

HOUSE No. 2494

The Commonwealth of Massachusetts

SPECIAL REPORT OF THE DIVISION OF METROPOLITAN PLANNING RELATIVE TO THE ADVISABILITY OF EXTENDING THE RAPID TRANSIT SYSTEM OF THE BOSTON ELEVATED RAILWAY FROM LECHMERE SQUARE IN CAMBRIDGE THROUGH DAVIS SQUARE IN SOMERVILLE TO ARLINGTON.

DIVISION OF METROPOLITAN PLANNING,
20 SOMERSET STREET, BOSTON, July 14, 1939.

To the Honorable Senate and House of Representatives in General Court assembled.

Chapter 21 of the Resolves of 1939, approved May 29, 1939, reads as follows:

RESOLVE PROVIDING FOR AN INVESTIGATION BY THE DIVISION OF METROPOLITAN PLANNING RELATIVE TO IMPROVING TRANSPORTATION FACILITIES FOR THE CITY OF SOMERVILLE AND THE TOWN OF ARLINGTON.

Resolved, That the division of metropolitan planning of the metropolitan district commission is hereby authorized and directed to investigate the advisability of extending the rapid transit system of the Boston Elevated Railway through Lechmere Square, Cambridge, and Davis Square, Somerville, to Arlington, and also the possibility and advisability of financing the work herein referred to in whole or in part by means of grants or loans from the federal government through Public Works Administration or Works Progress Administration or otherwise, and the possibility and advisability of financing any balance of such work, remaining after the expenditure of such loans or grants, by means of loan, grant or otherwise from the Recon-

struction Finance Corporation or other federal authority. Said division shall report to the general court the results of its investigations and its recommendations, if any, together with drafts of such legislation as may be necessary to carry its recommendations into effect, by filing the same with the clerk of the house of representatives on or before June fifteenth of the current year.

In accordance with the provisions of the resolve, this Division filed with the Clerk of the House of Representatives on June 15 a communication calling attention to the short time allowed, that is, seventeen days, and requested that the time for receiving the Division's final report be extended. A subsequent order of the Legislature extended the time to July 15.

In compliance with the resolve and the aforesaid order, the Division now respectfully submits its report.

The question of rapid transit extension to Somerville and Arlington is by no means a new one. This Division has studied and reported on this project several times in the past, the most recent legislative report being Senate, No. 3 of 1935. All of our previous studies arrived at the same conclusion: that the project, while desirable from the standpoint of convenience to the people of the districts to be served, could not be justified because of the construction costs and the resultant rental charges, which would only go to increase the deficit of the Boston Elevated Railway.

With that rather discouraging fact in mind we have set out in our consideration of the problem this time to try to find a suitable and economical way of providing improved transportation service to the municipalities concerned.

The resolve directs a study of the "advisability of extending the rapid transit system of the Elevated". "Rapid transit" in its strictest sense implies high speed, third rail propelled trains, such as are now operated on the Cambridge-Dorchester, Washington Street Tunnel and East Boston Tunnel routes. The present service to Lechmere Square is provided by the operation of the

centre entrance type of trolley car through the Tremont Street subway and over the East Cambridge viaduct. To provide third-rail operation to Lechmere Square would necessitate an extension of the East Boston Tunnel from its present terminus at Bowdoin Square to connect with the viaduct near the North Station. This would entail an expense of \$2,200,000, to which would have to be added a cost of approximately \$8,500,000, making a total of almost \$11,000,000 for providing rapid transit to Arlington.

We have, therefore, dismissed as impracticable at this time further consideration of this type of extension, and have tried to work out a route which would provide adequate service with a minimum amount of construction investment by using the existing facilities for high speed trolley operation, employing the present type of center entrance cars in trains. The route which is described below is laid out in such a manner as to permit alteration and extension for third-rail operation at a future date. Plans for the route, six sheets numbered study 5-50, accompany this report.

At present, the East Cambridge viaduct approaching Lechmere Square from Boston curves in a westerly direction across the McGrath Highway (Northern Artery) and comes to grade at Lechmere Station. The proposed plan would remove the structure across the square, abandon the existing station, and by means of a tangent extension of the structure on the northerly side of the McGrath Highway would provide a new elevated station with entrance and busway facilities at the street level. It can be readily seen what an improvement this would be to the McGrath Highway at Lechmere Square by the removal of the columns which now impede the movement of traffic passing through that point. Proceeding westerly, the tracks, after leaving the proposed station, would be carried on an elevated structure to be located at the southerly side of the Boston & Maine freight yards and adjacent to the properties now served by the

railroad sidings. The structure would in part be located on railroad property, and at some locations narrow strips of private property would have to be taken to provide space for the structure and railroad sidings. The Boston & Maine tracks and sidings would, where necessary, be relocated and carried under the structure.

We had hoped in connection with our studies of a few years ago to obtain approval of this route through the yard from the Boston & Maine officials. At that time, they strongly objected, as they believed that they would lose considerable trackage. In our present study we have conferred several times with the Boston & Maine engineers and now believe that, as a result of considerable detailed study, a satisfactory plan can be worked out. Since this will involve a great deal of design and rearrangement of the yard, much more time will be required to work out the details for this particular portion of the route.

The structure would continue to a point near Washington Street, then descend to a proposed station at the site of the old Prospect Hill Station. The route would be carried under Cross Street by means of a short subway section. The McGrath Highway bridge over the railroad was built to accommodate two additional rapid transit tracks, and would, therefore, require no alterations.

Continuing toward Winter Hill, the Walnut Street and Medford Street bridges would have to be enlarged to allow the passage of the rapid transit tracks. There would be a station at Winter Hill, with entrance and exit facilities to Medford and School streets. The School Street bridge would also have to be extended. From there to Somerville Junction the route would continue on the south side of the railroad, with a station just west of Central Street. The bridges at Sycamore and Central streets would have to be enlarged. At Somerville Junction the tracks would turn westerly into the right of way of the Lexington branch of the Boston & Maine Railroad.

Beyond the junction the route would follow the existing railroad location to Davis Square with a station at Somerville Highlands. Grade crossings at Cedar Street and Willow Avenue would be eliminated. A single track location would be provided for the railroad to serve most of the existing sidings. The route would pass under Holland Street and College Avenue, coming to the surface at the proposed Davis Square Station, which would be located west of the square.

Although the resolve directs a study to include Arlington, we see no advantage in carrying the high speed trolley beyond Davis Square. To continue this type of service to Arlington would necessitate using the Lexington branch between Massachusetts Avenue, North Cambridge and Arlington Centre. The railroad location between these points skirts the edge of the district to be served and would offer no improvements in service, and would, in fact, necessitate longer walks for most of the car riders to reach the stations. Better service could be furnished by operating trolley cars on Massachusetts Avenue as at present between Arlington and the proposed Davis Square Station, where transfer to the high speed service could be effected. The station at Davis Square would provide transfer facilities for the Arlington cars and busses from other points.

The construction cost of the project as above outlined is estimated to be \$5,800,000, which does not, however, include any payment to the Boston & Maine Railroad for occupancy of its right of way and yard property. That portion of the cost cannot be determined until more details of the yard changes hereinbefore mentioned are worked out.

The resolve directs the Division to report on the advisability and possibility of securing Federal grants or loans from the Public Works Administration, Works Progress Administration, and the financing of the balance from the Reconstruction Finance Corporation or other Federal authorities.

In our opinion, the proper agency to sponsor the construction of this project, when and if it is built, is the Boston Metropolitan District, as established by chapter 383 of the Acts of 1929, amended by chapter 147 of 1932. The District has authority under these chapters to employ the Boston Transit Department as engineering and constructing agents for rapid transit extensions.

The project could be divided between P. W. A. and W. P. A. by defining the elevated structure portion as a "heavy construction" project under P. W. A. The estimated cost of the structure, including the proposed Lechmere Station, is \$1,200,000. Assuming a 45 per cent grant, the remaining 55 per cent, or \$660,000, would have to be borne by the District. Deducting the real estate cost of \$700,000 from the total of \$5,800,000 leaves \$5,100,000 total construction cost. Again, deducting from this figure the above P. W. A. figure of \$1,200,000 leaves \$3,900,000 for W. P. A. If a grant of 65 per cent of this amount could be obtained, there would remain \$1,365,000 to be assumed by the District. In conference with the W. P. A. engineers, we were informed that this would undoubtedly be considered a desirable W. P. A. project, but a final decision could not be arrived at in the brief time permitted for this study.

We see no advantage in including any provision for Reconstruction Finance Corporation loan or any Federal loan as we believe that the District can secure better interest rates by the sale of its own bonds to cover its portion of the cost.

Under this arrangement the cost may be recapitulated as follows:

P. W. A. grant	\$540,000
W. P. A. grant	2,535,000
District bond issue	2,725,000
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Total (not including Boston & Maine payment)	\$5,800,000

We are informed that at present no P. W. A. funds are available, and, due to legislation now pending in Wash-

ington, the future of P. W. A. and the likelihood of further grants is rather uncertain.

Regardless of the possibility or amounts of Federal grants, the proposed extension does not seem to present a very inviting operating figure. Even without taking into consideration any rental figure which the Elevated would have to bear, it is estimated that maintenance and other operating costs would represent a net loss of approximately \$200,000 per year. To offset this loss would require an additional 2,000,000 passengers per year. The districts to be served are already solidly built up, and offer little prospect of expansion from which new riders could be obtained. Improved service might change the riding habits of some people who now use automobiles to get to Boston. Parking spaces could be provided near the stations in order to attract new riders, but it is doubtful that sufficient numbers could be attracted to make this a profitable extension.

In the extremely short time allowed for this investigation no other nor better solution has presented itself. It is very distasteful to have to repeatedly report against this very desirable route, which we know is so important to the people of Somerville, North Cambridge and Arlington, but with the Elevated operating as it is at present, at an annual deficit of about two and one-half million dollars, we cannot conscientiously recommend this project, which would only tend to increase the heavy burden now borne by the taxpayers.

We do not, however, feel that our work on this project is completed. There is pending in the Legislature a resolve which directs the Division to make a comprehensive report on the possibilities of co-ordinating all of the transportation facilities in the Metropolitan District. If that resolve is passed, we will again consider this route as part of a more complete project which would involve the East Boston tunnel and further extensions to the north.

Accordingly, the Division makes no recommendation at this time.

We are indebted to the officials and engineers of the Boston Elevated Railway and Boston & Maine Railroad for their co-operation in furnishing operating and engineering data in connection with the preparation of this report.

Respectfully submitted,

DIVISION OF METROPOLITAN PLANNING.

By JAMES D. HENDERSON, *Chairman.*

FREDERICK J. MAHONY.

PAUL C. RYAN.

JOHN M. WHOULEY

WILLIAM F. ROGERS.

DANIEL P. MCGILLICUDDY.

HENRY I. HARRIMAN, *Director.*

Mr. Eliot Wadsworth, Vice Chairman, is absent from the city, and therefore is unable to sign the report.