Public Works (1899) Department.

RAILWAY BRANCH.

G.O., No. 863-64 Ry.

DATED 7th August 1899

Includes.

G. O. No. 331 Ry dy 28 - 3 - 94
do 245 Ry dy 17 - 3 - 96
do 346 Ry dy 13 - 5 - 97
do 346 Ry dy 9 - 9 - 97

[Despatch Abstract.]

Bezwada - Masulipatam Extension of the Southern Mahratta Railway

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Ordering that a copy of the proceedings embodying correspondence printed up to date on the subject of —— with a memorandum thereon by the Consulting Engineer for Railways be forwarded to the Govt of Bombay for information.

Returning copy of proceedings embodying correspondence on the subject of —— with memorandum thereon by the Consulting Engineer for Railways.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
	331	R Jus	28-5-94				
	245	R "	17-3-96				
	~~514~~	R "	12-6-96	Left separately			
	346	R "	13-5-97				
	546	R "	9-8-97				

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
	619-20 Ry		30-3-04				

RAILWAY.

Government {1899} of Madras.

PUBLIC WORKS.

Recd. } 1899. *Enclosures*

Regd. *Spare copies*

G.O., Nos. 863, 864 Ry., 7th August 1899.

AUGUST.

The Bezwada-Masulipatam Extension of the Southern Mahratta Railway

Forwarding copy of Proceedings embodying correspondence on the subject of —, with a memorandum thereon by the Consulting Engineer for Railways, Madras.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following papers :—

From—The Secretary to the Govt. of India, Public Works Department.
To—The Joint Secretary to the Govt. of Madras (Ry. Branch), P.W.D.
Dated—Simla, 27th September 1889, No. 939 R.C.

In continuation of Public Works Department letter No. 930 R.C., dated 25th September 1889, communicating the orders of the Government of India regarding the survey for the East Coast Railway project, I am directed to forward herewith copy of a memorial, dated 10th May 1889, from the inhabitants of Masulipatam praying for the extension to their town of either of the railway lines terminating at Bezwada, together with a copy of the reply thereto; and to request that, with the permission of His Excellency the Governor in Council, the Engineer-in-Chief of the East Coast Railway Survey may be desired to make the necessary inquiries for estimating the prospects of an extension from Bezwada to Masulipatam, and that the Government of India may be favoured with the views of His Excellency in Council on the subject.

Enclosures.

The humble petition of the Inhabitants of the Town of Masulipatam, Kistna.

Masulipatam, 10th May 1889.

This town, with a population of 40,000 inhabitants, has for many years been the centre of an increasing coast trade as will be seen by the following figures of exports and imports :—

		Exports. rs.	Imports. rs.
Year ending	1885–86	27,34,124	8,13,007
Do.	1886–87	29,67,524	11,01,924
Do.	1887–88	29,34,638	15,17,101
Do.	1888–89	30,61,542	12,40,683

which trade is capable of further development if provided with an improved system of communication with the interior, so as to enable the produce of the fertile districts of the Kistna to reach the sea-board with as little difficulty as possible; and this can only be done by an extension of the railway to the town of Masulipatam which has from time immemorial been looked upon as the chief port of the Kistna district. Bezwada, a town situated about 48 miles away from Masulipatam, has now been connected by rail of His Highness the Nizam's Guaranteed State Railways Company, Limited, and it is certain that the returns of this railway would be greatly augmented if extended through the upland taluks of Bezwada and Gudivada to the sea-board whereby it would bring into communication the following large villages with populations as shown opposite them and traverse a richly irrigated tract, almost every acre of which is under rice cultivation, which will never be served by a navigable canal :—

	Inhabitants.		Inhabitants.
Nidamanur	1,150	Vinnakota	1,800
Tenner	1,180	Kowtaram	2,400
Gudivada	4,040	Vadlamannad	1,100
Angalur	1,700	Pedana	4,400

without in any way interfering with the Kistna canal which connects Bezwada with this town.

It is certain that the railway in question, terminating as abruptly as it does at Bezwada, cannot enable merchants to find as favourable and ready a market for their produce as they otherwise would do if provided with easy communication with a seaport town like Masulipatam, and it would be unprecedented in history if the railway referred to was permitted to end where it at present has done. The distance between Masulipatam and Bezwada through Gudivada being short, say 50 miles, and the ground to be traversed level, we are of opinion that from a pecuniary point of view there can be no objection to the extension solicited, as the cost of construction would naturally be moderate. For your further information we beg to quote the words of W. C. Furnivall, Esq., Mem. Inst. Civil Engineers, and late Agent and Chief Engineer of His Highness the Nizam's Guaranteed State Railways Company, Limited, with reference to the railway to Masulipatam :—

"As regards the construction of the Masulipatam Railway from Bezwada, I am strongly of opinion that the line will pay well. This railway would traverse a portion of the Kistna delta and would therefore be very level and would consequently be worked very cheaply."

Masulipatam being connected with Bezwada by canal may be considered as a reason why we should not feel the want of a railway; but that the railway is of a greater necessity to us is apparent from the fact that the crops in this district are reaped during the months of January and February, and the produce when harvested is conveyed to the nearest market during the months of March, April, May and June, which cannot be done during the other seasons of the year as the ryots with their cattle would be occupied in agriculture, besides the common carts of the villages situated in the wet taluks are prevented from conveying their produce abroad in consequence of the During the months of March, April and May, the time the ceased, the canals are closed from want of a proper supply of annual repairs. An extension of railway would therefore facilitate t throughout the year, expeditiously and without the unnecessary expen ing bulk and consequent wastage at Bezwada, from the railway to the canal and *vice versâ*.

Masulipatam being the nearest seaport to the Nizam's dominions would be availed of for the import of foreign goods, rather than Bombay which is further away from Hyderabad by about two hundred miles; besides an easy outlet would be provided for the coal from Singareni, and the iron from Worungul, as well as an easy means of conveyance into the interior for the salt so largely produced in the principal depots in this district situated in the neighbourhood of Masulipatam, which would result in a greater demand for salt and in consequence an enhanced source of revenue to Government. Moreover the foreign mail communication would be accelerated.

That Masulipatam has many drawbacks as a port may be produced as another reason against the extension of the railway to this town. This we beg to submit is more imaginary than real, from the fact that the trade of the port, as already shown, has from year to year been steadily increasing. With an accelerated communication by steam-launch (a matter now under consideration) with the roadstead, Masulipatam would be brought into an equality with the neighbouring port of Cocanada where distance of the anchorage is about the same.

We further beg to point out, as to the supposition that the port is silting up, that the inquiries made by the Local Port Officer have proved to the contrary.

In conclusion, we feel we cannot but quote the words of our worthy Collector, A. T. Arundel, Esquire, in his memorandum to the District Board in reference to the proposed extension of railway to Masulipatam that :—

"It is probably the first time in the history of railway construction that it has been arranged to stop two separate lines of railway at a junction within 50 miles of a sea-borne trade of nearly half a million sterling, while a fertile rice-producing country lacking nothing so much as means of communication lies on the road between."

Under the circumstances set forth we respectfully beg that your Excellency in Council will be pleased to see the great necessity for the extension of the railway to our town; and we crave that this boon may be conferred upon us, for which as in duty bound we shall ever pray.

From—The Secretary to the Government of India, Public Works Department.
To—The Chairman, "Hindoo Religious Association," Masulipatam.
Dated—19th June 1889, No. 583 R.C.

I am directed to acknowledge the receipt of the memorial, dated 10th May 1889, from the inhabitants of the town of Masulipatam, to the address of His Excellency the Viceroy, requesting, under the circumstances explained, that Government will undertake to extend either of the railway lines terminating at Bezwada to Masulipatam.

2. In reply, I am to state, for the information of the inhabitants, that it is intended to send a party to Bezwada in the cold weather to survey a line from Bezwada towards the coast, and that their memorial will be referred to the Engineer-in-Chief of the survey party who will be directed to make inquiries as to the direction of the flow of trade from Bezwada and the prospects of the line proposed by the memorialists.

Order—No. 1415 R., dated 20th December 1889.

The Government of India letter and its enclosures will be communicated to the Revenue Department for inquiry into the financial prospects of the proposed extension to Masulipatam.

2. The Engineer-in-Chief of the East Coast Railway Survey will, at his convenience, have the probable alignment reconnoitred with a view to estimating approximately its probable cost.

Resolution of the Board of Revenue—dated 24th April 1890, No. 113.

The Board in its Proceedings, No. 564, dated 14th December 1889, Land Records and Agriculture, dealt with the financial aspect of the projected East Coast Railway between Bezwada and Cuttack, (1) as a famine protection requirement and (2) as a commercial project. It will now, as required, submit the result of its inquiry into the financial prospects of the proposed branch line between Bezwada and Masulipatam. The inquiry has proceeded on the assumption that the line between Bezwada and Masulipatam is to be undertaken as a branch of the East Coast Railway, and not merely as an alternative line for bringing the Guntakal-Bezwada line and the Nizam's State Railway to Bezwada in connection with a seaport. The Board considers that the connection of the Bezwada terminus of the two lines referred to with a seaport is a matter of vital importance to the financial success of these two famine lines, and that the non-connection would greatly militate against their usefulness in a time of famine; but if this connection is given by the construction of the East Coast Railway as far even as Cocanada only, it will be sufficient to consider the proposed line from Bezwada to Masulipatam on its merits as a commercial undertaking.

2. A description of the country through which the proposed line would pass with particulars of the large villages it would touch in its course is given in Mr. Arundel's letter, printed in Board's Proceedings, No. 564, dated 14th December 1889, already referred to. The country traversed through the whole distance of 50 miles between Bezwada and Masulipatam is a rich rice-growing country, splendidly irrigated, with a population of 216 to the square mile and studded with rapidly-growing and prosperous towns and villages, the following of which would be touched in order by the line on its way from Bezwada :—

	Population (Census of 1881).	Distance from Bezwada.		Population (Census of 1881).	Distance from Bezwada.
Nidamanur ...	1,150	7 Miles.	Gudivada ...	4,040	5 Miles.
Tenneru ...	1,180	6 „	Anjalur	1,700	6 „
Uppaluru ...	Not given.	6 „	Vinnakota ...	1,800	6 „
Mantina	Do.	6 „	Kowtaram ...	2,400	5 „
Ventrapragada ..	2,582	6 „	Vadlamanned ...	1,100	5 „
Pamalapad ...	Not given.	6 „	Pedana	4,400	4 „
Kalavapamula ...	Do.	6 „	Masulipatam ...	35,000	5 „

3. The proposed line will, under the orders of Government, be surveyed by the staff of the East Coast Railway now working in the district, but it has already been carefully examined by Mr. Furnival, the late Agent and Chief Engineer of the Nizam's State Railway, and his statement that the line would be very level and would consequently be worked very cheaply may safely be accepted. He further expressed a strong opinion that the line would pay well.

4. After a consideration of the character of the country through which the line passes and the density of its population, the chief means available for determining the extent of the probable traffic of such a line are a consideration of the statistics of present traffic on the lines of communication at present passing through the country. The available statistics bearing on this point are the following :—

(i) Statistics of traffic on the canal running along the line to be traversed;
(ii) Statistics of traffic on the roads along the same line;

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(i) *Canal traffic.*—The traffic on the canal running between Bezwada and Masulipatam, a distance of 49 miles, is registered by the Public Works Department. The latest returns give the traffic for the year 1888–89, or rather for the nine months, June to February, both inclusive, during which the canal is open, as follows :—

Ton mileage	2,730,691
Passengers	58,189

giving an average tonnage per mile of 55,728 tons.

The ton mileage of the previous year was 3,424,656, giving an average tonnage per mile of 69,890. The number of passengers registered in 1887–88 was 58,417 as compared with 58,189 in 1888–89.

The traffic in 1888–89 was carried in 1,580 laden boats, as against 1,724 in 1887–88, and consisted mainly of food-grains, salt, cotton, oil-seeds, nuts and oil, hemp, building materials, fuel, timber, bamboos, piece-goods, metals, tobacco, indigo, salt-fish, leather, shells and cash. The decrease as compared with year 1887–88 is attributed to the opening of the Nizam's State Railway to Bezwada and to a diversion of a great part of the trade in oil-seeds from Masulipatam to the Nizam's country.

(ii) *Road traffic.*—The traffic on the road between Bezwada and Masulipatam has been registered by the Traffic Registration establishment for the whole of the twelve months ending 31st March last. A statement of the traffic is given in Appendix I, of which the following is an abstract :—

Stations.	Merchandise. Mds.	Passengers. No.
Bezwada	419,687	34,543
Masulipatam	355,101	32,561
Total ...	774,788	67,104
Average ...	387,394	33,552

Converted into tons the average weight carried over the road is 14,230 tons.

The total tonnage per mile, taking both canal and road traffic together, amounts for 1888–89 to 70,000 tons, as compared with 96,773 ton-miles carried by the South Indian Railway in 1888.

(iii) *Imports and exports of the port of Masulipatam.*—The value of the imports and exports by sea of the port of Masulipatam during the past fourteen years are shown below :—

Years.	Imports.			Exports.		
	Foreign.	Coasting.	Total.	Foreign.	Coasting.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1875–76	9,023	11,59,205	11,68,228	9,71,496	19,95,632	29,67,128
1876–77	3,526	11,22,312	11,25,838	3,38,537	22,86,464	26,25,001
1877–78	7,712	13,84,685	13,92,397	2,78,369	20,65,293	23,43,662
1878–79	13,401	12,88,303	13,01,704	2,20,380	13,36,000	15,56,380
1879–80	1,817	10,42,328	10,44,145	6,31,437	19,02,332	25,33,769
1880–81	8,939	10,82,063	10,91,002	5,18,249	17,77,517	22,95,766
1881–82	5,454	7,82,932	7,88,386	1,88,896	16,50,911	18,39,807
1882–83	12,393	9,69,889	9,82,282	35,136	14,65,007	15,00,143
1883–84	8,009	9,12,161	9,20,170	1,86,451	15,78,432	17,64,883
1884–85	7,015	10,37,778	10,44,793	1,72,761	26,33,244	28,06,005
1885–86	11,522	8,00,523	8,12,052	2,38,029	24,98,340	27,36,369
1886–87	8,773	10,93,151	11,01,924	3,52,697	26,14,827	29,67,524
1887–88	5,722	15,11,372	15,17,094	2,32,755	27,15,327	29,48,082
1888–89	7,645	12,33,038	12,40,683	3,89,758	26,71,784	30,61,542
Average ..	7,925	11,01,410	11,00,335	3,39,639	20,85,079	24,24,718

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giving an average tonnage per mile of 55,728 tons.

The ton mileage of the previous year was 3,424,656, giving an average tonnage per mile of 69,890. The number of passengers registered in 1887–88 was 58,417 as compared with 58,189 in 1888–89.

The traffic in 1888–89 was carried in 1,580 laden boats, as against 1,724 in 1887–88, and consisted mainly of food-grains, salt, cotton, oil-seeds, nuts and oil, hemp, building materials, fuel, timber, bamboos, piece-goods, metals, tobacco, indigo, salt-fish, leather, shells and cash. The decrease as compared with year 1887–88 is attributed to the opening of the Nizam's State Railway to Bezwada and to a diversion of a great part of the trade in oil-seeds from Masulipatam to the Nizam's country.

(ii) *Road traffic.*—The traffic on the road between Bezwada and Masulipatam has been registered by the Traffic Registration establishment for the whole of the twelve months ending 31st March last. A statement of the traffic is given in Appendix I, of which the following is an abstract :—

Stations.	Merchandise. MDS.	Passengers. NO.
Bezwada	419,687	34,543
Masulipatam	355,101	32,561
Total ...	774,788	67,104
Average ...	387,394	33,552

Converted into tons the average weight carried over the road is 14,230 tons.

The total tonnage per mile, taking both canal and road traffic together, amounts for 1888–89 to 70,000 tons, as compared with 96,773 ton-miles carried by the South Indian Railway in 1888.

(iii) *Imports and exports of the port of Masulipatam.*—The value of the imports and exports by sea of the port of Masulipatam during the past fourteen years are shown below :—

Years.	Imports.			Exports.		
	ort.	oasting.	Total.	Foreign.	Coasting.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1875–76	9,023	11,59,205	11,68,228	9,71,496	19,95,632	29,67,128
1876–77	3,526	11,22,312	11,25,838	3,38,537	22,86,464	26,25,001
1877–78	7,712	13,84,685	13,92,397	2,78,369	20,65,293	23,43,662
1878–79	13,401	12,88,303	13,01,704	2,20,380	13,36,000	15,56,380
1879–80	1,817	10,42,328	10,44,145	6,31,437	19,02,332	25,33,769
1880–81	8,939	10,82,063	10,91,002	5,18,249	17,77,517	22,95,7[illegible]
1881–82	5,454	7,82,932	7,88,386	1,88,896	16,50,911	18,39,8[illegible]
1882–83	12,393	9,69,889	9,82,282	35,136	14,65,007	15,00,[illegible]
1883–84	8,009	9,12,161	9,20,170	1,86,451	15,78,432	17,64[illegible]
1884–85	7,015	10,37,778	10,44,793	1,72,761	26,33,244	28,0[illegible]05
1885–86	11,529	8,00,523	8,12,052	2,38,029	24,98,340	27,[illegible],369
1886–87	8,773	10,93,151	11,01,924	3,52,697	26,14,827	29,67,524
1887–88	5,722	15,11,372	15,17,094	2,32,755	27,15,327	29,48,082
1888–89	7,645	12,33,038	12,40,683	3,89,758	26,71,784	30,61,542
Average ..	7,925	11,01,410	11,06,335	3,39,639	20,85,079	24,24,718

Exports.	*Imports.*
Grain and pulse.	Gunny bags.
Castor.	Liquors.
Dyeing and coloring materials.	Grain and pulse.
Gingelly.	Cotton, twist, yarn and piece-goods.
	Oils.

The average value of the imports amounts to Rs. 11,09,335 and that of the exports to Rs. 24,24,718. The chief articles of export and import during the past two years are shown in the margin. The bulk of the export trade is in grain and pulse and in oil-seeds. The imports are chiefly piece-goods, gunny bags, liquors and oils.

5. The rail-borne traffic passing between the Kistna block and the Nizam's territories since the opening of the Nizam's Railway to Bezwada in November 1888 is shown in the annexed statement. A portion of the traffic in the last quarter represents traffic between the Kistna block and the small portion of the Kurnool district served by the portion of the Bellary-Kistna Railway between Cumbum and the Kistna frontier opened in October 1889.

Trade with Kistna block for the quarters ending

Class of trade.		31st December 1888.	31st March 1889.	30th June 1889.	39th September 1889.	31st December 1889.
		I. mds.	I. mds.	I. mds.	I. mds.	I. mds.
External trade	Imports	2,852	1,163	1,377	20,457	51,406
	Exports	..	330	5,454	175,769	216,653
Internal trade		..	174	127	287	8,790

The traffic shows a great development in the last two quarters, and as the great bulk of the export traffic (216,653 Indian maunds) during the quarter ending 31st December 1889 consisted of grain and pulse (135,000 maunds), chiefly rice, and salt 44,000 maunds, all of which articles are largely produced in the country that would be served by the Bezwada-Masulipatam branch, it seems certain that the branch would have a large and increasing trade in these articles.

6. On a consideration of the existing traffic along the present lines of communication between Bezwada and Masulipatam: and of the further circumstances that the proposed line of railway between these towns will run for its whole length of 49 or 50 miles through a rich and exceptionally well-irrigated country, with a large population: that it will connect Masulipatam, a town with a population of 35,000 inhabitants, and already possessed of a large export trade with a railway tapping the Nizam's country and another tapping the Ceded districts: the Board has no hesitation in stating its conviction that the line would be a financial success in itself and would further improve the financial prospects of any line with which it was connected.

To the town of Masulipatam itself it would seem that the line is essential if it is not to see its trade entirely diverted by the East Coast Railway to the rival port of Cocanada.

Endorsement in the Revenue Department, No. 3333-Rev., dated June 2nd, 1890.

Transferred to the Public Works Department with reference to paragraph 1 of its Order, No. 1415 R., dated 20th December 1889, with an expression of concurrence in the opinion of the Board of Revenue.

Order—No. 813 R., dated 10th June 1890.

Ordered that the following letter be forwarded to the Government of India.

APPENDIX I.

Statement showing the road affic registered at Bezwada and Masulipatam during 1889-90.

Route on which traffic was registered.	Stations.	Direction of traffic.	Long distance traffic.						Remarks.
			Total merchandise.		Animals.		Passengers.		
			During April, May 1889 and March 1890 when canals were closed.	During the months from June 1889 to February 1890 when they were opened.	Total.	During the months from June 1889 to February 1890 when they were opened.	During April, May 1889 and March 1890 when canals were closed.	Total.	
			I. mds.	I. mds.	no.	no.	no.	no.	
Between Masulipatam and Bezwada.	Bezwada ..	From Bezwada ..	25,926	13,544	2,082	1,889	193	13,675	The distance between Bezwada and Masulipatam is about 44 miles by road.
		To Bezwada ..	232,755	147,432	1,631	963	668	20,868	
		Total ..	258,711	160,976	3,713	2,852	861	34,543	
Between Masulipatam and Bezwada.	Masulipatam ..	From Bezwada ..	167,213	172,229	..	..	..	32,561	
		To Bezwada ..	12,240	3,419	..	..	..	..	
		Total ..	179,453	175,648	..	..	..	32,561	

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—10th June 1890, No. 814 R.

I am directed to acknowledge the receipt of your letter, No. 939 R.C., dated 27th September 1889, forwarding, for the views of His Excellency the Governor in Council, a memorial from the inhabitants of Masulipatam praying for the extension to their town of either of the railway lines terminating at Bezwada.

2. In reply, I am directed to submit, for the information of the Government of India, the accompanying Proceedings of the Board of Revenue, No. 113, dated 24th April 1890, embodying a report with statistics as to the financial aspects of the proposed extension.

3. The Engineer-in-Chief of the East Coast Railway Survey has been requested to have the probable alignment reconnoitred with a view to estimating approximately the probable cost of the branch line, and on receipt of his reply the Government of India will be again addressed on the subject.

Telegram from—The Joint Secretary, P.W. Dept., Ry. Branch, Madras.
To—The Engineer-in-Chief, East Coast Railway.
Dated—21st August 1890.

When may this report asked for in paragraph 2 of G.O., 1415 R., 20th December 1889, be expected. Please wire reply.

Telegram from—The Engineer-in-Chief, East Coast Railway.
To—The Joint Secretary, Public Works Department, Ry. Branch, Madras.
Dated—Vizagapatam, 22nd August 1890.

So busy with estimates have had no time. Will report on paragraph 2 of G.O., 1415 R., 20th December, on return from Simla.

Order—No. 1494 R., dated 9th October 1890.

The Consulting Engineer for Railways is requested to obtain from the Agent and Manager, Madras Railway, information with regard to the cost at which that Company would carry out the survey for a broad gauge line of railway from Bezwada to Masulipatam.

From—A. T. Arundel, Esq., Collector of the Kistna District.
To—The Joint Secretary to Government, P.W.D., Railway Branch.
Dated—Masulipatam, 16th October 1890, No. 7531.

In compliance with your request, I have the honour to forward copy of a memorandum (with five spare copies) which I have drawn up to supply Colonel Lindsay, R.E., the Agent and Chief Engineer, South Mahratta Railway, with the information he desired as to the prospects of an extension of the South Mahratta Railway across the river Kistna, *viâ* Bezwada, through the delta to Masulipatam. A map of the line the extension should take is also enclosed.

2. I would venture to urge strongly upon Government the advisability of an immediate survey of this extension. It is an essential to the completeness and finality of the Southern Mahratta Railway east of Guntakal as a famine protective line. It will not only give this famine protective line a long base through the grain-producing delta, but will also afford a stretch through a rich country of 50 miles that will probably pay well and form a satisfactory termination to the non-paying line through Kurnool and the uplands.

3. The line, whether constructed by the South Mahratta Railway or by the Madras Railway, will be an incalculable boon to the Eastern delta of the Kistna district. The Western delta will be traversed by, and will prosper exceedingly through, the railway extension from Bezwada to Nellore and Madras. The Eastern delta between Bezwada and Masulipatam with a still greater area under irrigation requires the railway extension to Masulipatam for its full and prosperous development.

Enclosure.

Memorandum by Mr. A. T. Arundel, dated 7th October 1890, on a proposed extension of the Southern Mahratta Railway to Masulipatam.

The temporary terminus of the Southern Mahratta Railway in the Kistna district is now opposite Bezwada on the right bank of the river Kistna where alone it abuts on the delta. The two hundred odd miles of this railway through the Kurnool and Kistna districts were constructed as a famine protective line and not as a remunerative commercial undertaking. Any proposed extension therefore that renders this line more effective for famine protection is justified by the railway's *raison d'etre*; and if such extension promises at the same time to be commercially remunerative in a way that no other portion of the line ever can be, it is deserving of a careful consideration.

2. The construction of the Kistna bridge at Bezwada has now been formally commenced. This great bridge—to be three-quarters of a mile in length—is prominently connected with the East Coast Railway which is eventually to run from Madras *viâ* Bezwada to Cuttack and Calcutta. It should, however, be borne in mind that it was originally approved in 1883 by the Secretary of State as a necessary continuation of the Southern Mahratta, or as it was then called, the Bellary-Kistna, Railway. It will be railed for both broad and narrow gauge.

3. The first effect of the bridge will be that all traffic on the Southern Mahratta Railway will pass over the bridge to and from Bezwada and that a station for goods and passengers must be provided on that side of the river. From this point the East Coast Railway passes away to the north-east, skirting the Ellore canal and the fringe of the Eastern Kistna delta, into which, however, it does not enter.

4. The Eastern delta irrigates over 220,000 acres of rice land and this area will steadily increase to a maximum of 270,000 acres or over 400 square miles. It is tapped by one main navigable canal to Masulipatam and a branch that connects it with the Gódávari canal system. The main canal runs for half its length near and parallel to the river, and is thus of less use for the export of grain than it would be if it passed more centrally through the delta.

5. The railway extension has a great tract of rice-growing country invitingly open to it, which is not served by a navigable canal. The line would pass through a series of important towns and villages, and would finally reach Masulipatam, the capital of the district, after a course of 50 miles, which is almost the same length as that of the main canal.

6. A reference to the map will show that the railway should leave Bezwada by crossing the Ellore canal as soon as practicable. Ample room is available for additional sidings and wharves if more be needed. The line will run between the Ellore and the Ryves canal till it crosses the high road about the ninth mile not far from the villages of Nidamannur (population 1,150), Velpur and Done-Atkur. Five miles further on it reaches Tenneru (p. 1,180). Five miles further is Ventrapragada (p 2,582), and after another five miles comes Gudivada (p. 4,040), the chief town of the taluk. Then follow Angalur (p. 1,700) and Vinnakota (p. 1,800) at six miles distance, next at about the same distance is Kowtaram (p. 2,400) on the branch canal. Vadlamannad (p. 1,100) comes next, and then seven miles from Kowtaram is the large business centre of Peddana (p. 4,400). Thence to Masulipatam is six miles.

7. Every village above named lies in the midst of a richly-irrigated rice-growing country which is steadily increasing in population and in wealth, and lacks nothing so much as means of communication. The nature of the soil—a black silt—renders road-making costly and difficult. Railway feeders are therefore more suitable to the conditions of the delta than through lines of high road.

8. Masulipatam, the chief town of the district and its port, would be the terminus of this branch of the Southern Mahratta Railway. At the census of 1881 it was a town of 7,700 house with a population of 35,000. The houses now newly numbered for the approaching census have increased to 10,480, and taking the same average number of occupants per house as before, the population should now stand at 48,000. The town is the official head-quarters of the district and holds the Judge's and District Munsif's Courts, the Collector's and Deputy Collector's cutcherries, the District Registrar's and other public offices, which cause a large flow of people on public and private business. There are several flourishing Mission agencies under the Church Mission Society. In educational institutions it possesses the Noble College about to be raised to the first grade, a Hindu High school, a normal Training school for the whole district, and minor scholastic agencies for male and female education.

9. The port of Masulipatam is inferior as far as natural facilities are concerned; steamers and ships have to lie six to seven miles out, as at Cocanada and Tuticorin, and there is a bar to cross. But the port has been undeservedly neglected in the past, and it is only within the last two years that an iron shed has been erected by Government to shelter goods from wind and

weather. It has been asserted that the bay is shoaling up, but the investigations of the late Port officer, Mr. Fletcher, do not support this view; the anchorage for ships and steamers is no further out than of old, and it is shown that whereas the cargo boats of 1858 carried only 12 tons, the present boats carry from 16 to 25 tons, so that there is no shoaling up of the bar.

10. In spite of neglect and natural defects, the trade of Masulipatam has steadily increased for many years past as the following figures will show:—

Trade.	1870-71.	1875-76.	1880-81.	1885-86.	1887-88.	1889-90.
Tonnage	47,000	1,37,000	1,80,900	2,22,900	3,42,000	Not given.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imports	13,49,978	29,67,129	22,96,706	27,36,369	29,48,082	34,56,046
Exports	4,76,060	11,68,229	10,91,641	8,12,052	15,17,101	12,38,443
Total ..	18,26,038	41,35,358	33,88,347	35,48,421	44,65,183	46,94,489

There is a large export trade in rice to Negapatam and Ceylon, mainly in native craft, and there seems every likelihood that this special trade will continue to increase. Masulipatam will be the nearest port from Secunderabad to Burma and the quickest route for the passage of troops. It is also the nearest port for the supply of Singareni coal either to Government or to the public.

11. The tonnage of goods carried on the canal between Masulipatam and Bezwada in 1889-90 was 32,989 tons; the passenger traffic for the same period was 70,014, mainly between the terminals. This latter would all be taken by the railway and largely increase owing to greater convenience and saving of time. There would also be added the passenger traffic between the intermediate stations. The passage by canal takes less or more than 24 hours according to whether it is down stream or up. The boats are very crowded and inconvenient. The railway would give farmers the power to hold back their rice in their own granaries till such time as is most convenient to sell, instead of being obliged to get rid of it during the three months when the delta is dry and passable for carts. It must be remembered that all the canals of the district are closed for three months, from March to May inclusive, during which time all traffic is by road. The road traffic returns between Bezwada and Masulipatam for the year 1889-90 are:—

	Goods.	Passengers.
Bezwada	4,19,687 mds.	34,543
Masulipatam	3,55,101 „	32,561
Total ...	7,74,788 „	67,104
Average ...	3,87,394 „	33,552

12. There are Salt factories at Manginapudi, 7 miles north of Masulipatam, which yield 2,00,000 maunds per annum, all of which is now taken inland either by canal or on pack-bullocks.

13. Mr. Furnivall, the late Agent and Chief Engineer of the Nizam's State Railway, in a note on a proposed extension of that line to Masulipatam, was "strongly of opinion that the line will pay well. The line would be very level and would consequently be worked very cheaply." His rough estimate of the total cost including stations, rolling-stock and establishment was Rs. 64,000 per mile of *broad* gauge, or 32 lakhs for the 50 miles.

14. In conclusion, it may be remarked that the railway extension now discussed occupies a totally different position from that of any other portion of the Southern Mahratta Railway east of Guntakal. That line was made as a protection against famine; it runs through uplands that depend on the rainfall for existence, and it is not likely to be financially remunerative for a long period. The extension to the sea completes the line as a famine protective work by giving it a base of 50 miles through a rich and never-failing rice country. Furthermore, as the delta is rapidly increasing in wealth, in population, and in the productive area under irrigation, and as the terminal points are the important towns of Masulipatam with over 40,000 inhabitants and Bezwada with over 15,000, there is every prospect that Mr. Furnivall's forecast will prove accurate.

15. The extension would complete all the railway schemes that have been proposed for the Kistna district and would give a still stronger impetus to the progress of the district which is now by means of its great delta irrigation, its canals and its railways, entering on a remarkable career of prosperity, and which already has a land revenue of 49½ lakhs of rupees or considerably more than any other district in the Madras Presidency.

16. The Board of Revenue in a report on the financial aspects of this line as a branch of the East Coast Railway (B.P. 113, 24th April 1890, Revenue Settlement) remark:—

"On a consideration of the existing traffic along the present lines of communication between Bezwada and Masulipatam: and of the further circumstances that the proposed line of railway between these towns will run for its whole length of 49 or 50 miles through a rich and exceptionally well-irrigated country with a large population: that it will connect Masulipatam, a town with a population of 35,000 inhabitants, and already possessed of a large export trade, with a railway tapping the Nizam's country and another tapping the Ceded Districts, the Board has no hesitation in stating its conviction that the line would be a financial success in itself and would further improve the financial prospects of any line with which it was connected."

From—The Agent and Manager, Madras Railway Company.
To—The Consulting Engineer for Railways.
Dated—Madras, 21st October 1890, No. 6630/1091.

I have the honour to inform you that the cost of surveying a broad gauge line by this Company's officers from Bezwada to Masulipatam is estimated by the Chief Engineer at Rs. 143 per mile, for a distance of 44 miles equal to in all Rs. 6,292.

2. The survey could be undertaken by the party now at work on the Madras-Gudur survey immediately on completion of that work, which may be expected to be in about two months' time.

Order—No. 1767 R., dated 11th November 1890.

The Government observes that the distance from Bezwada to Masulipatam is 50 miles and not 44 as stated by the Agent and Manager, Madras Railway, and the total cost will therefore be, at Rs. 143 a mile, Rs. 7,150 and not Rs. 6,292.

2. The estimate for Rs. 7,150 is sanctioned, and this amount will be met from Provincial revenues. The Financial Department will therefore make the necessary arrangements to have this sum placed at the disposal of the Agent and Manager, Madras Railway.

3. The Agent and Manager, Madras Railway, will be requested to proceed with the survey on the lines laid down in the letter from the Collector of Kistna read above, and a copy of the plan submitted therewith will be forwarded for his guidance in making the survey.

4. A copy of these Proceedings will be forwarded for the information of the Government of India.

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Fort St. George, 19th November 1890, No. 1838 R.

With reference to your letter No. 987 R.C., dated 30th October 1890, requesting that the submission of the further report on the proposed branch railway between Bezwada and Masulipatam may be expedited, I am directed to invite attention to Public Works Department docket, No. 1768 R., dated 11th November 1890, forwarding a copy of the Proceedings of this Government, No. 1767 R., of the same date, in which the Agent and Manager of the Madras Railway was authorized to carry out the survey at an estimated cost of Rs. 7,150, the results of which will be reported to the Government of India when finished.

weather. It has been asserted that the bay is shoaling up, but the investigations of the late Port officer, Mr. Fletcher, do not support this view; the anchorage for ships and steamers is no further out than of old, and it is shown that whereas the cargo boats of 1858 carried only 12 tons, the present boats carry from 16 to 25 tons, so that there is no shoaling up of the bar.

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To—The Consulting Engineer for Railways.
Dated—Madras, 21st October 1890, No. 6630/1091.

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2. The survey could be undertaken by the party now at work on the Madras-Gudur survey immediately on completion of that work, which may be expected to be in about two months' time.

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From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Fort St. George, 19th November 1890, No. 1838 R.

With reference to your letter No. 987 R.C., dated 30th October 1890, requesting that the submission of the further report on the proposed branch railway between Bezwada and Masulipatam may be expedited, I am directed to invite attention to Public Works Department docket, No. 1768 R., dated 11th November 1890, forwarding a copy of the Proceedings of this Government, No. 1767 R., of the same date, in which the Agent and Manager of the Madras Railway was authorized to carry out the survey at an estimated cost of Rs. 7,150, the results of which will be reported to the Government of India when finished.

From—The Engineer-in Chief, Kistna Bridge.
To—The Consulting Engineer for Railways, Madras.
Dated—Bezwada, 20th January 1891, No. 195.

Before preparing plans of the junction station arrangements at Bezwada, it is important that I should know whether the proposed extension to Masulipatam is likely to be on the metre or on the standard gauge. I see that officers of the Madras Railway Company are now here on the survey of the extension; and, although the fact of their making the survey doubtless in no way commits Government to the policy of sanctioning the extension on the standard gauge, still it appears to imply that such a policy is at least in contemplation.

2. I hope it may not be considered that I am exceeding the legitimate functions of a Construction Engineer if I make the suggestion—though I believe that it can scarcely be necessary—that the question be very cautiously considered. From what I can gather of the probable future of the extension, it appears to me to be beyond doubt that its construction upon the metre gauge will be by far the wisest policy, as making the produce of the Kistna granary available for the occasional pressing needs, and the usual fair needs, of the districts served by the Southern Mahratta Railway which are liable to scarcity.

3. I may avoid repetition if I submit a copy of a note put up early in October on the subject for perusal of His Excellency the late Governor of Madras, in which I tried to show that the real need was not the development of the moribund port of Masulipatam, but the export, *inland*, of the surplus produce of the Eastern Kistna delta.

4. The Western Kistna delta will, by means of the broad gauge connection between Bezwada and whatever point may be fixed on to the southward, send full supplies of grain to districts needing it which are served by the broad gauge Madras Railway system.

5. A review of the existing trade of the Bellary-Kistna section of the Southern Mahratta Railway must, I think, be convincing on this point that, pending its extension into the heart of the delta, it cannot be considered as a completed system or as a remunerative section of the Southern Mahratta Railway Company's network of lines. How such unremunerativeness affects the Imperial finances I am not at this moment in a position to say, but the matter appears to me to be a sufficiently important one to warrant my so far stepping out of the regular groove as to address you as I have done.

* * * * *

Enclosure.

Note by Mr. F. J. E. Spring, Engineer in Chief, Kistna Bridge, on the Bezwada-Masulipatam Railway, dated 4th October 1890.

In all that has heretofore been written on the subject of railway extension to Masulipatam, the error has been made of pleading for the line on the grounds of the need which was said to exist for a better means of communication with inland districts in the interests of the port itself. The result of this error of judgment has been that the obvious reply was always forthcoming that Masulipatam is a moribund port, and that its further development, instead of being promoted, would be retarded by the construction of the East Coast Railway.

An entirely different view of the subject having occurred to me, I have put it forward in conversation with His Excellency the Governor and with the Collector of Kistna, Mr. Arundel. As the suggestion has appeared to commend itself, and as I also hear that Colonel Lindsay, the Agent and Chief Engineer of the Southern Mahratta Railway, has received it with approval, I think it best to commit it to writing in the form of a note, so that, should His Excellency the Governor see fit, action may be initiated in the Public Works Department Secretariat.

The merchants and traders who have located themselves at the port of Masulipatam, and who have invested, more or less largely, their capital in buildings and offices at that place, are naturally interested in the development of the export trade of the port. It follows that these gentlemen will be prominent agitators on behalf of railway connection with Bezwada with a

view to the expansion of the trade in which they now hold the position of middlemen. The Eastern Delta system of irrigation has given origin to an immense area of rice cultivation at the back of Masulipatam, and this produce naturally finds its largest sale with the merchants of that port who export it up or down the coast by sea. The transport of this grain, as well as of much of the produce of the inland districts which centres itself on Bezwada, becomes, during some of the busiest months of the year, exceedingly difficult and precarious in consequence of the silting up and the subsequent clearance of the canals by which it arrives at the port.

Masulipatam has in the natural course of events developed itself, from being an East India Company's trading and administering centre, into a modern district centre, the head-quarters of a Collector, Judge and other officials. It was natural enough that the demands for improved communication with the inland districts which arose from the mercantile classes should find a mouthpiece in the Collector, who would thereby be brought into better touch with his district, and it is in this way that the demand for railway extension to Masulipatam has arisen—a demand which has been set aside, I believe, during the discussion of the East Coast Railway scheme.

Now it has occurred to me that the possibilities of the grain area watered by the Eastern Kistna delta system of canals are likely to be quite other, in the mind of a Governor of Madras, than they are in the mind of a resident of Masulipatam. Instead of looking on the grain area as a source of profit in the export trade, a Governor of Madras will consider the area with reference to its possible utilization in famine times. He would in fact consider how the available surplus produce of the area might best be diverted inland instead of to the port of Masulipatam.

A broad gauge railway from Bezwada to Masulipatam would not serve for the distribution of this grain throughout the famine tracts nearly so well as a narrow gauge extension of the Southern Mahratta Railway system. Such an extension would have several very patent advantages—

1*st*.—It would serve the interest of the Masulipatam merchants quite as well as a broad gauge line.

2*nd*.—It would also equally well serve to bring the Collector of the district out of his present state of semi-isolation.

3*rd*.—It would serve to draw away the grain of the Kistna Eastern delta inland, *viâ* the Southern Mahratta system, into the famine tracts.

4*th*.—It would give the Southern Mahratta Railway Company a suitable termination at a sea-port.

5*th*.—It would be more likely to be approved of by the Government of India than a broad gauge line as being cheaper in first cost.

6*th*.—Instead of being worked as a short branch of a main line of railway, always an unprofitable arrangement, it would be worked in direct continuation of the Southern Mahratta Railway Company's system whose terminus instead of being at Bezwada would be at Masulipatam.

I am not at the moment in a position to say on what conditions the Bellary-Kistna Railway, a State line, is worked by the Southern Mahratta Company; but I presume that, as in parallel cases elsewhere, it is worked somewhat after this fashion, that the first charge on the gross earnings is for working expenses, the next charge for interest upon the capital outlay, and that afterwards the Company and Government divide surplus profits, if any, in some agreed proportion.

I suggest that a similar arrangement be made for the metre gauge extension of the Bellary-Kistna Railway to Masulipatam, namely, that it be constructed out of State funds as an integral portion of the Bellary-Kistna Railway and that the entire extended Bellary-Kistna-Masulipatam State Railway be worked by the Southern Mahratta Company under such conditions (the existing or other) as may commend themselves to the contracting parties.

As regards the precise route which the proposed extension of the Bellary-Kistna Railway to Masulipatam should follow, I am of opinion that it distinctly ought *not* to follow the canal; that it ought, even if such a course involves a detour of 5 or 6 miles of extra distance, to tap every prominent or promising village near its track; and that, of all others, Mr. Arundel should lay down the approximate line on the map, as the question of route is less an engineering than a traffic problem.

Endorsed by the Consg. Engr. for Rys., dated Madras, 29th January 1891, No. 113.

I have already expressed my opinion in favour of an extension of the Southern Mahratta Railway from Bezwada to Masulipatam on the metre gauge in preference to a broad gauge branch.

2. My recommendation is based upon the fact that the metre gauge railway will be the cheapest; that it will place the irrigated lands of the Kistna delta in direct

communication with the famine districts of Bellary, Cuddapah, Mysore, &c.; and that it will be sufficient for the ordinary traffic that may be expected to come to it.

3. I do not think that Masulipatam can ever develop into a large port. The result of opening the East Coast Railway must be to concentrate the whole of the exports and imports at one port and increase its importance and traffic at the expense of the smaller ports. Trade must eventually follow the cheapest routes and methods, and it will be found cheaper to concentrate goods by railway at one central port where loaded ships can discharge with the certainty of finding a return cargo rather than for them to call at smaller ports where only a very small portion of the cargo can be discharged at one time and where back loading may not be available. Again, the place where the greatest number of ships call will have most money to spend in harbour and other improvements, and the improved accommodation will attract more traffic till one port absorbs the traffic of all others within certain limits. I think there is only room for one port between Calcutta and Madras, but where it should be, whether at Cocanada or Vizagapatam, the facilities for constructing a good harbour must determine.

4. In illustration of what I have written in the last paragraph, I may mention that freights from England to Cocanada are now 40*s.* per ton against 10*s.* 9*d.* to Calcutta and that ships can only be had sailing from London to Cocanada, whilst cargo can be shipped direct to Calcutta from any of the larger ports of Great Britain. The difference between 40*s.* and 10*s.* 9*d.* is at the present rate of exchange nearly Rs. 15, which would pay for the carriage of a ton of grain for about 600 miles by railway. No argument could better illustrate the advantages that a large port has over a small one than the above rates.

5. I do not think there is any possibility of Masulipatam ever being made a good port, and I therefore can see no particular argument in favour of constructing the branch from Bezwada to Masulipatam on the broad gauge.

From—The Secy. to the Govt. of Bombay, P. W. Dept., Railway.
To—The Joint Secretary to the Government of Madras, P. W. Dept., Ry. Branch.
Dated—Bombay Castle, 7th February 1891, No. 302.

I am directed to forward copy of a letter from the Agent and Chief Engineer, Southern Mahratta Railway Company, No. 106, dated 30th January 1891, having reference to a proposed extension of the Bellary-Kistna Railway to Masulipatam, and to request that you will be good enough to afford me any information you may have regarding this project.

Enclosure.

From—The Agent and Chief Engineer, S. M. Ry. Co.
To—The Consulting Engineer for Railways, Bombay.
Dated—Dharwar, 30th January 1891, No. 106.

I have the honour to inquire if any orders have been issued by the Government of Madras regarding a line in continuation of the Bellary-Kistna Railway to Masulipatam and if it is intended to construct it on the standard or metre gauge.

2. I take the opportunity of pointing out that it is most important to the Southern Mahratta Railway Company that they should have access to an eastern port and thus complete their main line practically from coast to coast. My Board are ready to construct the line on either gauge; but, as it is not probable that the traffic will pay for more than the cost of a narrow gauge line, the latter will, I believe, be preferred by my Directors.

3. When I accompanied His Excellency the late Governor of Madras to Masulipatam last September, I was given to understand that a request for a survey of the line would be sent to me at once, and I expressed my readiness to undertake it, the Collector of the district at the same time promising to send me the necessary information on the subject, which he has since kindly done.

Order—No. 521 R., dated 26th February 1891.

Ordered to be forwarded to the Government of India for favour of decision.

2. His Excellency the Governor in Council is of opinion that the railway from Bezwada to Masulipatam should be constructed on the metre gauge, the same as that of the Bellary-Kistna Railway leading from Bezwada through Guntakal to the districts which usually suffer most from famine in dry seasons, and that it should be worked and constructed as part of the Southern Mahratta system.

3. A copy of these Proceedings, together with the Government orders noted below, will be forwarded to the Government of Bombay with reference to its letter No. 302, dated 7th February 1891:—

G.O., No. 1767 R., dated 11th November 1890.
" " 1837 R. " 19th November 1890.
" " 2011 R. " 13th December 1890.
" " 77 R. " 12th January 1891.

Endorsement No. 522 R., dated 26th February 1891.

Forwarded.

From—The Secretary to the Government of India, P. W. Dept.
To—The Joint Secretary to the Government of Madras, P. W. Dept., Ry. Branch.
Dated—Simla, 13th May 1891, No. 446 R.C.

I am directed to acknowledge the receipt of your No. 522 R., dated 26th February 1891, forwarding, for orders, correspondence regarding the gauge that should be adopted for the proposed Bezwada-Masulipatam Railway.

2. It is observed that His Excellency the Governor in Council is of opinion that this line, if made, should be on the same gauge as the Bellary-Kistna Railway, which leads from Bezwada through Guntakal to the districts that generally suffer most from famine in dry seasons, and that it should be constructed and worked as part of the Southern Mahratta Railway system.

3. In reply, I am directed to inform you that His Excellency the Governor-General in Council, while agreeing with the Government of Madras that there are strong reasons why the proposed line should connect without break of gauge with the Bellary-Kistna Railway, is of opinion that it should not be made as a metre gauge railway pure and simple.

4. Having regard to the position of the Bezwada-Masulipatam line in reference to His Highness the Nizam's Railway, the East Coast Railway, and the possible extension of the East Coast line southwards from Bezwada to Madras, all of which are or will be on the standard gauge, His Excellency the Governor-General in Council has come to the conclusion that the case will be best met by constructing the proposed railway, if the necessary money can be provided, on the mixed gauge from the first.

5. Before expressing an opinion on the question of the agency by which the line should be constructed, the Government of India will await the result of the survey recently undertaken by the officers of the Madras Railway Company, who should be instructed to prepare estimates for a mixed gauge line.

Order—No. 1326 R., dated 6th June 1891.

Communicated to the Consulting Engineer for Railways, for necessary action with reference to Proceedings No. 521 R., dated 26th February 1891.

From—The Agent and Manager, Madras Railway Company.
To—The Officiating Consulting Engineer for Railways.
Dated—Madras, 22nd May 1891, No. 6630/517.

I have the honour to forward, herewith, for the information of Government six copies of a report * by Mr. Parsons on the survey of the proposed branch of railway from Bezwada to Masulipatam.

* Not reprinted.

From—The Consulting Engineer for Railways.
To—The Agent and Manager, Madras Railway.
Dated—Madras, 11th June 1891, No. 522.

With reference to your No. 6630/517,* dated the 22nd May 1891, and to this office endorsements marginally † quoted, on the subject of the proposed Bezwada-Masulipatam Railway, I have the honour to forward for information copies of Proceedings of Government, No. 1837 R., dated 19th November 1890, No. 521 R., dated 26th February 1891, and No. 1326 R., dated 6th June 1891, and to request that, in compliance with paragraph 5 of letter from the Government of India, Public Works Department, No. 446 R.C., dated 13th May, embodied in the last Proceedings, you will be good enough to prepare and submit estimates for a mixed gauge line.

* Printed with G.O., No. 2718 R., dated 14th November 1891.

† No. 1087, dated 25th November 1890.
„ 8, „ 6th January 1891.
„ 42, „ 16th „ 1891.

From—The Agent and Manager, Madras Railway Company.
To—The Consulting Engineer for Railways.
Dated—Madras, 5th August 1891, No. 6630/823.

With reference to your letter No. 522, dated the 11th June 1891, calling for an estimate for a mixed gauge line from Bezwada to Masulipatam, I have the honour to forward herewith a deal case containing the following :—

Two rolls of plan,
Two rolls of section,
Six copies of tabulated details prepared for the standard gauge,
Six copies of tabulated details prepared for mixed gauge, and
Six copies of explanatory notes by the Deputy Chief Engineer.

I shall be happy to furnish any additional copies that may be required on hearing from you.

Endorsement by the Consg. Engr. for Railways, No. 791 A., dated 5th Sept. 1891.

Submitted to Government with reference to its Proceedings, No. 1767 R., dated 11th November 1890, and No. 1326 R., dated 6th June 1891.

2. The Agent and Manager in his No. 6630/823, dated 5th August 1891, submits an estimate for the construction of a mixed gauge line of railway, 50 miles in length, from Bezwada to Masulipatam and also an estimate for the construction of the line on the standard gauge only, as this latter was in course of preparation prior to the receipt of orders to furnish estimates for a mixed gauge line.

3. The estimated cost of the line is Rs. 49,27,048 for the mixed gauge, at the rate of Rs. 98,541 per mile; and Rs. 37,53,756 for the standard gauge, or Rs. 75,075 per mile. The estimate for the standard gauge line submitted by Agent under his letter No. 6630/517 of the 22nd May 1891 and as shown in the report accompanying it amounted to Rs. 36,97,987 or Rs. 73,959 per mile, or about Rs. 1,000 per mile less than the figures now put forward. The alignment followed is that recommended by the Collector of the Kistna district.

4. The estimates received have been prapared in precisely the same form as those for the Madras-Bezwada project and may be considered as coming under the head of "approximate estimates" as specified in the rules for the preparation of railway projects, inasmuch as they consist chiefly of tabulated details with the main and [illegible] heads shown in lump sums only.

They are also unaccompanied by any of the working drawings for bridges and [illegible]rks prescribed for "detailed estimates."

The plans and sections of the line are not got up in accordance with the rules for the preparation of railway projects; but in this case, as in that of the Madras-Bezwada line, [illegible]is is to a great extent explained in the notes accompanying the plans, sections and est[illegible]ates, the new rules having been received subsequent to the commencement of work[illegible] The chief differences are the same as those noted in the report on the Madras-B[illegible]da scheme. The ruling gradient is 1 in 165 or ·66 feet per cent., although th[illegible]inary gradient is only 1 in 330 or ·33 per cent. The minimum radius of curv[illegible]836 feet, but the radius of the ordinary curve adopted is 5,673 feet.

5. In the pa[illegible]rs of construction of important bridges, one bridge of two 40 ft. spans is estimated a[illegible]12,000, while in the bridge abstract it is put at Rs. 11,000; this is probably due t[illegible]erical error in one of the tables and Rs. 11,000 has been assumed to be the correc[illegible]re. The cost of bridges is small, being only Rs. 4,488 per mile. The largest bri[illegible]is five spans of 40 feet, and the total water-way gives an average of 33 lineal feet per mile.

6. The *Preliminary expenses* placed at Rs. 160 per mile are low when compared with the amount allowed on the East Coast Railway, which is put down at Rs. 563 per mile including "survey expenses," "plant" and "establishment," and an additional Rs. 300 per mile would seem a fair amount to add, bringing the cost of this head up to Rs. 460 per mile.

7. The cost of *Land* has been excluded from the estimate, but taking the cost per acre of wet land at Rs. 450 and of dry at Rs. 10 per acre, the total addition to the estimate for land would be Rs. 3,70,000.

8. *Earthwork.*—In the Bezwada-Masulipatam estimate, Rs. 7,816 per mile for an average 5·25 feet height of bank is provided *versus* Rs. 7,491 and a 4·6 feet height respectively for the Madras-Bezwada line. The rates are not given, but the estimate seems rather low. The East Coast Railway provides Rs. 8,557 per mile.

9. *Ballast.*—As regards ballast, a fair figure has been allowed. It amounts to Rs. 6,990 a mile *versus* Rs. 2,934 estimated in the Madras-Bezwada scheme, the former being for stone and the latter for sand and laterite. On the East Coast Railway Rs. 7,090 per mile is allowed.

10. *Permanent-way.*—In this estimate no provision has been made for "loss by exchange," but the sums provided for permanent-way and bridges may perhaps be accepted as reasonably sufficient.

The figures for permanent-way compare with East Coast figures as follows:—

Mixed gauge	Rs. 30,360	per mile.
Standard gauge	„ 24,640	„
East Coast Railway	„ 27,580	„

Thus under "permanent-way" for the standard gauge Rs. 24,640, exclusive of cost of carriage of material in India, per mile for the Bezwada-Masulipatam line has been provided as against an original estimate of Rs. 16,720 per mile for the Madras-Bezwada Railway which again excluded carriage of material.

11. For the standard gauge scheme, the amount allowed for rolling stock, viz., Rs. 7,010 per mile, which does not cover loss by exchange, is low, and, as recommended in the report on the Madras-Bezwada line, about Rs. 12,206 would seem a more reasonable estimate. In the mixed gauge scheme, however, the amount allowed is double that for the standard gauge and Rs. 14,021 per mile should be ample, as a

mixed gauge line would certainly not require double the quantity of rolling stock provided for a standard gauge railway. The amounts may, it is thought, be allowed to stand.

12. A high rate is allowed for *Stations and buildings*, but for the mixed gauge scheme this may be accounted for partly by the expensive arrangements of stations on the island platform system.

This plan, however, has the advantage of great simplicity and is recommended for adoption. The disadvantages are on the score of increased cost over the mixed gauge plan, involving as it does an overbridge and duplicate goods sheds, loading platforms, water columns, and also, in the case of the first-class stations of Masulipatam, duplicate engine and carriage sheds, turn-tables, &c., but some of these individual works, such as goods sheds, loading platforms, engine and carriage sheds, taken separately could be constructed of smaller area than the joint works required for use by both gauges. If severe economy were to be studied, arrangements could, it is considered, be made to make one engine shed, carriage shed and turn-table do the work of both gauges for either scheme.

13. In the report some slight saving is anticipated from the use of a lighter rail for the separate metre gauge track compared with the third rail of broad gauge section in the mixed gauge scheme, but this is more than counterbalanced by the extra rail involved in the island platform plan. The advantages claimed on the score of saving in station staff is doubtful, for, with a mixed gauge station arrangement, one staff could similarly do the whole work. In the same way one booking office, waiting shed, set of signals can be used in either scheme as is often the practice now at junctions where there is a break of gauge.

14. The special advantage the island platform plan possesses over the mixed gauge scheme is in simplicity and in the avoidance of complicated points and crossings, and the shunting is made safer, simpler and more expeditious and more accommodation for traffic purposes is provided.

15. As regards Bezwada junction station, the entry of the Bezwada-Masulipatam line into the yard is adequately provided for by the Engineer-in-Chief, Kistna Bridge, whose detailed plan of junction arrangements is now before Government.

16. Under the head *Staff quarters* the provision is liberal and probably savings can be made under Assistant Traffic Manager's and Resident Engineer's houses and guards' quarters at Masulipatam.

17. It was not found practicable to frame an accurate estimate of the junction arrangements at Bezwada for which a lump sum of Rs. 50,000 for the "standard gauge" and Rs. 75,000 for the mixed gauge has been entered.

18. In the light of the above remarks, the following alterations and additions might be made in the estimate for both gauges :—

		Rs.
Cost of land		3,70,000
50 miles, at Rs. 300 per mile for preliminary expenses		15,000
	Total ...	3,85,000

This would raise the total cost of the whole line to Rs. 53,12,048 and Rs. 41,38,756 or Rs. 1,06,241 and Rs. 82,775 per mile respectively.

19. The financial prospects of the proposed line appear fairly good. The country traversed, the Eastern Kistna delta, comprises highly irrigated rice lands aggregating 220,000 acres in area, which is expected to increase to 270,000 acres, an extent of more than 400 square miles. The district is thickly populated, the number of inhabitants per square mile averaging 216, and in addition to serving several large villages the line connects what may be one of the largest railway junctions in India with a port of 48,000 inhabitants and a sea trade of nearly Rs. 47,00,000 per annum. The

district to be traversed by the proposed railway is deficient in means of communication being indifferently served by two canals, which are annually closed for three months and whose location as a traffic export route does not sufficiently serve the delta.

20. The estimated traffic over the line as derived by the Madras Railway Company from the local authorities is put down yearly at—

227,322 passengers at 1½ pies per mile	Rs.	88,798
131,220 tons of goods at 7 pies per mile	„	2,39,203
Total	„	3,28,001

which, allowing [illegible]king expenses at 60 per cent., would give a profit of 3·2 per cent. on the estimated outlay of Rs. 41,38,756 for the standard gauge or 2·5 per cent. on Rs. 53,12,048, the estimated cost of the mixed gauge. These calculations are based on the assumption that the railway will attract the whole of the through canal and road traffic and also develop station to station trade on a population proportion. It seems questionable whether the anticipation regarding the attraction of the whole of the through canal traffic will be realized, but a large share would probably be drawn to the railway, as the closure of the canals for three months in the year and their general subserviency to irrigation purposes militate against their popularity as a trade route. Irrespective of the financial prospects of the line as a paying concern, its value as a famine protective communication is so unquestionable that its construction on these grounds alone is very desirable.

Order—No. 2718 R., dated 14th November 1891.

With the above papers the Consulting Engineer for Railways submits the results of the survey made by the Madras Railway Company for a line of railway from Bezwada to Masulipatam.

2. The original survey was for a standard gauge line, but in accordance with the views expressed by the Government of India in its No. 446 R.C., dated 13th May 1891, estimates were also ordered for a line on the mixed gauge. The Government observes that the estimate for the standard gauge, as modified by the Consulting Engineer for Railways, amounts to 41·39 lakhs, giving an average of Rs. 82,775 per mile, and for the mixed gauge to 53·12 lakhs, giving a rate of Rs. 1,06,241 per mile. The Government agrees generally in the remarks of the Consulting Engineer for Railways in his endorsement and considers that the line could be constructed for the above amounts.

3. His Excellency the Governor in Council is, however, of opinion that unnecessary expenditure would be incurred by making the branch on the mixed gauge, as a line on either standard or metre gauge would fully accommodate the traffic.

4. If the proposal made in letter from the Government of India, dated 3rd September 1891, No. 790 R.C., to stop the metre gauge at Guntur be adopted, the branch will naturally be on standard gauge. The Government of India will be separately addressed on this subject.

5. With the above remarks the plans and estimates will be forwarded for the consideration and orders of the Government of India.

Endorsement—No. 2719 R., dated 14th November 1891.

Forwarded.

3. The various interests which have in this matter to be considered may, I think, be fairly completely classified as follows:—

(*a*) The interests of the Presidency of Madras generally in regard to possible future famine requirements in the Bellary and Kurnool directions.
(*b*) Those of the Eastern Kistna delta, that is of the extensive tract that is irrigated by the Masulipatam, Ryves' and Ellore canals between the Kistna and the Kolar lake.
(*c*) Those of the Western Kistna delta, of which the most important centre is, I believe, the town of Tenali.
(*d*) The interests of the town of Bezwada.
(*e*) Those of Masulipatam.
(*f*) Those of Guntur.
(*g*) The interests of the Madras Railway Company or whoever may succeed in getting the working of the Nellore-Bezwada line.
(*h*) Those of the Southern Mahratta Railway Company. I don't consider that to the Nizam's G.S.Ry. or to the East Coast Ry. the politics of the subject under immediate discussion are of any very vital interest.

4. The Bellary-Kistna line was originally constructed with the express object of tapping the grain supply of the Kistna delta during periods of prevalence of high prices in the Bellary direction. In its present incomplete condition, terminating as it does at the west bank of the Kistna and carefully avoiding the low-lying parts of the rich Western delta, the Bellary-Kistna Railway egregiously fails to fulfil the objects which were supposed to be kept in view when it was designed. That such should be the case must, I can well believe, be a source of considerable dissatisfaction to the Southern Mahratta Railway Company to whom it is leased. If the Company's representatives thought about anything at all beyond the mere hauling into their net of an extra 500 miles of line, they must naturally have looked forward to the early maturing of the original policy of Government; and now, when the maturing of this policy is within a measurable distance, strong efforts are being made either to hand over the promised land to an alien agency or to admit the Southern Mahratta Company on equal terms with the alien company by means of a mixed gauge system. Under such circumstances as these, if the Southern Mahratta Company desire to terminate their system at Guntur, instead of at Bezwada, their intention, though in my opinion an unwise and a suicidal intention, is not so much to be wondered at. I don't know what powers have been reserved by Government in the Bellary-Kistna contract in the matter of compelling the Company to run upon extensions or to amalgamate the cost of extensions with the general capital account; but if no such powers have been reserved by Government the Company can presumably give a great deal of trouble by refusing to cross the Kistna at all.

5. It cannot be too clearly remembered that the object of any railway which may be constructed between Bezwada and Masulipatam is not to take anything *to* Masulipatam, but to carry grain *away from* that town, that is away from the Eastern Kistna delta. The district which of all others needs this grain is the dry upland country of Kurnool and Bellary. In so far as the countries served by the Madras Railway may be in need of an additional supply of grain, all their needs will be fully served when the Western Kistna delta has been tapped at Tenali by the Nellore-Bezwada line.

6. It must be borne in mind that an entirely new current of trade, though reliably enough to be anticipated, should need for it arise, in the more civilized parts of India, will be of extremely slow and uncertain development at this side of India where nobody trusts anybody and where the people are almost incredibly distrustful, sluggish, and unenterprising. A break of gauge between Masulipatam and Bellary, whether such break occurs at Bezwada or at Guntur, would be a serious impediment to the desired natural development of the now scarcely existent trade relationship between the merchants of these two centres of population. Government would be wise to foster in every way the natural development of a grain trade between these

two places by giving every facility for its easy flow, so that, when occasion arises, the needful current may run automatically at the earliest call.

7. Guntur was once a place of some importance, but this is no longer the case; such slight importance as remains to it will most certainly diminish instead of increasing as years go on and as railways are developed. Its origin I suppose to have occurred in the need for a healthy cantonment for troops, in the country which in old days had been held by a garrison in the hill forts of Kondavid and Kondapalli. Guntur continued as a civil station after it was denuded of troops and as the headquarters of a sub-division and a centre of some local produce trade; as such it has attracted to itself a few merchants who buy and press cotton. As has, I believe, been the case at Bimlipatam, so again here there will be considerable risk of greater attention being paid to the loudly expressed demands of these middlemen than is at all warranted by the extent of the trade of the place or the magnitude of the capital invested therein. Should their non-connection by direct broad gauge line with Madras be decided on, they are well able to take care of themselves and if they see fit to move on to Tenali or any other town on the Nellore-Bezwada Railway, they may be safely trusted to speedily recoup themselves. The cost of one mile of railway or at most of two would, I suppose, suffice to transplant them all, and for their sole convenience I would certainly not make and work in perpetuity twelve or fourteen miles of broad gauge railway. The interests of Guntur as a small civil station, which would appreciate the luxury, such as it is, of direct railway communication with Madras, are but microscopic interests. All Guntur interests, other than these two, are quite sufficiently well, indeed more than amply, served by the Southern Mahratta Railway.

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3. The various interests which have in this matter to be considered may, I think, be fairly completely classified as follows:—

(*a*) The interests of the Presidency of Madras generally in regard to possible future famine requirements in the Bellary and Kurnool directions.

(*b*) Those of the Eastern Kistna delta, that is of the extensive tract that is irrigated by the Masulipatam, Ryves' and Ellore canals between the Kistna and the Kolar lake.

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(*h*) Those of the Southern Mahratta Railway Company. I don't consider that to the Nizam's G.S.Ry. or to the East Coast Ry. the politics of the subject under immediate discussion are of any very vital interest.

4. The Bellary-Kistna line was originally constructed with the express object of tapping the grain supply of the Kistna delta during periods of prevalence of high prices in the Bellary direction. In its present incomplete condition, terminating as it does at the west bank of the Kistna and carefully avoiding the low-lying parts of the rich Western delta, the Bellary-Kistna Railway egregiously fails to fulfil the objects which were supposed to be kept in view when it was designed. That such should be the case must, I can well believe, be a source of considerable dissatisfaction to the Southern Mahratta Railway Company to whom it is leased. If the Company's representatives thought about anything at all beyond the mere hauling into their net of an extra 500 miles of line, they must naturally have looked forward to the early maturing of the original policy of Government; and now, when the maturing of this policy is within a measurable distance, strong efforts are being made either to hand over the promised land to an alien agency or to admit the Southern Mahratta Company on equal terms with the alien company by means of a mixed gauge system. Under such circumstances as these, if the Southern Mahratta Company desire to terminate their system at Guntur, instead of at Bezwada, their intention, though in my opinion an unwise and a suicidal intention, is not so much to be wondered at. I don't know what powers have been reserved by Government in the Bellary-Kistna contract in the matter of compelling the Company to run upon extensions or to amalgamate the cost of extensions with the general capital account; but if no such powers have been reserved by Government the Company can presumably give a great deal of trouble by refusing to cross the Kistna at all.

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10. The promoters of the Nellore-Bezwada line are in an exceptionally favourable position for pressing their claims to a share in the spoil of the Eastern delta upon the attention of the Madras Government, and, moreover, they have this too in their favour that the existing railway system with which they are connected is under the control of the Madras Consulting Engineer for Railways, whereas their rivals', the Southern Mahratta Railway's, system is controlled from Bombay. Considerations of this sort will not, I quite believe, be consciously permitted to carry more weight than the interests of the trade of the country would entitle them to carry, but still there is always a tendency, perhaps an inevitable tendency, for such considerations to carry undue weight.

11. The question which I am now pressing on your attention has nothing to do with the rival claims of competing Companies, or with the convenience of places like Masulipatam, Bezwada and Guntur, which happen to be administrative centres. It is a question of the speedy or the retarded development of the trade of a now very backward district with places which though badly in need of her products, are not at present in practical touch with them.

12. I can scarcely believe that the suggested mixed gauge system between Bezwada and Masulipatam can ever come to maturity. The suggestion that it should be carried out savours of the now, I hope, defunct notion that Masulipatam is a place where people and produce desire to *go*, instead of its being merely the focus for the produce of a large district which only desires to *send things away*. For this purpose, of sending its products away, Masulipatam is as well off with a metre as with a broad or with a mixed gauge railway.

13. I lay no great stress upon the engineering and the traffic difficulties of a few miles of mixed gauge; these difficulties are, I believe, habitually largely exaggerated. What I contend for is this, that, first, the Eastern Kistna delta is the legitimate territory of the Southern Mahratta Railway Company now that they have hampered themselves with the Bellary-Kistna line, and, secondly, that to give the Masulipatam extension to that Company is in entire accordance with what, in the interests of the Madras Government during periods of scarcity, is most to be desired. To admit a rival Company into the territory in question is neither in the interests of the competing lines nor of the trade of the district for which one only of the two lines would amply suffice.

14. The standard gauge line from Madras may very well content itself with tapping the whole of the Western Kistna delta, as it will at Bapatla, Ponnur and Tenali. In this its own proper territory it has nothing to fear from the Southern Mahratta line which has so far failed, and will continue to fail, owing to its unfortunate location, to touch the Western delta grain traffic.

15. It is above everything important that the mistake should not be made of arranging for two main junctions within twelve or fourteen miles of one another and one of the two entirely away from any real and permanent, because natural, centre of trade; Bezwada is the only suitable place for the junction of all five lines and it would be unwise and shortsighted to ignore its inevitable expansion.

16. I hope that my addressing you on this subject needs no apology; it is a subject which, if not properly dealt with now, will like many present railway questions in Madras and elsewhere be a source of trouble and of regret later on; and, when that time comes, it will be too late to act with advantage.

Order—dated 19th November 1891, No. 2779 R., Public Works.

Recorded.

From—The Offg. Under Secy. to the Govt. of India, P.W. Dept. (Ry. Construction).
To—The Joint Secretary to the Government of Madras, P.W.Dept., Ry. Branch.
Dated—Simla, 3rd September 1891, No. 790 R.C.

In his letter No. 195, dated 20th January 1891 (forwarded under your No. 522 R., dated 26th February), the Engineer-in-Chief, Kistna Bridge, remarked as follows:—

"Before preparing plans of the junction station arrangements at Bezwada, it is important that I should know whether the proposed extension to Masulipatam is likely to be on the metre or on the standard gauge."

2. The orders of the Government of India as to the gauge of the proposed Bezwada-Masulipatam Railway, in the event of its construction, were conveyed in Public Works Department letter No. 446 R.C., dated 13th May 1891; but as regards the secondary question of the station arrangements at Bezwada, I am directed to observe that care should be taken to avoid any large expenditure thereon, as it is very improbable that that place will eventually be the terminus of the East Coast Railway.

3. I am to add that, in the opinion of the Government of India, the most convenient site for the junction of the broad gauge line from Bezwada to Madras with the metre gauge system of the Southern Mahratta Railway will eventually be at Guntúr, 18 miles south of Bezwada, and, pending a final decision on the matter, all estimates for station works at Bezwada should be based on the assumption that the broad gauge line will be extended to Guntúr, any necessary junction arrangements at Bezwada being of a temporary nature.

Telegram from—The Joint Secy. to the Govt. of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Ootacamund, 11th September 1891.

Your letter No. 790 R.C., 3rd instant. Will Bezwada-Guntúr section be standard or mixed gauge? If former, presume Masulipatam branch would also be standard gauge. Please wire reply.

Telegram from—The Secy. to the Govt. of India, Public Works Department.
To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
Dated—Simla, 17th September 1891, No. C. 127.

Your telegram of 11th instant. Orders given in paragraph 4 of my letter, numbered and dated as follows—446 R.C., 13th May last—to be followed in preparing project for Bezwada-Masulipatam line as shown in my No. 790 R.C., 3rd instant. Nothing is settled as to any alteration between Bezwada and Guntúr, and no action is to be based on any suppositions regarding such alteration except that for the present expenditure at Bezwada to be limited as desired in my No. 790 R.C.

Order—No. 2833 R., dated 23rd November 1891.

Ordered that the Government of India be addressed.

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Fort St. George, 23rd November 1891, No. 2834 R.

I am directed to acknowledge receipt of your letter No. 790 R.C., dated 3rd September 1891, and, in reply, to say that this Government fully approves of the proposal to make the junction of the Southern Mahratta metre gauge railway with the Madras-Bezwada section of the East Coast Railway at Guntúr, the length between Guntúr and Bezwada, 18 miles, being converted to standard gauge.

2. The length of the line surveyed by the Madras Railway Company from Nellore to Bezwada is 165 miles, with a branch of 12 miles to Guntur. The length of a direct line to Guntur would be 150 miles, so that there would be a saving of 27 miles of new line to set against the conversion of 18 miles.

3. The original project was for a junction at Guntur and the alignment adopted serves in a satisfactory manner the southern portion of the western delta. The direct line from Ponnur (132 miles from Nellore) to Bezwada following the canal does not commend itself to this Government, and the further requirements of this delta could be met, if necessary, by a short branch from Chebrole to Tsandur, Tenali, or any town which might be most suitable.

4. As stated in Proceedings, dated 14th November 1891, No. 2718 R., forwarded with my endorsement No. 2719 R. of the same date, His Excellency the Governor in Council would regret to see the Masulipatam branch made on mixed gauge, and if the proposal to stop the metre gauge at Guntur be adopted, the branch to Masulipatam would naturally be on standard gauge. I am to say that this solution of the question would be acceptable to this Government. On the whole, it is probable that a line on standard gauge would best serve the traffic of the eastern delta, the greater part of which in ordinary seasons would go to Hyderabad or to the East Coast Railway, north or south. In times of famine a metre gauge line would be preferable as admitting of the transport of grain without break of gauge from the Kistna to the districts most liable to be affected, but in such seasons special arrangements could be made for transhipment and the difficulties would not, it is believed, be insurmountable.

5. I am to add that, in the opinion of this Government, it is very desirable that a decision on this question should be arrived at as early as possible.

From—The Secretary to the Government of India, Public Works Department.
To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
Dated—Calcutta, 26th January 1892, No. 100 R.C.

I am directed to acknowledge the receipt of your Nos. 2719 R. and 2971 R., dated, respectively, the 14th November and 10th December 1891, forwarding report with plans, estimates, &c., of the survey for a line of railway from Bezwada to Masulipatam—a distance of 50 miles.

2. The cost of constructing the line on the standard gauge is estimated at Rs. 41,38,756, or Rs. 82,775 per mile, and on the mixed gauge at Rs. 53,12,048, or Rs. 1,06,241 per mile.

3. In reply I am to forward, for information, an extract from a note by the Consulting Engineer to the Government of India for State Railways on the project, and to say that the Government of Madras will be addressed separately on the subject of the gauge to be adopted for the branch.

Enclosure.

Extract (paragraphs 4 to 10) from a note by the Consulting Engineer to the Government of India for State Railways, dated 18th January 1892.

* * * * *

4. The Consulting Engineer for Madras recommends the estimate being increased by Rs. 3,85,000 to allow for land and other items, bringing the total up to Rs. 41,38,756, or Rs. 82,775 per mile, for a broad-gauge railway passing through a perfectly flat country and with no large rivers to cross. This seems a very high rate.

5. Regarding the engineering details, I would, in the first place, advise that the branch line should be kept parallel and close to the main line of the East Coast Railway, until past the limits of any works that may be required for the Bezwada station yard. Such a line I have pencilled on the plan.

6. A headway of 11 feet over the canals for the under side of girders seems very low and will impede the boat traffic on the canals. I think this headway should be increased to 16 feet.

7. The grading of the section is done in long lengths of level with short connecting lengths on a grade of 1 in 330. This grade can, without any perceptible increase in earthworks, be reduced to 1 in 500.

8. A sharp ruling grade of 1 in 165 has, however, been introduced at the canal crossings and this should be flattened to 1 in 500 even at some expense, and thus enable the branch to be worked by light engines. If this were done, the weight of rails need not exceed 60 lb. per yard, for the traffic on the branch apparently will not be heavy, and it will be well to work it as economically as possible.

9. The length of extra land to be taken up for stations is not nearly sufficient, varying, as it does, from 1,300 to 1,600 feet. Half a mile is the least length that should be acquired.

10. The stations estimated for seem too elaborate for the traffic to be expected. At first a small building and no platforms will suffice.

Order—No. 434 Ry., dated 16th February 1892.

Communicated to the Consulting Engineer for Railways who will report on the various points raised in the note by the Consulting Engineer to the Government of India for State Railways.

Endorsement by the Consulting Engineer for Railways, Madras, No. 243, dated 11th April 1892.

Submitted to Government in compliance with G.O., No. 434 Ry., dated 16th February 1892, with the following remarks.

* * * * *

8. As to paragraph 4, the Agent and Manager remarks that Rs. 75,075, as estimated by the Railway Company, represents the cost per mile (excluding land) of a line proposed to be constructed on the standard which has been found by experience on the Madras Railway to be essential for economic and safe working. The amount is capable of reduction by the curtailment of accommodation at stations, but this course is not recommended.

9. The position of the line as it leaves Bezwada station having originally been fixed with due regard to any subsequent alterations which may be found necessary, the Agent and Manager reports that the suggestions in paragraph 5 will be kept in view when the alignment is being finally located.

10. It is reported that the clear headway of existing bridges crossing navigable canals is 11 feet and that this height is prescribed in the rules laid down by the Government of Madras for the guidance of the Irrigation Department and has received the confirmation of the Superintending Engineer at Bezwada, to whom the question was specially referred.

11. The grading of the section is said to have been based on that of the main line between Madras and Bezwada, on the assumption that the same engines and rolling-stock would be common to the main line and the Masulipatam branch if worked by the Madras Railway Company, and it is urged that, until the type of engine has been finally settled, the gradients and weight of rails cannot be definitely fixed. The fact that the engines on the East Coast Railway will weigh over 90 tons and may, in the event of abnormal traffic, have to be temporarily utilised on the branch to Masulipatam is also brought to notice. I am, however, of opinion that the grades should be flattened as recommended by the Consulting Engineer to the Government of India, but that 75 lb. rails should be used, light rails not conducing to ultimate economy at present prices.

12. With reference to paragraphs 9 and 10, the Agent and Manager reports that the land for stations has been based on the area which has hitherto been found sufficient for the several classes of stations on the Madras Railway, but can be increased when the line is finally located, and that the stations were designed on the standard of accommodation found necessary on the Madras Railway for towns of similar population. I consider that, when revised estimates are prepared, more land and less station accommodations at first should be provided as suggested by the Consulting Engineer to the Government of India.

13. In soliciting orders on the several points referred to in this endorsement, I would invite special attention to the necessity for an early decision as to the gauge to be adopted for the branch line, as, in view of the approaching completion of the Kistna bridge, some of the girders of which are now under erection, orders will be required in connection with the junction arrangements with the Southern Mahratta Railway and the laying of the third rail over the bridge itself.

14. When revised estimates for this branch or for the Madras-Bezwada section are called for, they should be prepared in the exact forms laid down by the Government of India.

———

Order—No. 996 Ry., dated 21st April 1892.

Ordered that these Proceedings be forwarded to the Government of India with reference to its letter No. 100 R.C., dated 26th January 1892, with the remark that His Excellency the Governor in Council concurs in the views expressed by the Consulting Engineer for Railways as to the weight of rail to be used.

———

From—The Joint Secretary to the Government of Madras, P.W.Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Fort St. George, 21st April 1892, No. 997 Ry.

I am directed to acknowledge receipt of your letter No. 100 R.C., dated 26th January 1892, enclosing a note by the Consulting Engineer to the Government of India for State Railways on the survey and estimates for a branch line from Bezwada to Masulipatam.

2. In reply, I am to forward copy of the Proceedings of this Government No. 996 Ry., dated 21st April 1892, embodying the views of the Agent and Manager, Madras Railway, and of the Consulting Engineer for Railways to this Government, and to say that His Excellency the Governor in Council concurs in the views expressed by the latter officer as to the weight of rail to be used.

3. In your letter No. 294 R.C., dated 14th March 1892, it is stated that the question of the point of junction of the East Coast Railway and the Southern Mahratta Railway has been referred to the Government of Bombay. I am to say that, in the opinion of this Government, it is desirable on many grounds that a decision on this question should be arrived at as early as possible.

———

From—F. J. E. Spring, Esq., the Engineer-in-Chief, Kistna Bridge.
To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
Dated—Bezwada, 28th April 1892, No. 1000.

As it appears not unlikely, as a result of His Excellency the Governor's recent visit to Bezwada, that the question of the gauge of the Masulipatam branch and that of the junction of the broad and metre gauge systems may receive further consideration, I beg to invite your attention to my letter No. 2620, dated the 11th of November last, in which I tried to lay the whole matter as clearly as possible before Government for consideration.

2. I observe, from a perusal of the Government of India's letter to the Government of Bombay, No. 293 R.C., dated the 14th March 1892, that they made use of a

very early note of mine, dated the 4th October 1890, which was prepared when I knew comparatively little about the conditions of the question at issue.

3. As my letter above referred to, No. 2620 of the 11th November 1891, was written with the advantage of a very much fuller knowledge of the country and of the conditions of trade, I hope that it may be permitted to carry greater weight than the original note.

4. I would not consider myself justified in pressing this matter so persistently upon your attention did I not believe that an error in railway policy is likely to be made, which in future years may be found to be a source of serious administrative embarrassment.

———

Order—dated 28th May 1892, No. 1356 R., Public Works.

Ordered that the Government of India be addressed.

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—28th May 1892, No. 1357 R.

With advertence to my letter No. 2834 R., dated 23rd November 1891, I am directed to forward, for the consideration of the Government of India, copy of two communications on the subject of the proposal that the junction between the Southern Mahratta and the Madras-Bezwada Railways should be located at Guntur—

(1) Letter from Mr. F. J. E. Spring, Engineer-in-Chief, Kistna Bridge, No. 2620, dated 11th November 1891.

(2) Note by Mr. A. T. Arundel, Collector of Kistna, dated 4th Nov. 1891.

2. These gentlemen have given much consideration to the question and it will be observed that both are of opinion that it is essential, in the interests of famine protective policy, that the Southern Mahratta Railway metre gauge should cross the Kistna bridge to Bezwada and be in a position to tap the traffic of the Eastern delta directly. Mr. Spring advocates the extension of the metre gauge to Musulipatam, but Mr. Arundel leaves this an open question, considering that, it any case, by carrying the Madras-Bezwada Railway through the whole width of the Western delta, that line would acquire a good tract of country.

3. In my letter under reference, the views of this Government were given in favour of a break of gauge at Guntur, and I am to say that His Excellency the Governor in Council finds in the papers now forwarded no reason to change that opinion. During famine the metre gauge line stopping at Guntur will be quite effective for the transport of grain from the Kistna to Kurnool and Bellary, and grain will not go there in any quantity at other times. In ordinary seasons these districts produce sufficient for their population and there can be no question that trade, local as well as through, will generally be better served by standard gauge lines converging at Bezwada. The trade from Masulipatam, when it reaches Bezwada, will almost entirely go by the standard gauge lines, and, during times of famine, the transhipment of grain at Guntur would present no difficulty and would add little to its cost.

4. In regard to Mr. Arundel's contention that the Western delta would be better served by a line running direct to Bezwada, instead of passing through Guntur, I am to say that this Government is of opinion that the direct line with a branch to Guntur would entail unnecessary outlay and that the traffic round the new centre of Tenali might be equally well and more cheaply served by a branch from Chebrole, which could be carried as far down the delta as found desirable.

5. These papers are forwarded as being the opinions of two officers, who have taken much interest in the question, but, after giving them full consideration, this Government, as before stated, adheres to the views it has already expressed.

12. With reference to paragraphs 9 and 10, the Agent and Manager reports that the land for stations has been based on the area which has hitherto been found sufficient for the several classes of stations on the Madras Railway, but can be increased when the line is finally located, and that the stations were designed on the standard of accommodation found necessary on the Madras Railway for towns of similar population. I consider that, when revised estimates are prepared, more land and less station accommodations at first should be provided as suggested by the Consulting Engineer to the Government of India.

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To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
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To—The Secretary to the Government of India, Public Works Department.
Dated—28th May 1892, No. 1357 R.

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5. These papers are forwarded as being the opinions of two officers, who have taken much interest in the question, but, after giving them full consideration, this Government, as before stated, adheres to the views it has already expressed.

From—The Secretary to the Govt. of India, P.W. Dept.
To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
Dated—Simla, 4th May 1894, No. 412 R.C.

With reference to your letter No. 2719 R., dated 14th November 1891, forwarding report, plans and estimates for the construction of the Bezwada-Masulipatam Railway on the standard and mixed gauges, I am directed to forward the accompanying copy of a despatch from Her Majesty's Secretary of State, and enclosures, regarding an offer made by the Southern Mahratta Railway Company to construct the line in question on the metre gauge. A copy of a letter from the Manager, East Coast State Railway, on the subject of the gauge of the proposed Bezwada-Masulipatam Railway as affecting the traffic of the East Coast Railway is also enclosed.

2. I am to request that the Government of India may be furnished with further information in regard to the prospective traffic of the proposed branch and the capabilities of Masulipatam as a port. Also that they may be favoured with the opinion of the Government of Madras on the proposals of the Southern Mahratta Railway Company generally which, I am to remark, do not involve any charge on the Government revenues except indirectly for working expenses and the payments on account of rebates.

Enclosure No. 1.

From—The Manager, East Coast Railway.
To—The Director-General of Railways.
Dated—Calcutta, 27th January 1894, No. 697.

With reference to correspondence ending with telegram No. A/511, dated the 3rd November 1893, from the Engineer-in-Chief, East Coast Railway, to your address, I have the honour to request that the question of connecting Masulipatam with the East Coast Railway by a branch on the standard gauge, instead of on the metre gauge, may receive serious consideration.

2. I would venture to point out that if the Southern Mahratta Railway is permitted to continue its line to Masulipatam, that the traffic of this railway will be threatened with the probability of losing the carriage of all merchandise between Bezwada and stations on the Southern Mahratta and Nizam's Guaranteed State Railways, and Cocanada.

3. At present all traffic from stations on the Southern Mahratta and Nizam's Guaranteed State Railways goes *viâ* Bezwada to Cocanada, but in the event of carriage without break of bulk being available from Guntur to Masulipatam, the East Coast Railway will suffer severely.

Enclosure No. 2.

Despatch from—Her Majesty's Secretary of State for India.
To—His Excellency the Most Honourable the Governor-General of India in Council.
Dated—India Office, London, 3rd August 1893, No. 70 (Railway).

Offer of Southern Mahratta Ry. Co. to construct a railway from Bezwada to Masulipatam.—I forward, for the consideration of your Excellency in Council, and for such action as may seem to you desirable, copies of letters from the Board of the Southern Mahratta Railway Company, offering to construct a railway on the metre gauge from Bezwada to Masulipatam.

Enclosure No. 1 *of Secretary of State's Despatch.*

From—The Secretary to the Southern Mahratta Railway Company.
To—The Under Secretary of State for India.
Dated—44, Finsbury Circus, London, E.C., 12th July 1893, No. 53.

I am directed to inquire whether there would be any objections on the part of the Secretary of State for India to allow this Company to organize a subsidiary Company to build a branch railway on the metre gauge from Bezwada to Masulipatam, a distance of about 50 miles, on the terms lately offered by the Government of India for the construction of feeders to existing lines by private enterprise. The proposed branch has been surveyed, and estimates prepared of its

probable cost on both the broad and mixed gauges, but it is hardly necessary to observe that the Southern Mahratta Railway Company could only take up the project on the understanding that the gauge was to be the same as that of their own undertaking, and to this the Board conceive there can be no reasonable objection, for the area within which the branch could be extended is circumscribed by the Bay of Bengal and the Gódávari and Kistna rivers. This area is the great food centre, to tap which, for the benefit of the ceded districts, the Bellary-Kistna Railway was built, but that railway cannot thoroughly fulfil its purpose until it is taken without break of gauge into the heart of the district from which it will have to draw food in times of famine. At present that railway only skirts the northern margin of the irrigated delta of the Kistna river, and, in consequence, gets little or no traffic from the thickly populated and highly cultivated country which, at its eastern extremity, lies between it and the sea coast.

In case the Secretary of State deems this proposal worth entertainment, I am directed to request that the Board may be favoured with copies of the reports and estimates that have been prepared under the instructions of the Government of India, in order that the Board may more fully consider the subject.

Enclosure No. 2 *of Secretary of State's Despatch.*

From—The Secretary to the Southern Mahratta Railway Company.
To—The Under Secretary of State for India.
Dated—44, Finsbury Circus, London, E.C., 26th July 1893, No. 55.

Referring to my letter No. 53 of the 12th instant, I am now directed to inform you that the Board have had an opportunity, since I wrote that letter, of seeing the estimate prepared for a railway from Bezwada to Masulipatam. This estimate has been examined by the Company's Consulting Engineer, and a copy of his report is appended.

From this report it appears that the branch can be built for about 30 lakhs of rupees, and as it is assumed, apparently on reasonable grounds, in the letters submitting the estimate, that the branch will yield a gross revenue of about 3½ lakhs of rupees per annum, my Board instead of forming an auxiliary Company, about which there will be difficulty, will be ready to submit to their shareholders a proposal on the attached conditions, under Section 112 of the Articles of Association, to raise £300,000 in bonds on the security of the Company's share of profits on the Southern Mahratta and Mysore State Railways, and if the proposal meets with approval, to build the branch with the proceeds of these bonds. The conditions, it is believed, are in accord with the conditions it is proposed to authorise for the construction of branch lines, with additions, shown in italics, to suit the special circumstances of the case.

The Board hope that they may receive a reply to their proposal in time to lay it before their shareholders at their next meeting in November 1893.

Enclosure to Southern Mahratta Railway Company's letter No. 55.

Terms for the Construction of Branch Railway from Bezwada to Masulipatam.

1. Use of all lands for the construction of the line to be provided by Government free of charge.

2. Branch railway to be worked by parent railway at the same percentage on gross receipts as holds on the entire system worked by the parent line in each half year. Such payment to include the hire of rolling-stock.

3. Railway materials for the construction of the branch railway or its extensions to be carried over the railway at special rates.

4. Right to construct such extensions or branches of the proposed branch railway as may be agreed to by Government.

These Clauses require an Act of Parliament.

5. Authority to charge to Capital Account interest during construction at the rate of 4 per cent. per annum on the paid up capital.

6. Authority to charge to Capital Account any deficiency from 4 per cent. per annum on the paid up capital, which may arise on the working of the branch railway during the first twelve months after the line is fully opened for public traffic.

7. Authority to credit to the branch line's "share of the gross earnings of the branch" by a yearly debit to the Southern Mahratta Railway, inclusive of all lines worked by it, a rebate on the traffic interchanged with that railway not exceeding 10 per cent. of its gross receipts from

such interchanged traffic until the net earnings of the branch railway, in rupees, inclusive of such rebate, reach 4 per cent. per annum on the capital of the branch, calculated in rupees at the average rate of exchange obtained for the amount remitted to India for Indian expenditure on it. Half-yearly advances on account of such rebate will be allowed pending annual final adjustment.

8. Authority to charge rates and fares upon the branch railway within the limits of the schedule of maximum and minimum rates and fares from time to time authorised by Government for the parent railway.

9. Government to have the right of purchasing the branch at the expiration of twenty-one years, and at intervals of ten years thereafter, at twenty-five years' purchase, based on the average net earnings of the branch railway for the five years immediately preceding the purchase, provided that the price shall not exceed the total Capital expenditure by more than 20 per cent., and shall not be less than the Capital expenditure.

10. All expenditure incurred to be subject to the supervision and audit of a Government officer, the accounts in connection therewith being open to his scrutiny; the nature of the Government supervision and control being defined by the terms of the Contract of 1882, entered into between the Secretary of State and the Bengal and North-Western Railway Company.

11. The branch to be of same gauge and type as the Southern Mahratta Railway in all respects, except earthwork and bridges, which will be made adaptable for broad gauge rails.

12. Government to engage, if desired to do so after purchase of the Southern Mahratta Railway, to work the branch on the same terms as the Southern Mahratta Railway now propose to work it. Government to have the right to buy the branch on the terms indicated in Section 9 of the Conditions at the same time they buy the Southern Mahratta Railway.

13. The Southern Mahratta Railway Company to have the use of the Kistna bridge and it approaches, south of Bezwada, on the same terms as if that bridge had been built as part of the Bellary-Kistna Railway, *i.e.*, the Company not to pay interest on its cost, but to be responsible for maintenance charges; these maintenance charges to be divided between the Southern Mahratta Railway and other railway administrations using the bridge, in proportion to vehicle mileage passing over the bridge—two metre guage vehicles being reckoned as one broad gauge.

14. Government to pay rebate on all goods interchanged between the branch and the East Coast Railway and the part of the Nizam's State Railway that belongs to them. Government also to use their best endeavours to induce the Nizam's Railway Company to join in the rebate for the remainder of the system.

15. Government to permit the Southern Mahratta Railway to construct all additions and alterations required to line and buildings at Bezwada in connection with the branch as part of their works. No charge to be made by the Southern Mahratta Railway Company to the branch for joint use of Bezwada Station.

16. Government to make no charge for supervision, nor the Southern Mahratta Railway Company to make any demand outside its percentage for working, for home expenses.

17. The issue of bonds raised on security of the Company's share of the profits of the Southern Mahratta and Mysore Railways to be subject to the approval of the Secretary of State for India, but the date of issue to be determined by the Directors, and the proceeds of the bonds to be kept exclusively under their control.

Enclosure to Southern Mahratta Railway Company's letter No. 55.

From—A. M. Rendel, Esq.
To—General Trevor, R.E., c.s.i.
Dated—8, Great George Street, Westminster, S.W., 18th July 1893.

I have discussed with Colonel Lindsay and Colonel Thornton the probable cost of the proposed metre gauge line from Bezwada to Masulipatam—50 miles—and I am quite satisfied that, if the reports and plans prepared by the officers of the Madras Railway are to be relied on, the estimate prepared by Colonel Lindsay—Rs. 28,00,000—which is of course based not only on these papers, but on his own large experience of the cost of metre gauge railway construction in this part of India, is ample. This estimate I should observe is exclusive of land and rolling-stock. This estimate in fact appears to me, with permanent way and freight at their present prices to be more than ample. I assume that 41 lb. rails and steel sleepers are used throughout.

Enclosure to Mr. A. M. Rendel's letter.

Rough Estimate for the construction of Branch Railway from Bezwada to Masulipatam on the metre gauge, and of the same general type as the Southern Mahratta Railway.

Heads and sub-heads of Account.	Amount of sub-heads.	Amount of main-heads.
	Rs.	Rs.
I.—Preliminary Survey—		
Preliminary	8,000	
Final	52,000	60,000
II.—Land to be provided by Government	*Nil.*	
III.—Construction of line—		
1. Earthwork, broad gauge	3,10,800	
2. Bridge work, major, suitable for broad gauge track	2,24,356	
,, ,, minor ,, ,, ,, ,,	1,18,274	
3. Carriage of materials	33,000	
4. Level crossings	15,000	
5. Pitching and metalling roads	26,000	
6. Fencing	16,950	
7. Electric telegraph (only instruments)		7,44,380
IV.—Ballast and permanent-way—		
1. Ballasting	10,80,000	
2. Permanent-way		10,80,000
V.—Stations and buildings—		
Stations and offices and staff quarters—		
Bezwada	30,000	
7 third-class	1,14,415	
2 first-class	44,032	
Masulipatam	3,00,000	
		4,88,447
VI.—Plant—		
1. Engineering		
2. Locomotive	70,000	
3. Carriage and wagon		
4. Station and office furniture		70,000
VII.—Rolling-stock—		
1. Locomotive } To be supplied by the Southern Mahratta Ry. Co.		
2. Carriage and wagon }		
	2,00,000	
VIII.—Establishment		2,00,000
IX.—Contingencies	1,29,640	1,29,640
Length, Cost per mile, Rs. 55,500.	Rs.	27,72,467

Order—No. 331 R., dated 28th May 1894.

With reference to paragraph 2 of letter read above, the Revenue Department will be requested to furnish information in regard to prospects of traffic, and the Marine Department will be asked to report on the capabilities of Masulipatam as a port.

such interchanged traffic until the net earnings of the branch railway, in rupees, inclusive of such rebate, reach 4 per cent. per annum on the capital of the branch, calculated in rupees at the average rate of exchange obtained for the amount remitted to India for Indian expenditure on it. Half-yearly advances on account of such rebate will be allowed pending annual final adjustment.

8. Authority to charge rates and fares upon the branch railway within the limits of the schedule of maximum and minimum rates and fares from time to time authorised by Government for the parent railway.

9. Government to have the right of purchasing the branch at the expiration of twenty-one years, and at intervals of ten years thereafter, at twenty-five years' purchase, based on the average net earnings of the branch railway for the five years immediately preceding the purchase, provided that the price shall not exceed the total Capital expenditure by more than 20 per cent., and shall not be less than the Capital expenditure.

10. All expenditure incurred to be subject to the supervision and audit of a Government officer, the accounts in connection therewith being open to his scrutiny; the nature of the Government supervision and control being defined by the terms of the Contract of 1882, entered into between the Secretary of State and the Bengal and North-Western Railway Company.

11. The branch to be of same gauge and type as the Southern Mahratta Railway in all respects, except earthwork and bridges, which will be made adaptable for broad gauge rails.

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To—General Trevor, R.E., c.s.i.
Dated—8, Great George Street, Westminster, S.W., 18th July 1893.

I have discussed with Colonel Lindsay and Colonel Thornton the probable cost of the proposed metre gauge line from Bezwada to Masulipatam—50 miles—and I am quite satisfied that, if the reports and plans prepared by the officers of the Madras Railway are to be relied on, the estimate prepared by Colonel Lindsay—Rs. 28,00,000—which is of course based not only on these papers, but on his own large experience of the cost of metre gauge railway construction in this part of India, is ample. This estimate I should observe is exclusive of land and rolling-stock. This estimate in fact appears to me, with permanent way and freight at their present prices to be more than ample. I assume that 41 lb. rails and steel sleepers are used throughout.

Enclosure to Mr. A. M. Rendel's letter.

Rough Estimate for the construction of Branch Railway from Bezwada to Masulipatam on the metre gauge, and of the same general type as the Southern Mahratta Railway.

Heads and sub-heads of Account.	Amount of sub-heads.,	Amount of main-heads.
	Rs.	Rs.
I.—Preliminary Survey—		
Preliminary	8,000	
Final	52,000	60,000
II.—Land to be provided by Government	*Nil.*	
III.—Construction of line—		
1. Earthwork, broad gauge	3,10,800	
2. Bridge work, major, suitable for broad gauge track	2,24,356	
,, ,, minor ,, ,, ,, ,, ...	1,18,274	
3. Carriage of materials	33,000	
4. Level crossings	15,000	
5. Pitching and metalling roads	26,000	
6. Fencing	16,950	
7. Electric telegraph (only instruments)		7,44,380
IV.—Ballast and permanent-way—		
1. Ballasting	10,80,000	
2. Permanent-way		10,80,000
V.—Stations and buildings—		
Stations and offices and staff quarters—	30,000	
Bezwada	1,14,415	
7 third-class	44,032	
2 first-class	3,00,000	
Masulipatam		4,88,447
VI.—Plant—		
1. Engineering	70,000	
2. Locomotive		
3. Carriage and wagon		
4. Station and office furniture		70,000
VII.—Rolling-stock—		
1. Locomotive .. } To be supplied by the Southern Mahratta Ry. Co.		
2. Carriage and wagon }	2,00,000	
VIII.—Establishment		2,00,000
IX.—Contingencies	1,29,640	1,29,640
Length., Cost per mile, Rs. 55,500.	Rs.	27,72,467

Order—No. 331 R., dated 28th May 1894.

With reference to paragraph 2 of letter read above, the Revenue Department will be requested to furnish information in regard to prospects of traffic, and the Marine Department will be asked to report on the capabilities of Masulipatam as a port.

such interchanged traffic until the net earnings of the branch railway, in rupees, inclusive of such rebate, reach 4 per cent. per annum on the capital of the branch, calculated in rupees at the average rate of exchange obtained for the amount remitted to India for Indian expenditure on it. Half-yearly advances on account of such rebate will be allowed pending annual final adjustment.

8. Authority to charge rates and fares upon the branch railway within the limits of the schedule of maximum and minimum rates and fares from time to time authorised by Government for the parent railway.

9. Government to have the right of purchasing the branch at the expiration of twenty-one years, and at intervals of ten years thereafter, at twenty-five years' purchase, based on the average net earnings of the branch railway for the five years immediately preceding the purchase, provided that the price shall not exceed the total Capital expenditure by more than 20 per cent., and shall not be less than the Capital expenditure.

10. All expenditure incurred to be subject to the supervision and audit of a Government officer, the accounts in connection therewith being open to his scrutiny; the nature of the Government supervision and control being defined by the terms of the Contract of 1882, entered into between the Secretary of State and the Bengal and North-Western Railway Company.

11. The branch to be of same gauge and type as the Southern Mahratta Railway in all respects, except earthwork and bridges, which will be made adaptable for broad gauge rails.

12. Government to engage, if desired to do so after purchase of the Southern Mahratta Railway, to work the branch on the same terms as the Southern Mahratta Railway now propose to work it. Government to have the right to buy the branch on the terms indicated in Section 9 of the Conditions at the same time they buy the Southern Mahratta Railway.

13. The Southern Mahratta Railway Company to have the use of the Kistna bridge and it approaches, south of Bezwada, on the same terms as if that bridge had been built as part of the Bellary-Kistna Railway, *i.e.*, the Company not to pay interest on its cost, but to be responsible for maintenance charges; these maintenance charges to be divided between the Southern Mahratta Railway and other railway administrations using the bridge, in proportion to vehicle mileage passing over the bridge—two metre guage vehicles being reckoned as one broad gauge.

14. Government to pay rebate on all goods interchanged between the branch and the East Coast Railway and the part of the Nizam's State Railway that belongs to them. Government also to use their best endeavours to induce the Nizam's Railway Company to join in the rebate for the remainder of the system.

15. Government to permit the Southern Mahratta Railway to construct all additions and alterations required to line and buildings at Bezwada in connection with the branch as part of their works. No charge to be made by the Southern Mahratta Railway Company to the branch for joint use of Bezwada Station.

16. Government to make no charge for supervision, nor the Southern Mahratta Railway Company to make any demand outside its percentage for working, for home expenses.

17. The issue of bonds raised on security of the Company's share of the profits of the Southern Mahratta and Mysore Railways to be subject to the approval of the Secretary of State for India, but the date of issue to be determined by the Directors, and the proceeds of the bonds to be kept exclusively under their control.

—

Enclosure to Southern Mahratta Railway Company's letter No. 55.

From—A. M. Rendel, Esq.
To—General Trevor, R.E., C.S.I.
Dated—8, Great George Street, Westminster, S.W., 18th July 1893.

I have discussed with Colonel Lindsay and Colonel Thornton the probable cost of the proposed metre gauge line from Bezwada to Masulipatam—50 miles—and I am quite satisfied that, if the reports and plans prepared by the officers of the Madras Railway are to be relied on, the estimate prepared by Colonel Lindsay—Rs. 28,00,000—which is of course based not only on these papers, but on his own large experience of the cost of metre gauge railway construction in this part of India, is ample. This estimate I should observe is exclusive of land and rolling-stock. This estimate in fact appears to me, with permanent way and freight at their present prices to be more than ample. I assume that 41 lb. rails and steel sleepers are used throughout.

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IX.—Contingencies		1,29,640
Length., Cost per mile, Rs. 55,500.	Rs.	27,72,467

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Order—No. 331 R., dated 28th May 1894.

With reference to paragraph 2 of letter read above, the Revenue Department will be requested to furnish information in regard to prospects of traffic, and the Marine Department will be asked to report on the capabilities of Masulipatam as a port.

From—The Presidency Port Officer, Madras.
To—The Chief Secretary to Government, Marine Department.
Dated—Madras, 28th June 1894, No. 1721/242 G.

In reply to Marine Department endorsement No. 1089, dated 31st May 1894, on Current No. 455, herewith returned, I have the honour to report that the Port of Masulipatam is an open roadstead exposed to the full force of any cyclonic disturbance. Native craft trading with the port avoid it from the middle of October until February. Shipping operations with steamers are frequently disturbed during these months, November perhaps being the worst; the anchorage in the roads in 4 fathoms is good as far as holding is concerned, but it is 4 miles from the bar.

2. The bar is the great drawback there being only 18 inches on it at low water for fully six months of the year. There appears to be no possibility of improving it as the area of shoal water is so extensive; I believe any project for its improvement would be impracticable, not alone from the great cost but from the exposed position of the bar.

3. The distance from the wharves in the river to the roadstead is 7 miles. Large boats never load fully as, if they did, they could only cross the bar at high water; there are fifty cargo boats available capable of carrying some 740 tons; the charge per trip to the steamer anchorage is, for boats over 20 tons, Rs. 15, and Rs. 10-8-0 for boats under that tonnage; to the native craft anchorage in 2½ to 3 fathoms Rs. 10 and 7-8-0 per trip. The cost of shipping cargo to the steamer anchorage is about annas 15 pies 3 per ton. During the official year 1893-94, 35,930 tons were shipped and 7,290 landed.

Endorsement in the Marine Department, dated Ootacamund, 5th July 1894, No. 1366.

Transferred to the Public Works Department, Railway Branch, with reference to G.O., No. 331 R., dated 28th May 1894.

Proceedings of the Board of Revenue, No. 350, dated 28th August 1894.

Read—again the following Proceedings of the Board of Revenue, Mis. No. 3610, dated 14th June 1894:—

Read—G.O., No. 331 R., dated 28th May 1894.

Resolution—Mis. No. 3610, dated 14th June 1894.

Communicated to the Collector of Kistna for early report.

From—J. N. Atkinson, Esq., Acting Collector, Kistna district.
To—The Secretary to the Board of Revenue.
Dated—Masulipatam, 14th August 1894, Dis. No. 2796-Ver.

In reply to Board's Proceedings, Mis. No. 3610, dated 14th June 1894, enquiring about the prospective traffic on the proposed Masulipatam extension Railway, I have the honour to refer the Board to Mr. Arundel's letters printed in G.Os., No. 1767 R., dated 11th November 1890, and No. 6, Revenue, dated 3rd January 1890, and to Board's Proceedings, No. 113 R.S., dated 24th April 1890, where the possible sources of receipts are exhaustively dealt with. But for the purpose of easy reference, I repeat them here along with the latest figures available.

2. The traffic of Masulipatam may be divided into three classes, viz., canal traffic, road traffic and sea-borne trade. As regards the former, the following statement

shows the ton-mileage and the number of passengers carried between Bezwada and Masulipatam from 1887-88 to 1892-93:—

Year.	Ton-mileage.	Passengers.	Average tonnage.
1887-88	3,424,656	58,417	69,890
1888-89	2,730,691	58,189	55,728
1889-90	2,537,597	70,014	51,787
1890-91	2,984,559	74,210	60,900
1891-92	2,689,745	50,940	54,892
1892-93	2,046,511	52,205	41,745

The figures here given do not exhibit the whole passenger traffic, but only that between the two terminal stations of Masulipatam and Bezwada. Traffic between intermediate villages is not included, nor can its amount be ascertained. The so-called passenger boats are primarily intended for cargo; passengers are only taken in so far as accommodation is available. The decrease in the figures during the past two years is due to the smaller number of boats plying, which in turn is due to diminished *goods* traffic, in consequence partly of improved seasons, and still more in consequence of the completion of the Kistna bridge.

3. *Road traffic.*—The following were the tolls realized by the Masulipatam Municipality for a number of years:—

Year.	Amount realized.	Number of bandies, rate of toll being 4 annas each.	Weight of merchandise calculated at ½ a ton per bandy.
	Rs.	No.	Tons.
1889-90	14,125	56,500	28,250
1890-91	13,514	54,056	27,028
1891-92	16,100	64,400	32,200
1892-93	15,500	62,000	31,000
1893-94	15,105	60,420	30,210

The amount actually realized by toll-contractors is more than the above, but on the other hand a deduction ought to be made for passenger carts and empty conveyances and animals, in order to arrive at the actual collections on carts carrying merchandise. Probably I shall not be far wrong in assuming that the municipal realizations represent the actual amount collected on merchandise carts. The decrease in traffic during the last two years is partly due to improved seasons in other parts of the Presidency, and partly to the opening of the East Coast Railway which now attracts a considerable amount of traffic that used to come into Masulipatam.

4. *Sea borne trade.*—Subjoined is a statement showing consolidated figures of imports and exports at Masulipatam:—

Years.	Exports.	Imports.	Years.	Exports.	Imports.
	Rs.	Rs.		Rs.	Rs.
1857-58 ...	3,81,659	6,05,985	1875-76 ...	35,63,725	13,30,240
1858-59 ...	6,29,888	4,79,954	1876-77 ...	26,83,003	14,16,074
1859-60 ...	4,68,386	6,99,603	1877-78 ...	24,74,353	18,37,335
1860-61 ...	9,03,563	8,14,300	1878-79 ...	16,32,379	15,38,995
1861-62 ...	11,28,283	8,03,238	1879-80 ...	24,85,992	11,91,121
1862-63 ...	14,76,907	9,58,690	1880-81 ...	23,06,066	14,07,266
1863-64 ...	20,17,667	13,38,396	1881-82 ...	18,50,512	4,59,818
1864-65 ...	15,04,906	12,53,046	1882-83 ...	15,00,145	9,82,332
1865-66 ...	24,67,250	10,08,545	1883-84 ...	17,64,883	9,20,324
1866-67 ...	22,73,743	11,65,026	1884-85 ...	28,06,405	10,44,942
1867-68 ...	33,86,545	11,81,298	1885-86 ...	27,34,124	8,13,907
1868-69 ...	25,16,599	11,62,027	1886-87 ...	29,67,524	11,01,924
1869-70 ...	19,10,648	12,28,226	1887-88 ...	29,34,638	15,17,101
1870-71 ...	22,87,655	14,44,281	1888-89 ...	30,61,481	12,40,683
1871-72 ...	20,84,981	11,73,334	1889-90 ...	21,47,812	11,98,973
1872-73 ...	13,01,273	10,07,804	1890-91 ...	35,52,033	15,33,690
1873-74 ...	25,61,041	11,19,240	1891-92 ...	29,42,864	13,35,888
1874-75 ...	17,23,402	11,99,790	1892-93 ...	24,90,037	12,07,100

The striking feature here is the falling off in the last two years. But taking into consideration the two factors already noticed, viz., the improvement of the seasons in other districts, and the completion of the Kistna bridge, the decrease is more than accounted for. It was the famine that caused the inflation of exports in 1890–91, and it was the large imports of material for the Kistna bridge that raised the imports in 1890–91 and 1891–92. In addition the opening of the East Coast Railway did undoubtedly for a time at any rate affect the trade of Masulipatam. Thus the whole castor-seed trade * from the upland taluks was diverted from Masulipatam to Cocanada. I learn, however, that the trade figures for the current year are likely to show a considerable recovery, the export of grain having increased again, while new branches of import trade, notably of timber, are springing up.

* Statement showing the value of castor-seeds exported from the port of Masulipatam during the following official years :—

Official years.	Value Rs.
1886–87	9,85,517
1887–88	9,04,740
1888–89	10,70,931
1889–90	1,78,080
1890–91	13,57,640
1891–92	6,68,579
1892–93	6,000
1893–94	1,47,341

5. The figures shown in paragraph 3 are for Masulipatam alone. The statistics of traffic pouring into Bezwada are not available. In 1889–90 the quantity of merchandise brought into Bezwada was 419,687 Imperial maunds as against 355,101 Imperial maunds of Masulipatam. As the converging of the Southern Mahratta Railway, East Coast Railway and Nizam's Guaranteed State Railway at Bezwada has given a great impetus to carriage to south, north and west, the Bezwada trade has no doubt very greatly increased since.

6. Since the registration of road traffic was discontinued, there is no record of the numbers of passengers passing from Bezwada to Masulipatam and *vice versâ* by road. In 1889–90, they were 32,561 and 34,543, respectively. The increase of traffic noted in the last two paragraphs must of course have been accompanied by an increase in the number of passengers.

7. It may be noted that the figures contained in paragraphs 3, 5 and 6 relate only to the through traffic between Bezwada and Masulipatam. If the line takes the route proposed in Board's Proceedings, No. 113 R.S., dated 24th April 1890, these figures have to be considerably augmented as the country is a rich rice-growing tract splendidly irrigated and isolated from the present main highway of traffic, viz., the Bandar canal.

8. The area of the country tapped by the proposed railway is 990 square miles and the population per square mile is 385. I arrive at this figure after deducting the 150 odd miles of water-spread in the Kolleru lake. In his letter, Extra No. 241, dated 25th September 1889, Mr. Arundel reported the density of population as 216 per square mile. But I believe he did not deduct this uninhabitable area. The population is rapidly increasing, and it is of course a truism to say that the construction of the railway will enhance the rate of increase. I give below the population according to the census of 1891 of the villages noted in paragraph 2 of the Board's Proceedings last quoted through which the line has been proposed to be constructed :—

Nidamanur	...	*1,150*	845	Gudivada	...	*4,040*	4,732
Tenneru	...	*1,180*	1,404	Angalur	...	*1,700*	2,163
Uppalur	...	...	1,025	Vinnakota	...	*1,800*	1,942
Mantena	...	...	867	Kowtaram	...	*2,400*	2,414
Ventrapragada	...	*2,582*	1,803	Vadlamannad	...	*1,100*	1,368
Pamulapad	...	...	1,335	Pedana	...	*4,400*	4,740
Kalavapamula	...	...	1,175	Masulipatam	...	*35,000*	38,809

I have given in italics the figures reported by Mr. Arundel. These are obviously round figures, not always accurate. Since then four villages which Mr. Arundel did not consider worth mentioning have had to be added to the list and the gross population of all the villages has risen from 55,352 to 64,622. The list of villages includes

only those that would be actually touched by the railway. There are very many wealthy and populous villages within four or five miles of the line on either side the whole way from Bezwada to Masulipatam.

9. Besides the above traffic there is the salt manufactured at the factories of Manginapudi and Pandraka which produce more than 320,000 Indian maunds per annum. It is intended by the Salt Department to increase the outturn in the Pandraka factory very largely. The bulk of this, including all the Pandraka salt, goes to the Nizam's Dominions on pack-bullocks. The owners would rather take to the railway in spite of the cost than trust to the mercy of the elements on the backs of bullocks.

10. The area irrigated in the Kistna Eastern Delta has been—

Year.	Acs.
1890–91	220,481
1891–92	269,464
1892–93	267,310
1893–94	281,164

It is expected that the ultimate area of irrigation in the Eastern Delta will be 400,000 acres, and a very rapid increase is going on already in the current year. Owing to the opening of new canals, portions of Gudivada and Bandur taluks of this district have been placed within easy reach of the Godavari district bordering on those taluks, viz., the taluks of Bhimavaram and Narasapuram, which latter is a great agricultural centre. Such of the produce of these latter tracts as is intended for export towards the north or west will be brought to the proposed railway. It is probable that exports in these directions will increase year by year.

11. The next question for consideration is whether the Bandur canal is likely to be a formidable competitor to the proposed extension, as the Ellore canal is to the Bezwada-Rajahmundry sections of the East Coast Railway. In my opinion it is not likely to be. The latter competition is due to the peculiar circumstances of the East Coast Railway. It runs side by side with the Ellore and Rajahmandry canals across a country not so well irrigated as the Kistna Eastern Delta. Further, the canal between Rajahmandry and Ellore is closed only for six weeks. But the conditions of the Bandur canal and the proposed line are different. The canal traverses the fringe of the fertile Kistna Eastern Delta, while the railway passes through the heart of the same. The canal is inaccessible to the parts on and about the line of the railway, except in the three months of the dry weather when it is closed. During those months even the villages on the banks of the canal will have to resort to the railway. The grain produced in the delta has no market anywhere near at hand. The demand for it lies in the distant Ceded Districts and the uplands of this district. An importer in these parts would prefer to have his grain carried through by the railway rather than undertake the risks of carriage up to Bezwada by canal and thence by rail. So far as passenger traffic is concerned, I can see no ground for thinking that the canal will compete with the railway. I believe that this traffic will be very heavy. As to goods it should be clearly understood that the Bezwada-Masulipatam line will be subject to conditions altogether different from those of the East Coast Railway, in its course from Bezwada to Rajahmandry. The former will be separated by an average distance of six miles from the canal, and this distance practically unserved by roads. On its eastern side there are no navigable canals at all within a much greater distance.

12. I observe that the Government of India desires information as to the capabilities of Masulipatam as a port, and though I have not been asked to report on that point, I venture to offer the few following remarks. I take it that it is very unlikely that Masulipatam can ever be made better than what it is now, viz., a very safe, though open, roadstead. As a port it has always, for the last half century at any rate, been unpopular with European shippers, partly on account of its own inherent inconveniences, but more because of the superior attractions of Cocanada. But whereas Masulipatam is neither better nor worse than it has been any time within human memory, it is notorious that the Cocanada anchorage is steadily shoaling up, and there are constant lugubrious rumours that trade is beginning to show signs of leaving it.

13. However this may be, it seems to me that the prospects of Masulipatam as a port in no way affect the prospects of the proposed Bezwada-Masulipatam railway. Even now the quantity of goods that are brought to Masulipatam from beyond Bezwada

The striking feature here is the falling off in the last two years. But taking into consideration the two factors already noticed, viz., the improvement of the seasons in other districts, and the completion of the Kistna bridge, the decrease is more than accounted for. It was the famine that caused the inflation of exports in 1890–91, and it was the large imports of material for the Kistna bridge that raised the imports in 1890–91 and 1891–92. In addition the opening of the East Coast Railway did undoubtedly for a time at any rate affect the trade of Masulipatam. Thus the whole castor-seed trade * from the upland taluks was diverted from Masulipatam to Cocanada. I learn, however, that the trade figures for the current year are likely to show a considerable recovery, the export of grain having increased again, while new branches of import trade, notably of timber, are springing up.

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1893–94	281,164

It is expected that the ultimate area of irrigation in the Eastern Delta will be 400,000 acres, and a very rapid increase is going on already in the current year. Owing to the opening of new canals, portions of Gudivada and Bandur taluks of this district have been placed within easy reach of the Godavari district bordering on those taluks, viz., the taluks of Bhimavaram and Narasapuram, which latter is a great agricultural centre. Such of the produce of these latter tracts as is intended for export towards the north or west will be brought to the proposed railway. It is probable that exports in these directions will increase year by year.

11. The next question for consideration is whether the Bandur canal is likely to be a formidable competitor to the proposed extension, as the Ellore canal is to the Bezwada-Rajahmundry sections of the East Coast Railway. In my opinion it is not likely to be. The latter competition is due to the peculiar circumstances of the East Coast Railway. It runs side by side with the Ellore and Rajahmandry canals across a country not so well irrigated as the Kistna Eastern Delta. Further, the canal between Rajahmandry and Ellore is closed only for six weeks. But the conditions of the Bandur canal and the proposed line are different. The canal traverses the fringe of the fertile Kistna Eastern Delta, while the railway passes through the heart of the same. The canal is inaccessible to the parts on and about the line of the railway, except in the three months of the dry weather when it is closed. During those months even the villages on the banks of the canal will have to resort to the railway. The grain produced in the delta has no market anywhere near at hand. The demand for it lies in the distant Ceded Districts and the uplands of this district. An importer in these parts would prefer to have his grain carried through by the railway rather than undertake the risks of carriage up to Bezwada by canal and thence by rail. So far as passenger traffic is concerned, I can see no ground for thinking that the canal will compete with the railway. I believe that this traffic will be very heavy. As to goods it should be clearly understood that the Bezwada-Masulipatam line will be subject to conditions altogether different from those of the East Coast Railway, in its course from Bezwada to Rajahmandry. The former will be separated by an average distance of six miles from the canal, and this distance practically unserved by roads. On its eastern side there are no navigable canals at all within a much greater distance.

12. I observe that the Government of India desires information as to the capabilities of Masulipatam as a port, and though I have not been asked to report on that point, I venture to offer the few following remarks. I take it that it is very unlikely that Masulipatam can ever be made better than what it is now, viz., a very safe, though open, roadstead. As a port it has always, for the last half century at any rate, been unpopular with European shippers, partly on account of its own inherent inconveniences, but more because of the superior attractions of Cocanada. But whereas Masulipatam is neither better nor worse than it has been any time within human memory, it is notorious that the Cocanada anchorage is steadily shoaling up, and there are constant lugubrious rumours that trade is beginning to show signs of leaving it.

13. However this may be, it seems to me that the prospects of Masulipatam as a port in no way affect the prospects of the proposed Bezwada-Masulipatam railway. Even now the quantity of goods that are brought to Masulipatam from beyond Bezwada

for export is not worth considering. It is as a trade centre for the tracts between itself and Bezwada that Masulipatam has attained its present importance. Such being the case it is immaterial to the railway whether the sea-borne trade of the town increases or decreases. In either case the railway will reap the benefit. If the trade increases it will be because the railway is bringing more stuff into the town; and if it decreases it will be because the railway is taking the stuff away from Masulipatam. It is difficult to understand the position of those who doubt the prospects of a line of railway feeding and tapping a tract of country 990 square miles in extent composed of the most fertile and unfailingly productive soil, and supporting a population equal in density to that of England, and likely in the next decade to increase by 50 per cent.

Enclosure.

From J. W. Maiden, Esq. (a Masulipatam merchant).
To—The Collector of Kistna.
Dated—Masulipatam, 16th August 1894.

I am afraid you must have thought me very neglectful in not sending you the information promised, but I assure you it was nothing but the difficulty in obtaining the necessary information from the Custom House that prevented my communicating with you earlier. It has been two days' hard work. I do not know whether you will agree with me in all my views. Considering how the opening of new railways has a tendency of upsetting local trade, I think my figures will prove that trade at this port is again forging ahead. I give you five years' figures:—

Year.	Total exports. TONS.	Year.	Total exports. TONS.
1889–90	19,356	1892–93	28,689
1890–91	41,102	1893–94	30,796
1891–92	32,974	1894–95	* 8,235

* Up to the end of July 1894.

If you take 1889–90 as the starting point, 1893–94 is a decided improvement. If you take 1890–91 as you starting point, the reaction shows itself in 1893–94. This year already shows better results, and if it was not for the closing of the canal when our castor-seed business was reviving, a still better result would have been shown. Our principal exports in castor-seed were during the months when the canals were closed. Now of course with the railway to compete with cart-hire we are nowhere. Now that the canals are open, castor-seed is again coming here for exportation. Our trade with the southern ports is steady and improving as seen from the figures below. These figures show only what is being conveyed by native vessels, such as paddy, rice and pulse, &c.:—

		TONS.			TONS.
Jaffna ...	1889–90 ...	4,536	Negapatam ...	1892–93 ...	5,045
	1890–91 ...	12,910		1893–94 ...	10,138
	1891–92 ...	9,142		1894–95 ...	†2,796
	1892–93 ...	11,108	All other southern ports.	1889–90 ...	478
	1893–94 ...	16,983		1890–91 ...	6,066
	1894–95 ...	† 6,691		1891–92 ...	5,127
Negapatam ...	1889–90 ...	4,942		1892–93 ...	3,726
	1890–91 ...	4,392		1893–94 ...	4,775
	1891–92 ...	4,857		1894–95 ...	† 940

† Up to end of July 1894.

With regard to imports I see no decrease of any consequence, in fact an improvement—

1889–90.	1890–91.	1891–92.	1892–93.	1893–94.	1894–95.	Remarks.
Rs. 11,10,062	Rs. 15,95,569	Rs. 13,64,990	Rs. 11,80,065	Rs. 13,00,514	Rs. 3,85,617	End of July 1894.
	In these three years, bridge materials were imported.					

I have noticed that for the last two years paddy is being exported to Calcutta, whereas a few years ago paddy used to be imported from Calcutta. Another is a growing import trade with Rangoon and Moulmein of cut timber. Every steamer is bringing it in.

Endorsement by the Collector of Kistna, dated 18th August 1894, No. 2848-Ver.

Submitted to the Board (Revenue Settlement), in continuation of this office Disposal No. 2796-Ver., of 14th August 1894, regarding Bezwada-Masulipatam Railway.

Resolution—dated 28th August 1894, No. 350.

The Collector's letters read above will be submitted to Government with reference to G.O., No. 2124, Revenue, dated 30th May 1894.

2. The financial aspects of the proposed extension of the railway from Bezwada to Masulipatam have already been fully discussed by the Board in its Proceedings, No. 113, dated 24th April 1890, in which, however, the statistical information given closed with the year 1888–89. Further statistics for the subsequent years so far as available are now given by the Collector in his letter read above. It will be seen that both in canal traffic and in sea-borne trade there was a falling off in the years 1891–92 and 1892–93. This is attributed partly to the favourable character of the season in other districts which reduced the exports, and partly to the completion of the Kistna bridge for which there were large imports of material in previous years. Even making allowance for these fluctuations, the Board considers that the prospects of traffic over the proposed branch line, which runs through a fertile and thickly populated delta advancing in prosperity by leaps and bounds with the spread of its irrigation, are full of promise, and that there can be no reasonable doubt that the undertaking would prove a financial success.

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—16th September 1894, No. 1050 D.

In reply to your No. 412 R.C. of 4th May 1894, I am directed to forward a report from the Revenue Department regarding the prospects of traffic on the proposed Bezwada-Masulipatam line, and a report on the harbour of Masulipatam from the Marine Department.

2. The estimate made by the Agent, Southern Mahratta Railway, is that the branch will yield $3\frac{1}{4}$ lakhs gross revenue and assuming the Southern Mahratta Railway work at 55 per cent. that sum will yield nearly 4·9 per cent. on the capital.

This is equivalent to earning a gross mile per week amount of Rs. 125.

3. With reference to the proposals of the Southern Mahratta Railway to construct this eminently desirable branch, it is the opinion of His Excellency in Council that, without knowing the prospects of the construction of the line from Madras to Bezwada in the near future, it is somewhat difficult to come to a final decision, but seeing that the line from Guntakal to Bezwada was expressly built as a famine line, its protective value would be much enhanced by its extension to the fertile delta between the Kistna and Gódávari on the metre-gauge.

4. But as however the alignment of the Bezwada-Madras Railway, whether *viâ* Guntur or to Bezwada direct, and the transfer of the junction station to the right bank of the Kistna, will have to be considered when the Bezwada-Madras project comes up for consideration next month, it appears desirable that the final settlement of the gauge of this branch should be deferred till then.

5. Another point which should not be lost sight of is that the construction of this branch on the metre-gauge would very considerably affect the value of the Bezwada-Madras line if constructed, and of the present southern portion of the East Coast if worked by any syndicate or company.

6. The offer of a line involving no charge on the Government revenues is certainly most advantageous, but the terms asked in enclosure No. 3, paragraphs 13, 14 and 15 are, I am to say, altogether inadmissible and it is the opinion of His Excellency in Council that in the event of the Southern-Mahratta Railway constructing this branch, a fair sum for the use of the Kistna bridge and Bezwada station and mixed gauge lines should be paid, and a rebate should be allowed by them to the East Coast and Nizam's Railways on interchanged traffic.

7. From information given by the Board of Revenue, the yearly number of passengers between Bezwada and Masulipatam—

by canal for an average of five years is given as...	61,000
and by road for one year as	67,000
Total ...	1,28,000, or per week 2,460.

The yearly tonnage is given as—

by canal	44,000
by road	29,700
Total ...	73,700, or per week 1,410.

8. Assuming all these passengers travel by rail at 2 pie fares and all the goods were carried at 5 pies per ton per mile, or ½ pie per maund per mile, the railway would earn Rs. 25 and Rs. 37, respectively. Adding to this 320,000 maunds salt yearly at $\frac{1}{10}$ pie per maund per mile from the factories of Manginapudi and Pandraka to the Nizam's Dominions which would yield nearly Rs. 4 per mile per week, the total will be Rs. 66 per mile per week. This is just half what the Southern Mahratta Railway Agent considers probable, and as the Collector makes no estimate of local traffic and is of opinion that the Bandur canal will not compete with the railway, his estimate is considered a fair one.

9. I am to say as regards the port, that there does not seem reason to believe that the harbour of Masulipatam, as it now is, will effect the traffic in any great degree It is reported that it is not one favoured by shippers, and the trade there is small compared with Cocanada. Neither of these ports is likely to improve and it is probable that with some expenditure the port of Vizagapatam will eventually take the bulk of the export trade of the district.

Extract from letter from—The Manager, East Coast Railway.
To—The Director-General of Railways.
Dated—Waltair, 18th October 1894, No. 6337.

* * * * *

I understand the Southern Mahratta Railway expect to obtain permission to construct a branch line to Masulipatam on the metre-gauge with the free use of the Kistna bridge. If this is allowed, it will take away all traffic from the first 150 miles of the East Coast Railway and it is therefore essential that we should now get the question of the principle of the pontage over the Kistna bridge definitely and finally laid down, if we do not want, as the owners of that bridge, to have it made the means of rendering that section of the line absolutely unproductive. The Southern Mahratta Railway has obtained a port in the West of India at Marmagoa *viâ* the West of India Portuguese Railway, and the damage they have done to the Great Indian Peninsula Railway traffic *viâ* Poona, by using this port as a lever, sufficiently warrants us to keep them at all costs out of constituting a similar rival Port to Cocanada at Masulipatam. There are many other places on the Southern Mahratta Railway system much more pressingly in need of this 51 miles of Railway communication, where that company may obtain a much better return on its capital than by coming into a territory already in possession of a canal route which will force their rates down to an unremunerative figure, and bring them into direct antagonism with a railway whose interests would otherwise be theirs also. This is a policy I submit that ought to be avoided. The canal route, running as it does from door to door of merchants, will be a much more effective and speedy means of transport for goods than a metre gauge Railway, and I doubt if Masulipatam is in any need whatsoever of railway communication as compared with Kurnool and other stations on the Southern Mahratta Railway.

See paragraph 7 of letter, on page 30, No. 546 R., dated 9th August 1897.
(Intld.) F.J.E.S.

As an officer interested in the welfare of the East Coast Railway I think I cannot too often or too strongly press upon the Government the necessity, indeed the pressing necessity, of preventing this narrow gauge system cutting us in two at Bezwada both for the present while we terminate at Bezwada, and more so for the

future, when we extend to Madras. It simply means transferring several lakhs of rupees from the pocket of Government to the shareholders of the Southern Mahratta Railway Company, to say nothing of the indirect loss of having to keep up 130 miles of non-productive line with an expensive ferry on it.

* * * * *

From—The Joint Secy. to the Government of Madras, P. W. Dept., Railway Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Madras, 17th March 1896, No. 245 R.

I am directed to forward a petition from the inhabitants of Masulipatam praying for a railway to that town.

2. The views of this Government are set forth in No. 1050 D., dated 16th September 1894, and now that the Bezwada-Madras Railway is under construction and its junction with the Southern Mahratta Railway has been fixed at Tadapalli, the final decision both of the construction of the branch to Masulipatam as well as its gauge appears opportune.

3. I am therefore to urge the favourable consideration of this project, seeing that an offer is still before the Government of India by the Southern Mahratta Railway to construct the line free of charge, and if this offer be rejected there appears no reasonable alternative except for the State to construct the line from public funds of such a gauge as may appear most calculated to serve the conflicting interests of the railways which meet at Bezwada.

From—The Secy. to Government of India, Public Works Department.
To—The Joint Secretary to the Government of Madras, P. W. Dept., Railway Branch.
Dated—Simla, 18th May 1896, No. 707 R.C.

I am directed to acknowledge the receipt of your letter No. 245 R., dated 17th March 1896, forwarding a petition from the inhabitants of Masulipatam praying for the construction of a railway from Bezwada to Masulipatam; and urging the project for the favourable consideration of the Government of India.

2. In reply I am to forward for the information of the Government of Madras a copy of a despatch to the Secretary of State No. 47, Railway, dated 2nd July 1895, which contains the views of the Government of India regarding this project and to say that the Government of India, whilst holding the opinion that the line should probably be made eventually, do not consider that the situation has altered appreciably since the Secretary of State was addressed.

3. The Government of India therefore, before further considering the question of the construction of the proposed line, would prefer to wait till the effect of the opening of the East Coast State Railway on the course of trade is more apparent.

Enclosure.

From—The Secretary to the Government of India, Public Works Department.
To—Her Majesty's Secretary of State for India.
Dated—Simla, 2nd July 1895, No. 47 Ry.

With Lord Kimberley's despatch No. 70, Railway, dated 3rd August 1893, copies of certain letters from the Board of the Southern Mahratta Railway Company, relating to an offer to construct a railway on the metre-gauge from Bezwada to Masulipatam, were forwarded for our consideration and such action as might be desirable.

2. Before coming to any decision on the proposals of the Company, we considered it advisable to invite the opinion of the Government of Madras thereon, and to obtain further information both as to the prospective traffic of the proposed branch line and in regard to the capabilities of Masulipatam as a port.

3. We have now the honour to forward a copy of the reply of the Madras Government giving the information required by us. It will be observed that an opinion is expressed by that Government that, even if the terms proposed by the Southern Mahratta Railway Company for the construction and working of the line, as detailed in the schedule accompanying railway despatch No. 70 of the 3rd August 1893, were otherwise approved, the conditions mentioned in paragraphs 13, 14 and 15 could not be accepted. In that opinion we concur.

4. Irrespective, however, of the suitability or otherwise of the terms referred to in the preceding paragraph, and the doubts expressed by the Government of Madras as to the reliability of the traffic estimates now furnished, we would remark that we do not regard the construction of the Bezwada-Masulipatam Railway as a matter of urgency, and in view of the possibility that its construction might have the effect of checking the development of traffic on the East Coast Railway, and of creating demands, which it might be difficult to satisfy, for expenditure on the improvement of the port of Masulipatam, we would prefer to wait till the projects for the connection of the East Coast Railway with Calcutta and Madras, now under consideration, are more advanced and their effect on the course of trade more apparent, before deciding how the needs of the Masulipatam delta may best be served, or committing ourselves to the construction of the proposed branch as a part of the Southern Mahratta Railway system.

From—The Joint Secretary to the Govt. of Madras, P.W. Dept., Railway Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Ootacamund, 13th May 1897, No. 346 R.

With reference to the opinion of this Government, as expressed in paragraph 10 * of my letter No. 332 R., dated 10th May 1897, on the subject of the Bezwada-Masulipatam Railway project, I am instructed to forward, for the information of the Government of India, a copy of a note upon the subject by Mr. J. N. Atkinson, the Collector of the Kistna District.

*10. As regards the most important of these, the Masulipatam branch, I am instructed to say that the prospects of its construction as part of the East Coast Railway, out of funds to be provided directly by the State, seem so very remote; and that the need for it on any gauge is so great; and that the propriety of its being built on the metre gauge by the Southern Mahratta Railway is so very apparent; that it seems advisable that encouragement should be held out to the Southern Mahratta Railway Company to come forward again with suitable proposals for its construction and working on branch line terms. It will be seen that this important extension of the Southern Mahratta Railway has been placed very high up, fourth on the list of preference, as an indication of the value set upon it by this Government, as a protective line for the dry Deccan districts, and as the natural and logical development of the policy which led to the construction of the Bellary-Kistna Railway.

Enclosure.

Note by Mr. J. N. Atkinson, Collector of Kistna, on the proposed Bezwada-Masulipatam Railway.

The Government of India whilst holding the opinion that the Bezwada-Masulipatam line should probably be made eventually, has decided "to defer the consideration of the proposed extension until the effect of the opening of the East Coast State Railway on the course of trade is more apparent."

With all deference to the Government of India I am unable to see how the construction of the Bezwada-Masulipatam Railway can affect the course of trade on the East Coast Railway. The former cannot possibly compete with the latter; it can never be anything other than a feeder line. It is required not to take stuff from the East Coast Railway; but to tap the 1,800 square miles constituting the Kistna Eastern delta, and to carry its produce on to the great trunk lines, whether East Coast Railway, Nizam's Guaranteed State Railway, or Southern Mahratta Railway. Reference will be made hereafter to the fears that have been so constantly expressed, that the Bezwada-Masulipatam line might be used as a means of reviving the waning prosperity of the port of Masulipatam, at the expense of Cocanada. For the present it is sufficient to say that whether on the completion of the B.M. Railway the trend of trade will be towards Madras, Cocanada or elsewhere, the construction of the Bezwada-Masulipatam Railway can have no possible influence on the course of trade on the main line. The Bezwada-Masulipatam traffic will follow, not guide, the course of trade.

2. It has been said that since the Kistna Eastern delta is already supplied with roads and canals, and since its produce is even now finding its way to outside markets either by rail or sea, there is no necessity for a railway line through the delta. The argument scarcely needs discussion. It might have been used as appropriately to damn the whole East Coast Railway, and not that line only but every Railway that has ever anywhere in a civilised and inhabited country been constructed. The inhabitants of the Kistna Eastern delta, one of the richest and most populous tracts in India, say that they are not being given equal facilities with their brethren elsewhere; that in providing them only with canals and roads, they are condemned to an antiquated means of transit and are handicapped in their competition with more favoured districts. I need not dilate on the many imperfections of the roads and canals in the delta. They have often been pointed out before. But it is clear that canals which are closed for the very months during which exportation of produce is most active, can hardly be considered ideal means of transit.

3. The argument stated in the first sentence of the last preceding paragraph proceeds on the assumption, that the roads and canals at present existing or that may hereafter be constructed, suffice for the distribution not only of the actually existing quantum of produce of the delta, but of any possible increase thereof that may be hoped for. This is not the case, and on the contrary it is certain that the construction of a line of railway through the heart of the delta would give an immense stimulus to production, especially of rice and food-grains. The delta (I speak only of that portion of the Kistna delta lying to the east of the river) is provided with three navigable canals, * aggregating 109 miles in length; four metalled roads † aggregating 78 miles; and a few mud and sand tracks, quite unfitted to carry heavy traffic. The first of these canals, and the first of the roads are each great highways of commerce. That road is the only one of the four that is kept always in fair order. In the immediate neighbourhood of this road and canal the land is very highly cultivated, two crops are almost invariably raised, and generally speaking the utmost possible return is obtained from the soil. Things are different away from these highways, and more particularly so the further one goes east. There the cultivators are almost without exception content with a single crop of paddy, sown in June or July and reaped in December or January. For the remaining six months of the year the land lies fallow and unproductive. In the eastern portions of the delta moreover, the system of cultivation is bad, manuring, weeding and cleaning of the soil and all the necessary operations of high class cultivation are left undone, the ryot being contented with whatever return the Government irrigation will yield to his ploughings and sowings.

4. I have had seven years' experience of the Kistna district and it has been a constant subject for wonder that tracts comparatively speaking so near together should exhibit such diverse degrees of productiveness. The explanation seems to me to be as follows. The land toward the east of the district is on the average less fertile than that near the canal and road first mentioned above. Partly no doubt this is due to natural causes; but in no small degree also to the much greater care devoted to the management of the soil in the latter than in the former case. Another factor, or perhaps another way of stating the same fact, is that the ryots in the east are lazier than their neighbours in the west, more apt to trust to nature and the irrigation channels, than to their own exertions. But the third factor, and that one which in itself accounts for the other two, the laziness of the cultivator and the inferiority of his soil, is the lack of satisfactory means of communication whereby he can export his produce. In the eastern half of this area of 1,800 square miles there are no roads, and since the canals close at the end of February, the ryot would be unable to export the produce of a second crop if he were to grow one. The first crop is reaped in December or January a second crop could not be garnered before March; and it would be impossible then to send off the produce by cart over the many miles of rough cross country tracks to Masulipatam or Bezwada, for it is already time to commence ploughing for the crops that will be sown at the end of May and in June and July. So the ryot in these less fortunate eastern villages contents himself with the one crop a year, which he knows will enable him to pay his land assessment, and live in sufficiency till the next harvest. But give him an easy means of exporting his grain, a railway through the heart of the delta, and the ryot at once has an incentive to greater activity; to both intensive and extensive cultivation; the soil yields more; and the food-supply of the country is increased.

5. Recently I had a striking proof of the necessity for better means of communication in the Gudivada taluk. I had to sell by auction 1,500 acres of Government waste land in the Bapatla taluk. This is on the west of the Kistna river, within 2 miles of a navigable canal and within 4 or 5 miles of the Bezwada-Madras Railway. The average price realized was Rs. 27 per acre, the whole extent being sold except 90 acres, the absence of bids for which was due to a mistake. Within a week of that sale I had to sell 10,000 acres of Government waste land in the Gudivada taluk of very similar quality to that in the Bapatla taluk. Bids were offered for only 744 acres, and the average price obtained for the small extent sold was Rs. 15–8–0 per acre. This land has navigable canals on both sides of it within 3 or 4 miles. The explanation assigned for the absence of bids, and it was undoubtedly the true one, was that the tract being comparatively speaking inaccessible the population was scanty, and therefore labour to bring it under the plough would be insufficient. Given a railway within reach of this tract and it would have been snapped up as quickly as the other.

6. Fears have at times been expressed lest the Southern Mahratta Railway Company should endeavour to develop the port of Masulipatam as a rival to that of Cocanada—a course of action which it is urged would be detrimental to trade. It seems to me that this fear is baseless. What is the maximum possible amount of traffic which the Southern Mahratta Railway could, if it were continued from Bezwada to Masulipatam, divert from Cocanada to be shipped at Masulipatam? Obviously no goods that had ever been on the broad gauge line that runs to Cocanada, would ever be transferred to a narrow gauge branch for carriage to Masulipatam. Presumably whatever stuff is now carried by the Southern Mahratta Railway to Bezwada, consigned to Cocanada, might be diverted to Masulipatam. But this is, I believe, no very alarming amount, and after all it is problematical whether, if the port of Cocanada be really so superior to Masulipatam as is alleged, merchants would not continue to prefer shipping from thence, notwithstanding the transhipment at Bezwada.

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* Canals—1. Bezwada to Masulipatam .. M. 49
2. Pullera and Polrazu canal ... ,, 34
3. Bantumalli canal .. .. ,, 26

† Roads—1. Bezwada to Masulipatam .. M. 43
2. Masulipatam to Tsallapalli .. ,, 12
3. Pamarru to Gudivada .. ,, 8
4. Gudivada to Perikid .. ,, 15

The only other stuff that the Bezwada-Masulipatam line might possibly take from the broad gauge line are such goods as are entrained locally at Bezwada. But this traffic is much less considerable than that brought by the Southern Mahratta Railway to Bezwada, and there is not the nuisance of transhipment to weigh the scale down in favour of Masulipatam as against the superior port of Cocanada.

7. The greater part of the local goods despatched from Bezwada comes down the Kistna river. But the whole amount carried by the East Coast Railway forms only a small fraction of the actual trade, the greater portion going by canal boat to Cocanada. The construction of the Godavari bridge will give Cocanada a much more commanding position to draw to itself produce from the west, *i.e.*, further side of the Godavari river, and Masulipatam will suffer proportionately. Would a railway line to Masulipatam be likely to attract to itself any large part of the Bezwada local traffic that is now, or may hereafter be, carried to Cocanada? It is certain that the Bezwada-Masulipatam Railway cannot carry cheaper than the canal from Bezwada to Masulipatam, and yet the Masulipatam canal does not withdraw traffic from the Cocanada line. On the contrary what channel of trade there has hitherto been from Bezwada to Masulipatam by canal is gradually but surely being dried up. If there were any fear of the port of Masulipatam rivalling that of Cocanada, then the canals would have assisted that rivalry. But the contrary is the case. Whether by rail or canal the Masulipatam trade is being diverted to Cocanada. Even the castor trade which comes to Bezwada by river is not carried on to Masulipatam but to Cocanada; part by rail but most by the canal. If then the Masulipatam canal has had no ill effect on the Cocanada trade, how can the Bezwada-Masulipatam Railway which can carry stuff only at rates higher than the canal?

8. The principal reason why dealers prefer to consign to Cocanada rather than Masulipatam lies, it is said, in the great superiority of the former port. Masulipatam has always been most unpopular with shippers. Some of the Guntur cotton merchants have once or twice tried shipping from Masulipatam, but always with unsatisfactory results; and for many years no cotton at all has been consigned from Guntur for shipment at Masulipatam. With canals as the cheapest means of carriage, these merchants have always preferred the 100 and odd miles to Cocanada to the 50 miles to Masulipatam. A railway from Bezwada to Masulipatam will not be cheaper but a dearer means of transit than the existing canal. There is no conceivable reason why these cotton merchants, having for years declined to use a cheaper means of transit, should employ one that is dearer.

9. It is not only that the mercantile traditions of Masulipatam are bad, causing the place to be looked at askance by all European shippers, but the physical conformation of the place makes it impossible as a place of export. The wharves are situated on a narrow, shallow, tortuous creek, with but a few inches of water at low tides. This creek is 1½ mile long passing throughout its length through a mangrove swamp of deep tenacious mud, awash at high tides. The creek is impeded at its mouth by a constantly shifting bar which for most of the year has not more than a few inches of water on it at low tides; and from this bar the depth increases by almost imperceptible degrees, till the 5-fathom line is reached at about 6 miles from the coast. The roadstead is an open one slightly protected from south-west, but completely exposed to winds between north-east and south-south-west. The only means of shipping and discharging cargo is by sailing boats of about 30 to 50 tons burthen. It has been proposed more than once to have steam launches to tow these boats, but the proposal has been consistently negatived, one very sufficient reason being the unmanageable bar of hard sand, which would probably bump a launch to pieces. So that there is not the slightest probability that the cargo boats will ever under any conditions be able to make more than one, or at most two trips a day to and from the shipping, as is at present found possible.

10. Proposals have similarly been made from time to time that Government should spend money on the improvement of the port. But repeated enquiry and investigation have shown that there is nothing that Government can do, not even by the expenditure of crores. The anchorage cannot be brought nearer than its present position, according to the weather and season from 7 to 10 miles from the wharves: the wharves cannot be taken nearer to the bar on account of the intervening mangrove swamp; the bar cannot be deepened or in any way controlled, for not only the bar, but the lower one-third of the creek as well, exhibit a constant tendency to shift their positions and configuration from year to year. Again, proposals have been made to deepen and in parts widen the creek; but what is the good of giving the creek a better section, when its exit is blocked by an intractable and impossible bar? And if such operations were of any use, what would be the probable cost?

No company in the world would ever be mad enough to bury its money in the mud swamps that form the port of Masulipatam.

11. It has been said that even without any expenditure on improvements to the port of Masulipatam, the construction of a railway to it might be able to revive its trade, and it is pointed out as a fact that there used to be a considerable trade from the port which has now been diverted to Cocanada, but which the opening of a railway to Masulipatam might restore to its old channel. My reply to this is contained in paragraphs 6 and 7 above. There is already a canal from Bezwada to Masulipatam. Whatever traffic has been diverted to Cocanada from Masulipatam has been won from the canal by the East Coast Railway; a railway from Bezwada to Masulipatam would be a more costly means of carriage than the canal; how then can such a railway win back this traffic which the canal has failed to keep?

12. I have endeavoured to show that Cocanada has no cause to fear any loss of traffic by the opening of a line of railway to Masulipatam. It is difficult to understand how any one should think that the Southern Mahratta Railway Company would dream of bolstering up the trade of that place. It seems to me obvious that that company will want to carry freight not to the nearest port, but by the longest lead possible to ports on the west of India.

13. It appears to be accepted by every one that the Bezwada-Masulipatam line will eventually be constructed. That being so, I cannot conceive any reason why the construction should be further delayed. All those interested in the line are clamouring for it; the development of the country is being retarded for want of it; no voice is now raised against it; the Southern Mahratta Railway Company is anxious to commence its construction at once; what need then for another day's delay?

From—The Secretary to the Government of India, Public Works Department.
To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
Dated—Simla, 8th July 1897, No. 1150 R.C.

I am directed to acknowledge the receipt of your letter No. 346 R., dated 13th May 1897, forwarding a note by Mr. J. N. Atkinson, Collector of the Kistna district, upon the subject of the proposed branch railway from Bezwada to Masulipatam, and to say that the Government of India would be glad to be furnished with the opinion of the Government of Madras on the views expressed in Mr. Atkinson's note, for the information of the approaching conference.

2. I am to invite special attention to Mr. Atkinson's remarks regarding the Masulipatam harbour and its inability to compete with Cocanada and the East Coast Railway, which view is opposed to the opinion of the Manager, East Coast State Railway.

3. In paragraph 10 of your letter No. 332 R., dated 10th May 1897, you remarked that the prospects of the construction of this branch by the State as part of the East Coast Railway seemed so remote and the need for it on any gauge so great, that it appeared very desirable to encourage the Southern Mahratta Railway Company to again come forward with suitable proposals for its construction and working on "Branch Line terms."

4. The opinion hitherto held by the Government of India has been that, the Kistna delta being fairly well served by canals at present, there was no such urgency about providing "railway connection" that the country could not afford to wait a few years for satisfactory evidence on which to decide the question of gauge, and thereby avoid the risk of making the branch on a gauge which may entail transhipment of the great bulk of the traffic. I am to ask that the question may be further considered from this point of view, and that the Government of India may be favoured with an early answer.

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Ootacamund, 9th August 1897, No. 546 R.

I am directed to acknowledge the receipt of your letter No. 1150 R.C., dated the 8th Ju[illegible]1897, in which you invite the opinion of this Government on the views expresse[illegible] Mr. Atkinson's note on the subject of a railway from Bezwada to Masulipatam.

2. With reference to your paragraph 2, I am desired by His Excellency the Governor in Council to fully endorse the description of the Masulipatam so-called harbour given in paragraphs 9 and 10 of his note and to add that there seems no possibility of that place ever b[illegible]coming a rival to Cocanada however much it may serve the purpose of the Southern Mahratta Railway Company to encourage such rivalry.

3. The accompanying copy of a letter to this Government's Marine Department from the Presidency Port Officer, Madras, No. 1721/242 * G., dated 28th June 1894, expresses accurately the condition of the port, and clearly shows how little chance there is of its ever developing into a rival of Cocanada and of so giving rise to demands for funds for its improvement.

* Printed on page 17.

4. I am instructed to say that it must be clearly realised that a railway between Bezwada and Masulipatam will have as its chief function the carriage of produce from the Eastern Kistna Delta not seawards but landwards. This point has been emphasised in the enclosures of my letter No. 522 R., dated the 26th February 1891, and in those of my No. 1357 R., dated the 28th May 1892. For famine protection reasons this Government attaches great importance to the metre gauge railway from Bellary being given the freest possible access to the rice fields and traders' granaries of the Eastern Kistna Delta. His Excellency the Governor in Council is strongly of opinion that the convenience of continuity of gauge at Bezwada, for whatever part of this grain may find its way in ordinary years towards Madras and Hyderabad by the standard gauge lines, is not to be compared in importance to the great assistance which will be rendered in occasional years of severe scarcity if the fertile delta of the Masulipatam district be connected freely with the dry uplands of Bellary and Kurnool.

5. The final paragraph of your letter under reply appears to this Government to be based upon a misapprehension which might have been dispelled had paragraphs 3, 4 and 5 of Mr. Atkinson's memorandum been accepted. I am desired to express the fullest support of the statements contained in these paragraphs, and to add that the real grain centres of the district, viz., the towns through which the railway is intended to pass, are, all except Masulipatam itself, off the track of canal communication. Indeed the existing means of communication though serving, as well as such means usually do, the requirements of the two civil centres of administration, Masulipatam and Bezwada, very badly serve the requirements of traders; and moreover, as remarked by Mr. Atkinson, the canals are closed during the very months in which exportation of produce is most active.

6. This Government considers that, in the interests of the Government of India who own the Southern Mahratta system (a system which will never have had justice done to it until its unremunerative Bellary-Kistna section taps the heart of the rich Kistna Delta), and of the Government of Madras on whom falls the burden of famine relief in the dry districts, and of the producers and traders of Masulipatam and the neighbouring towns, every encouragement should now be held out to the Southern Mahratta Railway Company to form a subsidiary company to construct this much desired feeder line.

7. I am to add that, at an interview with the Manager of the East Coast Railway a few days ago, the Consulting Engineer for Railways with this Government was informed by Mr. Brereton that he would no longer oppose the extension of the metre gauge to Masulipatam, as he was of opinion that no injury would thereby accrue to the East Coast Railway.

From—The Secretary to the Government of India, Public Works Department.
To—The Joint Secy. to the Govt. of Madras, P.W. Dept., Ry. Branch.
Dated—Simla, 30th September 1897, No. 1640 R.C.

The following is forwarded to the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, for information, in continuation of No. 1631 R.C., dated 30th September 1897.

Enclosure.

From—The Secretary to the Government of India, Public Works Department.
To—Colonels J. G. Lindsay and A. J. Filgate, R.E., 44, Finsbury Circus, London, E.C.
Dated—30th September 1897, No. 1632 R.C.

In continuation of Public Works Department letter, No. 1630 R.C., dated 30th September 1897, I am directed to inform you that the project for a railway from Bezwada to Masulipatam has been considered at the Railway Conference and that the Government of India have decided, after consideration of the recommendations of the conference, that this project is one for the construction of which they are not at present prepared to make any arrangements and that they regret therefore that they are unable to entertain your proposal for its construction.

Order—No. 966 R., dated 12th November 1897.

Recorded.

Read also the following Note:—

THE PROPOSED MASULIPATAM EXTENSION OF THE SOUTHERN MAHRATTA RAILWAY.

Note by Mr. Francis J. E. Spring, Consulting Engineer for Railways, Madras, dated 1st July 1899.

Prefatory.

The Secretary to the Government of Bombay, P.W.D., Rys. has informed this Government that certain promoters have addressed the Government of India asking permission to raise sufficient capital to construct the Masulipatam and Kurnool extensions on the metre gauge, as branches of the Southern Mahratta Railway, on what are known as "Branch Line Terms". I have learnt elsewhere that in the promoter's letter, dated London, the 14th April 1899, it is proposed that the Branch Line Company should agree with the Southern Mahratta Railway Company to construct, stock, and work the extensions; that 3½ per cent. interest be paid out of capital until six months after opening; that, from date of opening, the Southern Mahratta Railway Company contribute from their earnings from interchanged traffic towards a 3½ per cent. dividend; and that the capital of the Company for the Masulipatam and Kurnool branches be £260,000 in £10 shares of which £200,000 is intended for the Masulipatam branch. As the Government of India are presumably now considering this offer, the time seems opportune for giving the promoters all the support which this Government can give them.

Historical.

2. A perusal of the Proceedings on the subject of the Masulipatam extension, herewith printed, will show that the Government of India has been addressed in connection with this question on several occasions, as per margin. A perusal of these letters might seem at first sight to warrant a charge being brought against this Government of inconsistency; but the charge is properly one rather of opportunism; because circumstances were in a state of flux; and pending the completion of the Bezwada-Madras section of the East Coast Railway, and the admission of the Southern Mahratta Railway Company into Bezwada station yard, it was not easy to judge very definitely what was best to be done.

No.	521 R.,	dated 26th February	1891.
„	1357 R.,	„ 28th May	1892.
„	1050 D.,	„ 16th September	1894.
„	245 R.,	„ 17th March	1896.
„	546 R.,	„ 9th August	1897.

3. The first suggestion to adopt the metre gauge for the Masulipatam extension was made conjointly by Mr. A. T. Arundel, Collector of the Kistna district, and myself, in Notes, dated respectively the 7th and 4th October, 1890 (see pages 8, 9, 10, 12 and 13 of proceedings), on the occasion of His Excellency the Governor's (Lord Connemara's) visit to Bezwada to inaugurate the commencement of work on the East Coast Railway. The undersigned again considered it opportune to reopen the question on January 20th, 1891 (see page 12 of proceedings), when the design of Bezwada Junction station was under preparation. His views on the subject were strongly endorsed by the then Consulting Engineer for Railways, Madras, Lieutenant-Colonel T. Gracey, R.E., in his Note, No. 113, dated 29th January 1891. In an Order of this Government on the subject, No. 521 R., dated the 26th February 1891, the same opinion was expressed, *viz.*, "that the railway from Bezwada to Masulipatam should be constructed on the metre gauge, the same as that of the Bellary-Kistna Railway leading from Bezwada through Guntakal to the districts which usually suffer most from famine in dry season, and that it should be worked and constructed as part of the Southern Mahratta system." This Government Order was endorsed to the Government of India as No. 522 R., dated 26th February 1891. In reply the Government of India in their No. 446 R.C., dated 13th May 1891, proposed a mixed gauge. The Madras Railway Engineers who were making the survey were therefore instructed to prepare a mixed gauge estimate.

4. The next important communication which reached Government on the subject was a second strong memorandum, see page 20, by Mr. A. T. Arundel still at that time the Collector of the Kistna district, dated the 4th November 1891. When that

memorandum was written every thing was still more or less unsettled. There was apparently an idea that the East Coast Railway north of Bezwada was to be worked as a State Railway, while the Bezwada-Madras section when constructed was to be worked by the Madras Railway Company. There was still, and for some time after, an intention of widening the gauge from Guntur to Bezwada and of terminating the Southern Mahratta Railway at Guntur, which would have been about as egregiously foolish a piece of railway policy as could well have been perpetrated, considering that the whole object of the Bellary-Kistna famine railway was to bring the fat Kistna delta into touch with lean Bellary and Kurnool. I do not know what influence was at work to try to keep the Southern Mahratta Railway out of Bezwada; but whatever was the influence, His Excellency Lord Wenlock was strongly impressed with the advisability of stopping the Southern Mahratta Railway at Guntur.

5. The policy of stopping the Southern Mahratta Railway short at Guntur was criticized by Mr. Arundel in the following language:—

"The Bellary-Kistna line was conceived and constructed as a famine protective line, and as such was sanctioned by the Secretary of State. Its object was to place Bellary, Kurnool and the upland parts of Kistna in direct connection with the unfailing grain supplies of the delta. It is now proposed to cut off this railway by 19 miles from the base it was created to reach, and to introduce a break of gauge with all the delays and inconveniences attendant thereon, which are of course intensified during pressure of famine. If thus the proposal be carried out to make the terminus of the Bellary-Kistna metre gauge railway at Guntur, it will involve a serious modification, if not a reversal, of the policy of the Secretary of State and of the Government of India under which that railway was sanctioned and built."

Mr. Arundel then proceeded to propose that the Madras-Bezwada broad gauge line should keep quite away to the east of Guntur, through the rich parts of the Western Kistna Delta, advice which has since been carried to a practical issue, and that the extension to Masulipatam, viz., into the Eastern Kistna Delta, should be given to the Southern Mahratta Railway.

6. On the 11th November 1891, the undersigned again addressed the Madras Government (see page 21 of proceedings) very strongly urging the adoption of the policy of extending the Bellary-Kistna metre gauge line into the Eastern Kistna Delta. This letter and Mr. Arundel's memorandum were ordered to be *recorded* by this Government in G.O. No. 2779 R., dated 19th November 1891. But later, on the 28th April 1892, after personal discussion on the subject at Bezwada with His Excellency Lord Wenlock, I again addressed Government, strongly pressing the matter on its attention. The order on this was that the Government of India should be addressed, and in a letter No. 1357 R., dated the 28th May 1892, Mr. Arundel's memorandum dated 4th and my letter dated 11th November 1891, were forwarded to the Government of India; but there seems in the forwarding letter to have been a singular misapprehension of Mr. Arundel's advice, for it was therein stated that that gentleman leaves the question of gauge an open one. This Government adhered to the views to which already it had given expression in its letter No. 2834 R., dated the 23rd November 1891, viz., that the Southern Mahratta Railway ought to terminate at Guntur.

7. Now it is necessary to explain that this Government's preference for Guntur as the terminus of the Southern Mahratta Railway had been arrived at in connection with other questions than that of the gauge of the Masulipatam branch; and it seems very probable that had not these other questions (long since settled) appeared to make it advisable to terminate the Southern Mahratta Railway at Guntur, the decision of this Government, as it was originally and as it has been subsequently, would have been in favour of extending the metre gauge to Masulipatam. Hence my substitution of a charge against them of opportunism in lieu of that of vacillation.

8. In July 1893 the Southern Mahratta Railway Company tendered certain proposals to the then Secretary of State for forming a subsidiary Company to make the extension from Bezwada to Masulipatam on the metre gauge; and in forwarding these proposals to this Government for an expression of opinion, with their letter, No. 412 R.C., dated the 4th May 1894, the Government of India asked for information about traffic; and, with a misconception of the true bearings of the question which in view of previous letters and memoranda is difficult to understand, they asked about the capabilities of Masulipatam as a port. This Government therefore obtained an opinion (see page 34) on the subject of the port from the Presidency Port Officer, Madras, and

a long and exhaustive memorandum in the form of a letter No. 2796, dated the 14th August 1894, from Mr. J. N. Atkinson who had succeeded Mr. Arundel in the Collectorate of Kistna (see pages 34 to 38). Mr. Atkinson dealt very fully with canal traffic, road traffic and sea traffic, giving several years' statistics. He gave the area to be tapped by the proposed line at 990 square miles, with a census density of 385. He enquired into the question of canal competition and showed that it is not to be feared. Finally he pointed out what had already been clearly enough laid down before, though it appears to have escaped the Government of India's notice, that no question whatever is involved of taking a railway *to* a port, but that what the railway will do, if made, will be to carry produce towards the interior *away from* the so-called port; and that, from a railway point of view, Masulipatam's importance lies in its being, *not* a port but, the trade centre of a rich tract of country.

9. In forwarding Mr. Atkinson's report to this Government with their resolution No. 350, dated the 28th August 1894, the Board of Revenue expressed the opinion that "the prospects of traffic over the proposed branch line, which runs through a fertile and thickly-populated delta advancing in prosperity by leaps and bounds with the spread of its irrigation, are full of promise, and there can be no reasonable doubt that the undertaking would prove a financial success." In supplying to the Government of India the information for which they had called, this Government, in its letter No. 1050 D., dated the 16th September 1894, said that, without knowing the prospects of the construction of the line from Madras to Bezwada in the near future, it was somewhat difficult to come to a final decision; but seeing that the line from Guntakal to Bezwada had been expressly built as a famine line, its protective value would be much enhanced by its extension on the metre gauge to the fertile delta between the Kistna and Godavari. Unable, on this occasion, to make up its mind, this Government made no definite recommendation, contenting itself with the suggestion that the settlement of the gauge question should be deferred, and advising the Government of India that the terms proposed by the Southern Mahratta Railway were unreasonable, though the traffic estimates made by Mr. Atkinson seemed fair enough.

10. The Government of India was again addressed by this Government in a letter No. 245 R., dated the 17th March 1896, in which it was urged that the line should be made one way or other off-hand, by preference by accepting the Southern Mahratta Railway Company's offer. In their reply, the Government of India forwarded a copy of their despatch to the Secretary of State No. 47 R., dated the 2nd July 1895, in which, in view of the doubts cast by this Government on the accuracy of the traffic forecasts, and of the uncertainty as to its effects on the traffic of the East Coast Railway, and of the probability of demands for the improvement of the so-called Port of Masulipatam, they had come to the conclusion that it would be best to wait until the projects for the connection of the East Coast Railway with Calcutta and Madras were more advanced, and their effects on the course of trade more apparent, before deciding how the needs of the Masulipatam delta might best be served, or committing themselves to the construction of the proposed branch as a part of the Southern Mahratta Railway system.

11. In its letter to the Government of India, No. 332 R., dated the 10th May 1897, on the general railway programme of the Presidency for the ensuing year, this Government in its 10th paragraph said in regard to the Masulipatam Branch—

"The prospects of its construction as part of the East Coast Railway out of funds to be "provided directly by the State, seem so very remote; and the need for it on any gauge is so "great; and the propriety of its being built on the metre gauge by the Southern Mahratta "Railway is so very apparent, that it seems advisable that encouragement should be held out "to the Southern Mahratta Railway Company to come forward again with suitable proposals for "its construction and working on branch line terms. This important extension of the Southern "Mahratta Railway has been placed very high up, fourth in the list of preference, as an indica"tion of the value set upon it by this Government as a protective line for the dry Deccan districts "and as the natural and logical development of the policy which led to the construction of the "Bellary-Kistna Railway."

This Government next forwarded to the Government of India, with its letter No. 346 R., dated the 13th May 1897, a second able and exhaustive note by Mr. J. N. Atkinson, written after seven years' experience of the needs of the Kistna

district (pages 42—45); and in a later letter, No. 546 R., dated the 9th August 1897, in reply to a further reference from the Government of India, this Government dealt with the whole question and with Mr. Atkinson's note, supporting in the strongest manner the policy of the construction of the branch on the metre gauge for the reasons already enlarged on. The only reply which has since been received to this letter is a brief endorsement from the Government of India, No. 1640 R.C., dated the 30th September 1897, forwarding, for the information of this Government, a copy of their letter addressed to certain promoters, Colonels J. G. Lindsay and A. J. Filgate, R.E., No. 1632 R.C., dated 30th September 1897, informing them that it had been decided, after consideration of the recommendations of the Railway Conference of 1897, that the project for a railway from Bezwada to Masulipatam was one for which they were not at that time prepared to make any arrangements, and that they regretted therefore that they were unable to entertain proposals for its construction.

Prospects.

12. In regard to the revised proposal which, as I learn, is now before the Government of India, I understand that it has been arranged with the Southern Mahratta Railway Company by the promoters that the branch is to be worked at the same percentage (not to exceed 50 per cent.) of working expenses to gross receipts as obtains throughout their entire system. If receipts are Rs. 95 per mile per week and working expenses 50 per cent. of receipts, annual profits will amount to Rs. 2,770 per mile, or sufficient to pay 3 per cent. on Rs. 82,000 per mile, $3\frac{1}{2}$ per cent. on Rs. 71,000 per mile, 4 per cent. on Rs. 62,000 per mile, and $4\frac{1}{2}$ per cent. on Rs. 55,000 per mile. The Southern Mahratta Railway Company's estimate for the 50 miles is £200,000, or Rs. 30,00,000, or per mile Rs. 60,000. This is a reasonable figure for a certain class of metre-gauge line, and considering that rolling-stock will be provided by the main line, it could probably be built at very much the same figure, passing as it does through a very similar country, as the Mayavaram-Mutupet line which cost Rs. 50,000 per mile. Allowing however for the cost of promotion by private promoters, the Masulipatam line will perhaps cost Rs. 60,000 for the metre gauge. With earnings at the rate of Rs. 95 per mile per week, therefore, the financial prospects of the line seem safe enough to tempt *bonâ fide* investors, *if built cheap enough*.

13. In our letter to the Government of India, No. 1050 D., dated the 16th September 1894, the prospects of the Masulipatam branch were examined in the light of existing statistics of road and canal traffic. But everyone who has had much to do with the collection, and the subsequent comparison with actuals, of such statistics as these must be aware how unsafe it is to rely entirely on them. A better system is to select a section of a railway which has been open for a few years, in a similar country, inhabited by people of similar manners and customs, and to ascertain what that section and others like it are earning. The following are some of the figures for certain sections of railway whose weekly mileage earnings happen to be handy for reference. The density given is for the taluks passed through:—

Section of railway.		Length.	Earnings per mile per week.	Density of population	
From	To	Miles.	Rs.	Total including large towns.	Rural and village population only.
Tanjore	Negapatam	48	208	782	632
Cuddalore	Trichinopoly	121	258	741	603
Mayavaram	Mutupet	54	87	662	550
Madras	Cuddalore	128	233	487	453
Arkonam	Chingleput	39	78	492	365
Trichinopoly	Erode	88	140	394	350
Trichinopoly	Madura	96	227	442	345
Pakala	Villupuram	138	73	354	327
Madura	Tuticorin	98	228	373	318
Maniyachi	Tinnevelly	19	159	380	307
Bezwada	*Masulipatam*	50	..	384	210
Nellore	Pakala	108	70	166	148
Pakala	Dharmavaram	142	84	135	104

14. The conditions of the Bezwada-Masulipatam line in regard to density of population are more similar to those of the Madura-Tuticorin section of the South Indian Railway than to those of any other of the sections given above. But other conditions are very different. The Madura-Tuticorin country, though well enough populated, is a dry high unirrigated upland, largely devoted to the growth of cotton and oil-seeds. The Bezwada-Masulipatam country, on the other hand, is richly and unfailingly irrigated, as so well described in Mr. J. N. Atkinson's notes; and though somewhat sparsely populated as compared with several other of the tracts given above, is really an extremely rich country. Its conditions perhaps more nearly approximate to those of the country traversed by the Tanjore-Negapatam section in the way of produce, but the population is at present only about half as dense. This high proportion of irrigated area to population means large exports. I do not think that it is unreasonable to expect that Rs. 104 per mile per week will ultimately be earned by the proposed section; an amount which, though insufficient to properly remunerate a broad gauge line, ought to provide a very fair dividend on a Rs. 60,000 per mile metre gauge line worked by the Southern Mahratta Railway Company at 50 per cent. of earnings, *plus* 5 per cent. for rolling-stock.

15. My reasons for preferring a moderate estimate are as follows. Eight or ten years ago Masulipatam, bad as it was as a port of import and export, was nevertheless the only port available for a very large tract of country at the back of it. Since that time, however, Bezwada has been entered from three directions by lines of railway which not only bring it into close touch with new markets for its exports, and with new sources of supply for what the Kistna delta does not grow for itself, but also bring the delta into easy railway communication, at Madras, Cocanada and Vizagapatam, with merchants who will undoubtedly attract to their own ports some of the trade which in olden days used to pass through the hands of the few merchants at Masulipatam. It does not seem to me to be safe, therefore, to count on a continuance of a great part of the Masulipatam export trade. That the trade in castor seed had already five years ago been to a great extent diverted to Cocanada is admitted in Mr. Atkinson's letter, dated August 14th, 1894 (page 36). This, from a railway point of view and especially from that of the four lines radiating from Bezwada, of which the proposed line will form a feeder, is a healthy state of things. For years now, as will be seen from a perusal of the proceedings attached, it has been urged that the use for the proposed railway lies rather in the need which it will fulfil for a route to take things *away from the delta, inland*, than to take things through the delta to the seaport of Masulipatam, and the truth of this gets more and more emphasised as the relative importance of that port decreases, as it is bound to do.

16. Considering the extent of the irrigated area, the density of the population is comparatively small; and this is not to be wondered at when it is realized that before Sir Arthur Cotton's time the delta was in a miserable state and most sparsely inhabited. Now the population, though still small in numbers for so highly cultivated an area, is remarkably well off and independent, and there is no doubt that people will travel largely, as indeed they now do in their boats on the canals and as they do on the Bezwada-Rajahmundry section of the East Coast Railway which, in spite of very accentuated canal competition, is now earning Rs. 74 per mile per week. But there is no need for me to enlarge on all these matters with which Mr. J. N. Atkinson has dealt so fully in his note which accompanied this Government's letter to the Government of India, No. 346 R., dated the 13th May 1897.

Interests concerned.

17. I have no doubt that the Government of India are anxious only to do the best that is possible for all the interests concerned. These interests may perhaps be classified as follows:—

(*a*) Those of the district to be traversed by the Bezwada-Masulipatam Railway.
(*b*) Those of the Southern Mahratta Railway Company.
(*c*) Those of the East Coast State Railway.
(*d*) Those of the State as farmers of the district in the interests of tax-payers.

Reading between the lines of the Government of India's letters I seem to see evidence of a fear lest the interests of the State-owned East Coast Railway should suffer injury, whether by the diversion from that railway of traffic to the port of Masulipatam, or by the attraction of traffic to the Southern Mahratta Company's line which would otherwise come to the State Railway. From the strictly railway point of view it pays the State somewhat better that traffic should come on a State line, or on a line with one of the more recent forms of agreement, than that it should go to the Southern Mahratta Ry.; because that railway under its peculiar agreement, shares with the State net profits as soon as interest is paid, not on the cost of the entire system worked by the company but, on that of a certain section of it only. This would perhaps account for some jealousy, on the part of State Railway officials, of the Southern Mahratta Ry. getting access to the delta and so obtaining a preferential claim to traffic which, if the delta were tapped by a branch of the East Coast Railway, might probably have a better chance of adhering to the State line. It is difficult, however, to think it possible that so short-sighted a view of the position is held at head-quarters, for surely a greater consideration than that just referred to is that dividends earned on the cost of the 50 miles if built at Rs. 80,000 per mile will be very much less profitable than if it is built at a mileage cost of Rs. 60,000.

18. The interests of the people of the delta have heretofore, I fear, received but the scantiest consideration. For if the 50 miles of line had only been made on the metre gauge nine years ago when attention was first drawn to the advisability of so doing, it would, I feel confident, have long before now paid the State higher dividends than the rate of interest that would have sufficed to raise the money, and the people of the district would all these years have had the advantage of a railway. By its unwillingness to risk spending Rs. 70,000 or Rs. 80,000 per mile on a broad gauge line, while at the same time dreading lest a metre line costing very much less might somehow injure the East Coast Railway, the State has undoubtedly suffered considerable indirect loss during all these years, as witness for example that cited in paragraph 5 of Mr. Atkinson's note on page 43.

Traffic Estimates.

19. The proposed 50 miles of metre gauge extension of the Southern Mahratta Railway will connect Bezwada, a town of 21,000 inhabitants, and a centre whence railways radiate to Madras, Nellore, Bellary, Secunderabad, Vizagapatam and Calcutta, with Masulipatam, a town of 39,000 inhabitants; passing about midway through Gudivada, a large centre of rural produce containing about 5,000 people, and traversing a richly irrigated country containing a rural population of over 200 per square mile. The population of the district is increasing steadily, having gained nearly 7 per cent. in the ten years 1871—1881, and nearly 20 per cent. between 1881 and 1891. About 60 per cent. of the population of the district are agriculturalists and 20 per cent. follow industrial employments.

20. It is certain that the business relationship which will spring up between the Southern Mahratta Railway traffic officers and the merchants of Gudivada and Masulipatam, if the metre gauge is adopted, must cause a certain amount of traffic to find its way towards Kurnool and Bellary which would otherwise find its way over the standard gauge lines; and moreover there are the additional advantages of absence of break of gauge for what it may be worth, though this advantage is of far less value for the purpose which this Government has in view, viz., the easy movement of food-grains in famine years, than that the traffic officers of the line which traverses the lean tracts should get into intimate business relationship with the merchants of the fat tract. The actual cost of transhipment is a matter of but very minor moment being only about from 1 anna to $1\frac{1}{2}$ annas (one penny to three half pence) per ton, in this part of India. To the average Indian native third-class passenger transhipment is a matter of absolutely no consequence. He likes a long halt on a platform where he can get out and get clean and have a feed, and once out he would as soon step into one carriage as another. Any traffic, therefore, whether passenger or goods, that desires to go on to the standard gauge line will not be appreciably deterred therefrom; while by constructing the Masulipatam extension on

the metre gauge and inducing the Southern Mahratta Railway Company to work it for the Branch line company, we gain the very important administrative advantage above referred to which will operate beneficially during famine years.

21. Up to the present no very careful estimate has been made of the prospects of traffic. In this Government's letter to the Government of India, No. 1050 D., dated the 16th September 1894, the Southern Mahratta Railway Company's estimate of Rs. $3\frac{1}{4}$ lakhs gross revenue was criticized, and so far as the meagre data available permitted, a judgment was formed that the estimate was a fair one. In the following paragraphs an attempt is made at a more elaborate and reliable estimate.

22. With a view to arriving at data for a somewhat more rational calculation of probable earnings, I have marked off on the taluk maps a strip of country 5 miles wide on each side of the intended centre line; then having made a full list of the villages therein contained, and taken their population from the taluk and village statistics of the census of 1891, and added $1\frac{1}{4}$ per cent. per annum for increase of population, which is below the mark, I have arrived at the following statistics, which may be relied on.

23. Including the two large towns, Bezwada with 23,000 and Bandar with 44,000 inhabitants, the average density of the population of the 10 miles strip is 384 per square mile—a figure which closely checks with the 385 offered by Mr. Atkinson in paragraph 8 of his note on page 19 of these Proceedings. If we exclude these two large towns, the mean density reduces itself to 210—a figure which nearly corresponds with Mr. Arundel's 216. The ten-mile strip of country thus analysed contains 190 villages with an average population of about 650 each; so that railway stations 5 miles apart would each serve about 20 villages containing between them about 13,000 people, within a distance of 5 miles on either side. Of these 190 villages 40 contain between 1,000 and 5,000 inhabitants; and, so far as circumstance will permit of its being done, the route for the railway must be taken as near to these larger villages as practicable. The question now is what earnings are likely to be derived from this rural population. The question of the earnings between the two large terminal towns is a separate one and will be separately treated.

24. Experience on Indian railways tells us that the earnings from rural tracts may fairly be estimated at one rupee per annum per head of population for a strip of country from 8 to 12 miles in width, through the centre of which the railway passes. When the people are unaccustomed to travel and have not learnt to trade at a distance, and are timid, poverty-stricken and sluggish, as they usually are when a railway is first brought into their country, the former figure is likely to be correct: but later on when they become better off, and get accustomed to trade and to travel, and when they get into the way of going to a distance for alliances for their children, and so, later on, make periodical visits to distant friends and relations, with marriage parties, pilgrimages, &c., they may be trusted to give the latter figure. The present rural density of 210 persons to the square mile will undoubtedly rise in the next ten years to 250, because the present rate of increase is considerably higher than $1\frac{1}{4}$ per cent. per annum, and this has been going on for 20 or 30 years. Beginning then with 8 square miles of country per mile of railway, with a density of 210, and ending with 12 square miles with a density of 250, we get rural earnings at one rupee per head per annum, gradually rising from Rs. 84,000 to Rs. 1,50,000 per annum on the 50 miles of railway. These maximum earnings, Rs. 1,50,000 per annum, might be got as follows. Assume earnings from these rural passengers to be $\frac{3}{4}$th of the whole and from goods $\frac{1}{4}$th of the whole, then assuming that both passengers and goods travel an average distance of 20 miles, and that 0·2 As. are got from each passenger mile and 0·4 As. from each ton-mile of goods, so that the average passenger contributes 0–4–0 and the average ton of goods 0–8–0, we get a traffic from the rural tracts alone of 4,50,000 passengers and 75,000 tons of goods as a maximum.

25. We turn now to the through traffic between the large terminal towns, Bezwada with 23,000 people, and Bandar with 44,000,—populations which in the next ten years will almost certainly rise to 28,000 and 55,000. In paragraph 2 of

annum. If the 50 miles of the Bezwada-Masulipatam line were built at the same rate its capital cost would be 18¾ lakhs, and the earnings above indicated, viz., Rs. 1,82,875 rising to Rs. 2,71,000 with working expenses 60 per cent., would give net earnings Rs. 73,150 rising to Rs. 1,08,400 giving dividends on the 18¾ lakhs capital of 3·8 rising to 5·8 per cent. But it seems quite probable that the ratio of working expenses to gross earnings would not be higher than 55 per cent. on a 50-mile railway if those on a short 30 mile line are nearly 59 per cent., especially if it was arranged that it should be worked by the Southern Mahratta Railway Company who, for the sake of getting an entry into the Eastern Kistna Delta and an interest in its traffic, would probably be only too willing to work it at a reasonable rate.

32. It seems to me that if the present metre gauge promoters should fail to effect anything, the opportunity is a good one for Madras financiers who can get control of 18 or 20 lakhs. Messrs. Martin & Co. who have successfully launched the Howrah-Amta, 30 miles, present price of shares Rs. 148, the Howrah-Sheakhalla, 20 miles, present price of shares Rs. 114, and the Ranaghat-Krishnagarh, 20 miles, present price of shares Rs. 118, would doubtless, if approached, undertake all the engineering and, if necessary, the agency.

33. The Kistna District Board would probably not find it impossible, if necessary, to offer a guarantee of 3 per cent. which they would probably never be called on to pay a penny of; while even if the 20 lakhs worth of line only barely earned working expenses, the guarantee would come to only Rs. 60,000 per annum, or say one-tenth part of the district's resources from local taxation, or 1½ pies in the rupee of land assessment. But it is scarcely conceivable in the face of the figures above given that the district should be called on to make good the guarantee at all, and it might be possible to arrange that during the years of construction interest at the rate of 3½ per cent. should be paid to shareholders out of capital. The cost, Rs. 37,490 per mile, of the Howrah-Amta Railway and Rs. 30,470 of the Howrah-Sheakhalla Railway, includes interest at 3½ per cent. paid during construction to shareholders.

34. If the present promoters see their way to making a 30-lakh metre gauge line, well and good. If not, it seems to me that the District Board and Madras capitalists might do worse than apply for leave to promote a lighter line under the Tramways Act.

35. I cannot conceive of a *bonâ fide* offer coming from any promoter in his senses to make it on the broad gauge, for the traffic is not worth it. Therefore if it is to be on the broad gauge our only chance of getting it is to wait until the Government of India can see their way to granting from 40 to 50 lakhs, and then they must be content to lie out of their dividends for an indefinite period. By closing with the offer of the promoters who are now to the fore, Government incur no risk and no loss, while the district and the Presidency will gain the great benefits which the line will afford; administrative difficulties will be greatly mitigated during future famines; and at the same time an enterprising lot of promoters and shareholders, in my belief (though needless to say my personal expression of that belief in no way commits Government to any expression of opinion on the subject) will earn a fair dividend within a reasonable period.

36. I therefore strongly recommend that the Government of India be urged to give all encouragement to the promoters who have now come forward under the auspices of the Southern Mahratta Railway Company, and to leave nothing undone that will enable them to go on the market for the £200,000 which are required for the Bezwada-Masulipatam Railway.

Should the same promoters see fit as an alternative to enter into negotiations with the District Board of Kistna upon terms somewhat parallel with those recently concluded between the District Board of Madura and Messrs. Wilson & Co. of Madras for the construction of certain projected light railways under the Tramways Act, I strongly advise that this Government give them every support.

1st July 1899.

Francis J. E. Spring,
Consulting Engineer for Railways.

Order—No. 863 Ry., dated 7th August 1899.

A copy of these Proceedings will be forwarded to the Secretary, Public Works Department (Railways), Bombay, with reference to his letter No. 1307, dated the 3rd June 1899. A copy will also be forwarded to the Government of India.

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his letter, No. 2796, dated 14th August 1894 (page 35 of these Proceedings), Mr. Atkinson gave the following figures for passengers and goods carried by canal boat between the two towns, expressly omitting the traffic of intermediate villages:—

Year.	Passengers.	Average tonnage.	Ton-mileage.
1887–88 ..	58,417	69,890	3,424,656
1888–89 ..	58,189	55,728	2,730,691
1889–90 ..	70,014	51,787	2,537,597
1890–91 ..	74,210	60,909	2,984,559
1891–92 ..	50,940	54,892	2,689,745
1892–93 ..	52,205	41,745	2,046,511

The average being in round numbers about 60,000 passengers and 2,750,000 ton-miles of goods per annum. In his 4th paragraph Mr. Atkinson says that the returns of the Municipal toll-bars show that on the average about 30,000 tons per annum of goods enter or leave the town of Bandar (Masulipatam) on carts. But as it is pretty certain that practically none of this cart traffic comes from Bezwada, and that it really represents the merchandise of all the surrounding piece of country which trades with the Bandar merchants, and that consequently it comes into the estimate just made of rural earnings at one rupee per head, it would not be right to take it into account over again. The exchange of passengers by canal boat shows a yearly average of 60,000 between the two towns, but in his paragraph 6, Mr. Atkinson gives 67,000 as having been counted by road in a certain year. We shall not be far wrong therefore if we take it that the present capacity of the people of the two large towns for exchanging visits roughs out at one double journey per head of population per annum. So far as my memory serves, experience on the East Coast Railway shows that fully three-fourths of the canal passengers will leave the boats for the railway, while practically the whole of the road passengers will do the same. Therefore, assuming that the population of the pair of towns will rise in ten years from 67,000 to 81,000, we may take it that the railway will begin by getting 117,000 passengers for the through journey and will eventually get 142,000.

The railway will not be nearly so successful in getting the goods from the canal boats. But with Southern Mahratta Railway Traffic Canvassers in the villages and through booking at Bezwada in four directions—whether with break of gauge at 1 to 1½ annas per ton, or without, does not matter—it seems certain that the railway will eventually get a fair share of the 2,750,000 ton-miles now carried by boat. Perhaps they will not get much of what originates at Bandar, say, only one-fourth; but they will get a good deal more, perhaps half, of what is destined for Bandar from railway stations all over the country. This estimate gives $(\frac{1}{4} + \frac{1}{2})$ 2,750,000 ÷ 2, in round number 1,030,000 ton-miles per annum. But as cultivation extends, as it seems certain to do in the Eastern Kistna delta, from 280,000 to 400,000 acres, the weight of traffic handled will certainly rise as time goes on; so it seems not unsafe to estimate it as ultimately rising from 1,030,000 to 1,290,000 ton-miles—say 25,000 tons of goods booked per annum.

26. The above 117,000 rising to 142,000 for *urban* passengers works out for a 50-mile journey to 5,850,000 passenger miles rising to 7,100,000; therefore if 0·2 anna is got per passenger mile and 0·4 anna per ton-mile, gross earnings from the traffic between the two terminal towns will amount to from Rs. 98,875 to Rs. 1,21,000 per annum. If to this we add the figures above calculated for *rural* traffic, we get gross earnings commencing at Rs. 1,82,875 and rising steadily to Rs. 2,71,000. If the capital is £200,000 or Rs. 30,00,000, and if working expenses, *plus* hire of rolling stock, be taken at 55 per cent., we get net earnings rising from Rs. 82,293 to Rs. 1,21,950, giving interest on capital at the rate of 2·74 per cent. to start with, and a good prospect of rising to 4·06 per cent. Thus this most cautious estimate shows that there is a very fair chance of a metre gauge line earning a mean dividend of 3¼ per cent. per annum on a capital outlay of £200,000.

The 2½-ft. gauge suggested.

27. The above figures give rise to reflection;—first, had the line been constructed at a cost of Rs. 50,00,000, on the mixed gauge, as estimated under the Government of India's instructions by the Madras Railway Company in 1891, the best mean profit in the first ten years, which would have been shown for it would have been about 2 per cent.;—and, second, that if the present promoters will only have the pluck and intelligence to get free from the catch-word "break of gauge is an evil" and to make the line on the 2½-ft. gauge at a cost of Rs. 30,000 per mile, or a total of 15 lakhs, they may get 6 per cent. for their money. The promoters might do worse than adopt the 2½-ft. gauge; apply to build it under the Tramways Act; have nothing to do with any larger or more expensive gauge, and ask no favours from anybody, merely arranging to lease the line to the Southern Mahratta Railway Company for working purposes, offering them a fair partition of net profits after 4 per cent. is earned.

28. It may be asked whether a 2′ 6″ gauge line is capable of carrying the maximum passenger and goods traffic estimated in paragraphs 24 and 25 of this note, viz.—

Rural: 450,000 passengers and 75,000 tons of goods per annum.
Urban: 142,000 „ and 21,000 „ „

Total 592,000 passengers and 96,000 tons of goods; or in round numbers say 600,000 passengers and 100,000 tons of goods per annum.

29. The following are some particulars of the rolling-stock of the Howrah-Amta and Howrah-Sheakhalla, 2-ft. gauge railways, which were promoted and are being worked, by Messrs. Martin & Co., Jackson House, Calcutta:—

Engines—Weigh 12½ tons, haul 140 tons on the level and 45 tons on a continuous grade of 1·66 per cent. Wheel bars 5′ 6″, to suit the 144-ft. radius curves. Axle weights of engines are—

Leading 5 t. 1 c., Driving 5 t. 3 c., Trailing 2 t. 6 c.

Waggons—Covered tare 5 tons, carry 2 t. 10 c.
High-sided „ „ „ 2 t. 7 c.
Low-sided „ „ „ 2 t. 1 c.

Carriages—Upper class carry 18 passengers.
Third class „ 24 „

I have seen 15 vehicles on one of the trains of these railways. Now if we take an average passenger train of 14 vehicles, capable of carrying 330 persons; one passenger train each way daily will carry 240,000 passengers in the year. The maximum above presumed is 600,000. Again if we take a goods train of 14 vehicles capable of carrying 35 tons of paying load; one goods train each way daily will carry 25,000 tons of goods per annum. The maximum above presumed is 100,000 tons. Therefore, even if we allow a fair percentage for irregularities, three passenger trains and five goods trains each way daily ought to enable a 2-ft. gauge line to fully dispose of the maximum traffic ever contemplated.

30. The maximum through traffic between termini was estimated above at Rs. 1,21,000, while local rural traffic worked at to a maximum of Rs. 1,50,000. The former figure was arrived at by taking passenger miles at 7,100,000 and goods ton-miles at 1,290,000. Using the same proportions for want of better, we get for the rural figures 8,800,000 passenger miles and 1,600,000 goods ton-miles. Total for both, passenger miles 15,900,000 and goods ton-miles 2,790,000. That is two fairly full passenger trains and three fairly full goods trains per day each way on a 2-ft. railway would carry the maximum traffic estimated as likely to be got, and give very high dividend. A 2½-ft. gauge line will of course give better results.

31. The Howrah-Amta Railway which up to the end of 1898 had cost Rs. 37,490 per mile, including a very ample supply of rolling-stock, was worked for 58·9 per cent. of gross earnings, and paid a dividend at the rate of 7 per cent. per

Papers for Press for E Rs approval.

59

Read again the following

G. O. No. 1415 R of 20-12-89
— " — " — 1767 R of 11-11-90
— " — " — 1837-38 R of 19-11-90
— " — " — 521/522 R of 26-2-91
— " — " — 1326 R of 6-6-91
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India's No 412 R.C. of 4.5.94 with enclo.
G.O. No. 331 R of 28 May 94
P.P.O's letter No 1721/242 G of 28.6.94
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Board of Rev. Progs. No 350 of 28.8.94
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10

1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper :—

From Major M. C. BRACKENBURY, R.E., Under-Secretary to the Government of India, Public Works Department (Railway—Construction), to the Joint Secretary to the Government of Madras (Railway Branch), Public Works Department, dated Simla, 27th September 1889, No. 939 R.C.

In continuation of Public Works Department letter No. 930 R.C., dated 25th September 1889, communicating the orders of the Government of India regarding the survey for the East Coast Railway project, I am directed to forward herewith copy of a memorial, dated 10th May 1889, from the inhabitants of Masulipatam praying for the extension to their town of either of the railway lines terminating at Bezváda, together with a copy of the reply thereto, and to request that, with the permission of His Excellency the Governor in Council, the Engineer-in-Chief of the East Coast Railway Survey may be desired to make the necessary inquiries for estimating the prospects of an extension from Bezváda to Masulipatam, and that the Government of India may be favored with the views of His Excellency in Council on the subject.

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villages situated in the wet taluks would be prevented from conveying their produce abroad in consequence of the wet state of the country. During the months of March, April and May, the time that easy communication is most needed, the canals are closed from want of a proper supply of water and for necessary annual repairs. An extension of railway would therefore facilitate the conveyance of produce throughout the year expeditiously and without the unnecessary expense of breaking bulk and consequent wastage at Bezváda from the railway to the canal and *vice versâ*.

Masulipatam being the nearest seaport to the Nizam's dominions would be availed of for the import of foreign goods, rather than Bombay which is further away from Hyderabad by about two hundred miles, besides an easy outlet would be provided for the coal from Singareni, and the iron from Worungul, as well as an easy means of conveyance into the interior for the salt so largely produced in the principal depôts in this district situated in the neighbourhood of Masulipatam, which would result in a greater demand for salt and in consequence an enhanced source of revenue to Government. Moreover the foreign mail communication would be accelerated.

That Masulipatam has many drawbacks as a port may be produced as another reason against the extension of railway to this town. This we beg to submit is more imaginary than real, from the fact that the trade of the port, as already shown, has from year to year been steadily increasing. With an accelerated communication by steam-launch (a matter now under consideration) with the roadstead, Masulipatam would be brought into an equality with the neighbouring port of Cocanada where distance of the anchorage is about the same.

We further beg to point out as to the supposition that the port is silting up, that the inquiries made by the Local Port Officer have proved to the contrary.

In conclusion, we feel we cannot but quote the words of our worthy Collector, A. T. Arundel, Esquire, in his memorandum to the District Board in reference to the proposed extension of railway to Masulipatam that :—

"It is probably the first time in the history of railway construction that it has been arranged to stop two separate lines of railway at a junction within 50 miles of a sea-borne trade of nearly half a million sterling, while a fertile rice-producing country lacking nothing so much as means of communication lies on the road between."

India's No. 1150 R.C. of 8.7.97
Letter to India No 546 R of 9.8.97
Office Note No 1265 D of 1.9.99
~~G.O. No 966 R of 12.11.97~~
Rev: Deptt G.O. No 5014 Mis of 23.9.97
Letter to E.R. Bombay 122/6 of 2.10.97
G.O. 966 R of 12.11.97
Rev: Deptt G.O. No. 399 of 25.1.98
Letter to E.R. Bombay No 421 of 12.2.98
Rev Deptt Endt No 1462 Mis of 25.3.98
Letter to E.R. B...

61

SER... No...

20TH DECEMBER 1889, No. 1415 R., PUBLIC WORKS.

18

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The humble petition of the Inhabitants of the Town of Masulipatam, Kistna.

Masulipatam, 10*th May* 1889.

This town, with a population of 40,000 inhabitants, has for many years been the centre of an increasing coast trade as will be seen by the following figures of exports and imports:—

		Exports.	Imports.
		RS.	RS.
Year ending	1885-86	27,34,124	8,13,007
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which trade is capable of further development if provided with an improved system of communication with the interior, so as to enable the produce of the fertile districts of the Kistna to reach the sea-board with as little difficulty as possible, and this can only be done by an extension of the railway to the town of Masulipatam which has from time immemorial been looked upon as the chief port of the Kistna district. Bezváda, a town situated about 48 miles

61

SERIAL No. 9

20TH DECEMBER 1889, No. 1415 R., PUBLIC WORKS.

18

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To the Revenue Department.
" Engineer-in-Chief, East Coast Railway Survey.
" Consulting Engineer for Railways.

Exd. J. Moses.
Spare Copies

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	Inhabitants.
Nidamanur	1,150
Tenner	1,180
Gudiváda	4,040
Angalur	1,700
Vinnakota	1,800
Kowtaram	2,400
Vadlamannad	1,100
Pedana	4,400

without in any way interfering with the Kistna canal which connects Bezváda with this town.

It is certain that the railway in question, terminating as abruptly as it does at Bezváda, cannot enable merchants to find as favorable and ready a market for their produce as they otherwise would do if provided with easy communication with a seaport town like Masulipatam, and it would be unprecedented in history if the railway referred to was permitted to end where it at present has done. The distance between Masulipatam and Bezváda through Gudiváda being short, say 50 miles, and the ground to be traversed level, we are of opinion that from a pecuniary point of view there can be no objection to the extension solicited, as the cost of construction would naturally be moderate. For your further information we beg to quote the words of W C. Furnivall, Esq., Mem. Inst. Civil Engineers, and late Agent and Chief Engineer of His Highness the Nizam's Guaranteed State Railways Company, Limited, with reference to the railway to Masulipatam :—

"As regards the construction of the Masulipatam Railway from Bezváda, I am strongly of opinion that the line will pay well.

"This railway would traverse a portion of the Kistna delta and would therefore be very level and would consequently be worked very cheaply."

Masulipatam being connected with Bezváda by canal may be considered as a reason why we should not feel the want of a railway, but that the railway is of a greater necessity to us is apparent from the fact that the crops in this district are reaped during the months of January and February, and the produce when harvested is conveyed to the nearest market during the months of March, April, May and June which cannot be done during the other seasons of the year as [illegible] would be occupied in agriculture, besides the common carts of the

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Under the circumstances set forth we respectfully beg that your Excellency in Council will be pleased to see the great necessity for the extension of railway to our town, and crave that this boon may be conferred upon us, for which as in duty bound we shall ever pray.

(Signed) P. VENKATA,
Chairman, and others.

Copy of a letter No. 583 R.C., dated 19th June 1889, from the Secretary to the Government of India, Public Works Department, to Mr. P. Venkata, Chairman, "Hindoo Religious Association," Masulipatam.

I am directed to acknowledge the receipt of the memorial, dated 10th May 1889, from the inhabitants of the town of Masulipatam, to the address of His Excellency the Viceroy, requesting, under the circumstances explained, that Government will undertake to extend either of the railway lines terminating at Bezváda to Masulipatam.

2. In reply, I am to state, for the information of the inhabitants, that as it is intended to send a party to Bezváda in the cold weather to survey a line from Bezváda towards the coast and that their memorial will be referred to the Engineer-in-Chief of the Survey Party who will be directed to make inquiries as to the direction of the flow of trade from Bezváda and the prospects of the line proposed by the memorialists.

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The Government of India letter and its enclosures will be communicated to the Revenue Department for inquiry into the financial prospects of the proposed extension to Masulipatam.

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(True Extract.)

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Joint Secy. to Govt., P.W.D.,
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Exd. J. Moses.
Spare Copies

RAILWAY.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated December, 20th.

Recd. *Encl.*

G.O., 20th Dec. 1889, No. 1415 R.

DECEMBER.

East Coast Railway

Letter from the Government of India forwarding a memorial from the inhabitants of Masulipatam for extending the — from Bezváda to Masulipatam, communicated, with remarks, to the Revenue Department and to the Engineer-in-Chief.

SERIAL No. 16

19TH NOVEMBER 1890, No. 1837 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following paper:—

G.O., dated 2nd September 1890, No. 1298 R., Public Works.

Read again the following paper:—

G.O., dated 10th June 1890, No. 813 R., Public Works.

Proceedings of the Board of Revenue (Revenue Settlement, Land Records and Agriculture), dated 24th April 1890, No. 113.

MR. CLOGSTOUN.

Read—again Proceedings of the Board of Revenue (Revenue Settlement, Land Records and Agriculture), dated 14th December 1889, No. 564.

ABSTRACT.—Submitting to Government a review on the East Coast Railway project as a famine protective requirement and as a commercial project.

Read—also endorsement of Revenue Department, dated 1st February 1890, No. 747, forwarding, for inquiry and report, Government Order, Public Works Department, communicating Government of India letter forwarding a memorial from the inhabitants of Masulipatam for extending the East Coast Railway from Bezváda to Masulipatam.

Resolution—dated 24th April 1890, No. 113.

The Board in its Proceedings, No. 564, dated 14th December 1889, Land Records and Agriculture, dealt with the financial aspect of the projected East Coast Railway between Bezváda and Cuttack (1) as a famine protection requirement and (2) as a commercial project. It will now, as required, submit the result of its inquiry into the financial prospects of the proposed branch line between Bezváda and Masulipatam. The inquiry has proceeded on the assumption that the line between Bezváda and Masulipatam is to be undertaken as a branch of the East Coast Railway, and not merely as an alternative line for bringing the Guntakal-Bezváda line and the Nizam's State Railway to Bezváda in connection with a sea-port. The Board considers that the connection of the Bezváda terminus of the two lines referred to with a sea-port is a matter of vital importance to the financial success of these two famine lines, and that the non-connection would greatly militate against their usefulness in a time of famine, but if this connection is given by the construction of the East Coast Railway as far even as Cocanada only it will be sufficient to consider the proposed line from Bezváda to Masulipatam on its merits as a commercial undertaking.

2. A description of the country through which the proposed line would pass with particulars of the large villages it would touch in its course is given in Mr. Arundel's letter, printed in Board's Proceedings, No. 564, dated 14th December 1889, already referred to. The country traversed through the whole distance of 50 miles between Bezváda and Masulipatam is a rich rice-growing country splendidly irrigated, with a population of 216 to the square mile and studded with rapidly-growing and prosperous towns and villages, the following of which would be touched in order by the line on its way from Bezváda :—

	Population (Census of 1881).	Distance in miles from Bezváda.
Nidamanur	1,150	7
Tenneru	1,180	
Uppaluru	Not given	6
Mantina	Do.	
Ventrapragada	2,582	
Pamalapad	Not given.	6
Kalavapamula	Do.	
Gudiváda	4,040	5
Anjalur	1,700	
Vinnakota	1,800	6
Kowtaram	2,400	5
Vadlamannad	1,100	5
Pedana	4,400	4
Masulipatam	35,000	5

carefully examined by Mr. Furnival, the late Agent and Chief Engineer of the Nizam's State Railway, and his statement that the line would be very level and would consequently be worked very cheaply may safely be accepted. He further expressed a strong opinion that the line would pay well.

4. After a consideration of the character of the country through which the line passes and the density of its population, the chief means available for determining the extent of the probable traffic of such a line are a consideration of the statistics of present traffic on the lines of communication at present passing through the country. The available statistics bearing on this point are the following :—

(i) Statistics of traffic on the canal running along the line to be traversed by the railway ;

(ii) Statistics of traffic on the roads along the same line ; and

(iii) Statistics of the imports and exports by sea at Masulipatam, the proposed sea-port terminus of the branch line, and of the exports and imports by the existing lines at Bezváda.

(i) *Canal traffic.*—The traffic on the canal running between Bezváda and Masulipatam, a distance of 49 miles, is registered by the Public Works Department. The latest returns give the traffic for the year 1888-89, or rather for the nine months, June to February, both inclusive, during which the canal is open, as follows

Ton mileage	2,730,691
Passengers	58,189

giving an average tonnage per mile of 55,728 tons.

The ton mileage of the previous year was 3,424,656, giving an average tonnage per mile of 69,890. The number of passengers registered in 1887-88 was 58,417 as compared with 58,189 in 1888-89.

The traffic in 1888-89 was carried in 1,580 laden boats [as against 1,724 in 1887-88] and consisted mainly of food-grains, salt, cotton, oil-seeds, nuts and oil, hemp, building materials, fuel, timber, bamboos, piece-goods, metals, tobacco, indigo, salt-fish, leather, shells and cash. The decrease as compared with the year 1887-88 is attributed to the opening of the Nizam's State Railway to Bezváda and to a diversion of a great part of the trade in oil-seeds from Masulipatam to the Nizam's country.

(ii) *Road traffic.*—The traffic on the road between Bezváda and Masulipatam has been registered by the Traffic Registration establishment for the whole of the twelve

months ending 31st March last. A statement of the traffic is given in Appendix I, of which the following is an abstract :—

Stations.	Merchandise. Mds.	Passengers.
Bezváda	419,687	34,543
Masulipatam	355,101	32,561
Total ...	774,788	67,104
Average ...	387,394	33,552

Converted into tons the average weight carried over the road is 14,230 tons.

The total tonnage per mile, taking both canal and road traffic together, amounts for 1888-89 to 70,000 tons as compared with 96,773 tons, the tonnage per mile carried by the South Indian Railway in 1888.

(iii) *Imports and exports of the port of Masulipatam.*—The value of the imports and exports by sea of the port of Masulipatam during the past fourteen years are shown below :—

Years.	Imports.			Exports.		
	Foreign.	Coasting.	Total.	Foreign.	Coasting.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1875-76	9,023	11,59,205	11,68,228	9,71,496	19,95,632	29,67,128
1876-77	3,526	11,22,312	11,25,838	3,38,537	22,86,464	26,25,001
1877-78	7,712	13,84,685	13,92,397	2,78,369	20,65,293	22,43,662
1878-79	13,401	12,88,303	13,01,704	2,20,380	13,36,000	15,56,380
1879-80	1,817	10,42,328	10,44,145	6,31,437	19,02,332	25,33,769
1880-81	8,939	10,82,063	10,91,002	5,18,249	17,77,517	22,95,766
1881-82	5,454	7,82,932	7,88,386	1,88,896	16,50,911	18,39,807
1882-83	12,393	9,69,889	9,82,282	35,136	14,65,007	15,00,143
1883-84	8,009	9,12,161	9,20,170	1,86,451	15,78,432	17,64,883
1884-85	7,015	10,37,778	10,44,793	1,72,761	26,33,244	28,06,005
1885-86	11,529	8,00,523	8,12,052	2,38,029	24,98,340	27,36,369
1886-87	8,773	10,93,151	11,01,924	3,52,697	26,14,827	29,67,524
1887-88	5,722	15,11,372	15,17,094	2,32,755	27,15,327	29,48,082
1888-89	7,645	12,33,038	12,40,683	3,89,758	26,71,784	30,61,542
Average ..	7,925	11,01,410	11,09,335	3,39,639	20,85,079	24,24,718

Exports.

Grain and pulse.
Castor.
Dyeing and coloring materials.
Gingelly.

Imports.

Gunny bags.
Liquors.
Grain and pulse.
Cotton, twist and yarn and piece-goods.
Oils.

The average value of the imports amounts to Rs. 11,09,335 and that of the exports to Rs. 24,24,718. The chief articles of export and import during the past two years are shown in the margin. The bulk of the export trade is in grain and pulse and in oil-seeds. The imports are chiefly piece-goods, gunny bags, liquors and oils.

5. The rail-borne traffic passing between the Kistna block and the Nizam's territories since the opening of the Nizam's Railway to Bezváda in November 1888 is shown in the annexed statement. A portion of the traffic in the last quarter represents traffic between the Kistna block and the small portion of the Kurnool district served by the portion of the Bellary-Kistna Railway between Cumbum and the Kistna frontier opened in October 1889.

Trade with Kistna block for the quarters ending

—		31st December 1888.	31st March 1889.	30th June 1889.	30th September 1889.	31st December 1889.
		I. mds.	I. mds.	I. mds.	I. mds.	I. mds.
External trade	Imports	2,852	1,163	1,377	20,457	51,406
	Exports	..	330	5,454	175,769	216,653
Internal trade	.. ..	..	174	127	287	8,790

The traffic shows a great development in the last two quarters, and as the great bulk of the export traffic (216,653 Indian maunds) during the quarter ending 31st December 1889 consisted of grain and pulse (135,000 maunds), chiefly rice, and salt 44,000 maunds, all of which articles are largely produced in the country that would be served by the Bezváda-Masulipatam branch, it seems certain that the branch would have a large and increasing trade in these articles.

6. A consideration of the existing traffic along the present lines of communication between Bezváda and Masulipatam and of the further circumstances that the proposed line of railway between these towns will run for its whole length of 49 or 50 miles through a rich and exceptionally well-irrigated country, with a large population, that it will connect Masulipatam, a town with a population of 35,000 inhabitants, and already possessed of a large export trade with a railway tapping the Nizam's country and another tapping the Ceded districts, the Board has no hesitation in stating its conviction that the line would be a financial success in itself and would further improve the financial prospects of any line with which it was connected.

To the town of Masulipatam itself it would seem that the line is essential if it is not to see its trade entirely diverted by the East Coast Railway to the rival port of Cocanada.

(A true Extract.)

APPENDIX I.

STATEMENT showing the road traffic registered at Bezváda and Masulipatam during 1889-90.

Route on which traffic was registered.	Stations.	Direction of traffic.	Long distance traffic. Animals. During April, May 1889 and March 1890 when canals were closed.	Animals. Total.	Passengers. During April, May 1889 and March 1890 when canals were closed.	Passengers. During the months from June 1889 to February 1890 when they were opened.	Passengers. Total.	Remarks.
			No.	No.	No.	No.	No.	
Between Masulipatam and Bezváda.	Bezváda ..	From Bezváda ..	193	1,889	3,990	9,685	13,675	The distance between Bezváda and Masulipatam is about 44 miles by road.
		To Bezváda ..	668	963	4,194	16,674	20,868	
		Total ..	861	2,852	8,184	26,359	34,543	
Between Masulipatam and Bezváda.	Masulipatam ..	From Bezváda ..	..	..	5,950	26,611	32,561	
		To Bezváda ..	..	..	..	..	..	
		Total ..	..	..	5,950	26,611	32,561	

Route on which traffic was registered.	Stations.	Direction of traffic.	Total merchandise. During April, May 1889 and March 1890 when canals were closed.	Total merchandise. During the months from June 1889 to February 1890 when they were opened.	Total merchandise. Total.
			L. mds.	L. mds.	L. mds.
Between Masulipatam and Bezváda.	Bezváda ..	From Bezváda ..	25,926	13,544	39,470
		To Bezváda ..	232,785	147,432	380,217
		Total ..	258,711	160,976	419,687
Between Masulipatam and Bezváda.	Masulipatam ..	From Bezváda ..	167,213	172,229	339,442
		To Bezváda ..	12,240	3,419	15,659
		Total ..	179,453	175,648	355,101

The traffic shows a great development in the last two quarters, and as the great bulk of the export traffic (216,653 Indian maunds) during the quarter ending 31st December 1889 consisted of grain and pulse (135,000 maunds), chiefly rice, and salt 44,000 maunds, all of which articles are largely produced in the country that would be served by the Bezváda-Masulipatam branch, it seems certain that the branch would have a large and increasing trade in these articles.

6. A consideration of the existing traffic along the present lines of communication between Bezváda and Masulipatam and of the further circumstances that the proposed line of railway between these towns will run for its whole length of 49 or 50 miles through a rich and exceptionally well-irrigated country, with a large population, that it will connect Masulipatam, a town with a population of 35,000 inhabitants, and already possessed of a large export trade with a railway tapping the Nizam's country and another tapping the Ceded districts, the Board has no hesitation in stating its conviction that the line would be a financial success in itself and would further improve the financial prospects of any line with which it was connected.

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APPENDIX I.

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			Total merchandise.		Animals.		Passengers.				
			During April, May 1889 and March 1890 when canals were closed.	During the months from June 1889 to February 1890 when they were opened.	During April, May 1889 and March 1890 when canals were closed.	Total.	During April, May 1889 and March 1890 when canals were closed.	During the months from June 1889 to February 1890 when they were opened.	Total.		
			l. mds.	l. mds.	no.	no.	no.	no.	no.		
Between Masulipatam and Bezváda.	Bezváda ..	From Bezváda ..	25,926	13,544	193	1,889	3,990	9,685	13,675		The distance between Bezváda and Masulipatam is about 44 miles by road.
		To Bezváda ..	232,785	147,432	668	963	4,194	16,674	20,868		
		Total ..	258,711	160,976	861	2,852	8,184	26,359	34,543		
	Masulipatam.	From Bezváda ..	167,213	172,229	..	..	5,950	26,611	32,561		
		To Bezváda ..	12,240	3,419	..	..	..	..	..		
		Total ..	179,453	175,648	..	..	5,950	26,611	32,561		

No. 3333, Revenue.

Transferred to the Public Works Department with reference to para. 1 of its Order, No. 1415 R., dated 20th December 1889, with an expression of concurrence in the opinion of the Board of Revenue.

OOTACAMUND,
2nd June 1890.

(Signed) C. A. GALTON,
Secretary to Government.

Order—dated 10th June 1890, No. 813 R., Public Works.

Ordered that the following letter be forwarded to the Government of India.

(Here enter No. 814 R., dated 10th June 1890.)

(True Extract.)

(Signed) R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

Letter 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 10th June 1890, No. 814 R.

I am directed to acknowledge the receipt of your letter, No. 939 R.C., dated 27th September 1889, forwarding, for the views of His Excellency the Governor in Council, a memorial from the inhabitants of Masulipatam, praying for the extension to their town of either of the railway lines terminating at Bezváda.

2. In reply, I am directed to submit, for the information of the Government of India, the accompanying Proceedings of the Board of Revenue, No. 113, dated 24th April 1890, embodying a report with statistics as to the financial aspects of the proposed extension.

3. The Engineer-in-Chief of the East Coast Railway Survey has been requested to have the probable alignment reconnoitred with a view to estimate approximately the probable cost of the branch line, and on receipt of his reply the Government of India will be again addressed on the subject.

Read also the following papers:—

From the Officiating Assistant 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, the 9th August 1890, No. 699 R.C.

With reference to your No. 814 R., dated 10th June 1890, regarding the proposed branch railway between Bezváda and Masulipatam, I am directed to inquire when the further report on the subject may be expected.

Telegram from the Officiating Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, dated 21st August 1890.

When may the report asked for in para. 2 of G.O., 1415 R., 20th December 1889, be expected. Please wire reply for India's information.

SERIAL
No. 15

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following paper:—

G.O., dated 9th October 1890, No. 1494 R., Public Works.

Order—dated 9th October 1890, No. 1494, R., Public Works.

The Consulting Engineer for Railways is requested to obtain from the Agent and Manager, Madras Railway, information with regard to the cost at which that Company would carry out the survey for a broad gauge line of railway from Bezváda to Masulipatam.

(True Extract.)

(Signed) T. GRACEY, Lt.-Col., R.E.,
Offg. Joint Secy. to Govt., P.W.D.,
Railway Branch.

Read also the following papers:—

From the Collector of the Kistna District, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Masulipatam, 16th October 1890, No. 7531.

In compliance with your request, I have the honor to forward copy of a memorandum (with five spare copies) which I have drawn up to supply Colonel Lindsay, R.E., the Agent and Chief Engineer, South Mahratta Railway, with the information he desired as to the prospects of an extension of the South Mahratta Railway across the river Kistna, *via* Bezváda, through the delta to Masulipatam. A map of the line the extension should take is also enclosed.

2. I would venture to urge strongly upon Government the advisability of an immediate survey of this extension. It is an essential to the completeness and finality of the South Mahratta Railway east of Guntakal as a famine protective line. It will not only give this famine protective line a long base through the grain-producing delta, but will also afford a stretch through a rich country of 50 miles that will probably pay well and form a satisfactory termination to the non-paying line through Kurnool and the uplands.

3. The line whether constructed by the South Mahratta Railway or by the Madras Railway will be an incalculable boon to the eastern delta of the Kistna district. The Western delta will be traversed by, and will prosper exceedingly through, the railway extension from Bezváda to Nellore and Madras. The Eastern delta between Bezváda and Masulipatam with a still greater area under irrigation requires the railway extension to Masulipatam for its full and prosperous development.

ENCLOSURE.

MEMORANDUM on a proposed extension of the South Mahratta Railway to Masulipatam.

The temporary terminus of the South Mahratta Railway in the Kistna district is now opposite Bezváda on the right bank of the river Kistna where alone it abuts on the delta. The two hundred odd miles of this railway through the Kurnool and Kistna districts were constructed as a famine protective line and not as a remunerative commercial undertaking. Any proposed extension therefore that renders this line more effective for famine protection is justified by the Railway's *raison d'etre*, and if such extension promises at the same time to be commercially remunerative in a way that no other portion of the line ever can be, it is deserving of a careful consideration.

2. The construction of the Kistna bridge at Bezváda has now been formally commenced. This great bridge—to be three-quarters of a mile in length—is prominently connected with the East Coast Railway which is eventually to run from Madras *viâ* Bezváda to Cuttack and Calcutta. It should, however, be borne in mind that it was originally approved in 1883 by the Secretary of State as a necessary continuation of the South Mahratta, or as it was then called—the Bellary-Kistna—Railway. It will be railed for both broad and narrow gauge.

3. The first effect of the bridge will be that all traffic on the South Mahratta Railway will pass over the bridge to and from Bezváda and that a station for goods and passengers must be provided on that side of the river. From this point the East Coast Railway passes away to the north-east, skirting the Ellore canal and the fringe of the Eastern Kistna delta, into which, however, it does not enter.

4. The Eastern delta irrigates over 2,20,000 acres of rice land and this area will steadily increase to a maximum of 2,70,000 acres or over 400 square miles. It is tapped by one main navigable canal to Masulipatam and a branch that connects it with the Godávari canal system. The main canal runs for half its length near and parallel to the river and is thus of less use for the export of grain than it would be if it passed more centrally through the delta.

5 The railway extension has a great tract of rice-growing country invitingly open to it, which is not served by a navigable canal. The line would pass through a series of important towns and villages, and would finally reach Masulipatam, the capital of the district, after a course of 50 miles, which is almost the same length as that of the main canal.

6. A reference to the map will show that the railway should leave Bezváda by crossing the Ellore canal as soon as practicable. Ample room is available for additional sidings and wharves if more be needed. The line will run between the Ellore and the Ryves canal till it crosses the high road about the ninth mile not far from the villages of Nidamannur (population 1,150), Velpur and Done-Atkur. Five miles further on it reaches Tenneru (p. 1,180). Five miles further is Ventrapragada (p. 2,582), and after another five miles comes Gudiváda (p. 4,040), the chief town of the taluk. Then follow Angalur (p. 1,700) and Vinnakota (p. 1,800) at six miles distance, next at about the same distance is Kowtaram (p. 2,400) on the branch canal. Vadlamannad (p. 1,100) comes next, and then seven miles from Kowtaram is the large business centre of Peddana (p. 4,400). Thence to Masulipatam is six miles.

7. Every village above named lies in the midst of a richly-irrigated rice-growing country which is steadily increasing in population and in wealth, and lacks nothing so much as means of communication. The nature of the soil—a black silt—renders road-making costly and difficult. Railway feeders are therefore more suitable to the conditions of the delta than through lines of high road.

8. Masulipatam, the chief town of the district, and its port would be the terminus of this branch of the South Mahratta Railway. At the census of 1881 it was a town of 7,700 houses with a population of 35,000. The houses now newly numbered for the approaching census have increased to 10,480, and taking the same average number of occupants per house as before, the population should now stand at 48,000. The town is the official head-quarters of the district and holds the Judge's and District Munsif's Courts, the Collector's and Deputy Collector's cutcherries, the District Registrar's and other public offices, which cause a large flow of people on public and private business. There are several flourishing Mission agencies under the Church Mission Society. In educational institutions it possesses the Noble College about to be raised to the first grade, a Hindu High school, a normal Training school for the whole district, and minor scholastic agencies for male and female education.

9. The port of Masulipatam is inferior as far as natural facilities are concerned, steamers and ships have to lie six to seven miles out, as at Cocanada and Tuticorin, and there is a bar to cross. But the port has been undeservedly neglected in the past, and it is only within the last two years that an iron shed has been erected by Government to shelter goods from wind and weather. It has been asserted that the bay is shoaling up, but the investigations of the late Port officer, Mr Fletcher, do not support this view; the anchorage for ships and steamers is no further out than of old, and it is shown that whereas the cargo boats of 1858 carried only 12 tons, the present boats carry from 16 to 25 tons, so that there is no shoaling up of the bar.

10. In spite of neglect and natural defects, the trade of Masulipatam has steadily increased for many years past as the following figures will show :—

	1870-71.	1875-76.	1880-81.	1885-86.	1887-88.	1889-90.
Tonnage	47,000	1,37,000	1,80,900	2,22,900	3,42,000	Not given.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imports	13,49,978	29,67,129	22,96,706	27,36,369	29,48,082	34,56,046
Exports	4,76,060	11,68,229	10,91,641	8,12,052	15,17,101	12,38,443
Total ..	18,26,038	41,35,358	33,88,347	35,48,421	44,65,183	46,94,489

There is a large export trade in rice to Negapatam and Ceylon mainly in native craft and there seems every likelihood that this special trade will continue to increase. Masulipatam, will be the nearest port from Secunderabad to Burmah and the quickest route for the passage of troops. It is also the nearest port for the supply of Singaréni coal either to Government or to the public.

11. The tonnage of goods carried on the canal between Masulipatam and Bezváda in 1889-90 was 32,989 tons; the passenger traffic for the same period was 70,014, mainly between the terminals. This latter would all be taken by the railway and largely increase owing to greater convenience and saving of time. There would also be added the passenger traffic between the intermediate stations. The passage by canal takes less or more than 24 hours according to whether it is down stream or up. The boats are very crowded and inconvenient. The railway would give farmers the power to hold back their rice in their own granaries till such time as is most convenient to sell, instead of being obliged to get rid of it during the three months when the delta is dry and passable for carts. It must be remembered that all the canals of the district are closed for three months from March to May inclusive, during which time all traffic is by road. The road traffic returns between Bezváda and Masulipatam for the year 1889-90 are as follows :—

	Goods.	Passengers.
	MDS.	No.
Bezváda	4,19,687	34,543
Masulipatam	3,55,101	32,561
Total .	7,74,788	67,104
Average ...	3,87,394	33,552

12. There are Salt factories at Manganapudi, 7 miles north of Masulipatam, which yield 2,00,000 maunds per annum, all of which is now taken inland either by canal or on pack bullocks.

13. Mr. Furnivall, the late Agent and Chief Engineer of the Nizam's State Railway, in a note on a proposed extension of that line to Masulipatam was "strongly of opinion that the line will pay well. The line would be very level and would consequently be worked very cheaply." His rough estimate of the total cost including stations, rolling-stock and establishment was Rs. 64,000 per mile of *broad* gauge, or 32 lakhs for the 50 miles.

14. In conclusion, it may be remarked that the railway extension now discussed occupies a totally different position from that of any other portion of the South Mahratta Railway east of Guntakal. That line was made as a protection against famine; it runs through uplands that depend on the rainfall for existence, and it is not likely to be financially remunerative for a long period. The extension to the sea completes the line as a famine protective work by giving it a base of 50 miles through a rich and never-failing rice country. Furthermore, as the delta is rapidly increasing in wealth, in population, and in the productive area under irrigation, and as the terminal points are the important towns of Masulipatam with over 40,000 inhabitantsand Bezváda with over 15,000, there is every prospect that Mr. Furnivall's forecast will prove accurate.

15. The extension would complete all the railway schemes that have been proposed for the Kistna district and would give a still stronger impetus to the progress of the district which is now by means of its great delta irrigation, its canals and its railways, entering on a remarkable career of prosperity, and which already has a land revenue of 49½ lakhs of rupees or considerably more than any other district in the Madras Presidency.

16. The Board of Revenue in a report on the financial aspects of this line as a branch of the East Coast Railway (B. P. 113, 24th April 1890, Revenue Settlement) remark :—

"A consideration of the existing traffic along the present lines of communication between Bezváda and Masulipatam and of the further circumstances that the proposed line of railway between these towns will run for its whole length of 49 or 50 miles through a rich and exceptionally well-irrigated country, with a large population, that it will connect Masulipatam, a town with a population of 35,000 inhabitants, and already possessed of a large export trade, with a railway tapping the Nizam's country and another tapping the Ceded Districts, the Board has no

hesitation in stating its conviction that the line would be a financial success in itself and would further improve the financial prospects of any line with which it was connected."

MASULIPATAM,
7th October 1890.

(Signed) A. T. ARUNDEL,
Collector.

From the Consulting Engineer for Railways, dated Madras, 24th October 1890, No. 716.

From the Acting Agent and Manager, Madras Railway Company, to the Consulting Engineer for Railways, dated Madras, 21st October 1890, No. 6630/1091.

[Your endorsement No. 925, dated 10th October 1890, to Proceedings of Madras Government, No. 1494 R., dated 9th October 1890.]

I have the honor to inform you that the cost of surveying a broad gauge line by this Company's officers from Bezváda to Masulipatam is estimated by the Chief Engineer at Rs. 143 per mile, for a distance of 44 miles equal to in all Rs. 6,292.

2. The survey could be undertaken by the party now at work on the Madras-Gúdúr survey immediately on completion of that work, which may be expected to be in about two months' time.

Submitted to Government, with reference to Proceedings of Government, No. 1494 R., dated 9th October 1890.

ORDER—dated 11th November 1890, No. 1767 R., Public Works.

The Government observes that the distance from Bezváda to Masulipatam is 50 miles and not 44 as stated by the Agent and Manager, Madras Railway, and the total cost will therefore be, at Rs. 143 a mile, Rs. 7,150 and not Rs. 6,292.

2. The estimate for Rs. 7,150 is sanctioned, and this amount will be met from Provincial revenues. The Financial Department will therefore make the necessary arrangements to have this sum placed at the disposal of the Agent and Manager, Madras Railway.

3. The Agent and Manager, Madras Railway, will be requested to proceed with the survey on the lines laid down in the letter from the Collector of Kistna read above, and copy of the plan submitted therewith will be forwarded for his guidance in making the survey.

4. A copy of these Proceedings will be forwarded for the information of the Government of India.

(Here enter No. 1768 R., dated 11th November 1890.)

(True Extract.)

Major, R.E.,
Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Examiner, East Coast Railway Accounts.
" Examiner, Guaranteed Railway Accounts.
" Examiner, Public Works Accounts.
" Financial Department.
" Revenue Department.
" Engineer-in-Chief, East Coast Railway, for information.
with reference to his telegram, dated 22nd August 1890.

Exd. P. L. Pereira.

Spare Copies

RAILWAY.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated November, 11th.

Recd. Nov. 25th 88 *Encl.*

G.O., 11th Nov. 1890, No. 1767 R.

2 A.M.

NOVEMBER.

No. 1087 Dated 25th November 1890.
Copy forwarded to A.M. with copy of plan referred to, for necessary action.
9 35 25/11/90

Survey for a broad gauge line of Railway from Bezvada to Masulipatam

The estimate of Rs. 7,150, being the cost of a —, sanctioned, and certain instructions issued as to the prosecution of the survey.

Copy to A.M. with letter No. 522
[illegible]

REGISTER No. 8238 FILE No.

SERIAL No. 17

19TH NOVEMBER 1890, No. 1838 R., PUBLIC WORKS.

8 P

PUBLIC WORKS DEPARTMENT.

Railway.

LETTER—from

LIEUT.-COLONEL T. GRACEY, R.E.,
Officiating Joint Secretary to the Government of Madras,
Public Works Department,
Railway Branch,

To

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

Dated 19th Nov. 90

SIR,

With reference to your letter, No. 987 R.C., dated 30th October 1890, requesting that the submission of the further report on the proposed branch railway between Bezváda and Masulipatam may be expedited, I am directed to invite attention to Public Works Department docket, No. 1768 R., dated 11th November 1890, forwarding a copy of the Proceedings of this Government, No. 1767 R., of the same date, in which the Agent and Manager of the Madras Railway was authorized to carry out the survey at an estimated cost of Rs. 7,150, the results of which will be reported to the Government of India when finished.

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

(Signed) T. GRACEY, Lieut.-Colonel, R.E.,
Offg. Joint Secy. to Govt., P.W.D.,
Railway Branch.

FORT ST. GEORGE,
19th November 1890.

Exd. A. D. Xavier.
Spare Copies

RAILWAY.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated November, 19th.

Recd. *Encl.*

19th Nov. 1890, No. 1838 R.

NOVEMBER.

Branch Railway between Bezvada and Masulipatam

Inviting attention to Proceedings of this Government in which the Madras Railway was authorized to carry out the survey for the proposed —, the results of which will be reported to the Government of India when finished.

SERIAL
No. 21

26TH FEBRUARY 1891, No. 521 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following papers :—

From the Consulting Engineer for Railways, dated Madras, 29th January 1891, No. 113.

From the Engineer-in-Chief, Kistna Bridge, to the Consulting Engineer for Railways, dated Bezváda, 20th January 1891, No. 195.

Before preparing plans of the junction station arrangements at Bezváda, it is important that I should know whether the proposed extension to Masulipatam is likely to be on the metre or on the standard gauge. I see that officers of the Madras Railway Company are now here on the survey of the extension, and, though I have no doubt that the fact of their making the survey in no way commits Government to the policy of sanctioning the extension on the standard gauge, still it appears to imply that such a policy is at least in contemplation.

2. I hope it may not be considered that I am exceeding the legitimate functions of a Construction Engineer if I make the suggestion (though I believe that it can scarcely be necessary) that the question be very cautiously considered. From what I can gather of the probable future of the extension, it appears to me to be beyond doubt that its construction upon the metre gauge will be by far the wisest policy, as making the produce of the Kistna granary available for the occasional pressing needs, and the usual fair needs, of the districts served by the Southern Mahratta Railway which are liable to scarcity.

3. I may avoid repetition if I submit a copy of a note put up early in October on the subject for perusal of His Excellency the late Governor of Madras, in which I tried to show that the real need was not the development of the moribund port of Masulipatam, but the export, inland, of the surplus produce of the Eastern Kistna delta.

4. The Western Kistna delta will, by means of the broad gauge connection between Bezváda and whatever point may be fixed on to the southward, send full supplies of grain to districts needing it which are served by the broad gauge Madras system.

5. A review of the existing trade of the Bellary-Kistna section of the Southern Mahratta Railway must, I think, be convincing on this point that, pending its extension into the heart of the delta, it cannot be considered as a completed system or as a remunerative section of the company's network of lines. How such unremunerativeness affects the Imperial finances I am not at this moment in a position to say, but the matter appears to me to be a sufficiently important one to warrant my so far stepping out of the regular groove as to address you as I have done.

6. I saw so much in Bengal of the lamentable effects of drifting, through force of originally trivial circumstances, into a thoroughly badly schemed network of railways that I feel it right to avail myself of the excuse of the design of Bezváda junction to have a say in this matter of the extension of railway communication to Masulipatam.

Enclosure.

BEZVADA-MASULIPATAM RAILWAY.

In all that has heretofore been written on the subject of railway extension to Masulipatam, the error has been made of pleading for the line on the grounds of the need which was said to exist for a better means of communication with inland districts in the interests of the port itself. The result of this error of judgment has been this, that the obvious reply was always forthcoming, that Masulipatam is a moribund port, and that its further development, instead of being promoted, would be retarded by the construction of the East Coast Railway.

An entirely different view of the subject having occurred to me, I have put it forward in conversation with His Excellency the Governor and with the Collector of Kistna, Mr. Arundel. As the suggestion has appeared to commend itself, and as I also hear that Colonel Lindsay, the Agent and Chief Engineer of the Southern Mahratta Railway, has received it with approval, I think it best to commit it to writing in the form of a note, so that, should His Excellency see fit, action may be initiated in His Excellency's Public Works Department Secretariat.

The merchants and traders who have located themselves at the port of Masulipatam, and who have invested, more or less largely, their capital in buildings and offices at that place, are naturally interested in the development of the export trade of the port. It follows that these gentlemen will be prominent agitators on behalf of railway connection with Bezváda with a view to the expansion of the trade in which they now hold the position of middlemen. The Eastern Delta system of irrigation has given origin to an immense area of rice cultivation at the back of Masulipatam, and this produce naturally finds its largest sale with the merchants of that port who export it up or down the coast by sea. The transport of this grain, as well as of much of the produce of the inland districts, which centres itself on Bezváda, becomes, during some of the busiest months of the year, exceedingly difficult and precarious in consequence of the silting up and the subsequent clearance of the canals by which it arrives at the port.

Masulipatam has in the natural course of events developed itself, from being an East India Company's trading and administering centre, into a modern district centre, the headquarters of a Collector, Judge and other officials. It was natural enough that the demands for improved communication with the inland districts which arose from the mercantile classes should find a mouthpiece in the Collector, who would thereby be brought into better touch with his district, and it is in this way that the demand for railway extension to Masulipatam has arisen—a demand which has been set aside, I believe, during the discussion of the East Coast Railway scheme.

Now it has occurred to me that the possibilities of the grain area watered by the Eastern Kistna delta system of canals are likely to be quite other, in the mind of a Governor of Madras, than they are in the mind of a resident of Masulipatam. Instead of looking on the grain area as a source of profit in the export trade, a Governor of Madras will consider the area with reference to its possible utilization in famine times. He would in fact consider how the available surplus produce of the area might best be diverted inland instead of to the port of Masulipatam.

A broad gauge railway from Bezváda to Masulipatam would not serve for the distribution of this grain throughout the famine tracts nearly so well as a narrow gauge extension of the Southern Mahratta Railway system. Such an extension would have several very patent advantages—

1*st*.—It would serve the interest of the Masulipatam merchants quite as well as a broad gauge line.

2*nd*.—It would also equally well serve to bring the Collector of the district out of his present state of semi-isolation.

3*rd*.—It would serve to draw away the grain of the Kistna Eastern delta inland, *viâ* the Southern Mahratta system, into the famine tracts.

4*th*.—It would give the Southern Mahratta Railway Company a suitable termination at a sea-port.

5*th*.—It would be more likely to be approved of by the Government of India than a broad gauge line as being cheaper in first cost.

6*th*.—Instead of being worked as a short branch of a main line of railway, always an unprofitable arrangement, it would be worked in direct continuation of the Southern Mahratta Railway Company's system whose terminus instead of being at Bezváda would be at Masulipatam.

I am not at the moment in a position to say on what conditions the Bellary-Kistna Railway, a State line, is worked by the Southern Mahratta Company; but I presume that, as in parallel cases elsewhere, it is worked somewhat after this fashion, that the first charge on the gross earnings is for working expenses, the next charge for interest at 4 per cent. upon the capital outlay, and that afterwards the Company and Government divide surplus profits, if any, in some agreed proportion.

I suggest that a similar arrangement be made for the metre gauge extension of the Bellary-Kistna Railway to Masulipatam, namely, that it be constructed out of State funds as an integral portion of the Bellary-Kistna Railway and that the entire extended Bellary-Kistna-Masulipatam State Railway be worked by the Southern Mahratta Company under such conditions (the existing or other) as may commend themselves to the contracting parties.

As regards the precise route which the proposed extension of the Bellary-Kistna Railway to Masulipatam should follow, I am of opinion that it distinctly ought not to follow the canal; that it ought, even if such a course involves a detour of 5 or 6 miles of extra distance, to tap every prominent or promising village near its track; and that, of all others, Mr. Arundel should lay down the approximate line on the map, as the question of route is less an engineering than a traffic problem.

(Signed) F. J. E. SPRING,
4th October 1890. Engineer-in-Chief, Kistna Bridge.

Submitted to Government.

2. I have already expressed my opinion in favor of an extension of the Southern Mahratta Railway from Bezváda to Masulipatam on the metre gauge in preference to a broad gauge branch.

3. My recommendation is based upon the fact that the metre gauge railway will be the cheapest; that it will place the irrigated lands of the Kistna delta in direct communication with the famine districts of Bellary, Cuddapah, Mysore, &c.; and that it will be sufficient for the ordinary traffic that may be expected to come to it.

4. I do not think that Masulipatam can ever develop into a large port. The result of opening the East Coast Railway must be to concentrate the whole of the exports and imports at one port and increase its importance and traffic at the expense of the smaller ports. Trade must eventually follow the cheapest routes and methods, and it will be found cheaper to concentrate goods by railway at one central port where loaded ships can discharge with the certainty of finding a return cargo rather than for them to call at smaller ports where only a very small portion of the cargo can be discharged at one time and where back loading may not be available. Again, the place where the greatest number of ships call will have most money to spend in harbour and other improvements, and the improved accommodation will attract more traffic till one port absorbs the traffic of all others within certain limits. I think there is only room for one port between Calcutta and Madras, but where it should be, whether at Cocanada or Vizagapatam, the facilities for constructing a good harbour must determine.

5. In illustration of what I have written in the last paragraph, I may mention that freights from England to Cocanada are now 40*s*. per ton against 10*s*. 9*d*. to Calcutta and that ships can only be had sailing from London to Cocanada, whilst cargo can be shipped direct to Calcutta from any of the larger ports of Great Britain. The difference between 40*s*. and 10*s*. 9*d*. is at the present rate of exchange nearly Rs. 15, which would pay for the carriage of a ton of grain for about 600 miles by railway. No argument could better illustrate the advantages that a large port has over a small one than the above rates.

6. I do not think there is any possibility of Masulipatam ever being made a good port, and I therefore can see no particular argument in favor of constructing the branch from Bezváda to Masulipatam on the broad gauge.

From the Under-Secretary to the Government of Bombay, Public Works Department, Railway, to the Secretary to the Government of Madras, Public Works Department, dated Bombay Castle, 7th February 1891, No. 302.

I am directed to forward copy of a letter from the Agent and Chief Engineer, Southern Mahratta Railway Company, No. 106, dated 30th January 1891, having reference to a proposed extension of the Bellary-Kistna Railway to Masulipatam, and to request that you will be good enough to afford me any information you may have regarding this project.

From the Agent and Chief Engineer, Southern Mahratta Railway Company (Limited), to the Consulting Engineer for Railways, dated Dharwar, 30th January 1891, No. 106.

I have the honor to inquire if any orders have been issued by the Government of Madras regarding a line in continuation of the Bellary-Kistna Railway to Masulipatam and if it is intended to construct it on the standard or metre gauge.

2. I take the opportunity of pointing out that it is most important to the Southern Mahratta Railway Company that they should have access to an eastern port and thus complete their main line practically from coast to coast. My Board are ready to construct the line on either gauge; but, as it is not probable that the traffic will pay for more than the cost of a narrow gauge line, the latter will, I believe, be preferred by my Directors.

3. When I accompanied His Excellency the late Governor of Madras to Masulipatam last September, I was given to understand that a request for a survey of the line would be sent to me at once, and I expressed my readiness to undertake it, the Collector of the district at the same time promising to send me the necessary information on the subject, which he has since kindly done.

ORDER—dated 26th February 1891, No. 521 R., Public Works.

Ordered to be forwarded to the Government of India for favor of decision.

2. His Excellency the Governor in Council is of opinion that the railway from Bezváda to Masulipatam should be constructed on the metre gauge, the same as that of the Bellary-Kistna Railway leading from Bezváda through Guntakal to the districts which usually suffer most from famine in dry seasons, and that it should be worked and constructed as part of the Southern Mahratta system.

3. A copy of these Proceedings, together with the Government orders noted below, will be forwarded to the Government of Bombay with reference to its letter No. 302, dated 7th February 1891:—

No. 1767 R., dated 11th November 1890.
" 1837 R., " 19th " "
" 2011 R., " 13th December "
" 77 R., " 12th January 1891.

(Here enter No. 522 R., dated 26th February 1891.)

(True Extract.)

Major, R.E.,
Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Government of Bombay, Public Works Department, Railway Branch.

Exd. A. D. Xavier.
Spare Copies

RAILWAY.

Govt. of {1891} Madras.

PUBLIC WORKS.

REGISTER
No. 277
FILE
No.

Dated February, 26th.

Recd. *Encl*

G.O., 26th Feb. 1891, No. 521 R.

FEBRUARY.

Vide G.O. No. 1326 R 6/6/91

Copy to A.V. with letter No 522
10/10/6/91

Bezvada-Masulipatam Railway

Ordered that the correspondence regarding the proposed — be forwarded for the decision of the Government of India.

MADRAS RAILWAY.

PROPOSED LINE FROM MADRAS TO BEZWADA.

REPORT

ON THE SURVEY OF THE BEZWADA-MASULIPATAM BRANCH.

(WITH INDEX MAP.)

MADRAS, *15th May 1891.*

RAILWAY.

Govt. of {1891} Madras.

PUBLIC WORKS.

REGISTER
No. 277
FILE
No.

Dated February, 26th.

Recd. *Encl*

G.O., 26th Feb. 1891, No. 521 R.

FEBRUARY.

Vide Gov. No 1326 R 6/4/91

Copy to A.W. with letter No 522
D/10/6/91

Bezvada-Masulipatam Railway

Ordered that the correspondence regarding the proposed — be forwarded for the decision of the Government of India.

MADRAS RAILWAY.

PROPOSED LINE FROM MADRAS TO BEZWADA.

REPORT

ON THE SURVEY OF THE BEZWADA-MASULIPATAM BRANCH.

(WITH INDEX MAP.)

MADRAS, *15th May 1891.*

MADRAS RAILWAY.

PROPOSED LINE FROM MASULIPATAM TO BEZWADA.

REPORT ON THE SURVEY OF THE PROPOSED BRANCH FROM BEZWADA TO MASULIPATAM.

1. Particulars of Survey.—The survey was commenced on the 20th January 1891 and completed on the 10th March. The total distance is 50 miles; this gives a daily average of nearly one mile. The numerous canals and canal plantations around Bezwáda made the work of location in this area one of some difficulty, whilst the alignment through the town of Masulipatam, and the selection of the best site for a station at the Fort Terminus necessitated a great deal of preliminary survey before a satisfactory route could be decided upon.

The alignment throughout has been preserved in a permanent manner by building in large pegs with masonry along the centre line at intervals of half a mile approximately. These fixed points also serve as Bench Marks and their values have reference to Mean Sea Level. The levels originated from a G. T. S. Bench Mark at Bezwáda and were closed on a Bench Mark of the P. W. D. (Irrigation Branch) at Masulipatam Tidal Lock—varying from it by 0·21 foot.

2. Staff employed.—The staff employed consisted of:—

Mr. H. J. Parsons ...	...	... *Engineer in charge.*
„ J. E. Dalgairns ...	...	... *Engineering Assistant.*
„ C. Devaroya Pillay	...	... *Surveyor.*
„ J. W. M. C. Donovan	...	... *Do.*

3. Cost of Survey.—Owing to the unexpectedly heavy transit expenses from Madras to Bezwáda and from Masulipatam to Madras (amounting to about 20 per cent. of the sanctioned allotment of Rs. 7,150) it was found necessary to send in a revised estimate amounting to Rs. 8,000, at an increased cost per mile of Rs. 160.

Neglecting the cost of transit to and from the scene of survey operations, the cost per mile of survey amounts to Rs. 128.

4. Plan and Sections.—The plan and sections to which this Report refers will be forwarded later on. They are:—

1. One roll General Plan.
2. Two rolls Longitudinal Section.

An Index Map is bound up with this Report.

5. General Alignment.—Following the route suggested by the Collector of Kistna in his Memorandum to Government, dated the 7th October 1890, the proposed line starting from Bezwáda Station curves eastwards, crosses the Ellore canal at its 2nd mile, and from miles 2½ to 5 runs between the Ellore and Ryves canals. At the 7th mile the alignment passes through a gap between the Budaméru river and Ryves canal, and at miles 7½ crosses the Bezwáda-Ellore road near the village of Nidama-

nur. It is not considered desirable to place a Station here, as Bezwáda is only 7½ miles distant by road, whilst the station of Gannaveram on the East Coast Railway is distant only 5½ miles. Besides, the adjacent country is liable to severe floods from the Budaméru river, and the Station would of necessity fall in bank and be proportionately costly. Uppulúr marks the commencement of wet cultivation and is the first Station. Onwards, the whole country is one vast rice field yielding yearly luxuriant crops, and is intersected by a net-work of irrigation canals. The Pulléru, a second class navigation canal is crossed at 33¾ miles. The course of the line then passes through the towns and villages of Mánikonda (mile 16), Ventrapragada (mile 20½), Gudiváda (mile 26), Angalur (mile 30¾), Kaotaram (mile 35½), Pedana (mile 42¼), and thence into Masulipatam Town, mile 46½. The alignment here is taken between the outskirts of the native portion of the town and that occupied by the European community. The terminus at the Fort is reached at mile 50, where the line runs alongside the wharf and parallel to the salt water channel communicating by a tidal lock with the Masulipatam-Bezwáda canal. A project is under consideration by the Collector of Kistna for cutting a tidal channel from the terminal lock *directly* towards the bar. This will effect a considerable saving in distance for cargo boats plying between steamers and the wharf, which at present follows the very tortuous course of the backwater.

6. **Principal Towns and Stations.**—The route as surveyed passes the following towns and villages. Only such are enumerated as are station sites. Their mileage from Bezwáda, statistics of population and trade as furnished by local officials and merchants, are appended in each case.

Bezwada.—Population 17,031; Head quarters of the Superintending Engineer II Circle, Irrigation Branch, of the Executive Engineer Kistna Eastern Division, of the Head Assistant Collector, Deputy Collector and the usual Taluq officials. It is a large receiving and distributing centre, a commercial town of rapid growth and increasing importance. When the various lines of railway, under construction and projected, are completed, it will be one of the largest junction Stations in the Presidency, as no less than five lines will converge here. In addition, two main lines of navigable canals originate here; one to Ellore, the other to Masulipatam.

The Goods Traffic along the Bezwâda-Masulipatam Road amounted in 1889–90 to 774,788 maunds, and 67,104 travellers made use of the road.

Uppulur—miles 11; population 1,026. Exports; paddy, *i. e.*, rice in the husk, value Rs. 10,000; dry grains and pulses, Rs. 3,000; oil seeds, Rs. 2,000, condiments such as chillies, coriander seed, turmeric, Rs. 500; tobacco, Rs. 2,000.

Manikonda—miles 16; population 1,742. Exports; paddy, value Rs. 20,000; tobacco, Rs. 1,500; chillies, Rs. 1,000; horse-gram, Rs. 1,500. Imports; miscellaneous to the value of Rs. 1,500 yearly.

Ventrapragada—miles 20½; population 2,000. Exports; paddy, Rs. 30,000; pulses, Rs. 1,000. Imports; condiments and spices consisting of salt, jaggery (coarse sugar), tamarinds, chillies, &c., Rs. 1,000; Masulipatam cloths, Rs. 1,000; lamp oil (castor), Rs. 500; gingelly or cooking oil, Rs. 250. The yearly values of the exports and imports for Uppulúr, Mánikonda and Ventrapragada are probably under-estimated, but such data as could be obtained are given.

Gudivada—mile 26; population 4,731. Exports; chiefly paddy, to the value of 2 lakhs of rupees. Imports; dry grains and pulses, ½ lakh of rupees; condiments

and spices, Rs. 30,000; clothing, obtained from Madras and Masulipatam, Rs. 20,000; arrack (from Bezwáda), ¾ lakh of rupees; firewood, Rs. 12,000. This is the Taluq town and head quarters of the Executive Engineer Gudiváda (Irrigation) Division, also of the usual Taluq officials. It possesses a hospital and post office; also a school established by the Church Missionary Society. The station site occupies a portion of the ruins of an old fort and town, which is the only elevated ground in the neighbourhood. The low lying rice fields around are liable to floods from the Chendraya Drain. Five roads converge at Gudiváda, besides which it is in water communication with the Kolér Lake to the north, and the Masulipatam canal to the south by the Gudiváda channel.

Angalur—mile 30¾; population 2,000. Exports; chiefly paddy to the value of one lakh of rupees. Imports; dry grains and pulses, value Rs. 53,000; tobacco, Rs. 16,000; lamp oil (castor), Rs. 7,200; ghee, Rs. 10,000; condiments and spices, Rs. 16,000; Masulipatam cloths, Rs. 12,000; firewood, Rs. 3,000.

Kaotaram—miles 35½; population 2,414. One and a half miles away is the Pulléru canal, up and down which a large traffic in agricultural produce, salt, timber and bamboos is carried. Exports; paddy to the value of 1½ lakhs of rupees; horse gram, Rs. 10,000. Imports; consisting of dry grains and pulses, cloths, condiments, kerosine oil, arrack, ghee, cooking and lamp oils to the value of ¾ lakh of rupees.

Pedana—miles 42¼; population 4,741. This is a large business centre. Exports; paddy, 2 lakhs of rupees; cotton cloths, 1 lakh, also a large industry in dyeing cloths manufactured elsewhere. Imports; condiments and spices, Rs. 15,000; cotton yarn, ½ lakh; dry grains and pulses, Rs. 5,000; gingelly or cooking oil, Rs. 1,000; lamp oil (castor), Rs. 4,000; ghee, Rs. 10,000; tobacco, Rs. 10,000; arrack, Rs. 6,000; firewood, Rs. 5,000.

Masulipatam Town—mile 46½; population, 38,679. This is the official headquarters of the Judge, the Collector of the Kistna District, the Superintendent of Police, the Deputy and Assistant Collectors, the District Munsiff, the District Registrar, and various other officials. There is a post and telegraph office, hospital and dispensary, also several flourishing mission agencies under the Church Missionary Society. In educational institutions it possesses the Noble College, about to be raised to the first grade; a Hindu High School, a Normal Training School for the whole district and minor scholastic agencies for male and female education. The British India, and Asiatic Steam Navigation Companies' lines of steamers have agencies here and do a large and steadily increasing business. Masulipatam and its neighbourhood form the centre of a large weaving and dyeing industry; the yearly value of the out-turn is stated to be over 5 lakhs of rupees.

Masulipatam Fort—miles 50. This will be the terminus—as it is of the Bezwâda-Masulipatam Canal. The proposed line runs alongside the tidal lock and wharves. A tidal channel, in continuation of the canal, and three miles in length, gives access to the sea coast.

The port of Masulipatam is inferior as far as natural facilities are concerned, steamers and ships have to lie six to seven miles out at the five-fathom anchorage, and there is a bar to cross. Boats up to 25 tons lading can cross the bar at high tide when there is from 3 to 4 feet of water. The port does a large export trade in rice to Negapatam and Ceylon, mainly in native craft, and there seems every likelihood that this special trade will continue to increase. Masulipatam is the nearest port

for the supply of Singareni coal either to Government or to the public. At Manganapudi 7 miles to the northwards there are salt factories which yield 2½ lakhs of maunds per annum, all of which is now taken inland either by canal or on pack bullocks. During the period from 1st April 1890 to 1st March 1891, 200 native crafts and 230 steamers cleared from the port. The total export tonnage amounted to 41,000 tons valued at 32 lakhs of rupees, and the total of imports to 6,000 tons valued at 12 lakhs. For details see tabulated statement in Appendix.

7. Principal Waterways.—The following is a list of the chief canals and rivers crossed, with their waterways and mileage from Bezwáda. The complete scheme for the irrigation of the delta has not yet been worked up to; so that at a future time additional waterways may have to be provided.

Ellore Canal—mile 1; waterway 40 feet and 20 feet extra for canal road. A single span of 60 feet is recommended, with a headway above full supply level of 11 feet.

Uppulur Drain—mile 11; two openings of 20 feet each, headway above bed of stream 8 feet. This receives surplus water from the area under wet cultivation between the Ellore and Ryves canals, also flood waters from the Budaméru river, into which it ultimately runs.

Dosapad Channel—an irrigation canal—mile 21¼; waterway two openings of 20 feet each, and headway above full supply level of 5 feet.

Chendraya Drain—mile 26; this is a main drainage artery receiving all surplus and flood waters from the Budaméru watershed to Gudiváda. It discharges into the Kolér Lake. Proposed waterway, five openings of 40 feet, with a headway above river bed of 8 feet. This waterway is fixed by the consideration that ultimately the bottom width of the channel will be made 180 feet in width, and depth 4 feet. Three 40 feet openings would suffice for its present requirements.

Gudivada Channel—mile 27. An irrigation canal; proposed waterway, two openings of 20 feet each, with a headway above level of full supply of 5 feet.

Komaravole Drain—mile 28; this receives surplus and flood waters from Gudiváda to the Pulléru canal and discharges into the Polraz canal. Proposed waterway, two 40 feet openings with a headway above bed of stream, of 7 feet.

Palakodu Drain—mile 30¾; this is a minor drainage channel discharging into the Komaravóle Drain. Proposed waterway, three openings of 20 feet each—headway above bed of stream, 8 feet.

Pulleru Channel—mile 33¾; for both irrigation and navigation. The line crosses the canal just above Yedlakódu head works, where the Pulléru subdivides into the Polraz and Bantamili canals and the Kaldindi Kodu. The Pulléru provides water communication for the country lying between the Ellore and Masulipatam canals, approaching within a mile of the latter at Pámaru where they are joined by a short branch. Proposed waterway, two openings of 40 feet span, with a headway above full supply level of 9½ feet.

Vadlamanad Affluent—mile 38½. This is a minor drainage channel. Proposed waterway, three openings of 20 feet and headway above bed, of 8 feet.

Lazzabunda Kodu—mile 41. A minor drainage channel. Proposed waterway, three openings of 20 feet, and headway above bed, of 10 feet.

Sultanaram Drain—mile 44½. A major drainage channel, which in addition to local drainage receives Kistna flood waters during extraordinary high floods of that river. Proposed waterway, five openings of 20 feet each, with a headway above bed, of 10 feet.

Level Crossings.—Main lines of road are crossed 12 times and minor routes of communication 40 times. Accordingly 12 double level crossing gates have been estimated for, and 40 single ones.

Gradients and Curves.—The maximum gradient is 1 in 165 and is restricted to short lengths at the crossing of the Ellore and Pulléru canals. The gradient in general use is 1 in 330. The minimum radius of curvature is 42·97 chains, and occurs only three times. Its use is limited to approaches to stations where the speed of trains will be moderate. The radius in general use is 85·95 chains (Gunter's).

Building Materials.—After leaving Bezwáda there is an entire absence of stone. The Bezwáda gneiss will itself have to be selected stone as it varies much in compactness, and is, in general, wanting in homogeneity. Brick-earth of good quality is met with at Gudiváda; the entire soil overlying the ruins of the old town and fort is admirably suited for use in the manufacture of bricks.

The lime in use around Bezwáda is manufactured from kankar (nodular limestone), that at Masulipatam from sea shells.

Ballast.—Except at and near Bezwáda there is a great dearth of good ballast. There is no laterite gravel procurable within a reasonable distance and the sand from the Kristna River is rather too fine for the purpose, and access by a siding to the river bed is difficult. Hence it is proposed to use stone ballast for the entire distance from Bezwáda to Masulipatam. The canals offer great facilities for the delivery of this ballast at various points along the line, such as Nidamanur, Mánikonda, Ventrapragada, Gudiváda, Yedlakodu Lock on the Pulléru Canal, and Masulipatam. From these points the ballast can be distributed by rail; carting is hardly anywhere practicable and the cost prohibitive. This method of delivery and distribution of course applies equally to railway material of every description. Although the Ryves canal and Gudiváda channel are not "Navigation" canals, it is thought that the irrigation authorities will permit of the use on them of a small and manageable size of boat for the transport of materials.

Permanent Way.—With the stone ballast it is proposed to use double-headed steel rails 75 lbs. to the yard, on cast iron chairs and transverse timber sleepers. The sleepers to be of sâl or other approved wood and to measure 10′×10″×5″.

Water and Fuel for Locomotives.—Water is everywhere met with of fair quality and within ten or fifteen feet of the surface. Towards the close of the three months during which the delta is dry (owing to the closure of the canals for the removal of silt) the sub-soil water tends to become brackish; but the quality rapidly improves with the re-opening of the canals. Coal is obtainable, delivered at Bezwáda Station at Rs. 10/8 per ton, but when the Mines of the Hyderabad Deccan Company are more fully developed, and the expected reduction in rates on the Nizam's Guaranteed State Railway is made, a corresponding reduction in price may be expected. The out-put of the Company's mines at Yellandu amounted during 1890 to 125,486 tons; the present out-put is over 500 tons daily.

ABSTRACT ESTIMATE.

Cost of one average mile.

				Rs.	Rs.
Earth Work	Cubic yards	31,265 @ Rs.	0 4 0	7,816	
Bridges (Major and Minor), average cost per mile		...	...	4,488	
Ballasting—stone	Cubic yards	5,084 @ „	1 0 0	5,084	
Cost of Permanent Way Materials ...	Lineal yards	1,760 @ „	13 8 0	23,760	
Laying do. do.	do.	1,760 @ „	0 8 0	880	
Wire Fencing	do.	3,520 @ „	1 0 0	3,520	
			Cost for 1 mile ...	45,548	
			Cost of 50 such Miles		22,77,400

Materials.

Permanent Way—Main Line, 75 lbs. per yard double headed steel rails on cast iron chairs and timber sleepers	Tons	15,731
Permanent Way sidings (6 miles)	„	1,890
Girders and fittings	„	290
Fencing—4 strand wire, cast iron sockets, flat bar standards and straining posts ...	„	940
		18,851

								Rs.	Rs.
Materials ½ delivered at Masulipatam and ½ at Bezwáda :—									
Landing charges at Masulipatam	Tons	9,426 @ Rs.	2	8	0			23,565	
By Canal, Masulipatam to Bezwáda ...	„	9,426 @ „	5	0	0			47,130	
Trucking	„	18,851 @ „	1	0	0			18,851	
Pitching banks exposed to scour	Sq. Yds.	10,000 @ „	1	0	0			10,000	
Diversion and Metalling of Roads		...				...		5,000	
Double gates with signals and Gatekeepers' Lodges, No.		12 @ Rs.	700	0	0			8,400	
Single Gates	„	40 @ „	100	0	0			4,000	
Engineer's Bungalows	„	4 @ „	1,800	0	0			7,200	
Maintenance of way and works for 24 months,	Miles	50 @ „	2,000	0	0			1,00,000	
Mile stones and ½ mile stones	No.	100 @ „	2	0	0			200	
Boundary stones	„	800 @ „	1	0	0			800	
Gradient Boards		...				...		300	
									2,25,446
Contingencies at 5 per cent.		...				...	...		1,25,142
							Cost of 50 miles of Line ...		26,27,988
Cost of 1st Class Station, Masulipatam Town, including Sidings							... ...		3,50,000
Cost of 2, 2nd Class Stations, at Masulipatam Fort and Gudivada including Sidings		...	@ Rs. 33,000				...		66,000
Cost of 6, 3rd Class Stations do.			@ „ 22,000				...		1,32,000
Cost of Establishment, consisting of Engineers, Subordinate and Office Staff @ 2½ per cent.									79,999
Telegraph						...	...		17,000
Rolling Stock						...	...	...	4,25,000
							Total Cost ...		36,97,987
							Total Cost per Mile ...		73,959

Financial Prospects.—It is very difficult to estimate what proportion of the existing canal-borne traffic will go to the railway. During the three months when the canals are closed for the clearance of silt, doubtless the railway will be worked to advantage; but for the remaining nine months of the year the canal will prove a formidable competitor. The canal officers say they want the canals for irrigation and not for navigation. The water requirements of the area brought under wet cultivation will soon overtake the supply available, and water for navigation purposes is grudgingly supplied. The area under wet cultivation amounts to over 2,20,000 acres, and will steadily increase to a maximum of 2,70,000. A reference to the Index map will show that the railway will serve a tract of country away from the main lines of canals, and very poorly provided with roads. Such roads as there are, are very economically maintained, and get badly cut up during the wet weather. It may be safely assumed that the railway will draw all "through" road traffic. The Return of Canal Traffic issued by the Irrigation Department represents mainly the passenger and goods traffic between the terminals of Bezwáda and Masulipatam.

In making a forecast it is assumed that the railway will take the whole of the canal trade between the terminals, and also develop a trade in the districts traversed in the proportion which the population of the intermediate towns and villages bears to the joint population of the terminals.

Upon this assumption then:—

	Passengers. No.	Goods. Tons.	Passengers. No.	Goods. Tons.
Canal Traffic for 9 months of 1889-90 being ...	70,000	33,000		
Do. for 12 months will be			93,333	44,000
The population of the towns and villages intermediate is	20,000			
Do. do. Bezwáda and Masulipatam is...	56,000			
Adding therefore passenger and goods traffic in the proportion the population of the intermediates bears to that of the terminals			33,333	15,714
Road Traffic (for 1889-90)			67,104	27,671
Add 50 per cent. to allow for anticipated development of the road traffic owing to improved means of communication			33,552	13,835
Add for anticipated development of Salt traffic				10,000
Do. do. do. Coal traffic (shipments to Burmah and Madras)				20,000
Total ...			2,27,322	1,31,220

	Rs.
2,27,322 passengers @ 1½ pies per mile for 50 miles	88,798
1,31,220 tons of goods @ 7 pies do. do.	2,39,203
Total receipts ...	3,28,001
Deduct 60 % for working expenses ...	1,96,800
Net receipts ...	1,31,201

which on an outlay of Rs. 36,97,987 gives a return of 3·5 per cent. The bulk of the trade being in grains, a very low rate for goods has been quoted.

In conclusion I have to thank the undermentioned gentlemen for assistance rendered and information supplied during the course of the survey.

Mr. A. T. Arundel ...	*Collector, Kistna District.*
,, H. W. Clift ...	*Executive Engineer, East Coast Railway.*
,, W. Jopp ...	*Executive Engineer, Kistna Eastern Division.*
,, A. B. Todd ...	*Executive Engineer, Gudivada Division.*
,, W. E. Hall ...	*Assistant Collector, Masulipatam.*
Capt. Simpson ...	*Supt. of Sea-Customs, Masulipatam.*
Mr. J. W. Maiden ...	*Chairman, Masulipatam Municipality.*

H. J. PARSONS,
Engineer in charge, B. & M. Survey.

MADRAS RAILWAY,
CHIEF ENGINEER'S OFFICE,
15th May 1891.

Statement shewing the Export and Import tonnage and value of Trade at the port of Masulipatam from 1st April 1890 to 1st March 1891.

EXPORTS. Items.	Tons.	Value.	IMPORTS. Items.	Tons.	Value.	REMARKS.
		Rs.			Rs.	
Cotton and its Manufactures—yards 44,212 ...	...	19,628	Apparel	...	30,136	Duty collected, Exports Rs. 54,410.
Coal	90	900	Twist, Cotton	247	1,50,723	Do Imports ,, 170.
Dyeing and Coloring materials	805½	1,50,614	Cotton manufactures—yards 3,000,000 ...	...	2,50,515	
Paddy and Rice	22,833½	9,12,972	Dyeing and Coloring materials	88	48,929	Port dues collected during the year Rs. 10,035.
Pulse	4,476½	2,88,019	Glass	...	19,936	
Gums and Resins	166½	51,695	Liquor—Gallons 55,000	...	2,43,298	No. of vessels entered the port.
Hides and Skins	78	1,01,162	Metals	259	50,320	Native, 191.
Horns	16½	9,210	Paper	35	12,712	Steamers, 227.
Oils—Gallons 3,847	...	3,699	Provisions	499	41,265	
Provisions	63	37,581	Spices	200	19,209	No. of vessels cleared from the port.
Seeds	11,663	13,43,108	Stationery	...	5,418	Native, 202.
Spices	512	93,567	Umbrellas—No. 8,000	...	9,946	Steamers, 227.
Tobacco and its manufactures	45	16,926	Wool manufactures—yards 9,341	...	11,742	
Wood and its manufactures	62½	9,755	Gunnies—No. 528,000	...	1,14,000	Value of private treasure imported Rs. 1,50,000.
Wool and its manufactures—yards 10,519 ...	...	1,14,700	Wood, &c.	4,008	21,285	
All other Articles	...	11,103	All other Articles	...	1,70,000	Total value of Export Rs. 32,00,000.
Total...	40,812	31,64,639	Total...	5,336	11,99,434	Do Imports ,, 12,00,000.
			Total number of Tons Exported 42,000...			The rate of freight per ton from this port to Madras is Rs. 15-0-0 per ton of 55 c. ft. or 20 cwt. or 6 annas per paddy or rice bag.
			Do. do. Imported 8,000...			

MASULIPATAM,
13th March 1891.

(Signed) J. M. SIMPSON,
Supt. of Sea Customs.

(Signed) W. E. HALL,
for *Collector.*

True Copy.

(Signed) H. J. PARSONS,

AL

(No. II.)
No. 6630
517

Kind by falling papers

A

99

SERIAL
No. 10

MADRAS RAILWAY.

From the Cong. Engr. for Railways, Madras

AGENT AND MANAGER'S OFFICE,

Madras, 22 May 1891

From

A 19
17

The Agent and Manager.

M. R. C

To

The Consulting Engineer for Railways.

Madras.

SIR,

I have the honor to forward herewith for the information of Government 6 copies of a report* by Mr Parsons on the survey of the proposed branch of railway from Bezwada to Masulipatam.

I have the honor to be,
Sir,
Your most obedt. Servt.

Francis W. Hamm
Agent & Manager

Vide letter No
522 D/ 11/6/91

8

REGISTER No. 483

Sn. 1

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer for Railways.

Dated 22nd May 1891

Recd. [illegible] 25/5

No. 517

Report on the Survey of a proposed Branch from Bezwarda to Masulipatam - forwarded

This letter may be returned to Madras with the G.O. regarding estimate for mixed gauge, which H.M. must be asked to prepare.

[illegible] 5/6

[illegible] 1326 R. [illegible] 6-6-91 [illegible]

Put up all papers [illegible] 9/6/-

Send G. of I. letter & any correspondence affecting the question to the A.M. for favor of preparing the estimates for the mixed gauge line

[illegible] 9/6/-

SERIAL No. 24

Form

6th June 1891, No. 1326 R., Public Works.

101

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

6P

Railway.

Read the following paper :—

From the 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, 13th May 1891, No. 446 R.C.

S. No. 23

I am directed to acknowledge the receipt of your No. 522 R., dated 26th February 1891, forwarding, for orders, correspondence regarding the gauge that should be adopted for the proposed Bezváda-Masulipatam Railway.

2. It is observed that His Excellency the Governor in Council is of opinion that this line, if made, should be on the same gauge as the Bellary-Kistna Railway, which leads from Bezváda through Guntakal to the districts that generally suffer most from famine in dry seasons and that it should be constructed and worked as part of the Southern Mahratta Railway system.

3. In reply, I am directed to inform you that His Excellency the Governor-General in Council, while agreeing with the Government of Madras that there are strong reasons why the proposed line should connect without break of gauge with the Bellary-Kistna Railway, is of opinion that it should not be made as a metre gauge railway pure and simple.

4. Having regard to the position of the Bezváda-Masulipatam line in reference to His Highness the Nizam's Railway, the East Coast Railway, and the possible extension of the East Coast line southwards from Bezváda to Madras, all of which are or will be on the standard gauge, His Excellency the Governor-General in Council has come to the conclusion that the case will be best met by constructing the proposed railway, if the necessary money can be provided, on the mixed gauge from the first.

5. Before expressing an opinion on the question of the agency by which the line should be constructed, the Government of India will await the result of the survey recently undertaken by the officers of the Madras Railway Company, who should be instructed to prepare estimates for a mixed gauge line.

Order—dated 6th June 1891, No. 1326 R., Public Works.

Communicated to the Consulting Engineer for Railways, for necessary action, with reference to Proceedings No. 521 R., dated 26th February 1891.

(True Extract.)

[illegible]

Captain, R.E.,
Offg. Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Examiner, Public Works Accounts, with copy of G.O., No. 521 R., dated 26th February 1891.

to A.M. [illegible] 20/6/-

Copy to the Government of Bombay, Public Works Department, Railway Branch, for information.

Exd. A. D. Xavier.

50 Spare Copies

REGISTER No. 483

Sn. 1

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Dated 22nd May 1891

Recd. [illegible] 25/5

No. 517

Report on the Survey of a proposed Branch from Bezwarda to Masulipatam - forwarded

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[illegible]

[illegible] 1326 R. [illegible]

Put up all papers [illegible] 9/6/-

Send G. of I. letter & any correspondence affecting the question to the A.M. for favor of preparing the estimates for the mixed gauge line

[illegible] 9/6/-

SERIAL No. 24

Form

6th June 1891, No. 1326 R., Public Works.

101

Print

x20/17

6P

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

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5. Before expressing an opinion on the question of the agency by which the line should be constructed, the Government of India will await the result of the survey recently undertaken by the officers of the Madras Railway Company, who should be instructed to prepare estimates for a mixed gauge line.

Order—dated 6th June 1891, No. 1326 R., Public Works.

Communicated to the Consulting Engineer for Railways, for necessary action, with reference to Proceedings No. 521 R., dated 26th February 1891.

(True Extract.)

[signature]

Captain, R.E.,
Offg. Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Examiner, Public Works Accounts, with copy of G.O., No. 521 R., dated 26th February 1891.

to A.M. [illegible] 20/6/-

Copy to the Government of Bombay, Public Works Department, Railway Branch, for information.

Exd. A. D. Xavier.

50 Spare Copies

RAILWAY.

Govt. of {1891} Madras.

PUBLIC WORKS.

Dated June, 6th.

Recd. Encl.

G.O., 6th June 1891, No. 1326 R.

JUNE.

Vide letter to A M No. 522 of 11/6/91

Bezvada-Masulipatam Railway

Letter from the Government of India stating that the — should be constructed on the mixed gauge, communicated to the Consulting Engineer for Railways.

SERIAL No. 25

103

FORM No. 4.

MADRAS, 11th June 1891.

To

AGENT AND MANAGER, M. R.

No. 522 Reply No. 523 dated 5-8-91

218/17

2 P

SIR,

× with G.O. 2718 R of 14-11-91

Reminders. * No. 1087 of 25.11.90. ✓
" 8 " 6.1.91. ✓
" 42 " 16.1.91. ✓

With reference to your No. 6630/517 dated the 22nd May, 1891 and to this office endorsements marginally quoted on the subject of the proposed Bezvada-Masulipatam Railway, I have the honour to forward for information copies of Progs of Govt: No. 1837 R of 19-11-90, No. 521 R of 26.2.91 and No. 1826 R of 6.6.91 and to request that, in compliance with para 5 of letter from the Govt of India P.W.D. No. 446. R.C. of 13th May, embodied in the last Proceedings, you will be good enough to prepare and submit estimates for a mixed gauge line

G. S. C. of Gv.

10/6/-

Subject.

10 Printed copies of Gv. 1326 R Sent to A M 20/6/91

MADRAS RAILWAY.

MADRAS–BEZWADA EXTENSION.

SURVEY OF BEZWADA–MASULIPATAM BRANCH.

EXPLANATORY NOTES TO ACCOMPANY THE PLANS, SECTIONS AND ESTIMATES.

1. **List of Plans and Sections, &c.**—These comprise the following:—

2 Rolls of Plans:—

No. 1 From 0 miles to 25 miles.
„ 2 „ 25 „ to 50 „

2 Rolls of Sections:—

No. 1 From 0 miles to 25 miles.
„ 2 „ 25 „ to 50 „

6 Copies of Tabulated Details and Estimates for standard gauge.
6 Copies of do. do. do. a mixed gauge (standard and metre).

As no Revenue Survey Map to a scale of 1 mile to 1 inch is available, it is assumed that the index map (scale 4 miles to 1 inch) attached to the printed report already submitted will suffice for general reference.

2. Character of Survey.—Although this was undertaken as a preliminary survey, it fulfils many of the conditions of the more complete survey specified in the Rules for the Preparation of Railway Projects. From the results obtained it has been found practicable to adhere very closely to the alignment fixed by Mr. A. T. Arundel, Collector of the Kistna District. The trivial deviations indicated at a few places on the plan will not materially affect the section, and can be easily pegged out by reference to the masonry pillars erected on the line actually surveyed. The pegging out of the curves was omitted as unnecessary for the purposes of this survey, and the levels were taken at intervals of 5 chains (Gunter's).

3. Scales of Plans and Sections.—In order to make these plans and sections uniform with those of the main line from Madras to Bezwáda—of which project this branch is only a small portion,—it was considered advisable to adopt the same scales, *viz.*, 4 chains (Gunter's) or 264 ft. to 1 inch horizontal, and 40 ft. to 1 inch vertical. These scales have accordingly been adhered to.

4. Land.—With the exception of about 8 miles which fall in the Nusvéd Zemindary, the whole of the alignment traverses British Territory, and chiefly the Eastern Kistna Delta. The first 10, and last 8, miles consist of land under dry cultivation and waste land respectively, and the remaining portion runs through a vast

ment of the station may demand, as has been experienced at Gooty, from which this type of station has been taken. Estimated initial cost, for standard gauge only, Rs. 2,70,000; for mixed gauge, Rs. 4,25,000.

At Bezwáda it has not been found practicable to frame an accurate estimate of the junction arrangements as no comprehensive plan has yet been prepared showing the alterations and additions required at the existing station for the accommodation of the Masulipatam Branch, whether constructed on purely the standard gauge, or on the mixed gauge. A lump sum therefore of Rs. 50,000 has been entered for the former, and Rs. 75,000 for the latter.

11. Ballast and Permanent Way.—It is proposed to use broken stone ballast throughout, as this is the only material available, and its distribution will be costly. As regards the type of permanent way for the standard gauge, it is proposed to adopt 75 lbs. steel rails of "bull-headed" section, and 30 ft. long, keyed into cast iron chairs supported on timber sleepers (1,760 to a mile) 10′×10″×5″. As already explained in para. 6, it is proposed to accommodate the metre-gauge along the main line by the insertion of a third rail of the same length, section and weight, fastened to the sleepers in the same manner. Within the limits of all station yards the main line and sidings of the metre-gauge will be laid separately, and for this portion the estimate provides for the lighter type of 50 lbs. flat-footed rails spiked to timber sleepers 6′×8″×5″.

12. Electric Telegraph.—The amount entered under this head provides for the requisite "Needle" and "Block" instruments, electric starting semaphores, and general fittings at the several stations only. As regards the main line of Telegraph, it is assumed that the existing Government line will be utilized for the branch by slightly altering its present alignment.

13. Rolling Stock.—Based on figures supplied by the Locomotive Superintendent for the Madras—Bezwáda extension, the rolling stock for the standard gauge has been taken at Rs. 7,010 per mile; and in the absence of data in this office for computing this item for the metre-gauge, the same figure has been adopted as sufficiently approximate. The rolling stock therefore for the mixed gauge stands at Rs. 14,020 per mile, or double that for a single gauge.

14. Traffic and Statistics.—Reference is invited to the printed Report (with Index Map) previously submitted, in which full particulars of the nature of the country, statistics of population and trade and financial prospects have been recorded.

The results obtained from the two sets of Tabulated Details and Estimates now forwarded shew that the cost of the Bezwáda—Masulipatam Branch (50 miles), if constructed on purely the standard gauge, will amount to Rs. 37,53,756, or at the rate of Rs. 75,075 per mile; and if for a mixed gauge, Rs. 49,27,048, or at the rate of Rs. 98,541 per mile.

HENRY C. WEST,
Deputy Chief Engineer.

MADRAS RAILWAY COMPANY.
CHIEF ENGINEER'S OFFICE,
MADRAS,
5th August 1891.

(A. & M. I.)

No. 6630/823

109

SERIAL No. 14

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 5th August 1891

From

The *Agent and Manager.*

To

The *Consulting Engineer for Railways.*

SIR,

With reference to your letter No 522 dated the 11th June 1891 calling for an estimate for a mixed gauge line from Bezwada to Masulipatam I have the honor to forward herewith a deal case containing the following:-

2 Rolls of Plan
2 Rolls of Section
6 copies of tabulated details prepared for the standard gauge.
6 copies of tabulated details prepared for a mixed gauge
and 6 copies of explanatory notes by the Deputy Chief Engineer

REGISTER
No. 829
FILE
No.

MADRAS RAILWAY.

From

To

The Agent and Manager.

The Consulting Engineer
for Railways.

Dated 5 August 1891

Rcd. 6-8-91

Acknowledged No. 665/823

Date received

Papers herewith

Forwarding Plan
Sections &c connected with the Bezvadah and Masulipatam line.

SERIAL
No. 34

113

14TH NOVEMBER 1891, No. 2718 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

From the Consulting Engineer for Railways, dated 5th September 1891, No. 791 A.

ENCLOSURES.

From the Agent and Manager, Madras Railway Company, to the Officiating Consulting Engineer for Railways, dated Madras, 22nd May 1891, No. 6630/517.

I have the honour to forward, herewith, for the information of Government, six copies of a report by Mr. Parsons on the survey of the proposed branch railway from Bezváda to Masulipatam.

From the Agent and Manager, Madras Railway Company, to the Consulting Engineer for Railways, dated Madras, 5th August 1891, No. 6630/823.

With reference to your letter No. 522, dated the 11th June 1891, calling for an estimate for a "mixed gauge" line from Bezváda to Masulipatam, I have the honour to forward herewith a deal case containing the following:—

Two rolls of plan,
Two rolls of section,
Six copies of tabulated details prepared for the standard gauge,
Six copies of tabulated details prepared for a mixed gauge, and
Six copies of explanatory notes by the Deputy Chief Engineer.

I shall be happy to furnish any additional copies that may be required on hearing from you.

Endorsement by the Consulting Engineer for Railways.

Submitted to Government with reference to its Proceedings, dated 11th November 1890, No. 1767 R., and 6th June 1891, No. 1326 R.

2. The Agent and Manager in his No. 6630/823, dated 5th August 1891, submits an estimate for the construction of a "mixed gauge" line of railway, 50 miles in length, from Bezváda to Masulipatam and also an estimate for the construction of the line on the "standard gauge" only, as this latter was in course of preparation prior to the receipt of orders to furnish estimates for a "mixed gauge" line.

3. The estimated cost of the line is Rs. 49,27,048 for the "mixed gauge" at the rate of Rs. 98,541 per mile and Rs. 37,53,756 for the "standard gauge," or Rs. 75,075 per mile. The estimate for the standard gauge line submitted by Agent under his letter No. 6630/517 of the 22nd May 1891 and as shown in the report accompanying it amounted to Rs. 56,97,987 or Rs. 73,959 per mile, or about Rs. 1,000 per mile less than the figures now put forward. The alignment followed is that recommended by the Collector of the Kistna district.

4. The estimates received have been prepared in precisely the same form as those for the Madras-Bezváda project and may be considered as coming under the head of "approximate estimates" as specified in the rules for the preparation of railway projects, inasmuch as they consist chiefly of tabulated details with the main and sub-heads shown in lump sums only.

They are also unaccompanied by any of the working drawings for bridges and works prescribed for "detailed estimates."

REGISTER
No. 829
FILE
No.

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer
for Railways.

Dated 5th August 1891

Read 6-8-91

Acknowledge No. 6630/823

Date received —

Reply —

Forwarding plan & reducing to 4 miles per inch the Bezwada Masulipatam line.

SERIAL
No. 34

14TH NOVEMBER 1891, No. 2718 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

From the Consulting Engineer for Railways, dated 5th September 1891, No. 791 A.

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Two rolls of plan,
Two rolls of section,
Six copies of tabulated details prepared for the standard gauge,
Six copies of tabulated details prepared for a mixed gauge, and
Six copies of explanatory notes by the Deputy Chief Engineer.

I shall be happy to furnish any additional copies that may be required on hearing from you.

Endorsement by the Consulting Engineer for Railways.

Submitted to Government with reference to its Proceedings, dated 11th November 1890, No. 1767 R., and 6th June 1891, No. 1326 R.

2. The Agent and Manager in his No. 6630/823, dated 5th August 1891, submits an estimate for the construction of a "mixed gauge" line of railway, 50 miles in length, from Bezváda to Masulipatam and also an estimate for the construction of the line on the "standard gauge" only, as this latter was in course of preparation prior to the receipt of orders to furnish estimates for a "mixed gauge" line.

3. The estimated cost of the line is Rs. 49,27,048 for the "mixed gauge" at the rate of Rs. 98,541 per mile and Rs. 37,53,756 for the "standard gauge," or Rs. 75,075 per mile. The estimate for the standard gauge line submitted by Agent under his letter No. 6630/517 of the 22nd May 1891 and as shown in the report accompanying it amounted to Rs. 36,97,987 or Rs. 73,959 per mile, or about Rs. 1,000 per mile less than the figures now put forward. The alignment followed is that recommended by the Collector of the Kistna district.

4. The estimates received have been prepared in precisely the same form as those for the Madras-Bezváda project and may be considered as coming under the head of "approximate estimates" as specified in the rules for the preparation of railway projects, inasmuch as they consist chiefly of tabulated details with the main and sub-heads shown in lump sums only.

They are also unaccompanied by any of the working drawings for bridges and works prescribed for "detailed estimates."

REGISTER
No. 829
FILE
No.

MADRAS RAILWAY.

From

To

The Agent and Manager.

The Consulting Engineer
for Railways.

Dated 5th August 1891

Rcd. 6-8-91

Acknowledge [illegible]

Date reqd. [illegible]

No. 6630
823

Forwarding Report on Survey of proposed Branch with the Estimate thereof.

SERIAL
No. 34

113

14TH NOVEMBER 1891, No. 2718 R., PUBLIC WORKS.

30-31
1819
17

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

From the Consulting Engineer for Railways, dated 5th September 1891, No. 791 A.

SNo. 28

ENCLOSURES.

From the Agent and Manager, Madras Railway Company, to the Officiating Consulting Engineer for Railways, dated Madras, 22nd May 1891, No. 6630/517.

SNo. 23 (2)

I have the honour to forward, herewith, for the information of Government, six copies of a report by Mr. Parsons on the survey of the proposed branch railway from Bezváda to Masulipatam.

From the Agent and Manager, Madras Railway Company, to the Consulting Engineer for Railways, dated Madras, 5th August 1891, No. 6630/823.

SNo. 26

With reference to your letter No. 522, dated the 11th June 1891, calling for an estimate for a "mixed gauge" line from Bezváda to Masulipatam, I have the honour to forward herewith a deal case containing the following:—

Two rolls of plan,
Two rolls of section,
Six copies of tabulated details prepared for the standard gauge,
Six copies of tabulated details prepared for a mixed gauge, and
Six copies of explanatory notes by the Deputy Chief Engineer.

I shall be happy to furnish any additional copies that may be required on hearing from you.

Endorsement by the Consulting Engineer for Railways.

Submitted to Government with reference to its Proceedings, dated 11th November 1890, No. 1767 R., and 6th June 1891, No. 1326 R.

2. The Agent and Manager in his No. 6630/823, dated 5th August 1891, submits an estimate for the construction of a "mixed gauge" line of railway, 50 miles in length, from Bezváda to Masulipatam and also an estimate for the construction of the line on the "standard gauge" only, as this latter was in course of preparation prior to the receipt of orders to furnish estimates for a "mixed gauge" line.

3. The estimated cost of the line is Rs. 49,27,048 for the "mixed gauge" at the [illegible] of Rs. 98,541 per mile and Rs. 37,53,756 for the "standard gauge," or Rs. 75,075 [illegible] mile. The estimate for the standard gauge line submitted by Agent under his [illegible]er No. 6630/517 of the 22nd May 1891 and as shown in the report accompanying it amounted to Rs. 36,97,987 or Rs. 73,959 per mile, or about Rs. 1,000 per mile less than the figures now put forward. The alignment followed is that recommended by the Collector of the Kistna district.

4. The estimates received have been prepared in precisely the same form as those for the Madras-Bezváda project and may be considered as coming under the head of "approximate estimates" as specified in the rules for the preparation of railway projects, inasmuch as they consist chiefly of tabulated details with the main and sub-heads shown in lump sums only.

They are also unaccompanied by any of the working drawings for bridges and works prescribed for "detailed estimates."

The plans and sections of the line are not got up in accordance with the rules for the preparation of railway projects; but in this case, as in that of the Madras-Bezváda line, this is to a great extent explained in the notes accompanying the plans, sections and estimates, the new rules having been received subsequent to the commencement of work.

The chief differences are the same as those noted in the report on the Madras-Bezváda scheme.

The ruling gradient is 1 in 165 or ·66 feet per cent., although the ordinary gradient is only 1 in 330 or ·33 per cent.

The minimum radius of curve is 2,836 feet, but the radius of the ordinary curve adopted is 5,673 feet.

5. In the particulars of construction of important bridges, one bridge of two 40 feet spans is estimated at Rs. 12,000, while in the bridge abstract it is put at Rs. 11,000; this is probably due to a clerical error in one of the tables and Rs. 11,000 has been assumed to be the correct figure. The cost of bridges is small, being only Rs. 4,488 per mile. The largest bridge is five spans of 40 feet, and the total water-way gives an average of 33 lineal feet per mile.

6. The "preliminary expenses" placed at Rs. 160 per mile are low when compared with the amount allowed on the East Coast Railway, which is put down at Rs. 563 per mile including "survey expenses," "plant" and "establishment," and an additional Rs. 300 per mile would seem a fair amount to add, bringing the cost of this head up to Rs. 460 per mile.

7. The cost of "land" has been excluded from the estimate, but taking the cost per acre of wet land at Rs. 450 and of dry at Rs. 10 per acre, the total addition to the estimate for "land" would be Rs. 3,70,000.

8. *Earthwork.*—In the Bezváda-Masulipatam estimate, Rs. 7,816 per mile for an average 5·25 feet height of bank is provided *versus* Rs. 7,491 and a 4·6 feet height respectively for the Madras-Bezváda line. The rates are not given, but the estimate seems rather low. The East Coast Railway provides Rs. 8,557 per mile.

9. *Ballast.*—As regards ballast, a fair figure has been allowed. It amounts to Rs. 6,990 a mile *versus* Rs. 2,934 estimated in the Madras-Bezváda scheme, the former being for stone and the latter for sand and laterite. On the East Coast Railway Rs. 7,090 per mile is allowed.

10. *Permanent-way.*—In this estimate no provision has been made for "loss by exchange," but the sums provided for permanent-way and bridges may perhaps be accepted as reasonably sufficient.

The figures for permanent-way compare with East Coast figures as follows:—

	Per mile, Rs.
Mixed gauge	30,360
Standard gauge	24,640
[illegible]	27,500

(Here enter No. 2719 R., dated 14th November 1891.)

(True Extract.)

Captain, R.E.,
Offg. Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Examiner, Guaranteed Railway Accounts.
" Examiner, Public Works Accounts.
" Examiner, East Coast Railway Accounts.
" Engineer-in-Chief, East Coast Railway.
" Financial Department.
" Revenue Department.

Exd. C. A. Munisawmy.
Spare Copies

Endorsement - dy 14. Nov 1891. to 2719. R. P.W.
Forwarded
(By order)
(Sd) [illegible]

This plan, however, has the advantage of great simplicity and is recommended for adoption. The disadvantages are on the score of increased cost over the "mixed gauge" plan, involving as it does an overbridge and duplicate goods sheds, loading platforms, water columns, and also, in the case of the first-class stations of Masulipatam, duplicate engine and carriage sheds, turn-tables, &c., but some of these individual works, such as goods sheds, loading platforms, engine and carriage sheds, taken separately could be constructed of smaller area than the joint works required for use by both gauges. If severe economy were to be studied, arrangements could, it is considered, be made to make one engine shed, carriage shed and turn-table do the work of both gauges for either scheme.

13. In the report some slight saving is anticipated from the use of a lighter rail for the separate metre gauge track compared with the third rail of broad gauge section in the "mixed gauge scheme," but this is more than counterbalanced by the extra rail involved in the "island platform" plan. The advantages claimed on the score of saving in station staff is doubtful, for, with a "mixed gauge" station arrangement, one staff could similarly do the whole work. In the same way one booking office, waiting shed, set of signals can be used in either scheme as is often the practice now at junctions where there is a break of gauge.

14. The special advantage the "island platform" plan possesses over the mixed gauge scheme is in simplicity and in the avoidance of complicated points and crossings, and the shunting is made safer, simpler and more expeditious and more accommodation for traffic purposes is provided.

15. As regards Bezváda junction station, the entry of the Bezváda-Masulipatam line into the yard is adequately provided for by the Engineer-in-Chief, Kistna Bridge, whose detailed plan of junction arrangements is now before Government.

16. Under the head "staff quarters," the provision is liberal and probably savings can be made under Assistant Traffic Manager's and Resident Engineer's houses and guards' quarters at Masulipatam.

17. It was not found practicable to frame an accurate estimate of the junction arrangements at Bezváda for which a lump sum of Rs. 50,000 for the "standard gauge" and Rs. 75,000 for the "mixed gauge" has been entered.

18. In the light of the above remarks, the following alterations and additions might be made in the estimate for both gauges:—

	Rs.
Cost of land	3,70,000
Addition, estimated at Rs. 300 per mile for preliminary expenses for 50 miles	15,000
Total ...	3,85,000

This would raise the total cost of the whole line to Rs. 53,12,048 and Rs. 41,38,756

The plans and sections of the line are not got up in accordance with the rules for the preparation of railway projects; but in this case, as in that of the Madras-Bezváda line, this is to a great extent explained in the notes accompanying the plans, sections and estimates, the new rules having been received subsequent to the commencement of work.

The chief differences are the same as those noted in the report on the Madras-Bezváda scheme.

The ruling gradient is 1 in 165 or ·66 feet per cent., although the ordinary gradient is only 1 in 330 or ·33 per cent.

The minimum radius of curve is 2,836 feet, but the radius of the ordinary curve adopted is 5,673 feet.

5. In the particulars of construction of important bridges, one bridge of two 40 feet spans is estimated at Rs. 12,000, while in the bridge abstract it is put at Rs. 11,000; this is probably due to a clerical error in one of the tables and Rs. 11,000 has been assumed to be the correct figure. The cost of bridges is small, being only Rs. 4,488 per mile. The largest bridge is five spans of 40 feet, and the total water-way gives an average of 33 lineal feet per mile.

6. The "preliminary expenses" placed at Rs. 160 per mile are low when compared with the amount allowed on the East Coast Railway, which is put down at Rs. 563 per mile including "survey expenses," "plant" and "establishment," and an additional Rs. 300 per mile would seem a fair amount to add, bringing the cost of this head up to Rs. 460 per mile.

7. The cost of "land" has been excluded from the estimate, but taking the cost per acre of wet land at Rs. 450 and of dry at Rs. 10 per acre, the total addition to the estimate for "land" would be Rs. 3,70,000.

8. *Earthwork.*—In the Bezváda-Masulipatam estimate, Rs. 7,816 per mile for an average 5·25 feet height of bank is provided *versus* Rs. 7,491 and a 4·6 feet height respectively for the Madras-Bezváda line. The rates are not given, but the estimate seems rather low. The East Coast Railway provides Rs. 8,557 per mile.

9. *Ballast.*—As regards ballast, a fair figure has been allowed. It amounts to Rs. 6,990 a mile *versus* Rs. 2,934 estimated in the Madras-Bezváda scheme, the former being for stone and the latter for sand and laterite. On the East Coast Railway Rs. 7,090 per mile is allowed.

10. *Permanent-way.*—In this estimate no provision has been made for "loss by exchange," but the sums provided for permanent-way and bridges may perhaps be accepted as reasonably sufficient.

The figures for permanent-way compare with East Coast figures as follows:—

	Per mile. Rs.
Mixed gauge	30,360
Standard gauge	24,640
East Coast Railway	27,580

Thus under "permanent-way" for the "standard gauge" Rs. 24,640, exclusive of cost of carriage of material in India, per mile for the Bezváda-Masulipatam line has been provided as against an original estimate of Rs. 16,720 per mile for the Madras-Bezváda Railway which again excluded carriage of material.

11. For the standard gauge scheme, the amount allowed for rolling stock, viz., Rs. 7,010 per mile, which does not cover loss by exchange, is low, and, as recommended in the report on the Madras-Bezváda line, about Rs. 12,206 would seem a more reasonable estimate. In the mixed gauge scheme, however, the amount allowed is double that for the standard gauge and Rs. 14,021 per mile should be ample, as a mixed gauge line would certainly not require double the quantity of rolling stock provided for a standard gauge railway. The amounts may, it is thought, be allowed to stand.

12. A high rate is allowed for "stations and buildings," but for the "mixed gauge" scheme this may be accounted for partly by the expensive arrangements of stations on the "island platform" system.

This plan, however, has the advantage of great simplicity and is recommended for adoption. The disadvantages are on the score of increased cost over the "mixed gauge" plan, involving as it does an overbridge and duplicate goods sheds, loading platforms, water columns, and also, in the case of the first-class stations of Masulipatam, duplicate engine and carriage sheds, turn-tables, &c., but some of these individual works, such as goods sheds, loading platforms, engine and carriage sheds, taken separately could be constructed of smaller area than the joint works required for use by both gauges. If severe economy were to be studied, arrangements could, it is considered, be made to make one engine shed, carriage shed and turn-table do the work of both gauges for either scheme.

13. In the report some slight saving is anticipated from the use of a lighter rail for the separate metre gauge track compared with the third rail of broad gauge section in the "mixed gauge scheme," but this is more than counterbalanced by the extra rail involved in the "island platform" plan. The advantages claimed on the score of saving in station staff is doubtful, for, with a "mixed gauge" station arrangement, one staff could similarly do the whole work. In the same way one booking office, waiting shed, set of signals can be used in either scheme as is often the practice now at junctions where there is a break of gauge.

14. The special advantage the "island platform" plan possesses over the mixed gauge scheme is in simplicity and in the avoidance of complicated points and crossings, and the shunting is made safer, simpler and more expeditious and more accommodation for traffic purposes is provided.

15. As regards Bezváda junction station, the entry of the Bezváda-Masulipatam line into the yard is adequately provided for by the Engineer-in-Chief, Kistna Bridge, whose detailed plan of junction arrangements is now before Government.

16. Under the head "staff quarters," the provision is liberal and probably savings can be made under Assistant Traffic Manager's and Resident Engineer's houses and guards' quarters at Masulipatam.

17. It was not found practicable to frame an accurate estimate of the junction arrangements at Bezváda for which a lump sum of Rs. 50,000 for the "standard gauge" and Rs. 75,000 for the "mixed gauge" has been entered.

18. In the light of the above remarks, the following alterations and additions might be made in the estimate for both gauges:—

	Rs.
Cost of land	3,70,000
Addition, estimated at Rs. 300 per mile for preliminary expenses for 50 miles	15,000
Total ...	3,85,000

This would raise the total cost of the whole line to Rs. 53,12,048 and Rs. 41,38,756 or Rs. 1,06,241 and Rs. 82,775 per mile respectively.

19. The financial prospects of the proposed line appear fairly good. The country traversed, the Eastern Kistna delta, comprises highly irrigated rice lands aggregating 220,000 acres in area, which is expected to increase to 270,000 acres, an extent of more than 400 square miles. The district is thickly populated, the number of inhabitants per square mile averaging 216, and in addition to serving several large villages the line connects what may be one of the largest railway junctions in India with a port of 48,000 inhabitants and a sea trade of nearly Rs. 47,00,000 per annum.

The district to be traversed by the proposed railway is deficient in means of communication being indifferently served by two canals, which are annually closed for three months and whose location as a traffic export route does not sufficiently serve the delta.

20. The estimated traffic over the line as derived by the Madras Railway Company from the local authorities is put down yearly at —

	Rs.
227,322 passengers at 1½ pies per mile	88,798
131,220 tons of goods at 7 pies per mile	2,39,203
Total ...	3,28,001

is settled as to any alteration between Bezváda and Guntúr, and no action is to be based on any suppositions regarding such alteration except that for the present expenditure at Bezváda to be limited as desired in my No. 790 R.C.

Order—dated 23rd November 1891, No. 2833 R., Public Works.

Ordered that the Government of India be addressed.

(Here enter No. 2834 R., dated 23rd November 1891.)

(True Extract.)

(Signed) W. H. COAKER, Lieut.-Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Exd. C. A. Munisawmy.
Spare Copies

121

RAILWAY.

Govt. of {1891} Madras.

PUBLIC WORKS.

Dated November, 23rd.

Recd. *Encl.*

G.O., 23rd Nov. 1891, No. 2833 R.

NOVEMBER.

Station arrangements at Bezvada

Ordered that the Government of India be addressed in regard to Guntúr being selected as the site for the junction of the broad gauge from Bezváda to Madras with the metre gauge system of the Southern Mahratta Railway.

123

GENERAL 37

23rd November 1891, No. 2834 R., Public Works.

PUBLIC WORKS DEPARTMENT.

Railway.

Letter—from

Lieut.-Colonel W. H. COAKER, R.E.,
Joint Secretary to the Government of Madras,
Public Works Department,
Railway Branch,

To

The SECRETARY to the GOVERNMENT of INDIA,
Public Works Department.

Sir,

I am directed to acknowledge receipt of your letter No. 790 R.C., dated 3rd September 1891, and, in reply, to say that this Government fully approves of the proposal to make the junction of the Southern Mahratta metre gauge railway with the Madras-Bezváda section of the East Coast Railway at Guntúr, the length between Guntúr and Bezváda, 18 miles, being converted to standard gauge.

2. The length of the line surveyed by the Madras Railway Company from Nellore to Bezváda is 165 miles, with a branch of 12 miles to Guntúr. The length of a direct line to Guntúr would be 150 miles, so that there would be a saving of 27 miles of new line to set against the conversion of 18 miles.

3. The original project was for a junction at Guntúr and the alignment adopted serves in a satisfactory manner the southern portion of the western delta. The direct line from Ponnur (132 miles from Nellore) to Bezváda following the canal does not commend itself to this Government, and the further requirements of this delta could be met, if necessary, by a short branch from Chebrole to Tsandur, Tenali, or any town which might be most suitable.

4. As stated in Proceedings, dated 14th November 1891, No. 2718 R., forwarded with my endorsement No. 2719 R. of the same date, His Excellency the Governor in Council would regret to see the Masulipatam branch made on mixed gauge, and if the proposal to stop the metre gauge at Guntúr be adopted, the branch to Masulipatam would naturally be on standard gauge. I am to say that this solution of the question would be acceptable to this Government. On the whole, it is probable that a line on standard gauge would best serve the traffic of the eastern delta, the greater part of which in ordinary seasons would go to Hyderabad or to the East Coast Railway, north or south. In times of famine a metre gauge line would be preferable as admitting of the transport of grain without break of gauge from the Kistna to the districts most liable to be affected, but in such seasons special arrangements could be made for transhipment and the difficulties would not, it is believed, be insurmountable.

5. I am to add that, in the opinion of this Government, it is very desirable that a decision on this question should be arrived at as early as possible.

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

(Signed) W. H. COAKER, Lieut.-Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Fort St. George,
23rd November 1891.

Exd. C. A. Munisawmy.
Spare Copies

60

RAILWAY.

Govt. of {1891} Madras.

PUBLIC WORKS.

Dated November, 23rd.

Recd. *Encl.*

23rd Nov. 1891, No. 2834 R.

NOVEMBER.

Station arrangements at Bezvada

Approving, with remarks, of proposal to make the junction of the Southern Mahratta metre gauge railway with the Madras-Bezváda section of the East Coast Railway at Guntúr.

SERIAL No. 39

16TH FEBRUARY 1892, No. 434 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following papers:—

G.O., dated 9th December 1891, No. $\frac{2955}{A}$ R., Public Works.
„ „ 10th „ „ „ 2971 R. „

Read also the following paper:—

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 Calcutta, 26th January 1892, No. 100 R.C.

I am directed to acknowledge the receipt of your Nos. 2719 R. and 2971 R., dated, respectively, the 14th November and 10th December 1891, forwarding report with plans, estimates, &c., of the survey for a line of railway from Bezváda to Masulipatam—a distance of 50 miles.

2. The cost of constructing the line on the standard gauge is estimated at Rs. 41,38,756, or Rs. 82,775 per mile, and on the mixed gauge at Rs. 53,12,048, or Rs. 1,06,241 per mile.

3. In reply I am to forward, for information, an extract from a note by the Consulting Engineer to the Government of India for State Railways on the project, and to say that the Government of Madras will be addressed separately on the subject of the gauge to be adopted for the branch.

ENCLOSURE.

Extract (paragraphs 1 to 10) from a note by the Consulting Engineer to the Government of India for State Railways, dated 18th January 1892.

The non-observance of existing orders regarding the preparation of estimates and drawings makes the examination of projects sent up from Madras extremely difficult. The explanation that the "Rules for the preparation of Railway Projects" were not received when the work was *commenced* is scarcely applicable to the present case where long rolls of plans and sections containing on each 25 miles of plan and section have been furnished. The submission of such rolls has been forbidden in the Public Works Department Code for many years, and it is at least twenty years since the Government of India laid down the scales which it desired to be used in preparing such drawings.

2. The classification of expenditure is not in accordance either with that laid down in the new rules or with that which has been in existence for many years.

3. A head of expenditure is introduced—"Carriage of Materials"—which prevents the comparison of the cost of sub-heads with those of other lines being carried out, while the estimated cost of land is omitted.

4. The Consulting Engineer for Madras recommends the estimate being increased by Rs. 3,85,000 to allow for land and other items, bringing the total up to Rs. 41,38,756, or Rs. 82,775 per mile, for a broad-gauge railway passing through a perfectly flat country and with no large rivers to cross. This seems a very high rate.

RAILWAY.

Govt. of {1891} Madras.

PUBLIC WORKS.

Dated November, 23rd.

Recd. *Encl.*

23rd Nov. 1891, No. 2834 R.

NOVEMBER.

Station arrangements at Bezvada

Approving, with remarks, of proposal to make the junction of the Southern Mahratta metre gauge railway with the Madras-Bezváda section of the East Coast Railway at Guntúr.

SERIAL No. 39

16TH FEBRUARY 1892, No. 434 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following papers:—

G.O., dated 9th December 1891, No. $\frac{2955}{A}$ R., Public Works.
" " 10th " " " 2971 R. "

Read also the following paper:—

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 Calcutta, 26th January 1892, No. 100 R.C.

I am directed to acknowledge the receipt of your Nos. 2719 R. and 2971 R., dated, respectively, the 14th November and 10th December 1891, forwarding report with plans, estimates, &c., of the survey for a line of railway from Bezváda to Masulipatam—a distance of 50 miles.

2. The cost of constructing the line on the standard gauge is estimated at Rs. 41,38,756, or Rs. 82,775 per mile, and on the mixed gauge at Rs. 53,12,048, or Rs. 1,06,241 per mile.

3. In reply I am to forward, for information, an extract from a note by the Consulting Engineer to the Government of India for State Railways on the project, and to say that the Government of Madras will be addressed separately on the subject of the gauge to be adopted for the branch.

ENCLOSURE.

Extract (paragraphs 1 to 10) from a note by the Consulting Engineer to the Government of India for State Railways, dated 18th January 1892.

The non-observance of existing orders regarding the preparation of estimates and drawings makes the examination of projects sent up from Madras extremely difficult. The explanation that the "Rules for the preparation of Railway Projects" were not received when the work was *commenced* is scarcely applicable to the present case where long rolls of plans and sections containing on each 25 miles of plan and section have been furnished. The submission of such rolls has been forbidden in the Public Works Department Code for many years, and it is at least twenty years since the Government of India laid down the scales which it desired to be used in preparing such drawings.

2. The classification of expenditure is not in accordance either with that laid down in the new rules or with that which has been in existence for many years.

3. A head of expenditure is introduced—"Carriage of Materials"—which prevents the comparison of the cost of sub-heads with those of other lines being carried out, while the estimated cost of land is omitted.

4. The Consulting Engineer for Madras recommends the estimate being increased by Rs. 3,85,000 to allow for land and other items, bringing the total up to Rs. 41,38,756, or Rs. 82,775 per mile, for a broad-gauge railway passing through a perfectly flat country and with no large rivers to cross. This seems a very high rate.

5. Regarding the engineering details, I would, in the first place, advise that the branch line should be kept parallel and close to the main line of the East Coast Railway, until past the limits of any works that may be required for the Bezváda station yard. Such a line I have pencilled on the plan.

6. A headway of 11 feet over the canals for the under side of girders seems very low and will impede the boat traffic on the canals. I think this headway should be increased to 16 feet.

7. The grading of the section is done in long lengths of level with short connecting lengths on a grade of 1 in 330. This grade can, without any perceptible increase in earthworks, be reduced to 1 in 500.

8. A sharp ruling grade of 1 in 165 has, however, been introduced at the canal crossings and this should be flattened to 1 in 500 even at some expense, and thus enable the branch to be worked by light engines. If this were done, the weight of rails need not exceed 60 lb. per yard, for the traffic on the branch apparently will not be heavy, and it will be well to work it as economically as possible.

9. The length of extra land to be taken up for stations is not nearly sufficient, varying, as it does, from 1,300 to 1,600 feet. Half a mile is the least length that should be acquired.

10. The stations estimated for seem too elaborate for the traffic to be expected. At first a small building and no platforms will suffice.

ORDER—dated 16th February 1892, No. 434 R., Public Works.

Communicated to the Consulting Engineer for Railways who will report on the various points raised in the note by the Consulting Engineer to the Government of India for State Railways.

(True Extract.)

Major, R.E.,
Offg. Under-Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways, with plan to be returned.
" Examiner, Guaranteed Railway Accounts.
" " Public Works Accounts.
" " East Coast Railway Accounts.
" Engineer-in-Chief, East Coast Railway.
" Financial Department.
" Revenue Department.
" Chief Engineer for Irrigation,
with copy of G.O., No. 2718 R., dated 14th Nov. 1891.

Exd. H. Frantz.
10 Spare Copies

RAILWAY.

Govt. of {1892} Madras.

PUBLIC WORKS.

REGISTER
No. 33
FILE
No.

Dated February, 16th.

Recd. *Encl.*

G.O., 16th Feb. 1892, No. 434 R.

FEBRUARY.

No. 206 Dated 14th March 1892
Copy forwarded to A M with reference to this Office Endt. No. 1143 of 23-11-91. for favour of report, with plan (to be returned)

Bezvada-Masulipatam Railway

Letter from the Government of India forwarding a note on the project of the —, communicated to the Consulting Engineer for Railways for report on the various points raised therein.

Ans No. 273 of 1.4.92

SERIAL
No. 42

129

21st April 1892, No. 996 R., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

From the Consulting Engineer for Railways, dated Madras, 11th April 1892, No. 313. No. 41

From the Agent and Manager, Madras Railway, dated 1st April 1892, No. 273. No. 40

Endorsement by the Con. Eng. for Ry. Madras.

Submitted to Government in compliance with G.O., No. 434 R., dated 16th February 1892. with the following remarks.

2. The Agent and Manager, Madras Railway, reports, with reference to para. 1 of extract from the note by the Consulting Engineer to the Government of India, dated 18th January 1892, that the company has not been required to submit plans in accordance with the Public Works Department Code rules and that no exception has hitherto been taken to the form used. In order to secure uniformity in the preparation of the drawings, the scales adopted were those used in the plans of the main line from Madras to Bezváda, it being presumed that the Madras Railway would be entrusted with the construction of the branch in the event of the whole or a portion of the project being ultimately sanctioned.

3. The instructions prescribed by the Government of India are said to have been complied with wherever practicable and the drawings to have been prepared previous to the receipt of the rules for the preparation of railway projects. On this point, it may be observed that these rules were received by the Madras Railway in June 1890, while the survey of the Madras-Bezváda line was commenced in February 1890 and that of the Masulipatam branch in January 1891.

4. From para. 4 of this office endorsement No. 791A., dated 5th September 1891 (G.O., No. 2718 R., dated 14th November 1891), it will be seen that the estimates submitted therewith were to be considered as "approximate estimates" as specified in the rules for the preparation of railway projects. ****

5. The Agent and Manager, Madras Railway, reports that the classification of most of the sub-heads of expenditure was framed in accordance with the sample form attached to the rules for the preparation of railway projects, but that, in a preliminary survey, such as this, it was not found practicable to enter a few of the sub-heads.

6. As regards the item of expenditure "Carriage of materials" it is stated that this has always been included in all important estimates furnished by the company and that no exception has hitherto been taken to the entry by the Government of India.

7. It is explained that, as the company's contract provides for all land to be supplied free of charge, the cost was omitted from the estimate as the Board of Directors would not have been able to ascertain the correct cost per mile had the value been included. This explanation, however, can scarcely be accepted as conclusive as the cost excluding land could also have been stated.

8. As to para. 4, the Agent and Manager remarks that Rs. 75,075, as estimated by the Railway Company, represents the cost per mile (excluding land) of a line proposed to be constructed on the standard which has been found by experience on the Madras Railway to be essential for economic and safe working. The amount is capable of reduction by the curtailment of accommodation at stations, but this course is not recommended.

9. The position of the line as it leaves Bezváda station having originally been fixed with due regard to any subsequent alterations which may be found necessary, the Agent and Manager reports that the suggestions in para. 5 will be kept in view when the alignment is being finally located.

8 P

10. It is reported that the clear headway of existing bridges crossing navigable canals is 11 feet and that this height is prescribed in the rules laid down by the Government of Madras for the guidance of the Irrigation Department and has received the confirmation of the Superintending Engineer at Bezváda, to whom the question was specially referred.

11. The grading of the section is said to have been based on that of the main line between Madras and Bezváda, on the assumption that the same engines and rolling-stock would be common to the main line and the Masulipatam branch if worked by the Madras Railway Company, and it is urged that, until the type of engine has been finally settled, the gradients and weight of rails cannot be definitely fixed. The fact that the engines on the East Coast Railway will weigh over 90 tons and may, in the event of abnormal traffic, have to be temporarily utilised on the branch to Masulipatam is also brought to notice. I am, however, of opinion that the grades should be flattened as recommended by the Consulting Engineer to the Government of India, but that 75 lb. rails should be used, light rails not conducing to ultimate economy at present prices.

12. With reference to paras. 9 and 10, the Agent and Manager reports that the land for stations has been based on the area which has hitherto been found sufficient for the several classes of stations on the Madras Railway, but can be increased when the line is finally located, and that the stations were designed on the standard of accommodation found necessary on the Madras Railway for towns of similar population. I consider that, when revised estimates are prepared, more land and less station accommodations at first should be provided as suggested by the Consulting Engineer to the Government of India.

13. In soliciting orders on the several points referred to in this endorsement, I would invite special attention to the necessity for an early decision as to the gauge to be adopted for the branch line, as, in view of the approaching completion of the Kistna bridge, some of the girders of which are now under erection, orders will be required in connection with the junction arrangements with the Southern Mahratta Railway and the laying of the third rail over the bridge itself.

14. When revised estimates for this branch or for the Madras-Bezváda section are called for, they should be prepared in the exact forms laid down by the Government of India.

Order—dated 21st April 1892, No. 996 R., Public Works.

Ordered that these Proceedings be forwarded to the Government of India with reference to its letter No. 100 R.C., dated 26th January 1892, with the remark that His Excellency the Governor in Council concurs in the views expressed by the Consulting Engineer for Railways as to the weight of rail to be used.

(Here enter No. 997 R., Public Works, dated 21st April 1892.)

(True Extract.)

Joint- Lt-Col
Offg. Under-Secy. to Govt., P.W.D., Major, R.E.,
Railway Branch.

To the Consulting Engineer for Railways.
" Examiner, Guaranteed Railway Accounts.
" " Public Works Accounts.
" " East Coast Railway Accounts.
" Engineer-in-Chief, East Coast Railway.
" Financial Department.
" Revenue Department.
" Chief Engineer for Irrigation.

Exd. A. D. Xavier
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Govt. of {1892} Madras.

PUBLIC WORKS.

REGISTER No. 632 FILE No.

Dated April, 21st.

Recd. *Encl.*

G.O., 21st April 1892, No. 996 R.

APRIL.

No. 372 of 12th May 1892
Copy forwarded
D & M for information
R.C.

12th May 1892

Railway from Bezvada to Masulipatam

Proceedings embodying the views of the Consulting Engineer for Railways and of the Agent and Manager, Madras Railway, with regard to the estimates for a branch — ordered to be forwarded to the Government of India.

SERIAL No. 43

133

21st April 1892, No. 997 R., Public Works.

PUBLIC WORKS DEPARTMENT.

Railway.

Letter—from

Lieut.-Colonel W. H. COAKER, R.E.,
Joint Secretary to the Government of Madras,
Public Works Department,
Railway Branch,

To

The SECRETARY to the GOVERNMENT of INDIA,
Public Works Department.

Sir,

I am directed to acknowledge receipt of your letter No. 100 R.C., dated 26th January 1892, enclosing a note by the Consulting Engineer to the Government of India for State Railways on the survey and estimates for a branch line from Bezváda to Masulipatam.

2. In reply, I am to forward copy of the Proceedings of this Government No. 996 R., dated 21st April 1892, embodying the views of the Agent and Manager, Madras Railway, and of the Consulting Engineer for Railways to this Government, and to say that His Excellency the Governor in Council concurs in the views expressed by the latter officer as to the weight of rail to be used.

3. In your letter No. 294 R.C., dated 14th March 1892, it is stated that the question of the point of junction of the East Coast Railway and the Southern Mahratta Railway has been referred to the Government of Bombay. I am to say that, in the opinion of this Government, it is desirable on many grounds that a decision on this question should be arrived at as early as possible.

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

(Signed) W. H. COAKER, Lieut.-Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Fort St. George,
21st April 1892.

Exd A. D. Xavier.
Spare Copies

9 P

RAILWAY.

Govt. of {1892} Madras.

PUBLIC WORKS.

Dated April, 21*st.*

Read. *Encl.*

21st April 1892, No. 997 R.

APRIL

Railway from Bezvada to Masulipatam

Forwarding copy of Proceedings embodying the views of the Consulting Engineer for Railways and of the Agent and Manager, Madras Railway, in connection with the estimates for a branch — as regards weight of rails to be used, point of junction with the Southern Mahratta Railway, &c.

SERIAL No. 45

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following paper :—

G.O., dated 19th November 1891, No. 2779 R., Public Works.

Read the following paper :—

Note by the Collector of Kistna on the Kistna Railway System, dated Bezváda, 4th November 1891.

The Nizam's Guaranteed State Railway terminates at Bezváda in the Kistna district and the East Coast Railway now under construction runs northward from the same town. The Bellary-Kistna branch of the Southern Mahratta Railway has a temporary terminus opposite Bezváda on the south bank of the river Kistna. The railway bridge across the Kistna is under construction. The southern branch of the East Coast Railway from Bezváda to Madras has not yet been begun. It is understood that this railway will be built and worked by the Madras Railway on the standard gauge.

2. The following questions now remain for decision :—

(1) Is the 50-mile extension from Bezváda to Masulipatam, for which mixed gauge estimates are under preparation by orders from the Government of India, to be standard or metre gauge? I take it for granted that a mixed gauge is needless and will not be insisted on.

(2) If the standard gauge be decided on where is the terminus of the Bellary-Kistna metre gauge line to be located?

3. It is understood that the East Coast Railway north of Bezváda is to be worked as a State Railway. In that case the Madras Railway with the standard gauge could run through Bezváda and on to Masulipatam town and port as their terminus. This would be convenient for the Madras Railway. Its line would pass from Bezváda through a fertile irrigated and populous country to an important terminus. The standard gauge would allow of easy interchange with the Nizam's Railway of the same gauge and the set of trade is likely at ordinary seasons to be towards Hyderabad.

4. If then the Madras Railway takes the extension to Masulipatam, where is the terminus to be of the metre gauge Bellary-Kistna branch of the Southern Mahratta Railway? The railway bridge across the river Kistna provides for the mixed gauge, but I am informed that the Southern Mahratta Railway contemplates not only to make no use of the Kistna bridge, but to fix its terminus at Guntúr which is 19 miles inland from the river and to hand this section over to the Madras Railway.

5. Such a course would on the one hand benefit the Madras Railway by enabling it to run into Bezváda *viâ* the large town of Guntúr crossing the main canal at the rising town of Chebrole. On the other hand the Madras Railway would thus avoid a very rich section of the delta, and in particular the flourishing town of Tenali, soon to be the head-quarters of the taluk where much grain concentrates; there are also numerous flourishing villages along that route.

6. The town of Guntúr would also profit by this arrangement as it would secure direct communication with Madras and would be the junction where all grain from

RAILWAY.

Govt. of {1892} Madras.

PUBLIC WORKS.

Dated April, 21*st.*

Recd. *Encl.*

21st April 1892, No. 997 R.

APRIL

Railway from Bezvada to Masulipatam

Forwarding copy of Proceedings embodying the views of the Consulting Engineer for Railways and of the Agent and Manager, Madras Railway, in connection with the estimates for a branch — as regards weight of rails to be used, point of junction with the Southern Mahratta Railway, &c.

SERIAL No. 45

135

28TH MAY 1892, No. 1356 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following paper :—

G.O., dated 19th November 1891, No. 2779 R., Public Works.

Read the following paper :—

Note by the Collector of Kistna on the Kistna Railway System, dated Bezváda, 4th November 1891.

The Nizam's Guaranteed State Railway terminates at Bezváda in the Kistna district and the East Coast Railway now under construction runs northward from the same town. The Bellary-Kistna branch of the Southern Mahratta Railway has a temporary terminus opposite Bezváda on the south bank of the river Kistna. The railway bridge across the Kistna is under construction. The southern branch of the East Coast Railway from Bezváda to Madras has not yet been begun. It is understood that this railway will be built and worked by the Madras Railway on the standard gauge.

2. The following questions now remain for decision :—

(1) Is the 50-mile extension from Bezváda to Masulipatam, for which mixed gauge estimates are under preparation by orders from the Government of India, to be standard or metre gauge? I take it for granted that a mixed gauge is needless and will not be insisted on.

(2) If the standard gauge be decided on where is the terminus of the Bellary-Kistna metre gauge line to be located?

3. It is understood that the East Coast Railway north of Bezváda is to be worked as a State Railway. In that case the Madras Railway with the standard gauge could run through Bezváda and on to Masulipatam town and port as their terminus. This would be convenient for the Madras Railway. Its line would pass from Bezváda through a fertile irrigated and populous country to an important terminus. The standard gauge would allow of easy interchange with the Nizam's Railway of the same gauge and the set of trade is likely at ordinary seasons to be towards Hyderabad.

4. If then the Madras Railway takes the extension to Masulipatam, where is the terminus to be of the metre gauge Bellary-Kistna branch of the Southern Mahratta Railway? The railway bridge across the river Kistna provides for the mixed gauge, but I am informed that the Southern Mahratta Railway contemplates not only to make no use of the Kistna bridge, but to fix its terminus at Guntúr which is 19 miles inland from the river and to hand this section over to the Madras Railway.

5. Such a course would on the one hand benefit the Madras Railway by enabling it to run into Bezváda *viâ* the large town of Guntúr crossing the main canal at the rising town of Chebrole. On the other hand the Madras Railway would thus avoid a very rich section of the delta, and in particular the flourishing town of Tenali, soon to be the head-quarters of the taluk where much grain concentrates; there are also numerous flourishing villages along that route.

6. The town of Guntúr would also profit by this arrangement as it would secure direct communication with Madras and would be the junction where all grain from

the delta for the inland districts of Kurnool and Bellary must be stored, or else transhipped from standard to metre gauge wagons.

7. The drawbacks to this course remain to be noted. The Bellary-Kistna Railway was conceived and constructed as a famine protective line, and, as such, was sanctioned by the Secretary of State in despatch No. 120, dated 4th October 1883, in G.O., No. 425 R., dated 13th June 1887. Its object was to place Bellary, Kurnool, and the upland parts of Kistna in direct communication with the unfailing grain supplies of the delta. It is now proposed to cut off this railway by 19 miles from the base it was created to reach and to introduce a break of gauge with all delays and inconveniences attendant thereon, which are of course intensified during the pressure of famine.

8. If then the proposal be carried out to make the terminus of the Bellary-Kistna metre gauge railway at Guntúr, it will involve a serious modification, if not a reversal of the policy of the Secretary of State and of the Government of India under which that railway was sanctioned and built. The reasons in favour of such a course appear to me inadequate when it is remembered that an easy alternative may be adopted.

9. The alternative is for the Madras Railway to follow throughout the line that has been surveyed through the delta, touching the town of Tenali and the important villages along the same route and crossing the river by the railway bridge to Bezváda.

10. This will leave the town of Guntúr 10 miles from the nearest station on the Madras Railway. For the present the construction of a branch line may be set aside and Guntúr will connect itself with this point on the Madras Railway either by road or else by rail along two sides (each 19 miles in length) of a triangle of which this road is the base. This would cause inconvenience to Guntúr, but this inconvenience is the only real drawback to the alternative plan under discussion; it could at any time be obviated by a short branch line and it is I think insufficient to outweigh the advantages indicated.

11. I do not know the terms under which the Bellary-Kistna Railway has been taken over by the Southern Mahratta Railway. If the latter has the power to refuse to utilize the Kistna Railway bridge and to have its terminus in Bezváda, unless the extension to Masulipatam is also assigned to it, it would be well to assign this extension to the Southern Mahratta Railway. This course would give the Southern Mahratta Railway a very promising terminal branch of 50 miles to make up for the long non-paying stretch through the uplands. Whatever the decision may be, the Madras Railway will have an equal length of promising line through the western delta and could afford to forego the branch to Masulipatam.

12. In any case, considering the famine protective policy of the Secretary of State and the Government of India to which the Bellary-Kistna line owes its existence, it should, I think, be a *sine qua non* in the completion of the Kistna Railway system that the metre gauge famine line should cross the Kistna Railway bridge to Bezváda and be in a position to tap the unfailing granaries of the Kistna and Godávari deltas by its own sidings on the navigation canals.

From the Engineer-in-Chief, Kistna Bridge, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Sitanagram, 11th November 1891, No. 2620.

From the Government of India's letter, No. 790 R.C., dated the 3rd September 1891, which formed the enclosure of your letter, No. 2217–18 R., dated the 25th September 1891, I gather that there is a risk of such a decision being come to in regard to the system of railways converging on Bezváda as will result in permanent injury to several important interests which Government doubtless has no intention to injure, but only desires to aid and to foster. I have already noted officially upon the

question of the gauge of the Masulipatam extension, but having since that time studied the subject for over a year in all its bearings, I am in a very much better position than I then was in to tender an opinion with some degree of confidence.

2. I gather from the Government of India's letter that the Madras Railway extension northwards, or at all events the Nellore-Bezváda standard gauge railway, is likely to be connected with the metre gauge system at Guntúr. I also gather indirectly, though there is no definite statement to this effect in the Government of India's letter, that there is a chance of the metre gauge system being terminated at Guntúr. I am of course well aware that for arriving at a decision upon these questions the Government of India are now, or will soon be, in possession of your views as well as of those of the Bombay Government on behalf of the Southern Mahratta Railway Company. They will also doubtless have weighed all the claims which may be put forward by the promoters of the Nellore-Bezváda scheme. Knowing all this I would scarcely venture to press my opinions on you, were it not that I have given a great deal of thought to the subject and that I am by this time fairly familiar with the local conditions. As I think very strongly that there is a serious risk of a grave error in railway policy occurring, I desire, before things go too far, to do what I can to keep things straight.

3. The various interests which have in this matter to be considered may, I think, be fairly completely classified as follows:—

(*a*) The interests of the Presidency of Madras generally in regard to possible future famine requirements in the Bellary and Kurnool directions.

(*b*) Those of the Eastern Kistna delta, that is of the extensive tract that is irrigated by the Masulipatam, Ryves' and Ellore canals between the Kistna and the Kolar lake.

(*c*) Those of the Western Kistna delta, of which the most important centre is, I believe, the town of Tenali.

(*d*) The interests of the town of Bezváda.

(*e*) Those of Masulipatam.

(*f*) Those of Guntúr.

(*g*) The interests of the Madras Railway Company or whoever may succeed in getting the working of the Nellore-Bezváda line.

(*h*) Those of the Southern Mahratta Railway Company. I don't consider that to the Nizam's Guaranteed Railway or to the East Coast Railway the politics of the subject which is under immediate discussion are of any very vital interests.

4. The Bellary-Kistna line was originally constructed with the express object of tapping the grain supply of the Kistna delta during periods of prevalence of high prices in the Bellary direction. In its present incomplete condition, terminating as it does at the west bank of the Kistna and carefully avoiding the low-lying parts of the rich Western delta, the Bellary-Kistna Railway egregiously fails to fulfil the objects which were supposed to be kept in view when it was designed. That such should be the case must, I can well believe, be a source of considerable dissatisfaction to the Southern Mahratta Railway Company to whom it is leased. If the company's representatives thought about anything at all beyond the mere hauling into their net of an extra 500 miles of line, they must naturally have looked forward to the early maturing of the original policy of Government, and now, when the maturing of this policy is within a measurable distance, strong efforts are being made either to hand over the promised land to an alien agency or to admit the Southern Mahratta Company on equal terms with the alien company by means of a mixed gauge system. Under such circumstances as these, if the Southern Mahratta Company desire to terminate their system at Guntúr, instead of at Bezváda, their intention, though in my opinion an unwise and a suicidal intention, is not so much to be wondered at. I don't know what powers have in the Bellary-Kistna contract been reserved by Government in the matter of compelling the company to run upon extensions or to amalgamate their cost with the general capital account, but if no such powers have been reserved by Government the company can presumably give a great deal of trouble by refusing to cross the Kistna at all.

5. It cannot be too clearly remembered that the object of any railway which may be constructed between Bezváda and Masulipatam is not to take anything *to* Masulipatam, but to carry grain *away from* that town, that is away from the Eastern Kistna delta. The district which of all others needs this grain is the dry upland country of Kurnool and Bellary. In so far as the countries served by the Madras Railway may be in need of an additional supply of grain, all their needs will be fully served when the Western Kistna delta has been tapped at Tenali by the Nellore-Bezváda line.

6. It must be borne in mind that an entirely new current of trade, though reliably enough to be anticipated, should need for it arise, in the more civilized parts of India, will be of extremely slow and uncertain development at this side of India where nobody trusts anybody and where the people are almost incredibly distrustful, sluggish, and unenterprising. A break of gauge between Masulipatam and Bellary, whether such break occurs at Bezváda or at Guntúr, would be a serious impediment to the desired natural development of the now scarcely existent trade relationship between the merchants of these two centres of population. Government would be wise to foster in every way the natural development of a grain trade between these two places by giving every facility for its easy flow, so that, when occasion arises, the needful current may run automatically at the earliest call.

7. Guntúr was once a place of some importance, but this is no longer the case; such slight importance as remains to it will most certainly diminish instead of increasing as years go on and as railways are developed. Its origin I suppose to have occurred in the need for a healthy cantonment for troops in the country, which in old days had been held by a garrison in the hill forts of Kondavid and Kondapalli. Guntúr continued as a civil station after it was denuded of troops and as the headquarters of a sub-division and a centre of some local produce trade; as such it has attracted to itself a few merchants who buy and press cotton. As has, I believe, been the case at Bimlipatam, so again here there will be considerable risk of greater attention being paid to the loudly expressed demands of these middlemen than is at all warranted by the extent of the trade of the place or the magnitude of the capital invested therein. Should their non-connection by direct broad gauge line with Madras be decided on, they are well able to take care of themselves and if they see fit to move on to Tenali or any other town on the Nellore-Bezváda Railway, they may be safely trusted to speedily recoup themselves. The cost of one mile of railway or at most of two would, I suppose, suffice to transplant them all, and for their sole convenience I would certainly not make and work in perpetuity twelve or fourteen miles of broad gauge railway. The interests of Guntúr as a small civil station, which would appreciate the luxury, such as it is, of direct railway communication with Madras, are but microscopic interests. All Guntúr interests, other than these two, are quite sufficiently well, indeed more than amply, served by the Southern Mahratta Railway.

8. Next as regards Bezváda. Bezváda is, in my belief, a very rising town. It possesses natural and artificial advantages which will make it for all time a great focus for traffic from all directions. I don't believe that ten years hence it will be financed and its trade handled by the small group of comparatively inexperienced traders who now form its principal residents and whose mental horizon is limited to perhaps a hundred miles all round them. It will later on be found well worth the while of keen-pushing Western Indian traders to exploit Bezváda for fortune-making purposes. Three main roads, two great networks of canals and the river, all now converge upon Bezváda, and in a few months it will be the point of convergence of perhaps five lines of railway. I am not amongst those who think that these very circumstances will kill the trade of the town. The surrounding people are so backward and so little alive to the world around them that Bezváda will for a long while to come continue to their minds to be the metropolis and the centre of trade. The Bezváda merchant sitting in the meeting point of so many extended lines of communication will import produce from all directions from its original producers and will export it, after storing it, as prices may dictate. This predicted condition of things, a condition of things which is eminently advantageous for the automatic development of the best sort of flow of grain to the districts where it is needed, will be seriously impeded by a decision to terminate the metre gauge system at Guntúr.

9. Mr. A. T. Arundel, the Collector of Kistna, who is intimately acquainted with the conditions of this side of the country, has for the last two or three years been wisely anticipating the inevitable enhancement of the importance of Bezváda by laying out a new town which is I think fully equal in area to the old town and which is rapidly becoming built upon. The manner in which the available sites have been and continue to be bought up at from eight to twelve annas per square yard by people, who may be presumed to be fairly competent to foresee what is going to happen to the trade of the town, indicates to my mind with a fair degree of certainty that the anticipated expansion of trade is likely to occur. To deliberately perpetrate a break of gauge and to terminate a great railway system like that of the Southern Mahratta at a distance of 12 or 14 miles from such a town would, I am convinced, be a serious departure from a sound system of railway policy. To terminate the Southern Mahratta system at Bezváda instead of at Masulipatam would be, in my opinion, a second error but little inferior to the other in magnitude.

10. The promoters of the Nellore-Bezváda line are in an exceptionally favorable position for pressing their claims to a share in the spoil of the Eastern delta upon the attention of the Madras Government, and, moreover, they have this too in their favour that the existing railway system with which they are connected is under the control of the Madras Consulting Engineer for Railways, whereas their rivals', the Southern Mahratta Railway's, system is controlled from Bombay. Considerations of this sort will not, I quite believe, be consciously permitted to carry more weight than the interests of the trade of the country would entitle them to carry, but still there is always a tendency, perhaps an inevitable tendency, for such considerations to carry undue weight.

11. The question which I am now pressing on your attention has nothing to do with the rival claims of competing companies, or with the convenience of places like Masulipatam, Bezváda and Guntúr, which happen to be administrative centres. It is a question of the speedy or the retarded development of the trade of a now very backward district with places, which, though badly in need of her products, are not at present in practical touch with them.

12. I can scarcely believe that the suggested mixed gauge system between Bezváda and Masulipatam can ever come to maturity. The suggestion that it should be carried out savours of the, I hope, now defunct notion that Masulipatam is a place where people and produce desire to *go to*, instead of its being merely the focus for the produce of a large district which only desires to *send things away*. For this purpose of sending its products away, Masulipatam is as well off with a metre gauge line as with a broad or with a mixed.

13. I lay no great stress upon the engineering and the traffic difficulties of a few miles of mixed gauge; these difficulties are, I believe, habitually largely exaggerated. What I contend for is this, that, first, the Eastern Kistna delta is the legitimate territory of the Southern Mahratta Railway Company now that they have hampered themselves with the Bellary-Kistna line, and, secondly, that to give the Masulipatam extension to this company is in entire accordance with what, in the interests of the Madras Government during periods of scarcity, is most to be desired. To admit a rival company into the territory in question is neither in the interests of the competing lines nor of the trade of the district for which one only of the two lines would amply suffice.

14. The standard gauge line from Madras may very well content itself with tapping the whole of the Western Kistna delta, as it will at Bápatla, Ponnur and Tenali. In this its own proper territory it has nothing to fear from the Southern Mahratta line which has so far failed, and will continue to fail, owing to its unfortunate location to touch the Western delta grain traffic.

15. It is above everything important that the mistake should not be made of arranging for two main junctions within twelve or fourteen miles of one another and one of the two entirely away from any real and permanent, because natural, centre of

trade; Bezváda is the only suitable place for the junction of all five lines and it would be unwise and shortsighted to ignore its inevitable expansion.

16. I hope that my addressing you on this subject needs no apology; it is a subject which, if not properly dealt with now, will like many present railway questions in Madras and elsewhere be a source of trouble and of regret later on, and, when that time comes, it will be too late to act with advantage.

Order—dated 19th November 1891, No. 2779 R., Public Works.

Recorded.

(True Extract.)

(Signed) W. H. COAKER, Lieut.-Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Read also the following papers:—

From the Engineer-in-Chief, Kistna Bridge, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Bezváda, 28th April 1892, No. 1000.

As it appears not unlikely, as a result of His Excellency the Governor's recent visit to Bezváda, that the question of the gauge of the Masulipatam branch and that of the junction of the broad and metre gauge systems may receive further consideration, I beg to invite your attention to my letter No. 2620, dated the 11th of November last, in which I tried to lay the whole matter as clearly as possible before Government for consideration.

2. I observe, from a perusal of the Government of India's letter to the Government of Bombay, No. 293 R.C., dated the 14th March 1892, that they made use of a very early note of mine, dated the 4th October 1890, which was prepared when I knew comparatively little about the conditions of the question at issue.

3. As my letter above referred to, No. 2620 of the 11th November 1891, was written with the advantage of a very much fuller knowledge of the country and of the conditions of trade, I hope that it may be permitted to carry greater weight than the original note.

4. I would not consider myself justified in pressing this matter so persistently upon your attention did I not believe that an error in railway policy is likely to be made, which in future years may be found to be a source of serious administrative embarrassment.

ORDER—dated 28th May 1892, No. 1356 R., Public Works.

Ordered that the Government of India be addressed.

(Here enter No. 1357 R., Public Works, dated 28th May 1892.)

(True Extract.)

(Signed) W. H. COAKER, Lieut.-Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
„ the Engineer-in-Chief, Kistna Bridge.
„ A. T. Arundel, Esq., Collector of Kistna.

Exd. A. D. Xavier.
Spare Copies

PUBLIC WORKS DEPARTMENT.

Railway.

LETTER—from

LIEUT.-COLONEL W. H. COAKER, R.E.,
Joint Secretary to the Government of Madras,
Public Works Department,
Railway Branch,

To

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

SIR,

With advertence to my letter No. 2834 R., dated 23rd November 1891, I am directed to forward, for the consideration of the Government of India, copy of two communications on the subject of the proposal that the junction between the Southern Mahratta and the Madras-Bezvada Railways should be located at Guntúr—

(1) Letter from Mr. F. J. E. Spring, Engineer-in-Chief, Kistna Bridge, No. 2620, dated 11th November 1891.

(2) Note by Mr. A. T. Arundel, Collector of Kistna, dated 4th November 1891.

2. These gentlemen have given much consideration to the question and it will be observed that both are of opinion that it is essential, in the interests of famine protective policy, that the Southern Mahratta Railway metre gauge should cross the Kistna bridge to Bezváda and be in a position to tap the traffic of the Eastern delta directly. Mr. Spring advocates the extension of the metre gauge to Masulipatam, but Mr. Arundel leaves this an open question, considering that, in any case, by carrying the Madras-Bezváda Railway through the whole width of the Western delta, that line would acquire a good tract of country.

3. In my letter under reference, the views of this Government were given in favour of a break of gauge at Guntúr, and I am to say that His Excellency the Governor in Council finds in the papers now forwarded no reason to change that opinion. During famine the metre gauge line stopping at Guntúr will be quite effective for the transport of grain from the Kistna to Kurnool and Bellary and grain will not go there in any quantity at other times. In ordinary seasons these districts produce sufficient for their population and there can be no question that trade, local as well as through, will generally be better served by standard gauge lines converging at Bezváda. The trade from Masulipatam, when it reaches Bezváda, will almost entirely go by the standard gauge lines, and, during times of famine, the transhipment of grain at Guntúr would present no difficulty and would add little to its cost.

4. In regard to Mr. Arundel's contention that the Western delta would be better served by a line running direct to Bezváda, instead of passing through Guntúr, I am to say that this Government is of opinion that the direct line with a branch to Guntúr would entail unnecessary outlay and that the traffic round the new centre of Tenali might be equally well and more cheaply served by a branch from Chebrole, which could be carried as far down the delta as found desirable.

5. These papers are forwarded as being the opinions of two officers, who have taken much interest in the question, but, after giving them full consideration, this Government, as before stated, adheres to the views it has already expressed.

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

(Signed) W. H. COAKER, Lieut.-Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

FORT ST. GEORGE,
28th May 1892.

Exd. A. D. Xavier.
Spare Copies

RAILWAY.

Govt. of {1892} Madras.

PUBLIC WORKS.

Dated May, 28th.

Recd. *Encl.*

28th May 1892, No. 1357 R.

MAY.

Station Arrangements

Forwarding, for consideration, certain communications on the subject of the proposal that the junction between the Southern Mahratta and the Madras-Bezváda Railways should be located at Guntúr.

Print

157

nuary

1894, from

General of

no 5p

149

5

Enclosure 2 in No. 2.

nstruction of Branch Railway from Bezwada
metre gauge, and of the same general type
tta Railway.

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JAMES G. L

SERIAL
No. 47

910

Print

157

155

17 5p

Railway,
No. 70.

To His [illegible]

India Office,
London, 3rd August 1893.

My [illegible]

of Southern Mahratta R[illegible] to construct a railway [illegible] Masulipatam.

[illegible] Most Honourable The Governor [illegible] Council.

[illegible] cy in Council, and for such action [illegible] you desirable, copies of letters* from the [illegible] of the Southern Mahratta Railway Com- [illegible] offering to construct a railway on the metre [illegible] from Bezwada to Masulipatam.

I have the honour to be,
My Lord Marquis,
Your Lordship's most obedient humble Servant,
(Signed) KIMBERLEY.

* Nos. 53 and 55, of 12[illegible] 1893.

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Railway,
No. 70.

India Office,
London, 3rd August 1893.

To His [illegible]

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* Nos. 53 and 55, of 12[illegible], offering to construct a railway on the metre
1893. [illegible]e from Bezwada to Masulipatam.

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Your Lordship's most obedient humble Servant,
(Signed) KIMBERLEY.

SERIAL No. 47

Most Honourable The Governor

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the former ~~only~~ holds that if the extension be of standard gauge the junction should be at Bezvada —

It appears not probable that India will be likely to construct the broad gauge line to Masulipatam for many years — unless they can sell the whole of the East Coast from Madras to Calcutta to a syndicate to construct, and now the opportunity arises of getting the line made for nothing, the case presents a different aspect —

~~The Collector and the Marine Dept will be asked to furnish the information asked for —~~

again it must be considered whether the govt. of India are prepared to find funds to construct the Madras Bezvada line : no syndicate comes forward —

The East Coast Ry apparently consider that if this line is made metre gauge — that Masulipatam will become the port of export in place of Coconada but if it were made standard gauge Coconada would suffer

When this govt. proposed that the S.M.R. should stop short at Guntur the idea was that the Bezvada Madras Railway shd. go by that town — and that the lines from Bezvada — N. to Calcutta — E. to Masulpatam W. to Hyderabad — & S. to Madras should all be on the broad gauge system — and all interchange traffic at Bezvada without break of bulk. But now that the Bezvada Madras Railway is not likely to go by Guntur, there is no reason, as far as I can see, why the S.M.R. should not go through Bezvada to Masulipatam — but it should pay for its fair share of expenses in getting there. and should not be allowed to get a rebate from the E.C.R. besides drawing, as it will, a large slice of its present traffic away from it.

I expect the port business will however be a stumbling block.

W

22 May

The only remarks I have to add to what has been recorded by H.E. are (1) that, knowing the two ports, I dont think Masm. likely to draw traffic away from Coconada, and (2) that it

Seems to me very doubtful whether room can be found at Bezvada for a big junction station

BB
23/5/94

I concur with H.E.

JG
25/5

and the export trade wd probably go the shorter route to Masulipatam — if that harbour can complete with Coconada which is doubtful —

I am of opinion that under the present circumstances the S.M. Ry should be allowed to build the line — From the figures given the return will be 3 1/4 lacs gross revenue on 30 lacs capital

The S.M. Ry work at 4 % = 4.9 per cent. but I dont think that the terms in paras 13, 14 & 15 are at all fair. They want the Kistna bridge for nothing, the Bezvada station for nothing and a rebate on goods interchanged with the East Coast.

I think they should pay interest on the cost of the bridge & station & get no rebate —

Lastly I think the Broad gauge should run across the bridge & have access to the Nizampatnam Canal with a temporary transhipping station

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Madras - Bezvada must
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but until it is made,
the broad gauge trains
ought to be able to ship
coal &c direct into the
canal boats for Ma-
dras.
The Collector & Marine
Dept. will be asked to
furnish the information
India asks for.
[illegible] 20/5 94

O.S. 21/5
Cir 22/5
R 25/5

163

B. No. 331 R dated 28th May 94

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

SERIAL No. 48

Print

25 P

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

Letter from the Govt. of India P. W. Deptt. — } H.E. No. 412 R.C. of 4th May 94

With reference to
para 2 of letter read above
the Revenue Department
will be requested to fur-
nish information in regard
to prospects of traffic,
and the Marine Department
will be asked to report on
the capabilities of Masu-
lipatam as a port.

[illegible]
25/5
R

2

The Revenue Deptt } Reminder No. despd today
— " — Marine — do }

2nd Reminder sent 6/7/94.

R dt 29/6/94

Despd on 28/5/94

C. Mr called for,

CURRENT No. 554

Marine (1894) DEPARTMENT.

P. W. C. No. 6204 28

From

THE PRESIDENCY PORT OFFICER,

Madras,

To

THE CHIEF SECY. TO GOVERNMENT,

MARINE DEPARTMENT,

Fort St. George.

Regd 20-5-94.

No. 1721/242 G

Dated 28 } June 1894.
Received 29 }

Regd 2nd July

No.

SERIAL No. 49

165

Endt. No. 1366

Transferred to the P. W. Dept, Railway Branch, with reference to G.O. dy 28.V.94, No. 331.R.

Fredrick Price
Chief Secretary

Oct. 5th July 94

F.D.B.
2/7

Not necessary H.E. or H.M.

CHIEF SECRETARY
29. JUN. 1894
GOVERNMENT OF MADRAS

Subject

Reporting on the capabilities of Masulipatam as a Port.

With Endt

Heading.

No. 1721/242 G

PRESIDENCY PORT OFFICE,

Madras, 28th June 1894.

From Commander W. J. Powell, R.I.M.
~~The~~ PRESIDENCY PORT OFFICER,

MADRAS,

To

THE CHIEF SECRETARY TO GOVERNMENT,

MARINE DEPARTMENT,

FORT ST. GEORGE.

SIR,

In reply to Marine Department Endorsement, ~~No.~~ 1089, dated 31st May 1894, on Current ~~No.~~ 455 herewith returned, I have the honor to report that the Port of Masulipatam is an open Roadstead exposed to the full force of any Cyclonic disturbance. Native Craft trading with the Port avoid it from

from the middle of October
until February. Shipping opera-
tions with steamers are frequently
disturbed during these months,
November perhaps being the
worst; the anchorage in the
roads in 4 fathoms is good as
far as holding is concerned,
but it is 4 miles from the bar.

2. The bar is the great drawback
there being only 18 inches on it
at low water for fully six months
of the year. There appears to be
no possibility of improving it
as the area of shoal water is so
extensive;

169

278

extensive; I believe any project
for its improvement would be
impracticable, not alone from
the great cost but from the
exposed position of the bar.

3. The distance from the
wharves in the river to the
roadstead is 7 miles. Large
boats never load fully as, if
they did, they could only cross
the bar at high water; there
are fifty cargo boats available
capable of carrying some 7/40
tons; the charge per trip to
the steamer anchorage is, for
boats over 20 tons, Rs 15/- and
Rs 10/8

Rs 10/8 for boats under that tonnage; to the native craft anchorage in 2½ to 3 fathoms Rs 10/- and 7/8 per trip. The cost of shipping cargo to the steamer anchorage is about Rs 15/3 per ton. During the official year 1893/94, 35,930 tons were shipped and 7290 landed.

This should be annas 15 and pies 3 – Vide D.O. note of Port office dated 14/9/94

Free.

I have the honor to be,

Sir,

Your most obedient servant,

Walter Powell

Commander, R.I.M.,

Presidency Port Officer.

121

SERIAL No. 56

No. 412/1 R. 6

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY Constn.

To

The Joint Secretary to the Govt of Madras, P.W. Deft: Ry: Bch.

Simla, the 9th July 1894.

The undersigned is directed to invite attention to the letter noted below, and to request that the reply may be expedited.

[signature]

Asstt: Secretary

P. W. D. No. 412 R. 6, dated 4th May 1894.

Bezvada Masulipatam Ry:

Proposals for its construction by the Southern Mahratta Ry: Co:

Views of the Local Govt.

× G.O. No. 331 R a/28-5-94 original at ovg

S.P.

14-7-94

No. 248 P. W. D.—6-4-91.—2,000.

P. W. CURRENT No. 5257 ✓

Recd: 14.7.94

F/17 A 90—7-9-93.

173

SERIAL No. 57

REVENUE DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read Proceedings of the Board of Revenue, Revenue Settlement, Land Records and Agriculture, dated 14th July 1894, No. 4215 Mis, ~~informing~~ intimating that a reply to G.O. regarding the prospect of traffic on the proposed Bezwada-Masulipatam Railway will be submitted on receipt of the report called for from the Collector of Kistna.

Order thereon, 18th July 1894, No. 1395 R.

Recorded.

(True extract)

R. C. C. [illegible]

Under Secretary to Government

To.

The Public Works Department.

TRR.

P. W. CURRENT No. 5481

Govt. of 1894 Madras.

REVENUE.

To

The Public Works Department

Dated

Recd. at Ootacamund Encl.

Regd. 23.7.94 21/7/94

R ~~Mis.~~ G.O., 18th July 1894, No. 1395

SUBJECT.

Recording B.P., intimating that G.O. regarding the prospect of traffic on the proposed Bezwada-Masulipatam Railway, will be replied to on receipt of the report called for from the Collector of Kistna.

O.L.S. H.VII
AR 21/7/94

AR

No. 801 D

SERIAL No. 58

175

D

200—17-3-94.

Note to [illegible]

PUBLIC WORKS SECRETARIAT,

RAILWAY BRANCH.

Station Ootacamund date 18th August 1894.

OFFICE NOTE.

From The Joint Secy. to Govt. P.W.D. Railway Branch

To The Secretary to Government Revenue Department

With reference to your G.O. No. 1395 R. dated 18th July 1894. I have the honor to inform you that the Govt. of India are pressing for a reply to their letter No. 412 R.C. of 4th May 1894 communicated to you with P.W.D. G.O. No. 331 R of 28th May 1894 to request the favor of an early reply regarding the prospects of traffic on the proposed Bezwada-Masulipatam Railway.

The Presidency Port Officer has already reported

D 18/8

on the capabilities of Masulipatam as a port.

True
18
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F/17 4,000- 9-93.

Not to print

177

SERIAL No. 59

REVENUE DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read Office Note from the Public Works Dept., Ry. Branch, dated 18 August 1894 No. 801 D.

Order thereon 20 August 1894 No. 1619 R.

Forwarded to the Board of Revenue, with reference to its Proceedings No. 4215 Misc. dated 14 July 1894, with the request that the report referred to may be obtained and submitted with the least possible delay.

(True Extract)

[signature]
Ag. Secretary to Govt.

To

The Board of Rev. R.S.&c.
Copy to the Public Works Dept.

MR

on the capabilities of Masulipatam as a port.

Free
18
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F/17 4,000-[illegible]-93.

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177

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(True Extract)

[signature]
Ag. Secretary to Govt.

To

The Board of Rev. R.S. &c.
Copy to the Public Works Dept.

[illegible]

P.W.C. No. 7036

Govt. of {1894} Madras.

REVENUE.

To

The Public Works Dept.

Dated 20 Aug

Recd. 22d 1894

Encl.

R. ~~Mis.~~ G.O., 20 August 1894, No. 1619

Regd 19/9/94

SUBJECT.

Forwarding to the Board, Reminder from the Public Works Dept, on Govt. of I letter re: the prospects of traffic on the proposed Bezwada - Masulipatam Ry: with the request that the report called for may be submitted with the least possible delay.

J. Vill

aR

179

SERIAL No. 50

BOARD OF REVENUE (REV. SETT., L. RDS. AND AGRI.), 28TH AUG. 1894, No. 350.

Print

290

PROCEEDINGS OF THE BOARD OF REVENUE

(REVENUE SETTLEMENT, LAND RECORDS AND AGRICULTURE).

READ—again the following Proceedings of the Board of Revenue (Revenue Settlement, Land Records and Agriculture), dated 14th June 1894, Mis. No. 3610 :—

Read—the following G.O., dated 28th May 1894, No. 331 R., Public Works :—

Read—the following letter from the Secretary to the Government of India, Public Works Department, dated 4th May 1894, No. 412-R.C. :—

With reference to your letter, No. 2719 R., dated 14th November 1891, forwarding report, plans and estimates for the construction of the Bezwada-Masulipatam Railway on the standard and mixed gauges, I am directed to forward the accompanying copy of a despatch from Her Majesty's Secretary of State, and enclosures, regarding an offer made by the Southern Mahratta Railway Company to construct the line in question on the metre gauge. A copy of a letter from the Manager, East Coast Railway, on the subject of the gauge of the proposed Bezwada-Masulipatam Railway as affecting the traffic of the East Coast Railway is also enclosed.

2. I am to request that the Government of India may be furnished with further information in regard to the prospective traffic of the proposed branch and the capabilities of Masulipatam as a port. Also that they may be favoured with the opinion of the Government of Madras on the proposals of the Southern Mahratta Railway Company generally which, I am to remark, do not involve any charge on the Government revenues except indirectly for working expenses and the payments on account of rebates.

Order—dated 28th May 1894, No. 331 R., Public Works.

With reference to paragraph 2 of letter read above, the Revenue Department will be requested to furnish information in regard to prospects of traffic, and the Marine Department will be asked to report on the capabilities of Masulipatam as a port.

(True Extract.)

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

To the Revenue Department.
" Marine Department.

Endorsement Mis. No. 2124.

Referred to the Board of Revenue for early report.

OOTACAMUND,
30th May 1894.

(Signed) R. C. C. CARR,
Under Secy. to Govt.

To the Commissioner of Revenue Settlement, Land Records and Agriculture.

Resolution—dated 14th June 1894, Mis. No. 3610.

Communicated to the Collector of Kistna for early report.

(True Copy and Extract.)

(Signed) P. RAJARATNA MUDALIAR,
Secretary.

To the Collector of Kistna.

READ—also the following letter from J. N. ATKINSON, Esq., Acting Collector, Kistna district, to the Secretary to the Commissioner of Revenue Settlement and Director of the Department of Land Records and Agriculture, dated Masulipatam, 14th August 1894, Dis. No. 2796-Ver. :—

In reply to Board's Proceedings, Mis. No. 3610, dated 14th June 1894, enquiring about the prospective traffic on the proposed Masulipatam Extension Railway, I have the honour to refer the Board to Mr. Arundel's letters printed in G.Os., dated 11th November 1890, No. 1767 R., Public Works, and 3rd January 1890, No. 6, Revenue, and to Board's Proceedings, dated 24th April 1890, No. 113 R.S., where the possible sources of receipts are exhaustively dealt with. But for the purpose of easy reference, I repeat them here along with the latest figures available.

2. The traffic of Masulipatam may be divided into three classes, viz., canal traffic, road traffic and sea-borne trade. As regards the former, the following statement shows the ton-mileage and the number of passengers carried between Bezwada and Masulipatam from 1887–88 to 1892–93 :—

Year.	Ton-mileage.	Passengers.	Average tonnage.
1887–88	3,424,656	58,417	69,890
1888–89	2,730,691	58,189	55,728
1889–90	2,537,592	70,014	51,787
1890–91	2,984,559	74,210	60,909
1891–92	2,689,745	50,940	54,892
1892–93	2,046,511	52,205	41,745

The figures here given do not exhibit the whole passenger traffic, but only that between the two terminal stations of Masulipatam and Bezwada. Traffic between intermediate villages is not included, nor can its amount be ascertained. The so-called passenger boats are primarily intended for cargo ; passengers are only taken in so far as accommodation is available. The decrease in the figures during the past two years is due to the smaller number of boats plying, which in turn is due to diminished *goods* traffic, in consequence partly of improved seasons, and still more in consequence of the completion of the Kistna bridge.

3. *Road traffic*.—The following were the tolls realized by the Masulipatam Municipality for a number of years :—

Year.	Amount realized.	Number of bandies, rate of toll being 4 annas each.	Weight of merchandise calculating at ½ a ton per bandy.
	RS.		TONS.
1889–90	14,125	56,500	28,250
1890–91	13,514	54,056	27,028
1891–92	16,100	64,400	32,200
1892–93	15,500	62,000	31,000
1893–94	15,105	60,420	30,210

The amount actually realized by toll-contractors is more than the above, but on the other hand a deduction ought to be made for passenger carts and empty convey-

ances and animals in order to arrive at the actual collections on carts carrying merchandise. Probably I shall not be far wrong in assuming that the municipal realizations represent the actual amount collected on merchandise carts. The decrease in traffic during the last two years is partly due to improved seasons in other parts of the Presidency and partly to the opening of the East Coast Railway which now attracts a considerable amount of traffic that used to come into Masulipatam.

4. *Sea-borne trade*.—Subjoined is a statement showing consolidated figures of imports and exports at Masulipatam :—

Official years.	Value of exports.	Value of imports.
	RS.	RS.
1857–58	3,81,659	6,05,985
1858–59	6,29,888	4,79,954
1859–60	4,68,386	6,99,603
1860–61	9,03,563	8,14,300
1861–62	11,28,283	8,03,238
1862–63	14,76,907	9,58,690
1863–64	20,17,667	13,38,396
1864–65	15,04,906	12,53,046
1865–66	24,67,250	10,08,545
1866–67	22,73,743	11,65,026
1867–68	33,86,545	11,81,298
1868–69	25,16,599	11,62,027
1869–70	19,10,648	12,28,226
1870–71	22,87,655	14,44,281
1871–72	20,84,981	11,73,334
1872–73	13,01 273	10,07,804
1873–74	25,61,041	11,19,240
1874–75	17,23,402	11,99,790
1875–76	35,63,725	13,30,240
1876–77	26,83,003	14,16,074
1877–78	24,74,353	18,37,335
1878–79	16,32,379	15,38,995
1879–80	24,85,992	11 91,121
1880–81	23,06,066	14,07,266
1881–82	18,50,512	4,59,818
1882–83	15,00,145	9,82,332
1883–84	17,64,883	9,20,324
1884–85	28,06,405	10,44,942
1885–86	27,34,124	8,13,007
1886–87	29,67,524	11,01,924
1887–88	29,34,638	15,17,101
1888–89	30,61,481	12,40,683
1889–90	21,47,812	11,98,973
1890–91	35,52,033	15,33,690
1891–92	29,42,864	13,35,888
1892–93	24,90,037	12,07,100

The striking feature here is the falling off in the last two years. But taking into consideration the two factors already noticed, viz., the improvement of the seasons in other districts, and the completion of the Kistna bridge, the decrease is more than accounted for. It was the famine that caused the inflation of exports in 1890–91, and it was the large imports of material for the Kistna bridge that raised the imports in 1890–91 and 1891–92. In addition the opening of the East Coast Railway did undoubtedly for a time at any rate affect the trade of Masulipatam. Thus the whole castor-seed trade * from the upland taluks was diverted from Masulipatam to Cocanada. I learn, however, that the trade figures for the current year are likely to show a considerable recovery, the export of grain having increased again, while new branches of import trade, notably of timber, are springing up.

* Statement showing the value of castor-seeds exported from the port of Masulipatam during the following official years :—

Official years.	Value.
	RS.
1886–87	9,85,517
1887–88	9,04,740
1888–89	10,70,931
1889–90	1,78,080
1890–91	13,57,640
1891–92	6,68,579
1892–93	6,000
1893–94	1,47,341

5. The figures shown in paragraph 3 are for Masulipatam alone. The statistics of traffic pouring into Bezwada are not available. In 1889–90 the quantity of merchandise brought into Bezwada was 419,687 Imperial maunds as against 355,101 Imperial maunds of Masulipatam. As the converging of the Southern Mahratta Railway, East Coast Railway and Nizam's Guaranteed State Railway at Bezwada has given a great impetus to carriage to south, north and west, the Bezwada trade has no doubt very greatly increased since.

6. Since the registration of road traffic was discontinued, there is no record of the numbers of passengers passing from Bezwada to Masulipatam and *vice versa* by road. In 1889–90, they were 32,561 and 34,543, respectively. The increase of traffic noted in the last two paragraphs must of course have been accompanied by an increase in the number of passengers.

7. It may be noted that the figures contained in paragraphs 3, 5 and 6 relate only to the through traffic between Bezwada and Masulipatam. If the line takes the route proposed in Board's Proceedings, dated 24th April 1890, No. 113, R.S., these figures have to be considerably augmented as the country is a rich rice-growing tract splendidly irrigated and isolated from the present main highway of traffic, viz., the Bandur canal.

8. The area of the country tapped by the proposed railway is 990 square miles, and the population per square mile is 385. I arrive at this figure after deducting the 150 odd miles of water-spread in the Kolleru lake. In his letter, Extra No. 241, dated 25th September 1889, Mr. Arundel reported the density of population as 216 per square mile. But I believe he did not deduct this uninhabitable area. The population is rapidly increasing, and it is of course a truism to say that the construction of the railway will enhance the rate of increase. I give below the population according to the census of 1891 of the villages noted in paragraph 2 of the Board's Proceedings last quoted through which the line has been proposed to be constructed :—

Nidamanur	*1,150*	845
Tennern	*1,180*	1,404
Uppalur	...	1,025
Mantena	...	867
Ventrapragada	*2,582*	1,803
Pamulapad	...	1,335
Kalavapamula	...	1,175
Gudivada	*4,040*	4,732
Angalur	*1,700*	2,163
Vinnakota	*1,800*	1,942
Kowtaram	*2,400*	2,414
Vadlamannad	*1,100*	1,368
Pedana	*4,400*	4,740
Masulipatam	*35,000*	38,809

I have given in italics the figures reported by Mr. Arundel. These are obviously round figures, not always accurate. Since then four villages which Mr. Arundel did not consider worth mentioning have had to be added to the list and the gross population of all the villages has risen from 55,352 to 64,622. The list of villages includes only those that would be actually touched by the railway. There are very many wealthy and populous villages within four or five miles of the line on either side the whole way from Bezwada to Masulipatam.

9. Besides the above traffic there is the salt manufactured at the factories of Manginapudi and Pandraka which produce more than 320,000 Indian maunds per annum. It is intended by the Salt Department to increase the outturn in the Pandraka factory very largely. The bulk of this, including all the Pandraka salt, goes to the Nizam's Dominions on pack-bullocks. The owners would rather take to the railway in spite of the cost than trust to the mercy of the elements on the backs of bullocks.

10. The area irrigated in the Kistna Eastern Delta in 1890–91 was acres 220,481 and for the subsequent years it is—

Year.	Acs.
1891–92	269,464
1892–93	267,310
1893–94	281,164

It is expected that the ultimate area of irrigation in the Eastern Delta will be 400,000 acres, and a very rapid increase is going on already in the current year. Owing to the opening of new canals, portions of Gudivada and Bandur taluks of this district have been placed within easy reach of the Godavari district bordering on those taluks, viz., the taluks of Bhimavaram and Narasapuram, which latter is a great agricultural centre. Such of the produce of these latter tracts as is intended for export towards the north or west will be brought to the proposed railway. It is probable that exports in these directions will increase year by year.

11. The next question for consideration is whether the Bandur canal is likely to be a formidable competitor to the proposed extension, as the Ellore canal is to the Bezwada-Rajahmundy sections of the East Coast Railway. In my opinion it is not likely to be. The latter competition is due to the peculiar circumstances of the East Coast Railway. It runs side by side with the Ellore and Rajahmundry canals across a country not so well irrigated as the Kistna Eastern Delta. Further, the canal between Rajahmundry and Ellore is closed only for six weeks. But the conditions of the Bandur canal and the proposed line are different. The canal traverses the fringe of the fertile Kistna Eastern Delta, while the railway passes through the heart of the same. The canal is inaccessible to the parts on and about the line of the railway, except in the three months of the dry weather when it is closed. During those months even the villages on the banks of the canal will have to resort to the railway. The grain produced in the delta has no market anywhere near at hand. The demand for it lies in the distant Ceded Districts and the uplands of this district. An importer in these parts would prefer to have his grain carried through by the railway rather than undertake the risks of carriage up to Bezwada by canal and thence by rail. So far as passenger traffic is concerned, I can see no ground for thinking that the canal will compete with the railway. I believe that this traffic will be very heavy. As to goods it should be clearly understood that the Bezwada-Masulipatam line will be subject to conditions altogether different from those of the East Coast Railway, in its course from Bezwada to Rajahmundry. The former will be separated by an average distance of six miles from the canal, and this distance practically unserved by roads. On its eastern side there are no navigable canals at all within a much greater distance.

12. I observe that the Government of India desires information as to the capabilities of Masulipatam as a port, and though I have not been asked to report on that point, I venture to offer the few following remarks. I take it that it is very unlikely that Masulipatam can ever be made better than what it is now, viz., a very safe, though open, roadstead. As a port it has always, for the last half century at any rate, been unpopular with European shippers, partly on account of its own inherent inconveniences, but more because of the superior attractions of Cocanada. But whereas Masulipatam is neither better nor worse than it has been any time within human memory, it is notorious that the Cocanada anchorage is steadily shoaling up, and there are constant lugubrious rumours that trade is beginning to show signs of leaving it.

13. However this may be, it seems to me that the prospects of Masulipatam as a port in no way affect the prospects of the proposed Bezwada-Masulipatam railway. Even now the quantity of goods that are brought to Masulipatam from beyond Bezwada for export is not worth considering. It is as a trade centre for the tracts between itself and Bezwada that Masulipatam has attained its present importance. Such being the case it is immaterial to the railway whether the sea-borne trade of the town increases or decreases. In either case the railway will reap the benefit. If the trade increases it will be because the railway is bringing more stuff into the town; and if it decreases it will be because the railway is taking the stuff away from Masulipatam. It is difficult to understand the position of those who doubt the prospects of a line of railway feeding and tapping a tract of country 990 square miles in extent composed of the most fertile and unfailingly productive soil, and supporting a population equal in density to that of England, and likely in the next decade to increase by 50 per cent.

I regret the delay that has taken place in submitting this report, which has been occasioned by my absence on leave till only five days ago.

READ—also the following Demi-official letter from J. W. MAIDEN, Esq., dated Masulipatam, 10th August 1894, and endorsement thereon by the Collector of Kistna, dated 18th August 1894, No. 2848-Ver :—

I am afraid you must have thought me very neglectful in not sending you the information promised, but I assure it was nothing but the difficulty in obtaining the necessary information from the Custom House that prevented my communicating with you earlier. It has been two days' hard work. I do not know whether you will agree with me in all my views. Considering how the opening of new railways has a tendency of upsetting local trade, I think my figures will prove that trade at this port is again forging ahead. I give you five years figures :—

	Total exports to all ports.
	TONS.
1889–90	19,356
1890–91	41,102
1891–92	32,974
1892–93	28,689
1893–94	30,796
1894–95	* 8,235

* Up to the end of July 1894.

If you take 1889–90 as the starting, 1893–94 is a decided improvement. If you take 1890–91 as your starting point, the reaction shows itself in 1893–94. This year already shows better results, and if it was not for the closing of the canal when our castor-seed business was reviving, a still better result would have been shown. Our principal exports in castor-seed were during the months when the canals were closed. Now of course with the railway to compete with cart-hire we are nowhere. Now that the canals are open, castor-seed is again coming here for exportation. Our trade with the southern ports is steady and improving as seen from the figures below. These figures show only what is being conveyed by native vessels, such as paddy, rice and pulse, &c. :—

		TONS.
Jaffna	1889–90	4,536
	1890–91	12,910
	1891–92	9,142
	1892–93	11,108
	1893–94	16,963
	1894–95	† 6,691
Negapatam ...	1889–90	4,942
	1890–91	4,392
	1891–92	4,857
	1892–93	5,045
	1893–94	10,138
	1894–95	† 2,796
All other southern ports excepting above.	1889–90	478
	1890–91	6,066
	1891–92	5,127
	1892–93	3,726
	1893–94	4,775
	1894–95	‡ 940

† End of July 1894.

‡ Up to end of July 1894.

With regard to imports I see no decrease of any consequence, in fact an improvement—

1889–90.	1890–91.	1891–92.	1892–93.	1893–94.	1894–95.	Remarks.
RS. 11,10,062	RS. § 15,95,569	RS. § 13,64,990	RS. § 11,80,065	RS. 13,00,514	RS. 3,85,617	End of July 1894.

§ These three years bridge materials were imported.

I have noticed that for the last two years paddy is being exported to Calcutta, whereas a few years ago paddy used to be imported from Calcutta. Another is a growing import trade with Rangoon and Moulmein of cut timber. Every steamer is bringing it in.

Endorsement.

Submitted to the Board (Revenue Settlement), in continuation of this office Disposal No. 2796-Ver., of 14th August 1894, regarding Bezwada-Masulipatam Railway.

RESOLUTION—dated 28th August 1894, No. 350.

The Collector's letters read above will be submitted to Government with reference to G.O., dated 30th May 1894, No. 2124, Revenue.

2. The financial aspects of the proposed extension of the railway from Bezwada to Masulipatam have already been fully discussed by the Board in its Proceedings, dated 24th April 1890, No. 113, in which, however, the statistical information given closed with the year 1888–89. Further statistics for the subsequent years so far as available are now given by the Collector in his letter read above. It will be seen that both in canal traffic and in sea-borne trade there was a falling off in the years 1891–92 and 1892–93. This is attributed partly to the favorable character of the season in other districts which reduced the exports and partly to the completion of the Kistna bridge for which there were large imports of material in previous years. Even making allowance for these fluctuations, the Board considers that the prospects of traffic over the proposed branch line which runs through a fertile and thickly populated delta, advancing in prosperity by leaps and bounds with the spread of its irrigation, are full of promise and that there can be no reasonable doubt that the undertaking would prove a financial success.

(True Copies and Extract.)

Secretary.

To the Secretary to Government, Revenue Department.
" Collector of Kistna.

Ed. W. J. Lewis.

P. W. C. No 7037

REVENUE DEPARTMENT.

1894.

Board of Revenue

(Revenue Settlement, Land Records and Agriculture),

MADRAS.

Current Number 6424

G.O. 3333 d 2-6-90
G.O. 6 d 3-1-90
G.O. 2124 d 30-5-94
G.O. 1395 d 18-7-94
G.O. 1318 d 9-7-94
G.O. 1287 d 4-7-94
~~G.O. 6 d 3-1-90~~

C7

Endt (Mis) No. 3458

Transferred to the Public Works Department (Railway Branch).

a.g. Secy. to Govt.

Ooty 4 Sep. 94

List

C.P. 3/9/94

Disp/4

Printed August th.

Recd 3 Sep

GOVERNMENT OF MADRAS 3 SEP 94

Proceedings, 28th August 1894, No. 350.

Dept 19/9/94

Bezwada-Masulipatam Railway.—Reporting to Government on the prospects of traffic over the proposed—.

P.T.O.

No. 1050. D. dated 16.9.94.

SERIAL No. 51

To the Govt. of India 187

In reply to your No. 412. R. C. of 4th May 1894, I am directed to forward a report from the Revenue Department regarding the prospects of traffic on the proposed Bezvada-Masulipatam line and a report on the Harbour of Masulipatam from the Marine Department.

2 The estimate made by the Agent, Southern Mahratta Railway, is that the branch will yield 3¼ lacs gross revenue and assuming the Southern Mahratta -- Railway work at 55 per cent that sum will yield nearly 4.9 per cent on the capital.

This is equivalent to earning a gross mile per week amount of 125/.

From information given by the Board of Revenue, the yearly number of passengers between Bezvada and Masulipatam

by canal for an average of 5 years is given as----61,000
& by road for one year as------67,000
Total 128,000

The yearly tonnage is given as

by canal 44,000
by road 29,700
73,700

The number of passengers per week is therefore 2460, and the weekly tonnage is 1410.

3 Assuming all these passengers travel by rail at 2 pies fares and all

Pmt

360

W 8 Sep

10/9/94

JG 10/9

P. W. C. No 7037

REVENUE DEPARTMENT.

1894.

Board of Revenue

(Revenue Settlement, Land Records and Agriculture),

MADRAS.

Current Number 6424

Disp/4

Printed August th.

Recd 3 Sep

GOVERNMENT OF MADRAS
3 SEP 94

Proceedings, 28th August 1894, No. 350.

Dept 19/9/94

Bezwada-Masulipatam Railway.—Reporting to Government on the prospects of traffic over the proposed—.

P.T.O.

G.O. 3333 d 2-6-90
G.O. 6 d 3-1-90
G.O. 2124 d 30-5-94
G.O. 1395 d 18-7-94
G.O. 1318 d 9-7-94
G.O. 1287 d 4-7-94
~~G.O. 6 d 3-1-90~~

C7

Endt (Mis) No. 3458

Transferred to the Public Works Department (Railway Branch).

a.g. Secy. to Govt.

Ooty 4 Sep '94

List

C.P. 3/9/94

No. 1050. D. dated 16.9.94.

SERIAL No. 51

To the Govt. of India 187

Printed

360

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W 8 Sep

BS 10/9/94

JG 10/9

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by canal 44,000
by road 29,700
73,700

The number of passengers per week is therefore 2460, and the weekly tonnage is 1410.

3 Assuming all these passengers travel by rail at 2 pies fares and all

branch, a fair sum for the use of the Kistna bridge and Bezvada station and mixed gauge lines should be paid, and a rebate should be allowed, by them, to the East Coast and Nizam's Railways ~~for~~ on interchanged traffic.

F. Rell
8/9 94.

P.T.O.

191

Circulate
His Excellency the Governor
Hon Mr. Alias —
Hon Mr. Grove —

There seems to be a clerical error in the last para of the P.P.O.'s letter of June 28. He says that boats carrying over [illegible] tons charge Rs 15 to go off to [illegible] anchorage, in one place; [illegible], in another, that the shipment [illegible] to steamers costs [illegible] Rs 15/3 per ton — I can reconcile these statements — [illegible] the latter figure shd [illegible] annas 15/3 per ton. If P.P.O.'s letter is to go [illegible] India, the point should [illegible] cleared up.

[illegible]
10/9/94

[illegible] 12/9 94
[illegible]

[illegible] officer explains [illegible] the latter figure [illegible] 15 annas [illegible] per ton — I have [illegible] this in the copy [illegible] India which is despatched to day. F. Rell 16/9 94

Draft letter to Govt of India regarding the line from Bezvada to Masulipatam — F. Rell 6/9 94

An amended draft is put up as desired by His Excellency the Governor.
F. Rell
8/9 94

Hon Mr. Alias for information —
[illegible]
18/9
F. Rell

all the goods were carried at 5 pies per ton per mile or $\frac{1}{5}$ pie per maund per mile the railway would earn 25/ and 37/ respectively, adding to this 320,000 maunds salt yearly at $\frac{1}{10}$ pie per maund per mile from the factories of Manginapudi and Pandraka to the Nizam's Dominions which would yield nearly 4/ per mile per week, the total will be 66/ per mile per week.

This is just half what the Southern Mahratta Railway Agent considers probable, and as the Collector makes no estimate of local traffic and is of opinion that the Bandur canal will not compete withthe railway, his estimate is considered a fair one.

I am to say that as regards the port, there does not seem reason to believe that the Harbour of Masulipatam as it now is, will affect the traffic in any great degree. It is reported that it is not one favoured by shippers and the trade there is small compared with Coconada. Neither of these ports are likely to improve and it is probable that with some expenditure the port of Vizagapatam will eventually take the bulk of the export trade of the district.

5 With reference to the proposals of the Southern Mahratta Railway to construct this eminently desirable branch, it is the opinion of His Excellency in Council that without knowing the prospects of the construction of the line from Madras to Bezvada in the near future, it

come to a final decision,

it is somewhat difficult to ~~decide~~, but seeing that the line from Guntakal to Bezvada was expressly built as a famine line, its protective value -- would be much enhanced by its extension to the fertile delta between the Kistna and Godavari on the metre gauge

6 But as however the alignment of the Bezvada-Madras Railway whether via Guntur or to Bezvada direct and the transfer of the junction station to the right bank of the Kistna, ~~which questions~~ will have to be considered when the Bezvada-Madras project comes up for consideration next month, it appears desirable that the final -- settlement of the gauge of this branch should be deferred till then.

7 Another point which should not be lost sight of is that the construction of this branch on the metre gauge would very considerably affect the -- value of the Bezvada-Madras line if constructed and of the present southern portion of the East Coast, if worked, by any syndicate or company.

8 The offer of a line involving no charge on the Government revenues is certainly most advantageous, but the terms asked in enclosure No.-3, -- paras 13, 14, and 15 are, I am to say, altogether inadmissible and it is the opinion of His Excellency in Council that in the event of the Southern-Mahratta Railway constructing this

branch

branch, a fair sum for the use of the Kistna bridge and Bezvada station and mixed gauge lines should be paid, and a rebate should be allowed, by them, to the East Coast and Nizam's Railways ~~for~~ on interchanged traffic.

F. R. M.
8/9 94.

Circulate
His Excellency the Governor
Hon Mr. Alias —
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[illegible]
10/9/94

Port officer asked D.O. 12/9 94
F.R.M.

The Port officer explains that the latter figure means 15 annas & 3 pies per ton — I have inserted this in the copy to India which is despatched to day F.R.M. 16/9 94

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F.R.M.
8/9 94

Hon Mr. Alias for information —

[illegible]
18/9

F.R.M.
9/9

In your reply please quote number and date of this letter.

No. 6337

193

SERIAL No. 52

From

THE MANAGER,

EAST COAST RAILWAY.

38 P

To

THE Director General

of Railways,

Simla.

Dated Waltair, the 18th October 1894.

Working Agreement - Kistna Bridge.

Sir,

With reference to Government of India letter No.182 R.T dated 30th April 1894 copy received with your endorsement No.167 T dated 10th May last, I have the honor to inform you that the drafts of agreement for the Joint Working of the Bezwada Junction Station by the East Coast, the Nizam's Guaranteed State and the Southerm Mahratta Railways are now in the Press, and it is expected the proofs will shortly be submitted for your approval.

With regard to agreement for the Kistna Bridge, the Government of India lay down that for the use of the line Tadapille to Bezwada the Southern Mahratta Railway shall surrender to the East Coast Railway 75 per cent of their earnings on that portion of the line, and that out of the remaining 25 per cent, they shall further pay a small pontage charge to this line for the use of the Kistna Bridge. This, reduced to figures, means, putting the pontage ~~xx xx~~ to as low a figure as possible, that the Southern Mahratta Railway will be mulcted of all their earnings on this part of the line and will have to haul and book the traffic over it for nothing. They, as a matter of course, do not fall in with this view, especially as Government still further lay down that they shall not charge the traffic any thing

Enclosures.

Print & Extract in add. check

6.9. Rts 7/9 Cir 8/9/94 R 11/9/94

In your reply please quote number and date of this letter.

No. 6337 193

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Enclosures.

any thing extra in the shape of mileage to compensate for their expenses.

Pending settlement of this matter the agreement for the use of this line and the Kistna Bridge stands in abeyance and I have therefore to solicit the favour of early orders of the Government of India being obtained on the subject.

Under the existing circumstances of the case the question of pontage over the Kistna Bridge should in my opinion be established in principle but held in abeyance in practice for the following reasons.

By far the largest amount of the traffic that crosses the Kistna (coal and store for Revenue purposes excluded) travels short distances on the Southern Mahratta Railway, and is carried by them at a specially low rate to enable us to compete with the cart and canal route. It will not bear any pontage, and if we seek to levey one, it will be directly opposing our own interests.

I would therefore suggest that the principle be distinctly laid down that we have the right to levey a pontage charge for the use of the Bridge up to a maximum of the interest on the Capital cost of the Bridge on all traffic that uses it and then leave it to us to levey such pontage as we think proper, and when we think proper, by simply giving notice under the Conference Rules as is done in the case of any other alterations in rates. As a matter of fact, so long as the Southern Mahratta Railway shape their own policy in rates, as they do at present, to assist us in getting our own traffic, I would charge them no pontage at all on inwards or outwards goods from or to stations on the Bezwada side of their ghats near Cumbum, as this is our zone, and by so doing we would be taxing our own traffic. The principle, however, that we have the right to charge a pontage, limited by the interest on the Capital Cost of the Kistna Bridge, should be distinctly laid down, as it is of great importance to us this being our only lever to extract fair terms for our own traffic from the Southern Mahratta Railway. As far as I can see circumstances are likely to arise in the near future which will necessitate our using this lever.

I understand the Southern Mahratta Railway expect to obtain permission to construct a branch line to Masulipatam on the Metre Gauge with the

398 195

free use of the Kistna Bridge. If this is allowed it will take away all the traffic from the first 150 miles of the East Coast Railway and it is therefore essential that we should now get the question of the principle of the pontage over the Kistna Bridge definitely and finally laid down, if we do not want, as the owners of that Bridge to have it made the means of rendering that section of the line absolutely unproductive. The Southern Mahratta Railway has obtained a Port in the West of India at Marmagoa via the West of India Portuguese Railway, and the damage they have done to the Great Indian Peninsula Railway traffic via Poona by using this Port as a lever sufficiently warrants us to keep them at all costs out of constituting a similar rival Port to Coconada at Masulipatam. There are many other places on the Southern Mahratta Railway system much more pressingly in need of this 51 miles of Railway communication, where that Company may obtain a much better return on its Capital than by coming into a territory already in possession of a canal route which will force their rates down to an unremunerative figure, and bring them into direct antagonism with a Railway whose interests would otherwise be theirs also. This a policy I submit that ought to be avoided. The canal route, running as it does, from door to door of merchants will be a much more effective and speedy means of transport for goods than a Metre Gauge Railway, and I doubt if Masulipatam is in any need whatsoever of Railway communication as compared with Karnool and other stations on the Southern Mahratta Railway.

As an Officer, interested in the welfare of the East Coast Railway I think I cannot too often or too strongly press upon the Government the necessity, indeed, the pressing necessity of preventing this Narrow Gauge system cutting us in two at Bezwada both for the present while we terminate at Bezwada, and more so for the future, when we extend to Madras. It simply means transferring several lakhs of rupees from the pocket of Government to the shareholders of the Southern Mahratta Railway Company, to say nothing of the indirect loss of having to keep up 150 miles of non-productive line with an expensive Ferry on it.

The above has reference to the existing conditions, but from the experience of the last season's work the accommodation and conveniences for dealing with the through traffic between the Southern Mahratta and the East

Coast

Coast Railways proves to be very inadequate, and the Southern Mahratta Railway press us, as the owners of the Junction, to make other and better arrangements. Bezwada will not allow of any improvement, and we should fall in at once with the often expressed view of the Madras Government and move the transhipping arrangement over to Tadapille before next January if possible. The position of Tadapille x is important to us in several ways as it will give us the accommodation we want. Transhipment of coal and passengers, and booking of local goods would still continue at Bezwada, and this would very much simplify the question of pontage, as by far the largest part of the traffic would under these circumstances cross over the bridge in our own stock and be hauled by us, and we could then afford to forgo the pontage on the remainder in consideration of the Southern Mahratta Railway complacency in rate matters.

I shall be glad to receive early orders on the subject.

I have the honor to be,

Sir,

Your most obedient Servant,

Sd/- A Brereton

Manager,

E.C.Railway.

ENC. No. 1 TO F. R's C. No. 5424 OF 1894
LETTER No. 6337 D 18.10.94
FROM M.E.C.R.

D, & ER.

CMS 27/11

197

SERIAL No. 62

In your reply please quote the number and date of this letter.

No. 6338

From

THE MANAGER,

EAST COAST RAILWAY,

To

THE Consulting Engineer

for Railways,

Madras.

Dated Waltair, the 18th October 1894.

xx,

The under-mentioned paper is forwarded for information.

A Brereton

Manager, E.C.Railway.

17/10/94

Document referred to.

Copy of letter No. 6337 dated 18th October 1894 from the Manager, E.C.Railway to the Director General of Railways re; Working agreement of the Kistna Bridge.

Enclosures.

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FROM M.E.C.R.

D, & ER.

CMS 22/11

197

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Enclosures.

REGISTER
5424
FILE
No.

REVENUE BOARD OFFICE
MADRAS.

199

SERIAL
No. 63

Proceedings of the Board of Revenue

(Revenue Settlement, Land Records and Agriculture.)

Dated 27th September 1894.

No. 5797 Mis:

READ the following letter from the Collector of Kistna, dated 7th September 1894 Disposal No. 62/Tour of 1894:—

in G.O. 3458/4.9.94

1050 Do/16.9.94

In continuation of my letter No. 2796/Ver dated 14th August 1894 reporting on the prospects of the Bezwada-Masulipatam railway, I have the honor to forward herewith a tracing showing the probable approximate alignment of the railway, with all the villages within a distance of four miles thereof, and their population given in red ink. Mr. Arundel suggested that the line should run on the East Coast Railway for some 6 or 8 miles, and branch off through Yanikapadu and Nidamanur. I have shown the line separate from the East Coast Railway, the whole way from Bezwada. For the purpose of this report, which is mainly intended to illustrate the distribution of population in the

REGISTE.
5724
FILE
NR

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MADRAS.

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H.

the country traversed. The exact alignment of the last six or eight miles into Bezwada is immaterial.

2. The map now forwarded shows much more graphically than the list given in para 8 of my letter 2796/Ver dated 14th August 1894, how closely the villages are packed. With the exception of a mile or two at each end, the whole is a paddy-growing tract. The people are unusually prosperous, energetic and keen to seize every opportunity of enriching themselves. It seems to me certain that the Railway must attract very large local traffic.

3. The map also shows the relative position of Railway and canals. Of the canals shown, the Ryves, the Pullum from Neppalli to the point marked with a blue pencil cross, and the Kolidindi Kodu are not navigable. The only canal that can possibly compete with the Railway is the Masulipatam canal, and the map shows that it serves a strip of country entirely different from the Railway. The relative position of the [illegible] Coast Railway and Ellore canal, as shown at

at head of the map may be contrasted with that of the Masulipatam canal, and Masulipatam and Bezwada-Railway.

Resolution

Submitted to Government in continuation × G.O 3458/4-9-94 of Board's Proceedings, dated 28-8-94 No 350.

(True Copy & Extract)

[illegible]
Secretary

To

The Secretary to Government
Revenue Department
with a map.
The Collector of Kistna.

[illegible] country lacking, nothing [illegible] means

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Resolution

Submitted to Government in continuation of Board's Proceedings, dated 28-8-94 No. 350.

× G.O. 3458 / 4-9-94

(True Copy & Extract)

P. Rajamkumar
Secretary

To

The Secretary to Government
Revenue Department
with a map.
The Collector of Kistna.

Revenue 1894 Dept.

No. 8208

Board of Revenue

(Revenue Settlement, Land Records & Agriculture)

Madras

~~Current Number 6997~~

To

The Secretary to Government

Revenue Department

Desp/26

Letter Fwd 24/10

Encl. Plan

Rec: 29.10.94

Rec 24 Sept

Proceedings of 21st September 1894

No. 5797 Mis: Ent.

Subject

Bezwada. Masulipatam Railway

Submitting to Government in continuation of Board's Proceedings No. 350 Press dated 28-8-'94 letter from the Collector of Kistna forwarding a tracing showing the approximate alignment of

P.T.O.

G.O. 3458 d. 4-9-94

Endt. ~~G.O.~~ Mis No. ~~3769~~ 4112

Transferred to the Public Works Department (Railway Branch) in continuation of endorsement No. 3458 Mis d/. 4-9-94.

1050 D 9/94

G. Gibson

Ag. Secretary to Govt.

Fort St. George
25 October 1894

~~Ordered~~
~~26th Sept 1894~~

R.
2577

203

SERIAL No. 64

Railway from Bezwada to Masulipatam –

2 letters 6337 of 18/10 94 from manager E.C. Ry to D.G. Rys and. Proceedings of Board of Revenue – enclosing letter from Collector of Kistna with map – put up for perusal. No action is called for on these letters at present.

FRW 20/10 94

Circulate.

Hon Mr. Alias

Hon Mr. Pope

Also Excelling the for. Ernor on return p. Tour

I suppose Col. Gracey will have something to say about this.

W

6 Nov

Seen
HD
2/11/94

JG 5/11

ducing country lacking, nothing ... means ...

No. 853.

Office Memorandum.

Transferred for disposal to the Secretary to the Government of India in the Public Works Department.

No reply has been sent to the enclosed.

Viceroy's Camp Kasrachi
12th November 1894

H. Babington Smith
Private Secretary to the Viceroy

21-11-94

207

To

HIS

W 1283

DESPATC
24 DEC.

BOARD OF REVENUE
27 DEC 94
LAND RECORDS AGRICULTURE

439

MAY IT PLEASE YOUR EXCELLENCY,

In pursuance of a resolution passed un
leading men of the town of Masulipatam and the
entreaty that Your Excellency's Government ma
grant our fervent prayer that this ancient and
and finest Districts of the Southern Presidency,
in a distance of 50 miles

2. The facts and figures (and these n
ations already submitted to the Madras Governm
cers of this District who have closely studied the
vernment that this short line of Railway for whi
Supreme Government for some years will be not
land Districts of Cuddapah, Kurnool and Bellary
remunerative work serving, as it does, as a feeder

3. We also believe that, had it not be
would long since have taken in hand this small bu

4. The object of the pres

Forwarded throug
of Revenue, Madr
on the favourable
the line have been
stated on variou

J.H.

21/12 . 21/12

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OWE-2
Eco/95

1895
REVENUE DEPARTMENT.
Closure No. 1
Current No. 892

...ED

...of 94.

...gh the Board
...as. My opinion
... prospects of
... emphatically
...s occasions.

Atkinson
24/12/94

Ag Collector

PWE-1
940/95

PWE-2
940/...

1895
REVENUE DEPARTMENT.
Enclosure No. 2
To Current No. 892

(23—1,000—15-11-93.)

209

SERIAL
No. 53

REVENUE BOARD OFFICE
MADRAS.

Proceedings of the Board of Revenue

(Revenue Settlement, Land Records and Agriculture),

Dated 2nd February 1895.

No. 510 Mis

READ Endorsement from the Collector of Kistna, dated 24th December 1894, Dis No 4396/ver of 94 forwarding with remark a memorial of the inhabitants of Masulipatam and of the Kistna Eastern Delta to the Viceroy regarding the extension to Masulipatam of the railway system.

Resolution.

Submitted to Government.

(True Extract)

[illegible]
Secretary

The Secretary to Government,
Revenue Department
with Memorial.

Encd

940

~~Revenue 1895. Dept.~~

Board of Revenue

(Revenue Settlement, Land Records and Agriculture),

MADRAS.

~~Current Number 892~~

To

The Secretary to Government
Revenue Department

Desp 5/2

Rec. 8.2.95

Mr 5/2

GOVERNMENT OF MADRAS
14 FEB 95
REVENUE DEPARTMENT

No. of Enclosures: Encls. 2

Proceedings, dated 2nd February 1895
No. 510 Mis

Recd 4th

Subject.

Submitting to Government the endorsement from the Acting Collector of Kistna forwarding with remark a memorial to the Viceroy regarding the extension of the Railway system to Masulipatam.

P.T.O.

B.P. (Q.1) No 350 dt 28.8.94.
Go. 2124 d 30-5-94.

Endt No 275 R.

Transferred to the Public Works Department (Railway branch)

Fort St George
5. Feb 95

R. C. C. an
under Secretary

~~Forward copy of~~ precis
~~1050 D of 16/9/94 regarding proposal of Southern Mahratta Ry to construct line from Hyvadu to Masul:~~

F.R.M. 8/2/95

The memorialists may be informed that the subject of connecting Mas: with the rail system is receiving favourable attention and the govt of India has been addressed

F.R.M. 9/2/95

PWD, Rly Bt

No. 540 Cd/12th February 1895

Memo

Endt by the Revenue Deptt No. 275 R, dated 5th February 1895. transferring endt No. 4396/Ver dy 24. Dec 94 from the Collector of Kistna

The Memorialists may be informed that the proposal to connect Masulipatam with Hyvadu by rail is receiving favourable attention, and the Govt of India has been addressed on the matter.

F.R.M.

R

DESPATCHED
~~13~~ 12 FEB. 95

~~The Collr of Kistna through the~~
The Revenue Deptt.

To,

His Excellency the Viceroy and Governor General
of India, in Council,
Fort William, Calcutta.

/ Thro his Excellency the Governor
of Fort St George. Madras /

May it please Your Excellency.

1. In recalling to your Excellency's remembrance the many memorials that have hitherto been addressed to your Excellency on the subject of the construction of a railway between Bezwada and Masulipatam, we, the inhabitants of Bundur and Guduvada talugs of the Kistna district most humbly and respectfully beg to urge one more that your Excellency will be graciously pleased to accord a favourable hearing to our repeated prayer for extension of Railway communication to the Eastern Delta of the Kistna District.

2. The social, official and commercial importance of the town of Masulipatam has often

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often been brought to your Excellency's notice, and it has been confidently asserted by all whose local experience entitles their opinion to carry weight, that the Financial success of a Railway between Berwada and Masulipatam would be secured by the through traffic alone between these two places.

3. We believe however that in previous memorials and minutes attention has been too closely concentrated on the wants of the town of Masulipatam while the present and future prosperity of the large tract of country which the line would traverse has been passed over as of secondary consideration. We would respectfully submit that this is a reversal of the true position, and that the first and chiefest argument in favor of the construction of the Berwada Masulipatam Railway, is that it will open up 2000 square miles of country the whole surface of which is teeming with food crops, which at present can be put on the market only after long delays, and with much loss of bulk, owing to the unsatisfactory means of communication within and leading out of the tracts of country in question.

4. Fears have been expressed in certain quarters that the competition of the navigable canals would annihilate all chance of the Railway paying its way. We respectfully submit that such fears are chimerical. The development of commerce in India shows an increasing tendency year by year to follow the same lines as in other countries; and while in the United Kingdom and elsewhere instances are innumerable of canal and Railway working amicably side by side, each feeding and sustaining the other, so in this country whose commerce is but in its infancy, it is certain that in a few years, and that without any interference of Government, but in the natural course of events, the Railways will have taken their proper position as the predominant partner, while the canals will have fallen back to the useful though more humble status of Railway feeders.

5.

often been brought to your Excellency's notice, and it has been confidently asserted by all whose local experience entitles their opinion to carry weight, that the Financial success of a Railway between Berwada and Masulipatam would be secured by the through traffic alone between these two places.

3. We believe however that in previous memorials and minutes attention has been too closely concentrated on the wants of the town of Masulipatam while the present and future prosperity of the large tract of country which the line would traverse has been passed over as of secondary consideration. We would respectfully submit that this is a reversal of the true position, and that the first and chiefest argument in favor of the construction of the Berwada Masulipatam Railway, is that it will open up 2000 square miles of country the whole surface of which is teeming with food crops, which at present can be put on the market only after long delays, and with much loss of bulk, owing to the unsatisfactory means of communication within and leading out of the tracts of country in question.

4. Fears have been expressed in certain quarters that the competition of the navigable canals would annihilate all chance of the Railway paying its way. We respectfully submit that such fears are chimerical. The development of commerce in India shows an increasing tendency year by year to follow the same lines as in other countries; and while in the United Kingdom and elsewhere instances are innumerable of Canal and Railway working amicably side by side, each feeding and sustaining the other, so in this country where commerce is but in its infancy, it is certain that in a few years, and that without any interference of Government, but in the natural course of events, the Railways will have taken their proper position as the predominant partner, while the Canals will have fallen back to the useful though more humble status of Railway feeders.

5.

5. In proof of the certainty of this consummation we would beg respectfully to refer your Excellency to the traffic statistics of the East Coast Railway, and of the Canals from Berwada to Rajahmundry. It is a fact, which we believe even the East Coast Railway officials will acknowledge that slowly but surely traffic is being diverted from the Canals to the railway; and what is once diverted there is no possibility of the Canals ever capturing again.

6. Even if the facts were not as stated in the last paragraph we would respectfully protest against any analogy being drawn between the East coast main line, and the line from Berwada to Masulipatam. The former runs through a barren country parallel to and within a mile or two of a navigable Canal the whole way from Berwada to the Godavari. The distance by rail is 91 miles, and by canal 87 miles, thus even in point of mileage giving the advantage to the Canals. The

Berwada

Berwada Masulipatam Railway on the other hand would traverse the centre of the cultivated parts of the Kistna Eastern Delta, at an average distance of 10 miles from the Masulipatam Canal.

7. As stated in para 3 above our humble representation is that the Railway should be considered principally as opening up the interior of the Gudiwada and Bunder talugs, and looked at in this light we would respectfully submit that there can be no competition between the Railway and the Canals. From Berwada for a distance of 38 miles to Kantharam, the line would nowhere touch a canal. At Kantharam it would cross the Pulleru Canal and thereafter would not again touch a Canal till it reach the terminus at Masulipatam Fort. Those acquainted with the physical conditions of the country that would be traversed by the Berwada Masulipatam Railway know that almost the whole of the foodstuffs and other agricultural produce to be exported

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inconveniences at the Godavari river or at
Bezwada or both. We respectfully
submit that this circumstance alone
would suffice to explain the preference
of exporters, for boat to Railway
and the fact that in the race for
traffic the railway has already
begun to forge ahead of the Canals
is a certain indication that as soon
as Railway communication through
from Madras to Cocanada is complete
the Canals will not be able to afford
the railway profits in the smallest
degree.

10. We believe that there is an impression in certain quarters that the Bezwada Masulipatam Railway should be indissolubly connected with the S. M. Railway Company, and that if

if that Company cannot undertake construction of the line, it should not be constructed at all. We submit that any such impression is in itself fallacious, and is unfair to our interests. It is a matter of indifference to us by what agency the line may be constructed so long as it is constructed. We are fully sensible that the line can only be regarded as a feeder line, and the question of gauge is one to be decided by your Excellency's Government in the manner that may seem best to accord with the various interests involved.

11. At the same time we would respectfully demur to another opinion that has been expressed locally and it may be elsewhere, to the effect that no proposal for the construction of the line should be entertained in view of the double danger of decrease in the prosperity of the neighbouring of Port of Cocanada and of the decrease in the earnings of the East Coast Railway, that might thereby

must when the Railway is constructed be
consigned by that means. The paddy
harvest does not begin till the end of
December and continues till the middle
The canals close on 1st March.
or end of March. The latest safest date
for boats to ply is about 26th February and
by that date it is only a modicum of
this produce that the ryot can have
thrashed and bagged ready for export.
From that date onward till the breaks
of the S. W. Monsoon in June, there is
an unending procession of carts bringing
grain to Masulipatam, some for
export by sea, some for local
consumption, some for eventual
export by canal to Madras after
the reopening of canals in June.

8. We have every confidence as
shown in para 4 above that the
Railway would very soon win Canal
traffic to itself. We are sure that
as between road and railway there could
be no rivalry. If the ryot proposes
to cart his produce by road to
Bezwada or Masulipatam, not only
must he wait till all his crops are
reaped, thrashed, garnered and
all

all his agricultural operations ended,
but since there is only one metalled
road, and three or four mud roads
in the whole tract served by the
railway, he must send his carts
for miles and miles across a country
intersected at every few hundred yards
by irrigation and drainage channels
at the risk of serious overstrain to his
draught cattle, and of constant
upsetting of his carts and all they
contain.

9. If remembering the tariff war
between the East Coast Railway and
the Bezwada Rajahmundry canal
your Excellency should still feel doubtful
of the prospects of any other Railway constructed
within reach of a navigable Canal, we
would respectfully urge that putting
all other considerations aside there are
two which alone amply account for
the temporary success which the boat
owners on the above named canal
seemed to achieve. The commodities
which they were carrying were from
the Godavari District, mostly from
Cocanada, Rajahmundry and other

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10. We believe that there is an impression in certain quarters that the Bezwada Masulipatam Railway should be indissolubly connected with the S. M. Railway Company, and that if

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11. At the same time we would respectfully demur to another opinion that has been expressed locally and it may be elsewhere, to the effect that no proposals for the construction of the line should be entertained in view of the double danger of decrease in the prosperity of the neighbouring of Port of Cocanada and of the decrease in the earnings of the East Coast Railway, that might thereby

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thereby be entailed by reducing the distance that commodities would have to be carried from Bezwada to the port of shipment. We are too conscious of the unswerving impartiality of your Excellency's Government towards all the many, and conflicting interests committed to its care to think that your Excellency could possibly allow its policy to be influenced by commercial rivalries.

12. As to the anticipated decrease in traffic receipts on the East Coast Railway, we would respectfully submit that such a contingency could only occur in case the Bezwada Masulipatam line be handed over to an administration different from and competing with that of the East Coast Railway. Should your Excellency's Government finally decide that the S. M. Ry Company, should not be permitted to extend their line to Masulipatam we would submit that this decision does

not

not entail a total rejection of scheme for a line from Bezwada to Masulipatam and that it is still open to your Excellency to sanction the construction thereof as an integral part of the East Coast Railway system.

13. We are humble dependents on your Excellency's bounty. Most of us are royatwari land ~~owners~~ holders producers of food grains and other commodities, the export of which to foreign markets helps though in never so small a degree to preserve the balance of trade in favor of India, and thereby to alleviate our country's financial embarrassment; and as year by year we are more and more roughly brought face to face with the disadvantages of our position, we beg of your Excellency to listen favorably to our prayer for the construction of a line of railway, which while it will injure no interests, will open up a tract of country as unfailingly fertile as any under your Excellency's rule; will earn an assured and

increasing

increasing profit, and will enable us your memorialists and our neighbours to compete on a footing of equality with the producers of other more fortunate localities.

We respectfully beg to remain
Your Excellency's humble & loyal subjects.

V.V. Subbarao B.A.
Secy: Kistna Dt. Assn
22/1/96.

& several others
Signed in sheets

S.O.
No. 245 R dy 17.3.96

2020/B 21/3

225 27

REVENUE BOARD OFFICE. MADRAS.

Proceedings of the Board of Revenue

(Revenue Settlement, Land Records and Agriculture.)

Dated 20th February 1896.

No. 900 Mis

READ the following letter from the Collector of Kistna, dated 3rd February 1896, Displ. No. 389/Ver of 96:—

I have the honor to submit herewith a memorial from the inhabitants of the Bandar and Gudivada Taluks addressed to His Excellency the Viceroy, praying once more for the extension of Railway Communication from Bezwada to Masulipatam and I trust that the Board in forwarding the same, will give it its fullest support.

2. The subject is one that has so often been threshed out

is almost impossible
and anything new to say
you out it. I would, however,
point out that Government's
decision to locate the Sub-
judge's Court at Masulipatam
affords another strong ar-
gument in favor of the
proposed Railway. District
Munsiffs have only very limited
jurisdiction, and as matters
stand at present, all suits
of any importance must be
filed at Masulipatam, the
result being that parties
and witnesses from Guntur,
the most important commercial
centre of the District, from
Narasaraopet, Bezwada, Jaggiapet,
Vinukonda, and many other
thriving business towns, indeed
all litigants and witnesses
from 10 out of 13 Taluks, have
to travel the 90 odd miles
to and fro between Bezwada
[illegible]sulipatam in order
their business in the

the Courts. It seems to me
Government is under an
obligation to reduce the in-
direct costs of litigation as
much as possible, and since
the Courts are to remain at
Masulipatam, the means
of communication with that
place should be improved.

Resolution

Submitted to Government.

(True Copy and Extract)

[illegible]
Secretary.

To
The Secretary to Government,
Revenue Department
with enclosures.

Despatch dated 1896. Dept.

From Board of Revenue
(Revenue Settlement, Land Records & Agriculture)
Madras.

To
The Secretary to Government,
Revenue Department

Rec'd 21 Feby.
Proceedings dated 20th February 1896.
No. 900 Mis.
Ent.

SECR. GOVT. MADRAS
21 FEB 1896
REV. DEPT.

Subject.

Submitting to Government Memorial praying for the extension of the Railway communication from Bezwada to Masulipatam.

P.T.O.

From Sec. to Govt. Madras, No. 350 R. dated 28 Aug 94.

P. W. CURRENT No. 1968

Endt no. No. 821.

Transferred to the Public Works Department (Railway Branch).

E. Gibson.

Fort St. George, 25th Feb. 1896.

Sec. to Govt.

C.R. 24 Feb 96.

Recd: 26.2.96

His Excellency the President
Hon'ble Mr. Rees
Hon'ble Mr. Stokes
Hon'ble Mr. Grose

I don't understand apparently "Madras-Bezwada" in the entry is a clerical error for "S. Mahratta" or "Guntakal-Bezwada" WS

I agree with the note. Personally I think this line should be on the broad gauge - but if we stick out for this - it is a question if the line will ever be made, and in the face of the offer of the S. M. R. we ought not to keep Mr Palam condemned to remain for ever 50 miles away from a railway.

I thought we had decided that the line should be metre gauge. I think it should be so. That the S. M. R. should be bound to construct it
WS 4/3/96

W
2 Mar
JS
5/3/96

329

SERIAL No. 70

BEZVADA-MASULIPATAM RAILWAY.

A Memorial is submitted praying for a Railway of either gauge.

The views of the Government of Madras are given in 1050 D., dated 16th September 1894.

Since then the junction of the three lines, the Southern Mahratta, the Madras-Bezvada line and the East -- Coast Railway has been fixed at Tadapilli and it has been also settled that the transhipment of goods will be at that place, passengers only being taken over the Kistna bridge by metre gauge trains into Bezvada.

This may be taken to imply that the line to Masulipatam whenever -- built will be of the standard gauge.

In forwarding this Memorial to the Government of India, they may be reminded that the time has come for deciding the gauge of the Railway -- and whether the prospects of traffic which may reasonably be taken to return about Rs. 66/- per mile per week (which will yield about 2¾% on the -- Capital outlay of Rs. 55,000 per mile with working expenses at 55%) are -- sufficiently encouraging.

In the face of the sanguine -- estimate of the Southern Mahratta -- Railway and their offer of construction of this line, it is not easy --

Government 1896. Dept.

~~Current Number 1428~~

Board of Revenue

(Revenue Settlement, Land Records & Agriculture)

Madras.

To

The Secretary to Government,

Revenue Department

Recd 21 Feby

Proceedings dated 20th February 1896.

No. 900 Mis.

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Subject

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P.T.O.

Regr 24/2

Govt. BC. 350 Rdg 28 Aug 94. & further

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

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I agree with the note.

Personally I think this line should be on the broad gauge - but if we stick out for this - it is a question if the line will ever be made, and in the face of the offer of the S.M.R. we ought not to keep M'patam condemned to remain for ever 50 miles away from a railway.

I thought we had decided that the line shd be on the metre gauge. I think it should be & that the S.M.R. shd be allowed to construct it

WB 4/3/96

W 2 Mar

5/3/96

for the Government of India to refuse to construct it from State funds- nor can this Government, I submit, fairly put it forward as a line to be strongly recommended on the broad gauge.

FRU 27/2

R.

R. FORM No. 12.

No. 245. R

SERIAL No. 55

Government of Madras.

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

To

THE SECY. TO THE GOVT. OF INDIA,

P. W. DEPARTMENT.

Calcutta.

Madras, the 17th March 1896.

SIR,

I am directed to forward a petition from the inhabitants of Masulipatam praying for a railway to that town.

2. The views of this Government are set forth in No. 1050 D. dated 16th September 1894 and now that the Bezwada-Madras Railway is under construction - and its junction with the Southern-Mahratta Railway has been fixed at Tadapalli the final decision both of the construction of the branch to Masulipatam as well as its gauge appears -- opportune.

3. I am therefore to urge the favourable consideration of this project, seeing that an offer is still before - the Government of India by the Southern Mahratta Railway to construct the line free of charge, and if this offer be - rejected

Print

40 f

His Excellency the Governor.

Hon'ble Mr. Bliss, C.I.E.

Hon'ble Mr. Grose, C.I.E.

not printed

W 9 mar

11/3/96

12/3/96

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to cc alternative except for the State to --
can t construct the line from public funds of
put i such a gauge as may appear most calcu-
ly re lated to serve the conflicting interests
of the railways which meet at Bezwada.

F. R. M.
7/3 96

R.

Sec JHF 18/3

Fair depo. from Roffice 19/3.
Documents accompy:-
Petition referred to.

Cir 7.3.96 Recd 13/3 Fd 10/3.

Public Works

SERIAL No. 85

233

~~Revenue~~ (1897) Department.

CURRENT No. ~~2780~~ 3769

GOVERNMENT OF MADRAS
6 APR 97
REVENUE DEPARTMENT

From
The Board of Revenue
(Revenue Settlement, Land Records and Agriculture)
Madras.

No. 2549 miscellaneous

~~Order~~ Endt. Mis No. 1931.

Forwarded to the Public Works Deptt. (Railway Branch) with reference to its Progs: No. 514R of 12th June 1896.

Fort St. George
8th April '97

G. Stokes

Ag: Secretary to Govt.

Flag G

Dated 5th April 1897
Received 6th 13-4-97
Registered 6th —"—
Enclosures 6 2 (4 S. C to E. 2)
Spare copies

SUBJECT.

Bezwada Masulipatam Railway.

Forwarding, with remarks, to Government, Revenue Department six copies of the Collector's note on the proposed —

The P.W. Deptt (Ry Branch) with 5 copies of note.
.. Board of Rev: L. R. Despd 12-4-97

Keep copy of Rev for reference.

Jamant
7/4/97

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F. R.
7/3 96

See JHT 13/3

Fair depn from Rossie 19/3.
Documents accompy:
Petition referred to.

Cir 7.3.96 Recd 13/3 Fd 20/3.

SERIAL No. 85

Public Works

~~Revenue~~ (1897) Department.

CURRENT No. ~~2980~~ 3769

GOVERNMENT OF MADRAS
16 APR 97
REVENUE DEPARTMENT

From The Board of Revenue (Revenue Settlement, Land Records and Agriculture) Madras.

No. 2549 miscellaneous

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Issue RS 8-4-97

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R.
7/3 96

See JHT 13/3

Fair depo from Roffice 19/3.
Documents accompy:-
Petition referred to.

Cir 7.3.96 Recd 13/3 Feb 13/3.

SERIAL No. 85

Public Works

~~Revenue~~ (1897) Department.

CURRENT No. ~~2980~~ 3769

GOVERNMENT OF MADRAS
6 APR 97
REVENUE ENTERTAINMENT

From The Board of Revenue (Revenue Settlement, Land Records and Agriculture) Madras.

No. 2549 miscellaneous

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7/4/97

BACK PAPERS.

G.O.	No.	Department.	Date
	724	Mis Rly Papers.	16-[illegible]-95
	1230		18-6-96

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Print

46 P 235

Note on the proposed Bezwada-Masulipatam Railway.

1 The Government of India whilst holding the opinion that the Bezwada-Masulipatam line should probably be made eventually, has decided "to defer the consideration of the proposed extension until the effect of the opening of the East Coast State Railway on the course of trade is more apparent."

With all deference to the Government of India I am unable to see how the construction of the Bezwada-Masulipatam Railway can affect the course of trade on the East Coast Railway. The former cannot possibly compete with the latter; it can never be any thing other than a feeder line. It is required not to take stuff from the East Coast Railway; but to tap the 1800 square miles constituting the Kistna Eastern Delta, and to carry its produce on to the great trunk lines, whether East Coast Railway; Nizam's Gauranteed State Railway; or Southern Maharatta Railway. Reference will be made hereafter to the fears that have been so constantly expressed, that the Bezwada-Masulipatam line might be used as a means of reviving the waning prosperity of the port of Masulipatam, at the expense of Cocanada. For the present it is sufficient to say that whether on the completion of the B. M. Railway the trend of trade will be towards Madras, Cocanada or elsewhere, the construction of the Bezwada-Masulipatam Railway can have no possible influence on the course of trade on the main line. The Bezwada-Masulipatam traffic will follow not guide the course of trade.

2 It has been said that since the Kistna Eastern Delta is already supplied with roads and canals, and since its produce is even now finding its way to outside markets either by rail or sea, there is no necessity for a Railway line through the delta. The argument scarcely needs discussion. It might have been used as appropriately to damn the whole E. C. Ry. and not that line only, but every Railway that has ever any where in a civilised and inhabited country been constructed. The inhabitants of the Kistna Eastern Delta, one of the richest and most populous tracts in India, say that they are not being given equal facilities with their brethern elsewhere; that in providing them only with canals and roads, they are condemned to an antiquated means of transit and are handicapped in their competition with more favoured Districts. I need not dilate on the many imperfections of the roads and canals in the delta. They have often been pointed out before. But it is clear that canals which are closed for the very months during which exportation of produce is most active, can hardly be considered ideal means of transit.

3. The argument stated in the first sentence of the last preceding paragraph proceeds on the assumption, that the roads and canals at present existing or that may hereafter be constructed, suffice for the distribution not only of the actually existing quantum of produce of the delta, but of any possible increase thereof that may be hoped for. This is not the case, and on the contrary it is certain that the construction of a line of Railway through the heart of the delta would give an immense stimulus to production especially of rice and food grains. The delta (I speak only of that portion of the Kistna delta lying to the east of the river), is provided with 3 navigable *canals, aggregating 109 miles in length; 4 metalled †roads aggregating 78 miles: and a few mud and sand tracks, quite unfitted to carry heavy traffic. The first of these canals, and the first of the roads are each great highways of commerce. That road is the only one of the four that is kept always in fair order. In the immediate neighbourhood of this road and canal the land is very highly cultivated, two crops are almost invariably raised, and generally speaking the utmost possible return is obtained from the soil. Things are different away from these highways, and more particularly so the further one goes East. There the cultivators are almost without exception content with a single crop of paddy, sown in June or July and reaped in December or January. For the remaining six months of the year the land lies fallow and unproductive. In the eastern portions of the delta moreover the system of cultivation is

*Canals.	Miles
1 Bezwada to Masulipatam...	49
2 Pullern & Polnzn canal...	34
3 Bantumalli canal... ...	26
	109

†Roads.	Miles.
1 Bezwada to Masulipatam ...	43
2 Masulipatam to Tsallapalli...	12
3 Pamarru to Gudivada ...	8
4 Gudivada to Perikid... ...	15
	78

bad, manuring, weeding and cleaning of the soil and all the necessary operations of high class cultivation are left undone, the ryot being contented with whatever return the Government irrigation will yield to his ploughings and sowings.

4. I have had seven years' experience of the Kistna District and it has been a constant subject for wonder, that tracts comparatively speaking so near together should exhibit such diverse degrees of productiveness. The explanation seems to me to be as follows. The land toward the east of the District is on the average less fertile than that near the canal and road first mentioned above. Partly no doubt this is due to natural causes; but in no small degree also to the much greater care devoted to the management of the soil in the latter than in the former case. Another factor, or perhaps another way of stating the same fact is that the ryots in the east are lazier than their neighbours in the west, more apt to trust to nature and the irrigation channels, than to their own exertions. But the third factor, and that one which in itself accounts for the other two, the laziness of the cultivator and the inferiority of his soil, is the lack of satisfactory means of communication whereby he can export his produce. In the eastern half of this area of 1800 sq. miles there are no roads, and since the canals close at the end of February, the ryot would be unable to export the produce of a second crop if he were to grow one. The first crop is reaped in December or January a second crop could not be garnered before March: and it would be impossible then to send off the produce by cart over the many miles of rough cross country tracks to Masulipatam or Bezwada, for it is already time to commence ploughing for the crops that will be sown at the end of May and in June and July. So the ryot in these less fortunate eastern villages contents himself with the one crop a year, which he knows will enable him to pay his land assessment, and live in sufficiency till the next harvest. But give him an easy means of exportiug his grain, a Railway through the heart of the Delta, and the ryot at once has an incentive to greater activity; to both intensive and extensive cultivation; the soil yields more; and the food supply of the country is increased.

5. Recently I had a striking proof of the necessity for better means of communication in the Gudivada Taluq. I had to sell by auction 1500 acres of Government waste land in the Bapatla Taluq. This is on the west of the Kistna river, within 2 miles of a navigable canal and within 4 or 5 miles of the Bezwada-Madras Railway. The average price realised was Rs. 27 per acre, the whole extent being sold except 90 acres, the absence of bids for which was due to a mistake. Within a week of that sale I had to sell 10,000 acres of Government waste land in the Gudivada Taluq of very similar quality to that in the Bapatla Taluq. Bids were offered for only 744 acres, and the average price obtained for the small extent sold was Rs. 15-8-0 per acre. This land has navigable canals on both sides of it within 3 or 4 miles. The explanation assigned for the absence of bids, and it was undoubtedly the true one, was that the tract being comparatively speaking inaccessible the population was scanty, and therefore labour to bring it under the plough would be insufficient. Given a Railway within reach of this tract and it would have been snapped up as quickly as the other.

6. Fears have at times been expressed lest the Southern Maharatta Railway Company should endeavour to develope the port of Masulipatam as a rival to that of Cocanada, a course of action which it is urged would be detrimental to trade. It seems to me that this fear is baseless. What is the maximum possible amount of traffic which the Southern Maharatta Railway could, if it were continued from Bezwada to Masulipatam, divert from Cocanada to be shipped at Masulipatam? Obviously no goods that had ever been on the broad gauge line that runs to Cocanada, would ever be transferred to a narrow gauge branch for carriage to Masulipatam. Presumably whatever stuff is now carried by the Southern Maharatta Railway to Bezwada, consigned to Cocanada, might be diverted to Masulipatam. But this is I believe no very alarming amount, and after all it is problematical, whether if the port of Cocanada be really so superior to Masulipatam as is alleged, merchants would not continue to prefer shipping from thence, notwithstanding the transhipment at Bezwada.

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is not the nuisance of transhipment to weigh the scale down in favor of Masulipatam as against the superior port of Cocanada.

7. The greater part of the local goods despatched from Bezwada comes down the Kistna River. But the whole amount carried by the East Coast Railway forms only a small fraction of the actual trade, the greater portion going by canal boat to Cocanada. The construction of the Godavari Bridge will give Cocanada a much more commanding position to draw to itself produce from the west *i. e.* further side of the Godavari River, and Masulipatam will suffer proportionately. Would a Railway line to Masulipatam be likely to attract to itself any large part of the Bezwada local traffic that is now or may hereafter be carried to Cocanada? It is certain that the Bezwada-Masulipatam Railway cannot carry cheaper than the canal from Bezwada to Masulipatam, and yet the Masulipatam canal does not withdraw traffic from the Cocanada line. On the contrary what channel of trade there has hitherto been from Bezwada to Masulipatam by canal is gradually but surely being dried up. If there were any fear of the port of Masulipatam rivalling that of Cocanada, then the canals would have assisted that rivalry. But the contrary is the case. Whether by rail or canal the Masulipatam trade is being diverted to Cocanada. Even the castor trade which comes to Bezwada by river is not carried on to Masulipatam but to Cocanada part by rail, but most by the canal. If then the Masulipatam canal has had no ill effect on the Cocanada trade, how can the Bezwada-Masulipatam Railway which can carry stuff only at rates higher than the canal?

8. The principal reason why dealers prefer to consign to Cocanada rather than Masulipatam, lies, it is said, in the great superiority of the former port. Masulipatam has always been most unpopular with shippers. Some of the Guntur cotton merchants have once or twice tried shipping from Masulipatam, but always with unsatisfactory results; and for many years no cotton at all has been consigned from Guntur for shipment at Masulipatam. With canals as the cheapest means of carriage, these merchants have always preferred the 100 and odd miles to Cocanada to the 50 miles to Masulipatam. A Railway from Bezwada to Masulipatam will not be cheaper but a dearer means of transit than the existing canal. There is no conceivable reason why these cotton merchants, having for years declined to use a cheaper means of transit should employ one that is dearer.

9. It is not only that the mercantile traditions of Masulipatam are bad, causing the place to be looked at askance by all European shippers, but the physical conformatiou of the place makes it impossible as a place of export. The wharves are situated on a narrow, shallow, tortuous creek, with but a few inches of water at low tides. This creek is 1½ mile long passing throughout its length through a mangrove swamp of deep tenacious mud, awash at high tides. The creek is impeded at its mouth by a constantly shifting bar which for most of the year has not more than a few inches of water on it at low tides; and from this bar the depth increases by almost imperceptible degrees, till the 5 fathom line is reached at about 6 miles from the coast. The roadstead is an open one slightly protected from Southwest, but completely exposed to winds between North East and S. S. W. The only means of shipping and discharging cargo is by sailing boats of about 30 to 50 tons burthen. It has been proposed more than once to have steam launches to tow these boats, but the proposal has been consistently negatived, one very sufficient reason being the unmanageable bar of hard sand, which would probably bump a launch to pieces. So that there is not the slightest probability that the cargo boats will ever under any conditions be able to make more than one, or at most two trips a day to and from the shipping, as is at present found possible.

10. Proposals have similarly been made from time to time, that Government should spend money on the improvement of the port. But repeated enquiry and investigation have shown that there is nothing that Government can do, not even by the expenditure of crores. The anchorage cannot be brought nearer than its present position, according to the weather and season from 7 to 10 miles from the wharves: the wharves cannot be taken nearer to the bar on account of the intervening mangrove swamp; the bar cannot be deepened or in any way controlled, for not only the bar, but the lower one third of the creek as well, exhibit a constant tendency to shift their positions and configuration from year to year. Again proposals have

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No company in the world would ever be mad enough to bury its money in the mud swamps that form the port of Masulipatam.

11. It has been said that even without any expenditure on improvements to the Port of Masulipatam, the construction of a Railway to it might be able to revive its trade, and it is pointed out as a fact that there used to be a considerable trade from the port which has now been diverted to Cocanada, but which the opening of a Railway to Masulipatam might restore to its old channel. My reply to this is contained in Paras 6 and 7 above. There is already a canal from Bezwada to Masulipatam. Whatever traffic has been diverted to Cocanada from Masulipatam has been won from the canal by the E. C. Railway; a Railway from Bezwada to Masulipatam would be a more costly means of carriage than the canal; how then can such a Railway win back this traffic which the canal has failed to keep?

12. I have endeavoured to show that Cocanada has no cause to fear any loss of traffic by the opening of a line of Railway to Masulipatam. It is difficult to understand how any one should think that the S. M. Railway Co. would dream of bolstering up the trade of that place. It seems to me obvious that that company will want to carry freight not to the nearest port, but by the longest lead possible to ports on the west of India.

13. It appears to be accepted by every one that the Bezwada Masulipatam line will eventually be constructed. That being so, I cannot conceive any reason why the construction should be further delayed. All those interested in the line are clamouring for it; the development of the country is being retarded for want of it; no voice is now raised against it; the S. M. Railway Company is anxious to commence its construction at once; what need then for another day's delay?

J. N. ATKINSON,
Collector.

Kistna Collectorate Press.

20—(19-3-97.)

(Sett. 24 - 2,000—29-10-96.)

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REVENUE BOARD OFFICE. MADRAS.

Proceedings of the Board of Revenue

(Revenue Settlement, Land Records and Agriculture.)

Dated 5th April 1897.

No. 2549 Miscellaneous

READ... the following letter from the Collector of Kistna, dated 20th March 1897, Dis No 1038/228 of 1897:—

I have the honour to forward herewith eight copies of a note which I have drawn upon the proposed Bezwada - Masulipatam Railway. I have seen it stated in the papers that Colonel Lindsay, late agent and manager of the Southern Mahratta Railway has presented an application to the Government of India for sanction to construct the line in question. I believe that the Board

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Board

is satisfied that the commercial, adminis-trative, and industrial interests of this District are seriously impeded for want of the line, and perhaps, the arguments that I have adduced in the note may help to overcome the Government of India's hesitation about sanctioning the line.

I beg therefore that the Board will forward a sufficient number of copies of the Note to the Government of Madras with its support, and with a request to forward the same to the Government of India for favourable consideration.

Resolution

Six copies of the Collectors note will be forwarded to Government, Revenue Department.

2. The Board fully concurs with the Collector as regards the desirability of constructing the proposed line.

(True copy and Extract)

R. V. Srinivasan
Secretary.

SW E-1
3765/97

To the Secretary to Government (R. D.)
with 6 copies of the note
[illegible] Collector of Kistna

Bezvada - Masulipatam

SERIAL No. 86

~~Aused~~ A survey and Est. were made by the M.R. in 1891. on an alignment approved by the collector. The estimate modified by the Consulting Engineer Madras was 82,775/- per mile on 5'-6" gauge and 1,06,000/- on mixed gauge.

Flag A

Flag A

The report was forwarded to India who asked for further information about traffic prospects and for the opinion of Madras Govt. on S.M.R. proposals.

Flag B

Madras Govt. forwarded traffic statistics & note on Harbour (1050D of 16/9/94) and suggested that a final decision about gauge should be deferred till the Bezvada-Madras project was disposed of. The offer of the S.M.R. was considered advantageous barring paras 13-15 - terms for Kistna bridge rebate & [illegible] stations.

Flag F

Flag C

India was again addressed in 1894. 245 R forwarding a memorial and urging favorable consideration of the project & acceptance of S.M.R. offer.

Flag G

India replied that they would wait till the effect of the opening of the E.C.N. was more apparent (707 of 18/[illegible]

Flag I

There seems no reason to take any further action at present.

FH

EM

10/4/91

SERIAL No. 87

293

Public Works (1897) Department.

CURRENT No. 4207

From

The Revenue Dept.

Order

No. 798R.

Dated 23rd April 1897.

Received 29.4.97

Registered

Enclosures

Spare copies

SUBJECT.

Recording Proceedings of the Board of Revenue submitting for the information of Govt. letter from the Collector of Kistna stating that 4 and 2 copies of the note on the proposed Bezwada-Masulipatam Railway were forwarded to the Agent, Southern Mahratta Railway and to the Manager, East Coast Railway, respectively.

ER. GW 29/4

Case is with H.E.

No action under

FH

FM

1/5

1/5/97

O.S. 43

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

Revenue Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following:-

Proceedings of the Board of Revenue (Rev. Sett &c)

Dated 10th April 1897, No.2706 Mis.

Read the following letter from the Collector of Kistna dated 26th March 1897, Dis.No.1189/ver of 1897.

Referring to my letter Dis.No.1038/ver dated 20th March 1897. I have the honor to say that at the same time that I addressed the Board, I forwarded 4 and 2 copies of my note on the proposed Bezwada-Masulipatam Railway to the Agent and Manager, East Coast Railway, Southern Mahratta Ry and to the Manager respectively. I forgot to mention this before. It is not unlikely that from one or other of these gentlemen the note may reach the hands of the Govt. of India; but I should naturally be glad if the Local Govt. would endorse my recommendations.

Resolution.

Submitted for the information of Government in continuation of Board's Proceedings No.2549 dated 5th April 1897.

Order thereon No.798 R. dated 23rd April 1897.

Recorded.

(True extract)

For Ag.Secretary to Govt.

Copy to the Public Works Dept. (Railway Branch)

J/RS

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J/RJ

F/21 3,000—30-10-96.

Govt. of {1896} Madras.

REVENUE.

To

Dated
Recd. } Encl.

Mis./R. G.O., 1896, No.

SUBJECT.

P.W. Currently

SERIAL No. 88

Bezwada Masulipatam Railway

H.E. The Governor

~~The Hon. Mr Bliss C.I.E.~~

~~The Hon. Mr Grove C.I.E.~~

1. It seems clear that there is a strong case in favour of making the Bezwada Masulipatam line, and that it would be wrong to allow the possibility of injury to the port of Coconada, to stand in the way of the making of this line.

2. The balance of arguments is, I think, clearly on the side of the broad-gauge; and if there is any hope of construction on that gauge within reasonable time, I think we should wait for the realization of that hope.

3. If the Govt. of India can assure that there is no hope, I think the Ankrattas might be invited to offer, as suggested by Mr. Spring in para. 14 of his Note.

21/4/97

R.H.

4.5.97

Your Excellency,
I think that we might now send on a copy of Mr Atkinson's memo.

---

1. The Collector of Kistna, Mr Atkinson's, letter gives us an opportunity of again reopening the question of the extension of railway communication into the Eastern Kistna Delta.

2. H.E. and Hon. Members will recollect that a straight offer to make this extension of their Bellary Kistna branch, through Bezwada, to Masulipatam was made by the Southern Mahratta Railway Company. But that the Govt. of India ruled that, before deciding upon the gauge to be adopted and the agency for constructing and working the extension, it would be best to wait and see the effect of the development of the E.C.R. and its influence upon the course of trade.

F 21 3,000—30-10-96.

Govt. of {1896} Madras.

REVENUE.

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Mis. R. G.O., 1896, No.

SUBJECT.

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Bezwada Masulipatam Railway

H.S. The Governor

~~The Hon. Mr Blair C.I.S.~~

~~The Hon. Mr Grose C.I.S.~~

1. It seems clear that there is a strong case in favour of making the Bezwada-Masulipatam line, and that it would be wrong to allow the possibility of injury to the port of Coconada, if closed in the way of the making of this line.

2. The balance of requirements is, I think, clearly on the side of the broad-gauge; and if there is any hope of consideration on that gauge within reasonable time, I think we should wait for the realization of that hope.

3. If the Govt. of India can now say that there is no hope, I think the Contractor might be invited to offer, as suggested by Mr Spring in para. 14 of his Note.

21/4/97

S.H
4.5.97

Your Excellency
I think that we might now see a copy of the Attorney's memo.

P.W. Current

The Collector of Kistna, Mr Atkinson's, letter gives us an opportunity of again reopening the question of the extension of railway communication with the Eastern Kistna Delta.

H.S. — Hon. Member will recollect that a straight offer to make this extension of their Bellary Kistna branch, through Bezwada, to Masulipatam was made by the Southern Mahratta Railway Company. But that the Govt. of India [redacted] that, before deciding upon the gauge to be adopted and the agency for constructing and working the extension, it would be best to wait and see the effect of the development of the S.C.R. and its influence upon the course of trade.

F/21 3,000—30-10-96.

Govt. of {1896} Madras.

REVENUE.

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Recd. }

Mis. / R. G.O., 1896, No.

SUBJECT.

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2. The balance of argument is, I think, clearly on the side of the broad-gauge; and if there is any hope of construction on that gauge within reasonable time, I think we should wait for the realization of that hope.

3. If the Govt. of India can assure that there is no hope, I think the Arkaratta might be invited to offer, as suggested by Mr Spring in para. 14 of his Note.

21/5/97

S.A.H.

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P.W. Currentwood

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F/21 3,000—30-10-96.

Govt. of {1896} Madras.

REVENUE.

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21/4/97

R.H.

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[illegible] Bellary

F/21 3,000—30-10-96.

Govt. of {1896} Madras.

REVENUE.

To

Dated } Encl.
Recd. }

Mis. / R. G.O., 1896, No.

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P.W. Current [illegible]

SERIAL No. 88

Bezwada Masulipatam Railway

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The Hon. Mr Gross C.I.E.

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21/4/97

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3. If the Govt. of India can assure that there is no hope, I think the Calcutta might be invited to offer, as suggested by Mr. Spring in para. 14. of his Note.

21/4/97

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from Bellary

The Southern Mahratta offer. (Flag C.) is dated July 93. and its terms are doubtless different from what they would be if now again resubmitted. Since that date it has been made legal to pay interest out of capital during construction, and the "branch line terms" have been modified. We have no reason to think that if they got a hint that their offer would be considered, the Southern Mahratta R. C. would not now again put forward proposals based upon the latest 'branch line terms'.

There is a very strong opposition on the part of the E.C.R. to the construction of this line on the metre gauge. The arguments of the Manager of that railway, are contained in his letter to the D.G. Pgs. N. 6337. of Oct. 18th 94. (Flag H.). Mr Brereton [illegible] that the admission of the S.M.R. [illegible] the Eastern Kistna Delta would [illegible] the State hire the loss of the [illegible] 150 miles of line.

to the Govt of India. without further comment than just to refer to the para of our general letter agreed to in Council on the 6th inst. in which we expressed a hope that the S.M.R. should be encouraged to again come forward.

As this line was discussed in Council, and as your Excellency consented to accept the metre gauge failing the probability of the Broad gauge, there seems no necessity to circulate this case again.

FHS
8/5/97

Very well.
A. Stt 10.5.97

Now I claim to know what I am wrong about when I say that this is the merest special pleading on Mr Brereton's part. He will of course lose some traffic. He will lose so much of the trade of the Eastern Kistna Delta as now finds its way over the S.M.R. in the Cumbum Bellary direction. But it is absurd to say that he will lose 150 miles of his present earnings, especially as, once the Bezwada Madras R. is open, all the Eastern Kistna produce that does not want to go Bellary way will still get on to the E.C.R. either via the canals and roads [illegible] at present, or over the new metre gauge line to change bulk at Bezwada.

We have three things to consider.

1st how can we best go about getting a railway to tap the rich delta, at all?

2d What are the needs of the Presidency in the way of trade facilities?

3d What are the [illegible] in the way of [illegible] from Bellary

consider is how can we best get a railway through the delta at all. I personally am of opinion that we are most likely to get it by fostering the S.M.R. Co's proposals. than by waiting until the E.C.R. can persuade the Govt. of India to advance the money for a standard gauge line out of State funds.

9 The disadvantages of a break of gauge at Bezwada for produce seeking a market down Madras way must be weighed against the advantages of through unbroken communication between a perpetually fertile tract and and an occasionally ~~[illegible]~~ drought stricken tract. (always giving due weight to whatever are the facts about the people eating rice or not eating it)

10 If I saw any prospect of the broad gauge being made I would not now urge that we should go for the metre gauge. because if produce wants to go it they may the break from broad to the gauge at Bezwada will not [illegible] its doing so.

11 A much more powerful influence on the course of trade, than is break or non-break of bulk, is the agency whereby the produce is carried from producers to consumers. It is of very great importance, I take it, that every facility should be given to the Bellary people to accustom themselves to rice by making it cheap for them in the years of non-scarcity. This will best be secured by giving the S.M.R. Co. control of the rates. They will naturally quote as low rates as possible for grain from the E. Kistna Delta to the Bellary side; while the E.C.R. on the other hand, by quoting the lowest possible rates for rice booked from the Delta down Madras way, and the highest permissible rates for rice traffic interchanged with the S.M.R. will make it a matter of very many years before the Bellary grain merchants will begin to look to the Kistna delta for their supplies.

This will take a long time. A.S.H.

12 I recollect in I think 92, when there were incipient grain riots at Kurnool and the troops went from Bellary

~~consider~~ to stand ready to go) there was a small rush of grain from Bezwade towards Kurnool, the first that had occurred. It was I think only a few waggon loads for a few days, but it was quite exceptional at the time. Prices at once fell in Kurnool and rioting ceased. This is my unofficial recollection of what occurred.

13 — I hope that nobody ever now thinks of the project for connecting the E. Kistna delta with Bezwade as a project for bolstering up the port (save the mark!) of Masulipatam. As Rosinante was 'once a horse' so Masulipatam was 'once a port' in the days when a ship meant a hundred or two hundred ton craft that could be careened and scraped in the mud creeks which gave Masulipatam its value in the early part of the century. Neither the S.M.R. nor anyone else can possibly bolster up Masulipatam as a port of export or import: but it, all the same, is a very important produce centre where merchants buy the produce, and store it, of the rich delta surrounding it. Gudivada too, and several others of the towns and villages along the proposed line of railway are important trade centres, and the District generally deserves a railway.

14 — I think that we might forward Mr Atkinson's Note, and say that this Government is very anxious to see this rich delta furnished with railway facilities; and that as the grant of money for a standard gauge line seems at present a very unlikely contingency, we would welcome the grant of a concession to the S.M.R.Co. not necessarily on the lines of their application of four years ago, but upon those laid down in the latest circular about branch line terms.

15 — We might go on to emphasise the advantages of completing the connection of the ill-paying Bellary Kistna line

with its legitimate, and its originally intended, objective, the trading centre of the Eastern Kistna Delta, and might point out that anything which tends to bring more traffic over the non paying portion of the S.M.R. is, under that Rly's terms of agreement with the Sec. of State, of direct benefit to the State. This direct benefit must be considered as a set off against whatever of loss the E.C.R. might be found to suffer by the diversion of some portion of the delta produce to the dry tracts around Bellary. But this diversion, if it should ever occur, would, we might point out, be of great potential benefit from a famine relief point of view, as indicating that the Bellary Kurnool Hubli traders had got in touch with an unwonted market, and that an inexhaustible and always reliable market. We might point out that statistics export or import: but at all the

nowadays available about the cost and delays of breaks of gauge go to show that, so far as concerns the produce of the Delta which desires to find its way to marts served by the E.C.R., the break of gauge at Tadapilli (or Bezwada) will be a matter of very minor importance. We might explain that there is no question of the port of Masulipatam and of its development to the detriment of that of Coconada which is served by the E.C.R. That the question of export and import through such a shade of a port does not come into the argument at all, that the sole question to be considered is how best to afford an outlet, inland-wards, for the produce of the 1800 sq. miles of rich irrigated delta, which is now insufficiently supplied with arteries for the export of its produce to less highly favoured tract

F.R.S.

Seen [illegible] 21/4/87

SERIAL No. 58

259

RAILWAY.

Government {1897} of Madras.

PUBLIC WORKS.

Print extract para 10 of the letter

Recd.	} 1897.	Enclosures
Regd.		Spare copies

Letter, No. 332, R., 10th May 1897.

MAY.

Railway Programme of the Madras Presidency.

Letter to the Government of India submitting a—for the consideration of the Railway Conference of 1897.

We say

Export or import: but at, all the

PUBLIC WORKS DEPARTMENT.

Railway.

LETTER—from

F. J. E. SPRING, ESQ., C.I.E.,

Offg. Joint Secretary to the Government of Madras,

Public Works Department,

Railway Branch,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

PUBLIC WORKS DEPARTMENT.

SIR,

From your letter No. 214 R. C., dated the 3rd February 1897, as well as from various other communications from the Government of India on the subject of individual railway projects, as well as from para. 15 of the Honorable Mr. A. C. Trevor's Memorandum dated the 26th March 1897, this Government has become aware that it is the Government of India's desire that the views of the Provincial Governments on the subject of the Railway programme for the coming year should reach Simla by the 15th of May 1897.

2. I am accordingly directed to address you on the comparatively small number of projects, out of the many which have from time to time been put forward, which this Government is prepared to press upon the Government of India as being worthy of immediate attention.

3. In the accompanying Note, prepared by the Consulting Engineer for Railways with this Government, a general view is presented of all the railway projects with which this Presidency is directly concerned and which are still in the project stage. In this note the history of the negociations for the financing, construction, and working of each of the projects is brought, as far as possible, up to date. The most notable feature in the history of these negociations is the [illegible] Madras Railway Company's expression of its readiness to raise, under [illegible] its existing borrowing powers, the necessary capital for the construction of one at least of the projected extensions and branches in which that Company is interested, on terms which are very much more favourable to Government than those on which capital has heretofore been raised [illegible] by this Company's agency.

4. As the construction of the Calicut-Cannanore extension will absorb only about one sixth of the Madras Railway Company's available borrowing powers it seems probable that the provision of funds for extensions of its system may in the future prove easier than in the past. Should this prove to be the case, it seems not unlikely that some much desired extensions and branches of the Madras Railway system, *e.g.* the Shoranur-Cochin line, as well as the projected branch to Dindigul, may now be nearer of accomplishment than has heretofore been thought likely.

5. His Excellency the Governor of Madras in Council will be glad to learn of the success of negociations for the very early construction of the Calicut-Cannanore Section; and, in view of the altered attitude of the Madras Railway Company above referred to, he hopes also that matters may soon be ripe for the Shoranur-Cochin line being also approved of at as early a date as may be practicable. As regards the short Arcot branch, which is practically little more than a siding, I am instructed to say that it seems scarcely worth while to apply to this branch the new, or as they may be called the Cannanore, terms; and I am to suggest that money for this branch might very well be provided by the Madras Railway Company on the old terms.

6. As regards the Madras Harbour branch, or beach line, for the construction and ownership of which the Madras Railway Company is pressing, I am directed to say that, though very anxious that this small but important extension should be approved of as early as possible, this Government is of opinion that the advisability of its being constructed as a part, not of the Madras Railway, but of the East Coast Railway, should be carefully weighed; and I am to express a hope that, until the alternative proposals have been thought out and a decision arrived at, no order may be passed which may have the effect of giving to the Madras Railway Company a claim to construct and to work it. A special communication on this subject shall later on be addressed to the Government of India.

7. I now pass on to the South Indian group of projects, numbered VII to XV in the Consulting Engineer's Note, and with reference thereto, I am directed to communicate the following remarks. This Government will be pleased to learn of arrangements being concluded on a satisfactory basis for the construction of the Madura-Paumben line. It will be seen that it has been placed very high up, *viz.*, second, on the list showing the order of preference of the projects now under consideration, because in the opinion of this Government it is considered to be one of the most important of the schemes in the interests of the development of this Presidency. I am to express a hope that the Nilgiri Railway Company's proposals for raising funds for the extension of its line to Ootacamund may meet with the Government of India's approval; and also that its request for a concession for the Erode-Nanjangode line may be favourably considered, and that it may receive the necessary permission to prepare surveys and estimates. The project for the short extension from Negapatam to Nagore is not ready, but it is hoped that when sent forward it may be sanctioned.

8. For reasons similar to those which have led to a very high place on the list being allotted to the Madura-Paumben line, the Tinnevelly-Quilon has also been given a fairly high place. This Government is of opinion that if reasonable terms for working it can be agreed to, it is in the interests of this Presidency, of which, for Railway purposes, the Native State of Travancore must be considered a part, that encouragement should be held out to its promoters for its very early construction. This Government hopes that the Tanjore District Board lines, and the concession asked for for the Amayanaikanur-Kuvuranuth line may in due course meet with the Government of India's approval. It is also considered that, conditionally on the Rajah of Pudukotta, who was offered to underwrite a part of the guarantee of the Trichinopoly Tondi line, coming forward with satisfactory branch line terms for the construction and working of that railway, it deserves to be favourably considered.

9. As regards the Southern Mahratta group of projects, I am directed to say that this Government is very loth to give up all prospect of the very important Arsikere-Mangalore project being brought to a practical issue, and I am desired to strongly press its reconsideration on the Government of India, because of the important industrial enterprises whose success is dependent upon the opening up of the country which this line will traverse. In a country so destitute of good trade outlets the statistics of existing cart traffic form no fair criterion of what

may soon be expected to follow the advent of a railway. I am also to press for early sanction being given to the Southern Mahratta Railway to construct the important branch from Kurnool Station to Kurnool.

10. There now only remain to be considered the five projects which group themselves around the East Coast Railway. As regards the most important of these, the Masulipatam branch, I am instructed to say that the prospects of its construction as part of the East Coast Railway, out of funds to be provided directly by the State, seem so very remote; and that the need for it on any gauge is so great; and that the propriety of its being built on the metre gauge by the Southern Mahratta Railway is so very apparent, that it seems very advisable that encouragement should be held out to the Southern Mahratta Railway Company to come forward again with suitable proposals for its construction and working on Branch Line Terms. It will be seen that this important extension of the Southern Mahratta Railway has been placed very high up, fourth on the list of preference, as an indication of the value set upon it by this Government, as a protective line for the dry Deccan Districts, and as the natural and logical development of the policy which led to the construction of the Bellary Kistna Railway.

11. As regards the projected Gopalpur branch, I have already acquainted you with the opinion of this Government that if built on an economical scale it is likely to pay. It is a comparatively small project, but it seems likely that it may prove a useful feeder to the East Coast Railway. It is observed that negociations between the Government of India and the promoters of the Vizianagram-Parvatipur branch are still in progress, and it is hoped that the result of these negociations may be that capital for this important feeder line may soon be forthcoming. A reply about the gauge of the Bimlipatam branch is due to the Government of India, and shall shortly go forward.

12. Attached to this letter is a schedule of 19 out of the 23 projects referred to in the Consulting Engineer's Note, which appear likely sooner or later to be brought to a practical issue. The 19 projects have been arranged in a certain order, an order dictated by considerations partly of expediency and partly of real preference. The arrangement of the schedule differs indeed greatly from that which would have been adopted were obstacles, connected with the formation of Companies, the provision of funds, and the lack of reliable statistics, not likely to cause the inception of several of the projects to be postponed for the moment. Indeed the order of precedence in which the 19 projects have been placed in the schedule has been governed by many and complex considerations; and circumstances may arise at any time, and between this and next year will almost certainly arise, necessitating an alteration of the order which has been adopted.

13. In conclusion, I am desired by His Excellency the Governor of Madras in Council to express a hope that by the altered policy of the Madras Railway Company being taken advantage of, and by the reasonable demands of would-be-concessionaires being favourably considered, and by as liberal a distribution of State funds as the Government of India may find themselves in a position to make, it may be found possible to allot to this Presidency a fair share of the mileage of new railways which may be determined on during the coming Conference.

I have the honour to be,
Sir,
Your most obedient servant,
(Signed) F. J. E. SPRING,
Offg. Joint Secy. to Govt.,
Railway Branch.

OOTACAMUND,
10th May 1897.

No. in order of preferred priority.	No. in Consulting Engineer's Note.	Name of Project.	Line in connection of which to be worked.	Source of supply of Funds.
1	I.	Calicut-Cannanore ...	M. Ry.	Madras Railway Company's existing borrowing powers.
2	VII.	Madura-Paumben ...	S. I. Ry.	Branch Line Company.
3	II.	Arcot Branch ...	M. Ry.	Madras Railway Company's existing borrowing powers.
4	XXI.	Masulipatam-Bezvada ...	S. M. Ry.	Branch Line Company promoted by Southern Mahratta Railway.
5	III.	Madras Harbour Branch ...	E. C. Ry.	State direct.
6	IX.	Negapatam-Nagore ...	S. I. Ry.	State to South Indian Railway Company.
7	XIII.	Tanjore Dist. Board's lines...	S. I Ry.	District Board Loan.
8	IV.	Shoranur-Cochin ...	M. Ry.	Madras Railway Company's existing borrowing powers.
9	XII.	Tinnevelly-Quilon ...	S. I. Ry.	Branch Line Company partly underwritten by Native State.
10	XX.	Parvatipur-Vizianagram ...	E. C. Ry.	Branch Line Company.
11	XIV.	Amayanaikanur-Kuvuranuth.	S. I. Ry.	Do. do.
12	XVII.	Arsikere-Mangalore ...	S. M. Ry.	Mysore State.
13	XXIII.	Gopalpur-Berhampur ...	E. C. Ry.	State direct.
14	XV.	Coonoor-Ootacamund ...	S. I. Ry.	Branch Line Company promoted by Nilgiri Railway Company.
15	VIII.	Erode-Nanjangode ...	S. I. Ry.	Do do.
16	XVI.	Kurnool road, Kurnool ...	S. M. Ry.	Branch Line Company promoted by Southern Mahratta Railway.
17	XIX.	Bimlipatam-Vizianagram ...	E. C. Ry.	Branch Line Company.
18	V.	Podanur-Dindigul ...	M. Ry.	Madras Railway Company's existing borrowing powers.
19	XI.	Trichinopoly-Thondi ...	S. I. Ry.	Branch Line Company partly underwritten by Native State.

R. Form No. 12.

No. 346. 12

SERIAL No. 59

Government of Madras.

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

To

The Secy. to the Govt. of India,

P. W. Department.

Simla.

Ootacamund, the 13th May 1897.

Sir,

With reference to the opinion of this Government, as expressed in para 10 of my letter No. 332R dated the 10th May 97, on the subject of the Bezwada Masulipatam Railway project, I am instructed to forward, for the information of the Govt of India, a copy of a Note upon the subject by Mr. J. N. Atkinson the Collector of the Kistna District.

I have &

FUS

11/5/97

Documents accompanying:
Mr. Atkinson's note
referred to

13/5/97

Bf

Prem

48 P

A.R. on letter of yesterday about the Railway Conference

FUS

B/-
No. 346. R. dated 13.5.97.

SERIAL No. 60

Public Works (1897) Department.

CURRENT No. 6850

Order

From
The Govt of India

No. 1150 RC

Dated 8th July 1897
Received 14-7-97
Enclosures
Spare copies

SUBJECT.
Branch Ry from Bezwada to Masulipatam.

—

Requesting to be furnished with the opinion of the Madras Govt on the views expressed in Mr Atkinson's Note on the proposed —

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Early
209

No. 1150 R.C.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

Railway Construction.

49.8.

All communications should be addressed to the Secretary.

To

The Joint Secretary to the Government of Madras,
Public Works Department, Railway Branch.

Simla, the 8th July 1897.

Sir,

I am directed to acknowledge the receipt of your letter No.346 R., dated 13th May 1897, forwarding a note by Mr.J.N.Atkinson, Collector of the Kistna District, upon the subject of the proposed branch railway from Bezwada to Masulipatam, and to say that the Government of India would be glad to be furnished with the opinion of the Government of Madras on the views expressed in Mr.Atkinson's note, for the information of the approaching Conference.

2. I am to invite special attention to Mr.Atkinson's remarks regarding the Masulipatam Harbour and its inability to compete with Coconada and the East Coast Railway, which view is opposed to the opinion of the Manager, East Coast State Railway.

3. In paragraph 10 of your letter No.332 R., dated 10th May 1897, you remarked that the prospects of the construction of this Branch by the State as part of the East Coast Railway seemed so remote and the need for it on any gauge so great, that it appeared very desirable to encourage the Southern Mahratta Railway Company to again come forward with suitable proposals for its construction and working on "Branch Line Terms".

4.

4. The opinion hitherto held by the Government of India has been that the Kistna delta being fairly well served by canals at present there was no such urgency about providing "railway connection" that the country could not afford to wait a few years for satisfactory evidence on which to decide the question of gauge, and thereby avoid the risk of making the branch on a gauge which may entail transhipment of the great bulk of the traffic. I am to ask that the question may be further considered from this point of view, and that the Government of India may be favoured with an early answer.

I have the honour to be,

Sir,

Your most obedient servant,

W. Birch

Colonel R.E.,

Secretary.

Documents accompanying:-

Nil.

for

B.C.

Copy to

Urgent

P. W. Current No. 6850

Bezwada - Masulipatam R.

Govt. of India letter No. 1150 Rl. d 5/7/97.

271

(1) His Excellency the Governor
(2) The Hon'ble Sir Henry Bliss K.C.S.I.
(3) The Hon'ble Mr. J. Gosse C.S.I.

India appears to be still hesitating about the gauge question and fears that by committing ourselves to the metre gauge at this stage a mistake may be made involving transhipment of the bulk of the traffic.

It is also under the impression that the Kistna delta is already fairly well provided with means of communication and that therefore it will be well to wait till the Bezwada-Madras R. is completed and the Godavari bridge built.

Mr. Atkinson's arguments as to the impossibility of Masulipatam competing with Coconada has evidently failed to carry conviction and the views of Govt. are specially asked for.

To take the point first: a very full description of the Port is given in Marine Dept. letter No. 172/242 of 25/6/84. The port is described as an open roadstead exposed to the full force of any cyclonic disturbance. The anchorage is 4 miles from the bar and 7 from the wharves. The bad

The information given in this Note should be communicated to the Govt. of India; and the information which the Sec. suggests as being needed, should be obtained.

Some pier is available at present

From port, I think the S.M.R. is entitled to an extension of its system so that the Branch from Bezwada to Masulipatam should be narrow gauge

I see no reason to alter the opinion expressed in my Note of 6.5.97

A.S.H. 17.7.97

X Key A

H.S. 20/7/97

H.S. 19/7/97

I have drafted for H.S.'s and Hon. Mem.'s signature. I put up my letter. Flag K a demi official from the Agent S.M.R. and also Flag L a marginal quotation of remarks made at the Company's annual general meeting by their Chairman Sir Lindsay. Since 1891 I have frequently written privately to the Chairman of the Madras Railway Company, urging on them the necessity of extending a line from the Kistna delta to their right parting.

X Flag B

J.W.S. 25/7/97

This draft does not represent my views. I should like to discuss it with Mr.

D.2534 12.8.97 CW 17.8.97 CW 27.8.97

has only 18 inches of water at low tide for six months in the year no improvement is said to be possible but only on account of the prohibitive cost but because of the exposed condition of the bar. The port possesses no boats carrying 740 tons and the charges are boats over 20 tons — 1/- } per ton
" under " . 10/8 }
cost of shipping cargo — /15/3 per ton

Exports & imports 1893-4
exports — 35,930 tons
imports 7,290 "

This letter seems to show that there is no chance of Masulipatam ever rising to any importance as a port and is a sufficient answer to the fears expressed in a previous letter from Govt. of India (47R of 1895) that the construction of the railway will create demands for the improvement of the port.

A letter from the Collector of Kistna (Mr. Atkinson) enclosed in Rev. Pro. No. 350 of 28/8/94 gives exports and imports since 1857. These show a falling off in 1891-2 and 1892-3.

It may be well to ask the Rev. Dept. to give figures up to date.

The Govt. of India, as evidenced

Copy to Mr.

Mr. Spring if he would like me a little more about Mr. Brereton's opinion as to the narrow gauge, alluded to which is made in the last para of the draft.

A.S.T

N.B. Mr. Other suggests that I have planned it day, etc.

This information has emerged in India in the form of a copy of the P.W.D.'s letter.

7/11
29/7/97

& Shows need that break of gauge is not now regarded as much as formerly as it used to be. If break of gauge does not matter it would signify much to the S.M.R. whether their line is made narrow or broad. I have understood until now that the E.C.R. want the line on the broad gauge.

A.S.T
28.7.97

Rly C.

Rev. A.S.T.

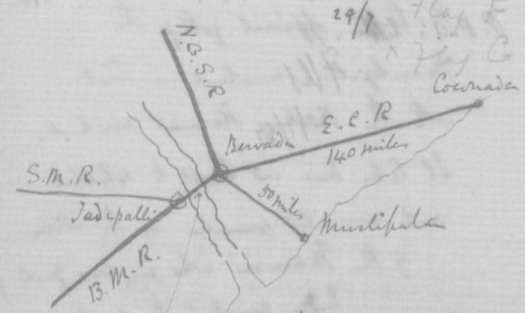
Rly D.

Yes. ask Rev. Dept. if the figures are not in our possession in some recent Proceedings. Results or Govt. or Administration Report.

7/11

Mr Brereton tells me he has dropped this idea. I think he was misled by the Pops. See also final para of letter; S.M.R., letter No. 6829/1076. 21st July 97. to Sec. P.W.D. Rly. Bombay.

7/11
29/7



He of course stands to lose some traffic on his Bezwada-Madras section however to such extent as it may be shorted off by the break of gauge, or by the ~~[illegible]~~ S.M.Ry. disengagement. Some traffic ~~[illegible]~~ going inland not seaward.

7/11
29/7

Assuming that the line is made on the narrow gauge, all this seems likely. But, if the line is made on the broad gauge gauge, possibly the shorter distance to Coconada might attract the trade to shorter Masulipatnam, although it may be a bad port. But, even so, this circumstance would tell, in my opinion, justify the shutting up of Masulipatnam

A.S.T

by the letter under reply and by Despatch 47R of 1895, has evidently been much impressed by the pessimistic manager E.C.R who has twice expressed his fears that the construction of the line by the S.M.R would ~~[illegible]~~ play havoc with his traffic between Bezwada & Cocanada (See his letters 697 of 27/1/94 and 6337 of 18/10/94.) there is reason to think that the damage to this line will not be great.

The only traffic he stands to lose is that arising on the S.M.R. and seeking an outlet on the east coast; for this it is probable that traffic from the N.G.S.R and B.M.R, both broad gauge lines, would break bulk at Bezwada and seek a nearer port although it is 90 miles nearer: still less would traffic originating on the E.C.R itself go to Masulipatam in preference to Cocanada, ~~still~~ as regards local traffic originating between Bezwada & Masulipatam the E.C.R gets none of this at present: it goes to by canal either to Bezwada for the S.M.R or the N.G.S.R or to Cocanada or to Masulipatam itself. If the line were B.G. and worked by the E.C.R that Rly. owned

very possibly induce some of the local traffic to go to Coconada but it cannot be said to take any part of the line by the hands of the railway as it passes at present.

The collector says (para 13 of his letter in Rev. No 350) that the quantity of goods brought to Bezwada for export is not worth mentioning: but it would be well to ascertain what is the tonnage of goods from the S.M.R. booked to Coconada ~~station~~ with the E.C.R. for the value of this traffic, whatever it may prove to be, will represent the loss which the E.C.R will suffer by the construction of the line by the S.M.R.

The other point to be dealt with is whether the roads and canals in the Kistna Dist. serve the country sufficiently well as to render the question of the communication of no urgency.

The collector says in the letter just quoted that the canal traverses the price of the delta only, and is inaccessible to the parts on and about the proposed railway except in the 3 months of dry weather when it is closed. Except the two letters from the Collector there is no information in the Office as to how the roads & canals serve the district.

Mr Atkinson has been collector in the dist for some years & is probably correct in his facts but as India appears sceptical perhaps enquiries should be made in the P.W.D and Irrigation Dep.ts

The collector has several times drawn attention to the inconvenience to the public of the chief town of the district being cut off from the railway by 50 miles of canal or road, but suggestions have been made that the court should be moved to Bezwada as being more central and a better station.

JHT 16/7/97

All this has to do with traffic going seawards. What we hope for is if we get the native goods in the instead of sending on either to Burma and keep the delta price will seek inland markets, on the result of cheap railway freight.

and, more important, of the S.M.R. traffic officials getting the Manchester merchants in touch with the Bellary Kurnool merchants. It takes time and trouble to establish such mercantile connection as the choice of the Marwari who in some parts of India penetrate the country in all directions and watches the opening of new Districts by railway. 7/7/97

I don't think there follows - the present will be so much cheaper, inland by rail to Coconada as to counterbalance the disadvantage of the greater distance

HS

We cannot do better, as regards this, than endorse the paragraphs in Mr Atkinson's letter in which he explains the failure of the present system of communication to properly tap the mercantile centres.

JHT 29/7

Very badly - See the maps HS

Handsworth Wells, 24th day. HS

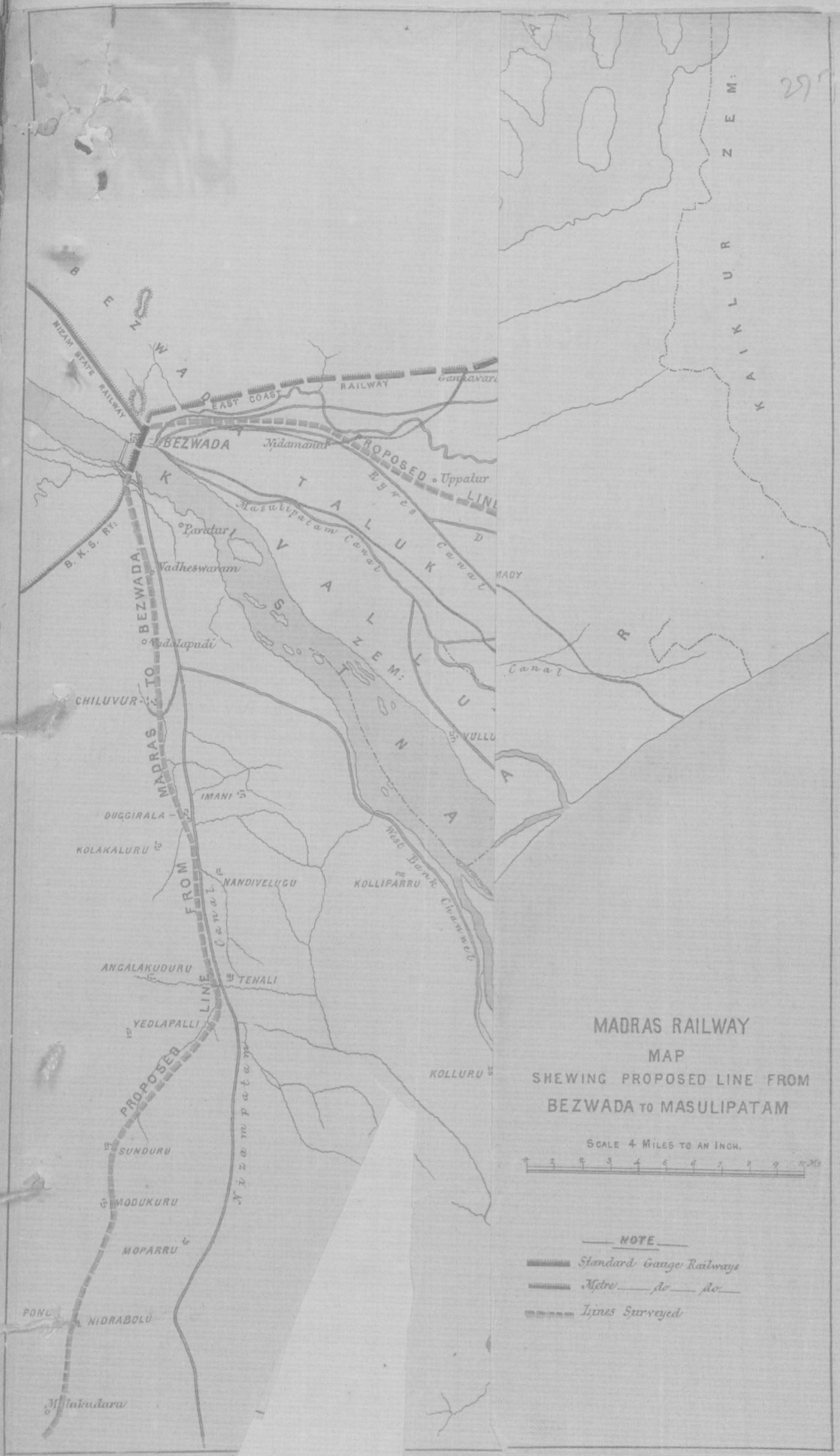
Very well. HSH

We have now got the opinion of two successive Collectors, Mr Atkinson and Mr Arundel, based upon a knowledge of the District of 5 and 9 years in Mr Atkinson's case, and I think a longer period in Mr Arundel's. I don't know what Mr Willcocks' acquaintance with the District is, but he tells us that not much harm could be done if instead of seeking Manufactures from the sailing vessels from Godavari centered towards the mouth of the Kistna lake. In view I suppose to tapping part of the District where, for want of communication, grain can even now find its way more backward, and

Granting that such must be desirable, it would not much affect the present case. The rich delta and the town of Masulipatam would still be there HSH 17.7.97

in view also, ultimately, of the opening of Mr A Atkinson's inland harbour. But we dare not hint at anything of that sort just now.

JHT 29/7


MADRAS RAILWAY
MAP
SHEWING PROPOSED LINE FROM
BEZWADA TO MASULIPATAM
SCALE 4 MILES TO AN INCH.
NOTE
Standard Gauge Railways
Metre do do
Lines Surveyed
BEZWADA
NIZAM STATE RAILWAY
EAST COAST RAILWAY
Gannavaram
BEZWADA
Nidamanur
PROPOSED LINE
Uppalur
Ryves Canal
Masulipatam Canal
Paratur
Vadheswaram
B.K.S. RY.
BEZWADA
Vadalapudi
CHILUVUR
MADRAS
IMANI
DUGGIRALA
KOLAKALURU
NANDIVELUGU
KOLLIPARRU
West Bank Channel
ANGALAKUDURU
TENALI
YEDLAPALLI
PROPOSED LINE FROM
Nizampatam Canal
KOLLURU
SUNDURU
MODUKURU
MOPARRU
PONU
NIDRABOLU
Mulakudaru
KAIKLUR ZEM.
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Extract from the Madras Mail dated 23rd July 1897.

The Bezwada-Masulipatam Railway.

Colonel Lindsay, R.E., Chairman, in the course of his remarks at the recent annual meeting of the Southern Mahratta Railway in London, observed :—

I am still unable to report any satisfactory agreement with the Government with reference to the construction of the Masulipatam Railway. I have been informed by Government that the question will be taken up by the Railway Committee in India this year. Mr. Atkinson, the Collector of the Kistna District, has lately written a most able and convincing paper on the subject of the proposed Bezwada-Masulipatam Railway; and I hope the arguments contained in it will be duly borne in mind by the members of the Railway Committee. Mr. Atkinson points out how badly off the country is in the matter of the means of transport, and how, in consequence, the tillage is neglected simply because the cultivators have not the means of sending their stuff away. Now there are some facts which can be gathered from the pages of the Director-General of Railways' Report for the year 1895-96 which ought, I think, to assist the Government in coming to a speedy conclusion as to the wisdom of constructing this short railway extension that we ask for. Taking the broad gauge railways—only those that have been recently constructed, and that is excluding the Great Indian Peninsula, the East Indian, and the Bombay, Baroda and Central India—I find that the broad gauge railways have cost 44 per cent. more than metre gauge lines to make. I also find that in the latest official returns the metre gauge lines taken together gave a return of 6·04 per cent. on their cost; while the broad gauge lines yielded 5·95 per cent. This, I think, ought to be enough to settle the question of the gauge of the Masulipatam line; and when we know that money is obtainable now at 3 per cent., or less, I do not think there ought to be much hesitation as to the wisdom of constructing this extension to Masulipatam, particularly as its prospects are most favourably reported on by all those that are best qualified to form an opinion of the probable result.

In reply to a question subsequently put he said :—

As regards the direction of the Bezwada Railway to Masulipatam, it does not go direct. The canal goes direct, and we avoid that and take the bend to the north; but I may mention that the direction of the line, the line itself, and the estimates were most carefully done by the Madras Railway Company, and it is their figures, corrected for a metre gauge line, that I have always quoted. We have re-examined them in view of its being a metre gauge instead of broad gauge; indeed, I rather think that they estimated for both, but I am not quite certain. Then I would say that we do not contemplate the line going to Masulipatam and nowhere else. There are certain little extensions immediately to the north where there is a very fertile country; but we are waiting until we get the line to Masulipatam, and the little additions then will probably come in due course.

Mr. Martin Wood: The difficulty, I suppose, is not that the Madras Company wish to make it themselves. What is the impediment?

The Chairman: The East Coast Railway rather wish to make it, and then it would naturally be on the broad gauge, like theirs.

Mr. Martin Wood: That is the impediment?

The Chairman: Yes; and some people of power in India think that the line would not pay. They never give any reasons. Mr. Murrhead, our Traffic Manager (I am happy to say we have the advantage of his presence here to-day), went over the line with me, and we were both very favourably impressed with its paying capacity. I wrote the usual screeds about it, and as they have been pigeonholed, they will probably bear fruit in due time.

No. 546. R dated 9.8.97

From The offg. Jt. Sec. P.W.D. Madras

Bys.

To The Secretary to the Govt of India P.W.D.

Sir

I am directed to acknowledge the receipt of your letter No. 1150. R.C. dated the 8th July 97, in which you invite the opinion of this Government on the views expressed in Mr. Cotterill's note on the subject of a railway from Bezwada to Masulipatam.

2.- With reference to your para. 2. I am desired by H. E. the Governor in Council to fully endorse the description of the Masulipatam so-called harbour given in paragraphs 9 and 10 of his note, and to add that there seems no possibility of that place ever becoming a rival to Coconada however much it may serve the purpose of the S. M. Ry. Co. to encourage such rivalry.

3.- The accompanying copy of a letter* to this Government's Marine Dept. from the Presidency Port Officer Madras. No. 1721/242 g. dated 28th June 94 expresses accurately the condition of the port, and clearly shows how little chance there is of its ever developing into a rival of Coconada and of so giving rise to demands for funds for its improvement.

4.- I am instructed to say that it must be clearly realised that

* Flag B

Incorporated in revised draft

a Railway between Bhiwandi and Manmáglaon will have as its chief functi
the carrying of produce from the Eastern Kistna Delta and seaward but hardened.
This point has been emphasised in the enclosure of my letter No 522 R.
dated the 26th Feb. 94, and in those of my No. 1357 R. dated the 28th May 1894.

For famine protection reasons this Government attaches great importance to the
metre gauge railway from Bellary being given the finest possible access to the
rice fields and traders' granaries of the Eastern Kistna Delta. His Excellency
the Governor in Council is strongly of opinion that the conversion of
Continuity of gauge at Bhiwandi for whatever part of this grain may
find it way in ordering grain towards Madras and Hyderabad by the
standard gauge lines is not to be compared in importance to the great
assistance which will be rendered in occasional years of short security
of the fertile Delta of the Manmáglaon District by connecting freely
with the dry uplands of Bellary and Kurnool.

A.

5.- The final paragraph of your letter under reply appears to this
Government to be based upon a misapprehension which might have been
obviated had paragraph 3, 4, and 5 of the Athavale memorandum been
accepted. I am desired to express the fullest support of the
statement contained in those paragraphs, and to add that the rice
grain centres of the District, viz the towns through which the
railway is intended to pass, are all except Manmáglaon totally
off the tracks of canal communication. Indeed the existing
means of communication through serving, as well as such means
usually do, the requirement of the two chief centres of distribution
Manmáglaon and Bhiwandi, they badly serve the requirement of
traders; and, moreover, as remarked by Mr Athavale, the canals are closed

Copy to the

[illegible] is second draft

during the very months in which exportation of produce is most active.

B

6.- This Government considers that, while it is the interest of the
Government of India who own the Southern Mahratta system, (a system
which will never have had justice done to it until it [illegible]
Bellary Kistna section taps the heart of the rich Kistna Delta,)
and of the Government of Madras on whom falls the burden of famine
relief in the dry districts, and of the producers and traders of
Manmáglaon and the neighbouring towns, every encouragement
should now be held out to the Southern Mahratta Ry. Co. to form
a subsidiary company to construct this much desired feeder line.

7.- I am to add that at an interview with [illegible]
the Manager of the S.M.R. a few days ago, the Consulting
Engineer for Railways, with the Govt.
was informed by Mr Brereton that he would
no longer oppose the extension of the metre gauge to Manmáglaon,
as he was of opinion that no injury would thereby accrue to
the S.M.R.

I have &

7.V.S.

25/7/97

Documents accompanying:-
Copy of letter from the
Residency Postoffice
Referred to

Urgent

Hr. Excellency the Governor.

546 R
9/8/97

Mr. Bretton told the Hon. and +

V. W. Current [illegible] under which

I have redrafted so as to merely refer Railway Company's to we have already said in para 10 of our Glueren letter on the Madras Railway programme, and in the sense of your Excellency's Note of 4-5-97. Flag. O.

I see that your Excellency wants to know more about my conversation with Mr. Bretton the Manager of the E.C.R. I understood from him that he had not until lately realised how impotent Masulipatam would be to compete with Coconada for such exports as the S.M.R. might have to offer, and he was willing to take his chance of having such exports, if any offered, transhipped to him at Bezwada for Coconada port.

Then again he did not at first realise that the grain produced by the towns intended to be served by the proposed branch does not really travel on his line at all; his Traffic Manager Mr. Pope wanted it believed that all this grain was coming or ought to come on the E.C.R. at stations between Ellore and Bezwada. But it will not do this, because all the Bezwada, or 'Eastern Delta' systems of canals converge at Bezwada, and boats conveying the produce of towns on their banks do not touch the E.C.R. before Bezwada.

Copy to the

a rail. I "the in that he had already
from D.W. Dept. Dr. C.C. Hern.
, on D.G.Rs. Cl. Grey, a their visit
c per week go to the E.C.R. that he
had withdrawn his opposition to the Mess
metric
Gauge.

I have not made a technical point clear to
you touching. Break of Gauge nowadays
involves a very small expenditure per ton in the
handling of freight. and it is therefore "trifling"
when it is used as an argument against
the construction of a cheap metre branch in
a country supposed to be the mouth of a
broad gauge system. But the cost of "break
of Gauge", if I may call it so, which
will operate perpetually to prevent the
free flow of Kirsten grain to Bellary
first when most wanted, is the absence of
trading connection between the Bellary
merchant and the Kirsten producer if the
S.M.R. is not allowed to extend its
Bellary Kirsten section into that producers'
field and granary.

It will be the perpetual object of
the E.C.R., if the branch is made a
the broad gauge, to use every effort to
induce a flow of produce not towards
Bellary, but towards Guntakal on the
broad gauge. so as to get as long a
lead as possible. It is the dread of this

I understand there that it is rather a break of the
lines worked by a company rather than break of
gauge, that Mr. Spring refers to.
A Bell

A.

Yrs. ever A.
FHS
11/8

In connection with the Agent S.I.R.
the other day he laid much stress upon
what I may call the tactical importance
of once getting the produce into his
own waggons, and having his own men in
touch with the traders. It is a case
similar to this.

FHS
11/8

= Bretton
told the Hon.
and I

Somebody told me, I think, that Break of
was equal to 15 miles. ASH

I. I think it is generally now understood that
equal to about 3 miles. or less. It is indeed so
small that no charge is ever made for it, at
least between any of the Rs in this Presidency
at any of their joint & contract where
break of gauge occurs. The charge at a
steam ferry used to be as for 20 miles of
haulage. In Bengal in 1895 we
reduced it to 12 miles. and if I am
rightly informed it is now very much less
than this.

FHS
11/8

instance are produce and traders where
is at the bottom of a Railway Company
strong opposition to an invasion of his
territory by an outside Company. Thus the
Madras R. C. are greatly resenting the
proposal to let the S.I.R. C. get
access from Dindigul to Palghat.
Because though the trader is at
absolute liberty to send his produce either
way, on the cheap break of gauge only
open to the extent of a couple of
miles of either railway. Still the
slight will be
argument advanced by the S.I.R. Co
Traffic Inspectors and Canvassers that
his property will be looked up in one
waggon to the end of the journey, very
largely influences the trader.

I feel very strongly on the subject of
the importance of giving every encouragement,
by extending the metre gauge to Nundydroog,
to the Bellary traders to get into personal
touch with the Kirsten producers, and that
too in good time before the next famine
and I should very much like to see my
first draft paragraph, or something like them,
incorporated in the second draft. I mean
the paragraphs marked A. and B. in the first draft

A.1973
1898/5757

T-14.

Class. INDIAN TELEGRAPH. Monthly Local No. SERIAL No. 97

To Station: Mr Thurlow. From Station: Ootacamund. 10 98 URGENT ORDINARY DEFERRED

Words.	Day.	Hour.	Minute.	Official Instruction.
24/9	7	12	20	

To (Person): Works railway Southern. From (Person): Assistant Engineer

(1) My letter numbered and dated as follows.
(2) 8th July last
(3) Bezwada - Masulipatam Ry

Recd. from	L. N.	Sent to	L. N.
At Hrs.	Mts. By	At Hrs.	Mts. By

Date 7/8/97 Postmaster.

TRIPLICANE 7 AUG 97

SERIAL No. 61

6R

Madras.

EPARTMENT,
RANCH.

T. OF INDIA,
P. W. DEPARTMENT.

ugust 1897.

cted to acknowl
ur letter N°1150
July 1897, in
the opinion of
ve expressed
on the subject
ads to Masu-

your
e to para 2, of
G. the Governor
in Council to fully endorse the
description of the Masulipatam
so-called harbour given in para
graphs 9 and 10 of his note and to
add that there seems no pos-
sibility of that place ever be-
coming a rival to Coconada
however much it may serve
the purpose of the S. M. Ry Coy to en-
courage such railway rivalry
3. The accompanying copy of a
letter to this Govt's Marine Supdt. fro
the Trichy. Port Officer Madras

N°

Mr. Spring is, I understand, pleading for the narrow gauge in the general interests of the Govt. and country. He is an expert on the subject generally, and I admit the desirability of keeping the rice of the Kistna Delta within easy reach of Bellary. I do, therefore, accept Mr. Spring's first draft

P.S.G.
7.8.97

I am of opinion, and have been of this opinion since 1890, that one of the biggest mistakes we made in Indian Railway policy was making the Calcutta Madras Ry. a broad instead of a the metre gauge. The latter would have carried all that this country will ever have to offer. and I am the more confirmed in this opinion since I have seen the magnificent fertile country served by the S.I.R. & m.g. line which can get its crops from twice its present traffic without exceeding. The S.C.R. might have had I suppose 200 miles of metre gauge branches in addition to it on length of 1000 miles from Madras to Calcutta, had the money been spent on the metre which has been spent or will be spent in making it broad gauge.

I have left the second draft unfinished as if Jon Spalding will settle it in Council in the office will find me returned to Madras on the 7th.

J.H.S.
3/7/97 Trichinopoly

Copy to the

No 1721/242 G dated 28th June 1894 expresses accurately the condition of the port, and clearly shows how little chance there is of its ever developing into a rival of Coconada and of so giving rise to demands for funds for its improvement.

4. I am instructed to say that it must be clearly realised that a railway between Bezvada and Masulipatam will have as its chief function the carriage of produce from the Eastern Kistna Delta not seawards but landwards. This point has been emphasised in the enclosures of my letter No 522 R dated the 26th Febry 1891 and in those of my No 1357 R dated the 28th May 1892. In famine protection reasons this Govt attaches great importance to the metre gauge railway from Bellary being given the freest possible access to the rice fields and traders granaries of the Eastern Kistna Delta. His Excellency the Governor in Council is strongly of opinion that the convenience of continuity of gauge at Bezvada for whatever part of this grain may find its way in ordinary years towards Madras and Hyderabad by the standard gauge lines is not to be compared in importance to the great assistance which will be rendered in occasional years of severe scarcity if the fertile Delta of the Masulipatam district be connected freely with the dry

57 B

dry uplands of Bellary and Kurnool

5. The final paragraph of your letter under reply appears to this Government to be based upon a misapprehension which might have been dispelled had paragraphs 3, 4 & 5 of Mr. Atkinson's memorandum been accepted. I am desired to express the fullest support of the statement contained in these paragraphs, and to add that the real grain centres of the district, viz, the towns thro' which the railway is intended to pass, are all except Masulipatam itself, off the track of canal communication. Indeed the existing means of communication though serving, as well such means usually do, the requirements of the two civil centres of administration Masulipatam and Bezvada, very badly serves the requirements of traders: and moreover as remarked by Mr. Atkinson, the canals are closed during the very months in which exportation of produce is most active.

6. The Govt. considers that, in the interests of the Govt. of India who own the Southern Mahratta System, (a system which will never have had justice done to it until its unremunerative Bellary Kistna section taps the heart of the rich Kistna Delta) and of the Govt of Madras

on t... n falls the burden of famine
relief in the dry districts, and
of the producers and traders of
Masulipatam and the neighbour-
ing towns, every encouragement
should now be held out to the
Southern Mahratta Ry Coy to form
a subsidiary Company to construct
this much desired feeder line.

7. I am to add that, at an interview
with the Manager of the East Coast
Ry a few days ago, the Cons. Engr. for
Rys with this Govt. was informed by
Mr. Brereton that he would no longer
oppose the extention of the metre
gauge to Masulipatam, as he was of
opinion that no injury would thereby
accrue to the East Coast Railway.

/Sd/ F.J.E.S
25.7.97

Documents accompanying:—

Copy of letter from the
Presidency Port officer, Madras
referred to

11/8/97

FORM

TELEGRAM

SERIAL No. 100

URGENT
ORDINARY
DEFERRED

301

FROM Madras ~~E.R.~~ F.J.S. Spring

TO Simla G.A. Anderson Esq Under Sec. P.W.D.

No. 247 Dx

Your wire 1280 R.C. Bezwada Masulipatam letter issues to-day

F.J.S.

11/8/97

Dy. 11/8/97

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Offg. Under Secretary to Government,
Railway Branch.

To the Consulting Engineer for Railways.

Exd. P. Seetharam.

No. 966 R., 12TH NOVEMBER 1897.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper :—

From the Under Secretary to the Government of India, Public Works Department (Railway Construction), to the Officiating Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, dated Simla, 30th September 1897, No. 1640 R.C.

The following is forwarded to the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, for information, in continuation of No. 1631 R.C., dated 30th September 1897.

ENCLOSURE.

From the Secretary to the Government of India, Public Works Department, to Colonels J. G. LINDSAY and A. J. FILGATE, R.Es., 44, Finsbury Circus, London, E.C., dated 30th September 1897, No. 1632 R.C.

In continuation of Public Works Department letter, No. 1630 R.C., dated 30th September 1897, I am directed to inform you that the project for a railway from Bezwada to Masulipatam has been considered at the Railway Conference and that the Government of India have decided, after consideration of the recommendations of the conference, that this project is one for the construction of which they are not at present prepared to make any arrangements and that they regret therefore that they are unable to entertain your proposal for its construction.

ORDER—No. 966 R., dated 12th November 1897.

Recorded.

(True Extract.)

Under Secretary to Government,
Railway Branch.

To the Consulting Engineer for Railways.

Exd. P. Seetharam.

No. 966 R., 12TH NOVEMBER 1897.

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(True Extract.)

Under Secretary to Government,
Railway Branch.

To the Consulting Engineer for Railways.

Documents accompanying:—

Copy of letter from the Presidency Post Office, Madras referred to

11/8/97

Exd. P. Seetharam.

RAILWAY.

Government {1897} of Madras.

PUBLIC WORKS.

No. 5195
26/11/97

Recd. } 1897. Enclosures
Regd. } Spare copies

G.O., No. 966 R., 12th November 1897.

NOVEMBER.

Railway from Bezwada to Masulipatam

Government of India memorandum forwarding copy of their letter to Colonels J. G. Lindsay and A. J. Filgate, R.Es., stating that they are not prepared to make any arrangements for the construction of a —, recorded.

Copy to the

PUBLIC

RAILWAY D.

...ls of ...nder.

~~C. No.~~ Proof G.O.

305

SUBJECT.

...ELLENCY THE GOVERNOR.
...ON'BLE MR. ARUNDEL .C.S.I.
...HON'BLE MR. H. M. WINTERBOTHAM, I.C.S.

Bezwada - Masulipatam Railway. -

FOR ORDERS.

I have read these papers, and have conferred with Mr. Spicer relative to the draft G.O. I told him that I thought we should do nothing which would have the effect, or seem to have the object, of forcing the hands of the Govt. of India.

The proceedings may, I think, be sent to the Govt. of India and a copy to the Sec. P.W.D. Railways, Bombay; but they should not be put on the Editors' table or forwarded to the Presdt. Dist. Board, Kistna.

A.E.H.
4.8.99

I have altered the draft G.O. accordingly.

Circulation continued. F.H.S.
7/8/99

AH
5.8.99

HS
5-8-99

I submit for the perusal and orders of H... and H.Ms. a copy of the papers on the subject of the Bezwada - Masulipatam line, brought ... with a memorandum of mine thereon.

I suggest that action thereon be taken as follows: That the whole of the papers be sent to the Govt. Bombay who administer the S.M.R.. That ... laid on the Editors' table. That they be s... the President District Board Kistna. ... be sent to India.

The moment is just ripe now. The Promoters' proposals are with India, and are sure to be taken in the next month or two. I think that the N... ought to bring things to a point. The Promoters will probably not talk of the 2½ ft gauge ... until they shall have failed to get the metre concession.

The Tramway is in my belief the proper ...

Govt. need not suggest it. The suggestion
must be left in the Con. Engr's Note.
I may mention that I have nearly completed a
long and full memorandum bringing the whole
subject of District Boards and Tramways from the
[illegible] as well as the Financial & Engineering points
[illegible], up to date. in anticipation of the passing
the clause in the new District Boards Bill
[illegible] them power to assess themselves with the [illegible]

F.K.S.

Order No. 863. Ry. Dated 7/8/99

[illegible] copy of these Proceedings will be forwarded to
Secretary P.W.D. Railways. Bombay with reference
letter No. 1307. dated the 3rd June 1899.
Copy will also be forwarded to the ~~Presidency District~~
~~of Kistna and to the~~ Govt. of India.

F.K.S.
15/7/99

[illegible] 864. Ry. 7/8/99

[illegible] forwarded

F.K.S.

No. 5195
26/11/97

4 signature copies
were sent to Ort. for
despatch 15/8/99

Send to Madras with order
Complete sharp with the
G.O. for issue

F.K.S.

6/8/99

AA 5.8.99.

5-8-99

To Con. Engr. ✓

~~[illegible]~~

~~[illegible]~~

" Board of Revenue

DEPARTMENT

Initials
attend