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Maine-Quebec Highway Report, 1956

Maine State Highway Commission

U.S. Bureau of Public Roads

U.S. Department of Commerce

Maine Department of Transportation

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MAINE - QUEBEC *highway report*

MAINE STATE HIGHWAY COMMISSION
in co operation with the
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
DECEMBER, 1956

COMMISSIONERS

DAVID H. STEVENS
CHAIRMAN
CLARENCE S. CROSBY
HAROLD B. EMERY

VAUGHAN M. DAGGETT
CHIEF ENGINEER



State Highway Commission
State of Maine
Augusta

December 31, 1956

To the Honorable Senate and House of Representatives
of the Ninety-eighth Legislature:

We have the honor to present a factual report entitled
"Maine-Quebec Highway Study".

This report has been prepared in cooperation with the
United States Bureau of Public Roads as the result of a resolve
of the Ninety-seventh Legislature. A full copy of the resolve
is included as a part of the report.

Respectfully,


Chairman


Clarence S. Crosby


State Highway Commission

MAINE - QUEBEC HIGHWAY STUDY

Aroostook County, originally made up of parts of Penobscot and Washington Counties, was incorporated in 1839. Within five years it had been increased to its present size by additions from Penobscot, Piscataquis and Somerset Counties.

Increases in population have been steady, though not spectacular, since its incorporation. Since 1900 the gain in population in the county has been considerably higher than the State with 58 percent as compared with an increase of 31 percent for the State as a whole.

Aroostook County is approximately five times the size of Rhode Island in land area. With less than one-fifth of this area under cultivation, the county has the most extensive wild-land area east of the Mississippi River. Agriculturally, the county is the most important potato-raising region in the world with an annual output in excess of 60 million bushels, as shown by the Federal-State Market News Service.

There are three principal commercial areas in the county: one with Houlton, the county seat as the nucleus; another comprising the St. John Valley area with Fort Kent, Madawaska and Van Buren as the most populous communities; and the third with Caribou, Fort Fairfield and Presque Isle comprising the core. Of the three areas, the latter leads the other two in total population and in potato production. An area of approximately 1,000 square miles, of which these towns of Caribou, Fort Fairfield and Presque Isle form the economic center, comprises approximately 15.5 percent of the county's land area, contains about 42.4 percent of the population and ship 56 percent of the potato harvest. During the past 50 years the population gain in this area has been 75 percent as compared with 58 percent for the county as a whole.

It is in the west central portion of this important economic area that proponents of the legislative resolve regarding the Maine-Quebec highway advocate that the road originate.

Existing Road System

The main artery of the highway system north of Houlton is U. S. Route 1, which, with Alternate U. S. Route 1, traverses the eastern part of the county and passes through most of the principal communities between Houlton and Fort Kent. Route 11 serves a parallel function in the western part of the developed portion of the county but is of less importance because it carries less traffic. Cross-over routes between U. S. Route 1 and Route 11 connect Houlton and Hersey, Presque Isle and Ashland, and Caribou and Fort Kent. Roads extending westerly from Route 11, with the exception of those at Oxbow and Fort Kent, connect with no established communities. However, a road westerly from Ashland connects with a private road entering Maine in the vicinity of Lac de la Frontiere, Province of Quebec, except for six miles reportedly passable only by "Jeep". Examination of a map indicates clearly that vehicles traveling between the central and southern portions of Aroostook County, and communities in the vicinity of Quebec City, are served only by circuitous routes.

Evaluation of Need

Need for any highway is predicated not on its non-existence but by the amount of traffic which it might serve if constructed. It was with this criterion in mind that the State Highway Commission approached the problems posed in the following resolve by the 97th Legislature:

"That the State Highway Commission be, and hereby is, authorized and directed to make a study of the need and cost of the proposed Maine-Quebec Highway; and be it further resolved: That the Commission shall report the results of their study at the next regular session of the Legislature".

The State Highway Commission, in cooperation with the Bureau of Public Roads, has determined an approximate cost of construction and the traffic service that this highway would provide. Two proposals have been made as regards surface type.

Usage, under Proposal number 1, is estimated at 95 vehicles per day on an annual average basis and the cost at approximately \$7.6 million. Under Proposal number 2, usage is estimated at 101 vehicles per day on an annual average basis and the cost at approximately \$8.2 million. Differences in surface type are shown subsequently. Costs were estimated on a highway that would originate in the vicinity of Ashland and would run in a westerly direction for a distance of approximately 80 miles to connect with existing roads in the Province of Quebec, in the vicinity of d'Aaquam, as shown on the enclosed sketch map.

Directly in response to this resolve, origin and destination information was obtained during a 24-hour interval in July 1956 from 2,859 motorists at an interviewing station on U. S. Route 1 between Presque Isle and Caribou. These interviews, expanded to traffic of 3,450 vehicles counted during the interviewing period, indicate that the road between Ashland and Quebec would be used by eight out of a total of 48 vehicles traveling during the interviewing period between central Aroostook County and points in Canada, west and southwest of Fort Kent. Since these eight trips are recreational in character, it is assumed that they represent usage only during the three summer months. On an annual average basis this represents two trips per day. The remaining trips are broken down as follows:

3,240 -- Trips with both origin and destination in the United States. They are not potential users of this route.

162 -- These vehicles for the most part have one trip terminus in New Brunswick border towns or on the Gaspé Peninsula and derive adequate and more direct service from existing roads.

40 -- Tourists whose trip termini are such that it is evident that they want to see Aroostook County rather than use

more direct routes. A trip from Portland to Quebec City via Aroostook County is typical.

Detailed breakdown of origin and destination data is given on the enclosed tabulation.

Examination of origin and destination information obtained on U. S. Route 1 and Route 161 during the Caribou area study in June 1955 indicates that 18 vehicles generated in the Caribou-Limestone area would be better served by the proposed road than by existing roads. Converted to an annual average day, this usage equals 16 vehicles per day. These vehicles do not include the estimated eight users derived from the 1956 Presque Isle-Caribou interviews. Information obtained in Caribou however supports the data obtained a year later on U. S. Route 1 between Caribou and Presque Isle.

A network of private roads maintained by lumber companies operating in the area through which the highway is proposed is adequate for the conduct of their business. However, it is estimated that 50 trips per day will be made on the proposed road by vehicles engaged in lumbering and related activities. This estimate is based on a traffic count of 150 vehicles per average day on the Ashland end of the proposed route and a figure of 188 vehicles per day on the Canadian end as shown in a Canadian Bureau of Statistics report, and on the fact that the road, if built, would have an all-weather surface. Usage under Proposal number 1 is estimated at 44 trips per day.

An arbitrary assignment is made of 4,740 trips per year in and out of the area adjacent to the proposed highway by sportsmen. While trips for the most part will be made during the hunting and fishing seasons, their conversion to annual average daily traffic amounts to 13 vehicles per day. It is recognized that most of this traffic will originate at the Ashland end of the road, and that the length of the trips is variable, but the 13 vehicles per day is based on vehicles traveling the full length of the road.

In estimating the number of vehicles which would use any new facility, it is recognized that there is traffic which is not in existence before a road is built,

but is created as a result of a new highway. This usage on all new facilities is estimated at 25 percent of the vehicles assigned. In this case, 20 trips daily would be generated.

St. Lawrence Seaway

Considerable study has been done regarding the effect of the St. Lawrence Seaway on the proposed road and a conclusion reached that no substantial amount of traffic would be drawn to the highway as a result of the opening of the Seaway.

The following reasons are given why little traffic will result from the opening of the Seaway:

1. Approximately 60 percent of the potatoes shipped from Maine are moved when the Seaway is icebound.
2. Additional handlings involved because of change of transport media.
3. Lack of distance advantage from many sections of Aroostook County (shown on enclosed chart).

Construction Costs

Costs are based on two separate proposals. Proposal number 1 would provide a road with a 24-inch gravel base, two-inch gravel surface, 26 feet wide; bituminous surface treatment 20 feet wide, and three-foot gravel shoulders. This road would not be adequate for heavy vehicles, and would therefore be posted as to weight limits for about eight weeks each Spring. Under Proposal number 2, construction features would be identical to Proposal number 1, except for the surface type. This road would have a one-inch surface treated gravel leveling course 22 feet wide; with a two-inch bituminous gravel surface course mixed-in-place, 20 feet wide. This construction would be adequate for heavy vehicles

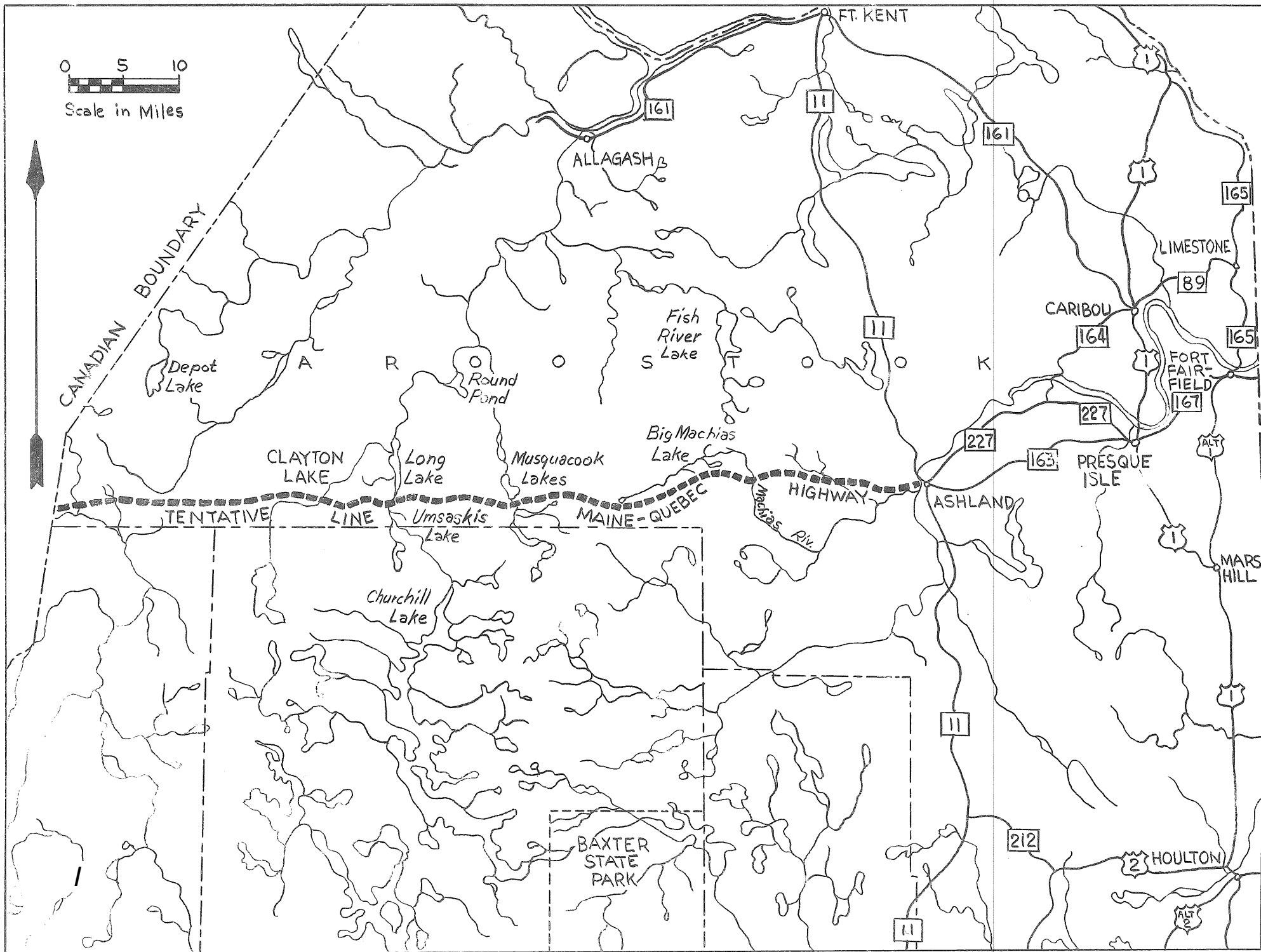
of legal weight at all times. Typical sections under each proposal are appended.

Proposal Number 1

Construction, engineering and right-of-way	\$6,600,000
Structures	<u>1,000,000</u>
	<u>\$7,600,000</u>

Proposal Number 2

Construction, engineering and right-of-way	\$7,200,000
Structures	<u>1,000,000</u>
	<u>\$8,200,000</u>



MAINE - QUEBEC
ORIGIN AND DESTINATION STUDY

- JULY 1956

Location: U.S. Route 1 Between Caribou & Presque Isle
24 hr Volume: 3,450 Vehicles

DESTINATIONS

ORIGINS	United States	Presque Isle	Bangor	Other States	Bridgewater	Augusta & So.	Monson	Ashland	Houlton	New Brunswick	Grand Lake Stream	Calais	Mrs Hill	East Millinocket	Limestone	Caribou	Edmundston N. B.	St. Leonard N.B.	Gaspé Peninsula	Nova Scotia	Riviere-du-Loup	Clair, N. B.	Grand Falls N. B.	Prince Edward Island	Montreal	Quebec City	Masardis	Total Vehicles
Montreal																											1	1
Toronto									1																			1
Presque Isle																								1	3			4
Sussex, N.B.																								1				1
Houlton																									1			1
Total									1																2	4	1	8
United States	3240																											3240
Total	3240																											3240
Gaspé Peninsula		3	1	27	1	1	1																					34
Towns, No of F.Kent				3		1																						4
Riviere-du-Loup				3				1			1	1																6
New Brunswick		4		4		1			1	1																		11
Edmundston, N.B.		4		5		4			3				1															17
Grand Falls, N.B.		15				1								1														17
Limestone										4																		4
St. Leonard, N. B.		1		5																								6
Caribou										5																		5
Nova Scotia									1																			1
New Brunswick										1					3	3	1					1						9
Augusta & So.										1							1	1	1									4

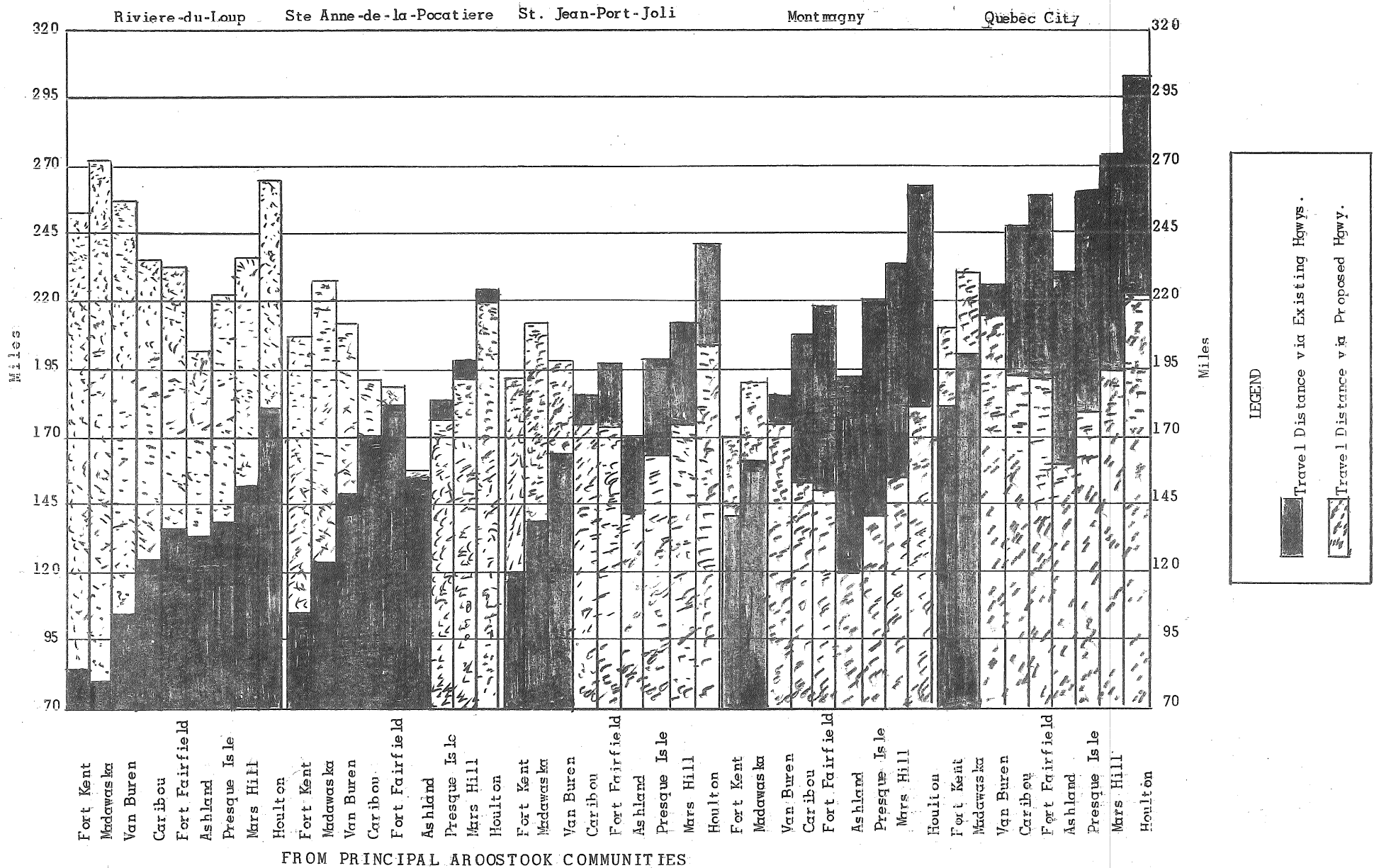
MAINE - QUEBEC

ORIGIN AND DESTINATION STUDY - JULY 1956 CONTINUED

Location: U.S. Route 1 Between Caribou & Presque Isle
24 hr Volume: 3,450 Vehicles

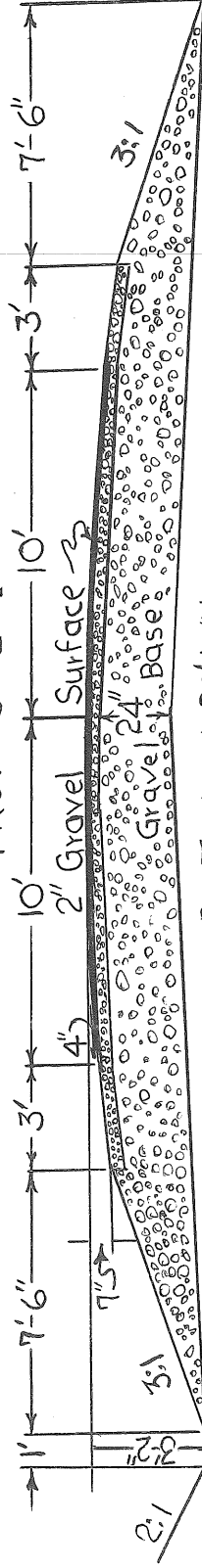
ORIGINS	DESTINATIONS																											
	United States	Presque Isle	Bangor	Other States	Bridgewater	Augusta & So.	Monson	Ashland	Houlton	New Brunswick	Grand Lake Stream	Calais	Mars Hill	East Millinocket	Limestone	Caribou	Edmundston N. B.	St. Leonard N. B.	Gaspe Peninsula	Nova Scotia	Riviere-du-Loup	Clair, N. B.	Grand Falls N. B.	Prince Edward Island	Montreal	Quebec City	Masardis	Total Vehicles
Other States										3							6	3	10		1			1				24
Presque Isle										3							1	4	1				3					12
Nova Scotia																				1								1
Sherman																			1									1
Bangor																	1					1						2
Lincoln										1																		1
Houlton																		1										1
Dexter																							1					1
Belfast										1																		1
Total		27	1	47	1	8	1	1	5	20	1	1	1	1	3	3	10	9	13	1	1	2	4	1				162
Quebec City				10		1																						11
Montreal				8		3																						11
Toronto				1																								1
Hawkesbury, Ont.				1																								1
Nicolet, Que.				1																								1
Other States																									4	9		13
Augusta & So.																										1		1
Skowhegan																										1		1
Total				21		4																			4	11		40
Grand Total	3240	27	1	68	1	12	1	1	6	20	1	1	1	1	3	3	10	9	13	1	1	2	4	1	6	15	1	3450

COMPARISON BY ESTIMATED TRAVEL DISTANCE
OF AREAS SERVED BY EXISTING HIGHWAYS AND THE PROPOSED HIGHWAY
TO QUEBEC COMMUNITIES SITUATED ON THE ST. LAWRENCE RIVER



Typical Section of Highway MAINE - QUEBEC

PROPOSAL 1



Bit. Treatment 20' Wide

PROPOSAL 2



