

Public Works (1895) Department

G.O., No. 365_A, 366R

DATED 23rd May

[Despatch Abstract.]

Lines of Railway - Ordered that the Govt. 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.

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.

BACK PAPERS.

[illegible]

FURTHER PAPERS.

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

Run No. 1

OFFICE OF THE CONSULTING ENGINEER FOR RAILW.

Madras, 30th March 1894

To

AGENT AND MANAGER, M. R.

No. *1021* Reply No. _____, dated _____

SIR,

Reminders:

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

I would also ask for
an early reply to my 763
of 5th March. Now that
the survey is I believe com-
plete it would assist
me if you could supply
me with an independent
of the points as well.

Lucas F. Re.
19. 3/80.

Form No. 4

Original in Calicut - Summary

62
OFFICE OF THE CONSULTING ENGINEER FOR RAILWAYS,

Madras, 4th May 1894.

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 1894
reys of 6 months regarding
Mr. Gale's proposals for a
line from Shoranur to
Cochin & Calicut to come
more...

Yrs F. R. L.

Reminders.

Subject.

Original in Calicut
Commissioner's Office

His Excellency the Governor
Hon Mr. 18th
Hon Mr. 18th

Note
an order project for extension
of the Madras Railway.
Calicut. Cannanore
Shoranur. Cochin

In this file we have another
instance of the issue of letters
by the Railway Branch of the
P.W.D. are important projects without

circulation to the members of Govt.
Letter No. 253.C of Jan 20, 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 expressed an opinion on this line
or heard of it until this file reached me 2 or 3 days ago. Now, as far as I
can see, did the Hon Mr. 18th see in
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 think I must not again have to make
complaints of this kind.

As to the two lines, Calicut to Cannanore
and 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 con-
struction should be given to Mr. Gale.
Both the Govt. & the Chamber of Commerce
borrow money at little if at all
over 5%. Why should not our money do
so & make these railways & get their
profits, instead of having them to Mr.
Gale?

As regards the branch from Shoranur
(or Pattanam) it seems to me that
great caution will be necessary before
Cochin is decided on as the station terminus.

The Govt. of India by 287.
D.C. of 20th Dec 1894 considers
the 2 projects favourably, but
before granting the concession
asks for more information
as to their cost & prospects.
Calicut. Cannanore. The Madras
Railway on being asked to
take the yearly receipts of their
line from Ottapalam to Calicut
as a guide. The mileage is 61 1/2
the total receipts are 14,10,665
for the year ending Jan 1893.
Their survey - an approxi-
mate one gives
Calicut. Tellicherry 43 1/2 miles
estimated to cost 37,22,504 and
Tellicherry. Cannanore 12 miles
costing 18,00,000 that is
55 1/2 miles costing 55,23,000
By reducing their receipts
for 61 1/2 miles in the proportion
of 55 1/2 the total receipts are
12,73,000 which (taking their
working expenses at 50%
to which figure they are
now,

now, nearly this gives 11 1/2 percent on the Capital cost

The Chief Auditor's figures quoted in the Engineer's Report give however 6.136 per cent. based on the Calicut extension. But here the Agent allows nothing for the present steamer traffic between Calicut & Cannanore nor for the canal which goes from Calicut to Badungara 13 miles from Tellicherry. see report by Mr. Bradley, Collector of Malabar

Dis. 69 of 3. Feb. 1894 Board of Revenue.

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

The visible traffic is given at only 5,000 mounds monthly carried by road & canal between Calicut & Tellicherry.

This would only yield about 1000/- a year at 1/3 pie rate but the Collector says the passenger traffic would be heavy according to the estimates

by "Cochin" in this connection much, I presume, he 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 southward without a bridge over the mouth of the river which is both deep & un navigable? And with such a bridge be possible at any reasonable cost? It strikes me that Ernakulam is a better place for the Southern terminus of the proposed line than Cochin, he. Canoe extension thence to the South will be easier. I doubt don't know if this point has been looked into. If so, I think it should be.

Encl. H. W. B.
21.5.94

All members of Govt. should have a voice as regards such projects as these. Sir H. Stokes & Mr. Christian saw the first papers about Mr. Gale's proposals, but there is nothing to show how they would have regarded further information before Govt. When G.O. 20, Jan. 94. 253 was passed, except that they would probably have hesitated to support the coast line from Calicut southwards. The complete papers ought to have been circulated to the Hon. Mr. N. S. D. & 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

Encl. J. 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 rural parts. While it will also serve large municipalities

Encl. W.
15.5.97

estimates the line with coast in round numbers, 1 lac per mile. Taking working at 50% it must earn 15 1/4/- mile to pay 4% on Capital and assuming passengers pay 2 pias per mile and goods 10 pias per ton mile it must carry daily, over 1000 passengers and 2 1/2 ton of goods.

The Madras Railway carries an average (on last 1/2 year's Revenue account) 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

goods are concerned.
 I suggest therefore that
 India he imagined 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 save 4 per cent on the
 Capital cost.

Encl. J.R.W.
 14.5.94.

Yes.
 But attention should be called to
 the Collector's remarks as to the water
 competition both by sea & canal,
 and the likelihood of the railways
 being preferred to either. Landing
 & shiping are difficult always
 at Cannanore, Tellicherry & Calicut
 and almost impossible for some
 4 months every year. While the canal
 does not afford direct communi-
 cation between Calicut & Tellicherry
 as it stops 13 miles short of Tellicherry.
 This competition need not therefore
 I think be considered serious.

Encl. W
 15 May 94

B. Form No. 12

Original in Calicut
 Cannanore

Circulate
 Mr. the Govt in Council
 Hon. Mr. Blair
 Hon. Mr. Grove

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
 287 R.C. of 20th March 94.
 I am directed to forward
 copies of Nos. 5290 of 10th
 and 16th May with enclosures
 from the Agent of the Madras
 Railway in the proposals of
 the Calicut-Cannanore
 and the Palghat or Shoranur
 Cochin railways.

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

43 1/2

Intd 18.00.13
 8/6/94
 Intd 9th
 9/6/94

43½ miles is estimated
to cost Rs 37,22,500 and
Tolluacherry to Cannanore
12 miles is estimated to
cost Rs 18,00,000 being
a total of 55½ miles es-
timated to cost Rs 55,22,500.

The traffic manager has
his estimate of traffic on
the actual of the Madras
Railway between Calicut
and Ottapalam 61½ miles
for the year ending June 1891.

By reducing the receipts
in the proportion of $\frac{55\frac{1}{2}}{61\frac{1}{2}}$ the
amount is Rs 12,73,000
taking working expenses
at 50% the result gives
11½% on the total capital.
The Chief Engineer's estimate
of Rs 6.136% on the Tollu-
acherry line only is not sup-
ported by any figures.

With regard to the prospects
of the Shoranur Cochin line
the Agent refers again to his
letter printed with G.O. 1967R
of 13 August 1892.

His

This estimated return
of 3.85 per cent. is, it may
be noted, on the direct line
between Palghat and Kanna-
pattanam. What the Agent
in his letter of 16 May states
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 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
& Olatkote Olatkote may
be expensive to work for
through traffic, these ob-
jections are it is considered
more than balanced by the
difference

difference in the estimate
cost which is 2 miles @ $1\frac{1}{2}$ lakhs
per mile (omitting the tunnel)
on the direct line of 18 miles
at 1 lakh per mile from
Shoreman so that with much
shorter construction length
the connection can be made.

The Agent further recom-
mends the extension to Guntur
and in this connection
I am to remark that Erus-
salem at the northern
side of the breakwaters may
be the natural present
terminus and that this has
always been intended.

Taking therefore the two
lines as costing about 1
lakh per mile expenses
@ 50% they must earn 10%
per mile per week to pay
4% & therefore carry 1000
passengers & 211 tons of goods
daily at a 2 pie & 10 pie
rate respectively.

The visible present traffic
between Calicut & Sulliam
is

is only given at 2000 tons
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 be-
tween Shoreman & Calicut
463 tons of goods per week
have been registered, & as
the Madras Railway
carry about 1000 passen-
gers & 500 tons of goods
daily one mile the pro-
spects seem encouraging.

I am further to say
that in reviewing the
estimate of traffic on the
given by the Agent Madras
Railway for the 2 lines under
reference, H.E. the Governor
in Council is of opinion
that they may possibly offer
too sanguine, as these
projected extensions are too
parallel to the Coast and
therefore

therefore in competition
with ocean steamer lines.
However at the Columbia
points on landing and
shipping at the Ports are
always conducted with
difficulty - because this
for four months of the
year they are practically
stopped & also as the canal
does not connect Telli-
cherry with Calcutta the
competition is not likely
to be serious on the con-
tinental the probability is
that the railway would
be preferred to either a sea
or canal route.

On these grounds the pro-
posals 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
Madras 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 profits in excess
of this amount would be
recovered by them instead
of being diverted into the
pockets of another party.

Intd F.R. 11.
30/5/84

Intd W.
4 June

N.B. The attention of the
Consulting Engineer is par-
ticularly called to the Hon.
members remark as to cir-
culation of important files.

Intd W.

Shaw notes this

Intd F.R. 11.
12/6/84

original in Calcutt. Comm. Secy.

Circ

Hon. Secy. the Governor

Hon. Mr. Blair

Hon. Mr. Grose.

Gates' proposals to construct lines Calcutt. Can. narrow & Palghat to Cochin

Since writing the draft to India regarding these lines, Mr. Grose has sent me a private copy of a letter addressed by his Board to the Secy. of State, asking that the Calcutt. Cannonmore

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.

line be given to them Railway to construct.

The letter is dated 19

It is only right that we should backup the Madras Railway and help them to get these extensions. It is years since the Madras Railway has extended its system. While that horrid narrow gauge which the Southern Railway has spread itself octopus-like over the land from sea to sea (and

I don't understand why a copy has never been sent to us, for I pre. serve 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 combine one if not both branches themselves

Entd W. 13 June
Entd W. 14/6/87
Entd 15/6.
I would make it a new sentence.

themselves either be 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."

Yrds F.R.W.
17/6/94

His Excellency the Governor
Hon. Mr. Bliss
Hon. Mr. Cross

Proposed Railway
Calcutta - Canning
Shore - Coochin

Letter 735.R.C. of 7th Aug
from Govt of India

(enc) W
(a) H.W.B.
(a) J.G.

In regard to para 4, the
Madras Railway will be
asked to furnish the esti-
mates.

Yes
(enc) W
(a) H.W.B.
17/6/94

J.G.

It is curious that only Coochin
begged the Govt of India 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, but still well worth trying.

(enc) W

Before replying to para 4,
it will be necessary to con-
sult the Madras Ry. whether
they have other feeder lines
or extensions in view which
are preferable to the one from
Calcutta to Canning.

The line Madras to Rangoon
will shortly be made & the
extension to Rangoon is
being considered.

Putting these aside these

- (a) Dalgat to Dindigul
- (b) Salem to Porto Novo
- (c) Erode to Sattiamangalam

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

from Erode to Kanyakumari
the first 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 India's
remark that because of the
difficulty in raising funds
in sterling or silver, this Govt
are asked to consider whether
other means by feeder
are preferable. A loan
must be raised in any
case, the Government have
ample borrowing powers
for feeder lines under their
Contract & they are in a
position to borrow at lower
rates of interest than Mr.
Gale.

Para b. is a criticism
on the return of traffic
but para c of this Govt's
406. D of 20th June discounts
the Agent's figures which
worked out to 11½% on the
Capital cost.

I do not think this para
calls for any reply.

(Encl) 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 Govt will not put
forward any before these

(Encl)

W

Para b had better be commu-
nicated to Mr. Moore for his
remarks.

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

(Encl)

W

16/8/94

M. 850. Dated 23rd August 1894
Agent's Manager 75
Madras Railway

I am directed to forward
copy of letter 735 R of 7th
Aug from Govt of India
with enclosure & to ask you
to furnish an estimate of
the cost of surveying the
lines from Calicut to Can-
nannore & 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.R.

Palghat to Dindigul
Salem to Porto Novo
Erode to Sattayamangalam
and to ask whether these
or any other branches
should be preferred to
the line to Cannannore
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 of 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 ~~line~~ true earnings of the comparative section.

(Calicut - Ottapalam)
unless the whole of the traffic there be incremental and unless the port of Tellicherry is likely to supersede that of Calicut and I am to invite your reply to this criticism.

(Sd/-) F. R. L.
21/8/94

Enclosures (Copy)

735 Rec of 7th Aug

Despatch No 42, enclosure

No 7759

406 D of 23 June

Despatch
23/8/94

23RD MAY 1895, No. ³⁶⁵/_A R., PUBLIC WORKS.

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.

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	7,06,568
Add 50 per cent. to cover anticipated receipts from Cochin and expected sea-borne traffic	3,53,294
Total gross receipts	10,59,862
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-year	Kadalundi.	Feroh.	Kallai.	Calicut.	Total.
Half-year ending December 1888	Rs.	Rs.	Rs.	Rs.	Rs.
Do. June 1889	3,439	64,885			
Do. December 1889	3,715	83,384	25,362	3,08,936	4,02,621
Do. June 1890	3,032	69,052	33,475	3,56,661	4,75,175
Do. December 1890	2,990	64,798	40,753	3,21,345	4,34,182
Do. June 1891	2,978	38,308	34,205	3,26,893	4,28,386
Do. December 1891	3,495	43,001	37,621	2,63,774	3,62,681
Do. June 1892	2,808	35,081	42,713	3,07,106	3,66,317
Do. December 1892	3,119	69,284	42,379	3,67,710	3,67,710
Do. June 1893	3,062	67,672	62,899	4,16,078	6,31,079
Five years' gross earnings	5,187	59,031	66,571	3,07,441	4,30,646
Deduct 55 53 per cent.			62,144	3,62,892	4,69,036
Five years' net earnings					42,78,619
					23,75,489
Working expenses percentage half					19,03,130

Working expenses percentage, half-year ending				
Do.	do.	do.	December 1888	59.05
Do.	do.	do.	June 1889	66.34
Do.	do.	do.	December 1889	61.54
Do.	do.	do.	June 1890	53.04
Do.	do.	do.	December 1890	51.84
Do.	do.	do.	June 1891	54.40
Do.	do.	do.	December 1891	57.09
Do.	do.	do.	June 1892	66.33
Do.	do.	do.	December 1892	54.50
			June 1893	46.26

Working expenses mean for five years	Total ...	10) 555.29
... ..		
... ..		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 *via* Trichour 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 and 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 $43\frac{1}{2}$ 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 $55\frac{1}{2}$ 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 $61\frac{1}{2}$ miles for the year ending June 1893; by reducing the receipts in the proportion of $\frac{66}{61}$ the amount is Rs. 12,73,000, and taking working expenses at 50 per cent. the result gives $11\frac{1}{2}$ 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 $1\frac{1}{2}$ 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 Ernakulam 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. 154 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 61½ miles) and the proportion for the additional 1½ miles subsequently deducted.

The total receipts for the Madras Railway Section under notice are Rs. 14,10,665, less proportion for 1½ miles Rs. 31,406, 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, Balakani, 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 between 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 43½ 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, 33½ and 35½ 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 (43½ miles).

The alignment falls throughout in British territory except between 37½ and 38½ 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 (43½ miles). The whole route is thickly populated, and the land to a great extent is under wet cultivation and covered with coconut 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	...	...	...	8½ miles—Waterway	750 feet.
Kottai do.	...	...	...	26½ "	400 "
Mahé do.	...	...	...	34 "	550 "
Karumpans 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 Perok 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 Ferdk and Kallai has been adhered to. The approximate estimated cost for the 43½ miles works out to Rs. 37,22,504 or Rs. 85,575 per mile, and the anticipated receipts should yield 6.126 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 43½ 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.

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

Approximate estimate.

Heads of account.	Total cost in rupees.				Notes.
	Sub-heads.		Main heads.		
	Total cost.	Rate per mile.	Total cost.	Rate per mile.	
I.—Preliminary expenses ..	Rs.	Rs.	Rs.	Rs.	Cost of reconnaissance.
1. Survey expenses ..	700	16	700	16	
2. Plant ..	..	..	..	..	
3. Establishment ..	..	..	..	..	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.
II.—Land ..	2,80,000	8,747	2,80,000	8,747	
III.—Formation ..	..	..	4,40,000	10,118	
1. Earthwork ..	2,29,294	5,805	..	..	For four miles only. For two miles only.
2. Cutting laterite ..	2,00,706	50,177	..	..	
3. Road diversion ..	10,000	8,000	..	..	
IV.—Bridge work ..	..	..	12,00,000	29,859	Three large bridges 750, 400 and 650 lineal feet, adapted for cart traffic at Rs. 700 per lineal foot.
1. Large bridges ..	11,00,000	27,368	..	..	
2. Minor do. ..	1,00,000	2,603	..	..	
V.—Fencing ..	..	..	1,62,472	4,135	Fencing.—Wire fencing has been provided throughout the line. Including gate-keeper's lodge.
1. Fencing ..	1,53,120	3,820	..	..	
2. Road crossings ..	8,492	198	..	..	
3. Mile and gradient posts ..	800	20	..	..	It is assumed that Government will construct the line of telegraph, and the necessary instruments at stations only have been provided for.
VI.—Electric telegraph ..	14,790	340	14,790	340	
VII.—Ballast and permanent way ..	..	..	11,25,553	28,878	
1. Ballast ..	1,81,213	4,235	..	..	Ballast consists of fine laterite and sand. Permanent way to be 30 feet ball-headed rails on C. I. Pot sleepers, landed at Calicut.
2. Permanent way ..	9,41,340	21,610	..	..	
VIII.—Stations and buildings ..	..	..	2,04,000	4,890	
1. Stations and offices ..	2,04,000	4,890	..	..	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 ..					
4. Workshop, store buildings, &c. ..					

Approximate estimate—cont.

Heads of account.	Total cost in rupees.				Notes.
	Sub heads.		Main heads.		
	Total cost.	Rate per mile.	Total cost.	Rate per mile.	
	rs.	rs.	rs.	rs.	
IX.—Plant	..	..	78,125	1,750	
1. Engineering ..	} 78,125	1,750	..	..	
2. Locomotive ..			..	..	
3. Carriage and wagon ..			..	..	
4. Station and office furniture ..			..	..	
X.—Ferries, &c. ..	..	..	..	..	
1. Ferries ..	..	..	..	..	
2. Floating bridges ..	..	..	2,00,000	6,896	
XI.—Rolling stock ..	..	..	..	..	
1. Locomotive ..	} 3,00,000	6,896	..	..	
2. Carriage and wagon ..			..	..	
XII.—General charges ..	..	..	80,000	1,149	
1. Direction ..	} 60,000	1,149	..	..	
2. Engineering ..			..	..	
3. Stores ..			..	..	
4. Audit and accounts ..			..	..	
5. Medical and sanitation ..			..	..	
Total expenditure ..	..	..	39,72,504	..	Assumed contribution from District Board for adapting three large bridges for cart traffic.
Deduct ..	..	..	2,00,000	..	
Total ..	..	..	37,22,504	..	
Length in miles ..	..	..	43.5	..	
Total rate per mile ..	..	..	85,878	..	

(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. 5490 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 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.

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

† No. 7759 of 19th March 1894.

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.

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 1868.

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.

Years.	Tellicherry.									
	Imports.					Exports.				
	Private.		Government.		Total.	Private.		Government.		Total.
	Merchan- dise.	Trea- sure.	Stores.	Trea- sure.		Merchan- dise.	Trea- sure.	Stores.	Trea- sure.	
1	2	3	4	5	6	7	8	9	10	11
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1894-95	31,05,913	3,00,000	5,023	..	36,10,936	80,08,190	..	1,727	..	80,09,917
1895-96	32,35,400	..	..	..	32,35,400	79,20,115	..	1,386	..	79,21,501
1896-97	34,44,818	14,000	14,386	..	34,73,204	1,00,48,161	..	9,901	..	1,00,48,062
1897-98	41,24,917	..	7,614	..	41,32,531	1,04,95,692	..	10,581	..	1,05,06,273
1898-99	44,63,265	..	9,572	..	44,62,837	1,18,71,811	..	13,495	..	1,18,85,306
1899-00	53,15,009	..	8,799	95,000	53,18,808	99,83,170	..	17,928	..	1,00,01,098
1900-01	59,23,863	19,799	14,938	..	69,58,600	1,05,62,320	..	18,026	..	1,05,80,346
1901-02	61,94,431	..	21,660	..	63,21,091	1,11,65,708	..	10,256	..	1,11,76,963
1902-03	67,82,261	..	8,442	..	67,90,703	1,01,77,122	2,00,000	7,188	..	1,03,84,310
1903-04	28,98,250	3,500	28,743	..	29,30,493	80,84,472	897	9,812	..	80,85,169

Years.	Calicut.									
	Imports.					Exports.				
	Private.		Government.		Total.	Private.		Government.		Total.
	Merchan- dise.	Trea- sure.	Stores.	Trea- sure.		Merchan- dise.	Trea- sure.	Stores.	Trea- sure.	
12	13	14	15	16	17	18	19	20	21	22
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1894-95	32,36,794	39,075	25,422	..	32,92,291	70,53,018	..	7,166	41,000	71,21,183
1895-96	36,47,710	25,609	14,192	2,80,000	39,67,511	75,13,509	3,64,000	42,013	2,05,000	81,14,522
1896-97	38,65,124	27,500	15,742	3,50,000	42,58,366	81,01,143	1,51,000	6,445	4,000	82,62,628
1897-98	40,05,183	31,010	28,689	60,000	41,17,872	77,25,810	1,06,287	8,633	..	78,68,740
1898-99	45,43,057	17,000	30,402	3,80,000	49,70,459	1,04,72,316	1,07,412	79,503	..	1,06,59,231
1899-00	42,11,067	39,678	98,642	6,78,000	60,27,387	84,36,363	22,324	1,33,193	78,500	84,70,379
1900-01	62,04,760	44,010	28,432	8,10,000	68,87,192	84,29,659	1,41,997	13,739	2,000	85,87,396
1901-02	81,90,200	37,000	7,443	8,15,000	89,60,173	1,01,46,623	2,39,248	31,466	4,000	1,04,20,437
1902-03	72,04,509	27,000	4,742	..	72,46,251	1,08,02,199	21,150	28,941	4,382	1,08,56,672
1903-04	63,62,344	44,000	19,614	..	64,26,058	1,10,22,070	6,08,000	18,094	2,880	1,16,51,044

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

Years.	Cannanore.									
	Imports.					Exports.				
	Private.		Government.		Total.	Private.		Government.		Total.
	Merchan- dise.	Trea- sure.	Stores.	Trea- sure.		Merchan- dise.	Trea- sure.	Stores.	Trea- sure.	
1	2	3	4	5	6	7	8	9	10	11
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1894-95	24,65,298	22,500	47,528	..	25,35,323	18,23,438	..	12,224	..	18,35,662
1895-96	24,62,244	6,000	71,761	..	25,39,995	15,82,903	2,600	11,018	..	15,97,421
1896-97	23,60,962	..	26,783	..	23,87,745	13,68,223	..	42,691	..	14,10,914
1897-98	23,9,675	..	21,494	..	23,63,071	13,93,406	..	15,744	..	14,09,150
1898-99	20,79,371	..	23,314	..	21,08,707	15,62,318	..	38,200	..	16,00,518
1899-00	22,55,616	..	24,172	..	22,83,778	16,94,664	..	6,428	..	17,00,092
1900-01	26,72,886	6,000	24,344	..	27,04,032	10,72,292	..	8,744	..	10,76,036
1901-02	20,48,764	..	26,076	..	21,22,820	12,20,273	..	1,461	..	12,21,734
1902-03	25,80,403	..	22,090	..	26,62,493	12,62,415	..	18,469	..	12,71,984
1903-04	14,58,750	600	20,504	..	14,79,854	15,64,195	..	6,863	..	15,71,058

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

Years.					Imports.	Exports.
1889-90	..	..	..	..	Rs. 29,896	Rs. 69,398
1890-91	..	..	..	..	17,232	37,624
1891-92	..	..	..	..	41,768	60,916
1892-93	..	..	..	..	28,603	67,667
1893-94	..	..	..	..	18,091	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.	Feroke.	Kallai.	Calicut.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
Half-year ending December 1888	..	..	..	..	..
Do. June 1889	3,439	64,885	25,382	3,08,935	4,02,621
Do. December ..	3,716	83,384	33,425	2,84,651	4,75,176
Do. June 1890	3,032	69,062	40,763	3,21,346	4,34,183
Do. December ..	2,990	64,798	34,205	3,26,893	4,28,846
Do. June 1891	2,978	38,308	37,621	2,83,774	3,62,681
Do. December ..	3,495	43,001	42,713	3,07,108	3,96,317
Do. June 1892	2,808	35,081	42,379	2,67,710	3,47,978
Do. December ..	3,819	69,283	62,899	4,16,078	5,51,079
Do. June 1893	3,963	67,672	66,671	3,02,441	4,30,664
Do. December ..	5,187	69,031	62,144	3,52,892	4,89,054
Five years' gross earnings	..	..	..	..	42,78,619
Deduct 55.52 per cent. ..	..	..	..	..	23,78,489
Five years' net earnings	..	..	..	..	19,00,130

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	..	48.26

Working expenses mean for five years 55.52

Average gross traffic of stations on Calicut extension for half-year. Rs. 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:—

Gross receipts, five years	Rs. 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./3015 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 instant, in which I showed that the earnings from traffic booked to and from the Calicut extension line 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. 5490 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.
Coaching	Rs. 1,22,856	Rs. 62,068	Rs. 1,84,924
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.
$\frac{52}{115}$	Rs. 96,267	Rs. 1,21,263	Rs. 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 Podanur 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 Podanur 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.

Ed C. A. Meniswamy.
Spare Copies

RAILWAY.

Gobt. of {1895} Madras.
PUBLIC WORKS.

Dated May, 23rd.

Recd.

Encl.

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

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. 795 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

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

numerically in the order of their importance.

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. 150 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 *via* Dhárápuram, the other *via* Palni. The former, 107 miles in length, was estimated to cost on the metro 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. 1255 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 Namakkal 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 Namakkal 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 numerous 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-Pamban 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 *via* Hassan, (2) Hassan to Mysore, (3) Nanjangud to Erode *via* 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. ^{6490 W.} 350 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.

OUTACAMUND,
23rd May 1895.

Ed. C. A. Menzies,
Spare Copy

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.