

John From the
Ap: 18. 1907.

REPORT

BY THE

\$150

Not in TPL

CHIEF ENGINEER,

TO THE

DIRECTORS

OF THE

ONTARIO, SIMCOE & HURON RAILROAD

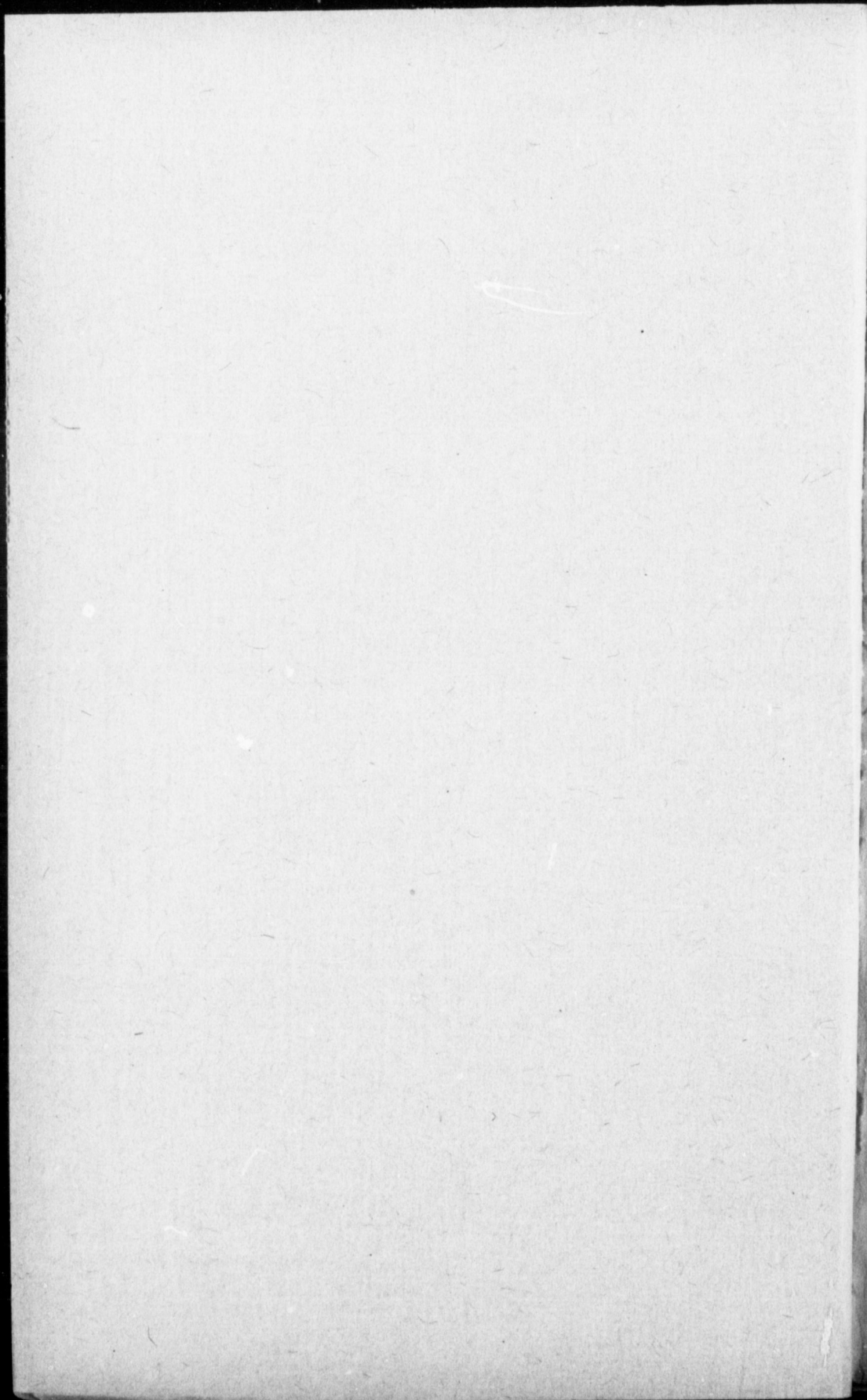
UNION COMPANY,

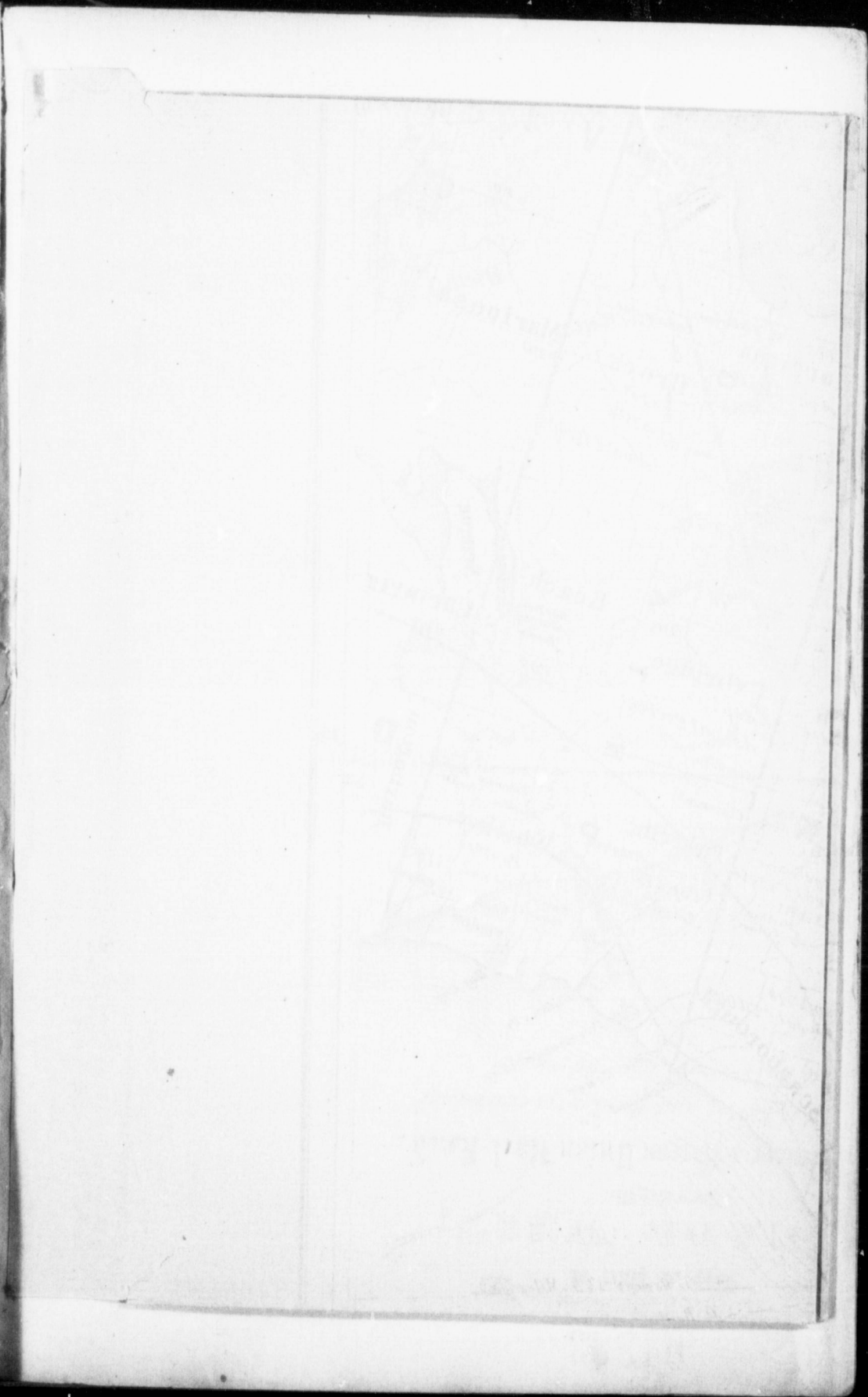
FEBRUARY, 1853.

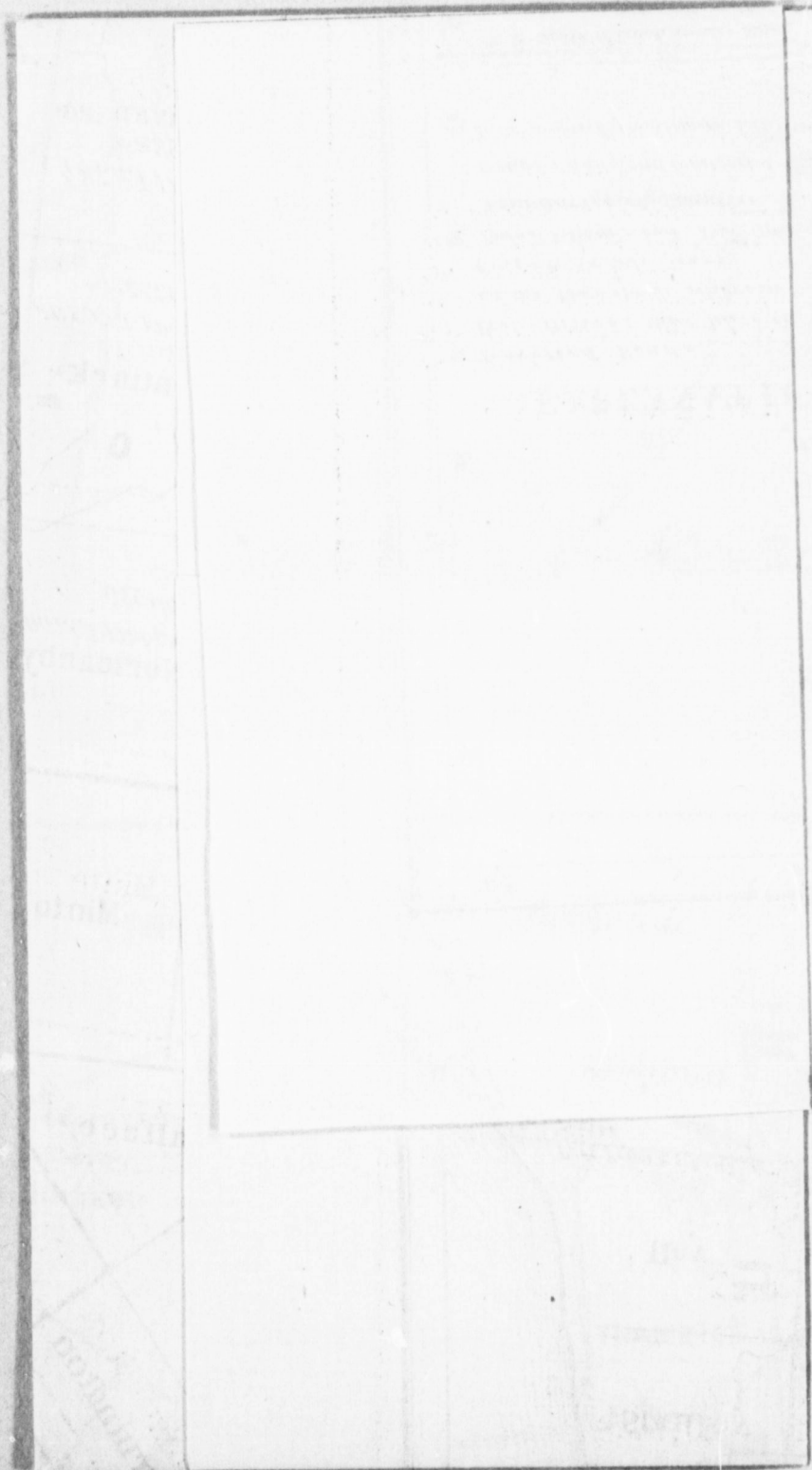
TORONTO:

PRINTED BY HUGH SCOBIE, 16, KING STREET EAST.

1853.







REPORT

BY THE

PAID
CHIEF ENGINEER,

TO THE

DIRECTORS

OF THE

ONTARIO, SIMCOE & HURON RAILROAD

UNION COMPANY,

FEBRUARY, 1853.

TORONTO:

PRINTED BY HUGH SCOBIE, 16, KING STREET EAST.

1853.



EXPLANATIONS

Travelled Roads
 Post Offices that have the same name
 as the Townships wherein situated
 Cities & County Towns
 Towns Villages and Post Offices
 Boundaries of Counties
 Districts of Rail Road constructed
 Routes proposed for Northern Section

Scale of British Statute Miles

Steam Boat Routes

Map of Part of
CANADA WEST,
 Shewing the
Ontario Simcoe & Huron Union Rail-Road.
 As constructed to Barrie and the Route examined
 thence to the waters of Lake Huron &c.

AL
W.
GI
IS
E.

04369

DIRECTORS.

President :

J. C. MORRISON, Esquire, M. P. P.

Vice-President:

HUGH SCOBIE, Esquire.

ALDERMAN ARMSTRONG,

W. A. BALDWIN, Esq.,

GEO. H. CHENEY, Esq.,

ISAAC GILMOR, Esq.,

E. C. HANCOCK, Esq.,

DUNCAN MACDONELL, Esq.,

JAMES MITCHELL, Esq.,

ANGUS MORRISON, Esq.,

C. J. ORTON, Esq.,

J. SANSON, Esq.,

B. W. SMITH Esq.

OFFICERS OF THE COMPANY;

Chief Engineer—FREDERICK CUMBERLAND, Esq.

Solicitor—CLARKE GAMBLE, Esq.

Consulting Counsel—P. M. VANKOUGHNET, Esq.

Secretary & Treasurer—WILLIAM SLADDEN, Esq.

Traffic Superintendent—A. BRUNEL, Esq.

BANKERS;

THE BANK OF UPPER CANADA.

CONTRACTORS:

M. C. STORY, & Co.

*To the
Sim*

GENTL

In p
honour
the pur
directi
constru
the loc
Harbor
tion wi
standin
offer.

I pro
structio
the Ne
lastly,
whole

1st.

The
had be
charge
portion
been ex

R E P O R T .

ENGINEER'S OFFICE,
ONTARIO, SIMCOE & HURON RAILROAD.

FEBRUARY, 1853.

*To the President and Directors of the Ontario,
Simcoe and Huron Railroad Union Company.*

GENTLEMEN :

In pursuance with your instructions, I have the honour to submit the following Report, descriptive of the purposes and condition of the Road under your direction, the progress that has been made in its construction and equipment, my opinion in regard to the location of its Northern Division, Terminus and Harbour, together with such information in connection with its present financial position, and its future standing as a remunerative work as I am enabled to offer.

I propose to consider,—1st. The progress of construction and equipment. 2ndly. The location of the Northern Division, Terminus and Harbour; and lastly, The general position and prospects of the whole work.

1st. As to progress.

The whole of the Line as far as Barrie (63 miles) had been located by my predecessor, and before the charge of the Road was entrusted to me, and a large portion of the construction on the first 40 miles had been executed under like authority.

Report to
Railway
Commis-
sioners.

Acting under the instructions of the Honorable the Railway Commissioners of the Province, Mr. Keefer (The Chief Engineer of the Department of Public Works), and myself made examinations and reports of the Works so far as they had then been carried and having concurred in the opinion that the commercial importance of the Line was such as to justify a high class of construction, and the provision of every requisite to the attainment in its working of a high rate of speed, we recommended, in conjunction with your late Chief Engineer, some alterations tending principally to the reduction of curvature, and the more substantial and permanent character of the structures; in accordance with which recommendations the Works are now progressing.

Connections
at Toronto.

Commencing in the heart of the City of Toronto and carried along its frontage on the Bay, (eminently the safest and most commodious Harbour in Upper Canada, and in connection with which navigation is, and may always be, maintained throughout the year with the United States),—it will here form connections with the Toronto, Guelph and Sarnia, the Toronto and Hamilton, and the Grand Trunk (Quebec and Halifax) Lines, all now under contract; and with the proposed Toronto and Peterboro' (or North Eastern) Railway, and the navigation of Lake Ontario and the River St. Lawrence.

Toronto
Depot.

A Central Passenger Station and Water frontage for a Freight Depôt, both of ample area, have already been secured in this City, as well as lands in its suburbs suitable for factory purposes. Negotiations are now pending for the transfer to the Company of further convenient and capacious water frontage, by which measures full provision will be made for the

conven
criptio
to eng

Lea
a coun
Road
found
densely
Westo
Village
Hill (a
by pla
Markh
milling
enters
Lloyd
serving
of cou
ies, an
Towns
37 mi
empor
of the
the eas
nects l
with t
Simco
skirtin

At
again
still n
populo
in pin
into in
and pr

convenient and efficient management of every description of business in which the Company proposes to engage.

Leaving Toronto at its Western limits, it traverses a country lying to the west of the great Provincial Road called Yonge Street, than which none is to be found on the continent more productive or more densely populated. Passing near to the Village of Weston (at $4\frac{1}{2}$ miles), and slightly to the west of the Village of Thornhill (at 13 miles), and Richmond Hill (at 18 miles), by the latter station it will connect by plank roads with Klineburgh to the west, and Markham to the east, at both of which Villages large milling operations are carried on. At 29 miles it enters Matchell's Village, where it will connect with Lloydtown on the west, and Whitchurch on the east, serving a thickly populated and rich agricultural tract of country, studded with saw and grist mills, tanneries, and other factories. Thence it passes to the Towns of Newmarket (at 33 miles,) St. Alban's (at 37 miles,) and Bradford (at 40 miles,) all thriving emporiums for the agricultural and lumbering produce of the adjacent country. At the latter point it strikes the east branch of the Holland River, and there connects by steamboats (already navigating these waters) with the whole of the country bordering on Lake Simcoe, which presents a coast of above 100 miles, skirting rich, productive and well settled lands.

At the next station, Innisfil (51 miles,) the line again connects with Lake Simcoe, and on a course still northward, it passes through a somewhat less populous but productive country, abounding at present in pine lands of great extent, which will be brought into immediate use, and cannot fail to furnish a large and profitable carrying business to the Line.

Description
of Line.

Weston.

Thornhill.
Richmond
Hill.

Klineburgh.

Markham.

Matchell's
Village.
Lloydtown.
Whitchurch.

Newmarket.
St. Alban's.

Bradford.

Holland
River.

Lake Simcoe

Innisfil.

At 63 miles the Line skirts the shores of Kempenfeldt Bay, where wharfage and freighting accommodation will be again provided for the Lake Simcoe trade ; and near this point at Barrie (the capital of the County of Simcoe,) a first-class station and service Depôt will be established.

Barrie.

Progress of construction.

Thus far, as has been already stated, the Line has been located, and the works of construction are rapidly approaching to completion. To Matchell's Village (31 miles) the rails have been laid, and are now in use for transit purposes. Beyond this and to Bradford (40 miles,) the grading may be said to be completed, and the ties laid ready for rails.

Track laid.

Ready for Track.

Iron delivered.

In addition to the 31 miles of track laid, iron has already been delivered at Toronto for 23 miles, and and this will be laid immediately on the opening of the ensuing Spring ; so that by the 15th May the Line may be opened for traffic to Newmarket (33 miles,) and by the 1st of June, to Bradford, (40 miles.)

So soon as the navigation of the River St. Lawrence is again open, iron for 21 miles of track, now lying at Quebec, will be delivered, and laid upon the Line, which by the 1st July may be fully opened for public use to Barrie (63 miles.) Thus it will appear that with 31 miles of track laid, iron for further 44 miles has already been imported, representing a gross quantity of 6844 tons for a full length of 75 miles. The contract for the remainder secures its delivery here in ample time for the service of the northern Division.

Dock and Storehouses.

In view of this opening, and of the large amount of business which will then immediately accrue, contracts have been entered into for the construction of

Docks
These
confider
ing and
to be su
the inc
pletion
on the c

Contr
diate en
tion of t
named,
their ne
houses,
motive
will be p
opening

I hav
has been
sary to
further
for rail
the emb
made, a
remain
spring,
be exec
grade ;
Bridges
ed ;—th
cattle p
to be su
complet
provisio

Docks and Warehouses at the Queen's Wharf. These works will be forthwith prosecuted, and it is confidently believed that by the 1st June, ample landing and freighting accommodation will be provided, to be subsequently extended during the summer for the increased traffic which will result from the completion of the whole northern Land and Lake Route on the opening of the navigation of 1854.

Contracts have also been completed for the immediate enclosure of the depôt grounds and for the erection of the way stations at each of the localities before named, including sidings, platforms and offices, with their necessary appendages, freight, tank and wood houses, with, at the service stations (as Barrie) locomotive and car stables, &c. This service, therefore, will be provided in each case simultaneously with the opening of the line.

Erection of
Way
Stations.

I have thus briefly described the progress which has been made in construction. I deem it unnecessary to refer in detail to the manner of the work further than to state that the Contract provides for rail of 57 lbs. iron, in wrought iron chairs;—that the embankments and cuttings have been efficiently made, although, of course, the slopes in many cases remain to be dressed on the opening of the ensuing spring, when also the ballasting of the whole line will be executed, the track at present being laid to subgrade;—that the trussing and framing of the Timber Bridges and Viaducts have been creditably performed;—that under the contract all abutments, culverts, cattle passes and structures of that class are, or are to be substantially built in masonry;—that the line is completely fenced throughout its length, and due provision made for safety at all crossings; and final-

Manner of
construction.

ly, that the general character of the work is such as to secure a rate of transit to ordinary trains of not less than thirty miles per hour, at an average working expense, and cost of maintenance.

Provision of
Rolling
Stock.

With reference to the provision of Rolling Stock, —one Locomotive Engine, one passenger car, twelve trucks and two freight cars have already been delivered, and the Engine and trucks are now employed carrying iron. In addition to these, contracts have been completed in the United States for three other first-class Locomotives, and two passenger cars, to be delivered in May. I have further completed a contract with Messrs McLean & Wright, by which they are to deliver the following stock, during the present winter, and ensuing spring:—

Carriages.

12 first-class Passenger Cars,
6 do. Baggage Cars,
60 Freight Cars,
100 Platform do.,
40 Gravel do.

These Carriages are in course of construction in this city, and I have every reason to believe that factories being now established here, we shall hereafter be enabled to procure all our supplies of this nature in our own locality, and on very advantageous terms, effecting a saving of from 10 to 15 per cent., upon the past cost, in duty, freight and insurance.

Locomotive
Power.

The same observations may, I trust, farther apply to Locomotive power;—as two first-class Engines are now being built for this road by Mr. Good, of the city of Toronto, and promise to be highly efficient and substantial, and cheaper to the Company than at this moment could be procured from the manufactories of

the United
expedient
power to
issued s
(viz., Ex
manufac
I shall s
the adva
probably

You w
to the
which w
vision of
whilst in
for the w
ensure it

I shall
which I
northern

Takin
existing
course, b
with the
the Geor
be exte
Penetan
west, in
Sound.

to the in
and unin
this poin
induce t
and pat
Two exp

the United States. I have, however, considered it expedient to refer the provision of further Locomotive power to open competition, and have accordingly issued specifications for three classes of Engines, (viz., Express, Ordinary Way, and Freight,) to the manufacturers of Canada and the United States, and I shall shortly be in a position to let the contracts on the advantageous terms, which this course will most probably secure.

You will therefore see that so far as is necessary to the working of the line over those lengths which will be open during the ensuing summer, provision of sufficient rolling stock is already secured; whilst in regard to the completion of the equipment for the whole route, steps have been taken which will ensure its delivery within the required time.

I shall now proceed to lay before you the measures which I have taken in reference to the location of the northern Division, Terminus and Harbour.

Location of
Northern
Division,
Terminus &
Harbour.

Taking Barrie, which is the northern limit of the existing location, as the point of departure, it of course, became a question with my predecessor and with the late Direction, whether, in connecting with the Georgian Bay, and Lake Huron, the line should be extended to the north-east in the direction of Penetanguishene and Gloucester Bay, or to the north west, in the direction of Nottawasaga and Owen Sound. Nothing could be of more vital importance to the interests of the Company, than that a judicious and unimpeachable decision should be arrived at upon this point; and that all the circumstances tending to induce the adoption of either route, should be fully and patiently investigated, and impartially weighed. Two explorations were consequently instituted by my

predecessor—one to Penetanguishene and one to Nottawasaga. But it did not appear to me that these explorations entirely sufficed to a full and accurate knowledge of the several localities and lines of country within the limit of adoption. I accordingly instituted surveys of three additional routes, and by the five lines thus traversed, the whole of the country north, and north-west, north-east, and east of Barrie, has been thoroughly examined, and its conditions fully ascertained.

Before proceeding to submit my opinions in relation to the facts disclosed by these surveys, I am induced by the knowledge that some agitation has obtained in regard to the selection of a route for this Northern Division, (apparently arising from the competition of local or personal interests,) to observe that I have been permitted to enter upon and pursue this enquiry wholly free from influence or dictation, and entirely without prejudice—and that in offering the results of my judgment to your decision, I rely upon them only, so far as their value can be proven in an Engineering and Commercial view.

I propose, then, to consider those lines under the following divisions :

Explorations
made.

- No. 1. North East to Penetanguishene.
- No. 2. North East to Victoria Bay.
- No. 3. North and North West, through Flos and Vespra to Nottawasaga.
- No. 4. West and North to Nottawasaga.
- No. 5. West and North West to Collingwood.

Conditions
governing
selection of
route.

Now there are certain general conditions by which these routes must be respectively and collectively

judged :
by cont
2. Leng
influenci
grades a
time, the
wear an
tiveness
traffic, a
connect,
facile na
competit
to enqui
the high
rence wi

No. 1
Barrie e
Wharfag
a maxim
immedia
we desc
Willow
valley to
on to Cr
Penetan
Little L
Tiny, to
From th
Valley o
imum gr
grade.
Penetan
grades ;
to make
even ma

judged : as 1. Length of line and consequent expense by contract mileage ; and of future maintenance. 2. Length of line and resulting time of transit, as influencing " Through " or competed traffic. 3. The grades and curvature and their effects upon running time, the maintenance of the permanent way, and the wear and tear of Rolling Stock. 4. The productiveness of the country served as influencing way traffic, and lastly : The harbours with which they connect, and the provision of a safe, efficient and facile navigation, as influencing Through Traffic in competition with other routes. I propose, therefore, to enquire which of these lines offers upon the whole, the highest claim to adoption, by a general concurrence with the principles of these tests.

No. 1. North West to Penetanguishene, leaving Penetanguishene line. Barrie easterly at a level coincident with that of the Wharfage Line on Kempenfeldt Bay, we ascend by a maximum grade of 60 feet per mile to the ridge immediately North of the Town. From this summit we descend by an undulating grade to a branch of the Willow Creek, thence following the course of a narrow valley to the town line between Flos and Vespra, and on to Craig's Swamp on a line nearly parallel to the Penetanguishene Road, passing to the East of the Little Lake, and then westward into the Township of Tiny, to avoid high lands (Victoria Hill) to the north. From this point it is carried northerly crossing the Valley of the Wye, into which it descends by a maximum grade, and which it again leaves by a maximum grade. Thence to a point about two miles south of Penetanguishene it is carried by heavy and undulating grades ; but here the fall of the surface is so rapid as to make a circuit necessary, by which to descend at even maximum grades to the Bay shore. The total

length of this line would be $42\frac{1}{2}$ miles, of which it will be seen by the annexed table, that 15 miles will be at maximum grade. But by the adoption of a part of a subsequent line (No. 2) this route might be shortened to 38 miles, and the grades on that division materially improved. The total rise by this line North, would be 568 feet, and South 708 feet.

Victoria Bay
Line.

No. 2. North-east to Victoria Bay. Leaving Barrie northerly on similar conditions to that of No. 1, it crosses the Willow Creek at a high level, and following an extensive terrace for several miles, crosses the Penetanguishene Road at Craig's Swamp, which is the water shed of the Coldwater and Sturgeon Rivers, and from which to the margin of Sturgeon Bay, the valley of the latter river is followed until it becomes necessary, on account of its insufficient width to ascend the side lands, ultimately descending by maximum grades to the Victoria Bay. The total length of this line would be 29 miles. The rise North, 270 feet, and South, 410 feet, partially represented by the maximum grades in connection with the termini.

Vespra line
to Nottawa-
wasaga.

No. 3. North and North-east to Nottawasaga. Leaving Barrie Northerly, the same ridge as that crossed by lines Nos. 1 and 2, has again to be surmounted by maximum grades, repeated in descending on its Northern side to the valley of the Willow Creek, whose swamp is passed to the East and North, the line being then comparatively direct to the head of the Nottawasaga River. The total length of this line would be 24 miles to the bend, and $27\frac{1}{2}$ to the mouth of the river. The total rise North 223 feet, and South 363 feet, with considerable and objectionable curvature in connection with the side cutting of the descent from the summit.

No. 4.
as located
North-w
Creek s
adjacent
Innisfil,
tawasaga
River on
Northerl
road, to
ried be
mouth.
miles.
304 feet-
grades.

No. 5
connecti
 $2\frac{1}{2}$ mile
South-w
Westerly
wasaga
changing
rected n
nidale, t
and pass
Nottawa
wasaga
Huronta
east, 38
31 miles.

By an
the plan
of grade
before y
length, g

No. 4. West and North to the Nottawasaga River. as located by my predecessor. Leaving Barrie to the North-west, is carried westerly to avoid the Willow Creek swamp, on a line nearly parallel and closely adjacent to the town lines between Vespra and Innisfil, and Vespra and Essa, and crossing the Nottawasaga River in the latter Township, and the Mad River on the margin of Tosorontia; then pursues a Northerly course nearly parallel to the Nottawasaga road, to the bend of the River at Hythe, and is carried between the Bay Beech and the stream to its mouth. The total length of this line would be $29\frac{3}{4}$ miles. The total rise, north, 164 feet, and south, 304 feet—with considerable curvature and favourable grades.

Essa, or located line to Nottawasaga

No. 5. West and North-west to Collingwood—connecting by a single curve (whose radius may be $2\frac{1}{2}$ miles) with the line as already located at the South-west margin of the Kempenfeldt Bay, then Westerly by one tangent to the crossing of Nottawasaga and Mad River. From thence, instead of changing the course northerly, as in No. 4, it is directed north-west, keeping in the Township of Sunnidale, to the south and west of the Sunnidale swamp, and passing by a direct line through the Township of Nottawasaga, to the natural harbour on the Nottawasaga Bay, at the head of the great road known as Hurontario Street. Rise, westerly, 242 feet; rise, east, 382 feet. The total length of this line would be 31 miles. The curvature and grades highly favorable.

Collingwood (or Hen and Chickens) Line.

By an examination of the results of these surveys, the plans and profiles of which, together with tables of grades and curves, (see Appendix A,) I now lay before you, it is clearly evident that in relation to length, grades, and curves, and their respective influ-

Comparison of the five lines.

ences, the line to Penetanguishene (No. 1,) is the least desirable.

As to length. We proceed then, to determine the relative value of the other four lines, in these particulars. As to length. 1st. Vespra, $27\frac{1}{2}$; 2nd. Victoria, 29; 3rd. Nottawasaga, 29 $\frac{7}{10}$ ths; and 4th. Collingwood, 31. Showing an advantage of two miles in favour of Victoria, and 1 $\frac{3}{10}$ ths of a mile in favour of Nottawasaga, as compared with Collingwood.

As to Grades. On the returns of the grades they rank—1st. Nottawasaga; 2nd. Collingwood; 3rd. Victoria Bay; 4th. Vespra.

As to Curvature. For curvature—1st. Collingwood; 2nd. Victoria; 3rd. Vespra; 4th. Nottawasaga.

Constructive difficulties not an item of comparison.

The difficulties or expense of construction I do not consider as affecting the comparison, as the contract is made upon a specific sum per mile, applicable to any route which you may adopt, and representing a limit in regard to work within which each of these lines, with the exception, perhaps, of Vespra—would fall.

Expense of maintenance and working.

But the comparison of the expense of maintenance and of working, is within the present enquiry, and in these items I am of opinion that the small excess in length, of the lines 3 and 4, (Nottawasaga and Collingwood) will be partially compensated in the reduction of the yearly outlay consequent upon their minimum grades and curvatures.

Speed.

In regard to speed;—to arrive at a fair conclusion it is proper to estimate for the "through" traffic. I accordingly submit a chart of the Georgian Bay with the respective lines to Toronto marked thereon.

Taking south and me to be n time o the an that wh 1 (Pen the dif half an increas have b grades result the oth

Agar produc be sust of the within explor is here to pre popula through Sunnid ing To with al ward, of the Barrie section is evid tract a thern k

Taking a point of departure (at either the north or south channel) common to the Termini of all the lines, and measuring thence to each, computing the courses to be run by vessels of equal speed, and adding the time over each Rail route to Barrie, (as set forth in the annexed time table, vide Appendix B,) we find that whilst No. 5 (Collingwood) is the most rapid, No. 1 (Penetanguishene) is the most lengthened journey, the difference between them amounting to upwards of half an hour. This, however, in practice would be increased, for whilst in the comparison equal speeds have been allowed to all the lines—the preferable grades and curvature of the Collingwood line would result in running time superior to that of either of the others.

Again, with reference to the Way Traffic, and the Way traffic. productiveness of the country served, whereby it will be sustained and strengthened, the statistical returns of the population, acres cleared, and crops yielded within the various Townships through which these explorations have been carried, (an abstract of which is hereto annexed,) fully attest that not only in regard to present, but to prospective productiveness and population, the Collingwood line, skirting or passing through the Townships of Vespra, Essa, Tosorontia, Sunnidale and Nottawasaga, and serving the adjoining Townships of Mulmur, Osprey, and Collingwood, with all those of the Owen's Sound tract to the westward, offers far greater inducements for the location of the line, than the country to the north-east of Barrie; for even were the extent and fertility of both sections equal in value as in relation to the road, it is evident that as the southern limits of the eastern tract are connected by Lake Simcoe, and the northern by Gloucester and Nottawasaga Bays with your

Railroad, their trade will still be beneficially served and to a great extent secured to the line, on the adoption of the Collingwood route; whilst were that to Penetanguishene selected—all these fertile townships to the west would fail in obtaining an outlet, and add little or nothing to the revenues of the road.

Ultimate extension of Line to Owen's Sound and Saugeen.

But there is another and a very important view, strengthening the adoption of the Collingwood line. It is by no means as a Terminus that the Northern Depôt on the Nottawasaga Bay, now recommended, is to be considered. The Owen's Sound tract eminently fertile, and in course of settlement at a rate unsurpassed by that of any other section of Canada, will very shortly demand and justify the service of a Railroad. Its accessible, safe and commodious harbour, undoubtedly destined to make Sydenham a Northern Emporium of the first-class, offers great inducement to that service, and by the ultimate extension of the line, via Sydenham to Saugeen on Lake Huron, the capabilities of the Northern line will be opened to new and highly remunerative competitions, in which it cannot but be markedly successful.

Upon the merits of this extension, I shall enlarge in a subsequent part of my report, but I refer to it here, in order to show that a very vital interest is involved in the location of the Northern Division and that this interest can alone be secured by a north-westerly course from Barrie.

The Harbours.

Again, in connection with this location, we have to consider the Harbours open to adoption. Recurring to the explorations which I have made, a selection of one of four harbours is involved, and it is obvious that unless provision can be made for a safe and efficient connection with the navigation of the

Upper
line off
time, th
ance, th
service
have th
guishene
north-w
the Coll
recent in
the north
ing that
Penetan
and dep
and dep
offing—
miles le
ene;—in
in a Cor
the com
tanguish

Nort
mouth o

The f
Georgian
ing wind
beach, w
of a shi
I fear, to
its works
ance.

It is u
objection
unwilling

Upper Waters, concurrent with the adoption of the line offering the greatest advantages in regard to time, through and way traffic, and cost of maintenance, that line must be abandoned and the harbour service be permitted to govern the location. We have then, to the north-east,—1st. The Penetanguishene, and 2ndly, the Victoria Bay; and to the north-west—3rdly. The Nottawasaga River, and 4th the Collingwood Bay. I have made a careful and recent inspection of each of these. With regard to the north-east harbour, I have no hesitation in affirming that the Victoria Bay is altogether preferable to Penetanguishene. It is well sheltered—can be made and departed from under any wind—is ample in area and depth of water—affords good anchorage and offing—and can be reached by a length of Railway 9 miles less than would be required for Penetanguishene;—in Engineering advantages far preferable, and in a Commercial view quite as good. In pursuing the comparison, therefore, I shall reject the Penetanguishene and adopt the Victoria Bay.

Victoria Bay
superior to
Penetanguishene.

North-westerly, as before stated, we have the mouth of the Nottawasaga and the Collingwood Bay.

The former is at the south-eastern extremity of the Georgian Bay, with the full strength of the prevailing winds (from the north-west) point blank upon its beach, which, composed of sand and light shingle is of a shifting and treacherous character, calculated, I fear, to put Engineering skill at defiance, or involve its works in endless and hopeless expense of maintenance.

Nottawasaga
River.

It is unnecessary that I should detail the highly objectionable nature of such a location, and I am unwilling to prejudice unnecessarily the character of

a place which at times may possess some facilities for trade. It is my duty, however, to state that in connection with your enterprize, it does not offer that opportunity for the provision of those requirements which alone would justify me in recommending it to your adoption.

Collingwood
Bay

Leaving the Nottawasaga River and tracing the beach thence south-west for about 5, and north-west for $7\frac{1}{2}$ miles, which gradually changes its character and becomes quicker and bolder and altogether free from sand and light shingle, we come to a natural inlet of the Nottawasaga Bay, offering shelter from the north-west wind by a reef pointing out north-easterly for a distance of 2,600 feet, and a group of Islands, (commonly known as the Hen and Chickens,) whose limit on that point is 2,000 feet from the shore line. This shelter is further aided by the Nottawasaga Island, lying two miles still further to the north-west, with a projection from the shore of about one mile, with shoal water between it and the main land; and is again assisted by the highlands of Point Rich, Cape Croker, and Cabots Head, in the direction of the southern channel from Lake Huron to the Georgian Bay.

In this inlet a thoroughly sheltered area of 125 acres may be obtained of a minimum depth of water of 10 feet (a considerable portion of which is from 15 to 17 feet in depth) by the construction on the reef before mentioned, of a Breakwater of simple character, and a pier to the south-east, in from 10 to 13 feet water. The entrance will be open to the N. N. East and East, in width a quarter of a mile, and from that point the width of the Nottawasaga Bay, being but 18 miles, and the opposite shore being

sheltered
no sea
present

I have
present
without
water is
and left
class na
the Geo
ment;—
accident
Christian
and that
entrance
than to a
In this
necessar
defined,
for vesse
erly win
age is op

As th
the adop
the selec
Bay.

I have
reference
Division
upon wh
the just
connecti
modation
of compa

sheltered by the highlands of the Township of Tiny, no sea of any violence or injurious character can present itself.

I have instituted a survey of this Bay, and now present a chart, showing the soundings within and without it, by which it appears that ample depth of water is provided; that the entrance may be made and left under any wind, by vessels of the largest class navigating the lakes; that the approaches from the Georgian Bay are unrestricted by any impediment;—that vessels missing the entrance either by accident or bad seamanship may beat up to the Christian Islands and there find sheltered anchorage; and that the sailing distance from either channel or entrance to the Georgian Bay, will be less to this than to any other of the four harbours referred to. In this harbour but very slight dredging will be necessary, at Nottawasaga its limit can scarcely be defined, whilst its results would be most uncertain: for vessels missing the entrance before a north-westerly wind, from this harbour ample sheltered anchorage is open, from Nottawasaga none.

Nottawasaga
and Colling-
wood com-
pared.

As then between these two harbours, I recommend the adoption of the Collingwood, and we thus reduce the selection to a choice of that or of the Victoria Bay.

I have already submitted to you my opinion in reference to the direction to be given to the Northern Division of the Road, and I trust that the arguments upon which it is founded, have sufficed to establish the just preference of a north-westerly course, if in connection with it safe and sufficient harbour accommodation can be gotten. In almost every item of comparison, the Collingwood Harbour is certainly

Victoria and
Collingwood
Harbours
compared.

surpassed by that of Victoria Bay, but as it is not, in my opinion, deficient in any of those points, (as area, shelter, depth of water, anchorage, or economy of construction) which are generally allowed to warrant a selection, and as the comparatively limited extent of offing for vessels from the westward missing the entrance on the starboard tack, (which is a doubtful contingency), may be stated as its main, if not its only drawback, the diversion of the Road to the north-east in view of a still more excellent Haven, and to the detriment of the commercial value and engineering character of the road, would not, I think, be at all judicious. Because, then, either of the lines to the north-west is superior to both of those to the north-east in gradients, curvature, "through" time, way traffic, and ultimate extension to Owen's Sound and Saugeen, I reject the Penetanguishene and Victoria Bay routes: and because the Nottawasaga River is not available for such harbour service as you require, whilst the Collingwood Bay suffices in every particular, and its line (with the exception of an excess of one and a quarter miles in length, the expense of which will be more than compensated in reduced harbour outlay) is preferable in every item of comparison, I select the Collingwood route as superior to all, and respectfully recommend it to your adoption.

Collingwood
Harbour re-
commended.

In the confidence that my judgment will be endorsed by your decision, I have prepared the plans and specifications necessary for the works, at Collingwood Bay, and am in a position, on receiving your authority, to let the Contract, with a view to their completion, during the ensuing summer. I shall then, also, immediately locate and commence the construction of the northern division of the line: and I have every reason to believe, that with the energetic

aid of t
the wh

It is
the con
the Co
more es
its con
stood,
line.
of the
in them
Acts, a
tract w
provide
purpose
grantin
contract
and the
of every
Depôt
should
contract
sanctio
it paym
vincial

Unde
previou
re-orga
Compa
control
after be
Depôt,
power
authori

aid of the Contractors, we shall be enabled to open the whole route to public traffic early in August.

It is proper that I should here refer to the terms of the contract, under which these and all the works of the Company, are hereafter to be carried on; the more especially as I am under the impression that its conditions have been very generally misunderstood, perhaps in some cases to the prejudice of the line. The Honorable The Railway Commissioners of the Province, in the exercise of the control vested in them, under the Guaranty and General Railway Acts, and not being satisfied that the original contract with Messrs. M. C. Story & Co., sufficiently provided for all those classes of work incident to the purposes of the Company, required that, before the granting of the guarantee, a new and supplemental contract should be entered into, between the Company and the Contractors, by which the entire completion of every anticipated requirement, including Harbors, Depôt service and full equipment of rolling stock, should be secured upon equitable terms. That contract has been completed by the Company, and sanctioned by the Railway Commissioners, and upon it payments have already been made from the Provincial Guaranty fund.

Terms of the Contract.

Under it, too, the whole of the engineering staff, previously in the service of the contractors, has been re-organised and transferred to the service of the Company, and placed under the direct authority and control of the Chief Engineer. All contracts will hereafter be made by the Company's Officers, as well for Depôt, Rail and Harbor service, as for Locomotive power and general rolling stock; and the whole authority of construction and management, is now

centred in and exercised by the Direction and its responsible officers, the Chief Engineer being further amenable to the Railway Commissioners for the due fulfilment of their regulations.

I shall now proceed briefly to submit to you, my impressions in regard to the remunerative character of the enterprise in which you are engaged,—its claims upon public consideration, as a work destined to promote to a remarkable degree, the vital interests of the section of country which it will serve, and thereby to exercise a beneficial influence in connection with the City of Toronto.

Remunerative character of the Road.

I have already described the course of the line from the head of the City of Toronto to Barrie, the capital of the County of Simcoe, and we have seen that on the first 63 miles, it is proposed, at once to establish nine stations for the convenience of way-traffic. Each of these stations will be located in connection, not only with a Town or Village of considerable importance, but in the midst of a fertile, densely populated and most productive Agricultural District; and by three of them, the road will be connected by the navigable waters of the Holland River and Lake Simcoe, with an area of country which few lines of a like length can hope to command. Toronto (whose population is now 31,000, and which is growing with a rapidity unsurpassed, save by one City of this continent) will thus have poured into it the products of a region, which, although yet very far from developed, is settled (*if we take merely the Townships in immediate proximity to the line*) by a population numbering 94,000, and the value of whose property rated for assessment is 4 millions of pounds currency. In these townships, thus to be directly served by the line, up-

wards of
were pro
cultural
The sub
proven b
which i
appears
coe, thro
the popu
rated for
cy; the n
the num
of six m
millions
of two-an
be a ver
the line
the influ
out of la
upon old
sequent
striking
ple. Ne
Lumberi
in its pr
be given
for some
By the m
excellent
sive fore
be opene
influence
these ma
States;
cleared,
rying tra

wards of three-and-a-half millions bushels of grain were produced last year, whilst in other items of agricultural wealth, the amount was fully proportionate. The substantial position of this section of Canada, is proven by the census returns of 1852, (an abstract of which is appended, vide Appendix C,) whereby it appears that in the United Counties of York and Simcoe, through the centre of which your road is carried, the population was 162,193. The value of property rated for assessment, $6\frac{1}{2}$ Millions of Pounds, currency; the number of head of live farming stock, 360,000; the number of bushels of grain raised, within a fraction of six millions; the production in beef and pork, $15\frac{1}{4}$ millions of pounds, and of butter and cheese upwards of two-and-a-half millions of pounds. But this would be a very imperfect index to the probable business of the line, were it not remembered that year by year the influx of new settlers and capital; the opening out of lands as yet uncultivated, and the improvement upon old settlements in the manner of cultivation consequent upon increased facilities, are adding with striking rapidity to the exporting power of the people. Nor in these references have I alluded to the Lumbering Trade, which, already most important in its productions, will now that a facile outlet is to be given to it, become one of the highest value, yielding for some years an abundant revenue to your Road. By the more northerly sections, a district having an excellent soil, now in many parts of it, bearing extensive forests of Pine and other valuable timber, will be opened out and immediately worked under the influences of the ready sale and high prices which these materials always command in the neighbouring States; and when the lands shall have thus been cleared, their culture will result in a permanent carrying trade of the produce of agriculture.

Produce of
country tra-
versed.

Traffic on
Yonge Street.

The traffic of Yonge Street, which for 42 miles is an excellent macadamized road, and presents at all times an appearance approaching to that of a continuous village, is equal (by the best return that can be obtained) to 75 persons each way daily in public, and nearly 100 each way daily in private conveyances, whilst, in addition to these, upwards of 100 waggons laden with merchandize, grain, lumber, &c., have often been known to pass the toll-gate north of Toronto, in one hour. The revenue of this road for the year 1849, was returned at £3,616, and the amount of its business may perhaps be more popularly expressed by the fact that within this distance of 42 miles from Toronto, seventy-two taverns have been established for the accommodation of travellers.

In the appendices attached, are given abstracts from the Census returns of 1848 and 1852, and they are such as scarcely to permit a doubt as to the sufficiency of the way traffic of the road to yield ample returns for its cost, the more especially as the County of Grey, and the lumber trade are not included therein. The increase in York and Simcoe during the last five years has probably amounted in population to 50 per cent., whilst the advance in value of property for assessment may be estimated at even a still higher ratio, and when the influences of the road shall come to be exercised, the rate of progression will, without doubt, be very largely augmented.

Extension to
Saugeen.

With reference to this increase, the proposed extension of the line to Sydenham and Saugeen is invested with vital importance. The Townships of the Owen Sound tract, since their settlement, have progressed in population and produce, with a substantial rapidity which the most sanguine did not pre-

sume to
years s
gion, is
tial set
positive

But
a very
consequ
either
inducer
comfor

Refe
by spar
Huron,
the del
navigat
and the
the Atl
interior
eminen
benefit
part of
the upp
and Su
consin,
west, a
west of
whole r
resourc
and ent
way is
near G
norther
season

sume to anticipate, and that which but a very few years since was an unexplored and unproductive region, is now well peopled by energetic and substantial settlers, and offers every inducement, if not a positive necessity for Railway service.

But in addition to this way business you will secure a very large amount of the western travel and trade consequent upon the route by your road between either New York or Boston and Mackinaw, offering inducements superior in relation to time, cost and comfort than that afforded by any other.

Referring to the annexed Map, it will be seen that by spanning the Isthmus between Lakes Ontario and Huron, with a Railway of only 94 miles in length, the delays, inconveniencies and perils attached to the navigation of Lakes Erie and Huron are avoided, and the distance between the regions of the West and the Atlantic ports, very materially diminished. "The interior regions," says E. V. Johnson, Esq., an eminent Engineer of New York, "thus particularly benefitted, comprise the north and north-western part of the lower peninsula of Michigan, the whole of the upper peninsula lying between Lakes Michigan and Superior, the northern and middle part of Wisconsin, together with Minnesota and the territory west, and the entire country lying north and north-west of Lakes Huron and Superior in Canada. This whole region is rich in agricultural, mineral and other resources, and is fast filling up with an intelligent and enterprising population. In Wisconsin a Railway is now in course of construction, to extend from near Green Bay southerly into Illinois, a work the northern portion of which will contribute, during the season of navigation, to the business upon the Onta-

Prospects of
business.

rio and Huron Road, as affording, from the saving in time and distance, the most eligible route to the eastern seaboard."

Other improvements are also in progress, or contemplated, which must produce a similar effect upon the business of your road, among the most prominent of which is the proposed navigable communication between the waters of Green Bay and the Wisconsin River, thereby uniting the lakes with the Upper Mississippi, by the cheapest route possible for a work of that description.

This improvement which is now in progress as a State work, will probably be completed in less than a year.

Through
Travel.

With respect to the travel, continues Mr. Johnson, which is always the most profitable part of a Railway, the Ontario and Huron route will, from the saving of time and distance upon it, command, during the season of navigation, the most of that which passes to and from the region mentioned, and the Atlantic seaboard. This travel will be augmented from what it has hitherto been, not only by those more general causes which are contributing to swell the population of the west and north-west, but by the fact that the Ontario and Huron route avoids that portion of Lake Huron, the navigation of which is the most difficult and dangerous, its direction being along the north shore of that lake through the Georgian Bay, a considerable portion of which affords convenient and safe shelter for vessels.

In addition to this evidence by Mr. Johnson, I avail myself of that of another distinguished Engineer, the Hon. H. C. Seymour, whose large experi-

ence as
opinion
about I
Michig
as it wi
able ro
kets of
The dis
Lake
your
From t
From
New Y
Buffalo
Detroit
From
Mak
The
amb
Via To
m
Via Bu
St
Savi
hours, a
and at
fare, a
Wat
are alw
upon s
desirab

ence as State Engineer, of New York, entitles his opinion to very great weight. The regions, he says, about Lake Superior, and the northern portions of Michigan and Huron, will be tributary to your road, as it will be the shortest, cheapest, and most agreeable route between those regions and the great markets of Canada and the United States.

	<i>Miles.</i>
The distance from the City of New York to Lake Huron at the northern terminus, of your road is.....	568
From this to Mackinaw is about.....	250
<hr/>	
From N. York to Mackinaw, via Toronto..	818
New York to Buffalo.....	470
Buffalo, by Lake Erie, to Detroit..	285
Detroit to Mackinaw.....	330
<hr/>	
From N. York to Mackinaw, via Detroit...	1085
Making a saving in distance of.....	267

These distances are made up of Railroad and Steamboat routes as follows:—

Via Toronto: Railroad, 418 miles; Steamboat, 400 miles.

Via Buffalo and the Lakes: Railroad, 470 miles; Steamboat, 615 miles.

Saving of time, (Toronto route) by Railroad, 2 hours, and by steamboat, 14 hours—in all 16 hours, and at 2 cents for railroad and 1 cent for steamboat fare, a saving in cost of three dollars and 20 cents.

Water communications, continues Mr. Seymour, are always the cheapest compared with railroads, and upon safe waters, or during calm weather, the most desirable, and will command the largest amount of

Advantages
of O. S. & H.
Route.

travel, unless the loss of time is too great. With a large proportion of travellers, cost and comfort are the considerations which controul in the selection of the route. Time is an important element with men of business ; but is not as controlling with the great mass of travellers as many persons imagine.

While the fare on the line of roads between Albany and Buffalo was three cents per mile, the number of passengers, (mostly emigrants) was greater on the Erie Canal than on the railroads. Steamboats on the Hudson River continue to take most of the travel notwithstanding the completion of the Hudson River Railroad, and, no doubt, will continue to do so. Between Boston and New York, if I am correctly informed, much the larger number of passengers take boats on the Sound in preference to the continuous line of railroad. I am informed, also, that the number of passengers by the Lakes between Buffalo and Chicago was as great last season, in proportion to the steamboat facilities, as prior to the construction of the Michigan Central Railroad.

If your route will controul travel from ports on Lake Michigan as far south as Fond-du-lac and Milwaukee, then it will have the benefits of that brought to those points by railroads extending thence interior, and as it is undeniable that large numbers of passengers, to and from the east, go by steamboats between Buffalo and Chicago, and, as it will be nearer by 267 miles, occupy less time, be cheaper and more agreeable by the way of your road, it is safe to claim that they will take your route when completed.

But, let us assume that railroads are preferred by a majority of travellers, and that, on long journeys, changes from cars to steamboats, are not desired.

From N
structed
1052 m

The d
route of
railroad,
rest, wh
routes b
as the a
miles, an
York an
between
four hou
speed of
waukie,
and Milv
railroad.

The c
would be
road fare
mile, th
differenc
time to k
day. If
required
command
by reason
route.

Assun
as startin
lative ad
of comm
apparent

From New York to Chicago by railroads now constructed or in progress, the distance appears to be 1052 miles, and to Milwaukie, 1147 miles.

The distance from New York to Milwaukie, by the route of your road, is, 1103 miles, of which 418 is by railroad, and 685 by steamboat. Allowing time for rest, which, it would seem, all must require on long routes by railroads, let us assume 20 miles per hour as the average rate of speed on a journey of 1147 miles, and the time will be, by railroad between New York and Milwaukie, 58 hours: make the time between New York and Toronto, 22 hours: allow four hours to pass over your road, and a steamboat speed of 14 miles per hour through the lakes to Milwaukie, and the time would be, between New York and Milwaukie, 75 hours, or 17 hours longer than by railroad.

The cost by railroad route at two cents per mile, would be 23 dollars, and via Toronto, making railroad fare two cents, and steamboat fare one cent per mile, the cost would be, say 15 dollars, making a difference of 8 dollars. But few travellers count their time to be worth eight dollars or even five dollars per day. If the expenses were the same, and the time required 24 hours longer, you would, doubtless, still command some travel from Milwaukie and Chicago by reason of the ease and attractive features of your route.

Saving in
Travelling
expense.

Assuming Boston, Portland, Quebec or Montreal, as starting points, instead of New York, and the relative advantages of your route over others as a line of communication with the north-west are equally apparent. By a Table carefully compiled (vide

Appendix D,) shewing the distances, cost of travelling, and time required to travel from the Atlantic ports to the Straits of Mackinaw, speed and cost being reckoned at equal rates on all the routes, we find that by your road the following savings are affected :—

FROM BOSTON

By way of Ogdensburg, Trunk Line and Toronto, a saving of 155 miles, 16 hours and	£0 5 2
By way of Cape Vincent, Kingston, Trunk Line and Toronto, 231 miles, 19 hours and	0 14 6
By way of Oswego and Toronto, a saving of 255 miles, 15 hours, and.....	1 3 9
By way of Niagara and Toronto, a saving of 255 miles, 17 hours, and.....	0 11 5

Saving of Time.

The establishment during the ensuing summer of an ocean line of steamers from the ports of Qubec and Portland, and in connection with this, the construction of the Great Trunk Railroad, from Toronto eastward, (now under contract) will complete a summer and winter Atlantic communication, preferable, in regard to time, to either the New York or Boston routes. By the same table we find that passengers from the west may arrive at Portland 15 hours sooner than they can now reach New York, at an expense about equal in both cases. Nor will the construction of the Provincial Railroads to the west, affect this position, for on a calculation of the time of transit from Mackinaw to the East via Toronto, it is proven, that when your road shall have been completed to its Saugeen terminus, a passenger taking the line at that point, may be placed on board an Ontario steamer at Toronto, *before he could have reached the Western*

Termin
the Gr

Agar
Ontari
north-
Sodus
to the
Clevel

In c
trade,
the gen
connec
interes
minera
latter
lished,
wawni

By t
to the
diately
Superi
Copper
of whic
popula
Copper
produc
thereto
same
Detroi
course
Mines
this si
be tak
above

Terminus of the Guelph Railway at Sarnia, or of the Great Western at Detroit.

Again, by this road, and its connections on Lake Ontario, a direct line will be opened between the north-west and Baltimore, and Washington, via.: Sodus Bay and Harrisburgh, superior in every respect to the routes to the south of Lake Erie, via.: Cleveland.

In contemplating the value of this north-western trade, it may be well to consider, that in addition to the general agricultural and commercial influences, connected with that vast and fertile country, a new interest is arising in the successful working of the mineral regions of Huron and Superior, with which latter a direct line of communication is already established, via.: Toronto, Lake Simcoe and Manitowaning, by Steamboat.

By the Government Report lately issued, relative to the Sault Ste. Marie Canal, (which is to be immediately constructed as a connection between Lakes Superior and Huron,) we learn that thirty-seven Copper Mining Companies have been formed, fifteen of which have commenced operations, employing a population of 2500:—that two thousand tons of Copper, worth at Pittsburgh £120 per ton, were produced last year (1852):—and that in addition thereto, two Iron Companies have produced in the same year, 1000 tons of “Bloomes,” worth at Detroit, £6 5s. per ton. These returns, are, of course, exclusive of the produce of the Canadian Mines, on the north Shore of Lake Huron, and on this side of the proposed Canal, which may perhaps be taken collectively, as equal in amount to that above quoted. The influence of these operations,

Lake
Superior
Trade.

yet entirely in their infancy, is already felt in the trade and travel of the route of your road ; it is reasonable and safe therefore to conclude, that their extension, will ultimately conduce, in an important degree, to the revenues of the line.

It may be fairly said then, that in view of the immense carrying trade and travel, between the western and north-western States, and the north-western regions of Upper Canada, and the Atlantic cities, in competition for which, all the energy and enterprise of western New York and the adjacent States, have been exercised, your Road, spanning a narrow isthmus on nearly the air line, superseding the necessity of a long and tedious circuit, and offering at once a quicker, cheaper and more comfortable transit, cannot but be highly successful and remunerative.

The anxiety evinced by the Companies engaged in the steam navigation of the Lakes, to establish regular lines of first class Boats in direct connection with your termini, is a strong guarantee that these anticipations are well founded. The proposals already made to this effect, based as they are, upon a higher rate of speed than has hitherto been attained, are well deserving of your consideration ; and I respectfully recommend that the negotiations now pending, be brought to an early decision, that thus the Steamboat connections with the line, may be established simultaneously with its opening.

The cost of its construction, which can be authoritatively given from existing contracts, will undoubtedly be below the average of that of the other Canadian Railways. By the original contract, your road with all the appendages necessary to its efficient working, was to be completed for the sum of £6250 per mile.

Cost compared with other Canadian Lines.

By the
alluded
Comm
tions, n
the sum
reduced
tracts f
Way S
an exp
total o
£7286
pated c
of cons

The
Bay wi
landing
that bra
expendi
the road
Colling
be made
may be
ings at
been m

Upon
ing may
Expend

94 miles
at £3
94 miles
rolling
pots c

By the supplemental contracts, however, before alluded to, made under the direction of the Railway Commissioners, and in accordance with their regulations, new arrangements were completed, by which the sum for construction (inclusive of right of way) was reduced to £5900 per mile of finished road. The contracts for Locomotive and general rolling stock, and for Way Stations, and Depot service complete, involve an expenditure equal to £1386 per mile, making the total outlay for the line, fully finished and equipped, £7286 per mile, a sum considerably below the anticipated cost of any of the other railways now in course of construction in this section of the Province.

The wharfage works and warehouses on the Toronto Bay will yield either by rental or by storage and landing charges, (if the Company should engage in that branch of business,) an ample interest on the expenditure, independent of the general revenue of the road; whilst the harbour dues and storage at Collingwood, will be sufficient to cover the outlay to be made therein. Further revenue of a like class may be anticipated by rentals of storehouses and sidings at the way stations, applications having already been made for privileges of that nature.

Revenue
from Ware-
house, &c.

Upon the bases of the above contracts, the following may be taken as an accurate statement of the Expenditure of the Company:—

Expenditure.

	£	s.	D.
94 miles of Road, complete for traffic, at £5,900... ..	554,600	0	0
94 miles—locomotive power, general rolling stock, way stations, and de- pots complete, at £1,386.....	130,284	0	0
	<hr/>		
	£684,884	0	0

To such an Expenditure your resources amply suffice, viz:—

1st—Stock subscribed, (of which is paid up £200,760.).....	£213,200	0	0
2nd—Amount now payable on demand from the Provincial Guarantee Fund).....	343,750	0	0
3rd—Payments to be received by the contractors, (as per their agreement) in Bonds of the Company, not exceeding in amount the sum of.....	218,000	0	0
	<hr/>		
	£774,950	0	0

Thus leaving a balance of upwards of £90,000 0s. 0d. available, after all the works of the line itself shall have been completed, for investment in those Harbour, Wharfage and Storage purposes, necessary to its full efficiency, but remunerative from other sources than the direct revenues of the road.

Maintenance With regard to the maintenance of the road, seeing that the amount of bridging is inconsiderable, involving no structures of great magnitude; and that the road is generally constructed on a soil very favorable to the stability of the permanent way, I am of opinion that the annual charge for repairs, will be below the average; whilst in reference to the discipline of its working, the arrangements completed with Telegraph Company, by which the gratuitous use of the wires has been secured to the line will add materially to the efficiency of its management.

Extension West. Finally, in view of the advantages to be afforded by the extension of your road to Sydenham and Saugen, in which there is every reason to believe that

the
Town
opera
eratic
explo
add m
const
throu
suffic
addit

the Municipal Corporations, of the Counties and Townships interested, would afford liberal co-operation ; I would strongly urge upon your consideration the propriety of instituting an immediate exploration and survey. Such an extension would add materially to the value of the road already under construction, and whilst it would beneficially affect the through trade and travel, would, in itself, afford sufficient way traffic to yield an ample return for the additional capital invested.

I have the honour to be,

Gentlemen,

Your most obedient servant,

FRED. CUMBERLAND,
Chief Engineer.

amply

0 0

0 0

0 0

0 0

000 0s.

e itself

a those

ecessary

a other

d, see-

derable,

and that

y favor-

am of

will be

discip-

ted with

s use of

d mate-

afforded

and Sau-

veve that

Showi

Penetanguish
Victoria
Vespra
Nottawasaga
Collingwood

Showi

Penetanguish
Victoria
Vespra
Nottawasaga
Collingwood

Recapitulation

NAME OF T

Penetanguish
Victoria
Vespra
Nottawasaga
Collingwood.

APPENDIX A.

TABLE OF GRADIENTS:

Showing the Rise on each Line, GOING NORTH, (from Barrie to Lake Huron.)

	50 to 60 feet per mile.	40 to 50 P. M.	30 to 40 P. M.	20 to 30 P. M.	10 to 20 P. M.	Under 10 feet P. M.	Tot'l Rise N th
Penetanguishene Line..	285	114	23	17	129	0	568
Victoria " ..	130	32	51	47	10	0	270
Vespra " ..	183	0	0	22	13	5	223
Nottawasaga " ..	0	19	89	0	42	14	164
Collingwood " ..	0	74	104	25	24	15	242

Showing the Rise on each Line, GOING SOUTH, (from Lake Huron to Barrie.)

	50 to 52.8 Per Mile.	40 to 50 P. M.	30 to 40 P. M.	20 to 30 P. M.	10 to 20 P. M.	Under 10 feet P. M.	Tot'l Rise S th .
Penetanguishene Line..	525	28	64	47	11	23	708
Victoria " ..	150	39	100	62	55	4	410
Vespra " ..	177	0	36	75	66	9	363
Nottawasaga " ..	0	82	55	79	44	44	304
Collingwood " ..	0	94	0	190	90	8	382

Recapitulation of Total Ascents, Distances, and Estimated Curvature in Degrees, on the various Trial Lines.

NAME OF TRIAL LINE.	Total Rise, North.	Total Rise, South.	Estimated Curvature.	Lev. & und'r 5 feet P. M.	Tot. lengths of Lines.
Penetanguishene.....	568 ft.	708 ft.	640°	40,500 ft.	222,900 ft.
Victoria	270	410 "	285°	48,100 "	153,120 "
Vespra	223	363 "	316°	21,500 "	126,720 "
Nottawasaga	164	304 "	470°	42,650 "	157,000 "
Collingwood	242	382 "	66°	42,000 "	163,200 "

(See page 15.)

APPENDIX B.

Table of Distances, and Time required to travel from certain common points on Lak Huron (see Map) to Barrie, by the various routes mentioned.

Time is reckoned at the rate of 30 miles per hour for Rail, and 15 miles per hour for Steamboat.

From (A) Entrance, to North Channel (Manitoulin Islands) to Barrie.

ROUTE.	Miles by water.	Miles by Rail.	Total dis. in Miles.	Time by		Total Time.
				water.	Rail.	
				<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>
By Penetanguishene	117 $\frac{1}{4}$	38	155 $\frac{1}{4}$	7 49	1 16	9 5
Victoria Bay	120 $\frac{1}{4}$	29	149 $\frac{1}{4}$	8 1	0 58	8 59
Nottawasaga Portage & Vespra Line	122 $\frac{1}{2}$	24	146 $\frac{1}{2}$	8 10	0 48	8 58
Nottawasaga Located Line	122 $\frac{1}{4}$	29 $\frac{3}{4}$	152	8 9	0 59	9 8
Collingwood	117	31	148	7 48	1 2	8 50

From (B) Cabott's Head (South Channel) to Barrie

ROUTE.	Miles by water.	Miles by Rail.	Total dis. in Miles.	Time by		Total Time.
				water.	Rail.	
				<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>
By Penetanguishene	79 $\frac{3}{4}$	38	117 $\frac{3}{4}$	5 19	1 16	6 35
Victoria Bay	82 $\frac{3}{4}$	29	111 $\frac{3}{4}$	5 31	0 58	6 29
Nottawasaga Portage, and Vespra Line.	79 $\frac{1}{2}$	24	103 $\frac{1}{2}$	5 18	0 48	6 6
Nottawasaga Located Line	79 $\frac{1}{2}$	29 $\frac{3}{4}$	109 $\frac{1}{4}$	5 18	0 59	6 17
Collingwood	73 $\frac{1}{2}$	31	104 $\frac{1}{2}$	4 54	1 2	5 56

(See page 17.)

Shewing the

Lands under

Produce of V

" Ba

" Ry

" Oa

" Pe

" Ma

" Bu

" Pe

" Fla

" Ma

" We

" But

" Ch

" Be

" No

" Ho

" Sh

" Ho

Of the Cit

Years.

1839

1842

1848

1852

APPENDIX C.

Abstract from the Census Returns of 1848 and 1852.

Shewing the increase of the Counties of York and Simcoe, in Population and Production.

	According to Census of 1848.			According to Census of 1852.		
	York.	Simcoe.	Total.	York.	Simcoe.	Total.
	Acres.	Acres.				
Lands under tillage..	271,488	54,711	326,199	494,137	109,208	603,345
“ “ pasture..	93,326	21,158	114,484	169,961	29,165	199,126
	Bushels.	Bushels.				
Produce of Wheat...	1,451,384	293,071	1,744,455	2,362,932	431,418	2,784,350
“ Barley.....	110,819	6,985	117,804	95,352	7,760	103,112
“ Rye.....	23,482	2,482	25,964	16,280	1,936	18,216
“ Oats.....	1,526,935	212,006	1,738,941	1,862,143	346,278	2,208,421
“ Pease.....	384,721	37,580	422,301	651,105	134,322	785,428
“ Maize.....	33,480	5,627	39,107	60,811	6,762	67,573
“ Buck-wheat	10,536	722	11,258	14,170	1,142	15,312
“ Potatoes...	423,604	200,876	626,480	552,303	251,554	803,857
	Lbs.	Lbs.				
“ Flax.....	5,762	874	6,636	12,672	665	13,337
“ Maple-sugar	364,663	115,960	480,623	384,592	134,067	518,659
“ Wool.....	314,662	62,571	377,233	353,739	67,298	421,037
“ Butter.....	428,297	80,406	508,693	1,878,557	379,279	2,257,836
“ Cheese.....	119,602	7,931	127,533	278,798	23,411	302,209
	Bbls.	Bbls.				
“ Beef or Pork	14,664	6,039	20,793	50,726	12,936	63,662
	Numbers.	Numbers				
“ Neat Cattle.	66,262	17,896	84,158	68,061	22,732	90,793
“ Horses.....	21,700	3,327	25,027	27,360	5,013	32,373
“ Sheep.....	105,033	23,530	128,563	109,595	26,364	135,959
“ Hogs.....	70,802	21,647	92,449	74,195	26,269	100,464

POPULATION

Of the City of Toronto and the Counties of York and Simcoe, respectively, for the years 1839, 1842, 1848 and 1852.

Years.	City of Toronto.	County of York.	County of Simcoe.	Total in York and Simcoe, including Toronto City.
1839	12,153	47,056	10,743	69,952
1842	15,336	55,372	12,592	83,300
1848	23,505	83,490	23,050	130,045
1852	30,736	104,292	27,165	162,193

(See page 25.)

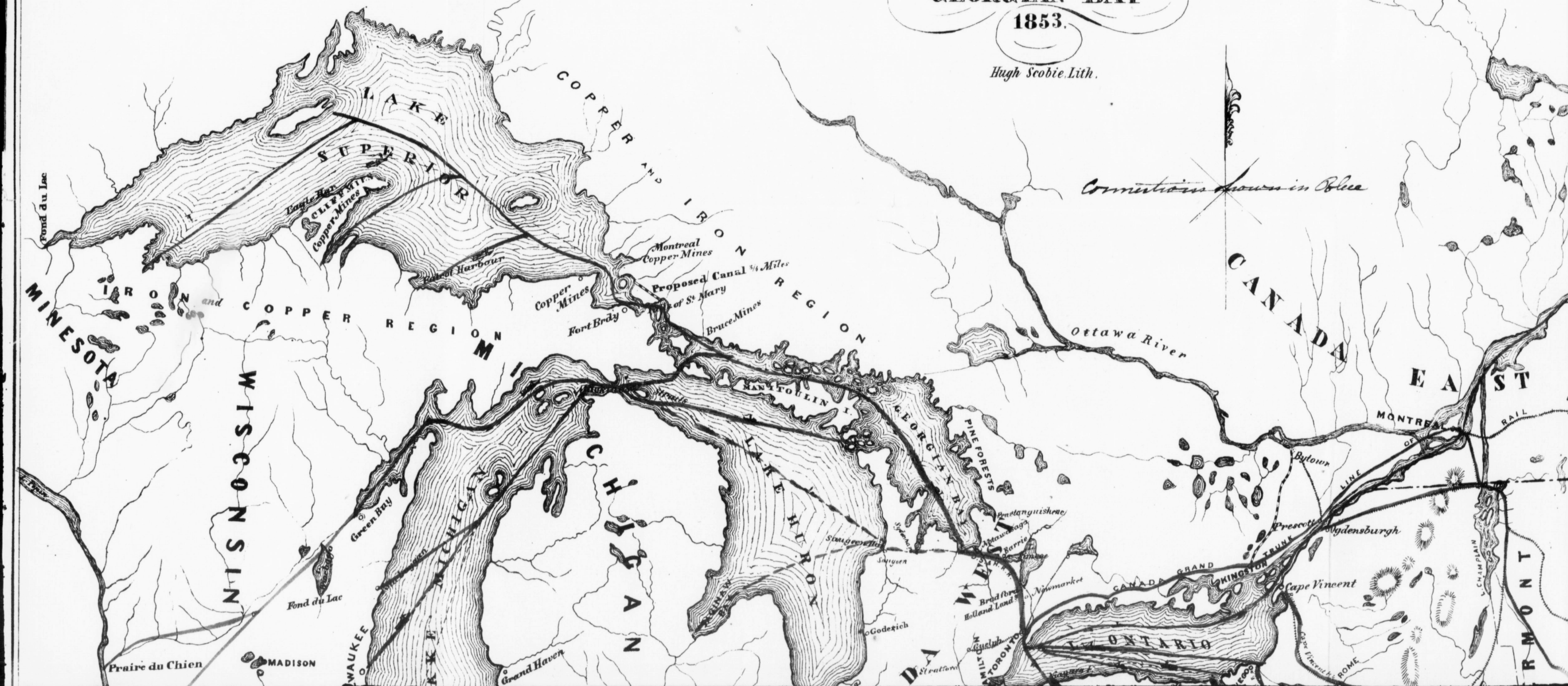
APPENDIX D.
 Table showing the Distance, Cost of, and the Time required for a journey from New York, Boston, and Portland, to the Straits of Mackinaw, via the Ontario, Simcoe and Huron Railroad (Toronto and Collingwood) as compared with the usual route by Buffalo and Detroit.

ROUTE.	DISTANCE IN MILES.			TIME—allowing 30 miles p. hr. per Rail, and 15 for water.			COST—allowing 1 1/2 p. mile for Rail, and 1 d. p. mile for Water.				
	Rail Road.	Steam Boat.	Total.	By Rail.	By Steam Boat.	Total.	Rail at St. Bt. 1 1/2 p. mile.	at Id. p. mile.	Total.		
N. York to Mackinaw, by Albany, Niagara, Toronto and Collingwood	587	305	892	hrs. 20	hrs. 20	hrs. 40	s. 73	d. 4	s. 25	d. 5	£ s. d. 4 18 9
Do. to do. by Oswego, Toronto and Collingwood	492	420	842	hrs. 14	hrs. 28	hrs. 42	s. 52	d. 9	s. 35	d. 5	£ s. d. 4 10 9
Do. to do. by Buffalo, Detroit and the Lakes	470	615	1085	hrs. 16	hrs. 41	hrs. 57	s. 58	d. 9	s. 51	d. 5	£ s. d. 5 10 2
Boston to do. by Ogdensburg, Trunk L., Toronto and Collingwood	710	270	980	hrs. 24	hrs. 18	hrs. 39	s. 88	d. 9	s. 22	d. 6	£ s. d. 5 11 3
Do. to do. by C. Vincent, Kingston, Trk L., Toronto & Collingwood	634	270	904	hrs. 21	hrs. 18	hrs. 39	s. 79	d. 3	s. 22	d. 6	£ s. d. 5 11 9
Do. to do. by Oswego, Toronto and Collingwood	460	420	880	hrs. 15	hrs. 28	hrs. 43	s. 57	d. 6	s. 35	d. 0	£ s. d. 4 12 6
Do. to do. by Niagara, (R. Mouth) Toronto & Collingwood	637	305	980	hrs. 21	hrs. 20	hrs. 41	s. 79	d. 7	s. 25	d. 5	£ s. d. 5 5 0
Do. to do. by Buffalo, Detroit and the Lakes	520	615	1135	hrs. 17	hrs. 41	hrs. 58	s. 65	d. 0	s. 51	d. 5	£ s. d. 5 16 5
Portland to do. by Montreal, Trunk L., Toronto and Collingwood	710	270	980	hrs. 24	hrs. 18	hrs. 42	s. 88	d. 9	s. 22	d. 6	£ s. d. 5 11 3

(See page 32.)

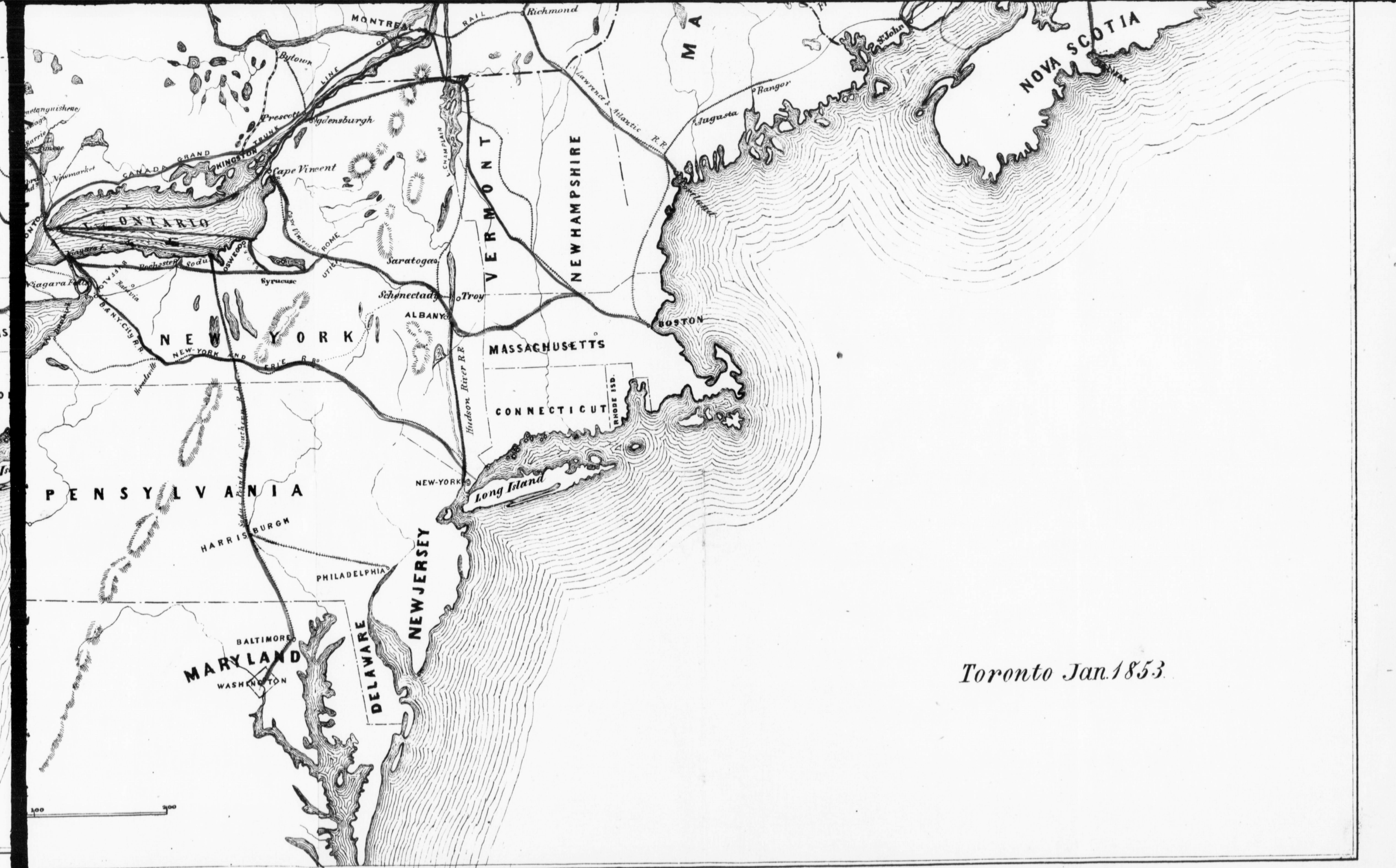
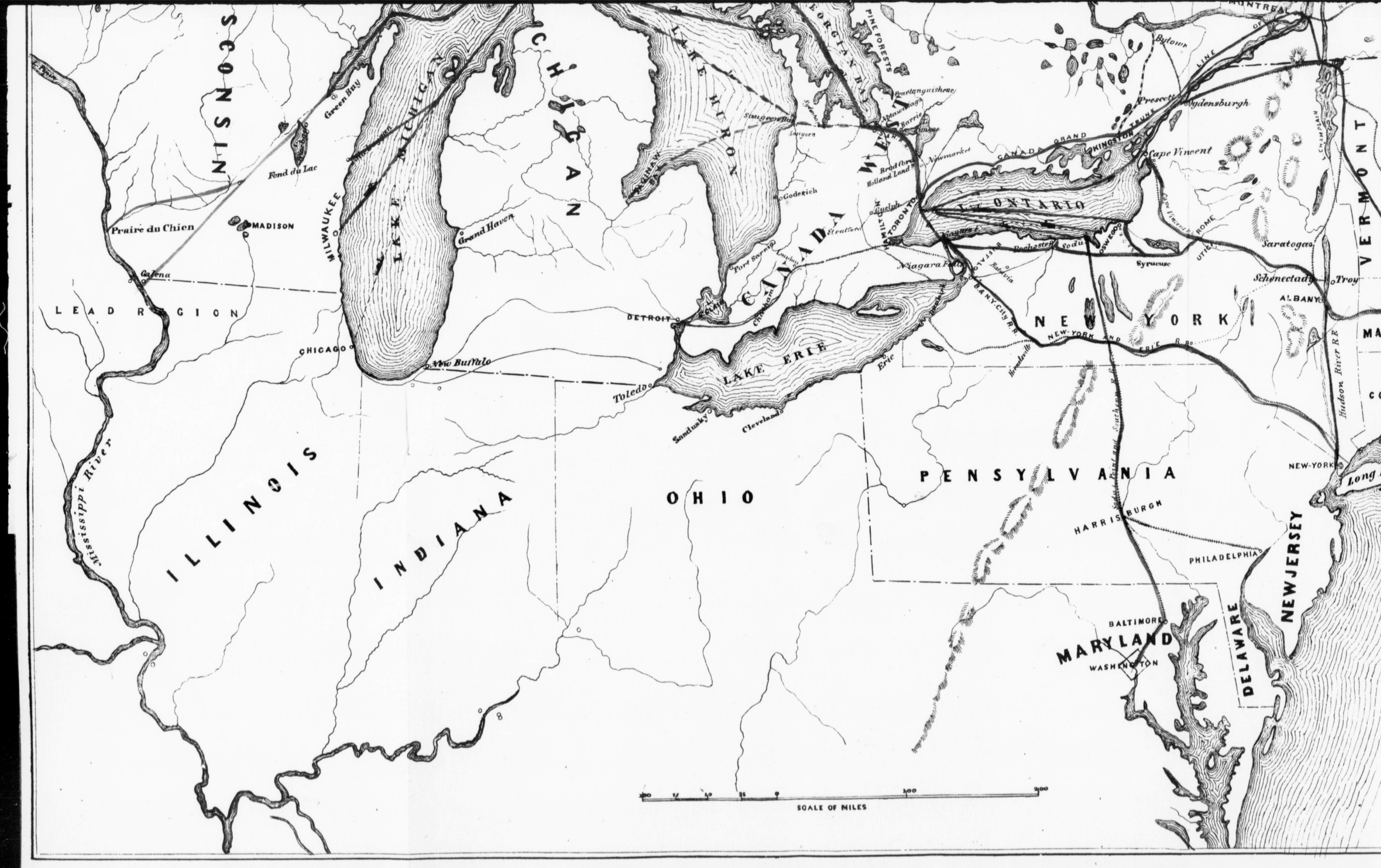
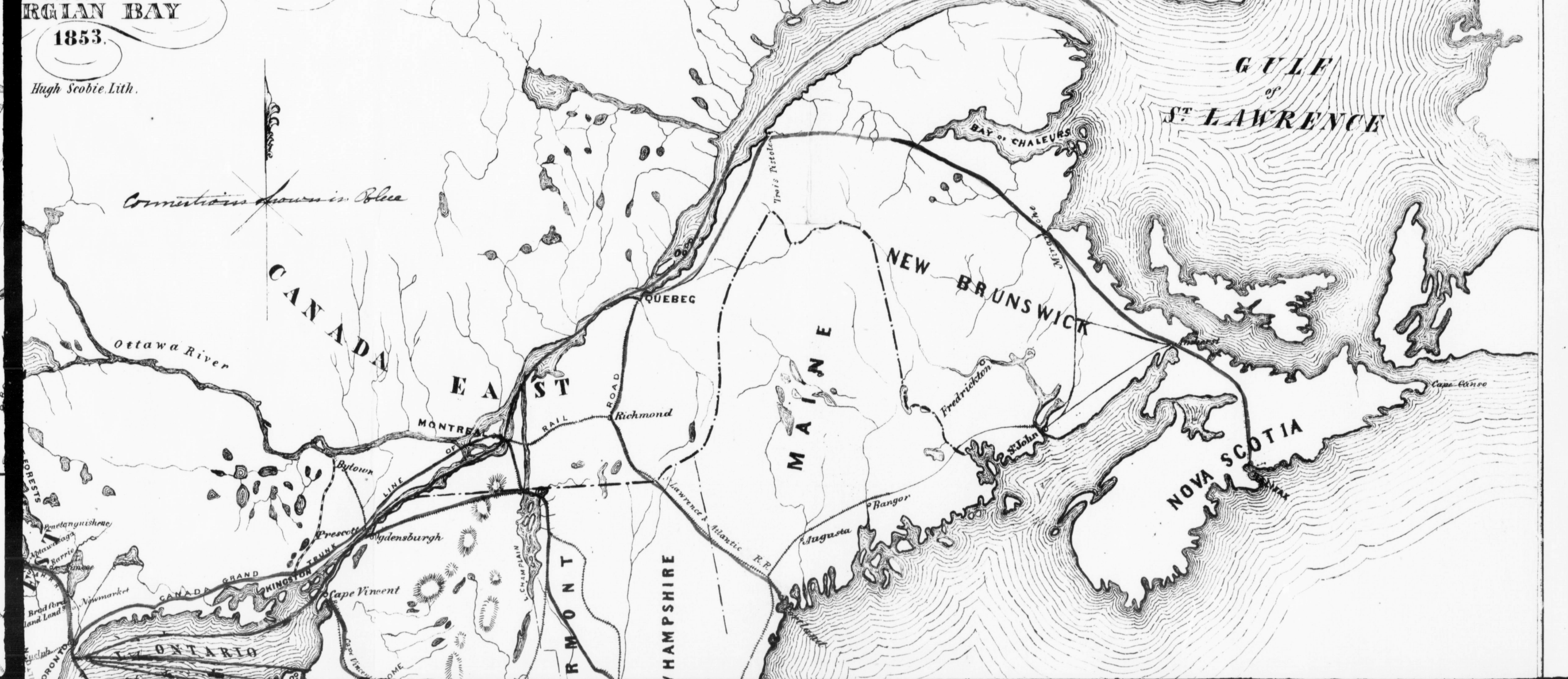
MAP
 Showing the Routes between
New York Boston Washington
 AND THE
NORTH WESTERN STATES AND MINERAL REGIONS
 VIA
TORONTO
 THE
ONTARIO SIMCOE & HURON RAIL ROAD
 and the
GEORGIAN BAY
 1853.

Hugh Scobie Lith.



MAP
 Showing the Routes between
Boston Washington
 AND THE
NORTH WESTERN STATES AND MINERAL REGIONS
 VIA
TORONTO
 THE
ONTARIO SIMCOE & HURON RAIL ROAD
 and the
GEORGIAN BAY
 1853.

Hugh Scobie Lith.



Toronto Jan 1853.



HE 2810 058 06 1253 Rese4uc

I N D E X .

	PAGE.
Terminus and connections at Toronto	6
Description of Line	7
Progress of Works	8
Docks, Warehouses, and Way Stations	9
Manner of Construction	9
Provision of Rolling Stock	10
Explorations for Location of Northern Division, Terminus and Harbour	11
Comparison of the Five Experimental Lines	15
Lengths, Grades, Curvature, Constructive Difficulties, Expense of Maintenance and Working, Speed and Way Traffic considered	16
Ultimate Extension to Owen Sound and Saugeen	18 & 26
Harbours open to Adoption compared	18
Collingwood Harbour and Line thereto recommended	22
Terms of New Contract with M. C. Story & Co.	23
Engineering Staff re-organized and transferred	23
Remunerative character of the Road	24
Way Traffic	25
Through Traffic	27
Advantages of Ontario, Simcoe and Huron route over others	29
Saving of travelling expense by O., S. & H. route	31
Saving of time by O., S. & H. route	32
Lake Superior Trade	33
Cost of construction compared with other Canadian lines	34
Revenue from Harbour Dues, Storage, Sidings, &c.	35
Expenditure of the Company	35
Resources of the Company	36
Maintenance of Works	36
Appendix A.—Table of Gradients and Curvature on Trial Lines, Northern Division	39
“ B.—Time and Distance Tables by Trial Lines, Northern Division	40
“ C.—Abstract of Census Returns, Counties of York and Simcoe, showing increase in five years	41
“ D.—Table of Distance, Time and Travelling Cost, by various “through routes” from Atlantic Ports to the West	42