

# MAINE STATE LEGISLATURE

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DOCUMENTS

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THE LEGISLATURE

OF THE

STATE OF MAINE.

1861.



AUGUSTA:  
STEVENS & SAYWARD, PRINTERS TO THE STATE.  
1861.

# REPORT

OF THE

## RAILROAD COMMISSIONERS

OF THE

STATE OF MAINE.

1860.

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# REPORT.

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*To the Governor of the State of Maine:*

The Railroad Commissioners, having attended to the duties assigned them by the laws of Maine, herewith respectfully submit a report of their official doings for the past year, together with such facts in relation to railroads in this State as they consider of public interest.

The whole number of railroads in operation in the State is fourteen, which have been constructed at a cost exceeding nineteen millions of dollars; and which have an indebtedness, exclusive of capital actually paid in, of eleven and a quarter millions of dollars. The length of these roads is five hundred and eleven (511) miles, extending from the west line of the State easterly, two hundred miles, through the central portions of the State to Milford, on the Penobscot river, and reaching to within about seventy miles of our eastern border. From this central line, arms are extended to our northwestern frontier on the Canada line through Cumberland and Oxford counties; and farther east through Kennebec county into the central and rich counties of Franklin and Somerset. It is of the utmost importance that the central line should be extended to our eastern frontier to connect with the roads of the British Provinces.

These grand facilities of inter-communication, furnishing large arteries for the circulation of business and ease of locomotion, all created by the funds of individuals, and which have furnished slight comparative returns, are entitled to the protection of government. The State should give security and value to the large private investments, by guarding against loss which may arise from the creation of corporations for parallel and competing roads. It should also enact vigilant laws for the safety of the numerous persons and the large amounts of property that are constantly transported over the roads. The protection of private rights and

property, combined with security to the public, is justly an object of State legislation.

The aggregate of the transportation gathered from the annexed specific statements, will give an impressive view of the magnitude of the interests involved and of the business done upon these roads, and will show the necessity of a careful and public superintendence over them.

The tables exhibit the aggregate number of *passengers* carried over these roads the past year, to be 748,506, and the *tons* of merchandise to be 453,000; to which may be added the transportation of cattle, which is very large on the Androscoggin, Androscoggin and Kennebec and the Kennebec and Portland roads. To this aggregate should also be added the large traffic in lumber and merchandise done on the three roads in Washington county.

The value of these grand works to the State, arising from the labor and capital of individuals, is manifest in the growth of the villages upon their lines, the increase and introduction of manufacturing establishments of various kinds, and the enhanced value of lands through, and into which, these great facilities are carried. They bring the remote country, which was formerly excluded by great distance, into the immediate vicinity of the markets, thus stimulating production, increasing our agricultural resources, and advancing all the branches of our many-sided industry.

The statute of 1860 provides, that all the railroad corporations of the State, except those in the county of Washington, shall cause "their railroad, the track, rolling-stock, bridges, viaducts and culverts, to be carefully examined annually, between the months of May and September, by one of the Commissioners;" and that the "Commissioners shall annually, in the month of December, report to the Governor their official doings."

The Commissioners gave due notice of the time and place of meeting for such examination, and the several corporations have rendered cheerful aid in promoting the wise policy of the government.

The undersigned, a civil engineer and one of the Commissioners, examined fully and carefully all the roads designated in the statute. He was assisted by the other two Commissioners on the Bangor and Milford road, and by one on three other roads.

Among the most important of the duties assigned to the Commissioners is that which relates to *railroad bridges*. The safety of passengers, and the pecuniary interest of the corporations are

deeply involved in this subject. I have in my examinations of the roads paid particular attention to this duty; but these portions of the roads are so numerous from the many rivers that flow across our State to the sea, some of which require great length of bridging, that a thorough scientific investigation of these structures, demands more time and care, and involves greater expense than is contemplated by the compensation provided by the statute.

The serious accident which occurred on the Great Falls and South Berwick Road on the 29th of September last, by the crushing of a bridge, though out of the limits of this State, and therefore not within the jurisdiction of the Commissioners, was of such a nature that I deemed it of great importance to call attention to it. At the time of the accident, there was upon the bridge one heavy engine, and four cars loaded with white oak wood, weighing about one hundred tons; the train filling the entire space between the abutments. It appeared on examination, that the timbers, which were of white sapling pine, where the cords are connected by splice blocks were decayed, except about two inches on the outside; the substance of the timber was entirely gone.

I immediately went over the different roads and called the attention of the Superintendents and persons having charge of the bridges to this subject, and requested them to make a particular scrutiny into their various structures for secret rot and decay. The recent accident on the Fall River road in Massachusetts, in the breaking of a short bridge, by which fatal injuries were inflicted, is an additional admonition as to the importance of seeking improvement in the construction of these works. There can be no doubt that bridges built of *iron* have the greatest safety, and from their durability, are in the end, the cheapest. They have been introduced upon the Atlantic and St. Lawrence Railroad to general satisfaction; but their cost there has been unnecessarily large, being \$81 per foot, which is \$50 more than the cost of wooden bridges.

I have taken pains during the past year to examine bridges on railroads in other States. On the New York Central road, they have commenced replacing their wooden bridges with iron structures of a firm and substantial character, which have cost but \$50 a foot, being but \$20 more than the cost of wood. At this rate, iron, taking all things into consideration, is the most economical, and I do not hesitate to commend its use to all our corporations.

I have suggested to the managers of our roads the importance

of crossing bridges at a reduced speed. This practice has been adopted on many roads in other States, with observable benefits. The hazard of crossing wooden bridges at a high speed is not limited by the mere strength of the bridge. Bridges may be safe at a moderate speed when they would be altogether unsafe at a high rate of speed. The breaking of an axle or wheel, or running off the track on high bridges, are among the most fearful that can occur in railroad traveling. Of these facts, experienced managers of roads and skillful engineers have become fully sensible.

I beg leave in these general remarks to allude to another subject which has occasioned upon our roads much injury and loss of life; that is, the use of the hand car moved by a crank. The danger of this power has suggested an improvement on the western roads which is now generally adopted. This is the substitution of a lever instead of a crank. I have furnished to Mr. Noyes, Superintendent of the Androscoggin and Kennebec road, a draft of this improvement, by which to have one constructed, and I recommend its general adoption.

I now proceed to describe the general condition of the roads examined.

#### THE ANDROSCOGGIN RAILROAD.

On this road from Leeds Junction to Jay, the sleepers in many places were decaying; many of them were useless and were being replaced by new sleepers.

A new bridge was being placed over the Snelling brook. That portion of the road from Jay to Farmington has not been fully completed nor brought to a proper grade. The engineering from Livermore Falls to Farmington in the location, grades and construction is not what it should have been. Essential advantages could have been gained without materially increasing the cost of the road. Improvements have been made during the year by lowering the grade in some places and filling up in others, without interrupting the travel.

This road having no connections north, can arrange its own time for running. It is managed with economy and prudence, and furnishes a great accommodation to a large portion of Franklin and Somerset counties. Many productions of the country are now brought to a ready market, as well as various kinds of lumber which would not bear transportation with teams.



The road is increasing settlements and extending improvements in that section of country.

The road is 37 miles long, and is being continued to Brunswick under the charter of 1860, to connect with the Kennebec and Portland Railroad.

The business of the road according to its annual report of December 1st, 1859, was :

Receipts from 14,281 passengers,	.	.	\$15,073 02
"    "    8,273 tons freight,	.	.	22,566 05
"    from mails and other sources,	.	.	2,586 53
			<hr/>
Total receipts,	.	.	\$40,225 60
Deduct expenses,	.	.	15,547 60
			<hr/>
Net receipts,	.	.	\$24,678 00

THE ANDROSCOGGIN AND KENNEBEC RAILROAD.

This road is kept in thorough repair. All the bridges of importance are covered and protected from the weather. The bridge over the Androscoggin river at Lewiston has been strengthened by putting in arch timbers, and the truss work is firmly secured to the timbers. The road bed is thoroughly ballasted with good gravel, and new iron and sleepers are constantly substituted for the worn-out iron and decayed sleepers. No pains are spared to keep the road safe for freight and passengers, so that trains may be run over the road at a high speed if necessary. It is a first class road. Its length from Danville Junction to Waterville is 55 miles. At Waterville it connects with the

PENOBSCOT AND KENNEBEC RAILROAD.

The Penobscot and Kennebec road, extending from Waterville to Bangor, 55 miles, is leased to the Androscoggin and Kennebec Railroad Company, and is operated by that company. It is kept in good repair. The pile bridges have been made secure, and the filling in with earth, to make the work solid, is commenced. The whole of this line from Portland to Bangor, 137 miles, including a portion of the Atlantic and St. Lawrence Railroad, is in excellent condition.

The business of these two roads during the year ending June 1st, 1860, as appears by their annual reports, was

Receipts from 111,219 passengers,	.	.	.	\$145,784	88
“ “ 73,168 $\frac{38}{100}$ tons of merchandise,	.	.	.	140,987	86
“ from mail, express, &c.,	.	.	.	15,458	10
Total receipts,	.	.	.	\$302,230	84
Total expenses,	.	.	.	130,378	41
Net receipts,	.	.	.	\$171,852	43

## ATLANTIC AND ST. LAWRENCE RAILROAD.

This company is entitled to much credit for the manner in which the repairs of the road and bridges have been made during the past few years. Many of the culverts and bridge abutments have been rebuilt with permanent granite masonry. Some new wooden bridges have been erected upon the McCallum plan, and several iron bridges have been substituted for the former wooden structures. All the bridges have been rebuilt except the one at North Yarmouth, which is secured for the present by piles driven to support it until means are provided to complete a permanent structure. The road bed is well ballasted with gravel, the track kept in good order, and the road may be ranked as of the first class.

This is an important road to this State, as it opens a direct and constant avenue for the transportation of the productions of the western and southwestern States to and over this State; furnishing to those remote and interior regions a direct communication with the ocean at a harbor accessible at all times to any class of sea-going vessels. The benefits of this grand artery of intercommunication between the sea and the vast and expanding countries north and west, are of incalculable value to the interests and resources of our State. The length of the road is 149 miles, besides 25 miles of sidings and turn-outs. Its total receipts for the year ending June 30th, 1860, were:

From 154,489 passengers,	.	.	.	\$156,197	35
“ 254,804 tons merchandise,	.	.	.	493,770	96
“ mails, &c.,	.	.	.	14,900	00
“ rents,	.	.	.	1,360	89
Total,	.	.	.	\$666,229	20

THE BANGOR, OLDTOWN AND MILFORD RAILROAD.

This road was the first constructed in this State, under a charter granted in 1833 to the "Bangor and Piscataquis Canal and Railroad Company." The bridges are covered and protected from the weather, and repaired, when required, by putting in additional timbers to strengthen the structures. The road bed, sleepers and iron are in good order, and the road is doing a good business. Its length is 13 miles. The amount of business the past year is,

From 53,992 passengers,	.	.	.	.	\$15,088	76
" freight,	.	.	.	.	19,710	16
" other sources,	.	.	.	.	203	82
					<hr/>	
Total,	.	.	.	.	\$35,002	74

THE BOSTON AND MAINE RAILROAD.

This road is extended into this State a little over two miles, and connects with the Portland, Saco and Portsmouth road at South Berwick Junction. It is a well conducted road, and is kept in good order.

The business done on the Maine portion is so included in the accounts of the P. S. & P. Railroad, that a separate statement of it cannot well be presented.

It is sufficient to say that the Boston and Maine road is one of the best paying roads in the country, and that its stock commands the highest premium.

THE GREAT FALLS AND SOUTH BERWICK BRANCH RAILROAD.

This road extends from Great Falls, in New Hampshire, through Salmon Falls and South Berwick village, to Brock's crossing, a distance of six miles, where it connects with the Portland, Saco and Portsmouth Railroad. About three miles of the road are in this State. The bridges have been built about six and one-half years, and are apparently sound. In regard to one of them, which proved to be unsound and was destroyed by an accident in Sept. last, out of the limits of this State, I have already spoken.

The road is now in the hands of Trustees, and is run by the Great Falls and Conway Railroad Company. Its business is increasing both in freight and passengers. The amount of business during the last year, was :

Through freight,	.	.	.	.	4,653 tons,
Way	"	.	.	.	4,980 "
Number of passengers,	.	.	.	.	8,146
Total earnings,	.	.	.	.	\$9,625 00
" expenses,	.	.	.	.	6,480 00
Net earnings,	.	.	.	.	\$3,145 00

#### THE KENNEBEC AND PORTLAND RAILROAD.

This was an expensive road in the construction, requiring many deep rock cuts and high embankments, and a large amount of expensive bridging. The bridges have been entrusted to the care of Mr. Allen Colby, a good mechanic, who well understands the strength of the different structures, and has given them his constant attention, as shown by the repairs made upon them during the past year. Within a few years, new bridges have been put over the Presumpscot river, over Royal's river in Yarmouth, and several smaller ones at other places on the line of the road. Others should be rebuilt during another season. I would recommend an improvement at Hallowell, namely, the putting in of a stone culvert where the trestle bridge now stands, filling up with a solid embankment; and at the same time making a change in the line of the road at that place. One hundred tons of new iron and some new sleepers have been put down on the road the past year, and the road bed has been improved by gravel. The length of the main line to Augusta is 63 miles, and of the branch to Bath is  $9\frac{1}{2}$  miles.

#### THE SOMERSET AND KENNEBEC RAILROAD.

The length of this road from Augusta to Skowhegan, is 37 miles. It is run by the Kennebec and Portland Company, crossing the central line from Portland to Bangor, at Kendall's Mills. It goes into a rich and productive country, and by furnishing facilities to the markets on the Kennebec river and the seaboard, greatly stimulates the farming and manufacturing interests of that fertile region of the State.

Its principal bridges are covered and protected from the weather. Several bridges of trestle work and open culverts have required repairs and must soon be rebuilt. The road bed is principally of good gravel and the track is in good running order.

The business of the two roads for the last year, by their reports up to October last, is :

Receipts from 113,647 passengers, . . . . .	\$86,994 49
“ “ 30,674 tons freight, . . . . .	57,626 51
“ “ mails, express, &c., . . . . .	24,548 86
	<hr/>
Total receipts, . . . . .	\$169,169 86
Expenditures, . . . . .	83,119 68
	<hr/>
Net receipts, . . . . .	\$86,050 18

#### THE PORTLAND, SACO AND PORTSMOUTH RAILROAD.

Upon examination of this road, I found that its road bed and bridges were being carefully looked after for the safety and convenience of passengers. The company employ Mr. Joseph Thompson, a faithful mechanic, to examine the bridges and keep them in repair. This course ought to be pursued by every railroad company, for all bridges require constant attention and repair to keep them safe.

The pile bridge at Portland was being thoroughly repaired, by putting in new piles and cap timbers. The bridge abutments at Nonsuch river were built of a poor quality of stone, and the foundation was not properly secured. This bridge has been thoroughly rebuilt the past season ; the abutments being made of granite from the quarry in Biddeford.

Similar improvements have been made on other parts of the road during the past few years. Permanent solid embankments have been substituted for trestle work in several places. Stone arches, filled up to the grade of the road with earth, have taken the place of the bridge at Kennebunk.

The bridge over Saco river must soon be replaced by a new structure, which the lessees of the road are amply able to do from its large surplus earnings. A substantial iron bridge would undoubtedly be the safest and most economical.

The length of this road is  $51\frac{1}{3}$  miles. The amount of its business for the year ending the 31st of May last, as by its report, was :

Receipts from 225,722 passengers,	.	.	\$160,380	49
“ “ 55,000 tons freight,	.	.	59,970	45
“ “ express, mails, &c.,	.	.	14,235	88
Total receipts,	.	.	\$234,586	82
Expenditures,	.	.	114,334	03
Net receipts,	.	.	\$120,252	79

#### THE YORK AND CUMBERLAND RAILROAD.

On examining this road, I found the bridge over tide waters, going out of Portland, in a bad condition. Some of the piles and cap timbers were decaying, the iron rails were poor and much worn and were not properly secured by cross ties. The remainder of the road to Saco river was in many places in a bad state. The sleepers were decaying and a large portion of them, from Gorham to Saco river had become useless. A large number of the iron chairs were broken, and much of the iron railing was poor and badly worn, over the whole road.

Finding the road in this condition, it was a question with me how to proceed. Upon inquiry, I found no persons accountable for damages, in case of an accident, the road being in the hands of a receiver, appointed by court. To stop the running of trains until the road was put in order, would seriously incommode a large number of persons who do business, and travel over it. The road is a great accommodation to the people in its vicinity and at its western terminus. Several of the merchants and traders, doing business in Portland, live, with their families, in the villages of Saccarappa and Gorham. It shortens the route of staging and teaming, from Fryeburg and towns in that direction, thereby facilitating the transportation of freight. When completed through to Great Falls or South Berwick, it will accommodate a much larger community and will undoubtedly become profitable. Unfortunately the management of this road has been such as to make its present cost amount to the sum of \$1,090,000, which sum would have nearly completed the whole road of fifty miles.

In view of these circumstances, I gave notice to the Superintendent of the condition of the road and of the repairs necessary to be made. I recommended that all the earnings should be applied in repairs, to make it safe, and in running the trains to move slow over those portions which were hazardous, so that if the wheels

should get off the track, the train would stop without upsetting the cars or injuring the passengers.

The Kennebec and Portland Railroad Company own in connection with the York and Cumberland Company that portion of the road which lies between Morrill's Corner and Portland. They immediately put on new rails and replaced some of the cross ties on the bridge. The York and Cumberland Company commenced putting in new sleepers at the joints and centres of the rails so as to keep the road safe for the present. They also replaced some of the iron rails and chairs.

On the 4th of September, after further examination, I gave a certificate to be placed on file in the office of the Secretary of State, pursuant to law.

The business of the road for the year ending Dec. 1st, 1860, was :

Receipts from 67,010 passengers,	.	.	.	\$14,634 00
“ “ 16,000 tons freight,	.	.	.	11,254 47
“ “ mails, &c.,	.	.	.	480 00
Total,	.	.	.	<u>\$26,368 47</u>
Length of the road, 18 miles.				

I have thus given the result of our examination of all the railroads west of the county of Washington. That county contains three roads, the Machiasport road,  $7\frac{1}{2}$  miles long, used solely for moving lumber; and the Calais and Baring, and Lewy's Island roads running in connection. These two roads, by a line of 23 miles in length unite the large chain of lakes which extends across Washington county with the tide waters of the St. Croix river, and furnish ample means for the transportation of the wood, lumber and other productions of that growing country. They also form a part of a line which, it is hoped, at no distant day, will connect the British Provinces, on the east, with our system of railroads.

The cost of building railroads in this State, as well as in other States, has been extravagantly increased by the system through which the means have been procured. They have been built, in most cases, upon credit. After an inconsiderable amount has been subscribed, contracts have been made and the work begun. In these first efforts the whole amount of capital actually paid in has been exhausted, and the remaining sums necessary to carry on the work have been raised at an immense sacrifice; thus adding to the

deficiency, and swelling the construction account far above what it would have been if the work and materials had been promptly paid for in money. This evil is always aggravated by the fact that, in such cases, a large proportion of the contracts for construction are made payable in stock and bonds of the company, which, it being well understood that they must be greatly depreciated, are accordingly considered and allowed for in the contract. Thus nearly all the stock payment is treated as of no value, and a large allowance is made for discount on the bonds. The result is that many of our roads which could have been built and equipped for a sum of from \$17,000 to \$20,000 a mile, have cost from \$30,000 to \$40,000 a mile, and have caused a total loss of the capital paid on several of the roads.

All which is respectfully submitted.

JAMES HALL.

PORTLAND, December 15, 1860.



STATE OF MAINE.

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IN COUNCIL, December 18, 1860.

Received, and fifteen hundred copies ordered to be printed for  
the use of the Legislature.

LOT M. MORRILL, *Governor*.