

# SENATE . . . . . No. 2

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## The Commonwealth of Massachusetts

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### SPECIAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS UPON ITS INVESTIGATION RELATIVE TO COSTS AND ROUTES OF PROPOSED STATE HIGHWAYS IN OR NEAR THE CITY OF FITCHBURG.

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DEPARTMENT OF PUBLIC WORKS,  
100 NASHUA STREET, BOSTON, MASS., December 5, 1933.

*To the Honorable Senate and the House of Representatives of the  
Commonwealth of Massachusetts.*

In accordance with the provisions of chapter 14, Resolves of 1933, the Department of Public Works presents herewith its report upon its investigation relative to the costs and routes of proposed state highways in or near the city of Fitchburg.

Chapter 14, Resolves of 1933, follows:

*Resolved.* That the department of public works is hereby authorized and directed to investigate the cost, and the most satisfactory route, of a state highway commencing at a point in the existing state highway in the town of Harvard, thence through the town of Lancaster and the city of Leominster to a point in the existing state highway in the town of Westminster, together with such extensions of said proposed state highway to a point in the town of Boxborough and to a point in the city of Fitchburg as the said Department may deem necessary, in order to provide a suitable through route running in a general easterly and westerly direction south of said city of Fitchburg, and also of the proposed

state highway referred to in section one of current senate document numbered one hundred and nine. Said department shall report to the general court the results of its investigations, and its recommendations, if any, together with drafts of legislation necessary to carry such recommendations into effect, by filing the same with the clerk of the senate on or before the first Wednesday of December in the current year, and shall file at the same time a copy thereof with the budget commissioner.

No appropriation was made to cover the cost of this investigation other than the regular appropriations for the activities of the Department.

Senate Document No. 109 refers to the proposed construction of a state highway from the junction of West Street and Maple Avenue in the city of Leominster to a point in the Westminster-Fitchburg highway (Route No. 2) near the junction of Route No. 120 with Route No. 2 in the city of Fitchburg. Such a highway would lie over new location in part, but largely over existing highways, and for quite a distance would follow the road known formerly as the Fifth Massachusetts Turnpike. Considered by itself this suggested highway would not be considered as a state highway, because it has only local importance, making it possible for traffic from Leominster and some points east and south to reach the present Route No. 2 without passing through the center of Fitchburg. Further consideration, however, of a portion of the highway is given herein, in the study for a new location for Route No. 2 as required by this resolve.

The proposed state highway briefly described in this resolve is intended to be a through route from the town of Harvard through the town of Lancaster and the city of Leominster to connect with the present state highway (Route No. 2) in Westminster, with connections to Boxborough and Fitchburg. Apparently it is implied that the existing state highway from Boxborough easterly to the present Route No. 2 in Concord would be a part of the proposed route.

## PROPOSED ROUTE.

This proposed route is essentially a new location for Route No. 2 which would by-pass both the cities of Fitchburg and Leominster.

Although the resolve defines the beginning of this route to be in the town of Harvard, with an extension easterly therefrom to a point in Boxborough, the Department's study indicated that it would be desirable (1) to avoid the artillery firing range of Fort Devens; (2) to avoid the steep hills in the town of Harvard; and (3) to improve the whole of the highway from Boxborough through Acton to the junction with Route No. 2 at Concord Reformatory. Hence the new route may be described as follows:

Beginning at the Concord Reformatory on the existing Route No. 2 in Concord; thence following the existing state highway through Acton, by-passing the village of West Acton, by swinging southerly thereof to a point at which an overhead bridge would cross the main line of the Fitchburg Division of the Boston & Maine Railroad; thence swinging back to the existing highway at a point near the Acton-Boxborough town line; thence following the highway to a point about one and one-quarter miles east of the Harvard-Boxborough town line; thence swinging southwesterly over new location through portions of Harvard and Bolton, and crossing through Lancaster to a point near North Leominster; thence following more or less existing roads and some new location in Leominster; crossing into the southerly part of Fitchburg and continuing westerly at a distance of about one-fourth mile north of the Leominster-Fitchburg town line; thence continuing over new location and existing roads to a junction with the existing Route No. 2 in the village of Westminster.

The connection with Fitchburg would be made by way of the present Route No. 12 from Leominster.

## DESIRABILITY.

The advantages of the proposed new through route over the existing location of Route No. 2 are the following:

1. The distance along the present Route No. 2 from Concord Reformatory to the new connection in Westminster is 34 miles, whereas the distance along the new route would be 30 miles, representing a saving of 4 miles. The saving in the running time over the new route would be in a greater ratio than the saving in mileage, due to the avoiding of thickly settled centers and to the improved alignment and gradient that is possible with the new locations. By the new route the distance from the Concord Reformatory to Fitchburg would be 24.5 miles as compared with 26.5 miles by the present Route No. 2. Also, traffic from Lancaster, Clinton, etc., would have a favorable new outlet to points northwest, north and east.

2. The cost to improve the present Route No. 2 would amount to about \$3,840,000, not including about 4.3 miles through the city of Fitchburg to connect the present ends of the state highway layout. This section through Fitchburg cannot be satisfactorily widened and improved, nor satisfactorily by-passed. Partial re-routing, not really a by-pass of the city, but merely a re-routing of through traffic from the Fitchburg railroad station along the southerly side of the railroad to Cleghorn, a distance of about 1.5 miles, has been suggested. This is not recommended because of bad turns and intersections, as well as on account of physical conditions which make suitable improvements too expensive to be considered.

The cost of the proposed new route is estimated at about \$3,200,000.

3. The disturbance to property along the present Route No. 2 would be very great, and it would be almost impossible to provide the improvement necessary in the present route, even at the expense estimated. But the construction along the proposed route would

cause very little disturbance to property except at West Acton and North Leominster. At those points, however, it does not appear that there would be serious difficulty. The new location, also, would lead to the development of new territory.

#### FEASIBILITY.

There have been found no physical difficulties that cannot be overcome at reasonable cost, although the crossing of the new route with Route No. 12 in Leominster would be expensive construction. That crossing involves, also, the crossing of the Fitchburg branch of the New York, New Haven & Hartford Railroad, which is so situated with regard to highway Route No. 12, close to and parallel with it, that a separation of the proposed highway and the railroad grades makes it necessary, also, to separate both highway grades with practically one operation, which probably would be an underpass of both, which is estimated to be the least costly method. This point would also be the connection which would permit the new route easterly of this point to serve for all through traffic between Boston and Fitchburg.

#### ESTIMATES OF COST.

Careful reconnaissance surveys and airplane maps have been made of the areas presenting difficult problems, and the estimates of cost are as accurate as possible, without having had opportunities to make accurate surveys.

The location selected in Lancaster was due largely to the desirability of avoiding the firing range of Fort Devens, and the location in Harvard was selected to avoid the steep hills. In both of these towns locations were selected which will give satisfactory lines and grades.

The estimates of cost are based on the use of a three-lane dual type of pavement (*i.e.*, two outer lanes

of cement concrete and a center lane of penetration macadam) on a location 80 feet in width.

No grade separations at highway crossings are considered necessary, except that at the crossing of Route No. 12 in North Leominster. There would be four steam railroad crossings, as follows:

1. In Concord; the Lowell-Framingham Branch of the New York, New Haven & Hartford Railroad, to be at grade.

2. At West Acton; the main line of the Fitchburg Division of the Boston & Maine Railroad, by an overhead bridge.

3. At Lancaster; the Worcester-Nashua and Portland Division of the Boston & Maine Railroad, by an overhead bridge.

4. At North Leominster; the Fitchburg Division of the New York, New Haven & Hartford Railroad, probably by an underpass.

The costs of these bridges are included in the estimate herewith presented.

TOWN OR CITY.	Length of Highway (Miles).	Estimated Cost, including Bridges and Property Costs.
Concord . . . . .	1.03	\$62,000
Acton . . . . .	4.26	352,600
Boxborough . . . . .	3.68	252,300
Harvard (East) . . . . .	2.13	181,200
Bolton (East) . . . . .	1.14	87,800
Harvard (West) . . . . .	.96	74,100
Bolton (West) . . . . .	.74	126,400
Lancaster . . . . .	4.96	454,700
Leominster . . . . .	4.56	500,000
Fitchburg . . . . .	4.00	323,600
Westminster . . . . .	2.50	220,300
Total . . . . .	29.96	\$2,616,700
10 per cent for contingencies . . . . .	—	261,670
	—	\$2,878,370
10 per cent for engineering . . . . .	—	287,837
Total . . . . .	—	\$3,166,200

As a matter of expense it is evident that the improvement to be gained by the construction of the proposed new route is very much better than any improvement that can be designed for the present Route No. 2, and should be done as soon as funds are available.

It is reasonable to assume that the work could be done within a three-year period, but it would require at least a year of surveying and planning before actual construction could be started.

The proposed through route, when built, should be a state highway, and authority for laying out the same being vested in the Department, by chapter 81 of the General Laws, special legislation does not appear to be necessary.

The Department therefore, in presenting the estimates of cost and desirability of the route, makes no definite recommendations for legislation, believing that this work should be undertaken by the Department when funds become available.

Respectfully submitted,

DEPARTMENT OF PUBLIC WORKS.

FRANK E. LYMAN,

*Commissioner of Public Works.*

RICHARD K. HALE,

*Associate Commissioner.*

H. A. MACDONALD,

*Associate Commissioner.*

