

Public Works (1395) Department.

RAILWAY BRANCH.

G.O., No. 1 R

DATED 6th May

[Despatch Abstract.]

Through siding at Washermanpet Station.
Estimate amounting to Rs 11,091 for the proposed
— Madras Railway, sanctioned.

traffic. The ground also at each side of Pattambi station has been examined, and it is found that no suitable site for a junction station could be obtained owing to the low level of the land, the difficulty of securing a favourable crossing of the Ponlani river, and the increased mileage from Madras which a junction here would involve.

5. It was also agreed that a line passing through the undermentioned towns (*vide* accompanying map) would best serve the interests of the railway as well as those of the Travancore and Cochin territories and meet with the sympathy and support of the Governments of both States:—

	Distance from Shoranur.						
	MILES.						
(1) Mulakaray	...	...	...	...	...	...	5
(2) Wadancherry	...	...	...	...	...	...	8
(3) Mularthankavu	...	...	...	...	...	...	14
(4) Trichur	...	...	...	...	...	...	20
(5) Eddakunni	...	...	...	...	...	...	24
(6) Poodukad	...	...	...	...	...	...	29
(7) Ahtur	...	...	...	...	...	...	36
(8) Shalakudi	...	...	...	...	...	...	40
(9) Kodakulamkaray	...	...	...	...	...	...	47
(10) Chengal (ferry)	...	...	...	...	...	...	53
(11) Perambalur	...	...	...	...	...	...	56
(12) Keelamaad (for Alwaye)	...	...	...	...	...	...	62
(13) Eddapally	...	...	...	...	...	...	69
(14) Ernakulam (Cochin)	...	...	...	...	...	...	72

6. It will be observed that this route differs materially from any line previously surveyed or recommended; it occupies a position further inland than the more direct line to Cochin hitherto advocated and is consequently 72 miles in length as compared with the 62 miles on which the previous estimate submitted for the survey was based. It is desirable here to explain that any line of railway from Shoranur to Cochin must of necessity pass through a large area of Travancore as well as of Cochin, and it would appear that the interests of the former State had not been sufficiently consulted in the alignment followed when the preliminary survey was undertaken in 1871.

7. This point has been satisfactorily settled at the present meeting, and the final location of the line along the revised route indicated on the map will now be carried out during the survey in progress as far as funds will permit. This alignment has been carefully considered with due regard to the most important trade centres and is unquestionably best suited to the altered conditions of the country since the first preliminary survey was undertaken in 1871, or over twenty-four years ago. Owing to the opening out of additional roads, the extension of cultivated area and the general development of traffic in grain and forest produce, the route as now fixed, though somewhat circuitous in one place, commends itself as the most favourable from all aspects. The detour eastwards through Perambalur is found to be imperative in order to avoid traversing the isolated tract of Cochin territory between that town and Alwaye and thus obviate the difficulties in connection with custom dues, but it will accommodate the extensive timber traffic from the north-east portion of Travancore.

8. From an engineering point of view also this alignment possesses many advantages as it avoids the crossing of the large rivers near their mouths where they widen out and fall into the estuaries or backwaters which exist all along the coast. The bridging of these large streams at favourable points more inland will thus be secured, and the stations having been fixed at towns where existing roads meet, it is anticipated that competition from carriage by backwater will thus be averted. The country moreover is not difficult except for a short portion between Shoranur and Trichur and the adoption of this route will, it is hoped, result in economy of construction.

9. The officials present at the meeting approved of the proposal that the bridges over all large rivers should be so designed that they could be easily adapted for cart traffic and foot passengers if found necessary at any time after the opening of the railway, in which case tolls would be levied by the railway in lieu of any contribution being demanded from the States towards the cost of the structures.

10. Attention is here invited to the fact that the alignment now decided upon does not, except for a short length near Trichur, follow any route hitherto investigated by any preliminary survey, and it is evident that the cost of finally locating a line under these conditions must of necessity be costly compared with a route the general direction and particulars of which have been already determined by a preliminary survey. It is proposed therefore to shortly submit a revised estimate for completing a final survey of the Shoranur-Cochin Railway now

increased in length from 61 to 72 miles, and as both the Travancore and Cochin sircars appear anxious for the early construction of the line, it is hoped that funds will be sanctioned to retain the present survey staff to enable the plans and estimates for the complete project to be prepared.

11. I enclose a statement of the minutes recorded at the meeting held at Trichur on the 22nd January 1895 on which the information furnished in the present report has been based.

NOTES of discussion of a meeting held at the Residency, Trichur, regarding the extension of the Madras Railway to Ernakulam *via* Trichur.

Present.

H. C. West, Esq., Chief Engineer, Madras Railway.
A. B. Strange, Esq., Executive Engineer in charge of the Survey.
M.R.Ry. V. Subramania Pillai, Dewan of Cochin.
M.R.Ry. T. Raja Rama Row, Dewan Peishcar of Cottayam, as Representative of Travancore.
H. W. Hudson, Esq., Chief Engineer, Cochin.
H. B. Grigg, Esq., British Resident in Travancore and Cochin.

Note (1).—The unanimous opinion of the meeting was in favour of Shoranur as the point of departure.

Mr. West informed the meeting that all large bridges will be constructed so as to be adapted for foot passengers and traffic on payment of toll to be fixed by the Railway authorities and that no demand will be made on the States for any contribution towards the outlay for constructing these bridges.

Note (2).—The Shoranur route, as proposed by the Madras Railway, approved.

Note (3).—If portions of the public road are taken up for the railway, the Railway authorities will bear cost of construction of road diversions on fresh sites. States would be consulted.

II. Stations between Shoranur and Trichur to be at—

- (1) The Mulakaray toll-gate, 5 miles from Shoranur.
- (2) Wadancherry, 8 miles from Shoranur.
- (3) A place 6 miles from Trichur (Mularthankavu).

III. Unanimously agreed that the station (Trichur) should be near the canal basin on the nearest spot to it where ample land is available.

IV. Line from Trichur to Ernakulam station—

	Distance from Trichur.	
	MILES.	
(1) Eddakunni at crossing of roads serves Ullur and Ooragore	...	4
(2) Poodukad	...	5
(3) Ahtur serves Mala (at present) and Irinjalakudu	...	7
(4) Shalakudi	...	4
(5) Kodakulamkaray	...	7
(6) Chengal ferry to serve river traffic, more especially timber	...	6
(7) Perambalur to serve North-east Travancore traffic	...	3
(8) Keelamaad to serve Alwaye and Valankulam	...	6
(9) Eddapally	...	7
(10) Ernakulam	...	3
Total	...	52

Intermediate distance.

V. Agreed unanimously that the above line will best serve the interests and elicit the sympathy of both States and that so soon as the trade from Mala to line at Ahtur justifies the expenditure a branch should be run to the backwater at that point.

Ernakulam station to be opposite to Bolghatty. Passengers and goods to be discharged on waters edge and station to be inland behind Anjikaimal Court-house and Jews' quarter so as not to disturb the Jews or interfere with the Court buildings or the station can be placed on north of the jail on land that can be reclaimed.

(Signed) H. B. GRIGG.
(") H. C. WEST.

TRICHUR,
22nd January 1895.

I would note here that the station proposed to be placed at Kodakulamkaray may perhaps, with greater convenience to the public, be located at Anjimallee which is not far distant.

(Signed) H. B. GRIGG.

Order—dated 1st March 1895, No. 114 R., Public Works.

A revised plan showing the proposed route of the railway now being surveyed between the Madras Railway and Cochin will be forwarded to the Resident in Travancore and Cochin who will obtain the views of the two Durbars as to the relative merits of Pattambi and Shoranur as the junction station with the Madras Railway. Full explanation should also be obtained from the Durbars of the advantages which are expected to accrue from the deviation towards Perambalur which adds 10 miles to the length of the line and avoids Alwaye altogether. It should further be pointed out that if the collection of dues is the only reason for the deviation, the difficulty can be avoided by having no station between Kodakulandai and Alwaye. His Excellency the Governor in Council observes that the present alignment is carried more inland than was the case in the survey of 1871 and that no particular reasons are given for such a great deviation. If, however, the new route is supported by both Durbars, no objection will be raised to their recommendations.

(True Extract.)

(Signed) A. D. G. SHELLEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.,
Railway Branch.

Read also the following paper:—

From H. B. GRIGG, Esq., M.A., C.I.E., Resident in Travancore and Cochin, to the Chief Secretary to Government, dated Cochin, 3rd April 1895, Ref. on Circuit No. 17.

With reference to G.O., No. 114 R., dated 1st March 1895, I have the honour to submit herewith, for the information of Government, copies of letters from the Dewans of Travancore and Cochin, Nos. 1048/P.W. and 627/P. 81 of the 24th idem and the 2nd instant, respectively, containing their views on the proposed route of the railway now being surveyed between the Madras Railway and Cochin. With reference to the concluding portion of the letter from the Dewan of Cochin, I beg to add that I am addressing an urgent communication to the Chairman of the Chamber of Commerce of British Cochin in order to obtain the views of that body as suggested by the Dewan and I shall submit the same as soon as received.

I regret that I have not been able to reply to the Government Order above quoted earlier, as the Dewan of Cochin did not answer my reference to him on the subject until this morning.

The tracing received with the Government Order is herewith returned.

ENCLOSURES.

From the Dewan of Travancore, to the British Resident in Travancore and Cochin, dated Trivandrum, 24th March 1895, No. 1048 P.W.

I have the honour to acknowledge your letter, Ref. on C. No. 856, dated the 10th instant, with enclosures, received here on the 16th instant and your telegram of the 22nd idem.

With regard to the starting point of the railway, viz., whether it should be Shoranur or Pattambi and its course up to Trichur, His Highness' Government have hardly any remarks to offer. They, however, observe from the Chief Engineer's letter to the Agent and Manager, Madras Railway, which forms one of the enclosures to your letter, that Shoranur has far greater facilities for a junction station than Pattambi and that the prospects of traffic on the Pattambi route are very meagre.

In respect of the line this side of Trichur, it seems to me that there can be no difference of opinion in regard to the desirability of avoiding competition with the cheap backwater communication along the coast and at the same time serving the inland traffic of the country. The interior taluks of North Travancore, as you observe in paragraph 65 of your review of the administration report for 1068, abound in rich soil and steps are now being taken to open them out. A northern railway, such as the one proposed to be of any real benefit to this State, should be within easy reach of those taluks if it does not traverse them. Perambalur, situated in the Proverthi of the same name, containing a population of over 14,000 forms the head-quarters of the Kunnatnad taluk and is the principal outlet for the trade of that taluk and the neighbouring

taluks of Thodupuzha and Muvattapuzha and the carrying of the railway to Perambalur or not far away from it would, besides serving the best interests of traffic, conduce materially to the further development of the country. Among the stations proposed, there is one at Keelamad, a village about two miles to the south-east of Alwaye, and this would serve the traffic of the latter place and Vallacolum.

Under the circumstances set forth, His Highness the Maharaja's Government are of opinion that the interests of this State would be best served by the line resolved on at the meeting of the 22nd January irrespective of the questions of the collection of customs dues, and I request you will kindly move the Madras Government in view to obtain their final approval of this line which, besides being beneficial to both the Native States concerned, is preferred by the Chief Engineer of the Madras Railway on account of the many advantages it possesses in an engineering point of view.

I have not received the plan referred to in the order of the Madras Government.

From the Dewan of Cochin, to the British Resident in Travancore and Cochin, dated Ernakulam, 2nd April 1895, No. 627/P-81.

With reference to your letter, Ref. on C. No. 856 of the 10th March 1895, I have the honour to forward a copy of Mr. Hudson's letter, dated 25th March 1895.

2. This Government would prefer Shoranur to Pattambi as the junction station with the Madras Railway, because though the distance between each of these places and Trichur would be about the same, yet the principal traffic in passengers and goods on the proposed Cochin Railway would be to and from places east of Shoranur and the adoption of the Pattambi route would involve the unnecessary carrying of this traffic over 7 or 8 miles of railway between Shoranur and Pattambi. Besides this a large cattle and grain market is held weekly 5 or 6 miles north-east of Shoranur at Vaniankulam in Malabar, between which and places in Cochin there is a large trade.

3. As to the line to the south of Trichur, this Government is of opinion that the present alignment, which is more inland than the line surveyed in 1871, should be adopted, as the latter would pass through a large tract of paddy lands or kayals (lakes). It is almost parallel as far as Ahlur (described as Ahlur in the minutes and marked as Autur in the tracing) to the other line. If the line from Ahlur should proceed to Mala instead of Shalakudi and then follow the previously surveyed line to Ernakulam, the length of the line between Shoranur and Ernakulam would be a little over 61 miles or, according to Mr. Hudson, 63 miles. If Perambalur and other places in Travancore are to be served, a branch line may be constructed from the station near Alwaye.

4. As far as the Cochin sircar is concerned, it does not matter much whether the line passes through Mala or Shalakudi, but if it should pass through Shalakudi according to the present alignment, the mileage between Shoranur and Ernakulam and consequently the distance between the junction and the British port of Cochin would be increased by about 10 miles. It may also be noted that if the railway should pass through Mala which is connected with the backwater by a canal, Mala would serve as a station to catch the backwater traffic, and the traffic which would have to be carried by boats to and from Karupadnam if the railway should pass through Shalakudi will be diverted to Mala.

5. As the merchants and inhabitants of British Cochin are interested in the matter, I would suggest that the Chamber of Commerce in Cochin be also invited to express its opinion.

From the Chief Engineer, Cochin Government, to the Dewan of Cochin, Ernakulam, dated Trichur, 25th March 1895, No. 319.

In reply to your letter forwarding original papers with plan (already returned as requested) in reference to the new alignment of the proposed Shoranur-Cochin Railway, I have the honour to inform you, as stated in Mr. West's letter No. C/90, dated 29th January 1895, addressed to the Agent and Manager, Madras Railway, "it was unanimously agreed at the meeting that the point of departure on the Madras Railway should be at a point about 1½ miles east of the present Shoranur station."

2. The chief reasons for preferring Shoranur to Pattambi are—

(1) The largest cattle and grain market in Malabar is held weekly at Vaniankulam about 5 or 6 miles north-east of Shoranur; there is a large trade at this market with places in Cochin territory.

(2) The principal traffic in passengers and goods (timber, grain, &c.) on the proposed Cochin Railway would be to and from places east of Shoranur; although the mileage from either Pattambi or Shoranur to Trichur would be about the same, the Pattambi route would involve carrying this traffic over the 7 miles of railway (or 8½ miles to the new station) between Pattambi and Shoranur with a corresponding increase of fares, &c.

(3) On the Trichur-Shoranur route the railway would pass through Wadachanchery which is the centre of the taluk where the Tahsildar's, Munsif's, Registrar's, and other offices are situated.

(4) A better junction can be made with the main line of the Madras Railway and a better site for the bridge across the Ponnani river can be obtained at Shoranur than at Pattambi.

3. With regard to the line south of Trichur, the reason for taking it further inland was to tap the large village of Oolloor by a station at the junction of the roads at Eddakunni; it was also necessary to avoid the Thomanakoil and Mooreantha lakes with their valuable paddy fields situated between the Curvanoor river and Iringalakadu which was the objection at this point to the line surveyed in 1871 between Pattambi and Ernakulam; the line has been proposed to be taken from Eddakunni through Poodukad on to Shalakudi and Unjal, the Travancore frontier.

4. The line could, however, be shortened by branching off at Ahtur or Ahlur and joining the line surveyed in 1871 at Mala and on to Ernakulam.
The distance would then be—

From Shoranur to Ahtur or Ahlur							MILES.
Do.	Mala	...	...	...	...	...	36
Do.	Ernakulam	...	...	...	...	...	42
							63

5. By this route Alwaye would be about 5 miles to the east of this line.

6. A branch line could be made if required to Perambalur, the length of which would be about 12 miles.

7. I may mention here that the black dotted line representing the preliminary survey of 1871 between Pattambi and Ernakulam does not seem to have been correctly marked on the plan submitted by Mr. West. I therefore beg to enclose a copy of it with the line corrected in dotted green lines showing the crossing at the junction of the Alwaye and Shalakudi rivers (one bridge would serve the two rivers).

8. It will be observed that the 1871 line passes through the isolated piece of Travancore territory named Puthencherra which it would be well to avoid and which would be avoided if the line is taken from Ahlur to Mala.

9. Cochin has no objection to the line shown on the plan south of Shalakudi as it serves Travancore territory; the only thing is the mileage from Shoranur to Ernakulam would be increased from 62 to 72 miles.

10. Ernakulam will be the station for the British port of Cochin and the merchants may raise objections to the increased mileage of the railway as there is no doubt it will affect their interests.

11. As regards the proposal of having no station between Kodakulamkaray and Alwaye, if the line is taken through the isolated piece of Cochin territory named Vellarapully, it will be necessary to keep the line some distance to the east of the Chowrah Palace; this diversion would save about 6½ miles.

12. Alwaye and Chowrah are to the residents of Ernakulam, Muttancherry and British Cochin what Brighton is to London, and it will be to the interests of the people of Cochin to have a station at one or the other of these two places, or at both if possible.

No. 779, Political.

Transferred to the Public Works Department, Railway Branch.

FORT ST. GEORGE,
6th April 1895.

(Signed) W. FRANCIS,
Ag. Assistant Secretary.

From the Assistant Resident in charge, Travancore and Cochin, to the Chief Secretary to Government, dated Cochin, 11th April 1895, Reference on Circuit No. 23.

In continuation of my letter, Circuit No. 17 of the 3rd April 1895, I have the honour to submit herewith, for the information of Government, copy of a letter, dated the 10th idem, from the Honorary Secretary to the Chamber of Commerce in Cochin containing the views of that body on the route of the proposed Railway from Shoranur to Ernakulam, and, with reference to the concluding portion thereof, to state that from enquiries made I understand that there is always sufficient water in the backwater opposite to the site selected, at all states of the tide, to accommodate laden cargo boats.

ENCLOSURE.

From the Honorary Secretary, Chamber of Commerce, Cochin, to the Assistant Resident in charge, Travancore and Cochin, dated Cochin, 10th April 1895.

I have the honour to acknowledge receipt of your letter of the 4th instant enclosing copy of letter from the Chief Engineer to the Agent and Manager, Madras Railway, together with a tracing with regard to the proposed Railway from Shoranur to Ernakulam.

In reply thereto I beg to inform you that the subject was discussed at a meeting of this Chamber held this morning, and I am instructed to inform you that the proposed route meets with the approval of the Chamber, but they would suggest that when the site of the terminus at Ernakulam is being decided on due consideration should be given to its position in regard to the depth of water in the adjoining backwater, so that landing and shipping operations may be practicable at all states of the tide and the necessity for dredging thereby obviated.

No. 827, Political.

Transferred to the Public Works Department, Railway Branch, in continuation of endorsement, dated 6th April 1895, No. 779.

OOTACAMUND,
17th April 1895.

(Signed) L. DAVIDSON,
Acting Under Secretary.

ORDER—dated 7th May 1895, No. 336 R., Public Works.

His Excellency the Governor in Council approves of the proposed line to Cochin taking off from the Madras Railway at or near to Shoranur station. The actual position of the junction should be fully dealt with in the report accompanying the project estimate. The alignment decided on at the meeting between the Travancore, Cochin, and Madras Railway officials, held at Trichur on 22nd January 1895, should be adopted in the present survey, but His Excellency the Governor in Council is of opinion that reconnaissances should be made of the alternative route from Ahlur *via* Mala and Alwaye and of a branch line from Alwaye to Perambalur. The Agent and Manager, Madras Railway, will be requested to report the estimated cost of these reconnaissances, care being taken to utilize, where possible, the work of the present and previous surveys. Care should be taken when locating the terminus at Ernakulam to select a site offering facilities for landing and shipping operations at all states of the tide in the adjoining backwater.

(True Extract.)

Under Secy. to Govt., P.W.D.,
Railway Branch.

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

Exd. C. A. Muniswamy.
Spare Copies

RAILWAY.

Govt. of {1895} Madras.
PUBLIC WORKS.

Dated May, 7th.

Recd. .

Encl.

G.O., 7th May 1895, No. 336 R.

MAY.

Shoranur-Cochin Railway

Orders on the subject of the alignment of
the proposed—.

No. 336 R., PUBLIC WORKS.

MENT OF MADRAS.

KS DEPARTMENT.

ailway.

., Public Works.

as Railway, to the Consulting Engineer for
February 1895, No. 5490/109 W.

th, for the information of the Government, a
er, No. C/90, dated the 29th ultimo, on the
posed Shoranur-Cochin Railway, which it was
survey at a meeting of the Travancore and
ichur, on the 22nd January last. A copy of
ell as a tracing showing the old and the new
g to the new alignment, which meets with
length of the proposed line is increased from
pared on this basis will shortly be submitted.
prepare a report on the traffic prospects of
as from Pattámbi.

ENCLOSURE.

From the Chief Engineer, Madras Railway, to the Agent and Manager, Madras Railway, dated
Madras, 29th January 1895, No. C/90.

[Shoranur-Cochin Railway].

I beg to advise you that on the 22nd January 1895 the Resident of Travancore and Cochin
was good enough to convene a meeting at Trichur at which were present—

Mr. H. B. Grigg, C.E., Resident of Travancore and Cochin.

M.R.Ry. V. Subramania Pillai, Dewan of Cochin.

M.R.Ry. T. Raja Rama Row, Dewan Pei, Bar of Kóttayam, Representative of Travancore.

Mr. H. W. Hudson, Chief Engineer to the Cochin Government.

Mr. H. C. West, Chief Engineer, Madras Railway.

Mr. A. B. Strange, Executive Engineer in charge of the Shoranur-Cochin Survey.

2. The object of the meeting was to consider the relative merits of previously proposed
extensions of the Railway to Cochin and to decide upon the best route which the survey now in
progress should follow south of Trichur with a view to meet the requirements of both the Native
States through which the line would pass and to fix the towns at which stations should be
provided.

3. It was unanimously agreed that the point of departure on the Madras Railway should
be at a point about 1½ miles east of Shoranur station, as the gradients, curves and general con-
figuration of the country rendered this site specially suitable for a junction station and would
secure a very favourable crossing of the Ponnáni river about ¼ of a mile above the existing road
bridge. It may be probably necessary to transfer the present Shoranur station to the new site
ultimately.

4. The alternative proposal to make Pattámbi station the point of departure was considered,
but was not approved of by either the Resident or the Dewan of Cochin, as the country between
this point and Trichur, although to a great extent free of hills, offered such meagre prospects of
traffic. The ground also at each side of Pattámbi station has been examined, and it is found that
no suitable site for a junction station could be obtained owing to the low level of the land, the
difficulty of securing a favourable crossing of the Ponnáni river, and the increased mileage from
Madras which a junction here would involve.

5. It was also agreed that a line passing through the undermentioned towns (*vide accompanying map*) would best serve the interests of the railway as well as those of the Travancore and Cochin territories and meet with the sympathy and support of the Governments of both States:—

	Distance from Shoranur.
	MILES.
(1) Mulakaray	5
(2) Wadakanberry	8
(3) Mularthankav	14
(4) Trichur	20
(5) Edakunni	24
(6) Poodukad	29
(7) Ahtur	36
(8) Shalakudi	40
(9) Kodakulamkaray	47
(10) Chengal (ferry)	53
(11) Perambalur	56
(12) Keelamaad (for Alwaye)	62
(13) Eddapally	69
(14) Ernakulam (Cochin)	72

6. It will be observed that this route differs materially from any line previously surveyed or recommended; it occupies a position further inland than the more direct line to Cochin hitherto advocated and is consequently 72 miles in length as compared with the 62 miles on which the previous estimate submitted for the survey was based. It is desirable here to explain that any line of railway from Shoranur to Cochin must of necessity pass through a large area of Travancore as well as of Cochin, and it would appear that the interests of the former State had not been sufficiently consulted in the alignment followed when the preliminary survey was undertaken in 1871.

7. This point has been satisfactorily settled at the present meeting, and the final location of the line along the revised route indicated on the map will now be carried out during the survey in progress as far as funds will permit. This alignment has been carefully considered with due regard to the most important trade centres and is unquestionably best suited to the altered conditions of the country since the first preliminary survey was undertaken in 1871, or over twenty-four years ago. Owing to the opening out of additional roads, the extension of cultivated area and the general development of traffic in grain and forest produce, the route as now fixed, though somewhat circuitous in one place, commends itself as the most favourable from all aspects. The detour eastwards through Perambalur is found to be imperative in order to avoid traversing the isolated tract of Cochin territory between that town and Alwaye and thus obviate the difficulties in connection with custom dues, but it will accommodate the extensive timber traffic from the north-east portion of Travancore.

8. From an engineering point of view also this alignment possesses many advantages as it avoids the crossing of the large rivers near their mouths where they widen out and fall into the estuaries or backwaters which exist all along the coast. The bridging of these large streams at favourable points more inland will thus be secured, and the stations having been fixed at towns where existing roads meet, it is anticipated that competition from carriage by backwater will thus be averted. The country moreover is not difficult except for a short portion between Shoranur and Trichur and the adoption of this route will, it is hoped, result in economy of construction.

9. The officials present at the meeting approved of the proposal that the bridges over all large rivers should be so designed that they could be easily adapted for cart traffic and foot passengers if found necessary at any time after the opening of the railway, in which case tolls would be levied by the railway in lieu of any contribution being demanded from the States towards the cost of the structures.

10. Attention is here invited to the fact that the alignment now decided upon does not, except for a short length near Trichur, follow any route hitherto investigated by any preliminary survey, and it is evident that the cost of finally locating a line under these conditions must of necessity be costly compared with a route the general direction and particulars of which have been already determined by a preliminary survey. It is proposed therefore to shortly submit a revised estimate for completing a final survey of the Shoranur-Cochin Railway now increased in length from 61 to 72 miles, and as both the Travancore and Cochin sircars appear anxious for the early construction of the line, it is hoped that funds will be sanctioned to retain the present survey staff to enable the plans and estimates for the complete project to be prepared.

11. I enclose a statement of the minutes recorded at the meeting held at Trichur on the 22nd January 1895 on which the information furnished in the present report has been based.