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## REPORT

ON TIIN

## YORK \& CUMBERLAND RAII ROAD,

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> PORTLAND:

FOSTER d GERRISH, PRINTERS.
ADVERTIEFR OFFICE.
1849.


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## REPORT

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1849.

## REP0RT. :

## Portland, August 18th, 1849.

## To the President and Directors of the York and Cumberland Rail Poad Company, \}

## Gentibmen:-

In compliance with your request, I have carefully examined the line of your road, the maps, profiles, \&cc., and have collected such statistical information as the short time allowed me would permit, and now have the honor to submit a Report relative to its general characteristics and the present state of the work, together with some observations on its connexion with other roads, the resources of the country, and the probable amount of trade that may be derivod therefrom.

At an early day the route of your road was regarded as the most favorable for forming a railway connexion between Portland and Boston, and a charter was granted by the Legislature of Maine, for this purpose.

From a variety of causes, which it is not necessary to mention, its construction was delayed till after the expiration of the time flamed in the original Act for its commencement.

On the commencement however, of the great system of railways in this State, the menifest advantages of your line, and the importance of an intericr route from Portland to Boston, by which the large trade of York County and a portion of Cumberland should be accommodated, became apparent, and the friends of the enterprise applied for a Charter, which was granted by the Legislature of 1846. This charter is similar to that of the Atlantic and St. Lawrence Rail Road Co., and is regarded as liberal in all its provisions.

The requisite amount of stock having been subscribed for that
purpose, the Company was organized on the 20th of July 1848, and soon thereafter the whole line was placed under contract and the wark commenced.

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\text { dASCRI }{ }^{\circ} \text { ON OF THE ROUTE. }
$$

Cornmencing at the foot of Preble Street in the City of Porland, your line follows a Southwesterly course passing through the towns of Westbrook, Gorham, Buxton, Hollis, Waterborough, Alfred North Berwick and Berwick to Salmon Falls, a distance of about 49 miles, where it unites with the Boston and Maine Rail Road.
The topographical features of the country along your line, are somewhat irregular, yet the changes in the surface are gradual, and the uplands are of such gentle slopes, as to add much to the beauty of the country and the value of the soil; while they interpose no serious obstacles to a favorable location of the road.

Traversing the country as your road does, in a direction nearly parallel to the coast, the principal water courses whir c convey the drainage of the country to the sea, have generally a transverse direction to that of your line. This would seem to indicate an unfavorable feature in the topography of the country, precluding in a measure, the location of a road which should possess the essential requisites of favorable allignment, easy grades, and economy in construction. This, however, from tie peculiar formation of the country, and the moderate elevation of the grounds dividing these streams, constitutes no material objection to a favorable location of your road. On a portion of the Middle and Western Divisions of the road, the line passes over esuccession of sandy plains of mod: erate width and elevation, skirted by uplands of great fertility, and retaining all the gens:al characteristics of those on other portions of the route.

The soil on that portion of the line between Portland and Gorham is mostly clay, but on attaining the more elevated grounds at that place and descending to the valley of the Exco river, it is of a more favorable character; sand and gravel predominating for a considerable portion of the distance. West of that stream the soil ${ }^{-}$ on, and in the immediate vicinity of the line with some exceptions, is of a sandy character.

Tl

The line for a short distance in the town of Hollis, and also approaching Mousam river, passes over ground requiring cuttings of considerable magnitude, with indications of clay and rock.

The rock throughout the whole extent of your line, is of p:imitive formation, and probably more of this material will be encountered at the abovementioned points, than on all other portions of the route. More extended surveys will doubtless partially relieve this part of the line of its asperities.

The amount of earth work to be done on the whole line, when a careful location shall have been made, will be about the same as on other roads of medium cost in New England. This will also be the case with the inschanical work, and although a number of bridges are required, yet they are generally favorably located, of moderate elevation, and there are no indications of unusual difficulties in their construction.

The line crosses the Presumpscot river at Congin, and re-erosses at Saccarappa, the bridge at the former point has one span of 140 feet, and at the latter, two spans of 1701.2 feet each, making a total length of truss bridging on the Eastern Division of 483 linear feet.

The bridge for crossing the Saco, which properly belongs to the Middle Division of the road, will be about 450 feet in length.

Its axis will vary somewhat from a right angle with the course of the stream, and it will be located at a point, where rock, or other favorable materials will be found for the foundations. The other bridges on the line are of less importance; the largest of which is required for crossing Mousam river, having a span of about 120 feet.

## COST OF THE ROAD - AND PRESENT STATE OF THE WORK.

The whole of your road is contracted to be built by Messrs. J. G. Myers \& Co., on terms which are considered favorable to the Company.

The contract includes every item of expense except land, buildings, and machinery, and for the whole road amounts to $\$ 955,500$.

To this must be added the cost of the above mentioned items, and an allowance for the general expenses of the company, in all probably amounting to the sum of
$\$ 200,000$
Which gives as the total cost of the Road, - $\$ 1,155,500$.
Averaging $\$ 23,514$ per mile,[See appendix note A.]
The contractors subscribe 25 per cent. of the amount of their contract in the Capital Stock of the Company which amounts to . . . . $\frac{\$ 238,800,}{\$ 916,700,}$ Leaving
as the amount of means required from other Stockholders.

Up to the present time there has been subscribed exclusive of contractors subscription, $\frac{\$ 135,000,}{\$ 781,700}$ Which being deducted leaves

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to be provided for, to complete the road from from Portland to Saco river, and put it in operation.

The following shows the cost of the road from Portland to Gorham.

For grading, bridging, fencing and track, . $\$ 251,956$, Averaging \$23,525, per mile.
For lands, buildings, machinery \&c., . . $\$ \$ 67,000$,
Total cost, . . . . . $\$ 318,956$,
Amount of contractors stock, - . . . $\mathbf{6 3 , 0 0 0}$,
Amount reqnired from other stockholders, . \$255.956, Amount already subscribed by " $\$ 135,000$,
Leaving - - - $\$ 120,956$,
as the additional amount to be obtained to complete and put in operation the road from Portland to Gorham.

In reference to the above estimate, it is proper to observe, that the cost of the several divisions has been deduced from quantities estimated by your Engineer on a preliminary survey of the line from Gorham to its Western terminus, and those of the located line from Portland to Gorham. On a final loeation of the whole line, the proportionate cost of the several divisions may be somewhat varied, although the total cost of the whole road is determined and fixed by the contract. The estimated cost of land has been made with much care, and from the best information in possession of the Directors, but as there is .. ee uncertainty as regards the amount required for damages, \&c., it is deemed proper to provide liberally for this item. Relative to the cost $n f$ buildings and machinery, there is no difficulty in making a pro per estimate. Your station houses are supposed to be constructed of wood, and of moderate dimensions. The amount of machinery embraced in the estimate, is designed to be sufficient to commence operations with, but probably, further additions will soon thereafter be necessary.

The work done on your road, is confined to that portiom between Portland and Gorham a distance of $\mathbf{1 0} 3.4$ miles,

There have been 77,000 cubic yards of earth, and 7000 cubic yards of rock, removed from cuts and carried into embankments.

One of the abutments of the Congin bridge, and one of the piers of Saccarappa bridge are carried up to the bearing line. The road bridge west of ihe village of Saccarappa; is completed. The total amount of bridge masonry laid, is 750 cubic yards, and of culvert masonry 1300 yards. The fencing of this part of the road is in progress, nearly half of it is completed, and the materials for the balance delivered.
The iron for 10 miles is contracted for, and will probably soon be delivered at Portland. The sleepers for the same number of miles of track, are purchased, and a large portion delivered.
The contractors are fully prepared to press forward the work, in the most energetic manner to completion, whenever the pecuniary circumstances of the company shall permit. If means are provided for the vigorous prosecution of the work, the road may be completed to the Saco river in the fall of $\mathbf{1 8 5 0}$, and the whole road in the fall of 1851.

## CONNECTIONS \& PROBABLE TRADE OF YOUR ROAD.

The design of your road as before stated, is to connect with the Boston and Maine road, and thus give an interior communication between Portland and Boston and the intermediate towns, furnishing a cheap and expeditious conveyance to market, for the trade of that section of the country through which it passes, while it will open a new and picturesque route for through travel.

But before further discussing the question of connections, we will proceed to a consideration of the local business of your road.

To arrive at a just conclusion as to the amount of this trade, we must have reference to the character of the country along your line its extent, resources and population.

I have complied the following tabular statement from the published statistics of the General Government, showing the population and the agricultural products of each of the towns along the route, or in its vicinity, whose trade will pass over your road.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $006^{6} 1191 \%$ | 1172 | 126 | $1001{ }^{\text {c }}$ I | 17LC9＇g | $1100^{\prime} 9$ | 1981＇V | $1888^{\circ} 91$ | －11－18 | 8 | $1-1-18$ | 1 | ｜\％E8＇ELI | ｜881＇1｜｜ |  |
| 989＇1 1288 | 1876 | 1691 | $1686^{\text { }}$ I | 1769＊8 | 1796＇9 | $1878{ }^{6} 9$ | 1700＇96 | －11 | 1 | －1－18 | 8 | 806 ${ }^{\text {c } 961}$ |  | ${ }^{6}$ wenth |
|  | 1965 | 126 | 1898 | 1699＇I | 1997\％ | $1200^{\text {c }}$ | 1506 ${ }^{6}$ II | 1－1 |  | －1－18 |  | 080 ${ }^{\circ} \mathrm{L}$ | 1202 | ${ }^{6} 0$ \％rgag |
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| \％LL＇I 116\％ | $1209^{\text {c }} 1$ |  | 1826 ${ }^{\text {d }}$ | 1809＇\％ 16 | 16\％L＇9 | 1761＇9 | 1829 ${ }^{\text {¢ }} 8$ | $\underline{7}$ |  | －1－17 | 8 | 1792＇86I | $1800^{6} \mathrm{~L}$ | ${ }^{6} \mathrm{now}$ |
|  | 178\％${ }^{6}$ | log 1 | ｜z92＇I | $1718^{6} \%$ | $1665^{\circ} \mathrm{C}$ | $1969{ }^{6}$ | ｜289＇8て | ｜z｜I | 8 | －11 18 | 10 | 1978＊981 | $1019{ }^{6}$ |  |
| $\overline{7} \mathrm{~F}^{6} \mathrm{E}$｜ 219 | ｜989＇8 | 3＊5 | lotis | $1828{ }^{6} 8$ | ［866 ${ }^{4}$ LI | 189z＇\％I | $898{ }^{6}$ IG | －1I | ， | －15 | 12 | 718＇698 | あっだる | ${ }^{\text {Plogsuosued }}$ |
| 625゙【 186て | $1765^{6} 1$ | 9 ¢1 | 1016＇1 | 1699＊＊ | $1961{ }^{6} 2$ | 1011＇\％ | 19706『z | $\underline{\mid I}$ | \％ | －17 | 16 | $1906^{6} \mathrm{Z} 2$ | \％98 ${ }^{6}$ | ${ }^{\text {c plogman }}$ |
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The preceding statistics excepting the valuation, were collected in 1840, ard are probably much below the actual products at the present time.

The valuation was made out in 1844, for the purpose of assessing the State tax, and this, it is well known, is at least mender per cent below the present actual value of personal and real estate in these towns. I have also collected from reliable sources in several of these towns, valuable statistical information relative to the busines and probable amount of tonnage from each. The towns whose trade will be tributary to your road, ate generally in a high state of cultivation, having a thrifty and enterprising population.

The streams along the line furnish an almost inexhaustible amount of water power, which is already improved to some extent, and will come into immediate use, as soon as the facilities of reaching market are offered by the completion of your railway.

Taking up the question of its local advantages for business 1 would remark that soon after reaching the flourishing village of Saccarappa, your road will have a very considerable income.
Here the Presumpscot river has a fall of 32 feet, and the water power caused thereby is adequate to operate $\mathbf{1 0 0 , 0 0 0}$ spindles, and at Congin, one mile below Saccarappa, and within a slight distance of the line of your road, there is a fall of 17 feet. Within 6 miles of the City of Portand, you bring into immediate use an extent of water power as great as that now in use at Saco and Biddeford.

It appears a matter of surprise that so great and valuable a water power, so convenient to tide water as this, should remain till this time comparatively unused. There is no other Atlantic City in the United States, (unless perhaps we except Baltimore) that boasts of such unrivalled advantages for manufacturing industry in its immediate vicinity, as the City of Portland.

The Presumpscot river is discharged from Sebago Lake 17 miles from Portland. The latter is elevated 260 feet above tide water, and covers a surface of 100 square miles. Between this Lake and the sea, there are no less than 15 distinct falls, varying from 10 to 32 feet each, having an aggregate of 228 feet. All of these falls are capable of being made valuable for manufacturing purposes,
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and it is not asserting too much, to say that a continuous manufacturing village will eventually extend from where your railway reaches the Presumpscot, to the Outlet of Sebago Lake. There is an even and uniform flow of water in the Presumpscot, from the capacity of its great natural roservoir, Lake Sebago, that insures against the damages of sudden floods, or the evils arising from severe drought in the summer. In this respect, it has capacity and advantages beyond most streams in New England, at present in use, and from the proximity of its water-falls, to a large seaport, may claim to posses advantages no where surpassed.

The only surprise is, considering the density of the population upon the line, the wealth of the inhabitants, and its favorable location for business, that it has not before been brought into greater notice by means of a railway.

To see a Lowell, or a Manchester, within six miles of Portland, at an early day, it needs only the prevalence of the same spirit of enterprise, and the same forecast that has given to the other manufacturing towns of New England their importance.

At Saccarappa there are at present in operation 3 Cotton Mills, having 8700 spindles and employing 350 persons. There is also 1 power loom Harness Factory - 1 Flouring Mill - 2 Shingle and Lath Mills - 2 Machine Shops - 1 Lock Shop - 1 Iron Foundry -4 Saw Mills, and various other kinds of machinery. There are also 18 Stores.
W..hin the limits of the free grammar school district which extends one mile in each direction from the bridge, therc are 2000 inhabitants. It is estimated by intelligent timber merchants that the Saw Mills manufacture $8,000,000$, of feet of lumber annually. There are nine lines of Stages running through this place, and an Omnibus running twice daily to Portland.

At Congin, there are 2 Paper Mills - 1 Veneering Mill, and 1 Store.

The present amount of freight from these places amounts to over 15,000 tons annually.

Above Saccarappa there are in use several valuable water powers operating 20 Saws - 1 Cotion Factory and other machinery.

The next important point on the line is Gorham, a rich agricultural town, having a population of over $\mathbf{3 0 0 0}$ tnhabitants, and containing 12 Stores - 1 Academy, and 1 female Seminary.

From this place to Sebago Lake, the distance is about seven miles, and the construction of a branch from your road to this point, will connect with a Steamboat navigation of $\mathbf{3 0}$ miles, in extent, thereby securing the travel of this favorite route to the White Mountains, and the trade of the surrounding towns. There are at the present time, 6 Stage Coaches passing daily throngh this place.

Your road reaches the Saco river in the town of Buxton, which with the town of Hollis on the opposite side of the river, will furnish for the road a large amount of trade. Bar Mills are situated about a half a mile selow the road, where the river has a fall of 20 feet.

At Salmon Falls, about 1 mile below Bar Mills, there is a fall of 30 feet at one point, and an additional fall in a distance of half a mile of probably 30 or 40 feet, the former being improved to some extent. When it is known that the amount of water flowing in the Saco river at these places is very nearly equal to the same stream at Saco, where with a fall of 38 feet it now drives about 100,000 spindles and a large amount of other machinery, some idea r.lay be formed of the value of the water power at the places above mentioned.

Widhin the limits of these two towns, there are 23 Stores, 30 Saw Mills, 5 Grist Mills, 1 Cotton and 1 Woolen Factory, 4 Lath and 2 Planing Mills, and a considerable amount of other machinery. The amount of lumber annually manufactured exceeds 20 millions of feet, and there is an extensive business carried on in the manufacture of Shingles, Pails, Tubs, Sugar Boxes, Heading, \&c.

The value of the articles manufactured being mosily products of the forests, exceeds $\$ 400,000$ annually. It will also be observed by reference to the preceeding tabular statement, that the agricultural products and the number of neat cattle and other animals in these towns are large, and compare favorably vith other towns in the County of York. In the town of Hollis there aro extensive quarries of granite of great beauty and value for building purposes,
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and large quantities will undoubtedly be transported to market when a cheap conveyance is furnished. It is estimated by intelligent business men, that the total amount of freight which will be furnished by these two towns, with the present trade, will exceed 16,000 tons annually.

The Saco river has its principal source in the Notch of the White Mountains, and flowing in a Southeasterly direction, its volume is increased in the distance of a few miles by its mountain tributaries to that of a large and powerful stream. In its whole length it receives the drainage of a section of country of 650 square miles in extent. After it emerges from the highland district it runs for a distance of $\mathbf{6 0}$ miles through a rich agricultural country opening a beautiful and fertile valley through which a lerge trade flows.

The aggregate amount of fall available for manufacturing purposes at various places, within a distance of 21 miles above the poínt where your line crosses it, exceeds 200 feet.

It furnishes a highly favorable route for a branch to your road, the construction of which would further develope the capabilities of the country by bringing into use the whole of its valuable water power, and building up manufacturing towns along its banks. The day is probably not far distant when this branch will be extended up the valley of the Saco in a direct line towards the White Mountains, as far as Conway, Now Hampshire, where it will meet a line already surveyed from Meredith to the same point, thus connecting your road by another attractive route with the roads of New Hampshire and Vermont.

The towns bordering the Saco and Ossipee rivers, which are tributary to your road, possess great natural resources and at the present time furnish a large and valuable trade. But when your road shall have been opened, it will like all similar works, materially increase the value of lands and the amount of trade, for the reason that it will give to the agriculturalists of this comparatively secluded district, nearly the same facilities of reaching the market, as those more favored towns in the immediate vicinity. It will call into existence new branches of trade, by furnishing a cheap and rapid means of transportation for heavy and bulky articles which at
present are comparatively shut out of market from the great expense of conveyance. The effect of railways is to equalize trade, and the value of commodities in different sections of the country ; to reduce the cost of articles drawn from the cities of the seaboard by remote towns and increase the value of the products of the interiar by lessening the cost of their delivery in market.

After crossing the Saco 'river, your road will pass through an agricultural country for the whole distance. On reaching Alfred, the Shire town of York county, you are in the midst of an exceedingly fertile and populous district. It is from this point that I would propose a Branch line, to which allusion will hereafter be made; extending Westerly to Winnipiseogee Lake.

The superiority of Portland, as a market, over any town East of Boston, for York county and the whole region to the North of your line both in Maine and New Hampshire, will with this braneh tins, secure to your road nearly the whole of this valuable trade. In Berwick, at Salmon Falls, the point where your road unites with the Boston and Maine road, and in Somersworth on the opposite side of the river, are several Cotton Mills, having at present 37,000 spindles, and a Capital of over one million of dollars. At Great Falls, a short distance above, there are extensive manufacturing establishments, where there are $\mathbf{6 0 , 0 0 0}$ spindles in operation.

The large population and extensive manufacturing interests at, and in the immediate vicinity of the Western terminus of your road will naturally add much to the intercourse with the interior, and doubtless contribute largely to your business.
It is unnecessary to pursue the subject of the local trade of your line, further than briefly to allude to some of the leading articles which will constitute the bulk of its freight business.

An:ong the various advantages which indicate the great superiority of your road, the principal consideration is the fact, that for nearly its whole extent, the country is thickly populated, the soil fertile and in a high state of cultivation.
The surplus productions of agriculturalists must therefore compose a very considerable portion of the tonnage of the road. Large quantities of pressed hay, grain, beef, potatoes, cattle, sheep, \&c., will be forwarded to market by this conveyance.

Cattle in great numbers are annually driven from various parts of this State, through York county to Brighton market, which together with those forwarded from that county, will of itself constitute a most important branch of business.

Experience both in this country and Europe shows, that the cost of transporting cattle on railways, is small in comparison with the loss of weight, and the time and expenses when driven. Dealers are enabled to take advantage of a favorable state of the market, and deliver their cattle at a given point, arriving with the greatest certainty, and in a saleable and fresh condition.

Immense numbers of cattle are now annually transported to various Atlantic cities of the United States, by railways, and this trade must continue to increase as new avenues are opened and more remote sections of country furnished with these facilities. It only requires the proper accommodations and a reasonable tariff of charges, to insure to your road a large revenue from this source.

Another important article of trade on your road, will be ship Timber, large quantities of which are sent to market annually. It is only the great expense of transportation by teams, that prevents a more extensive trade in this article at the present time. The rapid increase of ship building in the district of Portland, shows the importance of this branch of business, and the great demand for ship timber.

The following table exhibits the tonnage of Shipping owned and built in the State of Maine, and also the same for the District of Portland, from 1844 to 1848.

| Year. | PORTLAND DISTRICT. |  |  |  | All other Dibtriots in State. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Shipa owned, Tonalage. | $\begin{aligned} & \text { Per cent. } \\ & \text { increase } \\ & \text { from year } \\ & \text { to year. } \end{aligned}$ |  | 1Pr. ct. increase from yeer to year. | Ehipp OWned. Tonnage. |  | Shlpa bull Tonnage. |
| 1844 | 57,347 |  | 3,995 |  | 250,084 |  | 16,205 |
| 1845 | 64,191 | 12 | 7,976 | 100 | 255,868 | $2 \frac{1}{3}$ | 23,129 |
| 1846 | 66,236 | 3 | 9,889 | 25 | 291,887 | 14 | 39,858 |
| 1847 | 74,046 | 12 |  |  | 310,312 | $6 \frac{1}{3}$ | 54,511 |
| 1848 | 82,361 | 11 | 14,413 | 46 | 369,967 | 19 | 75,561 |
| Per cent increase shipa owned 45 in four years. |  |  |  |  | Per cent tinc. of Ships owned 48 <br> Per <br> in four years. <br> in <br> Built, $366, ~$ |  |  |

The preceeding table shows that the Tonnage owned in Portand, is $\mathbf{1 8} \mathbf{1 . 4}$ per cent - and the Tonnage built is $\mathbf{1 6}$ per cent. of all, owned and built in the State.

The transportation of Lumber on your road will be a still more important branch of trade, than that of Ship Timber.

It is estimated by dealers in this article, that the total amount manufactured on the Presumpscot river, is from 8 to 9 millions, and the Saco, $\mathbf{3 0}$ to $\mathbf{4 0}$ millions of feet.

An immense amonnt of lumber must pass over your road in each direction from these rivers. To these great productions of the forests must be added, fire wood, headings, shooks, hoop-poles, wooden ware, \&cc., \&c., in large quantities.

Fruit composes one of the articles of trade, of several of the towns, and it is estimated that 5000 barrels of apples are annually sent to market from one town only. The amount of merchandise transported by merchants in the several towns tributary to your road, will not at the present time fall short of $\mathbf{7 0 0 0}$ tons annually.
Manufactured goods, together with the raw material will furnish freight in both directions, which now amounts to several thousand tons annually.

With this view of the character, resources, and productions of the country to which you look for local trade, I am decidedly of the opinion that the advantages of your road in this respect, are equal to, if not superior to most of the roads of New England.

Relative to the revenue that you may derive from the transportation of passengers, I will observe that the position and connexions of your road, the character and extent of the population along the route, are such as to give the strongest assurance of a large income from this source.

In addition to the great number of Stage Coaches and private conveyances which arrive at and leave Portand in this direction daily, there are numerous cross lines at Buxton, Alfred and other points which will concentrate the travel from a large section of the country to your road.

On its completion, many of the lines will change their relations, new routes will be opened, extending further into the interior, and
running populat ber of Tho it will b of 1840
towns a road, wl lation of tribute to
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Erom from the riority in up to 18 , except $L$ in the por the map density o of the St

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running to particular stations on your line. By thts means a large population will be brought to the support of the road, and the number of passengers greatly increased.

Tha total population of the towns along the route of your road, it will be seen by referring to the statistical table, is as per census of $1840-41,000$. To this should be added the population of the towns at and in the immediate vicinity of each terminus of the road, which probably is not less than 25,000 , making a total population of 65,000 iahabitants, on and near your road, who will contribute to its business.

The following tabular statement showa the comparative denality of population of the settied portions of different Countilen of this State at the perioda named. 1

| Counties. | 1800. |  | 1820. |  | 1840. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Square } \\ \text { Miles. } \end{gathered}$ | $\begin{aligned} & \overline{D e n-} \\ & \text { sity. } \end{aligned}$ | Square Miles. | $\begin{aligned} & \bar{D} e n-1 \\ & \text { sity. } \end{aligned}$ | Square <br> Miles. | $\begin{aligned} & \text { Den. } \\ & \text { sity. } \end{aligned}$ |
| York, | 817 | 42 | 817 | 56 | 817 | 66 |
| - Cumberland, | 955 | 33 | 988 | 50 | 988 | 54 |
| Jincoln, | 950 | 29 | 950 | 49 | 950 | 66 |
| Kennebec, | 985 | 18 | 1047 | 38 | 1047 | 53 |
| Waldo, | 440 | 15 | 812 | 27 | 812 | 51 |
| Penobscot, | 390 | 8 | 1143 | 12 | 1649 | 21 |
| Oxford, | 623 | 16 | 1228 | 22 | 1540 | 24 |

Average density of population of country tributary to the road including Portland, is 91 per aquare mile

From the above statement, it will be perceived that York County from the year 1800 to the present time, has maintained a great superiority in the density of its population ; no other county reaching it, up to 1848, [leaving the population of Portland out of Cumberland] except Lincoln. Again if we include the population of Portland in the portion of Cumberland, Oxford and York Counties showed on the map as being tributary to your road we find that the average density of population is greatly superior to any other equal portion of the State.

Comparing the population of this district of Maine with that of the State of Massachusetts, we find that the average density of the former 91 , and that of the latter is 9 per square mile.

[^0]It appears trom the reports of the various rail road corporations in the State of Massachusetts for 1848 , that the total number of passengers tre : orted by the main lines only, running out of Buston was over five times the population of the whole State, and that the freight transported by these and other lines within the limits of the State was equal to about $\mathbf{1 3 - 4}$ tons to each inhabitant.

There is no very great difference in the character of the inhabitants generally of Maine and Massachusetts, and making ell due allowance for perhaps a less developement of the resources, and less inte"course in the former, it would appear safe to assume that the number of passengers transported on your road will amount to realy twice the number of the inhabitants tributary to it, or equal to an aggregate of 120,000 through and way passengers annually. Froin my knowledge of the resources of the courtry which will contribute to the trade of vour road, and the result of rail road enterprises in Maine is well as in Massac', asetts, I am led to believe that it will do a large freighting business, and that the amount of this trade will soon reach $00, \hat{0}$ on tons per annum.

Applying about the present rates of fare between Portland and. Boston, and a low rate for transportation of freight, and we have the following results.

$$
\begin{aligned}
& \text { PROBABLE REVENUE OF THE ROAD. } \\
& \text { 75,000 Way do " } 75 \text { " . . } 56,000 \text {, } \\
& \begin{array}{l}
60,000 \text { Tons Freight carried over half the length } \\
\text { of the rood, at } 1,25,
\end{array} \begin{array}{r}
\text { M5,000, } \\
\text { Mails, \&c. }
\end{array} \\
& \text { Total receipts, - - . \$174,250, } \\
& \text { Deduct } 50 \text { per cent, for expenses, - } 87,125 \text {. } \\
& \text { Net receipts, - - \$7,125, } \\
& \text { Which is } 71-2 \text { per cent on } 1,155,5 \% 0 \text {, the cost of thu Road. } \\
& \text { Relative to the cost of operating the road, I may observe, that } \\
& \text { the expenses of operating the Portand, Saco and Portsmouth rail }
\end{aligned}
$$

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road for several years past has bocn, only abuu. 36 per cent. of its receipts, which speaks well of the management of that road.

The expenses of tie Buston and Maine road in 1847, were 43 per cent. of its receipts; this road however, carried a much larger amount of freight than the road abovementioned.
si:ould your road be operated with equal economy at least to that of the Boston and Maine road, the net income with the above amount of trade will be $\$ 99,323$, or over $8 \mathbf{1 - 2}$ per cent on the cost.

In submitting the above estimate, 1 have had reference not only to the present trade, but to the increase which immediately follows the opening of a new line of railway. Illustrative of this subject, I annex the following tabular statement of several railways in Massachusetts showing the estimated number of passengers before each road was built, and the number transported at different periods after they were put in operation.

| . Name of Road. | Fstimated No. passengers before opened. | No. passen gers soon af ter opened. | No. passengers carried in 1848. |
| :---: | :---: | :---: | :---: |
| Boston and Worcester, | 23,500 | 262,830 $\ddagger$ | 807,143 |
| Boston and Lowell, | 37,400 | 400,886** | 525,764 |
| Fisshburg, | 71,790 | צ27,034 $\dagger$ | 745,825 |
| Eas!orn, | 121,700 | 488,026 $\dagger$ | 1,021,169 |
| Boston and Maine, |  | 460,426* | 1,057,569 |

A very great:ncrease of business in every portion of Massachusetts has followed the introduction of railways, and notwiti -annd. ing many of them are competing lines yet the revenue of all has continued to increase rapidly (Note B.)

The new lines have developed the resources and increased the business of the country in a greater ratio than they have provided means for its accommodation.

The amount of travel between Portland and Boston at the asent time is very large, yet is small compared with what it will be, when the numerous lines now in progress shall have been completed.-

[^1]Your road will not only add materially to this amount of business, but it will be one of the great thoroughfares over which the rapidly increasing travel of the east and north will pass. It is a fact worthy of notice, that the two main lines running easterly from Boston, transported during the last year $2,078,738$ passengers or 39 per cent of the whole number carried by all the lines running out of Boston.

When the great north-western line, reaching to Montreal, and the other trunk lines penetrating the interior of the State of Maine in several directions and extending on towards the Lower Provin. ces are completed, there will be a vast accession to the trade and travel in the direction of Boston.
It is necessary to anticipate but a few years when these extended lines will be in successful operation all converging to Portand as the chief commercial city of the State, and the important relations which your road sustains in connecting the great railway system of Massachuset:s with that of Maine and Canara, wil at once be seen. It perfects and forms part of a great lint ang two important cities, to each of which, railways converge from almost every direction, concentrating an immense amount of travel.

At the eastern terminus of this line, the benefits of a more recent system of railways are but just beginning to be felt, but as this system is fast developing itself, a rich and an abundant harvest will soon be provided for the railways connecting Maine and Massachusetts.

Allusion has been made in another part of this report, to a proposed branch line to your road, which in its influence, upon your trade and the value of your stock, is scarcely second to your advaitages at either terminus. This is a connection with the roarla of New Hampshire and V mont, running wenterly to Lake $C$ in! . plain and northwesterly to the Canada line.

The most natural point of divergence from your line to form this. connection appears to be in the town of Alfred, a distance of about 33 railes from Portland and running as nearly in a westerly direction as the ground will permit, to the south end of Winnipiseogee

Lah Gilf the

Lake in the town of Alton, thence along its southwestern shcre to Gilford, whela it would bear more westerly and probably intersect the Boston, Concord \& Montreal Railroad near Meredith.
From this point, looking to a still mose westerly connection, the above mentioned road would probably be followed for a number of miles to a point in the town of Northfield, where a branch could te constructed, connecting that with the Northern road at a point in the vicinity of the village of Franklin. This would perfect a direct westerly line of railways from Portrnd to Burlington on Lake Champlain.

This must be regarded as an important connection and one which not only brings Lake Champlain nearer to Portland than Boston, but also the upper Connecticut and Passumpsic valleys, through the Boston, Concord \& Montreal road to Haverhill.

The project of a road from Montpelier, Vermont, to the Connecticut at Wells river village or Bradford, has been much discussed. Should this be constructed, uniting with the Boston, Concord \& Montreal road at or in the vicinity of Haverhill, by constructing the other link from the last mentioned road at Winnepiseogee Lake to your road in Alfred, another and more direct line of railway communication from Portland to Lake Champlian at Burlington, would be completed.
This materially reduces the distance below that by the way of the Northelh and Central road to Montpelier as above described, and as it strikes the Connecticut valley at a point from 30 to 40 miles above any other road leading from Lake Champlain to the seaboard, it enjoys unusual advantages. It not only presents a much shorter route for the Western trade, but its manifest tendency is to intercept the trade of the upper Connecticut and Passumpsic vallies, turning it into a new and more direct channel to an Atlantic market. Your road would then constitute the last and most important link of this great chain over which the accumulated trade of several of the rick. st districts of New England could reach the seaboard. With this view of the question, it appears a proper subject of investigation as showing the favorable position and admanta-
ges of your line for the western trade, and involving considerations of much interest to every friend and stockholder of the road-

For a more perfect illustration of the advantages of this route, its relative position to the country it is designed to accomodate, and to other channels of trade, I refer to the map accompanying this repori.

The beneficial effects of rail roads on the value of lands, is a subject with which all are familiar and to which I need hardly here allude. These benefits are not confined to the immediate vicinity of rail roads but extend to large districts of country, considerably remote from the line, where the increased value thus ziven to lands often far exceeds the cost of the roads.
In the State of Massachusets, the immense increase in the value of real estate, has resulted mainly from the introduction of rail c.ads, and equally favorable results have followed their construction $\because$ other parts of the country. The increased valuation of real and personal estate in the city of Boston only, from 1840 to 1848, most of which may be ascribed to the effects of her rail ways, was about sixty millions of dollars, or more than the cost of all the roads in the State.

To the city of Portland, your road will bring advantages far be . yond what most of its friends can estimate at this time, not only securing the rich trade of the western part of the State, now in danger of being drawn from us by competing lines, but opening to her a new and favorable route to other States, competing successfully with the most fortunate lines to Boston from the Connecticut valley and Lake Champlain. From her real estate owners and business men, and in fact, from all classes of her citizens, your road should receive a hearty and a liberal support.

Railways have been the great agency that has given to New England her present commercial and political importance. Boston and the Slate of Massachusetts have given examples in this respect which are worthy of imitation. But we need nut go beyond the limits of our own State for proof of prosperity clearly attributable to the influence of rail roads. The most casual observer cannot
fail to be impressed with the evidences of prosperity at Portland and along the line of the new roads entered upon in Maine within the last four years. The results already reached are but the promises of greater ones yet to come, and hold out to the citizens of Maine the most flattering prospect for the future, and encourage them to perseverance in the noble work of perfecting a great system of railways within her own borders.

Maine has been regarded as behind her sister States in enterprise and capital, mainly from the fact that she has done less for rail roads than most of the States similarly situated. Various causes have conspired to hold in check the spirit of railway enterprise, elsewhere so successful, and among others the want of sympathy between the people of the State and the parties constructing them, has been one chief cause. At the present time however, a different feeling prevails, but it will take years to achieve in Maine what has been done elsewhere as will be seen by the following table showing the comparative extent, population and miles of rail roads finished and in progress in the six Now England States.

| Name of <br> States. | Square <br> miles. | Population <br> 1840. | R.R. built <br> miles. | R. R. in <br> prog. mils |
| :--- | ---: | ---: | ---: | ---: |
| Maine, | 32,628 | 501,793 | 159 | 79 |
| N. Hampshire, | 9,491 | 284,574 | 296 | 190 |
| Vermont, | 10,212 | 291,948 | 142 | 199 |
| Massachusetts, | 7,500 | 737,699 | 928 | 25 |
| Connecticut, | 4,764 | 309,978 | 336 | 100 |
| Rhode Island, | 1,340 | 108,830 | 64 |  |

If however, Maine is behind others in the amount invested in railways she is not wanting in enterprise or public spirit.

With vast commercial and manufacturing advantages she only requires the extension of railways into the remote portions of the interior to become among the first in commercial and political importance. Alreary she is in advance of every State in the Union in the comparative extent of her interests in shipping and ship building. [Note C.]

With this examinatior: of the merits and advantages of your road
the beneficial effects it will have on the towns and country in its vicinity and the State at large, I can state with great confidence, that I believe it will be among the best paying roads of New England, that its trade will continue to increase till all your great lines are completed and your connections with Canada and the Lower Provinces are perfected.

I have the ho nor to be
Gentlemen, Your obedient, servant, A. C. MORTON, Consulting Engineer.

## NOTE A.

COSTS OF VARIOUS RAIL ROADS IN MASSACHU'. SETTS.

| Name of Road. | Miles <br> Double <br> Track. | Total length \& branches. | Total cost. | Cost per mile. |
| :---: | :---: | :---: | :---: | :---: |
| Berkshire, |  | 21,13 | 600,000 | 28,395 |
| Boston and Lowell, | 253 | 27,62 | 2,013,687 | 72,907 |
| Boston and Maine, Boston and Providence, | 131 | 79,34 | 3,571,832 | 4t,019 |
| Boston and Providence, | 153 | 47,60 | 3,031,106 | 63,678 |
| Boston and Woreester, Cape Cod Branch | 442 | 66,62 | 4,650,392 | 69,804 |
| Chape Cod B |  | 27,80 | 587,116 | 21,119 |
| Connecticut River, |  | 53,64 52,35 | 2,584,143 | 48,177 |
| Eastern, | 16 | 58,07 | $1,588,184$ $3,095,393$ | 30,337 53,304 |
| Fall River, | 16 | 42,24 | 3,095,393 | 27,304 |
| Fitehburgh, | 17 | 56,12 | 2,945,630 | 52,488 |
| Lowell \& Lawrence, |  | 12,35 | 283,248 | 22,935 |
| Old Colony, | 111 | 45,00 | 2,080,903 | 46,246 |
| Providence \& Worcester, | ${ }^{\text {E }}$ | 43,50 | 1,873,895 | 43,078 |
| Western, | 51 | 117,80 | 7,975,452 | 67,703 |

$\begin{array}{ccccc}\text { Average cost per mile of the ahove roads, } & \text {. . . } & 50,621 \\ \text { " } & \text { " } & \text { ". } & \text { " } & \text { " those without double track, }\end{array} \quad 32,403$

## NOTEB.

STATEMENT SHOWING THE INCREASE OF RECEIPTS ON VARIOUS ROADS.

| Western Railroad, |  | Passengers. | Freight. |
| :---: | :---: | :---: | :---: |
|  | Income 1842, | \$266,447 | \$246,351 |
|  | " 1848, | 551,038 | 781,030 |
|  | Increase in six yoa | s, 284,591 | 634,600 |

TA]
Total, 151,772, or 75 per cent.

Income 1841,
" 1848,
257,734
378,068
Increase in seven years; 120,334 59,249
Total, 179,583, or 60 per cent.
Nashua and Lowell, Income 1844,
"" 1848, 47,165
72,858
Increase in four years, 25,703
Total, 74,700 , or 79 per cent.

| Boston and Lowell, | Income 1840, | 127,005 | 104,569 |
| :---: | :---: | ---: | ---: |
|  | $" \quad 1848$, | 201,218 | 260,129 |
|  | Increase in eight years, | $\overline{74,213}$ | 155,560 |

Total, 229,773, or 99 per cent.

Note B continued.
Boston and Mainp, Income 1846, 223,191 125,943

TABLE SHOWING THE INCREASE OF PASSENGERS ON VARIOUS ROADS.

| Vames of Roads. | Year | Vumber of Passengers. | Fear | Passengers. | $\left\|\begin{array}{c} V o \\ o f \\ y r s \end{array}\right\|$ | Increase. | Per cent. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boston and Lowell, | 1846 | 400,986 | 1848 | 596,764 | 2 | 124,918 | 31 |
| Fitchburg, | 1845 | 196,669 |  | 745,825 | 3 | 549,156 | 280 |
| Western, | 1842 | 190,436 |  | 405,614 | 6 | 215,178 | 113 |
| Boston \& Worcester, | 1843 | 262,830 |  | 807,144 | 5 | 544,313 | 207 |
| Old Colony, | 1846 | 213,144 |  | 552,203 | 2 | 339,059 | 159 |
| Eastern, | 1842 | 431,000 |  | 1,021,169 | 6 | 590,160 | 119 |
| Boston \& Maine, | 1846 | 460,426 |  | 1,057,569 | 3 | 597,143 | 129 |
| Boston \& Providence, |  | 476,525, |  | 569,127 | 2 | 92,612 | 119 |
| Utica \& Schenectady, | 1843 | 147,868 |  | 270,413 | 5 | 122,545 | 83 |
| Utica and Syracuse, |  | 114,843 |  | 216,807 | 5 | 101,964 | 89 |
| Anburn \& Syracuse, |  | 83,316 |  | 154,215 | 5 | 71,899 | 86 |
| Auburn \& R Rochestr, |  | 105,190 |  | 209,259 | 5 | 104,069 | 99 |
| Tonawanda, |  | 67,604 |  | 148,443 | 5 | 80,839 | 120 |
| Attica and Buffalo, |  | 68,896 |  | 146,235 | 5 | 77,339 | 112 |
| Baltimore and Ohio, |  | 149,533 |  | 270,616 | , | 121,083 | 80 |

## NOTEC.

TONNAGE OF SHIPS BUILT IN THE PRINCIPAL SHIP BUILDING STATES.

| Year. | Penn. | N. York | Mass. | Maine. | Maine exceeds Penn. | Maine exceeds N York | Maine exceeds Mass. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1845 | 15 | 29,342 | 25,961 |  |  |  | 5,144 |
| 1846 | 15,784 | 33,753 | 24,321 | 49,7 | 33,983 | 16,494 | 25,426 |
| 1847 | 24,126 | 50,994 | 27,769 | 63,548 | 39,422 | 12,554 | 35,779 |
| 1848 | \|29,638 | 68,434 | 39,366 | 89,974 | 60,336 | 21,540 | 50,608 |
| Total 4 ys $\|85,367\|$ |  | \|182,023| | 17,417\| | 34,37a | 49,007 | 158,351 | 16,957 |

Total amount built by these four States in four years, $619,181$.
Of which Maine has built 234,374-equal to 38 por cent. of the whole.

TONNAGE OF SHIPPING OWNED IN THE PRINCIPAL COMMERCLAL \&CATES FROM 1839 TO 1848, inclusive.

|  |  | 8. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Now York, | 468,5 | 588,576 | 625,876 | 655,695 | 747,024 |  |
| Massachusetts, | 526,364 | 501,207 | 524,994 | 541,520 |  |  |
| Maine, | 282,285 | 307,431 | 320,059 | 358,123 |  |  |
| Louisiana |  | 161,769 | 170,525 |  |  |  |
| Pennsylvani |  |  |  |  |  |  |

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[^0]:    * Nat Inciudiug Portland.

[^1]:    *For the year 1846.
    $\ddagger$ For the year 1843.
    tFor the first whole year after the road was completed.

