and the Consulting Engineer, Lucknow, respectively.

2. Further decentralization will probably be feasible on the completion of the North-Western Frontier Railways, but for the present it is considered advisable that the Director General of Railways should retain the executive control of this system.

3. It now becomes necessary to define clearly what will be the functions of the Director General of Railways under the proposed reorganisation. These changes will not in any way affect his duties as Deputy Secretary in the Railway Branch of the Public Works Department, but in his position as Director General of Railways he will for the future be the adviser and delegate of the Government of India in all matters connected with Railway administration.

4. In order that his duties in this respect may be effectively performed, it is essential that the Director General of Railways should communicate directly with all Local Governments and Consulting Engineers in regard to matters with which he will now deal on behalf of the Government of India.

RESOLUTION.—In future, therefore, the returns enumerated in the appendix, the majority of which have hitherto been forwarded to the Government of India, will be sent direct by Local Governments and Administrations, as well as by Consulting Engineers, to the Director General of Railways, and the corres-

pondence connected with these returns will similarly pass direct between the Director General of Railways and the Local Governments or Consulting Engineers concerned. Irregularities of any kind which may be detected by means of these returns, or inaccuracies in them which need correction, will be brought to notice by the Director General of Railways in direct communication. In the event, however, of any Local Government objecting to the decision of the Director General of Railways in connection with any of these matters, the correspondence should be forwarded to the Government of India for orders.

2. In addition to having complete control over the compilation and record of all statistics, and the reviewing of all matters connected with the traffic and working of open lines, the Director General of Railways will be vested with powers of inspection over the whole Railway system in India, and all correspondence from inspecting officers, in their capacity as such, *i. e.*, reports of half-yearly inspections, of accidents, and of inspections of lines before opening, will, for the future, be submitted to the Director General of Railways, and dealt with finally by that officer in communication when necessary, with the Government of India.

3. The Director General of Railways will also be charged with the duty of reviewing the indents for stores sent to England by Railways, whether State or Guaranteed; but with regard to the latter, his functions will be limited to giving the Companies information as to the surplus stores existing on other lines, and any further information required in connection therewith, leaving the Companies to take such further steps as may be thought advisable by them.

The Director General of Railways at present carries out this duty for State Railways, but for the future copies of all indents sent to England by the Guaranteed Railways will be forwarded by the Consulting Engineers to the Director General of Railways.

4. Besides the above functions, the Director General of Railways, in concert with the Consulting Engineer to Government for State Railways, will be recognised as the authority entrusted with the duty of preparing and issuing standard types and professional standing orders in connection with Railways.

5. As the additional powers conferred on the Director General of Railways under paragraph 2 of this Resolution will necessitate his being absent from head-quarters more frequently than at present, the Under Secretary of the Railway Branch of the Public Works Secretariat will be appointed Deputy Director General of Railways, and will have charge of the whole combined Railway office when the Director General of Railways is himself on tour.

6. This reorganisation, and the procedure consequent thereon, will come into force from the 1st April 1888.

The Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab.
The Chief Commissioners of the Central Provinces, Burma, and Assam.
The Resident at Hyderabad.
The Agents to the Governor General for Rajputana, Central India, and Baluchistan.
The Director General of Railways.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow, and Central Division.

ORDER.—Ordered that this Resolution be forwarded for information and guidance, to the Local Governments, and Administrations, and to the Officers noted in the margin.

Ordered also that a copy be forwarded for information to the Accountant General, Public Works Department.

R. C. B. PEMBERTON, *Colonel, R. E.,*

Secretary to the Govt. of India.

Document accompanying.

Appendix referred to in para. 1 of the Resolution.

Government of India Central Printing Office.—No. 1332 P. W. D.—24-3-88.—800.

Appendix to P. W. Dept., Resolution No. 204 R. E. of 1888.

List of Returns of all State Railways to be forwarded by Local Governments and Administrations and by Consulting Engineers direct to the Director General of Railways.

Weekly.

1.—Approximate Statements of Traffic.
2.—Audited Statements of Traffic.
3.—Minutes of Meetings of all Railways,* State and Guaranteed.

Monthly.

4.—Statements of Fluctuations of Goods Traffic.

Quarterly.

5.—Returns of Accidents.
6.—Supplementary Statements of Traffic.
7.—Narrative Progress Reports in Form B.
8.—Lists of Additions and Alterations to lines and works.

Half-yearly.

9.—Revenue Accounts.
10.—Analyses of Working.
11.—Establishment Rolls and Working Estimates for all Railways.*

Yearly.

12.—Administration Reports, Parts I and II.
13.—Feeder Roads Map.
14.—Numerical and Casualty Returns.
15.—Strength and Cost of Police.
16.—Training of Native Drivers.
17.—Statements of Schools.
18.—Statements of Sleepers.
19.—Returns of Stores in Stock on all Railways.*
20.—Reviews of the Transactions of Fine Funds on State Railways.

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* Not applicable to private Companies.

Government of India Central Printing Office.—No. 1332 P. W. D.—24-3-88.—800.