Public Works (1895) Departme

G.O., No. 365/A, 366R

DATED 23rd May

[Despatch Abstract.]

Lines of Railway :- Observations of the Govt. of India be addressed on the subject of the proposal — as valuable feeders to the Madras Railway system and as falling within the scope of that Railway's administration.

Furnishing opinion on the subject of the proposals as valuable feeders to the Madras Railway system and as falling within the scope of that Railway's administration.

[P.W.D. 1,100—3-11-95.]

Indexed.

BACK PAPERS.

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

FURTHER PAPERS.

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

Form No. 6.

Original in Colombo Secretariat Office

OFFICE OF THE CONSULTING ENGINEER FOR RAILWAYS.

Madras. 30th March 1894

To

AGENT AND MANAGER, M. R.

No. 1031 Reply No. , dated

Reminders.

Subject.

SIR,

With reference to the concession for a line from Shoranur to Cochin and Calicut to Cannanore proposed by Mr Sale, I have the honour to forward copy of 287 R.C. of Govt of India and request you will enable me to reply to para 6 and 7.

I would also seek for an early reply to my 763 of 5th March. How that the survey is finished & complete it would assist me if you could supply me with an index plan of this route as well.

Lt Col Hall.
29.3/94.

Form No. 4.

Original in Collector's Office

62

OFFICE OF THE CONSULTING ENGINEER FOR RAILWAYS,

Madras 4th May 1896.

To

AGENT AND MANAGER, M. R.

No. 1437 Reply No. , dated

SIR,

I have the honour to request the favour of an early reply to my letter No. 1031 dated 30th March 1896 regarding Mr Gale's proposals for a line from Shoranur to Cochin & Calicut to Cannanore.

Dats F. R.ll.

Reminders.

Subject.

Original in Calicut Commercial Case

Note

on Gales project for extension of the Madras Railway.

Calicut. Cannanore
Shoranur. Cochin

Sir Frederick the Governor
Hon Mr. Robertson
Hon Mr. Grose

In this file will be found another instance of the issue of letters by the Railway Branch of the P.W.D. on important projects without circulation to the members of Govt. Letter No. 253.C of Jan 29. 1897 did not issue until more than two months after I joined the Govt. but although it committed the Govt. to a definite approval of certain railway schemes of importance, I never saw it or heard of it until this file reached me 2 or 3 days ago. Not so far as I can see, did the Hon. Mr. Grose see the papers. If so happens that I agree to a great extent with the conclusions stated in that letter, but that does not affect the question of principle. I trust I may not again have to make complaints of this kind.

As to the two lines, Calicut to Cannanore & Shoranur (?) to Cochin, I think the Govt. should support the proposals for their construction as energetically as possible. I do not think that it can be doubted that they will pay. But this very fact raises a doubt whether a concession for their construction should be given to Mr. Gale. Both the Govt. & the Madras Ry Co can borrow money at little if at all over 3%. Why should such companies do & make these railways & get the profits, instead of leaving them to Mr. Gale?

As regards the branch from Shoranur (or Pattambi) to Cochin I think great caution will be necessary before Cochin is decided on as the ultimate terminus.

The Govt of India by their G.O.C of 20th March 1894 consider the 2 projects favorably, but before granting the concession asks for more information as to their Cost & prospects

Calicut-Cannanore. The Madras Railway on being asked to express an opinion on this line, take the yearly receipts of this line from Ottapalam to Calicut as a guide. The mileage is 61½ & the total receipts are 14,10,665 for the year ending June 1893. Their survey - an approximate one gives

Calicut-Tellicherry 43½ miles estimated to Cost - 37,22,504 and
Tellicherry-Cannanore 12 miles
Costing 18,00,000 that is
55½ miles Costing 55,23,000
By reducing their receipts for 61½ miles in the proportion of $\frac{55\frac{1}{2}}{61\frac{1}{2}}$ the total receipts are 12,73,000 which (taking their working expenses at 50% to which figure they are

Govt,

Pr

now, nearly three quarters 1½ per cent on the Capital Cost

The Chief Auditor's figures quoted in the Engineer's Report give however 6.136 per Cent. based on the Caliend extension. But here the Agent allows nothing for the present steamer traffic between Caliend & Cannanore nor for the canal which goes from Caliend to Badagara 13 miles from Tellicherry, as referred by Mr Bradley, Collector of Malabar in his 69 of 3rd May 1894 Board of Revenue.

The Resolution thereon says that the inference drawn by comparing the Caliend extension would probably be misleading

The visible traffic is given at only 5,000 maunds monthly carried by road & canal between Caliend & Tellicherry. This would only yield about 1000/- a year at 3 pie rate but the Collector says the passenger traffic would be heavy according to the estimates

By "Cochin" in this connection must I presume be understood some spot near Cochin on the Northern side of the mouth of the Cochin river. But if the railway is to end there, how can it be extended Northwards without a bridge over the mouth of the river which is both deep & navigable? And will such a bridge be possible at any reasonable cost? It strikes me that Ernaculum is a better place for the Southern termini of the proposed line than Cochin, because extension thence to the South will be easier. I doubt if this point has been looked into. I think it should be.

(Sd) H. W. B.
21.5.94

All members of Govt should have a voice as regards such projects as these. Sir H Stokes & Mr Logan have the point before them. Mr Gale's proposals, but time is wanting to show how they would have regarded any further information before Govt when G.O 20 Dated 94.263 was passed, except that they would probably have permitted to support the coast line from Caliend Northwards. The complete papers ought to have been circulated to the Hon Mr Rivaz & myself before orders were passed.

I agree with my Colleagues that both lines should be supported. The Cochin terminus should be carefully considered. We are committed to Mr Gale

(Sd) L. G.
22.5.94.

I suppose these figures are for the whole system, which passes through large tracts which are only sparsely populated & can hardly be used as a basis for comparison with the proposed line, which passes thro' a tract bearing a population of over 1000 to the square mile in the richest parts. While it will also serve a large commercial politics

(Sd) W.
15.5.97

estimates the line will cost in round numbers 1 lac per mile. Taking working at 50% it must earn 1500 per mile to pay 4% on Capital and assuming passengers pay 2 pies per mile and goods 10 pies per ton mile it must carry daily over 1000 passengers and 2 ton of goods.

The Madras Railway Carries an average (on last ½ years Revenue Accounts) 1000 passengers daily per mile and 500 tons of Goods. These figures are I believe Correct but will be referred to the Agent to check.

Shoranur-Cochin line

Mr Bradley states that he cannot give any fair estimate of traffic and the Political Resident has not replied to my letters asking for statistics.

but as this line also has been estimated to cost 1 lac per mile - the traffic in goods registered by Mr Bradley being 463 tons per week - the prospect is very good. as far as

goods

goods are concerned.

I suggest therefore that I should be informed that the Agents figures are not likely to be arrived at on the 2 lines which will be in competition with the Ocean steamers and Canals along the Coast but on the basis of my figures per mile per week. They will be likely to earn 4 per cent on the Capital cost.

Yes.

Put attention should be called to the Collector's remarks as to the keen competition both by sea & Canal, and the likelihood of the railway being preferred to either. Landing & shipping are difficult always at Cannanore, Tellicherri & Calicut and almost impossible for some 4 months every year, while the Canal does not afford direct Communication between Calicut & Tellicherry as it stops 13 miles North of Tellicherry. This Competition need not therefore I think be considered serious.

Fred D
15 May 94

Encl. F.R.W
14.5.94.

R. Form No. 12.

Circulate
H.E. the Gov in Council
Hon: bur Bliss
Hon bur Grose.

Mr Secretary's Collection
Commercial Case

No.

Government of Madras.

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

To

The Secy. to the Govt. of India,
P. W. Department.

_____ 189 .

Sir,

In reply to your 257 R.C. of 20th March 94, I am directed to forward copies of Roc. 5290 of 10th and 16th May with enclosures from the Agent of the Madras Railway on the prospects of the Calicut-Cannanore and the Palghat or Shoranur Cochin railways.

An appropriate plan resumable has been made by levelling the road from Calicut to Tellicherry. The result being that the line Calicut to Tellicherry

43½

Sent H.W.B
8/6/94
Sent H 9/6/94

43½ miles is estimated to cost Rs 37,22,500 and Tellicherry to Cannanore 12 miles is estimated to cost Rs 18,00,000 being a total of 55½ miles estimated to cost Rs 55,22,500. The traffic manager has his estimate of traffic on the actuals of the Madras Railway between Calicut and Ottapalam 61½ miles for the year ending June 1893. By proportioning the receipts in the proportion of $\frac{55\frac{1}{2}}{61\frac{1}{2}}$ the amount is Rs 12,73,000 working expenses at 50% the results gives 11½% on the total capital. The Chief Engineer's estimate of Rs 6,13,600 on the Tellicherry line only is not supported by any figures.

With regard to the prospects of the Shoranur Cochin line the figures referred to in his letter printed with G.O. 1967R of 13th August 1892.

Mr

This estimated return of 3.85 per cent is, it may be noted, on the direct line between Palghat and Kurrapatnam - which the Engineer in his letter of 16th may state considers preferable to the Shoranur route.

— From recent surveys made by the Chief Engineer of Cochin, it is reported possible to avoid the tunnel costing 2½ lakhs which the Madras Railway Chief Engineer considered necessary but by any route this reduction the distance from Palghat to Cochin would be 47 miles as against 42 miles by the direct route and although the double junctions at Shoranur & Olakkoti Olakkode may be expensive to work for through traffic, these objections would is considered more than balanced by the difference

difference in the estimated cost which is 2 miles @ 1½ Lks per mile (omitting the tunnel) on the direct line of 8 miles at 14 Lakhs per mile from Shoranur to that with much shorter curvatures length the connection can be made.

The Agent further recommends the extension to Cochin and in this connection I am to remark that Cochin at the southern side of the backwaters may be the natural present terminus and that line has always been intended.—

Taking therefore the two lines according about 1 Lakh per mile respectively @ 50% they must earn 1½ per mile per week to pay 4% & therefore carry 600 passengers & 211 tons goods daily at a 2pie & 10 pie rate respectively.—

Possible present traffic between Calicut & Telicherry is only given at 2000 Lbs per month but the Collector reports the passenger traffic large, the population in the tract which the line would traverse being over 1000 per square mile whereas between Shoranur & Cochin 463 tons goods per week have been registered by the Madras Railway carrying about 1000 passengers & 500 tons goods daily over mile this traffic seems encouraging.

I am further to say that in perusing the Estimates & plans given by the Agent Madras Railway for the 2 lines above referred, H.E. the Governor in Council is of opinion that they may hardly offer too sanguine, as these projected lines are to be parallel to the coast and steeper

therefore in competition with ocean steamers from Norrie's Wells Colombo points and landing and shipping at the Ports and always conducted with difficulty - because this for four months of the year they are practically stopped also as the Canal does not connect Galle harbour with Colombo the competition is not likely to be serious on the contrary the probability is that the railway would be preferred to either a sea or canal route..

On these grounds the proposals are very earnestly supported by His Excy the Governor in Council..

His Excy the Governor in Council would further point out that it would be much more economical to the State, if the Govt or the Indian Railway undertook to raise the Capital to

continued

Construct the branches, as either party could easily raise the required amount at 3%, and therefore the probable benefit in excess of this amount would be reaped by them instead of being diverted into the pockets of either party..

Lord F.R.W.
30/5/54

Lord W.
4 June

N.B. The attention of the Consulting Engineer is particularly called to the Hon. Members remarks on the circulation from Portland Place.

Lord W.

I have noted this

Lord F.R.W
12/6/54

Original in Calicut Commercial Case

Circ

His Excy: the Governor

Hon: the Bliss

Hon: the Grose.

Gales proposals to construct lines Calicut: Cannanore & Palghat to Cochin

Since writing the draft to India regarding these lines, the Govr has sent me a private copy of a letter addressed by his Board to the Secy: of State, asking that the Calicut: Cannanore line be given to them Railway to construct.

The letter is dated 19 March & I dont understand why a copy has not been sent to us, for I presume the Govt: of India must have had one.

I think at the end of the draft letter it should be said "and it is believed that the Madras Railway Company desire to construct one if not both branches themselves

I was under the impression that Mr Gale was really the Madras Railway - but from the M.R. putting in a request for these lines, I suppose he is not.

It is only right - that we should back up the Madras Railway - and help them to get these extensions. This year has the Madras Railway has extended its system - while that horrid narrow gauge - Metre gauge the Southern Mahratta has spread itself octopus-like over the land from sea to sea (nearly)

Govt W.
13 June

Govt W.B. 14/6/87

Govt J.G. 15/6.

Govt would make it a new condition.

themselves entirely free of opinion that the surplus extension from existing trunk line is better left in the hands of this existing Company than committed to a separate agency."

Govt of I. R. W
17/8/97

His Excellency the Governor
Hon: Col Bliss
Hon: Mr Grose

Proposed Railway
Calicut Cannanore
Extension Cochin

Letter 735. R. Co of 7th Augt from Govt of India

In regard to para 4, the Madras Railway will be asked to furnish the estimates.

(Init) W
(a) H.W.B
(a) J.G. 18/8/97

Before replying to para 5 it will be necessary to consult the Madras Ry whether they have other feeder lines or extensions in view which are preferable to the one from Calicut to Cannanore.

The line Cochin to Trichur will shortly be made & the extension to Belgaum is being considered.

Putting these aside there remain -

(a) Palghat to Dindigul
(b) Salem to Porto Novo
(c) Erode to Sathyamangalam

Of these the second (b) was a famine line & not likely to pay, the third (c) may be put forward to prevent the metre gauge line from

Yes
(Init) W
(Init) H.W.B
17/8/97
J.G.

It is curious that only last mail I urged the Secy of State to go in for silver loans in India for railway extensions. Little knowing that he had advocated this policy last May. The experiment is well worth trying - but it would have succeeded to a certainty two years ago. Now it is more doubtful, but still well worth trying.

(Init) W

from Erode to Nanjangud
the first (a) is the most
needed of the feeder lines
but it is not expected to
pay so well as the Coast
line.

I don't understand Indias
remark that because of the
difficulty in raising funds
in sterling or Silver, this Govt
are asked to consider whether
other Madras Ry feeders
are preferable. A loan
must be raised in any
case, the Madras Ry have
ample borrowing powers
for feeder lines under their
Contract & they are in a
position to borrow at lower
rates of interest than Govt
Sale.

Para 6. is a criticism
on the return of traffic
but para 9 of this Govt's
406. D of 20th June discounts
the Agent figures which
work out to 11½ % on the
Capital Cost.

I do not think this para
calls for any reply

(Sd) F. R. L.
15/8/94

What India wants to be
assured of is that we have
not overlooked any line,
which is likely to be more
remunerative than those
under discussion & I expect
that the Ry will not put
forward any before these

(Sd) W

Para 6 should better be Commu-
nicated to Mr Hues for his
remarks

We did not go carefully
into these points in our para 9
of our letter of 20th June

(Sd) W
16/8/94

No 859. D dated 23rd August 1894
Agent & Manager
Madras Railway

I am directed to forward
Copy of letter 735 R Co of 7th
August from Govt of India
with enclosure & to ask you
to furnish an estimate of
the cost of surveying the
lines from Calicut to Can-
nanore & from Palghat
or Shoranur to Cochin
as defined in enclosure
to Circular 7 R of 9th Oct 93.

2 To enable this Govt to
reply to para 5, I am to invite
your notice to the following
lines which it is believed
have been put forward
as possible feeders to the
M Ry

Palghat to Dindigul
Salem to Porto Novo
Erode to Sattyamangalam
and to ask whether these
or any other branches
should be preferred to
the line to Cannanore
and it would be desir-
able to obtain the views
of your Board on the
important

important matter.

(3) You will observe in para 6 of the Govt letter the probable receipts given by you on the proposed line to Tellicherry, are not considered by the Govt of India to be based on the true meaning of the comparative section. (Calicut - Ottapalam) unless the whole of the traffic thereon be incremental and unless the port of Tellicherry is likely to supersede that of Calicut and Samburi. Vide your reply to this Criticism.

Secy F. R. to
21/8/94

Enclosures (Copy)
735 Rc of 7th Sept
Despatch No 42 & enclosure
No 7759
406 Dy 25 June

Desp
23/8/94

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following paper :—

Proceedings of the Madras Government, Public Works Department, dated 21st November 1893, No. 1394 R.

Read also the following papers :—

From the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, to the Secretary to the Government of India, Public Works Department, dated 20th January 1894, No. 253 C.

In reply to No. 967 R.C. of 25th September 1893, I am directed to say that, with regard to the line of railway (i) from Madras to Bezwada, this Government has already supported the proposals of Messrs. Kirby and Lonsdale to obtain this concession and does not therefore consider Mr. Gale's proposal should be entertained.

With regard to project (ii) it appears preferable that the line should start from Shoranur and for the present only run as far as Cochin. The Political and Revenue Departments have been asked to furnish the statistics of traffic over the line, but no reply has as yet been received. In order to avoid any further delay, the following financial forecast is embodied for the information of the Government of India.

In considering the financial prospects of the proposed line it is difficult to estimate what proportion of the existing traffic will be retained by the public road and back-water canals which follow more or less closely the alignment of the railway line.

Extract from financial prospects referred to in paragraph 6 of G.O. No. 1967 R. of 13th August 1892, submitted to Government India, No. 1968 R., of 13th August 1892.

For purposes of a general estimate, however, it may be assumed (since the conditions of trade, population, cultivation, and length in miles are in most respects similar) that the receipts based on an average of four half-years ending June 1891 on the section of the Madras Railway from Olavacode to Tanore, both stations inclusive (61 miles in length), will fairly represent the receipts to be expected over the length of the proposed line (60·74 miles). To these receipts must be added a percentage of 50 per cent. to cover the anticipated receipts and developments of land and sea-borne traffic from Cochin, Alleppy, and the wealthy tract of country southwards of these seaport towns. This computation is a low one, when it is considered that the receipts of the terminal station at Calicut alone amounts to Rs. 6,19,488, *i.e.*, at ·88 per cent. of the entire length of the 61 miles referred to above, or in other words nearly as much again.

	Rs.
Total gross receipts for passengers and goods for 61 miles in one year	7,06,588
Add 50 per cent. to cover anticipated receipts from Cochin and expected seaborne traffic	3,53,294
Total gross receipts ...	10,59,882
Deduct working expenses at 60 per cent. ...	6,35,929
Total net receipts ...	4,23,953

which on an outlay of Rs. 1,10,23,812 yields a return of 3·85 per cent.

Of project (iii) from Calicut to Cannanore the increase of traffic on the Calicut extension affords reasonable grounds for believing that this branch would pay.

The following statement shows the gross receipts of coaching and goods inwards and outwards traffic of the Calicut extension:—

Half-years.	Kadalundi.	Feroke.	Kallai.	Calicut.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
Half-year ending December 1888	3,439	64,885	25,362	3,08,935	4,02,621
Do. June 1889	3,716	83,384	33,475	3,54,661	4,75,175
Do. December ,,	3,032	69,052	40,753	3,21,345	4,34,182
Do. June 1890	2,990	64,798	34,205	3,26,893	4,28,886
Do. December ,,	2,978	38,308	37,621	2,83,776	3,62,681
Do. June 1891	3,495	43,001	42,713	3,07,106	3,96,317
Do. December ,,	2,808	35,081	42,379	2,67,710	3,47,978
Do. June 1892	3,962	57,672	52,899	4,16,078	5,31,079
Do. June 1893	5,187	59,031	52,144	3,07,441	4,30 646
				3,62,692	4,59,056
Five years' gross earnings	..	..	..	..	42,78,619
Deduct 55 52 per cent.	..	..	..	..	23,75,489
Five years' net earnings	..	..	..	..	19,03,130

Working expenses percentage, half-year ending December 1888 ... 59·05
Do. do. do. June 1889 ... 56·34
Do. do. do. December ,, ... 61·54
Do. do. do. June 1890 ... 53·04
Do. do. do. December ,, ... 51·84
Do. do. do. June 1891 ... 58·40
Do. do. do. December ,, ... 57·99
Do. do. do. June 1892 ... 56 33
Do. do. do. December ,, ... 54·50
June 1893 ... 46·26

Total ... 10) 555·29

Working expenses mean for five years ... ... 55·52

Rupees 19,03,130 gives 95·1 per cent. for the five years, or 19 per cent. per annum on a capital of 20 lakhs of rupees.

I am however directed to call attention to the very long time asked, viz., 18 months to make the survey and 18 months to form the company and complete financial operations. It is suggested that nine months should be ample time, and with this proviso I am to say the Madras Government supports the proposals for the concession to Mr. Gale to construct a line from Shoranur to Cochin and Calicut to Cannanore as it appears that the Madras Railway Company are prepared to assist him.

From the Under Secretary to the Government of India, Public Works Department (Railway Construction), to the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, dated Calcutta, 20th March 1894, No. 287 R.C.

I am directed to acknowledge the receipt of your letter No. 253 C., dated 20th January 1894, submitting an expression of the views of the Government of Madras on the proposals of Mr. Henry Gale for the construction by a company of a line of railway from Palghat station on the Madras Railway *viâ* Trichoor and Cochin to Quilon, and another line from Calicut to Cannanore on the Malabar Coast.

2. With regard to the first project, you say that it appears preferable that the line should start from Shoranur instead of from Palghat, and should for the present run only as far as Cochin.

It is observed that it is estimated that the net receipts on the proposed line will amount to about Rs. 4,23,953, which, on an outlay of Rs. 1,10,23,812, would yield a return of 3·85 per cent.

3. As regards the second project, you say that the increase of traffic on the Calicut extension of the Madras Railway affords reasonable grounds for believing that the proposed Calicut-Cannanore branch will pay.

4. In reply I am to say that Mr. Gale has been informed that the Government of India are inclined to consider the above two projects favourably, but that before granting a definite concession they would like to have further information as to the cost and prospects of the proposed lines.

5. In the meanwhile, I am to request that the Government of India may be furnished with any further particulars that may be available about these lines, and with the estimates of cost on which the traffic calculations referred to in paragraphs 2 and 3 above are based.

6. I am also to request that the Government of India may be furnished with an expression of opinion by the Madras Railway authorities on the prospects of each of the projects which, it is understood, they are prepared to assist by undertaking to work the lines when constructed and to grant a rebate on the traffic interchanged.

7. I am to add that since the receipt of your letter Mr. Gale has intimated that, as the state is about to commence the survey of the line from Calicut *viâ* Tellicherry to Cannanore and in the light of further information which he has obtained, he considers that the period of three years, which he asked for to enable him to make surveys and form a company, may be reduced to 18 months in each case. I am to enquire whether the survey referred to is being carried out.

From the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, to the Secretary to the Government of India, Public Works Department, dated 20th June 1894, No. 406 D.

In reply to your No. 287 R.C. of 20th March 1894, I am directed to forward copies of Nos. 5490/366 and 5490 W/380 of 10th and 16th May 1894 with enclosures from the Agent and Manager of the Madras Railway on the prospects of the Calicut-Cannanore and the Palghat or Shoranur-Cochin Railways.

2. An approximate plan and estimate has been made by levelling the road from Calicut to Tellicherry; the result being that the line Calicut to Tellicherry 43½ miles is estimated to cost Rs. 37,22,504 and Tellicherry to Cannanore 12 miles is estimated to cost Rs. 18,00,000 being a total of 55½ miles estimated to cost Rupees 55,22,504. The Traffic Manager bases his estimate of traffic on the actuals of the Madras Railway between Calicut and Ottapalam 61½ miles for the year ending June 1893; by reducing the receipts in the proportion of $\frac{55\frac{1}{2}}{61\frac{1}{2}}$ the amount is Rs. 12,73,000, and taking working expenses at 50 per cent. the result gives 11½ per cent. on the total capital. The Chief Engineer's estimate of 6·136 per cent. on the Tellicherry line only is not supported by any figures.

3. With regard to the prospects of the Shoranur-Cochin line the Agent and Manager refers again to his letter printed with G.O., No. 1967 R. of 13th August 1892.

4. This estimated return of 3·85 per cent. is, it may be noted, on the direct line between Palghat and Kurapatnam which the Agent and Manager in his letter of 16th May still considers preferable to the Shoranur route.

5. From recent surveys made by the Chief Engineer of Cochin, it is reported possible to avoid the tunnel costing 27 lakhs which the Madras Railway Chief Engineer considered necessary, but even with this reduction the distance from Palghat to Trichur would be 47 miles as against 42 miles by the direct route and although the double junctions at Shoranur and Olavacode will be expensive to work for through traffic, these objections are, it is considered, more than balanced by the difference in the estimated cost which is 42 miles at 1½ lakhs per mile (omitting the tunnel) on the direct line and 18 miles at one lakh per mile from Shoranur, so that with much shorter construction length the connection can be made.

6. The Agent and Manager further recommends the extension to Quilon, and in this connection I am to remark that Ernakolam at the eastern side of the backwater would be the natural present terminus and that this has always been intended.

7. Taking, therefore, the two lines as costing about one lakh per mile and expenses at 50 per cent., they must earn Rs. 151 per mile per week to pay 4 per cent., and therefore carry 1,000 passengers and 211 tons goods daily at 2 annas and pies 10 rate, respectively.

8. The visible present traffic between Calicut and Tellicherry is only given at 2,000 tons per month, but the Collector reports the passenger traffic large, the population in the tract which the line would traverse being over 1,000 per square mile, whereas between Shoranur and Cochin 463 tons goods per week have been registered.

As the Madras Railway carry about 1,000 passengers and 500 tons goods daily one mile, the prospects seem encouraging.

9. I am further to say that, in reviewing the estimates of return on capital given by the Agent and Manager, Madras Railway, for the two lines under reference, His Excellency the Governor in Council is of opinion that they may possibly appear too sanguine, as these projected extensions will be parallel to the coast and therefore in competition with ocean steamers and canals. However, as the Collector points out, landing and shipping at the ports are always conducted with difficulty and expense while for four months of the year they are practically stopped, and also as the canal does not connect Tellicherry with Calicut, the competition is not likely to be serious; on the contrary the probability is that the railway would be preferred to either a sea or canal route.

On these grounds the proposals are very earnestly supported by His Excellency the Governor in Council.

10. His Excellency the Governor in Council would further point out that it would be much more economical to the State, if the Government or the Madras Railway undertook to raise the capital to construct the branches, as either party could easily raise the required amount at 3 per cent., and therefore the probable receipts in excess of this amount would be recouped by them instead of being diverted into the pockets of a third party.

11. It is believed that the Madras Railway Company desire to construct one, if not both branches themselves, as they are of opinion that the simple extension of an existing trunk line is better left in the hands of the original company than committed to a separate agency.

ENCLOSURES.

From the Agent and Manager, Madras Railway Company, to the Consulting Engineer for Railways, dated Madras, 10th May 1894, No. 5490/366.

With reference to your letters Nos. 763 and 1031 of the 5th and 30th March last, respectively, I have the honour to advise you of the completion of the rough reconnaissance of the proposed Calicut-Tellicherry railway and to enclose two copies of the plan and section of the route selected. I also send twelve copies of the approximate estimate of the cost of the line and a brief note containing particulars and information obtained in the course of the reconnaissance.

2. With regard to the prospects of the traffic in passengers and goods, I beg to enclose a copy of a letter of the 16th March last from the Traffic Manager on the subject. The Officiating Chief Engineer estimates the return that may be expected at 6·136 per cent. This is based on a statement of the earnings of the Calicut Extension recently prepared by the Chief Auditor for the information of the Board. It will be observed that the anticipated receipts according to the Traffic Manager's calculation gives a larger return than this. I have no reason to suppose that the traffic on the proposed extension will be less than that between Calicut and Ottapalam.

3. I shall be glad if you will request the Government of India to include this line in the list of those to be surveyed during the next cold weather survey operations.

4. With regard to the prospects of the Shoranur-Cochin line, kindly refer to this office letter No. 5490/364, dated 4th May 1892, printed with G.O. No. 1967, dated 13th August 1892.

From the Traffic Manager, to the Agent and Manager, Madras Railway, dated 16th March 1894, No. 1364/21618 A and M.

[West Coast Extension.]

[Your No. 5490/1729 of 6th March 1894.]

The distance from Calicut to Cannanore would, I understand, be approximately 60 miles by railway and taking this mileage as a basis I have had the figures taken out for the West Coast Section of the Madras Railway for a similar distance from Calicut for the year ending 30th June 1893.

The figures up to Ottapalam inclusive have been taken (distance 61¼ miles) and the proportion for the additional 1¼ miles subsequently deducted.

The total receipts for the Madras Railway Section under notice are Rs. 14,10,665, less proportion for 1¼ miles Rs. 34,406, and I think these receipts may be taken as a very fair estimate of the traffic which might be expected between Calicut and Cannanore.

Inclusive of Calicut there are thirteen stations on the section from which these receipts are taken. On the line from Calicut to Cannanore there would be the important stations of Quilandi, Badakarai, Tellicherry and Cannanore, but in addition to these we should have the choice of at least twelve village sites quite equal to if not more promising than our own intermediate stations at which to open additional stations between Calicut and Cannanore.

These details are shown in a report which was made by the Traffic Canvasser of this Department in May 1889.

BRIEF-NOTE on the Proposed Railway from Calicut to Tellicherry.

General Alignment.—The reconnaissance of the country betwen Calicut and Tellicherry undertaken in January 1894, consisted of a traverse and a line of levels along the public road, which the proposed railway would closely follow, as shown in the index plan and section attached. Throughout the total length of 43¼ miles the road runs along the coast and is therefore fairly level, except at the 29th, 34th and 40th miles, where it surmounts the hilly spurs which project down to the coast with grades of 1 in 20. Here more favourable routes were secured by the investigation of alternative lines a little further inland, as shown in green on the section, and although these will involve deep cuttings, a ruling gradient of 1 in 150 can be obtained with curves of a minimum radius of 2,800 feet.

2. *Description of Country and Towns.*—Except through the town of Calicut, where the line can be located so as to avoid important buildings, the country traversed is flat and level up to 8 miles, and then consists of slightly undulating tracts up to 25 miles. Between 26 and 31 miles, 33¼ and 35¼ miles, and 27 and 40 miles, the country is distinctly hilly and will entail heavy earthwork, while the remaining portion is level up to the terminus at Tellicherry (43¼ miles).

The alignment falls throughout in British territory except between 37¼ and 38¼ miles, where it traverses the French settlement of Mahé.

The principal towns which the line will accommodate are West Hill (3 miles), Alatur (6 miles), Quilandi (15 miles), Buddagara (30 miles), Mahé (38 miles) and Tellicherry (43¼ miles). The whole route is thickly populated, and the land to a great extent is under wet cultivation and covered with cocoanut plantations and gardens. The average value per acre is said to be Rs. 450.

3. *Waterway.*—In addition to the ordinary drainage, requiring about 50 minor bridges varying in span from 6 to 20 feet, the following rivers and canals have to be crossed:—

Korai river	...	...	...	8¼ miles	Waterway	750 feet.
Kottai do.	..	...	...	26¼ „	„	400 „
Mahé do.	...	...	...	34 „	„	550 „
Karumpana canal		...	...	29 „	„	30 „

The three large rivers (tidal) are not bridged, but provided with ferries; so it may be assumed that the Local District Board will contribute to the cost of adapting the railway bridges for cart traffic as they have done in the case of the Ferok and Kallai rivers on the Madras Railway immediately south of Calicut.

4. *Approximate estimate.*—Attached is an approximate estimate framed in the usual form in which the main details are given, inclusive of the value of land and provision for rolling stock.

The estimate (for 5' 6" gauge) has been based on the standard adopted on the Madras Railway in regard to the accommodation at stations and general equipment, and the type of bridges

constructed at Ferôk and Kallai has been adhered to. The approximate estimated cost for the 43¼ miles works out to Rs. 37,22,504 or Rs. 85,575 per mile, and the anticipated receipts should yield 6·136 per cent. on this outlay, judging from results on the Calicut extension.

5. *Extension to Cannanore.*—The present reconnaissance ended at Tellicherry, but the extension to Cannanore, a further distance of 12 miles, would be proportionately more costly, as three large rivers have to be bridged on this short length. The approximate estimate for this extension may be taken at Rs. 18,00,000 or Rs. 1,50,000 per mile.

6. *Staff employed.*—The survey under review was conducted by Engineering Assistant J. E. Dalgairns and Surveyor V. A. Arputham Moodelly, and completed in six weeks. It included the investigation of 44 miles of alternative routes and deviations, which were surveyed and levelled in addition to the traverse and section (with check levels) obtained of the 43¼ miles of public road, along which permanent bench marks have been recorded at suitable points. The information and results now submitted have been acquired under the sanctioned allotment of Rs. 700. A larger plan plotted to a scale of 400 feet to an inch and a section to correspond have been prepared, and tracings of these will be furnished when the requisite staff can be spared from pressing current duties in the drawing office.

7th May 1894. (Signed) H. C. WEST, Offg. Chief Engineer.

Paroosan Calicut-Tellicherry Railway (5' 6" gauge).

Approximate estimate.

Heads of account.	Total cost in rupees. Sub-heads. Total cost.	Sub-heads. Rate per mile.	Main heads. Total cost.	Main heads. Rate per mile.	Notes.
	Rs.	Rs.	Rs.	Rs.	
I.—Preliminary expenses ..	..	..	700	16	Cost of reconnaissance.
1. Survey expenses ..	700	16	..	..	
2. Plant	..	..	..	..	
3. Establishment	..	..	..	..	
II.—Land	2,50,000	5,747	2,50,000	5,747	
III.—Formation	..	..	4,40,000	10,116	
1. Earthwork ..	2,29,294	5,805	..	..	*Earthwork.*—For 39½ miles. Average height of bank 4 feet, cutting 6 feet in soft sandy clay soil, and average depth in cutting of rocky laterite 17 feet.
2. Cutting laterite ..	2,00,706	50,177	..	..	For four miles only.
3. Road diversion ..	10,000	5,000	..	..	For two miles only.
IV.—Bridge work	..	..	12,98,864	29,859	
1. Large bridges ..	11,90,000	27,356	..	..	Three large bridges 750, 400 and 550 lineal feet, adapted for cart traffic at Rs 700 per lineal foot.
2. Minor do. ..	1,08,864	2,503	..	..	
V.—Fencing	..	..	1,62,473	3,735	
1. Fencing	1,53,120	3,520	..	..	*Fencing.*—Wire fencing has been provided throughout the line.
2. Road crossings ..	8,492	195	..	..	Including gate-keeper's lodge.
3. Mile and gradient posts.	860	20	..	..	
VI.—Electric telegraph ..	14,790	340	14,790	340	It is assumed that Government will construct the line of telegraph, and the necessary instruments at stations only have been provided for.
VII.—Ballast and permanent way.	..	..	11,25,553	25,875	
1. Ballast	1,84,213	4,235	..	..	Ballast consists of fine laterite and sand.
2. Permanent way ..	9,41,340	21,640	..	..	Permanent way to be 80 feet bull-headed rails on C. I. Pot sleepers, landed at Calicut.
VIII.—Stations and buildings ..	..	..	2,04,000	4,690	
1. Stations and offices.					First class station (Rs. 1,30,000) at Tellicherry with requisite buildings, engine, carriage and goods sheds of half the standard length, staff quarters, engine turn-table, and water tank. Two second-class stations at Rs. 22,000 each. Three third-class at Rs. 10,000 each.
2. Staff quarters ..					
3. Station machinery ..	2,04,000	4,690	..	..	
4. Workshop, store buildings, &c.					

Approximate estimate—*cont.*

Heads of account.	Total cost in rupees. Sub heads. Total cost.	Sub heads. Rate per mile.	Main heads. Total cost.	Main heads. Rate per mile.	Notes.
	Rs.	Rs.	Rs.	Rs.	
			76,125	1,750	
IX.—Plant	..	..			
1. Engineering ..					
2. Locomotive ..	76,125	1,750	..	..	
3. Carriage and wagon.					
4. Station and office furniture.					
X.—Ferries, &c.	..	..	..	..	
1. Ferries	..	..	..	..	
2. Floating bridges ..	..	..	3,00,000	6,896	
XI.—Rolling stock	..	..			
1. Locomotive ..	3,00,000	6,896	..	..	
2. Carriage and wagon.			50,050	1,149	
XII.—General charges ..	..	..			
1. Direction					
2. Engineering ..					
3. Stores	50,000	1,149	..	..	
4. Audit and accounts.					
5. Medical and sanitation.					
			39,72,504	..	Assumed contribution from District Board for adapting three large bridges for cart traffic.
Total expenditure ..	..	..	2,00,000	..	
Deduct ..	..	..			
Total ..	..	..	37,22,504	..	
Length in miles ..	..	..	43·5	..	
Total rate per mile ..	..	..	85,575	..	

(Signed) H. C. WEST, Offg. Chief Engineer.

7th May 1894.

From the Agent and Manager, Madras Railway, to the Consulting Engineer for Railways, dated Madras, 16th May 1894, No. 5480 W—380.

With reference to paragraph 6 of the letter from the Government of India, dated 20th March last, forwarded with your letter No. 1031, I have the honour to inform you that I have been authorised by my Board to say that this company will be prepared to work the proposed lines of railway from Calicut to Tellicherry (and Cannanore) and from Shoranur to Cochin, when they are constructed and to grant a rebate on the traffic interchanged as laid down in Government of India Circular No. 924 R.C. of the 15th September 1893.

With regard to the last-named line, I consider the railway ought to follow the trade route, and should start from Palghat and be continued to Quilon, where it should connect with the South Indian Railway.

From the Officiating Under Secretary to the Government of India, Public Works Department (Railway Construction), to the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, dated Simla, 7th August 1894, No. 735 R.C.

I am directed to acknowledge the receipt of your letter No. 406 D., dated 20th June 1894, forwarding a copy of two letters from the Agent and Manager of the Madras Railway Company, No. 5490/366, dated 10th May 1894, and No. 5490/380, dated 16th May 1894, the former reporting on the traffic prospects of the proposed Calicut-Cannanore and Palghat or Shoranur-Cochin Railways, and the latter stating that the Madras Railway Company will be prepared to work these lines when constructed and grant a rebate on the traffic interchanged as laid down in Government of India Resolution No. 924 R.C., dated 15th September 1893.

2. You state that the proposals for the construction of these lines are earnestly supported by His Excellency the Governor of Madras in Council, and that it

would be much more economical to the State if the Government or the Madras Railway Company undertook to raise the necessary capital for them. Also that it is believed that the Madras Railway Company desires to construct one if not both branches itself.

3. In reply, I am to enclose for information a copy of a despatch * from the Secretary of State forwarding a proposal by the Directors of the Madras Railway Company for the construction as part of their system of the line from Calicut to Tellicherry and Cannanore; and to inform you that it has been determined to carry out this cold weather the survey of this line, as well as of the line from Shoranur to Cochin.

* No. 42, Railway, dated 3rd May 1894.

4. I am accordingly to request that, with the permission of His Excellency the Governor in Council, you will obtain from the Madras Railway Company an estimate of the cost of a detailed survey of these lines, in view to the preparation of an approximate estimate of their cost, such as is defined in the rules for the preparation of railway projects (enclosure to this office Circular No. 7, Railway, dated 9th October 1893).

5. With reference to the proposal of the Madras Railway Company to raise the capital for the Calicut-Cannanore line by—

(*a*) the issue of sterling debentures in England to meet the cost of permanent way, rolling stock, &c., and

(*b*) the issue of 4 per cent. silver debentures in India under the guarantee of the Government of India to meet the cost of labour and materials in India,

I am to request, having regard to the difficulty that exists in raising funds either in sterling or in silver, that the Government of Madras will consider carefully whether the proposed line to Cannanore should be preferred to others, which the Madras Railway Company may propose for construction in connection with the development of its system.

6. As regards the prospects of traffic on the proposed extension, it is observed that the total receipts for the section, Calicut to Ottapalam inclusive, are taken as a very fair estimate of the traffic, which may be expected between Calicut and Cannanore.

These receipts, I am to point out, represent the total outwards and inwards traffic on the section, which include the earnings for the carriage over long distances of the main line, and consequently it does not seem reasonable to assume that these receipts represent the true earnings of the Calicut-Ottapalam section, unless it can be shown that the whole of the traffic is incremental to that on the main line and that it has been obtained by the construction of the section in question. Neither does it appear reasonable to apply these receipts for purposes of comparison to the Calicut-Tellicherry extension, unless it is assumed that almost the whole of the sea-borne trade of Calicut will be transferred to Tellicherry, whereby the rail carriage of the goods will be increased by 43½ miles. This assumption could only be made if Tellicherry were a far superior port to Calicut, which does not appear to be the case.

Enclosures.

Despatch from the Right Honourable Her Majesty's Secretary of State for India, to His Excellency the Right Honourable the Governor-General of India in Council, dated India Office, London, 3rd May 1894, No. 42 R.

[Proposed construction by the Madras Railway Company of a line of Railway from Calicut to Tellicherry and Cannanore.]

I transmit, herewith, for your Excellency's information, copy of a letter † from the Directors of the Madras Railway Company proposing that the Company should construct as part of their system a line of railway from Calicut to Tellicherry and Cannanore, being one of the lines proposed by Mr. H. Gale in his letter of the 30th June 1893, copy of which was forwarded to your Government with Lord Kimberley's Railway Despatch No. 66 of the 20th July 1893.

† No. 7759 of 19th March 1894.

2. The arrangement proposed by the Directors of the Madras Railway Company for raising the necessary funds for the proposed line is similar in principle to the suggestions which were transmitted to you for consideration by Lord Kimberley's Railway Despatch No. 102 of the 23rd November 1893, respecting which an expression of your views is still awaited.

3. In the existing conditions of Indian finance it is clearly desirable that any possible extension of Indian railways, by other than gold operations, should be encouraged by your Government, and I am prepared, therefore, if you see no objection, to negotiate with the Company for the suggested extension of their system on the basis of a silver loan issued in India on learning that the project is, in your opinion, a desirable one.

From the Secretary, Madras Railway Company, to the Under Secretary of State for India, 61, New Broad Street, London, E.C., dated 19th March 1894, No. 7759.

Proposals for the extension of the Madras Railway system by this Company having been declined or put aside by the Indian Government, the Board of the Madras Railway Company are prepared to afford assistance and encouragement to other agencies for railway extensions in Southern India; and Mr. Gale, a professional gentleman of high character, formerly connected with the Madras Railway, and well informed in such matters, has, as the Secretary of State is aware, submitted proposals to the Government of India for the construction of certain standard gauge lines in close connection with the Madras Railway, and is engaged in forming syndicates and endeavouring to raise money for the purpose.

2. It is premature to judge of the probable success of the endeavours to float railway projects in India by private agency under the more liberal terms recently offered by the Government of India; but, having regard to the continued stringency of the money market, and the reluctance of the public to risk the investment of money in foreign undertakings of any sort, the difficulties of promoters are no doubt very serious, and their operations must necessarily be slow.

3. The Board believe that for many obvious reasons the simple extension of an existing trunk line is better left in the hands of the original Company than committed for construction to a new and separate agency. One, at least, of the railways proposed by Mr. Gale could certainly, they think, be more economically undertaken by this Company than by any other agency, and be constructed and worked as part of the Madras Railway system in the best interests of the State.

4. This is the proposed extension along the western coast from Calicut to Tellicherry and Cannanore, a distance of between 50 and 60 miles. It is understood that a reconnaissance of this line is already in progress, and that a survey will probably follow under the sanction of the Madras Government. When the results of this survey are known, the Board will be able to speak more confidently of the cost of the undertaking, and as to the prospects of the traffic both in passengers and goods.

5. The character of the country and the engineering requirements are, it is believed, very similar to those affecting the recent extension of this Company's system of nine miles, from Beypore to Calicut, on the same coast, which was completed in 1888.

6. The results of the working of that extension, notwithstanding its heavy cost (Rs. 20 lakhs), afford grounds for the belief that the proposed undertaking would be a financial success. The volume of trade between Calicut and Tellicherry is described by all who are acquainted with the locality—both Government officers and others—as being something extraordinary, and it is believed by the officers of this Company that the traffic of the line will exceed that of the Calicut extension.

7. In regard to the provision of funds for the new undertaking, the Board apprehend that the Secretary of State will be averse, in the present state of the finances, to sanction the issue of sterling debentures in this country to any considerable amount, though the Board would probably find no difficulty in placing whatever amount will be required at, say, 3½ per cent. They have ascertained, however, from their legal advisers, that there is nothing in the deed of settlement or in the Acts of Parliament of the Madras Railway Company which prevents them from raising a loan with the sanction of the Secretary of State, either in rupees in India or in sterling in England, or partly the one and partly the other, provided the amount, together with any loans now outstanding, does not exceed the proportion prescribed by the Act of the subscribed capital of the Company.

8. The Board are not yet in a position to state whether or not the placing of silver debentures in India is practicable to any great extent, but they are hopeful that it will be found possible to effect the issue of a moderate amount of these debentures at, say, 4 per cent., the principal and interest being guaranteed by the Indian Government.

9. The most economical arrangement would probably be—as avoiding all questions of exchange—to obtain the amount which is required for the provision of permanent-way, rolling-stock, and other necessary materials to be supplied from England, by the issue of sterling debentures in this country, and to provide for the payment of salaries, wages, labour, local materials, and other matters by the money obtained by silver debentures in India.

10. The Board submit these proposals for the consideration of the Secretary of State in Council, who, after communication with the Government of India, will be in a position to decide as to the feasibility of adopting the alternative methods they venture to suggest for raising the capital which will be required for the construction of the project proposed.

From the Government of India, dated 7th March 1895, No. 280 R.C.

From the Agent and Manager, Madras Railway, to the Consulting Engineer for Railways, dated Madras, 22nd March 1895, No. 285.

I have the honour to reply to your No. 974 of the 19th instant.

2. In paragraph 2 of your No. 850 D. of the 23rd August last certain branch lines were named which it was believed had been put forward as possible feeders to the Madras Railway and you asked whether these or any other branches should be preferred to the line to Cannanore and you further desired that the views of my Board might be obtained on the matter.

3. Writing to my Board on the 5th September 1894, I expressed in paragraph 15 of my official letter of that date the opinion that branch lines from Calicut to Cannanore and Shoranur to Cochin were commercially of greater importance than the other railways referred to by you.

4. My Board have not replied specially to this particular paragraph of my letter, but as they have since approved of the appointment of survey parties to estimate for the construction of branch lines to both Cannanore and Cochin it is assumed that they hold the same opinion that I expressed in paragraph 15 of my letter above referred to.

5. There can be no question that branch lines are badly wanted from—

1. Calicut to Cannanore.
2. Shoranur to Cochin.
3. Pódanúr to Dindigul.
4. Salem to Dindigul.
5. Arcot to Wallajabad and Ranipet.
6. Salem to Porto Novo.
7. Erode to Satyamangalam.

I have placed the lines numerically in the order of importance which they appear to me.

These branch lines it is urged all fall within the scope of the Madras Railway and should be worked by the parent company.

In paragraph 3 of your No. 850 D. you invite my opinion to the remarks of the Government of India on the traffic prospects of the Cannanore branch.

I attach statements of the export and import traffic at Calicut, Tellicherry, Cannanore and Mahé. We know that the bulk of the traffic in grain and other edible commodities we carry to Calicut is distributed at Calicut and sent north and south by road and canal throughout Malabar and the Wynaad and it is believed that when the Coast Railways are opened, this traffic will be very considerably increased as with the extensions of the railways competition by sea from Cocanada and the East Coast should cease.

Malabar is supplied with rice in very large quantities from the East Coast (by sea) and from North Arcot (by rail).

We can hold our own to Calicut where we have direct communication, but we are handicapped when the traffic has to go inland by road or canal and is taken from Cochin and other ports.

The exports and imports at all the ports I have named seem to give promise of a valuable traffic by railway and we know that the whole district is very densely populated and that the passenger traffic will be heavy.

The Traffic Manager and the Acting Chief Auditor have approached the traffic possibilities from another view and for the information of Government I submit copies of their reports and copies of the returns they have sent me.

STATEMENT showing the imports into and exports from Tellicherry and Calicut by sea.

Tellicherry.

Years.	Imports.				Total.	Exports.				Total.
	Private.		Government.			Private.		Government.		
	Merchandise.	Treasure.	Stores.	Treasure.		Merchandise.	Treasure.	Stores.	Treasure.	
1	2	3	4	5	6	7	8	9	10	11
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.
1884-85 ..	31,05,913	3,00,000	5,023	..	36,10,936	80,08,199	..	1,727	..	80,09,926
1885-86 ..	35,35,400	..	..	..	35,35,400	79,20,115	..	1,386	..	79,21,501
1886-87 ..	30,44,818	14,000	14,386	..	44,73,204	1,00,48,151	..	9,901	..	1,00,48,052
1887-88 ..	42,24,917	..	7,698	..	42,32,615	1,04,95,692	..	10,581	..	1,05,06,273
1888-89 ..	44,53,265	..	9,572	..	44,62,837	1,15,71,811	..	13,995	..	1,15,85,806
1889-90 ..	53,15,009	..	8,799	95,000	54,18,808	99,83,170	..	17,926	..	1,00,01,095
1890-91 ..	59,23,863	19,799	14,938	..	59,59,600	1,05,62,320	..	18,026	..	1,05,80,346
1891-92 ..	52,99,431	..	22,660	..	53,21,091	1,11,65,708	..	10,256	..	1,11,75,963
1892-93 ..	67,82,261	..	8,449	..	67,90,690	1,04,77,122	2,00,000	7,188	..	1,06,84,310
1893-94 ..	38,98,250	3,500	28,745	..	39,30,495	80,84,472	897	9,812	..	80,95,181

Calicut.

Years.	Imports.				Total.	Exports.				Total.
	Private.		Government.			Private.		Government.		
	Merchandise.	Treasure.	Stores.	Treasure.		Merchandise.	Treasure.	Stores.	Treasure.	
	12	13	14	15	16	17	18	19	20	21
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1884-85 ..	32,36,794	30,075	25,422	..	32,92,291	70,53,018	..	7,165	61,000	71,21,183
1885-86 ..	36,47,719	25,500	14,192	2,80,000	39,67,411	75,13,509	3,64,000	42,013	2,05,000	81,14,522
1886-87 ..	38,65,124	29,500	15,742	3,30,000	42,58,366	81,01,143	1,51,000	6,485	4,000	82,62,628
1887-88 ..	40,05,183	34,000	28,689	50,000	41,17,872	1,04,72,316	1,07,412	79,503	..	1,06,59,231
1888-89 ..	35,43,017	17,000	30,402	3,80,000	39,70,419	85,36,363	22,324	1,33,193	78,500	88,70,379
1889-90 ..	42,11,067	39,675	98,542	6,78,000	50,27,284	84,29,659	1,41,997	13,739	2,000	85,87,395
1890-91 ..	62,06,760	44,000	28,432	6,10,000	68,87,192	1,01,46,623	2,39,248	31,466	4,000	1,04,20,437
1891-92 ..	82,90,200	37,000	7,943	6,15,000	89,50,173	1,08,02,199	21,150	28,941	4,382	1,08,56,672
1892-93 ..	72,06,509	37,000	4,762	..	72,48,271	1,10,22,070	6,08,000	18,094	2,880	1,16,51,044
1893-94 ..	63,62,544	44,000	19,614	..	64,26,058					

STATEMENT showing the imports into and exports from Cannanore by sea.

Cannanore.

—	Imports.				Total.	Exports.				Total.
	Private.		Government.			Private.		Government.		
	Merchandise.	Treasure.	Stores.	Treasure.		Merchandise.	Treasure.	Stores.	Treasure.	
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.		Rs.
1884-85 ..	24,65,298	22,500	47,525	..	25,35,323	18,23,436	..	12,224	..	18,35,660
1885-86 ..	24,62,244	5,000	71,761	..	25,38,998	15,82,903	3,500	11,018	..	15,97,421
1886-87 ..	23,66,962	..	26,783	..	23,87,745	13,68,223	..	42,591	..	14,10,814
1887-88 ..	23,19,675	..	21,496	..	23,63,071	13,93,406	..	15,744	..	14,09,150
1888-89 ..	20,79,371	..	29,336	..	21,08,707	15,62,318	..	38,200	..	16,00,518
1889-90 ..	22,55,606	..	28,172	..	22,83,778	16,94,664	..	6,428	..	17,00,092
1890-91 ..	26,72,686	5,000	29,346	..	27,06,032	10,72,292	..	3,744	..	10,76,036
1891-92 ..	20,96,754	..	26,078	..	21,22,832	12,20,273	..	1,561	..	12,21,834
1892-93 ..	25,80,493	..	22,090	..	26,02,493	12,52,415	..	18,569	..	12,71,984
1893-94 ..	14,58,750	600	20,504	..	14,79,854	15,64,195	..	6,865	..	15,71,060

Statement showing the imports from and exports to *Mahé* by land into and from the Madras Presidency.

Years.	Imports.	Exports.
	Rs.	Rs.
1889-90	29,896	69,398
1890-91	17,232	37,624
1891-92	41,768	60,916
1892-93	28,603	57,567
1893-94	15,091	65,440

Board of Revenue
(Separate Revenue),
Madras, 18th October 1894.

(Signed) EDMUND MILLETT,
Assistant Secretary.

From the Traffic Manager, Madras Railway, to the Agent and Manager, Madras Railway, dated Madras, 3rd September 1894, C. No. 67574/22716.

[Your letter No. 5490/7463 of 25th ultimo.]

In reply to paragraph 6 of Government of India Public Works Department, Railway Branch, letter No. 735 R.C, of 7th August 1894, I may quote the figures relating to the Calicut extension sent to you in reply to your D.O. No. 2798, dated 10th April last (copy attached).

It will be seen that after deducting the receipts for the Beypore section (subsequently closed) from those of the new Calicut extension that the Calicut extension figures gave 7·84 per cent. per annum during the five years. This appears to me to prove that, but for the opening of the new section, we should not have dealt with that traffic at all and any one who has traversed the old Beypore route and knows the country will scarcely doubt this as any such increase on the old section was out of the question. It is impossible to say whether any of the Calicut shipping traffic will be transferred to Tellicherry, but it is believed that a very large increase in the Tellicherry shipping trade would take place in the event of a railway being made to that port.

Statement showing gross receipts of coaching and goods inwards and outwards traffic of the Calicut extension.

Half-years.	Kadalundi.	Ferok.	Kallai.	Calicut.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
Half-year ending December 1888	2,439	64,885	25,362	3,08,935	4,02,621
Do. June 1889	3,716	83,384	33,425	3,54,651	4,75,176
Do. December ,,	3,032	69,062	40,763	3,21,345	4,34,182
Do. June 1890	2,990	64,798	34,205	3,26,893	4,28,886
Do. December ,,	2,978	38,308	37,621	2,83,774	3,62,681
Do. June 1891	3,495	43,001	42,713	3,07,108	3,96,317
Do. December ,,	2,808	35,081	42,379	2,67,710	3,47,978
Do. June 1892	3,819	59,283	52,899	4,15,078	5,51,079
Do. December ,,	3,962	57,672	66,671	3,02,441	4,30,846
Do. June 1893	5,187	59,031	52,144	3,52,692	4,69,054
Five years' gross earnings	..	..	..	..	42,78,619
Deduct 55·52 per cent.	..	..	..	..	23,75,489
Five years' net earnings	..	..	..	..	19,03,130

Working expenses percentage half-year ending			December 1888	59·05
Do.	do.	do.	June 1889	56·34
Do.	do.	do.	December ,,	61·54
Do.	do.	do.	June 1890	53.04
Do.	do.	do.	December ,,	51·84
Do.	do.	do.	June 1891	58·40
Do.	do.	do.	December ,,	57·99
Do.	do.	do.	June 1892	56·33
Do.	do.	do.	December ,,	54·50
Do.	do.	do.	June 1893	46·26
			10)	555·29
Working expenses mean for five years				55·52

	Rs.
Average gross traffic of stations on Calicut extension for half-year.	4,27,861
Gross traffic of Beypore for the last half-year it was open ...	2,51,297
	1,76,564
Deduct 55·52 per cent., being average percentage of working expenses for half-year	98,028
Total ...	78,536

Equal on a capital of 20 lakhs to 3·92 per half-year or 7·84 per cent. per annum.

From the Chief Auditor, to the Agent and Manager, Madras Railway, dated Madras, 23rd April 1894, No. T.A. St. 19/2.

[Earnings from traffic on the Calicut extension.]

[Your No. 8192/3060 of the 17th instant.]

In reply to yours of the 17th instant, I beg to inform you that the figures given by the Officiating Traffic Manager have been examined in this office and appear to be substantially correct. I think, however, a more correct result will be arrived at if the average of the Beypore traffic for five years be taken instead of the traffic for the last half-year the station was opened. A deduction should also be made in respect of traffic from each of the four stations to the remaining three, as the present statement, being an extract from the in and out return, necessarily includes these items twice.

The traffic in and out of Beypore from June 1883 to December 1887 inclusive amounts to Rs. 28,39,125, while a sum of approximately Rs. 60,000, based on the June 1893 half-year, represents the traffic local to the stations on the Calicut extension. From these figures I arrive at a net profit of Rs. 6·136 per cent. per annum on a capital of Rs. 20,00,000 as follows:—

	Rs.	Rs.
Gross receipts, five years		42,78,619
Less—		
Gross receipts, Beypore, five years	28,39,125	
Gross receipts, local, five years (estimate) ...	60,000	
		28,99,125
		5)13,79,494
Gross extra earnings, Calicut extension, one year		2,75,899
Working expenses 55·52 per cent., one year		1,53,179
Net extra profit ...		1,22,720

or Rs. 6·136 per cent.

From the Acting Chief Auditor, to the Agent and Manager, Madras Railway, dated Madras, 27th September 1894, No. T.A. St. 19/2.

[Earnings from traffic on the Calicut extension.]

I beg to acknowledge the receipt of your letter No 5490 W./8015 of the 13th instant, with its enclosures, on the subject of the financial results of the Calicut extension and the results to be anticipated from a further extension to Tellicherry.

Regarding the figures given by the Traffic Manager, I would invite your attention to my letter No. T.A. St. 19/2 of 23rd April last in reply to your letter No. 8192/3060 of 17th idem, in which I showed that the earnings from traffic booked to and from the Calicut extension line stations during the five years ending June 1893 averaged Rs. 2,75,899 per annum more than the average yearly earnings on traffic booked to and from the Beypore line during the last five years that line was open.

Considering that the latter included the earnings from carriage of materials for construction of the Calicut line, it is very reasonable to assume that the sum of Rs. 2,75,899 represents increased earnings entirely due to the opening of the Calicut extension.

From the Agent and Manager, Madras Railway, to the Consulting Engineer for Railways, dated Madras, 18th April 1895, No. 5190 W./380.

With my letter No. 285 of the 22nd March last on the subject of extensions, I forwarded letters and statements from the Traffic Manager and Chief Auditor giving the results of the opening of the Calicut extension, and these figures it was considered would serve as a fair basis on which to estimate the receipts of the proposed Calicut-Cannanore line.

Since these statements were prepared, the Audit department has compiled statistics of traffic for various sections of the Madras Railway, and I am now advised that the actual earnings of the section from Podanur to Calicut, 115 miles, for the half-year ending 30th June 1894 were as follows:—

—	Local to the section.	Proportion of through traffic.	Total.
	Rs.	Rs.	Rs.
Coaching	1,22,856	62,056	1,84,912
Goods	90,043	2,06,123	2,96,166
Total ..	2,12,899	2,68,179	4,81,078

The approximate length of the Calicut-Cannanore extension is 52 miles and the proportionate receipts for this mileage would be—

Miles.	Local to the section.	Proportion of through traffic.	Total.
	Rs.	Rs.	Rs.
$\frac{52}{115}$	96,267	1,21,263	2,17,530

In my opinion the earnings will be considerably higher than these figures indicate, as the whole of the country between Calicut and Cannanore which the line will traverse is densely populated and various industries are carried on by merchants which must cause a large traffic. Access will be gained also to the important coast ports of Tellicherry and Cannanore and a heavy traffic must consequently follow.

On the other hand, the district from Pódanúr to Olavakode is not so thickly populated and there are no important industries so that there are very good reasons for expecting much larger receipts from the Cannanore extension than a mere mileage proportion of the Pódanúr-Calicut traffic would lead us to anticipate.

ORDER—dated 23rd May 1895, No. $\frac{365}{A}$ R., Public Works.

Ordered that the Government of India be addressed.

[Here enter No. 366 R., dated 23rd May 1895.]

(True Extract.)

(Signed) F. R. UPCOTT,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

To the Agent and Manager, Madras Railway.
" Examiner, Guaranteed Railway Accounts.

Exd. C. A. Muniswmy.
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RAILWAY.

Govt. of {1895} Madras.

PUBLIC WORKS.

Dated May, 23rd.

Read. *Enct.*

G.O., 23rd May 1895, No. 365/A R.

MAY.

Lines of Railway

Ordered that the Government of India be addressed on the subject of the — proposed as valuable feeders to the Madras Railway system and as falling within the scope of that Railway's administration.

23RD MAY 1895, No. 366 R., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

Railway.

LETTER—from

F. R. UPCOTT, Esq.,
Joint Secretary to the Government of Madras,
Public Works Department,
Railway Branch,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

In reply to your letter No. 735 R.C., dated 7th August 1894, and subsequent reminder No. 280 R.C., dated 7th March 1895, asking for—

(1) an estimate of the cost of a detailed survey of the Calicut-Cannanore and Shoranur-Cochin Railways,
(2) the opinion of the Madras Government as to whether the Calicut-Cannanore line should be preferred to other branches which the Madras Railway may propose to construct, and
(3) criticising the manner in which the receipts on the Calicut-Cannanore section are estimated,

I am directed to say that revised estimates of the cost of the detailed surveys were submitted to the Government of India with my letter No. 33 R., dated 22nd January 1895, and received sanction in Government of India letter, No. 192 R.C., dated 22nd February 1895.

2. The marginally-noted branch lines have been proposed by the Agent and Manager, Madras Railway, in his letter No. 2-5 of 22nd March 1895 (copy of which is enclosed), as valuable feeders to the Madras Railway system and as falling within the scope of that Railway's administration. They are placed by him numerically in the order of their importance.

1. Calicut-Cannanore.
2. Shoranur-Cochin.
3. Pódanúr-Dindigul.
4. Salem-Dindigul.
5. Arcot, Wallajabad and Ranipet.
6. Salem-Porto Novo.
7. Erode-Satyamangalam.

3. Omitting the first two which form the subject of your letter under reply, it may be convenient to refer briefly to the correspondence which has passed relating to the others.

Pódanúr or Palghat-Dindigul.—This line was first suggested in 1869 and the Collectors of the districts through which the line would pass were asked to report on its prospects; their reports are embodied in Proceedings of this Government No. 750 R. of 8th August 1878. A preliminary survey with report and estimate was submitted by the Engineer-in-Chief, Madras Railway Surveys, in 1887. Two alternative routes were considered—one *viâ* Dhárápuram, the other *viâ* Palni. The former, 107 miles in length, was estimated to cost on the metre gauge Rs. 63,40,000; the other, 100 miles

in length. Rs. 63,95,000, the cost per mile, viz., Rs. 63,530, being the same for both. The opinion of the Board of Revenue on the necessity of the line from a famine protection point of view is embodied in Proceedings of this Government No. 127 R., dated 17th February 1888. In 1888 the Board of Directors of the Madras Railway proposed to construct this, among certain other branches, either on the standard or metre gauge, whichever might be preferred by Government. The Local Government, in forwarding this letter to the Government of India (see G.O., Nos. 467 and 468 R. of 7th June 1888) considered that no further expenditure in surveys on this line should be incurred and remarked that the line, if constructed by the Madras Railway, should be on the standard gauge, the break of gauge being at Dindigul instead of Palghat and that though such a line was desirable it was a question if it would pay.

In a letter No. 1285 R., dated 28th August 1890, to the Government of India, the Government of Madras remarked that the time had arrived for deciding finally whether the line should be broad or metre gauge and that though it was doubtful whether the line would pay the interest on its capital, it would certainly pay indirectly through the increased traffic which it would bring to the Madras and South Indian Railways.

Salem to Dindigul.—This is one of the lines proposed by the Agent, Madras Railway, and by the Board of Directors, Madras Railway, in 1888. In forwarding this proposal to the Government of India (No. 468 R., dated 7th June 1888), His Excellency the Governor in Council remarked that he attached much importance to the connection with the town of Salem which is four miles distant from the railway and that the extension to Námakkal would serve a portion of the country which is out off from the South Indian Railway by the Cauvery river. No statistics of traffic are on record, nor has any survey of the line been made. The distance from Salem station to Námakkal is about 35 miles.

Arcot to Wallajabad, Ranipet and Arcot.—A plan and estimate for this short branch has been submitted by the Agent, Madras Railway, to his Board of Directors and a numerously signed memorial has been forwarded to His Excellency the Governor in Council by the inhabitants of Arcot and the neighbourhood praying for this feeder branch. Before submitting it to the Government of India, the recommendation of the Board and certain other information is required and the Government will again be addressed on the subject. It is seven miles long and would serve the important towns of Wallajabad, Ranipet and Arcot and correct the original and faulty alignment of the Madras Railway. The construction is estimated to cost about 4 lakhs and the receipts to give a return of 3·7 per cent. on the capital cost.

Salem to Porto Novo.—This was one of three lines, viz., Palghat-Dindigul, Madura-Pámban and Salem-Porto Novo, which were put forward in 1887 for consideration as famine protective lines. The Revenue Department considered that from that point of view it ranked third. This report was communicated to the Government of India in Proceedings No. 127 R. of 17th February 1888. The line was surveyed by the Engineer-in-Chief, Madras Railway Surveys, in 1885–86; its cost on metre gauge was estimated at Rs. 69,86,000, the length being 116 miles. It is of small importance as a famine protective line and no statistics are on record dealing with the traffic that may be expected.

Erode-Satyamangalam.—This line forms part of a comprehensive scheme put forward by Messrs. Kirby and Lonsdale comprising railways on the metre gauge from (1) Mangalore to Arsikere *viâ* Hassan, (2) Hassan to Mysore, (3) Nanjangod to Erode *viâ* Satyamangalam or by an alternative route through Kollegal and along the right bank of the Cauvery. We are only now concerned with the last-named section. The prospects of traffic on this line were reported on by the Collector of Coimbatore in a letter embodied in the Proceedings of this Government, No. 152 R., dated 10th March 1894. Although the letter speaks very unfavourably of the line as a whole, the prospects of traffic on the portion, 40 miles in length, from Erode to Satyamangalam are considered to be eminently favourable. Partly owing to the poor prospects of traffic and partly to objections raised by the Madras Chamber of Commerce and the Madras Railway, the project for the whole line was abandoned. No survey has been made and no statistics of traffic have been compiled.

4. His Excellency the Governor considers that none of the projects mentioned in paragraph 2 are likely to be so profitable as either the Calicut-Cannanore or the Shoranur-Cochin, but would be inclined, from the information at the disposal of this Government, to place the short branch of seven miles from Arcot station to Arcot town entered as No. 5 *third* on the list, and as regards the two first mentioned preference should, he considers, be given to the Calicut-Cannanore line.

5. The figures given in the letter from the Agent, Madras Railway, No. $\frac{5490 \text{ W.}}{380}$ of 18th April 1895, showing the proportion of local to through traffic on the section Podanur to Calicut, afford good grounds for anticipating that the traffic will be at least as heavy on the Calicut-Cannanore extension.

I have the honour to be,
Sir,
Your most obedient servant,

(Signed) F. R. UPCOTT,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Ootacamund,
23rd May 1895.

Encl. C. A. Monsoony.
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RAILWAY.

Govt. of {1895} Madras.

PUBLIC WORKS.

Dated May, 23rd.

Recd. *Encl.*

23rd May 1895, No. 366 R.

MAY.

Lines of Railway

Furnishing opinion on the subject of the — proposed as valuable feeders to the Madras Railway system and as falling within the scope of that Railway's administration.