STATE STREET BRIDGE AND EAST-WEST HIGHWAY *

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FOR those members of the Society that live in the Hartford area, the title assigned to me for this paper, "The State Street Bridge and East-West Highway" will need no further explanation. There are those, however, who may live in distant areas of the State to which the title will have little meaning. I can assure them that the East-West Highway is not a road of international character trying to link the principles and doctrines of the eastern world with those of the western world, but instead it is a highway in Hartford planned to link the western limits of Metropolitan Hartford with the central and eastern limits and which interconnects with a new crossing of the Connecticut River known as the State Street Bridge. While the highway has no international significance, it is not without its social and economic problems.

State Street Bridge

Although the East-West Highway and the State Street Bridge are interrelated, they lend themselves to separate treatment and as the State Street Bridge is the further advanced, I will discuss that project first. I would like you to think of this bridge location problem as one where we are trying to determine whether a new Connecticut River crossing is needed at Hartford and, if so, where it should be located. So for the time being, let us forget the term "State Street Bridge" and think in more general terms of a new river crossing at Hartford.

In the short time allotted to this talk, it will be necessary to use illustrations to bring out many of the pertinent facts. In Figure 1, you will see, readily, the need for giving consideration to a new highway crossing of the Connecticut River at Hartford. The upper portion of this diagram indicates traffic on the Bulkeley Bridge and the lower portion indicates traffic on the Charter Oak Bridge, the only two existing bridges at Hartford over the Connecticut River. In 1946, when the World War II restrictions on usage of gasoline and critical materials had been lifted, there was an average daily traffic volume of 47,100 vehicles crossing the Connecticut River at Hartford. 32,700 of these trips were over the Bulkeley Bridge and only 14,400 were

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on the Charter Oak Bridge. By 1954, only eight years later, the total river crossings had more than doubled to a point where the average daily traffic was 95,600, of which 42,800 was on the Bulkeley Bridge and 52,800 was on the Charter Oak Bridge. It is worthy of note that the traffic volume on the Bulkeley Bridge has had only a moderate increase, whereas, the Charter Oak Bridge has had very remarkable increases. There is no indication that motor vehicle travel is not going to continue to increase for a number of

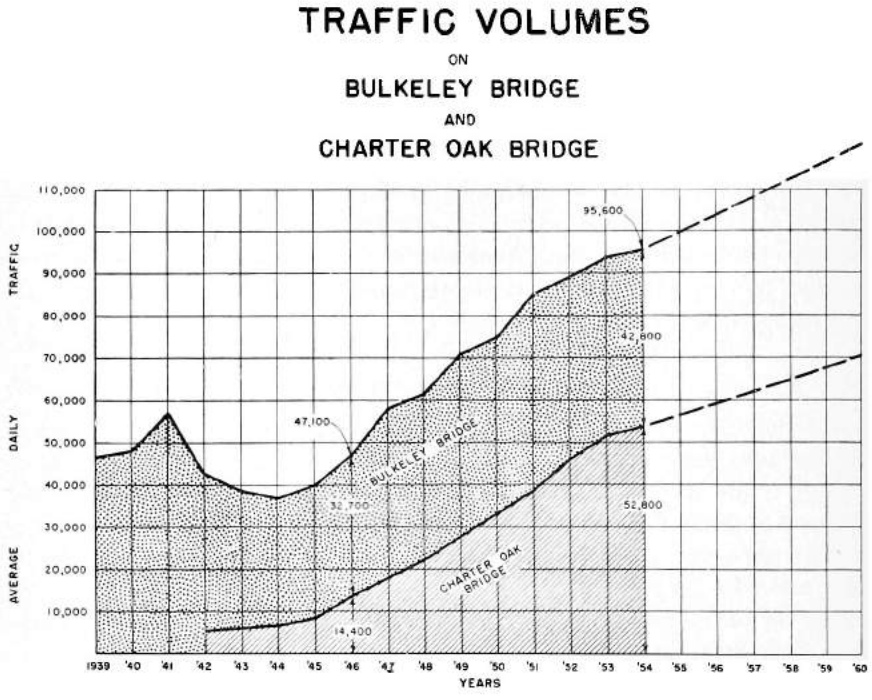


FIGURE 1

years, yet those of you that must cross either of these bridges in the morning or afternoon peak hours, will wonder how it is possible for them to handle any further increase in traffic. Actually, during peak flows, they are now operating beyond a practical capacity and any increase in traffic will only result in greater delays, greater irritation on the part of motorists and a lengthening of the time needed to get to and from work. I do not believe it is necessary do dwell longer on the need for a new river crossing at Hartford, for even the most ardent opponent of the State's plan will admit to the ever growing congestion problem at the two existing bridges.

Figure 2 is a diagram showing the distribution of traffic crossing the Connecticut River. It is a composite of a number of origin and destination

surveys conducted in the Hartford area in the last several years. It is from such data, origin and destination data, that the traffic engineer can determine the major traffic movements and where highway facilities should be located to serve the greatest number of road users and consequently result in the greatest traffic reduction on existing facilities. It may be seen of the

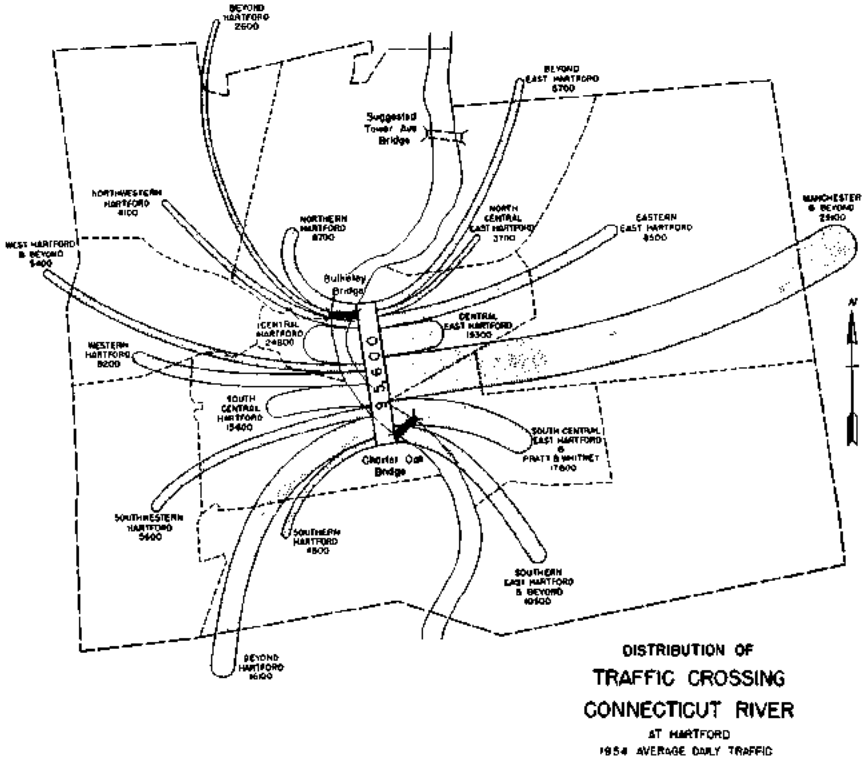


FIGURE 2

95,600 crossings of the Connecticut River at Hartford in 1954, only 24,100 or 25% had a termini to the west beyond Hartford. The major movements were to and from central and south central Hartford. Of the local or semi-local trips having a termini in East Hartford, the central East Hartford area and south central area around Pratt and Whitney Aircraft were the largest. The traffic to Manchester an beyond was the largest single flow of traffic to and from the east.

It is obvious from this diagram that a new bridge should not be located any appreciable distance from a straight line connecting the center of Hartford and East Hartford if it is to be of real benefit to the solution of the present traffic problem. The Highway Department has selected its bridge

location between the Bulkeley and Charter Oak Bridges and opposite State Street in Hartford.

There have been numerous people recommending a bridge location opposite Tower Avenue in Hartford because of a lower right of way cost and the availability of more unused land at this location. In solving a traffic problem, you don't pick the easiest place to build a facility and then hope the traffic will change its pattern to reach the facility, instead you mold the highway improvement to fit the traffic pattern.

On this plan is shown the Charter Oak and Bulkeley Bridge locations and the bridge location suggested at Tower Avenue. While a bridge at Tower Avenue would serve certain traffic movements in the northern section of Hartford, it would not serve the major flows of traffic anywhere near as well as a bridge located nearer the center of Hartford.

Actually, after the State Street location, the most logical location for another bridge, which is not too far in the future if traffic continues to grow at the present rate, is south of the Charter Oak Bridge. You will recall from the first diagram that the Charter Oak Bridge traffic was growing much faster than the Bulkeley Bridge traffic. This is due in no small part to the very substantial growth in through traffic being experienced on our major routes all over the State. A bridge south of the Charter Oak Bridge would take all through traffic from that bridge as well as from the congested, overloaded expressways leading to the bridge. How many years away such a southerly bridge may be must be left up to the people of the State and their willingness to pay for needed highway improvements.

Having decided on the State Street Bridge location for the proper bridge location at this time, it is necessary for it to fit into a road system interconnecting with existing highways.

Figure 3 indicates the overall road network planned in the vicinity of the State Street Bridge. All heavy black lines are either existing or proposed controlled access highways. You will see the Charter Oak Bridge, the Veterans Highway, the Riverfront Expressway, the beginning of the East-West Highway, South Meadows Expressway, the Wilbur Cross Highway, connections to the Glastonbury Expressway, Route 5 to the north, and the Bulkeley and State Street Bridges. You will note that the Bulkeley Bridge will have new expressway approaches to obtain the greatest usefulness possible from this excellent structure. You will also note that the approaches to the Bulkeley Bridge on the westerly side of the river will serve to a large extent, traffic to and from the north, while the westerly State Street Bridge approaches will serve very well, traffic to and from the south. This system of separating traffic flows, has simplified the design and eliminated congested weaving areas on the north-south expressway legs. The East- West Highway begins at the end of the Bulkeley Bridge.

FIGURE 3

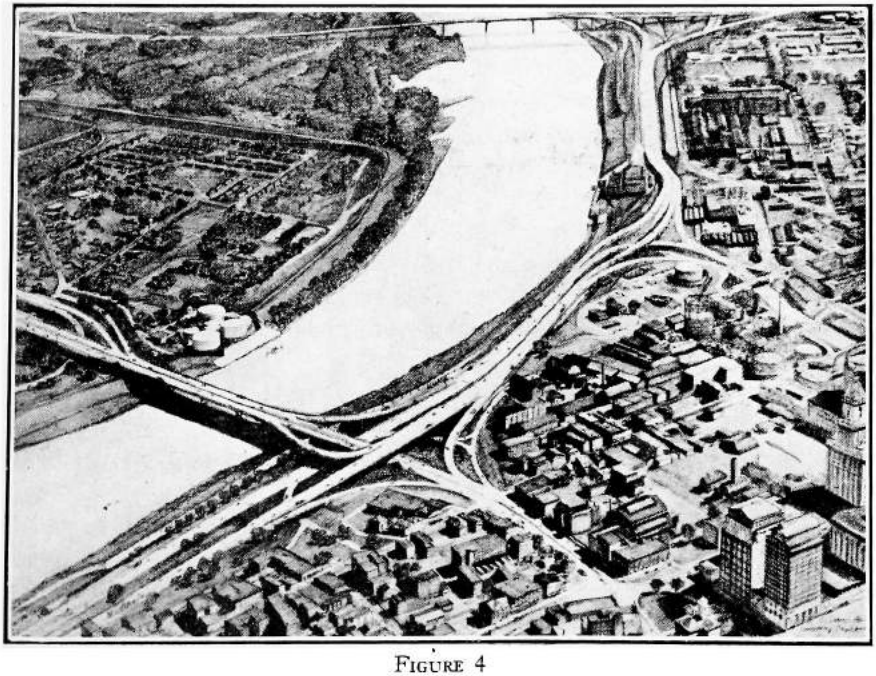


FIGURE 4

Figure 4 is an artist's drawing, prepared for the Highway Department's consulting engineer on this project, Mr. E. Lionel Pavlo. You will note that the State Street Bridge will fit nicely and naturally into the surroundings and to the connecting expressway system. It should be an incentive to the development of the two communities it connects, rather than detract from them.

The substructure contract for this bridge was advertised on February 24, with bids to be opened on March 28.

The East-West Highway

In turning to a discussion of the East-West Highway, it is not an easy matter to develop a clear, fresh presentation of the problem, for in the past ten years, there have been enough technical and financial reports, talks, conferences, newspaper articles and correspondence on the subject to fill a small library. I will try to cull from the wealth of data already compiled, certain basic material to show the need for improvement, the type of improvement required, the locations being considered and a recommended financing plan.

Since 1945, there have been eight formal reports prepared on this subject as follows:

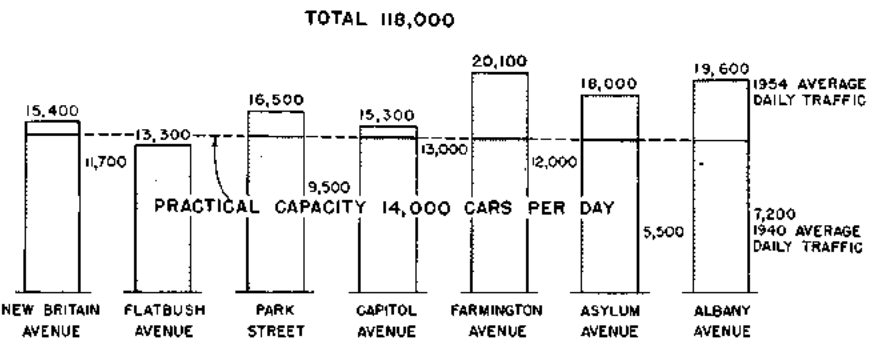
1. 1945—by Conn. Highway Dept.—"Hartford Metropolitan Area Expressways."
2. 1947—by Dept. of Engineering, City of Hartford—"Coordinated Transportation for Hartford"
3. 1948—by Conn. Highway Dept.—"An Appraisal of Two Proposals for the Treatment of the Riverfront Boulevard—North Meadows Intersection with the East-West Expressway in the City of Hartford"
4. 1949—by Robert Moses, Andrews & Clark,—"Arterial Plan for Hartford".
5. 1952—by Conn. Highway Dept.—"Need for State Street Bridge and Related Projects in the Hartford Area".
6. 1954—by Conn. Highway Dept.—"Alternate Locations for the East-West Highway, Broad Street in Hartford to Overbrook Road in West Hartford".
7. 1954—by Wilbur Smith & Assocs.—"Study of East-West Expressway Lines in Hartford and West Hartford".
8. 1955—by Metropolitan Traffic Committee—"Report to Governor".

In addition to the lines studied in these reports, there have been other recommendations not all in report form such as the "Hartford Flood Commission Line", the so-called "Murphy Plan" of Francis S. Murphy as well as associated studies by such agencies as the Hartford Redevelopment Commission.

There has been, therefore, no small amount of effort expended on this proposed highway improvement, but let us see why this has been necessary. What is the real problem, and is there a need for this improvement?

At present there are seven major streets serving traffic moving between Hartford and West Hartford.

Figure 5 shows the traffic volumes these streets were carrying in 1954 on an average day, and a comparison made with the traffic they were carrying in 1940. It may be seen that in the last 14 years, there have been some very



1954 AVERAGE DAILY TRAFFIC VOLUMES
ON MAJOR EAST-WEST STREETS
BETWEEN HARTFORD & WEST HARTFORD
MEASURED NEAR TOWN LINE

FIGURE 5

remarkable increases in traffic volumes, especially on Asylum Avenue and Albany Avenue. The growth on these two streets reflect the growth in residential developments that has taken place in the northwestern section of West Hartford.

All of these streets carry two lanes of moving traffic, and although some like Farmington Avenue and portions of Asylum Avenue are wide enough for more lanes of moving traffic, curb parking forestalls such use. The practical capacity of urban streets with signalized intersections operating under the best traffic control regulations can carry about 700 cars per lane per hour in the daily peak hour. Our studies show that on the east-west arterial streets of Hartford, the peak flows are about 10% of the average daily traffic. Thus, the practical capacity of each of these existing east-west arterials is about 14,000 cars per day.

In 1940 there were no traffic counts made on Flatbush Avenue, but on the six streets on which traffic was counted in both 1940 and 1954, the total traffic volume rose from 58,900 cars per day in 1940, to 104,900 in 1954, or

very nearly a 100% increase. In the next 15 years if traffic continues to increase at about the same rate, and there is an additional 50,000 cars seeking to use these streets, it will bring the average daily volume to 155,000 cars per day. With the streets already operating above a practical capacity it is not a pleasant thought to try and visualize traffic conditions with an additional 50,000 cars a day on these east-west streets.

In order to indicate the present extent of congestion, it can be seen from Figure 6 that in 1950 on the six major east-west streets between Main

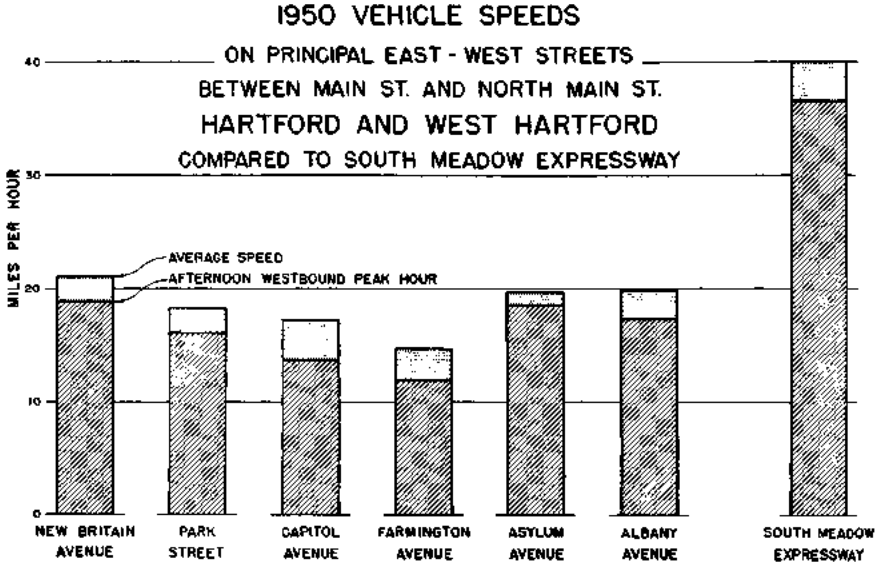


FIGURE 6

Street in Hartford and North and South Main Street in West Hartford, that the average operating speeds were below 20 miles per hour and in the afternoon peak hours even lower. On Farmington Avenue the average speed was 14.6 miles per hour and in the peak hours was 11.7 miles per hour. As a comparison speeds on the South Meadows Expressway were in the neighborhood of 40 miles per hour and a more modernly designed facility with more lanes would permit slightly higher speeds. It may be assumed, therefore, that any well designed expressway will cut the travel time at least in half between the centers of West Hartford and Hartford.

The accident experience on these streets is also extremely high and any improvement to expressway standards will result in substantial savings in accident costs. Figure 7 shows the accident experience on these streets for the years 1949 through 1953. Asylum Avenue with a rate of 437 accidents per 100 million vehicle miles of travel, had the lowest record and Park Street

with a rate of 1251 accidents per 100 million vehicle miles, had the highest accident rate of these streets. All of them had higher accident rates than the average State highway whose rate is 330 accidents per 100 million vehicle miles and very much higher rates than that which exists on Connecticut's existing expressways where the rate is 230 accidents per 100 million vehicle miles. It may be observed that when an expressway is available for this east-west traffic, that a considerable saving in accident costs will be possible for all those vehicles which use the expressway in lieu of the existing streets.

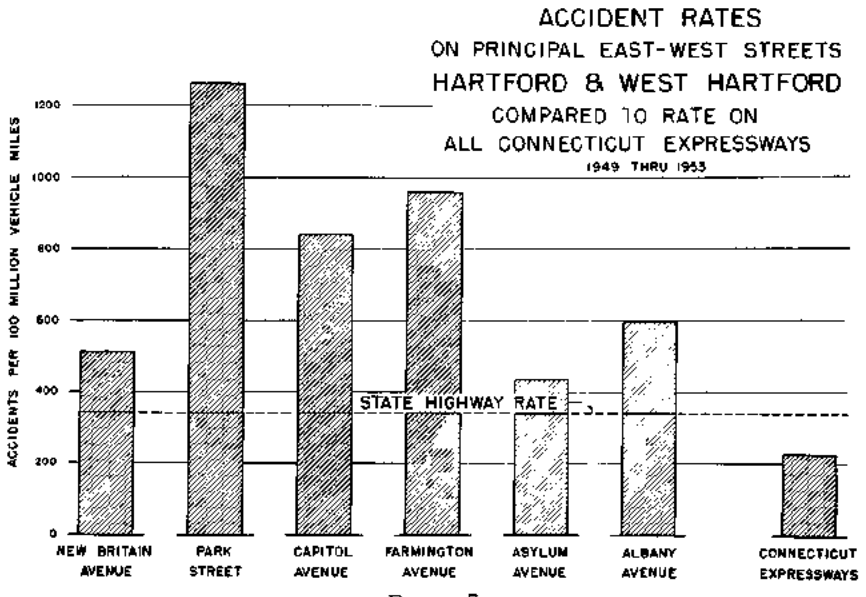


FIGURE 7

The need for an expressway improvement between Hartford and West Hartford has been well established and in general the local authorities are in agreement as to its necessity. The location for an expressway has, however, to say the least, been a matter of much controversy. Because of the studies and meetings being arranged by Governor A. A. Ribicoff and Highway Commissioner Newman E. Argraves, with the town officials, I will refrain from drawing any conclusions regarding locations which might in the least affect these studies and conferences.

The main controversy about a highway location revolves around two lines that have been recommended; one a line recommended by the Highway Department and the other in a line recommended by the City of Hartford, and the Town of West Hartford. The primary difference between these two lines is that the Highway Department has placed greater emphasis on traffic service and the so-called City Line has given greater emphasis to a reduction

in the number of homes that would be disturbed. Many points can be developed relating to the advantages and disadvantages of each line, but for the reasons just mentioned, they will not be developed in this paper.

Figure 8 shows the location of the two principal recommended locations. It may be seen that in Hartford from the end of the Bulkeley Bridge westerly to Broad Street there is agreement between the two lines. Again from Overbrook Road in West Hartford westerly to Corbins Corner and beyond there is agreement. From Broad Street in Hartford westerly, the State's recommendation runs generally midway between Farmington Avenue and the Boulevard to Trout Brook Drive where a connection is made to Farmington Avenue and the main expressway runs southerly along Trout Brook to Overbrook Drive. The so-called City Line runs southwesterly from Board Street over the railroad, through Pope Park and along the Park River to Flatbush Avenue where it heads westerly across the railroad paralleling Flatbush Avenue to Overbrook Drive. There are two connections on the City plan. One from Pope Park to Sisson Avenue and a second along Trout Brook connecting to Farmington Avenue.

At this point I will leave the discussion of the alternate lines, which although a real problem, takes second place to the more important problem of financing such an expressway improvement. If funds for this work had been available ten years ago, when the project was first considered, we would be riding over an east-west expressway today. For the problems of location can be compromised and agreed upon whenever funds are available for actual construction.

The present estimated cost of the East-West Expressway from the Bulkeley Bridge in Hartford to Corbins Corner in West Hartford is between 45 and 50 million dollars, depending on whether the State line or the City line is adopted. These costs include construction, rights of way, utilities and contingencies.

With the Department's large program of highway improvements all over the State, it has been determined that little more than 2 million dollars a year could be allocated out of current highway funds to the East-West Highway in Hartford.

In February of 1954, Governor Lodge appointed a seven man committee to study the Metropolitan Traffic problems of the State with particular emphasis on recommending means of financing urban highway improvements such as the East-West Highway. In February of 1955, this Metropolitan Traffic Committee reported to Governor Ribicoff and made the following recommendations with respect to financing urban improvements which are summarized below:

1. The State should continue its long-standing policy of assuming financial responsibility for urban facilities which are under its jurisdiction, and

urban projects should be given highest priority where the need has been demonstrated.

2. Increases in the present gasoline tax and registration fees should be enacted to provide needed funds.
3. The Highway Department should develop a fiscal plan for a 10 or 12 year highway construction program.
4. The Town Aid Program should ultimately be revised to provide a more equitable distribution of such funds following the establishment of a sound highway classification system.
5. In order to expedite the construction of needed urban projects, they should be financed by issuing bonds, using current highway revenues available to service the bonds.
6. A review of the financing of the Greenwich-Killingly Expressway should be made.

In closing, let us take an optimistic view that the present session of the State Legislature will find a favorable solution to the proposals it is now studying for providing additional funds for the much needed urban highway facilities, not only in Hartford, but in the other metropolitan areas of the State so that a much earlier completion of projects such as the East-West Highway will be possible.