M.R.O. 1—10,006—28-2-50.

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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public works. DEPARTMENT

G.O. No. 1837-38 Press
B.P. ~~No.~~ ~~Mis.~~
155-157

Dated 9-7-1874 ~~195~~ .

Not to be folded or roughly handled

No. 155. 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, 2nd June 1874, No. 329 :—

In compliance with the instructions contained in the Order of Government, dated the 14th April 1874, No. 967, I have the honour to forward, for submission to the Government of India, certain letters* from the Agents of the Railway Companies in this Presidency, upon the subject of the comparative advantages of covered and open wagons.

* From Agent, Madras Railway, No. 446, 21st May 1874.
Do. do. do. 478, 1st June 1874.
From Agent, Great Southern of India Railway, No. 5,493, 27th April 1874.

2. Taking in their order the points noted by the Government of India, it will be seen that upon both Railways the cost of covered wagons is 45 per cent. in excess of the cost of open wagons. Upon the Madras Railway the difference of cost in favour of the last named vehicles is Rupees 721, and upon the Great Southern of India Railway Rupees 651.

3. Upon the Madras Railway the annual cost of tarpaulins used for open wagons, taking the average of the net four years, is Rupees 35,620. Upon the Great Southern of India Railway, it is explained that tarpaulins are rarely in use, none having been issued during the last four years.

4. The proportion of goods capable of being carried in covered wagons, as compared with the total quantity carried, is, upon the Madras Railway, from 80 to 85 per cent.; and, upon the Great Southern of India Railway, 90 per cent. It is, however, explained that, in the case of the latter railway, the per-centage has not been calculated upon the whole of the goods traffic : and it may be assumed that, upon both lines, about 80 per cent. of the entire goods traffic could be conveyed in covered wagons.

5. Upon the Madras Railway the bulk of the goods traffic has always been carried in open wagons, and the Traffic Manager explains at considerable length the reasons which have induced him to prefer open to covered wagons. He sums these reasons up as follows :—

(1.) Cheaper cost of construction and maintenance.
(2.) Greater carrying capacity.
(3.) The best safeguard against empty wagon mileage.

6. Upon the Great Southern of India Railway, where covered goods wagons are almost exclusively used, the Agent explains that they have been adopted, not so much on account of the greater protection given against fire and rain, as for the security against theft, by having every door locked.

7. I have for years past given careful consideration to this question, and have repeatedly discussed it with the Railway Authorities. My opinion is that, so far as this Presidency is concerned, the balance of advantage is in favour of open wagons. There can be no doubt that each of the three points quoted above tells strongly in their favour. Upon the other hand, I am inclined to agree with Mr. Betts that covered wagons afford greater security against theft than open wagons ; and this, even when the tarpaulins placed over the latter are carefully

sealed, as is done on the Madras Railway. As regards protection against fire and rain, I do not think there is much difference between covered and open wagons. I agree with Mr. Church in the opinion that fires are generally caused by sparks and cinders from the ash-pan of the engine coming into contact with the lower timbers of wagons.

8. In connection with this subject, I beg to draw attention to the papers printed with the Proceedings of Government under date the 15th September 1871, No. 2,337.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 21st May 1874, No. 446.

ADVERTING to your letter No. 348, of the 20th ultimo, I have the honour to enclose you a copy of the Traffic Manager's letter, No. C/$\frac{311}{919}$, of the 18th instant, in which he reports fully upon the comparative advantages of covered and open wagons for the conveyance of goods upon this Railway, with reference to the three points mentioned by you. The report alluded to by Mr. Church in the last paragraph of his letter was forwarded to you with this office letter No. 448 of the 25th of July 1871.

2. I have nothing to add to the observations made by the Traffic Manager except to say that I quite concur in the conclusions at which he arrives, and that I have long been of opinion that open wagons are far better suited for the working of this railway than covered ones.

From H. E. CHURCH, Esq., Traffic Manager, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Madras, 18th May 1874, No. C/$\frac{311 \text{ A \& M}}{919}$.

Comparative advantage of Covered and Open Wagons.

CONSULTING Engineer's letter No. 348, dated 20th April.

The average cost, as furnished by the Locomotive Superintendent, of an open wagon is Rupees 1,596, and of a covered wagon Rupees 2,317. In other words, the covered wagon costs 50 per cent. more than the open wagon.

2. The annual cost of tarpaulins used for open wagons, taking the average of the last four years, is Rupees 35,620.

3. The proportion of goods capable of being carried in covered wagons as compared with the total quantity carried is from 80 to 85 per cent.

Comparing the cost of the open wagon stock of the Madras Railway with the cost of covered stock, we have the following result :—

			Rs.
1,857 open wagons at	...	Rupees 1,596 =	29,63,772
3,714 sheets or tarpaulins at	...	,, 40 =	1,48,560
			31,12,332
1,857 covered wagons at	...	,, 2,317 =	43,02,669
		Difference...	11,90,337
The interest at 5 per cent. on this difference is	...	... ...	59,516
From which must be deducted the annual cost of tarpaulins		...	35,620
Leaving an annual saving in favour of open wagons of Rupees		...	23,896

This however is not the only advantage of open over covered wagons, and, although only called upon to answer the questions contained in the Consulting Engineer's letter, I venture to hope that the following figures will not be held altogether valueless in considering this very important question.

Proceedings of the Madras Government, Public Works Department,
9th July 1874.

4. In the opinion of the Locomotive Superintendent, the maximum weight that can with safety be placed on four axles, of the description used for the open wagon stock on this line, is 14 tons. The tare of an open wagon is tons 5-6-2 and of a covered wagon tons 6-3-1. Therefore the maximum paying load of an open wagon is tons 8-13-2, and of a covered wagon tons 7-16-3, or a difference in favour of the open wagon of nearly 11½ per cent. In the case of the covered wagons used on the Madras line, the paying load is only from 5½ to 6 tons, in consequence of the peculiar character of the springs. It is not difficult, then, to see how very greatly the haulage is economised by the use of open wagons instead of covered wagons. This may be illustrated in the following manner. The maximum load of 75 of our engines, out of a total stock of 126 engines, say from Madras to Jollarpett, is 25 open wagons, and the carrying capacity of these wagons is tons 216-17-2, while the same number of covered wagons similarly constructed as to springs would only carry tons 195-18-3, or tons 20-18-3 less than the open wagons, equivalent to, say, three wagon loads, or very nearly one train load per week. Practically it would be a train load per week, as traffic could not be detained longer than a week. Supposing one daily goods train only were run in each direction throughout the line, the effect of this weekly extra train in cost of working would be as follows :—

The distance from Madras to Jollarpett is 132 miles, therefore the annual mileage of one train per week in each direction would be $132 \times 2 \times 52 = 13,728$ train miles, and in proportion for 858 miles (the total length of line) would be 89,232, the engine cost of which would alone be Rupees 55,770, to say nothing of wages of guards and other incidental expenses, and the interest on money for an increased number of covered wagons.

5. It will also be understood that the haulage of covered wagons must be very much more costly, more particularly in windy weather, than that of open wagons, which are not so high, and do not therefore present so great a surface to head or side winds.

6. The advantage of open over covered wagons is still more marked where the character of the traffic in one direction is totally different from the character of the traffic on the return journey. Where covered stock is principally used, a large empty wagon mileage is unavoidable, first, in returning "empty" the covered wagon not suitable for return traffic, and, secondly, in hauling the open wagon one way "empty" to take back the return load; while an open wagon will carry any description of traffic from a bag of rice to a log of timber or a load of iron rails, and by the use of it all this empty wagon mileage is saved. It may be useful here to mention that the Madras and Great Southern Railways would probably have lost, last year, the haulage of the Nizam's State Railway material between Negapatam and Raichore, a distance of 677 miles, but that the Madras Company was in a position with its open wagon stock to fulfil the most important condition imposed by the Chief Engineer of the State Railway, viz., a very rapid rate of delivery in order to complete delivery before the floods in the Kistna river set in. This rapid rate of delivery necessitated the employment of a much larger number of open wagons than any Company, using covered stock, would probably have been in a position to supply. These open wagons instead of running "empty" one way, were utilized in carrying merchandise of all descriptions on the return journey, and in this way "empty wagon mileage" was reduced to a minimum.

7. It has been said that covered wagons afford better protection against rain than open wagons sheeted with tarpaulins, but I think this is greatly over-estimated; indeed, in practice it is found that the roof of the covered wagon always exposed to the weather is liable to crack, and this defect escapes observation until damage has actually taken place; whereas the tarpaulins are subjected to careful examination each journey before they are used, and if found defective are returned to stores for repair.

8. The principle advantages of open over covered wagons may be said to consist in

1*st*.—Cheaper cost of construction and maintenance.

2*nd*.—Greater carrying capacity.

3*rd*.—The best safeguard against empty wagon mileage.

9. My report No. 68-274, dated 14th July 1871, on a Circular from the Government of India, Public Works Department, dated 11th January 1870, No. 1, bears upon this question.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 1st June 1874, No. 478.

With reference to your letter of the 22nd ultimo, No. 483, I have the honour to enclose you a copy of the Traffic Manager's letter of the 26th idem, No. C/$\frac{413}{423}$, in which he expresses his opinion as to the comparative advantage of open and covered goods wagons in regard to protection from rain, fire, and loss by theft.

2. I quite think with Mr. Church that in all these respects the advantage lies with the open wagon.

From H. E. CHURCH, Esq., Traffic Manager, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Madras, 26th May 1874, No. C/$\frac{413\ A\ \&\ M}{423}$.

Comparative advantage of Open and Covered Wagons.

Consulting Engineer's letter No 483, dated 22nd instant.

In paragraph 7 of my letter No. C/$\frac{311}{919}$ of the 18th instant, I expressed an opinion in favour of sheeted open wagons as regards protection from "rain." In respect of "fire" I do not think there is much difference, if, as I believe, fires are as rule due to sparks from the ash-pan of the engine coming in contact with a defective flooring board in a wagon, which may occur to either covered or open stock.

2. It is difficult to devise any plan to guard completely against theft, but I am inclined to think that, as a covered wagon could be more easily opened than the numerous ties of a tarpaulin, the former would be tried first, if a covered wagon and a sheeted open wagon were standing together.

3. The ties of all tarpaulins covering loaded wagons are sealed on this line, with the best results, for although we are not entirely free from theft, there can be no doubt that the practice of sealing has a deterrent effect on subordinate servants who are really the thieves.

From W. S. BETTS, Esq., Agent of the Great Southern of India Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Negapatam, 27th April 1874, No. 5,493.

Your letter No. 183 of the 20th instant. The following figures are a reply to your first question and give the relative estimated cost of open and covered goods wagons:—

	Broad gauge.	Metre gauge.
	RS.	RS.
Covered Goods Trucks	2,100	1,280
Open Trucks	1,449	950

2. With regard to the second question, the cost of the tarpaulins used annually for open wagons, I have to state we rarely use tarpaulins on this line, and that none have been issued to the Traffic Department since August 1870.

3. In answer to the third query, I estimate that 90 per cent. of our general merchandise traffic is capable of being carried in covered goods wagons; this calculation does not include the conveyance of construction material for railway purposes, nor the conveyance of laterite for road-making purposes in the Public Works Department.

4. For general merchandise traffic we have adopted the covered goods truck in preference to the open truck and tarpaulin, not so much on account of the greater protection it gives against fire and rain, as for the security we possess against theft by locking each door.

No. 156. Order thereon, 9th July 1874, No. 1,837.

RAILWAY, No. 15.

Ordered that these papers be communicated to the Government of India with reference to their letter of the 18th March 1874, No. 578. The papers referred to in paragraph 8 of the Consulting Engineer's letter were forwarded with docket No. 2,338 of 15th September 1871.

(Here enter No. 1,838, dated 9th July 1874.)

(True Extract.)

Colonel, R.E.,
Secretary to Government.

Proceedings of the Madras Government, Public Works Department, 9th July 1874.

To the Consulting Engineer for Railways.

Exd. S. T. Austin.
Spare Copies

Govt. of 1874 Madras

PUBLIC WORKS.

To

THE CONSULTING ENGINEER

for RAILWAYS

Dated July 9th.

Rect. Encl.

G. O. 9th July 1874, No. 1,837.

JULY

Nos. 155-156

Wagons.—Ordered that the papers submitted by the Consulting Engineer for Railways reporting upon the subject of the comparative advantages of covered and open wagons be forwarded to the Government of India.

PUBLIC WORKS DEPARTMENT,
OOTACAMUND, *9th July* 1874.

No. 157.

No. 1,838.

FROM

COLONEL G. W. WALKER, R.E.,
Secretary to the Government of Madras,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

RAILWAY, No. 16.

SIR,—I am directed to acknowledge the receipt of your letter of the 18th March 1874, No. 58 G. R., suggesting the thorough investigation of the comparative advantages of covered and open wagons with reference to certain specified points, and in reply I am to forward, for the consideration of the Government of India, the accompanying reports from the authorities of the Madras and Great Southern of India Railways, and a covering letter from the Consulting Engineer in which the conclusions arrived at are concisely summarised. The balance of advantage appears, in the opinion of His Excellency the Governor in Council, to be in favour of open wagons sheeted with tarpaulins.

2. In connection with this question I am also to invite the attention of the Government of India to the papers transmitted with docket No. 2,338, as further elucidating the third point involved in the consideration of the question, viz., the carrying capacity of the various forms of wagon stock in use.

I have the honour to be,

Sir,

Your most obedient servant,

Colonel, R.E.,

Secretary to Government.

Exd. S. T. Austin.

Spare Copies

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 329

From

LIEUT.-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.

Fort Saint George.

Enclosures - 5

SIR,

In compliance with the instructions contained in the Order of Government dated the 14th April 1874, No. 967, I have the honour to forward, for submission to the Government of India, certain letters* from the Agents of the Railway Companies on this Presidency, upon the subject of the Comparative advantages

* From Agent, Madras Railway, No. 1146 - 21st April 1874.
" " Do. Do. 1178 - 24th " "
From Agent, Great Southern of India Railway, No. 543 - 25th April 1874.

advantages of covered and open wagons.

2 Taking, on this order, the points noted by the Government of India, it will be seen that, upon both Railways, the cost of covered wagons is 115 per cent in excess of the cost of open wagons. Upon the Madras Railway the difference of cost in favour of the last named vehicle is Rupees 721, and upon the Great Southern of India Railway Rupees 651.

3 Upon the Madras Railway the annual cost of tarpaulins used for open wagons, taking the average of the last four years, is Rupees 35,620. Upon the Great Southern of India Railway, it is explained that tarpaulins are rarely in use, none having been issued during the last four years.

4 The proportion of goods capable of being carried in covered wagons, as compared with the total quantity carried, is, upon the Madras Railway, from 80 to 85 per cent; and, upon the Great Southern of India Railway, 90 per cent. It is however explained that, in the case of the latter railway, the percentage has not been calculated

calculated upon the whole of the goods traffic: and it may be assumed that, upon both lines, about 80 per cent of the entire goods traffic could be conveyed in covered wagons.

5. Upon the Madras Railway the bulk of the goods traffic has always been carried in open wagons, and the Traffic Manager explains at considerable length the reasons which have induced him to prefer open to covered wagons. He sums these reasons up as follows:—

(1) Cheaper cost of construction and maintenance.

(2) Greater carrying capacity

(3) The best safeguard against empty wagon mileage.

6. Upon the Great Southern of India Railway, where covered goods wagons are almost exclusively used, the Agent explains that they have been adopted, not so much on account of the greater protection given against fire and rain, as for the security against theft by having every door locked.

7. I have for years past given careful consideration to this question, and have repeatedly discussed it with the Railway Authorities. My opinion is that, so far as this Presidency is

is concerned, the balance of advantage is in favour of open wagons. There can be no doubt that each of the three points quoted above tells strongly in their favour. Upon the other hand I am inclined to agree with Mr. Betts that covered wagons afford greater security against theft than open wagons; and this, even when the tarpaulins placed over the latter are carefully sealed, as is done on the Madras Railway. As regards protection against fire and rain, I do not think there is much difference between covered and open wagons. I agree with Mr. Church in the opinion that fires are generally caused by sparks and cinders from the ash-pan of the engine coming into contact with the lower timbers of wagons.

8. In connection with this subject I beg to draw attention to the papers printed with the Proceedings of Government under date the 15th September 1871, No. 2337.

I have the honour to be,

Sir,

Your most Obed. Servant,

Madras
2nd June
1874

Lieut. Col.
R.E.

Cons. Engr. for Railways

4

No. 446

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 21st May 1874

From

R. B. Elwin Esqre

Agent and Manager of the M. R. Co.

To

Colo. J. Hell Thos. Stewart, R.E.

Consulting Engineer for Railways.

SIR.

Adverting to your letter No 348 of the 20th ultimo, I have the honour to enclose a copy of the Traffic Manager's letter No 311/919 of the 18th inclosing a statement fully upon the comparative advantages of covered and open waggons for the conveyance of Coal upon this railway with reference to the three points mentioned by you. The Report alluded to by Mr Brunel in the last paragraph of his letter was forwarded to you with this Office letter No 448 of the 25th of July 1871.

2. I have nothing to add to the observations made by the Traffic Manager except to say that I quite concur in the conclusions at which he arrives, and that I have long been of opinion that open waggons are far better suited for the working of this Railway than covered ones.

I have the honour to be,

Sir,

Your most obedient Servant

R. B. Elwin

P. W. D. 1874 Sept.

Public Works Department.

Railway Department.

No. 3330

From

The Consulting Engineer

for Railways,

To

The Secretary to Government,

P. W. Department,

Fort Saint George.

Dated 2 June 1874.

Read 4 June 1874.

No. 329

Enclosure.

Ltr. Dpt: 1837. 6-6-74.

Submitting letter &c

Relative to the comparative advantages of Open & Covered Goods Waggons

Explanation when the Traffic is carried in Open Waggons instead of Covered ones

Acct. of Mileage &c

Madras Railway,
Draftsmen's Drawing Office,
Madras 16th May 1874.

The Agent and Manager,
Royapooram.

Dear Sir,

Comparative advantages of Covered and open Wagons.

Comm. Engineer's letter No 948 dated 20th April.

1. The average cost, as furnished by the Locomotive Superintendent, of an Open Wagon is Rs 1596 and of a Covered Wagon Rs. 2317. In other words the Covered Wagon costs 50 per cent more than the Open Wagon.

2. The average cost per Ton of Sundries carried per Open Wagon, taking the average of the last 4 years is Rupees 35.620.

3. The proportion of goods capable of being carried in Covered Wagons as compared with the total quantity carried is found to be 65 per cent.

Comparing the cost of the Open Wagon stock of the Madras Railway with the cost of Covered stock, we have the following result.

1057 Open Wagons at Rupees 1596 =	29.63.772	
3714 Sheets Sundries 110 =	1148560	3112332
1057 Covered Wagons at " 2317 =		4302669
Difference		1190337
The interest at 5 per cent on this difference		59516
from which must be deducted the annual cost of Sundries		35620
leaving an annual saving in favor of Open Wagons of Rupees		23896

Dated 21st May 1874
Recd. 22
No. 446.

Returning herewith the comparative advantages of covered and open wagons.

No. 3330/74
5-/74

Note No. 1 dated 22 May 1874

This however was the only advantage of open over Covered Wagons, and, although only called upon to answer the questions contained in the Consulting Engineer's letter, I venture to hope that the following figures will not be held altogether valueless in considering this very important question.

4. In the opinion of the Locomotive Superintendent the maximum weight that can with safety be placed on four axles, of the description used for the open wagon stock on this Line, is fourteen (14) Tons. The tare of an open wagon is Tons 5.6.2 and of a Covered Wagon Tons 6.3.1. Therefore the maximum paying load of an open wagon is Tons 8.13.2, and of a Covered wagon Tons 7.16.3, or a difference in favor of the open wagon of nearly 11½ per cent. In the case of the covered wagons used on the Madras Line, the paying load is only from 5½ to 7 tons, in consequence of the peculiar character of the springs. It is not difficult then to see how very greatly the haulage is economised by the use of open wagons instead of Covered wagons. This may be illustrated in the following manner. The maximum load of 75 of our Engines, out of a total stock of 126 Engines, now from Madras to Jollarpett is 25 open wagons, and the carrying capacity of these wagons is Tons 216.17.2 while the same number of Covered Wagons similarly constructed as to springs would only carry Tons 195.18.3, or Tons 20.18.3 less than the

for the paying capacity of 3 wagons fully
loaded on four wheels per
pair. Practically it would be a waste
of labor for such as these could not be
detained longer than a week happening
on daily goods trains only were run in
each direction therefore the line, the
effect of the trouble to Trains, in each
case being would be as follows
the detention of the Trains would
fall as follows, therefore the annual open
wagon mileage of one Train journey in each
direction would be 122 × 2 × 52 = 12720 Train
miles and the total for 100 miles (the
total length of line) would be 1272000, the
Open wagon mileage would also be 855720,
leaving a difference of 416280 and other
wagon mileage the interest on
the number of Covered

It will also be understood that
the haulage of Covered wagons must be
very much more costly, more particularly
in windy weather, than that of open wagons,
which are not so liable and therefore ex-
posed to expose as Head on side
Winds

The advantage of open over covered
wagons is still more where the
character of the traffic in one direction is
totally different from the character of the
traffic on the return journey. Where covered
wagons are generally used, or largely empty
wagons would be unavoidable, if in returning

fly
in
wagon
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ation
loaded,
to
fore
and
open
wagon
ly
to
to

"Empty" the covered wagon not suitable for return Traffic and 2ly in hauling the open wagon one way "Empty" to take back the return load; while an open wagon will carry any description of Traffic from a Bag of Rice to a log of Timber or a load of Iron Rails, and by the use of it all this Empty wagon mileage is saved. It may be useful here to mention that the Madras and Great Southern Railways would probably have lost, last year, the haulage of the Nizam's State Railway material between Chepauteum and Raichore, a distance of 67 miles, had the Madras Company worn in a position with its open wagon stock to fulfil the most important condition imposed by the Chief Engineer of the State Railway, viz a very rapid rate of delivery in order to complete delivery before the floods on the Kristna River set in. This rapid rate of delivery necessitated the employment of a much larger number of open Wagons than any Company, using Covered stock, would probably have been in a position to supply. These open wagons, instead of running "Empty" one way, were utilized in carrying Merchandise of all descriptions on the return journey, and in this way "Empty wagon mileage" was reduced to a minimum.

7. It has been said that Covered wagons afford better protection against rain than open wagons sheeted with Tarpaulins, but if there is greatly overstated, and experience has found that the roof of the covered wagon always opened to the weather is liable to crack and the depth or age of a heavy rain fall actually taken place, when the Tarpaulins are subjected to careful examination each journey before and after, and if found defective are returned to store for repair.

8. The principal advantages of open over Covered wagons may be said to consist in
1. Simplicity of construction and maintenance
2. Greater Carrying capacity
3. Absence of fixed open & empty wagon mileage

all of which tend to a reduction in the cost of transportation.

I am, Sir,
Your faithfully obt. Servt.
for G.I.P. Railway Co.
Traffic Manager.

Chief Engineer
Kistna Valley Railway.

Dated 14th July 1871 in answer to Circular from the Government of India P.W.D. dated 11th January 1870 on the same subject.

No. 4785.

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 1st June 1874.

From

R. A. Mann Esqre

Agent and Manager of the M. R. Co.

To

Lieut. Col. Hall R.E.

Consulting Engineer for Railways.

Sir,

I have the honour to acknowledge the receipt of your letter of the 23rd ultimo, and to forward herewith a copy of the Traffic Manager's letter of the 15th ultimo and of the accompanying abstract of the Receipts and Expenditure of the Railway for the month of April last.

I have the honour to be
Sir
Your most obedient Servt

R. A. Mann

Agent & Manager.

M. 3330/74

Rec'd Dublin 4th June 1874
Ans'd 5th June 1874

No. 3330/74.

Dated 1st August 1874

Recd. 2nd " "

No. 4998

Regarding the arrangements adopted on the Madras Railway for the conveyance of Covered Waggons

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Madras Railway
Traffic Managers Office
Madras 25th May 1874

The Agent and Manager
Bezwada

Dear Sir

Comparative Advantages of Open & Covered Waggons
Consulting Engineers letter No 1253 dated 22nd instant

In paragraph 7 of my letter C/311/919 of the 12th instant I expressed an opinion in favor of shuttered Open Waggons as regards protection from theft, the readiest offers. I do not think there is much difference, if any, as I believe fires are as a rule due to sparks from the ash-pan of the Engine coming in contact with a defective flooring Board in a Waggon, which may occur in either covered or open stock.

It is difficult to devise any plan to guard completely against theft, but I am inclined to think that as a Covered Waggon could be more easily opened than the numerous ties of a Tarpaulin the former would be tried first if a Covered Waggon and a sheeted open Waggon were standing together.

The ties of all Tarpaulins covering loaded Wagons are sealed on this Line, with the best results, for although we are not entirely free from theft, there can be no

doubt that the practice of sealing has a deterrent effect on subordinate servants who are really the thieves.

Yours faithfully
(signed) H. E. Church
Traffic Manager

True Copy

H. E. Church
Agent and Manager

M. 3330/74.

Sept. 1874

No. 5293 GREAT SOUTHERN OF INDIA RAILWAY.

AGENT'S OFFICE,

NEGAPATAM, 27th April 1874.

From

THE AGENT,
Great Southern of India Railway.

To

The Locomotive Engineer
for Railways
Madras

SIR,

With your letter No 180 of the 21st instant
the following figures are a reply to your
first question and give the relative
total number of open and covered goods
wagons

	5'6" gauge.	Meter gauge
Covered Goods Trucks	Rs 2100	Rs 1280
Open Trucks	1449	950

With regard to the second question
the cost of the carriages used annually
for open wagons. I have to state that
exactly the same carriages on this line, and
that none have been issued to the Traffic
Department since August 1870.

In answer to the third query,
I estimate that 30 per cent of our general
merchandise traffic is capable of being
carried in covered goods wagons - this
calculation does not include the conveyance of

1937

Public Works Department.

Proceedings of the Madras Govt
Read the following

Proc.no
the Coast Engr for Railways/ No E 40 329 - dated
2d June 1874

Ordered that these
papers be commu-
-nicated to the Govern-
-ment of India with
reference to their letter of
the 18th March 1874
No. 578 - the papers
referred to in para 8
of the Govt's letter
were forwarded with
Govt Ref No. 2338 of 15th
September 1871.

18. E. No. 1838 dated

To

To the Govt Engineer
for Railways
S. Capt dep. 14/7/74.

GREAT SOUTHERN OF INDIA RAILWAY.

No. .....

AGENT'S OFFICE,

NEGAPATAM, 18

From

THE AGENT,

Great Southern of India Railway,

To

SIR,

Mr 3330/74

Please keep
the enclosed card of Mess
until receipt of
way bill

No.

The Secretary to the Govt.
of India S.F. No.

Sir, I am directed to
acknowledge the
receipt of your letter
of the 18th March 1874
No. 678 P.R. suggesting
the thorough investi-
gation of the com-
parative advantages
of covered and open
waggons with reference
to certain specified
points, and in reply
I am to forward for the
consideration of the
Govt. of India, the
accompanying Reports

from
the balance of advantage
appears in the opinion of
His Excellency the Governor
in Council to be in favor
of open waggons
with tarpaulins

from the authorities
of the Madras and Great
Southern of India
Railways and a covering
letter from the Con-
-sulting Engineer
in which the conclu-
-sions arrived at
are concisely summa-
-rised.

In connection with
this question I am also
to invite the attention
of the Govt. of India
to the papers transmitted
with Govt. Rel. No. 2338
as further elucidating
the third point involved in the con-
-sideration of the
question, viz, the

carrying capacity
of the various forms
of Waggon stock in
use. The decrease
arising from
the shifting or
falling off of
light high piled
loads in open
Waggons, espe-
cially on nar-
row Passage Lines,
increasing through
Districts of good
Roads with
Western Rail-
road, is a cir-
cumstance that
has not been al-
luded to in the
Correspondence
now submitted;
but is one never-
theless which,
in the opinion
of N. S. The S. in L.,
should be taken
into consideration.
from - 155-157.

Q. 22nd June 74
Cir 19/6/74 Rec 19/6/74 Canal

6 d. Copies & 30 Copies of previous
Proceedings dispd 14/7/74

3330

Govt. of 1874 Madras.

PUBLIC WORKS.

To

Recd.

Encl. 5

Rep. 9 July 1874. No. 1831

1838

Nos. 155 W 157. V

1

Forwarding for con-
sideration reports from
the Authorities of the
Madras and Great Sn
and a covering letter from the Consrs
of Indian Railways re-
porting upon the subject
of the comparative
advantages of covered
and open wagons as
inviting attention to
papers transmitted
with Docket No. 2338
regarding the carrying
capacity of the various
forms of wagon stock
in use—

Wagons - Ordered
that the papers sub-
mitted by the Consrs
for Railways, reporting
upon the subject of the
comparative advantages
of covered and open
wagons be forwarded
to the Govt of India—