M.R.O. 1—77,005—3-6-31.

(1) Number of pages 48.

(2) Date of repair 26-9-10.

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Financial DEPARTMENT.

G.O. No. 1145	Press / Mis.
200-202	200-202
Dated 26-5-	1875.

25/26

Not to be folded or roughly handled

Railway.

Read the following papers:—

No. 200. From Captain J. PENNYCUICK, R.E., District Engineer of North Arcot, to Colonel G. W. WALKER, R.E., Chief Engineer and Secretary to Government, Public Works Department, Fort St. George, dated Vellore, 30th April 1875, No. 368:—

With reference to your memorandum, No. 324, of the 22nd ultimo, I have the honor to forward, for your perusal, a copy of a memorandum written by me at the request of the President of Local Fund Boards of this district, on the subject of the proposed branch Railway to the town of Vellore, and also of my original letter to that officer, on which the proposal to make the survey for the line was based.

Enclosures two.
One memorandum.
,, letter.

2. It is to be regretted that the latter was not submitted to Government in the first instance, as its absence has given the scheme an appearance of vagueness (noticed by the Consulting Engineer for Railways) which it does not really possess.

3. You will see that I am still of opinion that the line ought to be constructed by the Local Funds Board, though the agency of the Madras Railway Engineers might usefully be employed in its execution; but I look upon the question of the agency by which it should be constructed as altogether secondary to the important object of getting it made somehow or other, and I hope that you will be able to support the proposal.

4. I think in your memorandum under reply you hardly do justice to the members of the Local Funds Board, who have taken up the project from a sense of its importance to the district at large, and especially to the chief town therein. No doubt the individual members of the Board have not the special knowledge necessary for dealing effectively with the scheme, but no more have the Directors of an ordinary Railway Company, whose position would in this case be taken by the members of the Board.

5. They have, at all events, the merit of having brought forward a practical and definite proposal upon the subject, which had previously remained *in nubibus*.

6. It will be seen that in my proposals for the restoration of the Palar Bridge, I have expressly considered the necessity for lengthening the piers in connexion with this railway. I do not think the existing arches would be strong enough to carry the rails, but on this point I should like to have the opinion of some one better qualified to judge than myself.

MEMORANDUM.

In accordance with the sanction given by the Vellore Circle Board at their meeting of the 16th January 1875, a survey has been made of the ground between the town of Vellore and the Railway Station, with a view to ascertaining the cost of a line of Railway to connect these two points.

Consideration

2. I had intended to delay any further communication upon the subject until detailed plans and estimates could be prepared, showing accurately the nature and cost of the proposed line, and in the report which would have accompanied these plans, the question of the gauge and class of line would have been fully discussed.

3. The survey, although it has not been put on paper in the finished manner necessary for drawings submitted officially for consideration, has been sufficiently completed to allow an accurate estimate of the probable cost of the line to be made, and as by G.O., No. 746, of the 6th instant, Financial Department, the question has been referred to the Commission on Railway Traffic now sitting, it seems desirable to take advantage of the information already obtained to state what this probable cost now appears to be, without waiting for the more complete plans, estimates, and professional report which will undoubtedly be necessary hereafter.

4. The time at my disposal is so short that I cannot go very fully into the question of the gauge and nature of the line, but must content myself with saying that it appears desirable to make it on the standard gauge, with flat-footed rails of 45 lbs. to the yard, so as to carry the ordinary Madras rolling stock, and to use light locomotives weighing 12 tons on six wheels.

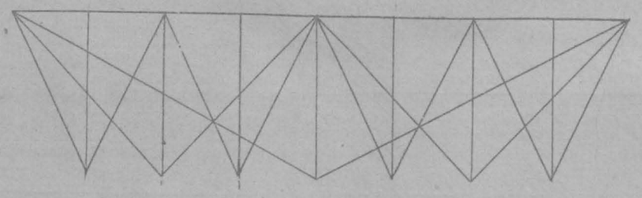
5. A metre gauge line would cost as I calculate about Rupees 34,000 less than the one proposed, and if the cost of transferring goods be taken at 2 Annas per ton, and the amount of traffic at 56,000 tons per annum, the annual expenditure on this account alone would be Rs. 7,000, representing at 4 per cent. a capital of Rupees 1,75,000, or more than five times the saving in first cost of the line. In addition to this must be considered the necessity of buying special rolling stock, and the inconvenience and delay caused by the break of gauge, which cannot be put into figures.

6. The most important question arising in connection with the construction of the line is the mode of crossing the Palar. The most economical arrangement would be to lay the rails on the existing bridge, but after a careful examination of the latter I am doubtful whether it would be safe to run wagons weighing some 14 tons over the present arches;* some consideration must also be given to the fact that if the bridge was used for a railway the ordinary traffic would be stopped for a period which is calculated at about eight hours out of the twenty-four.

* On this point I should, however, like to have the opinion of the Consulting Engineer and some Railway Engineer of experience.

7. I propose, therefore, to extend the piers of the existing bridge so as to carry girders alongside of the arches. The construction of the piers is such that only a slight extension of the foundations will be necessary, and in the estimates lately submitted for the restoration of the bridge, the probability of this extension being required has been taken into account.

8. The girders proposed are of the form known as the "Finck" truss, which is extensively used in America, with wooden upper chords. This truss is probably the best known form for a combined structure of wood and iron, owing to the way in which it accommodates itself to the varying expansions of these materials. The cost of the bridge has been carefully calculated, and will amount to about Rs. 45,000.



9. The only gradient required is one in one hundred and eighty.

10. The following estimate has been made from accurate calculations of quantities as regards the principal items, with the exception of the sum allowed for stations, which can only be considered as approximate.

11. The actual length of the line is 6,100 yards, to which have been added nine hundred yards for sidings, &c., making a total length as regards rails and sleepers of seven thousand yards. The width of earthwork at formation level has been taken at fifteen feet, and side slopes for embankments at two to one, depth of ballast at eighteen inches. Ballast to be sand, and cost taken at 4 Annas per cubic yard. In calculating the cost of bridges Rupees 5 per cubic yard has been allowed for masonry, 2 Annas per pound for iron for ties, &c., 4 Annas per pound for bolts and nuts, and Rupees 3-4-0 per cubic foot for teakwood.

Cost of erection is included in the rates:—

	Rate. Rs.	A.	P.	Per.	Amount. Rs.
Earthwork from	0	1	6	cubic yard	14,000
Do. to	0	4	6		
Ballast, 13,417 cubic yards	0	4	0	,,	3,354
Rails, 281¼ tons	160	0	0	ton	45,000
Spikes, 3⅛ ,,	160	0	0	,,	500
Sleepers, 7,000	3	0	0	each	21,000
Crossing of Palar					45,000
Do. of Nickal Calva					7,000
Minor Bridges and Culverts					11,000
Stations					15,000
Telegraph					5,000
Fencing					4,000
Gateways and level Crossings					2,000
Compensation for land					10,000
Public Works Supervision on Rupees 1,00,000					25,000
Contingencies					12,146
					2,20,000
Cost of two locomotives, at Rupees 12,000 each					24,000
				Total	2,44,000

12. It will be seen from this that my original estimate of Rupees 3,00,000 as the outside cost, which was not made without good grounds, is fairly borne out.

13. As regards the returns, I see no occasion to alter the estimate given with my former letter on the subject of Rupees 18,000 (net) per annum, or about 7½ per cent. on the proposed outlay.

14. It will be seen that, so far as the nature of the line is concerned, my proposals agree almost exactly with the opinion of the Consulting Engineer for Railways, as expressed in his letter, No. 156, of the 18th ultimo. It is perhaps unfortunate that my original letter, bringing forward the proposal, was not submitted to Government. This would have removed the impression of vagueness noticed by Colonel Stewart in paragraph 2 of the above letter.

15. The agency by which the line should be constructed and worked appears to me a somewhat secondary consideration; the great point is to get it done somehow or other.

16. Personally I am still of opinion that it should be carried out by the Local Funds Board, as originally suggested, with the aid of a loan from Government. If it be carried out by the Madras Railway Company, it will have to bear a share of the cost of their expensive establishments, and I believe it would be worked more economically if kept under the control of the District

officials, who would take a personal interest in its success. Moreover, it seems probable that the line would be worked by the Local Funds Board with more regard to the immediate convenience of the inhabitants of Vellore and its neighbourhood than would be shown by the Madras Railway, who would naturally look upon it merely with reference to the general interests of their line.

17. I also hold a rather strong opinion as to the impolicy of entrusting any portion of the communications of a country to private hands, and as I have no doubt whatever that the undertaking will prove profitable, I would rather that the profits should be reaped by a public body who will spend them for the benefit of the district, than that they should be appropriated by a private Company.

18. The fact of the line being constructed by the Local Funds Board would not prevent the agency of the Madras Railway Engineers being made use of for planning, estimating, and carrying out the work as suggested by the Chief Engineer. Indeed this would in all probability be much the best way of carrying out the line.

19. I should mention that the Company alluded to in the Board of Revenue's Proceedings, as being in course of formation for the execution of the project, is a Horse Tramway Company. Mr. Nash, the Secretary, and one of the chief promoters of the Company, called upon me at Madras during the Christmas holidays to discuss the subject. I then told him that, in my opinion, the tramway would not provide for the requirements of the town; that the necessity for a Railway to join the Madras Railway without break of gauge would not be removed by the construction of the tramway, while the construction of the former would of course ruin the latter; that whatever scheme was adopted ought to be carried out by the Local Funds Board; that I should oppose any concession being granted to a Company such as the one contemplated; and that I had reason to believe that my views were shared by the President and would be supported by the other members of the Boards concerned. Since then I have heard no more of the Company, and believe the idea of including Vellore in its operations has been given up.

PALMANAIR,
28th April 1875.

(Signed) J. PENNYCUICK, Captain, R.E.,
District Engineer, North Arcot.

From Captain J. PENNYCUICK, R.E., District Engineer of North Arcot, to W. S. WHITESIDE, Esq., President of the Local Funds Board, North Arcot, dated Vellore, 24th November 1874, No. 2393.

I have the honor to request your consideration and that of the Local Funds Boards of the district to the question of constructing a railway from the town of Vellore to the present Railway Station.

2. You are no doubt aware that this line has been talked of for years past, but as yet the matter has never got beyond this stage of talk, simply because no one has ever taken it up in earnest.

3. It is premature now to discuss the question of the gauge to be adopted, but I may say that at present I am disposed to believe that it would be better to use that of the Madras Railway than a smaller one. In a very short line the evils of break of gauge, involving transhipment of all goods, are much greater than in a long one, and the conditions here are such as to reduce the difference of first cost to a minimum, so that it seems probable that the convenience of being able to run goods through to the Madras line would outweigh the difference in first cost. This, however, will be a matter for future deliberation, when the materials for forming a decision are collected.

4. The cost of the line would, of course, depend upon the gauge and on the style in which it was constructed; and in the absence of detailed surveys and proper estimates it would be impossible to say with any degree of accuracy what the cost would be. It is, however, possible to make an approximate estimate, and from such information as I have now available, I am pretty certain that the line could be made and stocked for Rupees 3,00,000 at the outside.

5. From a return furnished me by the Consulting Engineer for Railways, it appears that the traffic, inwards and outwards, of the Vellore Station, during the last three years, was as follows:—

	Passengers.	Goods.
1871	183,954	44,335 tons.
1872	201,856	58,696 ,,
1873	221,945	65,497 ,,

6. It is probably not too much to say that nine-tenths of this traffic comes to, and from, the town of Vellore.* Looking to the fact that the returns show a steady increase year by year, and also bearing in mind that there will be a certain amount of local traffic (especially passengers) owing to the line being part of the direct road between Vellore and Chittoor, it is probably not an over-estimate to calculate the annual traffic of the proposed line at 200,000 passengers and 60,000 tons of goods.

* The number of carts crossing the Palar bridge is known to amount to nearly 1,800 daily.

7. If we allow 1 Anna per passenger and 6 Annas per ton of goods (half an Anna per mile) this will give a return of—

	Rs.
Two hundred thousand, at 1 Anna	12,500
Sixty thousand, at 6 Annas	22,500
Total ...	35,000

8. The working expenses would not exceed 50 per cent. of the total receipts, leaving a net return of Rupees 17,500 annually, or very nearly 6 per cent. on the first cost.

9. In the above estimate I have allowed nothing for first and second class traffic, carriages, horses, parcels, and similar miscellaneous items, which would doubtless bring in some small return. I have no doubt whatever that this estimate is very moderate, and I know that experienced officials of the Madras Railway estimate the returns much higher.

10. I have little doubt that Government would lend us the money required at 4 per cent.; and, taking this as the rate of interest, principal and interest might be repaid by twenty-eight annual payments of 6 per cent. on the capital. During these twenty-eight years the district would have the benefit of the railway without cost, and after that period it would return a clear profit of Rupees 18,000 (which by that time would probably have greatly increased) annually.

11. I now propose that the Boards should place a sum of Rupees 1,000 at the disposal of this Department for the purpose of making the necessary surveys and estimates. I believe that they can be completed for this sum, but if not, I shall apply for a supplemental grant hereafter. When the estimates are complete, we shall be in a position to go up to Government with definite proposals, based upon clear and intelligible data.

Submitted for the orders of Government.

(Signed) G. W. WALKER, Colonel, R.E.,
Chief Engineer, P.W.D.

No. 207.

Transferred to the Financial Department, with reference to their Order, No. 746, of the 6th April 1875.

FORT ST. GEORGE,
12th May 1875.

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government, P.W.D.

No. 201. Proceedings of the Board of Revenue, dated 14th May 1875, No. 1297.

Read the following letter from W. S. WHITESIDE, Esq., President of the Local Fund Boards, North Arcot District, to H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated Palmanair, 27th April 1875, No. 217:—

ADVERTING to the Proceedings of the Board of Revenue, dated 3rd March 1875, No. 615, submitting for orders of Government my letter, dated 11th February last, No. 74, requesting sanction for an allotment of Rupees 1,000 to take a preliminary survey for a railway from the Vellore town to the present railway station, I have the honor, with reference to the Board's remark in paragraph 1, to enclose copy of the minutes of proceedings of the Local Fund Boards held at a joint special meeting on the 12th instant, from which it will be observed that the Local Fund Boards are not aware of the existence of any Company to construct a railway; the only Company of which the Boards have knowledge is that of "The Madras Tramway Company (Limited)," which only proposes to construct a light tramway between the railway station and town of Vellore. The Boards have declined to make any concession in their behalf, as their operations will be limited merely to running passenger trains only, and the Vellore road is not broad enough to afford free accommodation for the Company's trains and also for the wheeled traffic simultaneously.

2. In paragraph 2 of the Proceedings under reference, the Board requested Government to give formal sanction to the allotments proposed for the survey in question if the Local Fund Boards are permitted to show that a construction of the proposed railway is feasible and likely to be remunerative; and I may state here that full information on this point was at the disposal of the Local Fund Boards when I first addressed the Board of Revenue on the subject, and a reference to paragraph 5 of my letter quoted in paragraph 1 *supra* will show that I purposely refrained from setting forth the matter in greater detail in the absence of the information to be obtained from the preliminary survey for which I solicited sanction.

3. Under these circumstances, the Boards would, therefore, press their former application for the allotments proposed for a preliminary survey, which will not finally commit them to any eventual expenditure upon the railway.

4. I herewith forward an extract of a letter from the District Engineer who last moved this railway question, thinking that the information therein contained may be useful to Government when passing their final orders on the subject.

ENCLOSURE No. 1.

Extract from a letter from the District Engineer of North Arcot, dated 24th November 1874, No. 2393.

* * * *

6. It is probably not too much to say that nine-tenths of this traffic comes to, and from, the town of Vellore.* Looking to the fact that the returns show a steady increase year by year, and also bearing in mind that there will be a certain amount of local traffic (especially passengers) owing to the line being part of the direct road between Vellore and Chittoor, it is probably not an over-estimate to calculate the annual traffic of the proposed line at 200,000 passengers and 60,000 tons of goods.

* The number of carts crossing the Palar bridge is known to amount to nearly 1,800 daily.

7. If we allow one anna per passenger, and six annas per ton of goods (half an anna per mile), this will give a return of—

		Rs.
200,000 at one anna	... ...	12,500
60,000 at six annas	... ...	22,500
	Total ...	35,000

8. The working expenses would not exceed fifty per cent. of the total receipts, leaving a net return of Rupees 17,500 annually, or very nearly six per cent. on the first cost.

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10. I have little doubt that Government would lend us the money required at four per cent.; and, taking this as the rate of interest, principal and interest might be repaid by twenty-eight annual payments of six per cent. on the capital. During these twenty-eight years the district would have the benefit of the railway without cost, and after that period it would return a clear profit of Rupees 18,000 (which by that time would probably have greatly increased) annually.

(True Extract.)

(Signed) W. S. WHITESIDE,
President.

ENCLOSURE No. 2.—Extract from Proceedings of Local Fund Boards.

SUBMITTED to Government with reference to G.O., Financial Department, dated 6th April 1875, No. 746.

(True Copies and Extract.)

(Signed) H. E. STOKES,
Acting Secretary.

No. 202. ORDER THEREON, 26th May 1875, No. 1145.

These papers will be forwarded to the Commission on Railway Traffic, in continuation of G.O., dated 6th April 1875, No. 746.

(True Extract.)

D. F. CARMICHAEL,
Officiating Chief Secretary.

To the Public Works Department (Railway).
,, Board of Revenue, with extract of Minutes of Proceedings of Local Fund Board.

Exd. J. Wright.

Govt. of {1875} Madras

FINANCIAL.

To THE PUBLIC WORKS DEPARTMENT, &c., &c., &c.

Dated May, 26th.

Issued " "

Read. " "

G.O., 26th May 1875, No. 1145.

MAY.
Nos. 200–202.

Railways.—Certain papers regarding a Branch Railway from the Vellore Town to the Railway Station, forwarded to the Committee on Railway Traffic.

Memorandum.

In accordance with the sanction given by the Vellore Circle Board at their meeting of the 16th January 1875, a Survey has been made of the ground between the town of Vellore and the Railway Station, with a view to ascertaining the cost of a line of railway to connect these two points.

2. I had intended to delay any further communication upon the subject until detailed plans and estimates could be prepared, showing accurately the nature and cost of the proposed line, and in the report which would have accompanied these plans, the question of the guage and class of line would have been fully discussed.

3. The survey, although it has not been put on paper in the finished manner necessary for drawings submitted officially for consideration

consideration, has been sufficiently com-
-pleted to allow an accurate estimate
of the probable cost of the line to
be made, and as by D. G. No. 746 of the
6th instant (Financial Department)
the question has been referred to the
Commission on Railway Traffic now
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advantage of the information already
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4. The time at my disposal is so short that I cannot go very fully into the question of the guage, and nature of the line, but must content myself with saying that it appears desirable to make it on the standard guage, with flat footed rails of 45 lbs to the yard, so as to carry the ordinary Madras rolling stock, and to use light locomotives weighing 12 tons on six wheels.

5. A metre guage line would cost as I calculate about Rupees 34,000 less than the one proposed, and if the cost of transferring goods be taken at 2 annas per ton, and the amount of traffic at 56,000 tons per annum, the annual expenditure on this account alone would be Rupees 7,000, representing at 4 per cent a capital of Rupees 1,75,000 or more than 5 times the saving in first cost of the line. In addition to this must be considered the necessity of buying special rolling stock, and the inconvenience and delay caused by the break of guage, which cannot be put into figures.

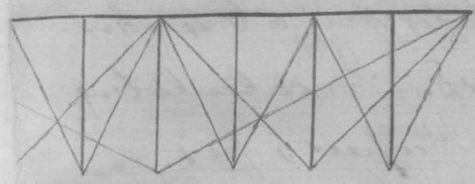
6. The most important question arising in connection with the construction of the line, is the mode of crossing the Palar. The most economical arrangement would be to lay the rails on the existing bridge, but after a careful examination of the

the latter I am doubtful whether it would be safe to run waggons weighing some fourteen tons over the present arches; * some consideration must also be given to the fact that if the bridge was used for a railway the ordinary traffic would be stopped for a period which is calculated at about eight hours out of the twenty four.

* On this point I should however like to have the opinion of the Consulting Engineer and some railway Engineer of experience.

7. I propose therefore to extend the piers of the existing bridge so as to carry girders alongside of the arches. The construction of the piers is such that only a slight extension of the foundations will be necessary, and in the estimates lately submitted for the restoration of the bridge, the probability of this extension being required has been taken into account.

8. The girders proposed are of the form known as the "Finck" truss, which is extensively used in America, with wooden upper chords. This truss is probably the best known form for a combined structure of wood and iron, owing to the way in which it accommodates itself to the varying expansions of these materials.



The cost of the bridge has been carefully calculated, and will amount to about Rupees 45,000.

9. The only gradient required is one in one hundred and eighty.

10. The following estimate has been made from accurate calculations of quantities as regards the principal items, with the exception of the sum allowed for stations, which can only be considered as approximate.

11. The actual length of the line is 6100 yards, to which have been added 900 yards for sidings &c., making a total length as regards rails and sleepers of 7000 yards. The width of

earth

earth work at formation level has been taken at 15 feet, and side slopes for embankments at 2 to 1, depth of ballast at 18 inches. Ballast to be sand, and cost taken at 4 Annas per Cubic yard. In calculating the cost of bridges Rupees 5 per cubic yard has been allowed for Masonry, 2 Annas per pound for iron for ties &c., 4 Annas per pound for bolts and nuts and Rupees 3-4-" per Cubic foot for teak wood

Cost of erection is included in the rates.

		Rate	Per	Amount
Earth Work	from 4	" 1-6 } " 4-6 }	Cu. yds.	14,000
Ballast	13,417	Cu. yds.	" 4 "	3,354
Rails	281¼	Tons	160 " "	ton 45,000
Spikes	3/8 "	160 " "	" "	500
Sleepers	7000	3 " "	Each	21,000
Crossing of Palar				45,000
" of Nickal Calva				7,000
Minor bridges & Culverts				11,000
Stations				15,000
Telegraph				5,000
Fencing				4,000
				1,70,854

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Gateways & level crossings	2,000
Compensation for land	10,000
P. W. Supervision on Rs. 1,00,000	25,000
Contingencies	12,146
	2,20,000
Cost of two locomotives at Rupees 12,000 each	24,000
Total	2,44,000

12. It will be seen from this that my original estimate of Rs. 3,00,000 as the outside cost, which was not made without good grounds, is fairly borne out.

13. As regards the returns, I see no occasion to alter the estimate given with my former letter on the subject of Rupees 18,000 (net) per annum or about 7½ per cent on the proposed outlay.

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No. 156 of 18th ultimo; it is perhaps unfortunate that my original letter, bringing forward the proposal, was not submitted to Government; this would have removed the impression of vagueness noticed by Colonel Stewart in para 2 of the above letter.

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16. Personally I am still of opinion that it should be carried out by the Local Funds Board, as originally suggested, with the aid of a loan from Government. If it be carried out by the Madras Railway Company, it will have to bear a share of the cost of their expensive establishments, and I believe it would

would be worked more economically if kept under the control of the District Officials, who would take a personal interest in it's success. Moreover it seems probable that the line would be worked by the Local Funds Board with more regard to the immediate convenience of the inhabitants of Vellore and it's neighbourhood than would be shown by the Madras Railway, who would naturally look upon it merely with reference to the general interests of their line.

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19. I should mention that the Company alluded to in the Board of Revenue's Proceedings, as being in course of formation for the execution of the project, is a horse tramway company. Mr. Nash the Secretary and one of the chief promoters of the company, called upon me at Madras during the

the Christmas holidays, to discuss the subject; I then told him that in my opinion the tramway would not provide for the requirements of the town; that the necessity for a railway to join the Madras Railway without break of guage would not be removed by the construction of the tramway, while the construction of the former would of course ruin the latter; that whatever scheme was adopted ought to be carried out by the Local Funds Board, that I should oppose any concession being granted to a company such as the one contemplated, and that I had reason to believe that my views were shared by the President and would be supported by the other Members of the Board concerned. Since then I have heard no more of the Company and believe the idea of

including

including Vellore in its operations has been given up.

I Lt. J. Pennycuick Captn R.E.
District Engineer
North Arcot.

North Arcot
District Engrs Office
Camp Palmanair
28th April 1875

Encl 1 to No 1197 of 75

Dft. 29/3/75

"True Copy"

J. Penny Capt R.E.
District Engineer
North Arcot.

No. 2393.

North Arcot
District Engineer's Office
Vellore 24th November 1874.

From.

The District Engineer
North Arcot

To,

The President of the
Local Funds Board
North Arcot.

Sir,

I have the honour to request your consideration and that of the Local Funds Boards of the District to the question of constructing a Railway from the town of Vellore to the present railway Station.

2. You are no doubt aware that this line has been talked of for years past, but as yet the matter has never got beyond this stage of talk, simply because no one has ever taken it up in earnest.

3. It is premature now to discuss the question of the gauge to be adopted, but I may say that at present I am disposed to believe that

that it would be better to use that of the Madras Railway than a smaller one. In a very short line the evils of break of guage, involving transhipment of all goods, are much greater than in a long one, and the conditions here are such as to reduce the difference of first cost to a minimum, so that it seems probable that the convenience of being able to run goods through to the Madras line would outweigh the difference in first cost. This however will be a matter for future deliberation, when the materials for forming a decision are collected.

4. The cost of the line would of course depend upon the guage, and on the style in which it was constructed; and in the absence of detailed surveys and proper estimates it would be impossible to say with any degree of accuracy what the cost would be. It is however possible to make an approximate estimate, and from such information as I have now available, I am pretty certain that the line could be made and stocked for Rupees 3,00,000 at the outside.

5. From a return furnished me by the Consulting Engineer for Railways, it appears that the traffic, inwards and outwards, of the Vellore Station during the last three years was as follows.

	Passengers.	Goods.
1871	183,954	44,335 tons
1872	201,856	58,696 "
1873	221,945	65,497 "

6. It is probably not too much to say that nine tenths of this traffic comes to and from the town of Vellore*. Looking to the fact that the returns shew a steady increase year by year and also bearing in mind that there will be a certain amount

* The number of carts crossing the Palar bridge is known to amount to nearly 1800 daily

of

of local traffic (especially passengers) owing to the line being part of the direct road between Vellore and Chittoor, it is probably not an over estimate to calculate the annual traffic of the proposed line at 200,000 passengers and 60,000 tons of goods.

7. If we allow one anna per passenger and six annas per ton of goods ($\frac{1}{2}$ anna per mile) this will give a return of

200,000 at one anna ——— Rs. 12,500
60,000 at six annas ——— 22,500
35,000

8. The working expenses would not exceed 50 per cent of the total receipts, leaving a net return of Rs. 17,500 annually, or very nearly six per cent on the first cost.

9. In the above estimate I have allowed nothing for first and

second class traffic, carriages horses, parcels and similar miscellaneous items which would doubtless bring in some small return. I have no doubt whatever that this estimate is very moderate, and I know that experienced officials of the Madras Railway estimate the returns much higher.

10. I have little doubt that Government would lend us the money required at 4 per cent, and taking this as the rate of interest, principal and interest might be repaid by 28 annual payments of 6 per cent on the capital. During these 28 years the District would have the benefit of the Railway without cost, and after that period it would return a clear profit of Rs. 18000 (which by that time would probably have greatly increased) annually

I

11. I now propose that the Boards should place a sum of Rupees 1000 at the disposal of this Department for the purpose of making the necessary surveys and estimates.

I believe that they can be completed for this sum, but if not, I shall apply for a supplemental grant hereafter. When the estimates are complete, we shall be in a position to go up to Government with definite proposals, based upon clear and intelligible data.

I have the honour &c.

(Signed) J. Pennycuick Capt^n R.E.
District Engineer
North Arcot.

"True Copy"

J. Pennycuick Captain R.E.
District Engineer,
North Arcot

Zuil 46 of 1854.

P.W. 2913/1/15

No. 368

North Arcot
District Engineer's Office
Vellore 30th April 1875.

From,

The District Engineer,
North Arcot

To,

The Chief Engineer,
Public Works Department,
Madras.

Sir,

Enclosures. 2.
1 Memorandum
1 Letter.

With reference to your Memorandum No. 324 of the 22d ultimo, I have the honour to forward for your perusal a copy of a Memorandum written by me at the request of the President of Local Fund Boards of this District on the subject of the proposed branch railway to the town of Vellore, and also of my original letter to that Office on which the proposal to make the Survey for the line was based.

2. It is to be regretted that the latter was not submitted to Government in the first instance,

as

as it's absence has given the scheme an appearance of vagueness (noticed by the Consulting Engineer for Railways) which it does not really posses.

3. You will see that I am still of opinion that the line ought to be constructed by the Local Funds Board, though the agency of the Madras Railway Engineers might usefully be employed in it's execution; but I look upon the question of the agency by which it shall be constructed as altogether secondary to the important object of getting it made some how or other, and I hope that you will be able to support the proposal.

4. I think in your Memorandum under reply you hardly do justice to the Members of the Local Funds Board who have taken up the project

project from a sense of it's importance to the District at large, and especially to the chief town therein. No doubt the individual members of the Board have not the special knowledge necessary for dealing effectively with the scheme, but no more have the Directors of an ordinary railway company, whose position would in this case be taken by the members of the Board.

5. They have at all events the merit of having brought forward a practical and definite proposal upon the subject, which had previously remained in nubibus.

6. It will be seen that in my proposals for the restoration of the Palar bridge I have expressly considered the necessity for lengthening the piers in connection with this railway. I do not think the existing arches

arches would be strong enough to
carry the rails, but on this point
I should like to have the opinion
of some one better qualified to
judge than myself.

I have the honour to be,
Sir,
Your Most Obed[t] Servant.

Captain R.E.
District Engineer
North Arcot.

S.P.W.D.

(35)

Letter from District Engineer, North Arcot, No. 368, dated 30th April 1875.

No. 207.

Transferred to the Financial Department with reference to their order No. 746 of 6th April 1875.

Fort St George
12th May 1875

C. Winchester Lt. Col. R.E.
Secretary to Government
S.P.W.D.

To The Financial Department

G.O. dated 15th No. 203 hist.

From
C.W.P.W. 1875 dated
No. 2913.
The District Engineer
North Arcot.

&
The Chief Engineer,
Public Works Department
Madras.

Dated 30th April 1875.
Rec'd 3rd May.

No. 368

Enclosures 2.

Forwards copies of Memorandum & original letter regarding the proposed branch Railway to the town of Vellore.

Submitted for the orders of Government.

Chinnadoray Asst Engineer
Asst Engineer
Executive Engineer
Vellore

Extract from a letter from the District Engineer of North Arcot dated 24th November 1874 No. 2393.

X X X X

6. It is probably not too much to say that nine tenths of this traffic comes to and from the town of Vellore.* Looking to the fact that the returns show a steady increase year by year, and also bearing in mind that there will be a certain amount of local traffic (especially passengers) owing to the line being part of the direct road between Vellore and Chittoor, it is probably not an over estimate to calculate the annual traffic of the proposed line at 200000 passengers and 60,000 tons of goods.

7. If we allow one anna per passenger, and six annas per ton of goods (1½ anna per mile) this will give a return of

* The number of carts crossing the Palar bridge is known to amount to nearly 1800 daily.

This memorandum (1875) Dept. (Colonel Hamilton's Report)

From The Public Works Department

S. O. No. 615

Fort St. George 12th May 1875

No. 20

Vellore

Enclosure 2

Memorandum a letter from the Chief Engineer N. Arcot, forwarding copies of papers relating the proposed Branch Railway to the town of Vellore.

	Rs
2,00000 at one anna	12500
60,000 at six annas	22500
	35,000

8. The working expenses would not exceed 50 per cent of the total receipts, leaving a net return of Rupees 17,500 annually or very nearly six per cent on the first cost.

9. In the above estimate, I have allowed nothing for first and second class traffic, carriages, horses, parcels and similar miscellaneous items which would doubtless bring in some small return. I have no doubt whatever that this estimate is very moderate, and I know that experienced officials of the Madras Railway, estimate the returns much higher.

10. I have little doubt that Government would lend us the money required at

at 4 per cent; and taking this as the rate of interest, principal and interest might be repaid by 28 annual payments of 6 per cent on the capital. During these 28 years the District would have the benefit of the railway without cost, and after that period it would return a clear profit of Rupees 18,000 (which by that time would probably have greatly increased) annually.

/True Extract/
/signed/ W. S. Whitecombe
President

/True Copy/
J. Elton
Ag Secretary

Copd

Revenue Department 41

Miscellaneous &c

Proceedings of the Board of Revenue
Dated 14th May 1875. No 1287.

Read the following

No 217

From

W. S. Whitehead Esquire
Collector and President
Local Fund Board of
North Arcot.

To

H. E. Stokes Esquire
Ag Secretary to the
Board of Revenue
Madras.

Sir,

Adverting to the Proceedings of the Board of Revenue dated 3rd March 1875, No 615, submitting for orders of Government my letter dated 11th February last No 74 requesting sanction for an allotment of Rupees 1000 to take a preliminary survey for a Railway from the Vellore Town to the present Railway station, I have the honor with reference to the Board's remarks in para 1, to enclose

copy

Enclosure to Proceedings of the Board of Revenue dated the 14th May 1875.

Copy of Extract from Resident Engineer's letter

No 716 dated 11th May 1875.

copy of the Minutes of Proceedings of the Local Fund Boards, held at a joint special meeting on the 12th Instant, from which it will be observed that the Local Fund Boards are not aware of the existence of any company to construct a Railway - the only company of which the Boards have knowledge is that of "The Madras Tramway Company limited", which only proposes to construct a light Tramway between the Railway station and Town of Vellore. The Boards have declined to make any concession in their behalf, as their operations will be limited merely to running passenger trains only and the Vellore Road is not broad enough to afford free accomodation for the Company's trains and also for the wheeled traffic simultaneously.

In

2. In paragraph 2 of the Proceedings under reference, the Board requested Government to give formal sanction to the allotments proposed for the survey in question, if the Local Fund Boards are permitted to shew that a construction of the proposed Railway is feasible and likely to be remunerative, and I may state here that full information on this point was at the disposal of the Local Fund Boards, when I first addressed the Board of Revenue on the subject, and a reference to para 5 of my letter quoted in para 1 Supra will shew that I purposely refrained from setting forth the matter in greater detail in the absence of the information to be obtained from the Preliminary Survey for which I solicited sanction.

3. Under these circumstances, the Boards would

would therefore press their former application for the allotments proposed for a Preliminary Survey which will not finally commit them to any eventual expenditure upon the Railway.

4. I herewith forward an extract of a letter from the District Engineer who last moved this Railway question thinking that the information therein contained may be useful to Government when passing their final orders on the subject.

North Street
Collr's office
Palmanair
27th April 1875

I have &c
(Sigd) W. S. Whiteside
President.

Submitted to Government with reference to Government Order, Financial Department, 6th April 1875 No. 746.

(True Copy & Extract)

H Elton
Ag Secretary

To The Chief Secretary to Government, Financial
Mem. Detail with extract from Proceedings of L. R. Board

Read Nos 1154 & 1165.

Ordered 26 May 1875 to 1145

Mins papers with the forwarded to the Commission on Railway Crossing in continuation of S.O. of 6th April 75. No 746.

To the Public Works Department (Railway) 16
" Board of Revenue 14
24/5/75.

with Ex of Min of Pros S & Board

Dispd 12/6

Minute (1875) Paper
Proceedings of the
Board of Revenue
Dated 14th May 1875
Dispd 17th "
Encl

Submitting to Govt
letter from Executive Engr
N. Arcot regarding a
preliminary survey for a
Railway from the Pollore
Coorum to the present
Railway at Katpadi.

No 201.

Brit

of 1875 Madras.

Financial

Nos. 200-2

Railway certain
questions regarding a
Branch Railway from
the Vellore Town to
the Railway Station
forwarded to the Com
mittee on Railway
Affairs.