

1969

East-West Highway Cost Estimate Report (1969)

Maine State Highway Commission

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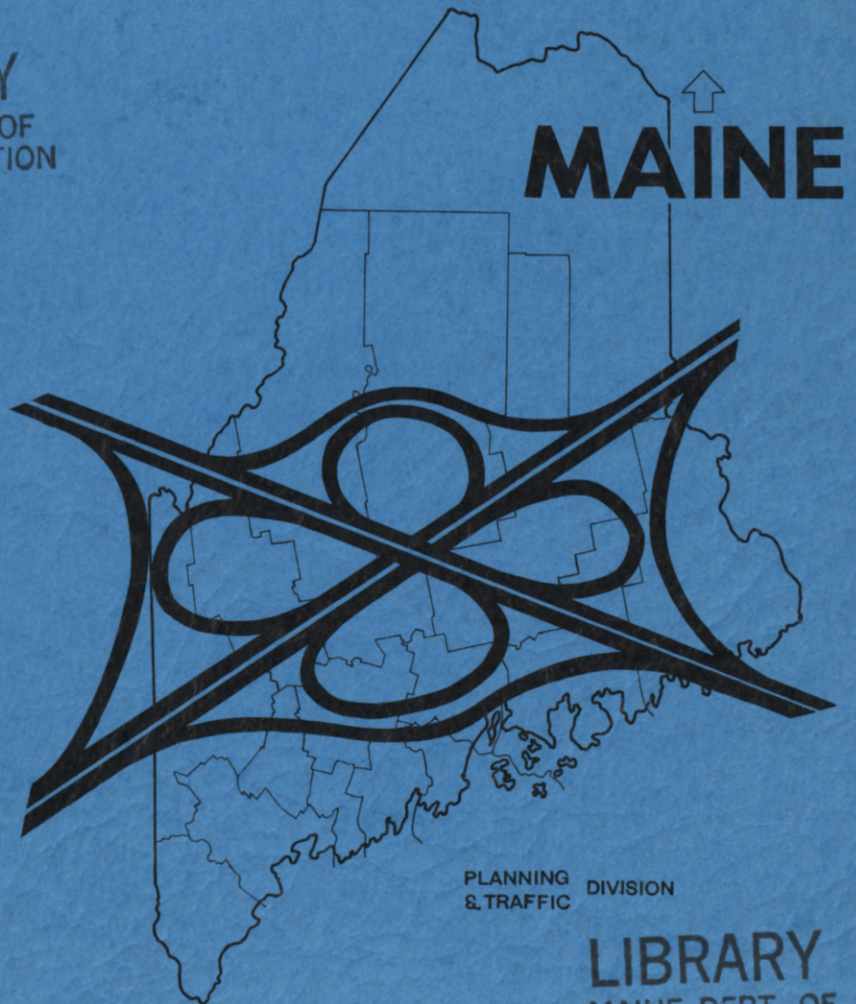
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EAST-WEST HIGHWAY

COST ESTIMATE REPORT

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EAST-WEST HIGHWAY

COST ESTIMATE

REPORT

Prepared by: The Maine State Highway Commission
//
January 1969

COMMISSIONERS

DAVID H. STEVENS
CHAIRMAN
BERTRAND A. LACHARITE
STEVEN D. SHAW

SYLVESTER L. POOR
CHIEF ENGINEER



Maine State Highway Commission

AUGUSTA, MAINE 04330

January 8, 1969

To the Honorable Senate and
House of Representatives of the
One Hundred and Fourth Legislature -

In accordance with the wishes of the 103rd Maine Legislature as expressed in the provisions of LD 1241, entitled AN ACT PROVIDING FOR A COST-ESTIMATE STUDY OF AN EAST-WEST MULTI-PURPOSE HIGHWAY THROUGH MAINE, the State Highway Commission herewith submits the enclosed report. The 342 mile facility is estimated, as proposed, to cost some \$450,000,000 at current cost levels.

Respectfully,

MAINE STATE HIGHWAY COMMISSION

Handwritten signature of David H. Stevens in cursive.

David H. Stevens, Chairman

Handwritten signature of Bertrand A. Lacharite in cursive.

Bertrand A. Lacharite

Handwritten signature of Steven D. Shaw in cursive.

Steven D. Shaw

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INTRODUCTION

The One Hundred and Third Maine Legislature directed the State Highway Commission to make a cost estimate study of an East-West highway as described in the following Act as well as to estimate the time required to complete the proposed highway. It should be noted that although the location is defined in the Act, no determination of an appropriate location is implied in this report. A copy of the Act follows:

STATE OF MAINE

IN THE YEAR OF OUR LORD NINETEEN HUNDRED
SIXTY-SEVEN

H.P. 833 -- L.D. 1241

AN ACT Providing for a Cost-Estimate Study of an East-West Multi-Purpose Highway Through Maine.

Be it enacted by the People of the State of Maine, as follows:

Sec. I. East-west multi-purpose highway. The State Highway Commission shall arrange for a cost-estimate study of the following east-west highway construction and the estimated time of completing this system.

This system would consist of a main east-west route and 3 spurs all being 4-lane, double-barreled-limited-access construction of the interstate highway design.

The main route would be from a 4-lane International Bridge across the St. Croix River near the Calais Country Club and proceeding west via Charlotte, Northfield, Deblois and East Holden connecting with a new 4-lane bridge over the Penobscot River which would connect with Route 395. This route would use Routes 395 and 95 as far as a point $1\frac{1}{2}$ miles south of the Pittsfield interchange. It would then proceed west via Skowhegan, Norridgewock, Farmington Falls, Livermore Falls, West Paris, Norway and Fryeburg.

A spur would extend from East Holden to the Mt. Desert Island Bridge.

A spur would extend from Farmington Falls to Rangeley and terminate at the Quebec border in the Town of Bowmantown, which is the northwest corner of Maine. A spur would run from Fryeburg to Gorham and Portland.

Sec. 2. Appropriation. There is allocated from the General Highway Fund the sum of \$1,000 to carry out the purpose of this Act.

CONCLUSIONS

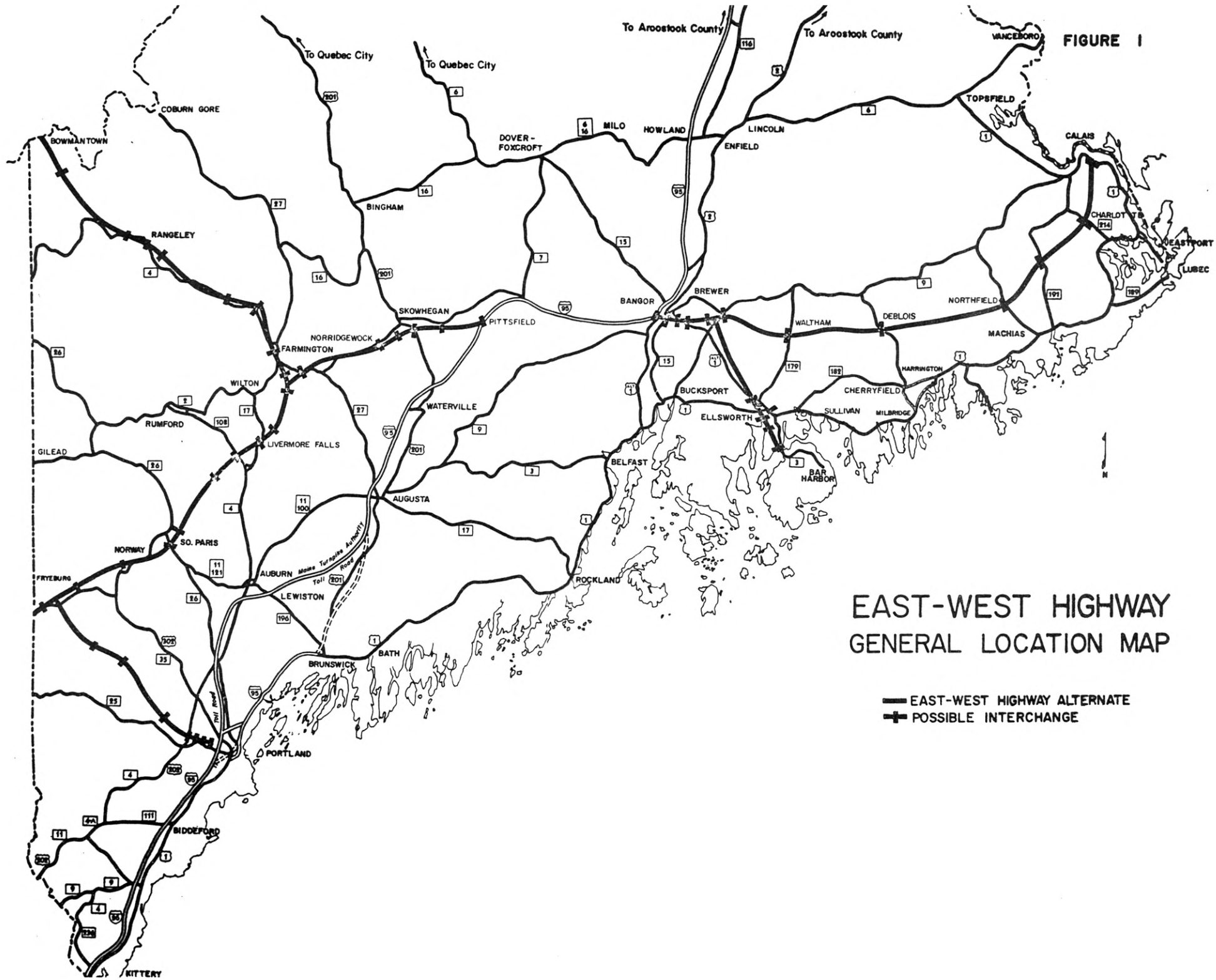
Given the basic location of the proposed East-West Highway in the Legislative Act passed by the 103rd Maine Legislature, the State Highway Commission reviewed the location and estimated the cost of constructing a four-lane limited-access highway between Calais and Fryeburg with associated spurs to be some \$450,000,000 at the 1967 construction cost level. The proposed highway is approximately 342 miles in length, including spurs.

Assuming the same level of construction as prevailed during the Interstate Highway program, namely an average of 15 miles per year, a total of nearly 23 years would be required to complete the construction of the proposed facility. Engineering manpower and contractor capability could be increased by the employment of consultants and through the use of large construction contracts if it were desirable to shorten the construction period. In this instance, a construction period of ten to fifteen years might be envisioned.

DESCRIPTION OF ROUTE

The four-lane limited access highway as described in the Legislative Act would extend southwesterly from a junction with U. S. Route 1 in the vicinity of the Calais Country Club and run generally westerly about midway between U. S. Route 1 and State Route 9 to Waltham, thence sweep northwesterly to Brewer and across the Penobscot River to Interstate Route 395. From Main Street (U. S. Route 1A) in Bangor this highway would run conjointly with Interstate Routes 395 and 95 to a point just west of Pittsfield. From that point to Farmington Falls the facility would generally parallel U. S. Route 2. At Farmington Falls, this route would swing southwesterly to Livermore Falls and thence extend westerly via South Paris to the westerly terminus at Fryeburg. Interchanges were located on the route for the purpose of estimating costs and at points where general highway service would be provided. Figure 1, which follows, shows the general location of the proposed facility, and a more detailed map showing the main highway, spurs and interchange locations is enclosed in the pocket inside of the back cover.

FIGURE 1



EAST-WEST HIGHWAY GENERAL LOCATION MAP

- EAST-WEST HIGHWAY ALTERNATE
- + POSSIBLE INTERCHANGE

FUNCTION OF ROUTE

The expressed function of the proposed East-West Highway is to provide improved highway travel facilities from upper New York, the Province of Quebec and midwest United States and Canada to Maine and the Canadian Maritime Provinces. A concomitant function is to assure more expeditious connections between areas in north central Maine and between the Bangor-Brewer urban complex and the more populous sections of Washington County.

Several other alternates are under consideration by various agencies to determine the most feasible location for an East-West highway to meet the expressed need.

LOCATION, COSTS AND CONSTRUCTION PERIOD

Location The general location was set forth in the Public Law. The more detailed location upon which the estimate was based was determined by the Commission's Location Section as a result of a preliminary review of U.S.G.S. Topographic maps and visual inspection of the major side road crossing locations.

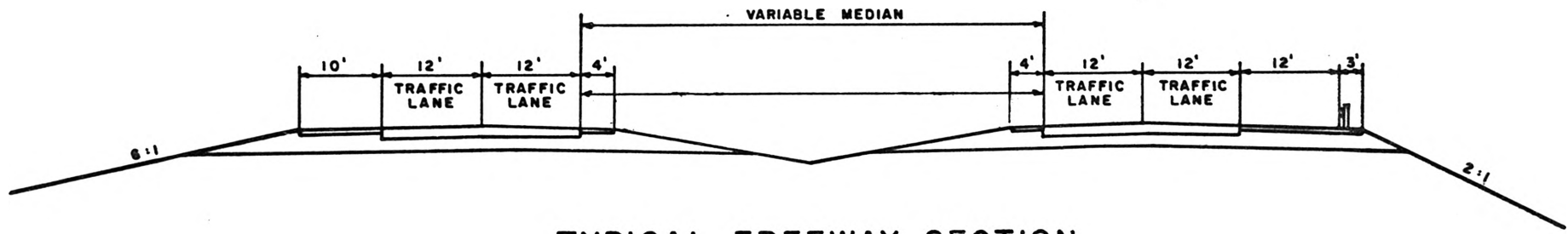
Costs Right of way estimates were based on figures obtained from the Interstate Highway cost estimates of 1967, from which similar types of land and right of way costs were extracted and applied to the subject estimate. Typical sections of the proposed highway and interchange ramps are shown in Figure 2.

Several completed Interstate projects dating back to June 1962 were reviewed and the costs per mile were computed to determine roadway costs on this proposal. The terrain was analyzed and the projects were categorized into three major groups; heavy, medium, or light grading. Costs were then adjusted to 1967 prices using a graph showing price trends as compiled by the State Highway Commission's computer section.

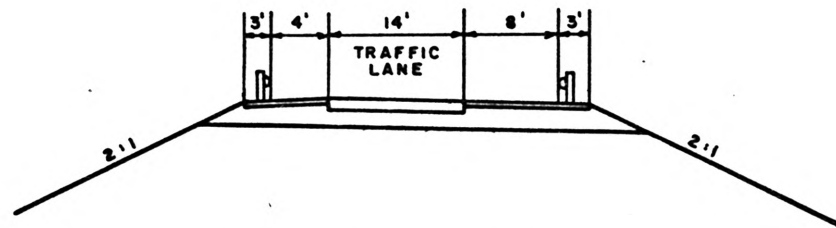
Roadside improvement estimates were based on the average cost of completed rest area and/or scenic turnouts. Frequency of facilities was estimated at 30 miles for each.

The costs of structures were estimated by the Commission's Bridge Division. Major river and stream crossings were estimated on an individual basis and normal side road overpasses were estimated on a 250 foot median width basis.

Figure 2



TYPICAL FREEWAY SECTION



TYPICAL RAMP SECTION

The estimates for interchange costs were based on average costs for diamond-type design as constructed on the Interstate Highway.

Signing costs were estimated on a basis of Interstate Highway costs per mile of roadway plus a lump sum at each interchange, and a lump sum for each private and public crossing was allowed for utility adjustments. A summation of costs is shown at the end of this report.

Construction Period Based upon experience during the Interstate Highway construction program, it is estimated that 15 miles per year would be constructed, requiring a total construction period of 22.8 years for the entire East-West proposal. Engineering manpower and contractor capability could be increased by the employment of consultants and through the use of large construction contracts if it were desirable to shorten the construction period. In this instance, a construction period of ten to fifteen years might be envisioned.

EAST-WEST MULTI-PURPOSE HIGHWAY COST ESTIMATE INCLUDING * SPURS

TOTAL 341.9 Miles

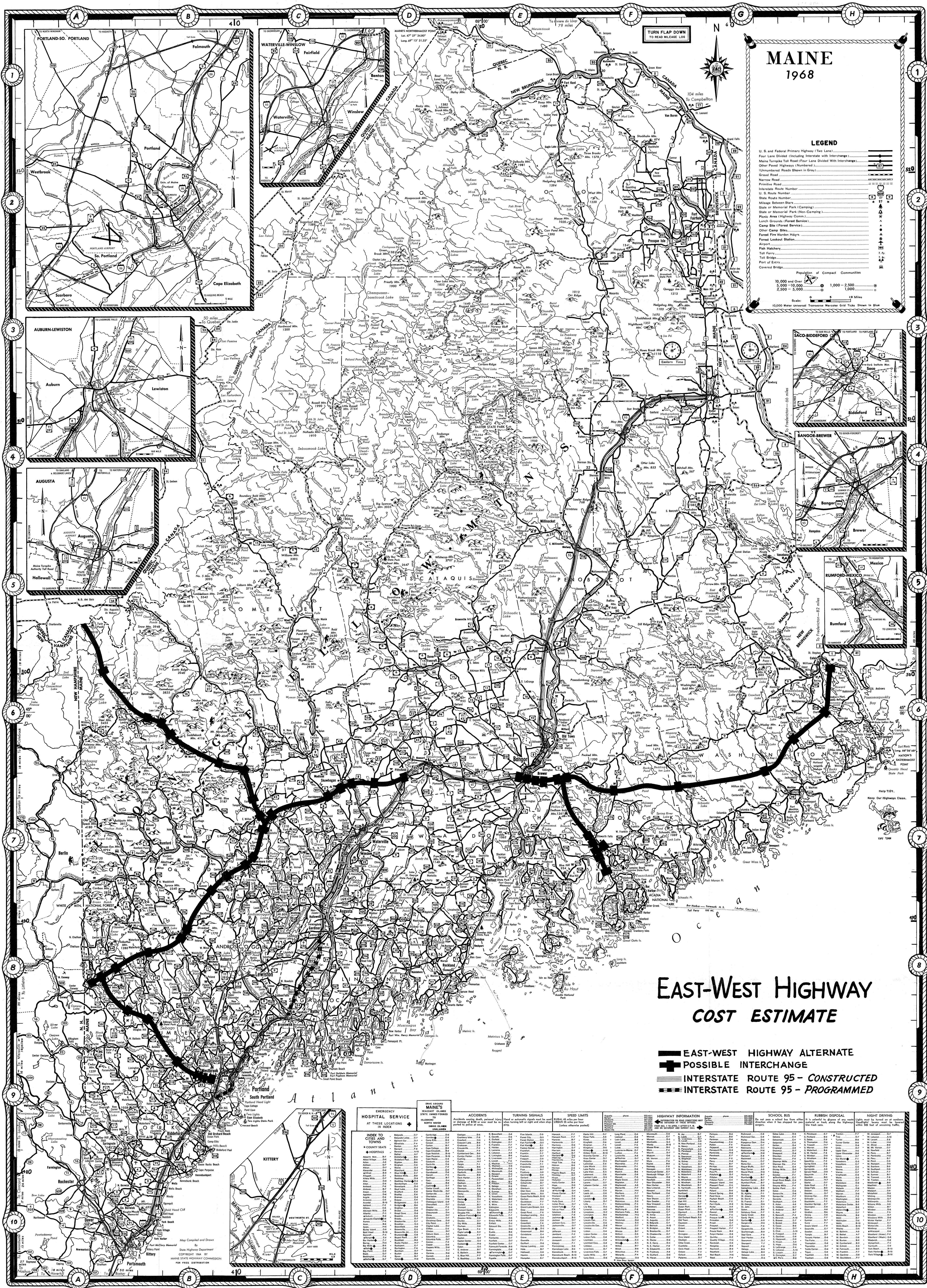
1. Preliminary Engineering (5% lines 3 thru 9)	\$ 18,872,297
2. Right of Way	4,089,875
3. Roadway	273,520,000
4. Roadway Improvements	8,699,500
a. Scenic Turnouts	
b. Rest Areas	
c. Landscaping	
5. Structures (Rivers and Streams)	20,370,000
6. Structures (Side Roads)	42,000,000
7. Interchanges	29,400,000
8. Signing	2,393,300
9. Utility Adjustments	1,063,156
10. Sub-total, Lines 3 thru 9	377,445,956
11. Construction Eng. & Contingencies, 10% Line 10	37,744,596
12. Total Cost of Construction, Lines 10 & 11	415,190,552
13. Total Estimated Cost, Lines 1, 2 & 12	438,152,724

"Say \$450,000,000"

* Spurs = 143.1 miles include Fryeburg to Portland, Farmington to Bowmantown, Holden to Bar Harbor.

The estimate of costs by various sections is as follows:

Calais to Bangor	\$118,499,131
Pittsfield to Farmington	49,954,725
Farmington to N.H. Boundary (Fryeburg)	93,174,666
Bar Harbor Spur	33,203,883
Bowmantown Spur	90,741,606
Portland Spur	52,578,713
	<hr/>
	\$438,152,724



MAINE 1968

LEGEND

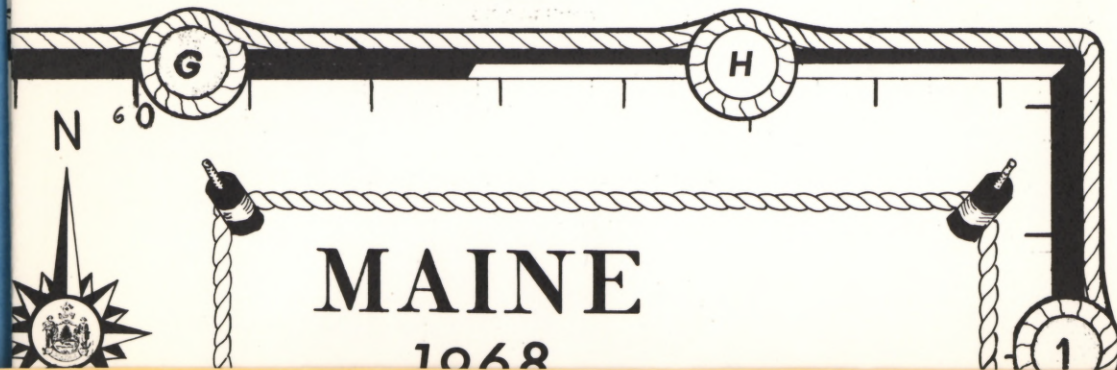
- U. S. and Federal Primary Highway (Two Lane)
 - Four Lane Divided (Including Interstate with Interchange)
 - Maine Turnpike Toll Road (Four Lane Divided With Interchanges)
 - Other Paved Highways (Numbered)
 - Unnumbered Roads (Shown in Gray)
 - Gravel Road
 - Narrow Road
 - Primitive Road
 - Interstate Route Number
 - U. S. Route Number
 - State Route Number
 - Minor Road
 - State or Memorial Park (Camping)
 - State or Memorial Park (Non-Camping)
 - Public Area (Highway Corridor)
 - Lunch Grounds (Food Service)
 - Camp Site (Food Service)
 - Other Camp Sites
 - Forest Fire Warden Hays
 - Forest Lookout Station
 - Airport
 - Fish Hatchery
 - Toll Ferry
 - Toll Bridge
 - Port of Entry
 - Covered Bridge
- Population of Compact Communities
- 10,000 and Over
 - 5,000 - 10,000
 - 1,000 - 5,000
 - 500 - 1,000
 - 2,500 - 5,000
- Scale: 0 5 10 Miles
1:62,500 Meter Universal Transverse Mercator Grid Ticks Shown in Blue

EAST-WEST HIGHWAY COST ESTIMATE

- EAST-WEST HIGHWAY ALTERNATE
- POSSIBLE INTERCHANGE
- INTERSTATE ROUTE 95 - CONSTRUCTED
- INTERSTATE ROUTE 95 - PROGRAMMED

EMERGENCY SERVICE		MAINE'S ROADWAYS		ACCIDENTS		TURNING SIGNALS		SPEED LIMITS		HIGHWAY INFORMATION		SCHOOL BUS		RUBBISH DISPOSAL		NIGHT DRIVING	
HOSPITAL SERVICE AT THESE LOCATIONS		ROADWAY TYPE		ACCIDENTS PER 100 MILES PER YEAR		TURNING SIGNALS		SPEED LIMITS		HIGHWAY INFORMATION		SCHOOL BUS		RUBBISH DISPOSAL		NIGHT DRIVING	
Albany	St. Joseph's	Albany	State	Albany	1.2	Albany	Left	Albany	20	Albany	10	Albany	10	Albany	10	Albany	10
Bangor	St. Joseph's	Bangor	State	Bangor	1.5	Bangor	Left	Bangor	20	Bangor	10	Bangor	10	Bangor	10	Bangor	10
Biddeford	St. Joseph's	Biddeford	State	Biddeford	1.8	Biddeford	Left	Biddeford	20	Biddeford	10	Biddeford	10	Biddeford	10	Biddeford	10
Brewer	St. Joseph's	Brewer	State	Brewer	2.0	Brewer	Left	Brewer	20	Brewer	10	Brewer	10	Brewer	10	Brewer	10
Burlington	St. Joseph's	Burlington	State	Burlington	2.2	Burlington	Left	Burlington	20	Burlington	10	Burlington	10	Burlington	10	Burlington	10
Calais	St. Joseph's	Calais	State	Calais	2.5	Calais	Left	Calais	20	Calais	10	Calais	10	Calais	10	Calais	10
Carroll	St. Joseph's	Carroll	State	Carroll	2.8	Carroll	Left	Carroll	20	Carroll	10	Carroll	10	Carroll	10	Carroll	10
Colton	St. Joseph's	Colton	State	Colton	3.0	Colton	Left	Colton	20	Colton	10	Colton	10	Colton	10	Colton	10
Concord	St. Joseph's	Concord	State	Concord	3.2	Concord	Left	Concord	20	Concord	10	Concord	10	Concord	10	Concord	10
Deer Isle	St. Joseph's	Deer Isle	State	Deer Isle	3.5	Deer Isle	Left	Deer Isle	20	Deer Isle	10	Deer Isle	10	Deer Isle	10	Deer Isle	10
Ellsworth	St. Joseph's	Ellsworth	State	Ellsworth	3.8	Ellsworth	Left	Ellsworth	20	Ellsworth	10	Ellsworth	10	Ellsworth	10	Ellsworth	10
Farley	St. Joseph's	Farley	State	Farley	4.0	Farley	Left	Farley	20	Farley	10	Farley	10	Farley	10	Farley	10
Fort Fairfield	St. Joseph's	Fort Fairfield	State	Fort Fairfield	4.2	Fort Fairfield	Left	Fort Fairfield	20	Fort Fairfield	10	Fort Fairfield	10	Fort Fairfield	10	Fort Fairfield	10
Fort Kent	St. Joseph's	Fort Kent	State	Fort Kent	4.5	Fort Kent	Left	Fort Kent	20	Fort Kent	10	Fort Kent	10	Fort Kent	10	Fort Kent	10
Frankfort	St. Joseph's	Frankfort	State	Frankfort	4.8	Frankfort	Left	Frankfort	20	Frankfort	10	Frankfort	10	Frankfort	10	Frankfort	10
Greenville	St. Joseph's	Greenville	State	Greenville	5.0	Greenville	Left	Greenville	20	Greenville	10	Greenville	10	Greenville	10	Greenville	10
Hallowell	St. Joseph's	Hallowell	State	Hallowell	5.2	Hallowell	Left	Hallowell	20	Hallowell	10	Hallowell	10	Hallowell	10	Hallowell	10
Houlton	St. Joseph's	Houlton	State	Houlton	5.5	Houlton	Left	Houlton	20	Houlton	10	Houlton	10	Houlton	10	Houlton	10
Ironville	St. Joseph's	Ironville	State	Ironville	5.8	Ironville	Left	Ironville	20	Ironville	10	Ironville	10	Ironville	10	Ironville	10
Jordan	St. Joseph's	Jordan	State	Jordan	6.0	Jordan	Left	Jordan	20	Jordan	10	Jordan	10	Jordan	10	Jordan	10
Kennebec Falls	St. Joseph's	Kennebec Falls	State	Kennebec Falls	6.2	Kennebec Falls	Left	Kennebec Falls	20	Kennebec Falls	10	Kennebec Falls	10	Kennebec Falls	10	Kennebec Falls	10
Kennebunk	St. Joseph's	Kennebunk	State	Kennebunk	6.5	Kennebunk	Left	Kennebunk	20	Kennebunk	10	Kennebunk	10	Kennebunk	10	Kennebunk	10
Kennebunkport	St. Joseph's	Kennebunkport	State	Kennebunkport	6.8	Kennebunkport	Left	Kennebunkport	20	Kennebunkport	10	Kennebunkport	10	Kennebunkport	10	Kennebunkport	10
Knox	St. Joseph's	Knox	State	Knox	7.0	Knox	Left	Knox	20	Knox	10	Knox	10	Knox	10	Knox	10
Lewiston	St. Joseph's	Lewiston	State	Lewiston	7.2	Lewiston	Left	Lewiston	20	Lewiston	10	Lewiston	10	Lewiston	10	Lewiston	10
Lisbon	St. Joseph's	Lisbon	State	Lisbon	7.5	Lisbon	Left	Lisbon	20	Lisbon	10	Lisbon	10	Lisbon	10	Lisbon	10
Lisbon Falls	St. Joseph's	Lisbon Falls	State	Lisbon Falls	7.8	Lisbon Falls	Left	Lisbon Falls	20	Lisbon Falls	10	Lisbon Falls	10	Lisbon Falls	10	Lisbon Falls	10
Lisbon Mills	St. Joseph's	Lisbon Mills	State	Lisbon Mills	8.0	Lisbon Mills	Left	Lisbon Mills	20	Lisbon Mills	10	Lisbon Mills	10	Lisbon Mills	10	Lisbon Mills	10
Lisbon Waterbury	St. Joseph's	Lisbon Waterbury	State	Lisbon Waterbury	8.2	Lisbon Waterbury	Left	Lisbon Waterbury	20	Lisbon Waterbury	10	Lisbon Waterbury	10	Lisbon Waterbury	10	Lisbon Waterbury	10
Lisbon West	St. Joseph's	Lisbon West	State	Lisbon West	8.5	Lisbon West	Left	Lisbon West	20	Lisbon West	10	Lisbon West	10	Lisbon West	10	Lisbon West	10
Lisbon York	St. Joseph's	Lisbon York	State	Lisbon York	8.8	Lisbon York	Left	Lisbon York	20	Lisbon York	10	Lisbon York	10	Lisbon York	10	Lisbon York	10
Lisbon Yorkville	St. Joseph's	Lisbon Yorkville	State	Lisbon Yorkville	9.0	Lisbon Yorkville	Left	Lisbon Yorkville	20	Lisbon Yorkville	10	Lisbon Yorkville	10	Lisbon Yorkville	10	Lisbon Yorkville	10
Lisbon Yorkville West	St. Joseph's	Lisbon Yorkville West	State	Lisbon Yorkville West	9.2	Lisbon Yorkville West	Left	Lisbon Yorkville West	20	Lisbon Yorkville West	10	Lisbon Yorkville West	10	Lisbon Yorkville West	10	Lisbon Yorkville West	10
Lisbon Yorkville Westville	St. Joseph's	Lisbon Yorkville Westville	State	Lisbon Yorkville Westville	9.5	Lisbon Yorkville Westville	Left	Lisbon Yorkville Westville	20	Lisbon Yorkville Westville	10	Lisbon Yorkville Westville	10	Lisbon Yorkville Westville	10	Lisbon Yorkville Westville	10
Lisbon Yorkville Westville West	St. Joseph's	Lisbon Yorkville Westville West	State	Lisbon Yorkville Westville West	9.8	Lisbon Yorkville Westville West	Left	Lisbon Yorkville Westville West	20	Lisbon Yorkville Westville West	10	Lisbon Yorkville Westville West	10	Lisbon Yorkville Westville West	10	Lisbon Yorkville Westville West	10
Lisbon Yorkville Westville Westville	St. Joseph's	Lisbon Yorkville Westville Westville	State	Lisbon Yorkville Westville Westville	10.0	Lisbon Yorkville Westville Westville	Left	Lisbon Yorkville Westville Westville	20	Lisbon Yorkville Westville Westville	10	Lisbon Yorkville Westville Westville	10	Lisbon Yorkville Westville Westville	10	Lisbon Yorkville Westville Westville	10

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